

MEDICIONES AUXILIARES

ÍNDICE

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APENDICE 1.- MOVIMIENTO DE TIERRAS

MEDICIONES AUXILIARES

1 INTRODUCCIÓN Y OBJETO DEL ANEJO

En este punto, se incorporan todas las mediciones de las actuaciones más importantes del proyecto, que por sus características requieren un precálculo anterior para posteriormente incorporarlas al cuadro de mediciones del proyecto.

En el caso de los movimientos de tierras detallados de las redes e impulsiones, debido al tamaño del fichero finalmente generado, se incluyen como Apéndice al presente documento.

2 ESTACIÓN DE BOMBEO

2.1 MOVIMIENTOS DE TIERRAS DE LA ESTACIÓN DE BOMBEO

ESTACIÓN DE BOMBEO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
0,000	5,368	0,615	5,462	0	0	0
				61,313	1,536	35,248
5,000	19,157	0	8,637	61,313	1,536	35,248
				104,844	0,108	46,958
10,000	22,781	0,043	10,146	166,157	1,644	82,206
				114,535	0,278	54,361
15,000	23,033	0,068	11,599	280,691	1,922	136,567
				106,86	0,249	61,609
20,000	19,711	0,032	13,045	387,551	2,171	198,177
				81,077	0,191	67,009
25,000	12,72	0,045	13,758	468,628	2,362	265,186
				48,075	2,479	68,266
30,000	6,51	0,947	13,548	516,703	4,841	333,452
				22,431	11,113	67,238
35,000	2,462	3,499	13,347	539,134	15,954	400,69
				7,101	25,556	66,376
40,000	0,378	6,724	13,204	546,234	41,51	467,067
				1,058	43,547	65,728
45,000	0,045	10,695	13,088	547,292	85,057	532,795
				0,214	55,988	65,284
50,000	0,041	11,7	13,026	547,507	141,045	598,079
				0,202	60,515	65,155

ESTACIÓN DE BOMBEO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
55,000	0,04	12,506	13,036	547,709	201,56	663,234
				0,177	68,583	65,189
60,000	0,031	14,928	13,04	547,886	270,143	728,423
				0,114	81,078	65,183
65,000	0,015	17,503	13,034	548	351,221	793,607
				0,052	92,265	65,155
70,000	0,006	19,402	13,028	548,052	443,485	858,761
				0,015	101,798	65,117
75,000	0	21,317	13,019	548,066	545,284	923,879
				0	111,506	65,066
80,000	0	23,285	13,008	548,066	656,789	988,945
				0	121,842	65,076
85,000	0	25,452	13,023	548,066	778,631	1054,021
				0	133,234	65,199
90,000	0	27,842	13,057	548,066	911,865	1119,22
				0	144,949	65,299
95,000	0	30,138	13,063	548,066	1056,814	1184,519
				0	137,494	59,017
100,000	0	24,86	10,544	548,066	1194,308	1243,535
				0	23,519	10,104
101,224	0	13,569	5,965	548,066	1217,827	1253,639
TOTALES	112,298	265,17	262,677	548,066	1217,827	1253,639

3 BALSAS

3.1 MOVIMIENTOS DE TIERRAS DE LA Balsa BP1

MOVIMIENTO DE TIERRAS Balsa BP1. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
0,000	88,677	0,045	6,264			
				446,747	0,112	31,357
5,000	90,022	0	6,279	446,747	0,112	31,357
				453,003	0	31,444
10,000	91,179	0	6,298	899,75	0,112	62,802
				458,099	0	31,536
15,000	92,06	0	6,316	1357,849	0,112	94,338

MOVIMIENTO DE TIERRAS Balsa BP1. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				461,857	0	31,612
20,000	92,682	0	6,329	1819,706	0,112	125,95
				464,986	0	31,669
25,000	93,312	0	6,339	2284,692	0,112	157,619
				468,392	0	31,703
30,000	94,045	0	6,342	2753,084	0,112	189,322
				471,837	0	31,721
35,000	94,69	0	6,346	3224,921	0,112	221,044
				474,447	0	31,745
40,000	95,089	0	6,352	3699,368	0,112	252,788
				476,614	0	31,766
45,000	95,557	0	6,355	4175,982	0,112	284,554
				479,448	0	31,768
50,000	96,223	0	6,352	4655,43	0,112	316,322
				483,485	0	31,778
55,000	97,171	0	6,359	5138,916	0,112	348,1
				488,522	0	31,856
60,000	98,237	0	6,384	5627,437	0,112	379,956
				494,106	0	31,981
65,000	99,405	0	6,409	6121,543	0,112	411,937
				500,965	0	32,102
70,000	100,981	0	6,432	6622,508	0,112	444,039
				511,434	0	32,229
75,000	103,593	0	6,459	7133,942	0,112	476,268
				200,337	0	12,427
76,922	104,874	0	6,472	7334,279	0,112	488,695
				325,499	0	19,958
80,000	106,626	0	6,496	7659,778	0,112	508,654
				540,846	0	32,602
85,000	109,713	0	6,545	8200,624	0,112	541,256
				555,033	0	32,86
90,000	112,301	0	6,599	8755,657	0,112	574,116
				568,089	0	33,151
95,000	114,935	0	6,661	9323,746	0,112	607,267
				581,882	0	33,505
100,000	117,818	0	6,741	9905,628	0,112	640,771
				594,813	0	33,847

MOVIMIENTO DE TIERRAS Balsa BP1. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
105,000	120,107	0	6,798	10500,441	0,112	674,618
				603,568	0	34,102
110,000	121,32	0	6,843	11104,009	0,112	708,72
				606,324	0	34,211
115,000	121,209	0	6,842	11710,333	0,112	742,931
				458,697	0	25,931
118,797	120,401	0	6,817	12169,03	0,112	768,862
				144,589	0	8,196
120,000	119,981	0	6,809	12313,619	0,112	777,058
				596,543	0	33,968
125,000	118,636	0	6,778	12910,162	0,112	811,026
				590,846	0	33,815
130,000	117,702	0	6,748	13501,008	0,112	844,841
				585,271	0	33,691
135,000	116,407	0	6,728	14086,279	0,112	878,533
				579,124	0	33,593
140,000	115,243	0	6,709	14665,403	0,112	912,125
				573,462	0	33,507
145,000	114,142	0	6,694	15238,865	0,112	945,632
				570,146	0	33,427
150,000	113,916	0	6,677	15809,011	0,112	979,059
				565,49	0	33,324
155,000	112,28	0	6,653	16374,501	0,112	1012,383
				555,35	0	33,202
160,000	109,86	0	6,628	16929,852	0,112	1045,585
				543,532	0	33,071
165,000	107,553	0	6,601	17473,383	0,112	1078,656
				535,152	0	32,941
170,000	106,508	0	6,576	18008,535	0,112	1111,597
				530,18	0	32,837
175,000	105,564	0	6,559	18538,716	0,112	1144,434
				527,243	0	32,761
180,000	105,334	0	6,545	19065,959	0,112	1177,195
				525,375	0	32,709
185,000	104,816	0	6,538	19591,334	0,112	1209,904
				524,111	0	32,677
190,000	104,828	0	6,532	20115,445	0,112	1242,58

MOVIMIENTO DE TIERRAS Balsa BP1. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				522,755	0	32,647
195,000	104,274	0	6,526	20638,2	0,112	1275,227
				521,128	0	32,617
200,000	104,177	0	6,52	21159,327	0,112	1307,845
				520,528	0	32,587
205,000	104,034	0	6,514	21679,856	0,112	1340,431
				519,265	0	32,554
210,000	103,672	0	6,508	22199,12	0,112	1372,986
				516,15	0	32,515
215,000	102,788	0	6,498	22715,271	0,112	1405,501
				512,314	0	32,46
220,000	102,137	0	6,486	23227,585	0,112	1437,961
				507,387	0	32,366
225,000	100,817	0	6,461	23734,971	0,112	1470,327
				499,909	0	32,229
230,000	99,146	0	6,431	24234,88	0,112	1502,556
				490,675	0	32,036
235,000	97,124	0	6,384	24725,556	0,112	1534,592
				477,651	0	31,8
240,000	93,937	0	6,336	25203,207	0,112	1566,392
				461,531	0	31,563
245,000	90,676	0	6,289	25664,738	0,112	1597,955
				447,555	0	31,327
250,000	88,346	0	6,242	26112,293	0,112	1629,283
				435,695	0	31,099
255,000	85,932	0	6,197	26547,988	0,112	1660,381
				421,37	0	30,86
260,000	82,616	0	6,146	26969,358	0,112	1691,241
				403,202	0	30,555
265,000	78,664	0	6,076	27372,559	0,112	1721,796
				383,884	0	30,206
270,000	74,889	0	6,007	27756,443	0,112	1752,002
				365,615	0	29,878
275,000	71,357	0	5,945	28122,058	0,112	1781,881
				349,607	0	29,573
280,000	68,486	0	5,885	28471,665	0,112	1811,454
				336,234	0	29,295

MOVIMIENTO DE TIERRAS Balsa BP1. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
285,000	66,007	0	5,833	28807,899	0,112	1840,749
				323,521	0	29,045
290,000	63,401	0	5,785	29131,42	0,112	1869,794
				311,08	0	28,829
295,000	61,031	0	5,747	29442,501	0,112	1898,623
				299,816	0	28,633
300,000	58,895	0	5,707	29742,317	0,112	1927,255
				288,614	0	28,42
305,000	56,55	0	5,661	30030,931	0,112	1955,675
				277,364	0	28,193
310,000	54,395	0	5,616	30308,295	0,112	1983,868
				266,857	0	27,964
315,000	52,347	0	5,569	30575,151	0,112	2011,832
				200,665	0	21,574
318,886	50,928	0	5,534	30775,816	0,112	2033,406
				56,568	0	6,159
320,000	50,63	0	5,523	30832,384	0,112	2039,565
				248,9	0	27,47
325,000	48,93	0	5,465	31081,284	0,112	2067,035
				239,668	0	27,195
330,000	46,937	0	5,413	31320,951	0,112	2094,23
				228,958	0	26,938
335,000	44,646	0	5,362	31549,909	0,112	2121,168
				217,164	0	26,678
340,000	42,22	0	5,31	31767,073	0,112	2147,846
				204,766	0	26,389
345,000	39,687	0	5,246	31971,839	0,112	2174,235
				192,049	0,114	26,072
350,000	37,133	0,046	5,183	32163,888	0,227	2200,306
				180,069	0,114	25,756
355,000	34,895	0	5,12	32343,958	0,341	2226,063
				169,546	0,111	25,478
360,000	32,923	0,044	5,072	32513,503	0,452	2251,541
				161,069	0,111	25,241
365,000	31,504	0	5,025	32674,572	0,562	2276,782
				56,194	0	9,01
366,795	31,107	0	5,014	32730,766	0,562	2285,792

MOVIMIENTO DE TIERRAS Balsa BP1. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				98,331	0	16,067
370,000	30,254	0	5,012	32829,097	0,562	2301,859
				148,17	0,113	25,025
375,000	29,015	0,045	4,998	32977,268	0,676	2326,884
				142,394	0,249	24,959
380,000	27,943	0,054	4,985	33119,662	0,924	2351,842
				138,546	0,412	24,914
385,000	27,475	0,111	4,98	33258,207	1,337	2376,757
				136,936	0,827	24,89
390,000	27,299	0,22	4,976	33395,143	2,164	2401,647
				136,023	1,329	24,883
395,000	27,11	0,312	4,978	33531,166	3,493	2426,53
				135,026	1,882	24,892
400,000	26,9	0,441	4,979	33666,192	5,375	2451,423
				133,776	2,417	24,893
405,000	26,61	0,526	4,978	33799,968	7,792	2476,316
				132,49	3,105	24,886
410,000	26,386	0,716	4,977	33932,458	10,898	2501,203
				131,528	3,745	24,888
415,000	26,225	0,782	4,978	34063,986	14,643	2526,091
				131,218	4,106	24,898
420,000	26,262	0,861	4,981	34195,204	18,749	2550,989
				131,447	4,304	24,92
425,000	26,317	0,861	4,987	34326,65	23,053	2575,909
				131,417	4,415	24,953
430,000	26,25	0,906	4,994	34458,068	27,468	2600,862
				131,692	4,461	24,992
435,000	26,427	0,879	5,003	34589,76	31,929	2625,853
				132,567	4,235	25,034
440,000	26,6	0,815	5,011	34722,327	36,164	2650,888
				133,783	3,898	25,066
445,000	26,913	0,744	5,016	34856,11	40,062	2675,954
				134,137	4,081	25,09
450,000	26,742	0,888	5,02	34990,247	44,143	2701,045
				134,075	4,425	25,12
455,000	26,888	0,882	5,028	35124,322	48,567	2726,165
				134,638	4,396	25,155

MOVIMIENTO DE TIERRAS Balsa BP1. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
460,000	26,967	0,876	5,034	35258,96	52,964	2751,32
				134,443	4,499	25,179
465,000	26,81	0,923	5,037	35393,403	57,462	2776,499
				130,426	5,143	25,185
470,000	25,36	1,134	5,037	35523,829	62,605	2801,684
				124,744	8,308	25,3
475,000	24,538	2,189	5,083	35648,573	70,913	2826,984
				120,601	13,128	25,66
480,000	23,703	3,062	5,181	35769,174	84,041	2852,644
				116,407	17,353	26,118
485,000	22,86	3,879	5,266	35885,582	101,394	2878,762
				112,57	21,272	26,504
490,000	22,168	4,63	5,335	35998,151	122,667	2905,266
				109,961	24,559	26,804
495,000	21,817	5,194	5,386	36108,113	147,226	2932,07
				109,161	26,394	26,995
500,000	21,848	5,363	5,412	36217,273	173,62	2959,066
				80,35	19,812	19,93
503,677	21,857	5,413	5,428	36297,624	193,432	2978,995
				28,984	7,15	7,184
505,000	21,959	5,396	5,431	36326,608	200,581	2986,179
				110,337	26,173	27,089
510,000	22,176	5,073	5,404	36436,945	226,754	3013,268
				112,019	23,859	26,896
515,000	22,632	4,47	5,354	36548,964	250,613	3040,164
				114,933	20,496	26,6
520,000	23,341	3,728	5,286	36663,898	271,11	3066,764
				118,818	16,594	26,251
525,000	24,186	2,909	5,215	36782,716	287,704	3093,015
				123,156	12,706	25,982
530,000	25,077	2,173	5,178	36905,871	300,41	3118,997
				127,317	9,633	25,803
535,000	25,85	1,68	5,143	37033,189	310,043	3144,8
				130,976	7,356	25,607
540,000	26,54	1,262	5,1	37164,164	317,399	3170,408
				134,309	5,536	25,548
545,000	27,184	0,952	5,119	37298,473	322,935	3195,956

MOVIMIENTO DE TIERRAS Balsa BP1. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				126,763	3,628	23,628
549,605	27,871	0,623	5,143	37425,236	326,563	3219,584
				11,025	0,24	2,032
550,000	27,951	0,592	5,145	37436,261	326,803	3221,616
				142,345	2,039	25,792
555,000	28,987	0,223	5,172	37578,606	328,842	3247,408
				148,01	0,558	25,927
560,000	30,217	0	5,199	37726,616	329,4	3273,335
				154,654	0,107	26,065
565,000	31,645	0,043	5,227	37881,27	329,507	3299,4
				161,818	0,219	26,204
570,000	33,082	0,045	5,255	38043,089	329,725	3325,603
				168,93	0,215	26,31
575,000	34,49	0,041	5,269	38212,019	329,94	3351,913
				175,668	0,212	26,386
580,000	35,777	0,043	5,285	38387,687	330,152	3378,299
				181,836	0,108	26,451
585,000	36,957	0	5,296	38569,523	330,26	3404,75
				187,308	0,111	26,506
590,000	37,966	0,044	5,307	38756,831	330,371	3431,256
				193,332	0,111	26,687
595,000	39,366	0	5,368	38950,163	330,482	3457,943
				203,723	0,106	26,994
600,000	42,123	0,043	5,429	39153,886	330,589	3484,937
				15,099	0,015	1,945
600,358	42,23	0,043	5,437	39168,986	330,604	3486,882
				199,762	0,101	25,316
605,000	43,837	0	5,47	39368,748	330,704	3512,198
				86,322	0,04	10,687
606,953	44,563	0,041	5,474	39455,07	330,745	3522,885
				136,746	0,136	16,659
610,000	45,195	0,048	5,46	39591,817	330,881	3539,544
				227,657	0,12	27,309
615,000	45,867	0	5,463	39819,474	331,001	3566,853
				230,38	0	27,337
620,000	46,285	0	5,471	40049,854	331,001	3594,19
				231,621	0	27,369

MOVIMIENTO DE TIERRAS Balsa BP1. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
625,000	46,364	0	5,476	40281,475	331,001	3621,559
				232,213	0,111	27,392
630,000	46,521	0,044	5,48	40513,687	331,112	3648,95
				232,907	0,111	27,412
635,000	46,641	0	5,484	40746,594	331,223	3676,362
				233,267	0,113	27,431
640,000	46,666	0,045	5,488	40979,861	331,336	3703,793
				234,614	0,113	27,459
645,000	47,18	0	5,495	41214,475	331,449	3731,252
				238,068	0	27,496
650,000	48,047	0	5,503	41452,543	331,449	3758,748
				240,995	0	27,539
655,000	48,351	0	5,513	41693,538	331,449	3786,287
				242,812	0	27,59
660,000	48,774	0	5,523	41936,349	331,449	3813,877
				248,889	0	27,664
665,000	50,782	0	5,543	42185,239	331,449	3841,54
				258,13	0	27,767
670,000	52,47	0	5,564	42443,368	331,449	3869,307
				265,985	0	27,889
675,000	53,924	0	5,591	42709,353	331,449	3897,196
				272,848	0	28,029
680,000	55,215	0	5,62	42982,201	331,449	3925,225
				280,175	0	28,196
685,000	56,855	0	5,658	43262,376	331,449	3953,421
				289,3	0	28,391
690,000	58,865	0	5,698	43551,676	331,449	3981,811
				278,427	0	26,562
694,633	61,328	0	5,768	43830,103	331,449	4008,373
				22,545	0	2,118
695,000	61,534	0	5,775	43852,648	331,449	4010,491
				313,134	0	29,071
700,000	63,719	0	5,853	44165,782	331,449	4039,562
				322,236	0	29,335
705,000	65,175	0	5,881	44488,018	331,449	4068,898
				329,028	0	29,44
710,000	66,436	0	5,895	44817,045	331,449	4098,337

MOVIMIENTO DE TIERRAS Balsa BP1. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				333,898	0	29,459
715,000	67,123	0	5,889	45150,944	331,449	4127,797
				334,787	0	29,206
719,969	67,627	0	5,866	45485,731	331,449	4157,002
				2,097	0	0,182
720,000	67,644	0	5,866	45487,827	331,449	4157,184
				341,016	0,108	29,334
725,000	68,763	0,043	5,867	45828,843	331,557	4186,518
				346,268	0,108	29,359
730,000	69,745	0	5,876	46175,111	331,665	4215,877
				351,102	0,113	29,405
735,000	70,696	0,045	5,886	46526,213	331,778	4245,282
				310,783	0,196	25,759
739,367	71,636	0,045	5,911	46836,996	331,974	4271,04
				45,387	0,014	3,743
740,000	71,768	0	5,914	46882,384	331,988	4274,783
				362,043	0	29,587
745,000	73,049	0	5,921	47244,426	331,988	4304,369
				368,355	0	29,635
750,000	74,293	0	5,933	47612,782	331,988	4334,004
				93,622	0	7,457
751,255	74,906	0	5,95	47706,404	331,988	4341,461
				284,726	0	22,35
755,000	77,15	0	5,985	47991,129	331,988	4363,811
				316,662	0	24,19
759,029	80,041	0	6,023	48307,791	331,988	4388,001
				77,979	0,02	5,855
760,000	80,575	0,042	6,037	48385,77	332,008	4393,856
				408,27	0,105	30,364
765,000	82,733	0	6,109	48794,04	332,113	4424,221
				418,067	0	30,706
770,000	84,493	0	6,174	49212,107	332,113	4454,926
				425,871	0	30,943
775,000	85,855	0	6,203	49637,977	332,113	4485,869
				432,46	0	31,093
780,000	87,129	0	6,234	50070,437	332,113	4516,963
				438,743	0	31,235

MOVIMIENTO DE TIERRAS Balsa BP1. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
785,000	88,368	0	6,26	50509,18	332,113	4548,198
				124,642	0,032	8,817
786,408	88,68	0,045	6,264	50633,822	332,145	4557,015
TOTALES	11078,254	72,622	996,996	50633,822	332,145	4557,015

MOVIMIENTO DE TIERRAS Balsa BP1. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
0,000	9,967	0	0,563	0	0	0
				307,133	0	17,386
5,000	112,886	0	6,391	307,133	0	17,386
				675,488	0	38,354
10,000	157,309	0	8,95	982,622	0	55,74
				898,747	0	51,102
15,000	202,19	0	11,491	1881,368	0	106,842
				1126,664	0	63,805
20,000	248,476	0	14,031	3008,032	0	170,647
				1358,559	0	76,508
25,000	294,948	0	16,572	4366,591	0	247,154
				1594,034	0	89,209
30,000	342,666	0	19,112	5960,625	0	336,363
				1832,688	0	101,91
35,000	390,409	0	21,652	7793,314	0	438,273
				2074,406	0	114,612
40,000	439,353	0	24,193	9867,719	0	552,885
				2319,3	0	127,313
45,000	488,367	0	26,733	12187,019	0	680,198
				2566,102	0	140,014
50,000	538,074	0	29,273	14753,121	0	820,213
				2820,671	0	152,716
55,000	590,195	0	31,813	17573,791	0	972,929
				3083,508	0	165,419
60,000	643,209	0	34,354	20657,3	0	1138,348
				3351,984	0	178,121
65,000	697,585	0	36,894	24009,284	0	1316,47
				3629,144	0	190,822
70,000	754,072	0	39,435	27638,427	0	1507,292

MOVIMIENTO DE TIERRAS Balsa BP1. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				3903,114	0	203,524
75,000	807,173	0	41,975	31541,541	0	1710,817
				4170,99	0	216,226
80,000	861,223	0	44,515	35712,531	0	1927,043
				4441,076	0	228,928
85,000	915,208	0	47,056	40153,607	0	2155,971
				4714,78	0	241,629
90,000	970,704	0	49,596	44868,387	0	2397,6
				4991,31	0	254,331
95,000	1025,82	0	52,136	49859,696	0	2651,931
				5264,455	0	267,033
100,000	1079,962	0	54,677	55124,151	0	2918,964
				5527,187	0	278,564
105,000	1130,913	0	56,749	60651,337	0	3197,528
				5748,751	0	287,011
110,000	1168,588	0	58,055	66400,088	0	3484,539
				5917,55	0	292,048
115,000	1198,433	0	58,764	72317,639	0	3776,587
				6031,673	0	293,53
120,000	1214,236	0	58,648	78349,311	0	4070,116
				6079,448	0	291,28
125,000	1217,543	0	57,864	84428,76	0	4361,397
				6093,8	0	287,36
130,000	1219,977	0	57,08	90522,559	0	4648,756
				6109,045	0	283,44
135,000	1223,641	0	56,296	96631,605	0	4932,196
				6127,021	0	279,52
140,000	1227,167	0	55,512	102758,626	0	5211,717
				6146,367	0	275,6
145,000	1231,38	0	54,728	108904,993	0	5487,317
				6161,904	0	271,68
150,000	1233,382	0	53,944	115066,898	0	5758,997
				6174,013	0	267,983
155,000	1236,223	0	53,249	121240,91	0	6026,98
				6208,653	0	265,513
160,000	1247,238	0	52,956	127449,563	0	6292,493
				6269,129	0	264,337

MOVIMIENTO DE TIERRAS Balsa BP1. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
165,000	1260,414	0	52,779	133718,692	0	6556,831
				6336,068	0	263,455
170,000	1274,014	0	52,603	140054,76	0	6820,286
				6379,226	0	261,762
175,000	1277,677	0	52,102	146433,986	0	7082,048
				6332,803	0	257,62
180,000	1255,444	0	50,946	152766,789	0	7339,669
				6175,314	0	250,254
185,000	1214,681	0	49,155	158942,103	0	7589,923
				5897,531	0	238,758
190,000	1144,331	0	46,348	164839,634	0	7828,681
				5526,782	0	223,796
195,000	1066,382	0	43,171	170366,416	0	8052,477
				5134,809	0	207,91
200,000	987,542	0	39,993	175501,226	0	8260,387
				4746,678	0	192,023
205,000	911,129	0	36,816	180247,903	0	8452,41
				4362,125	0	176,137
210,000	833,721	0	33,639	184610,028	0	8628,547
				3971,487	0	160,25
215,000	754,874	0	30,461	188581,515	0	8788,797
				3573,63	0	144,363
220,000	674,578	0	27,284	192155,145	0	8933,16
				3179,861	0	128,476
225,000	597,366	0	24,107	195335,006	0	9061,636
				2776,012	0	111,89
230,000	513,039	0	20,649	198111,018	0	9173,527
				1601,717	0	63,904
235,000	127,648	0	4,912	199712,735	0	9237,43
				162,497	0	6,252
237,395	8,049	0	0,309	199875,231	0	9243,683
TOTALES	40019,406	0	1850,531	199875,23	0	9243,683

3.2 MOVIMIENTO DE TIERRAS ALIVIADERO Y DESAGÜE DE FONDO EN BALSA BP1

RAMAL	VOLUMEN EXCAVACION (m ³)	CAMA DE MATERIAL GRANULAR 6/12 (m ³)	RELLENO GRAVA (m ³)	RELLENO SELECCIONADO (m ³)	RELLENO ORDINARIO (m ³)
Aliviadero	166,41	13,55	5,38	45,39	86,39
Desagüe De Fondo	1.847,75	105,95	38,77	402,47	1.190,66

3.3 MOVIMIENTO DE TIERRAS DE LA BALSA BP2

MOVIMIENTO DE TIERRAS BALSA BP2. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
0,000	62,364	0,258	8,46			
				305,081	1,928	42,194
5,000	59,668	0,514	8,417	305,081	1,928	42,194
				289,973	3,385	41,956
10,000	56,321	0,84	8,365	595,054	5,313	84,15
				272,593	6,482	41,66
15,000	52,716	1,752	8,299	867,648	11,795	125,81
				256,743	11,692	41,33
20,000	49,981	2,924	8,233	1124,391	23,487	167,141
				244,282	18,845	41,005
25,000	47,732	4,614	8,169	1368,673	42,333	208,145
				233,439	27,453	40,739
30,000	45,644	6,368	8,127	1602,112	69,785	248,884
				223,107	35,469	40,851
35,000	43,599	7,82	8,214	1825,219	105,255	289,735
				213,971	43,021	41,288
40,000	41,989	9,388	8,302	2039,19	148,276	331,023
				203,829	51,174	41,722
45,000	39,543	11,081	8,387	2243,019	199,45	372,745
				185,608	62,785	42,203
50,000	34,701	14,033	8,494	2428,627	262,235	414,948
				156,852	80,867	42,777
55,000	28,04	18,314	8,617	2585,479	343,102	457,725
				133,866	100,126	43,377
60,000	25,506	21,736	8,734	2719,346	443,228	501,102
				125,218	116,008	43,948

MOVIMIENTO DE TIERRAS BALSA BP2. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
65,000	24,581	24,667	8,845	2844,564	559,236	545,05
				120,879	130,942	44,566
70,000	23,771	27,71	8,981	2965,443	690,178	589,616
				117,6	147,434	45,283
75,000	23,269	31,263	9,133	3083,044	837,611	634,899
				114,864	169,093	46,112
80,000	22,676	36,374	9,312	3197,908	1006,704	681,011
				111,403	194,721	47,04
85,000	21,885	41,515	9,504	3309,311	1201,425	728,051
				106,624	220,535	47,965
90,000	20,764	46,7	9,682	3415,934	1421,961	776,016
				100,771	243,719	48,68
95,000	19,544	50,788	9,79	3516,706	1665,679	824,696
				95,014	265,679	49,234
100,000	18,462	55,484	9,904	3611,719	1931,358	873,93
				89,488	291,865	49,846
105,000	17,334	61,262	10,035	3701,207	2223,223	923,776
				81,402	324,815	50,605
110,000	15,227	68,664	10,208	3782,61	2548,038	974,381
				68,89	361,821	51,419
115,000	12,329	76,065	10,36	3851,5	2909,859	1025,8
				56,674	398,608	52,139
120,000	10,341	83,379	10,496	3908,174	3308,467	1077,94
				47,379	434,056	52,739
125,000	8,611	90,244	10,6	3955,553	3742,523	1130,679
				39,207	467,628	53,178
130,000	7,072	96,807	10,671	3994,76	4210,151	1183,857
				31,801	501,997	53,773
135,000	5,648	103,992	10,838	4026,561	4712,148	1237,631
				24,753	538,416	54,529
140,000	4,253	111,375	10,973	4051,314	5250,564	1292,16
				18,389	579,281	55,21
145,000	3,103	120,338	11,11	4069,703	5829,844	1347,37
				13,293	621,985	55,858
150,000	2,215	128,456	11,233	4082,997	6451,829	1403,228
				9,488	660,746	56,517
155,000	1,58	135,842	11,374	4092,484	7112,576	1459,745

MOVIMIENTO DE TIERRAS Balsa BP2. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				6,617	696,561	57,121
160,000	1,066	142,782	11,474	4099,101	7809,137	1516,865
				4,505	730,98	57,537
165,000	0,736	149,61	11,541	4103,606	8540,118	1574,402
				3,457	765,022	57,955
170,000	0,647	156,399	11,641	4107,063	9305,139	1632,357
				3,097	800,329	58,438
175,000	0,592	163,733	11,734	4110,16	10105,468	1690,795
				2,793	848,056	59,751
180,000	0,525	175,49	12,166	4112,953	10953,525	1750,546
				2,484	907,04	61,915
185,000	0,468	187,326	12,599	4115,437	11860,564	1812,461
				2,203	976,027	64,193
190,000	0,413	203,085	13,078	4117,64	12836,591	1876,654
				1,919	1049,384	66,412
195,000	0,355	216,669	13,487	4119,559	13885,975	1943,066
				1,401	1107,305	67,855
200,000	0,205	226,253	13,655	4120,96	14993,28	2010,92
				0,734	1151,807	68,646
205,000	0,088	234,47	13,803	4121,694	16145,087	2079,566
				0,281	1188,567	69,251
210,000	0,024	240,957	13,897	4121,975	17333,654	2148,817
				0,061	1219,86	69,654
215,000	0	246,987	13,965	4122,036	18553,514	2218,471
				0	1247,641	69,99
220,000	0	252,07	14,031	4122,036	19801,155	2288,461
				0,017	1268,362	70,212
225,000	0,007	255,275	14,054	4122,053	21069,517	2358,673
				0,118	1267,889	70,27
230,000	0,041	251,881	14,055	4122,171	22337,406	2428,943
				0,566	1245,721	70,373
235,000	0,186	246,408	14,094	4122,737	23583,127	2499,316
				1,448	1222,933	70,573
240,000	0,394	242,765	14,135	4124,186	24806,06	2569,889
				2,602	1204,738	70,643
245,000	0,647	239,13	14,123	4126,788	26010,798	2640,532
				4,738	1186,758	70,546

MOVIMIENTO DE TIERRAS Balsa BP2. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
250,000	1,248	235,573	14,096	4131,526	27197,556	2711,078
				9,406	1165,49	70,437
255,000	2,514	230,623	14,079	4140,932	28363,046	2781,515
				14,982	1142,891	70,367
260,000	3,478	226,534	14,068	4155,913	29505,937	2851,882
				23,906	1116,245	70,292
265,000	6,084	219,964	14,049	4179,819	30622,182	2922,174
				40,395	1075,191	70,166
270,000	10,074	210,112	14,017	4220,214	31697,373	2992,34
				62,592	1021,605	70,059
275,000	14,963	198,53	14,006	4282,806	32718,978	3062,399
				83,184	958,794	70,031
280,000	18,311	184,987	14,006	4365,99	33677,771	3132,43
				97,194	863,72	69,412
285,000	20,567	160,501	13,759	4463,184	34541,491	3201,842
				109,48	744,616	68,057
290,000	23,225	137,346	13,464	4572,664	35286,108	3269,899
				124,226	623,643	66,731
295,000	26,465	112,111	13,228	4696,89	35909,751	3336,63
				141,894	480,699	63,67
300,000	30,292	80,168	12,24	4838,783	36390,45	3400,301
				162,32	368,835	60,691
305,000	34,636	67,366	12,036	5001,103	36759,285	3460,991
				184,752	314,454	58,766
310,000	39,265	58,416	11,47	5185,855	37073,739	3519,757
				206,805	263,423	55,907
315,000	43,457	46,954	10,893	5392,66	37337,162	3575,664
				227,34	201,941	52,719
320,000	47,479	33,823	10,195	5620	37539,103	3628,383
				246,85	140,06	49,189
325,000	51,261	22,201	9,481	5866,851	37679,164	3677,573
				292,994	77,659	45,587
330,000	65,937	8,862	8,753	6159,845	37756,823	3723,159
				375,123	23,276	42,204
335,000	84,112	0,448	8,128	6534,968	37780,099	3765,363
				482,785	1,216	41,557
340,000	109,002	0,038	8,495	7017,753	37781,315	3806,921

MOVIMIENTO DE TIERRAS Balsa BP2. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				608,55	0,192	43,615
345,000	134,418	0,038	8,951	7626,303	37781,507	3850,536
				715,414	0,193	45,425
350,000	151,747	0,039	9,218	8341,716	37781,699	3895,961
				734,694	0,192	46,478
355,000	142,13	0,038	9,373	9076,41	37781,891	3942,439
				664,369	0,188	47,251
360,000	123,617	0,037	9,527	9740,779	37782,079	3989,69
				559,145	0,247	47,703
365,000	100,041	0,062	9,554	10299,924	37782,327	4037,393
				468,12	0,312	47,057
370,000	87,208	0,063	9,269	10768,045	37782,638	4084,449
				427,543	0,297	45,893
375,000	83,81	0,056	9,088	11195,588	37782,936	4130,342
				413,847	0,277	45,017
380,000	81,729	0,055	8,918	11609,435	37783,212	4175,36
				399,604	0,274	44,273
385,000	78,112	0,055	8,791	12009,039	37783,486	4219,633
				375,919	0,268	43,541
390,000	72,255	0,053	8,626	12384,958	37783,755	4263,174
				345,355	0,272	42,725
395,000	65,887	0,056	8,464	12730,313	37784,027	4305,899
				318,621	0,324	42,223
400,000	61,561	0,073	8,425	13048,935	37784,351	4348,123
				297,248	0,783	42,051
405,000	57,338	0,24	8,396	13346,183	37785,134	4390,174
				278,494	2,881	41,695
410,000	54,06	0,913	8,282	13624,676	37788,015	4431,869
				263,082	9,772	41,146
415,000	51,173	2,996	8,176	13887,759	37797,786	4473,014
				250,843	21,145	40,567
420,000	49,164	5,462	8,051	14138,601	37818,932	4513,581
				233,103	33,764	40,486
425,000	44,077	8,044	8,143	14371,704	37852,695	4554,067
				205,539	47,549	41,065
430,000	38,138	10,976	8,282	14577,243	37900,245	4595,132
				178,497	60,993	41,649

MOVIMIENTO DE TIERRAS Balsa BP2. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
435,000	33,26	13,421	8,377	14755,74	37961,238	4636,781
				162,321	70,876	42,066
440,000	31,668	14,929	8,449	14918,061	38032,114	4678,847
				162,874	75,255	42,278
445,000	33,481	15,173	8,462	15080,934	38107,369	4721,124
				180,788	74,363	42,529
450,000	38,834	14,572	8,55	15261,722	38181,733	4763,654
				190,923	80,909	42,913
455,000	37,535	17,791	8,615	15452,645	38262,641	4806,567
				175,937	95,724	43,238
460,000	32,839	20,498	8,68	15628,582	38358,365	4849,805
				145,028	113,603	43,619
465,000	25,172	24,943	8,768	15773,61	38471,968	4893,425
				111,215	132,108	43,958
470,000	19,314	27,9	8,815	15884,825	38604,076	4937,383
				90,567	144,372	44,12
475,000	16,913	29,849	8,833	15975,392	38748,448	4981,503
				85,992	150,243	44,133
480,000	17,484	30,248	8,821	16061,384	38898,691	5025,636
				93,032	149,931	44,072
485,000	19,729	29,724	8,808	16154,417	39048,622	5069,708
				104,048	142,932	43,882
490,000	21,891	27,449	8,744	16258,465	39191,554	5113,59
				115,82	128,924	43,451
495,000	24,437	24,121	8,636	16374,286	39320,478	5157,04
				133,136	108,342	42,82
500,000	28,817	19,216	8,492	16507,421	39428,82	5199,861
				151,753	84,359	42,055
505,000	31,884	14,528	8,329	16659,174	39513,179	5241,916
				169,091	62,664	41,308
510,000	35,752	10,538	8,194	16828,265	39575,842	5283,224
				187,817	44,598	40,598
515,000	39,375	7,301	8,045	17016,082	39620,441	5323,822
				205,215	32,204	40,035
520,000	42,711	5,58	7,969	17221,297	39652,645	5363,857
				221,354	24,437	39,939
525,000	45,83	4,195	8,007	17442,65	39677,082	5403,796

MOVIMIENTO DE TIERRAS Balsa BP2. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				239,491	16,493	40,135
530,000	49,966	2,403	8,047	17682,141	39693,575	5443,931
				259,202	9,962	40,314
535,000	53,714	1,582	8,079	17941,343	39703,536	5484,245
				278,515	6,264	40,474
540,000	57,692	0,923	8,111	18219,858	39709,801	5524,72
				301,645	3,374	40,649
545,000	62,967	0,426	8,149	18521,503	39713,175	5565,369
				328,438	1,223	40,858
550,000	68,409	0,063	8,194	18849,941	39714,398	5606,227
				354,208	0,284	41,105
555,000	73,275	0,051	8,247	19204,149	39714,682	5647,331
				372,632	0,256	41,335
560,000	75,778	0,052	8,287	19576,781	39714,938	5688,667
				380,851	0,253	41,346
565,000	76,562	0,05	8,252	19957,632	39715,191	5730,013
				386,329	0,249	41,385
570,000	77,97	0,05	8,303	20343,962	39715,44	5771,398
				388,565	0,252	41,424
575,000	77,457	0,051	8,267	20732,527	39715,692	5812,822
				382,333	0,255	41,294
580,000	75,477	0,051	8,25	21114,86	39715,947	5854,115
				371,963	0,258	41,199
585,000	73,308	0,052	8,229	21486,823	39716,204	5895,314
				357,652	0,307	40,93
590,000	69,753	0,071	8,143	21844,475	39716,512	5936,245
				338,67	2,069	40,495
595,000	65,715	0,756	8,055	22183,145	39718,581	5976,74
				321,912	9,201	39,851
600,000	63,05	2,924	7,885	22505,057	39727,782	6016,591
				310,032	18,856	39,676
605,000	60,963	4,618	7,985	22815,089	39746,638	6056,267
				298,432	28,736	40,319
610,000	58,41	6,876	8,143	23113,521	39775,374	6096,586
				285,33	41,697	41,162
615,000	55,722	9,803	8,322	23398,852	39817,07	6137,748
				272,918	57,736	42,056

MOVIMIENTO DE TIERRAS Balsa BP2. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
620,000	53,445	13,292	8,501	23671,77	39874,806	6179,804
				262,508	73,7	42,839
625,000	51,558	16,188	8,635	23934,277	39948,506	6222,644
				248,818	85,144	43,459
630,000	47,969	17,869	8,748	24183,095	40033,651	6266,102
				230,804	92,946	43,925
635,000	44,353	19,309	8,822	24413,9	40126,596	6310,028
				217,476	98,608	44,18
640,000	42,638	20,134	8,85	24631,376	40225,204	6354,208
				209,672	103,317	44,294
645,000	41,231	21,193	8,867	24841,048	40328,521	6398,502
				202,708	108,396	44,303
650,000	39,852	22,166	8,854	25043,756	40436,917	6442,805
				198,436	109,893	44,266
655,000	39,523	21,792	8,852	25242,192	40546,81	6487,071
				198,563	107,666	44,254
660,000	39,903	21,275	8,849	25440,755	40654,476	6531,325
				201,114	103,634	44,164
665,000	40,543	20,178	8,817	25641,87	40758,11	6575,489
				205,768	97,909	44,001
670,000	41,764	18,985	8,784	25847,637	40856,019	6619,49
				212,65	91,529	43,757
675,000	43,296	17,626	8,719	26060,287	40947,548	6663,247
				221,42	82,373	43,371
680,000	45,272	15,323	8,629	26281,707	41029,921	6706,618
				233,2	70,052	42,921
685,000	48,008	12,698	8,539	26514,907	41099,973	6749,539
				248,643	56,229	42,43
690,000	51,449	9,794	8,433	26763,55	41156,202	6791,969
				266,413	40,059	41,633
695,000	55,116	6,23	8,221	27029,963	41196,261	6833,603
				282,019	24,901	40,729
700,000	57,692	3,731	8,071	27311,982	41221,162	6874,331
				293,68	14,6	40,513
705,000	59,78	2,109	8,134	27605,662	41235,762	6914,844
				303,933	7,112	41,035
710,000	61,793	0,736	8,28	27909,594	41242,874	6955,88

MOVIMIENTO DE TIERRAS Balsa BP2. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				313,589	2,365	41,656
715,000	63,643	0,21	8,382	28223,183	41245,239	6997,535
				317,174	0,94	42,138
720,000	63,227	0,166	8,473	28540,357	41246,179	7039,673
				204,524	0,69	27,575
723,257	62,363	0,258	8,46	28744,881	41246,869	7067,248
TOTALES	5833,23	8249,71	1424,858	28744,881	41246,869	7067,248

MOVIMIENTO DE TIERRAS Balsa BP2. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
0,000	12,127	0	0,553			
				254,959	0	12,004
5,000	89,856	0	4,248	254,959	0	12,004
				518,078	0	25,236
10,000	117,375	0	5,846	773,037	0	37,24
				646,439	0	33,014
15,000	141,2	0	7,359	1419,476	0	70,254
				761,07	0	40,58
20,000	163,228	0	8,873	2180,546	0	110,834
				866,709	0	48,147
25,000	183,456	0	10,386	3047,254	0	158,981
				968,772	0	55,713
30,000	204,053	0	11,899	4016,027	0	214,694
				1070,391	0	63,279
35,000	224,104	0	13,412	5086,418	0	277,973
				1173,289	0	70,845
40,000	245,212	0	14,926	6259,707	0	348,818
				1277,71	0	78,411
45,000	265,872	0	16,439	7537,418	0	427,229
				1349,369	0	84,2
50,000	273,876	0	17,241	8886,787	0	511,43
				1333,236	0	85,208
55,000	259,419	0	16,842	10220,022	0	596,638
				1260,089	0	83,002
60,000	244,617	0	16,359	11480,111	0	679,64
				1190,884	0	80,761

MOVIMIENTO DE TIERRAS Balsa BP2. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
65,000	231,737	0	15,945	12670,995	0	760,401
				1133,898	0	79,01
70,000	221,823	0	15,659	13804,894	0	839,411
				1090,383	0	77,899
75,000	214,331	0	15,501	14895,277	0	917,31
				1055,753	0	77,438
80,000	207,971	0	15,474	15951,03	0	994,747
				1025,919	0	77,652
85,000	202,397	0	15,586	16976,949	0	1072,4
				990,952	0	78,587
90,000	193,984	0	15,848	17967,902	0	1150,987
				955,764	0	80,404
95,000	188,322	0	16,313	18923,666	0	1231,391
				937,001	0	83,522
100,000	186,479	0	17,095	19860,667	0	1314,914
				934,552	0	88,332
105,000	187,342	0	18,237	20795,219	0	1403,246
				949,054	0	95,108
110,000	192,279	0	19,806	21744,273	0	1498,354
				998,234	0	104,361
115,000	207,014	0	21,938	22742,507	0	1602,715
				1776,111	0	157,332
120,000	503,43	0	40,994	24518,618	0	1760,047
				2451,213	0	209,672
125,000	477,055	0	42,874	26969,831	0	1969,719
				2272,808	0	216,714
130,000	432,069	0	43,811	29242,639	0	2186,433
				2049,935	0	220,915
135,000	387,905	0	44,555	31292,574	0	2407,349
				1783,741	0	220,483
140,000	325,591	0	43,638	33076,315	0	2627,832
				1466,445	0	214,096
145,000	260,987	0	42	34542,76	0	2841,928
				1170,579	0	205,904
150,000	207,245	0	40,361	35713,339	0	3047,831
				940,699	0	197,599
155,000	169,035	0	38,678	36654,038	0	3245,43

MOVIMIENTO DE TIERRAS Balsa BP2. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				711,208	0	186,154
160,000	115,449	0	35,783	37365,246	0	3431,584
				326,484	0	109,069
165,000	15,145	0	7,844	37691,731	0	3540,653
				50,277	0	25,665
170,000	4,966	0	2,422	37742,008	0	3566,318
				4,011	0	1,957
171,438	0,612	0	0,3	37746,019	0	3568,275
TOTALES	7557,563	0	715,045	37746,019	0	3568,275

3.4 MOVIMIENTO DE TIERRAS ALIVIADERO, DESAGÜE FONDO Y CAMINO ACCESO A Balsa BP2

RAMAL	VOLUMEN EXCAVACION (m ³)	CAMA DE MATERIAL GRANULAR 6/12 (m ³)	RELLENO GRAVA (m ³)	RELLENO SELECCIONADO (m ³)	RELLENO ORDINARIO (m ³)
Aliviadero	374,48	33,94	13,48	113,69	174,05
Desagüe De Fondo	2.300,56	168,26	63,75	638,35	1.307,66

MOVIMIENTO DE TIERRAS Balsa BP2. CAMINO ACCESO A Balsa						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
0,000	0,134	1,1	1,472			
				1,793	3,252	8,069
5,000	0,583	0,201	1,756	1,793	3,252	8,069
				6,167	0,616	8,966
10,000	1,884	0,045	1,831	7,961	3,868	17,035
				12,113	0,226	9,282
15,000	2,961	0,045	1,882	20,073	4,095	26,317
				17,717	0,226	9,551
20,000	4,126	0,045	1,938	37,791	4,32	35,869
				22,882	0,226	9,8
25,000	5,027	0,045	1,982	60,672	4,546	45,669
				23,962	0,226	9,862
30,000	4,558	0,045	1,963	84,635	4,772	55,531

MOVIMIENTO DE TIERRAS Balsa BP2. CAMINO ACCESO A Balsa						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				22,208	0,226	9,779
35,000	4,325	0,045	1,948	106,842	4,998	65,311
				19,785	0,225	9,652
40,000	3,589	0,045	1,912	126,627	5,223	74,963
				15,045	0,225	9,419
45,000	2,429	0,045	1,855	141,672	5,448	84,382
				9,443	0,225	9,133
50,000	1,348	0,045	1,798	151,115	5,674	93,515
				4,247	1,285	8,789
55,000	0,351	0,469	1,718	155,363	6,959	102,304
				1,06	4,951	7,978
60,000	0,073	1,512	1,474	156,423	11,91	110,283
				0,184	10,333	6,912
65,000	0	2,622	1,291	156,607	22,242	117,195
				0	13,917	6,507
70,000	0	2,945	1,312	156,607	36,16	123,702
				0	14,59	6,55
75,000	0	2,891	1,308	156,607	50,75	130,252
				0	14,453	6,527
80,000	0	2,89	1,302	156,607	65,203	136,778
				0	12,287	6,381
85,000	0	2,024	1,25	156,607	77,49	143,159
				0,735	6,434	7,403
90,000	0,294	0,549	1,711	157,342	83,924	150,563
				2,588	1,674	8,682
95,000	0,741	0,12	1,762	159,931	85,598	159,244
				6,239	0,415	8,98
100,000	1,755	0,046	1,83	166,17	86,012	168,224
				13,774	0,227	9,382
105,000	3,755	0,045	1,922	179,944	86,239	177,606
				22,916	0,226	9,812
110,000	5,411	0,045	2,002	202,86	86,465	187,418
				26,599	0,228	10,015
115,000	5,228	0,046	2,003	229,46	86,692	197,433
				24,044	0,237	10,189
120,000	4,389	0,049	2,072	253,504	86,929	207,623
				20,896	0,246	10,342

MOVIMIENTO DE TIERRAS Balsa BP2. CAMINO ACCESO A Balsa						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
125,000	3,969	0,05	2,064	274,4	87,175	217,964
				13,747	0,769	9,899
130,000	1,53	0,258	1,895	288,147	87,944	227,863
				6,129	2,662	8,782
135,000	0,921	0,807	1,618	294,276	90,606	236,646
				4,841	4,395	8,101
140,000	1,015	0,951	1,623	299,117	95,001	244,747
				7,238	4,797	8,303
145,000	1,88	0,968	1,698	306,356	99,798	253,051
				10,012	5,269	8,61
150,000	2,124	1,14	1,746	316,367	105,067	261,661
				9,303	6,275	8,628
155,000	1,597	1,37	1,706	325,67	111,343	270,289
				6,665	7,035	8,399
160,000	1,069	1,444	1,654	332,336	118,378	278,687
				6,067	7,592	8,342
165,000	1,358	1,593	1,683	338,402	125,97	287,029
				5,256	9,766	8,367
170,000	0,745	2,313	1,664	343,659	135,736	295,396
				3,193	13,257	8,335
175,000	0,532	2,99	1,67	346,851	148,994	303,731
				1,33	16,346	7,474
180,000	0	3,549	1,32	348,182	165,339	311,206
				0	18,325	6,713
185,000	0	3,781	1,366	348,182	183,665	317,919
				0	19,127	6,843
190,000	0	3,869	1,372	348,182	202,792	324,762
				0	18,702	6,822
195,000	0	3,612	1,357	348,182	221,494	331,584
				0	18,084	6,786
200,000	0	3,622	1,357	348,182	239,578	338,37
				0	19,76	6,884
205,000	0	4,282	1,396	348,182	259,338	345,254
				0	21,083	6,965
210,000	0	4,151	1,39	348,182	280,421	352,219
				0	18,911	6,83
215,000	0	3,413	1,342	348,182	299,332	359,05

MOVIMIENTO DE TIERRAS Balsa BP2. CAMINO ACCESO A Balsa						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				0,132	15,273	7,202
220,000	0,053	2,696	1,538	348,314	314,605	366,252
				0,518	11,691	7,716
225,000	0,154	1,98	1,548	348,832	326,296	373,968
				1,068	8,186	7,738
230,000	0,273	1,294	1,547	349,899	334,482	381,706
				2,364	4,756	7,769
235,000	0,673	0,608	1,56	352,263	339,239	389,475
				5,402	2,041	8,412
240,000	1,488	0,208	1,805	357,665	341,279	397,887
				10,709	0,633	9,217
245,000	2,796	0,045	1,882	368,374	341,913	407,104
				16,998	0,231	9,568
250,000	4,004	0,047	1,945	385,372	342,144	416,671
				21,507	0,242	9,905
255,000	4,599	0,05	2,017	406,88	342,386	426,577
				21,569	0,247	10,005
260,000	4,028	0,049	1,985	428,449	342,633	436,582
				15,215	0,286	9,562
265,000	2,058	0,066	1,84	443,663	342,92	446,143
				7,926	1,309	9,138
270,000	1,113	0,458	1,816	451,589	344,229	455,281
				3,135	2,601	7,062
273,953	0,473	0,858	1,757	454,724	346,83	462,344
TOTALES	91,413	70,481	94,455	454,724	346,83	462,344

3.5 MOVIMIENTO DE TIERRAS DE LA Balsa BP3

MOVIMIENTO DE TIERRAS Balsa BP3. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
0,000	0	199,201	10,596			
				0	1000,265	52,948
5,000	0	200,905	10,583	0	1000,265	52,948
				0	1009,289	52,907
10,000	0	202,81	10,58	0	2009,554	105,855
				0	1019,381	52,942

MOVIMIENTO DE TIERRAS Balsa BP3. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
15,000	0	204,942	10,597	0	3028,936	158,797
				0	1022,227	53,023
20,000	0	203,949	10,612	0	4051,162	211,82
				0	1012,857	52,835
25,000	0	201,194	10,522	0	5064,02	264,654
				0	1009,334	52,833
30,000	0	202,539	10,612	0	6073,353	317,487
				0	1004,528	53,03
35,000	0	199,272	10,601	0	7077,881	370,517
				0	978,619	52,715
40,000	0	192,176	10,485	0	8056,5	423,232
				0	932,021	50,965
45,000	0	180,633	9,901	0	8988,52	474,196
				0	875,812	48,661
50,000	0	169,692	9,564	0	9864,333	522,857
				0	808,246	46,654
55,000	0	153,606	9,098	0	10672,579	569,511
				0	730,399	44,382
60,000	0	138,553	8,655	0	11402,977	613,893
				0	658,656	42,318
65,000	0	124,909	8,272	0	12061,633	656,211
				0	597,091	40,636
70,000	0	113,928	7,982	0	12658,724	696,847
				0	545,892	39,57
75,000	0	104,429	7,846	0	13204,616	736,418
				0	495,898	38,756
80,000	0	93,93	7,657	0	13700,514	775,174
				0	446,793	37,639
85,000	0	84,788	7,399	0	14147,308	812,813
				0	402,199	36,259
90,000	0	76,092	7,105	0	14549,507	849,071
				0	363,9	34,882
95,000	0	69,468	6,848	0	14913,407	883,953
				0	300,58	32,716
100,000	0	50,764	6,239	0	15213,987	916,669
				0	205,732	29,81
105,000	0	31,529	5,686	0	15419,719	946,479

MOVIMIENTO DE TIERRAS Balsa BP3. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				0	113,946	27,013
110,000	0	14,05	5,119	0	15533,666	973,492
				10,824	40,766	26,006
115,000	4,33	2,257	5,283	10,824	15574,432	999,498
				67,25	5,745	28,178
120,000	22,57	0,041	5,988	78,074	15580,176	1027,676
				169,818	0,233	31,396
125,000	45,357	0,052	6,57	247,892	15580,409	1059,072
				261,743	0,199	33,862
130,000	59,341	0,027	6,975	509,636	15580,608	1092,934
				291,429	0,12	34,688
135,000	57,231	0,021	6,9	801,064	15580,728	1127,623
				253,463	0,16	33,694
140,000	44,154	0,043	6,577	1054,528	15580,888	1161,316
				195,49	0,255	32,297
145,000	34,041	0,059	6,341	1250,018	15581,143	1193,613
				145,82	0,304	31,218
150,000	24,286	0,063	6,146	1395,838	15581,447	1224,831
				104,501	0,277	30,34
155,000	17,514	0,048	5,99	1500,338	15581,724	1255,171
				76,567	1,35	29,647
160,000	13,113	0,492	5,869	1576,905	15583,074	1284,817
				51,445	9,815	28,67
165,000	7,465	3,434	5,599	1628,35	15592,889	1313,488
				24,274	29,123	26,374
170,000	2,245	8,215	4,95	1652,624	15622,012	1339,861
				10,398	49,985	25,307
175,000	1,915	11,779	5,173	1663,023	15671,998	1365,169
				8,407	79,107	26,967
180,000	1,448	19,864	5,614	1671,43	15751,105	1392,136
				5,946	127,922	29,104
185,000	0,93	31,305	6,028	1677,375	15879,026	1421,239
				3,536	186,508	31,287
190,000	0,484	43,298	6,487	1680,911	16065,534	1452,526
				1,431	238,444	33,365
195,000	0,088	52,079	6,859	1682,342	16303,978	1485,891
				0,22	271,664	34,924

MOVIMIENTO DE TIERRAS Balsa BP3. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
200,000	0	56,587	7,111	1682,562	16575,642	1520,815
				0	291,947	35,863
205,000	0	60,192	7,234	1682,562	16867,589	1556,677
				0	307,497	36,23
210,000	0	62,806	7,258	1682,562	17175,086	1592,908
				0,033	311,27	36,344
215,000	0,013	61,701	7,28	1682,595	17486,356	1629,252
				0,831	293,764	36,179
220,000	0,319	55,804	7,192	1683,426	17780,12	1665,43
				3,191	263,763	35,73
225,000	0,957	49,701	7,1	1686,617	18043,882	1701,16
				7,892	231,099	35,111
230,000	2,2	42,739	6,944	1694,509	18274,981	1736,272
				15,074	184,553	34,171
235,000	3,83	31,082	6,724	1709,584	18459,534	1770,442
				41,206	122,542	32,806
240,000	12,653	17,934	6,398	1750,79	18582,076	1803,248
				89,592	67,055	30,735
245,000	23,184	8,888	5,896	1840,383	18649,131	1833,983
				136,281	28,131	27,957
250,000	31,328	2,365	5,287	1976,663	18677,262	1861,94
				196,344	6,067	25,614
255,000	47,21	0,062	4,959	2173,008	18683,329	1887,554
				278,126	0,244	25,088
260,000	64,041	0,036	5,077	2451,134	18683,573	1912,642
				359,353	0,179	25,505
265,000	79,7	0,036	5,125	2810,486	18683,752	1938,148
				416,15	0,17	25,648
270,000	86,76	0,032	5,134	3226,636	18683,922	1963,796
				425,524	0,167	25,457
275,000	83,45	0,035	5,049	3652,16	18684,089	1989,253
				403,713	0,169	25,048
280,000	78,035	0,033	4,97	4055,872	18684,258	2014,301
				380,37	0,303	24,727
285,000	74,113	0,089	4,921	4436,242	18684,561	2039,028
				370,513	0,471	24,596
290,000	74,092	0,1	4,918	4806,755	18685,032	2063,624

MOVIMIENTO DE TIERRAS Balsa BP3. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				377,751	0,371	24,656
295,000	77,008	0,048	4,945	5184,507	18685,402	2088,28
				394,015	0,203	24,788
300,000	80,598	0,033	4,971	5578,522	18685,605	2113,069
				412,19	0,162	24,92
305,000	84,278	0,032	4,997	5990,711	18685,767	2137,989
				422,249	0,162	25,03
310,000	84,622	0,032	5,015	6412,961	18685,929	2163,019
				418,6	0,162	25,067
315,000	82,818	0,033	5,012	6831,56	18686,091	2188,085
				407,028	0,161	25,006
320,000	79,993	0,032	4,99	7238,588	18686,253	2213,092
				395,879	0,159	24,912
325,000	78,359	0,032	4,974	7634,466	18686,412	2238,004
				392,674	0,166	24,994
330,000	78,711	0,035	5,024	8027,14	18686,578	2262,998
				400,216	0,173	25,286
335,000	81,375	0,034	5,091	8427,356	18686,751	2288,284
				414,316	0,172	25,635
340,000	84,351	0,035	5,163	8841,672	18686,923	2313,919
				423,778	0,17	25,868
345,000	85,16	0,033	5,184	9265,45	18687,093	2339,787
				416,563	0,165	25,724
350,000	81,465	0,033	5,106	9682,013	18687,258	2365,511
				379,27	0,31	25,118
355,000	70,243	0,091	4,941	10061,283	18687,568	2390,629
				330,043	6,804	27,089
360,000	61,774	2,63	5,894	10391,326	18694,372	2417,718
				292,148	19,767	29,954
365,000	55,085	5,277	6,087	10683,474	18714,139	2447,671
				257,772	30,211	30,369
370,000	48,023	6,808	6,061	10941,246	18744,349	2478,04
				225,042	38,006	30,222
375,000	41,993	8,395	6,028	11166,288	18782,356	2508,262
				204,457	39,59	29,923
380,000	39,789	7,441	5,941	11370,745	18821,946	2538,185
				197,211	33,938	29,565

MOVIMIENTO DE TIERRAS Balsa BP3. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
385,000	39,095	6,134	5,885	11567,956	18855,883	2567,75
				193,256	31,396	29,482
390,000	38,207	6,424	5,908	11761,212	18887,279	2597,232
				184,443	34,75	29,561
395,000	35,57	7,476	5,917	11945,655	18922,029	2626,793
				170,803	42,419	29,674
400,000	32,751	9,492	5,953	12116,458	18964,448	2656,468
				160,253	50,116	30,027
405,000	31,35	10,555	6,058	12276,711	19014,564	2686,495
				150,61	56,027	30,54
410,000	28,894	11,856	6,158	12427,321	19070,592	2717,035
				139,029	63,498	31,109
415,000	26,717	13,543	6,286	12566,35	19134,09	2748,144
				130,702	70,564	31,73
420,000	25,563	14,683	6,406	12697,052	19204,654	2779,874
				123,951	74,709	31,945
425,000	24,017	15,201	6,372	12821,002	19279,363	2811,819
				120,207	74,24	31,587
430,000	24,066	14,495	6,263	12941,209	19353,602	2843,406
				122,55	67,567	30,977
435,000	24,954	12,532	6,128	13063,759	19421,17	2874,383
				132,161	53,704	30,045
440,000	27,91	8,95	5,89	13195,921	19474,874	2904,428
				144,054	37,54	28,769
445,000	29,711	6,066	5,618	13339,974	19512,414	2933,197
				150,853	25,37	27,656
450,000	30,63	4,081	5,445	13490,827	19537,784	2960,852
				157,467	21,371	28,062
455,000	32,357	4,467	5,78	13648,294	19559,155	2988,914
				165,761	30,083	29,621
460,000	33,948	7,566	6,068	13814,055	19589,238	3018,536
				173,495	44,401	31,01
465,000	35,45	10,194	6,335	13987,55	19633,639	3049,545
				181,392	54,038	33,185
470,000	37,107	11,421	6,938	14168,942	19687,677	3082,729
				192,075	59,666	34,902
475,000	39,723	12,446	7,022	14361,016	19747,342	3117,632

MOVIMIENTO DE TIERRAS Balsa BP3. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				206,661	54,49	34,914
480,000	42,941	9,35	6,943	14567,677	19801,832	3152,546
				224,084	41,757	34,442
485,000	46,692	7,353	6,834	14791,76	19843,589	3186,988
				245,807	27,277	32,4
490,000	51,63	3,558	6,126	15037,568	19870,867	3219,388
				275,201	10,837	28,939
495,000	58,45	0,776	5,449	15312,769	19881,704	3248,327
				311,492	2,031	26,804
500,000	66,147	0,036	5,273	15624,261	19883,735	3275,131
				360,87	0,18	26,768
505,000	78,201	0,036	5,435	15985,131	19883,915	3301,898
				446,492	0,149	27,566
510,000	100,395	0,024	5,592	16431,623	19884,064	3329,465
				558,022	0,112	28,245
515,000	122,813	0,021	5,706	16989,645	19884,176	3357,709
				654,227	0,104	28,666
520,000	138,877	0,021	5,761	17643,873	19884,28	3386,376
				708,162	0,134	28,792
525,000	144,387	0,033	5,756	18352,035	19884,414	3415,168
				707,892	0,154	28,677
530,000	138,769	0,029	5,715	19059,926	19884,568	3443,845
				662,719	0,129	28,312
535,000	126,318	0,022	5,61	19722,645	19884,697	3472,156
				587,468	0,162	27,718
540,000	108,669	0,043	5,477	20310,113	19884,859	3499,874
				509,864	0,191	27,166
545,000	95,277	0,034	5,389	20819,978	19885,05	3527,04
				445,004	0,172	26,831
550,000	82,725	0,035	5,343	21264,981	19885,222	3553,871
				404,58	0,18	26,888
555,000	79,108	0,037	5,412	21669,562	19885,403	3580,759
				393,846	0,179	27,369
560,000	78,431	0,035	5,536	22063,407	19885,582	3608,128
				386,922	0,188	27,963
565,000	76,338	0,04	5,65	22450,33	19885,77	3636,092
				374,707	0,195	28,587

MOVIMIENTO DE TIERRAS Balsa BP3. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
570,000	73,545	0,038	5,785	22825,037	19885,965	3664,679
				356,938	0,198	28,343
575,000	69,231	0,041	5,552	23181,975	19886,163	3693,022
				341,458	0,194	27,351
580,000	67,352	0,036	5,388	23523,433	19886,357	3720,373
				340,107	0,176	26,842
585,000	68,69	0,034	5,348	23863,539	19886,533	3747,215
				359,788	0,111	27,216
590,000	75,225	0,01	5,538	24223,328	19886,644	3774,43
				383,715	0,083	27,925
595,000	78,261	0,023	5,632	24607,043	19886,727	3802,355
				389,37	0,135	28,086
600,000	77,487	0,031	5,603	24996,414	19886,862	3830,441
				382,063	0,175	27,776
605,000	75,338	0,039	5,508	25378,477	19887,038	3858,217
				380,407	0,199	27,33
610,000	76,825	0,04	5,424	25758,883	19887,237	3885,547
				401,857	0,241	27,105
615,000	83,918	0,056	5,418	26160,74	19887,478	3912,652
				443,741	0,276	27,273
620,000	93,578	0,054	5,491	26604,48	19887,754	3939,925
				493,636	0,236	27,722
625,000	103,876	0,04	5,598	27098,116	19887,989	3967,648
				549,57	0,187	28,284
630,000	115,952	0,035	5,716	27647,686	19888,176	3995,932
				590,043	0,172	28,858
635,000	120,066	0,034	5,827	28237,729	19888,349	4024,789
				587,676	0,173	29,148
640,000	115,005	0,035	5,832	28825,406	19888,522	4053,938
				546,022	0,148	28,964
645,000	103,404	0,024	5,754	29371,428	19888,67	4082,902
				454,048	0,146	28,381
650,000	78,215	0,034	5,599	29825,476	19888,815	4111,283
				328,565	0,205	27,402
655,000	53,21	0,048	5,362	30154,04	19889,021	4138,685
				225,741	4,883	26,606
660,000	37,086	1,905	5,281	30379,781	19893,903	4165,292

MOVIMIENTO DE TIERRAS Balsa BP3. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				154,099	26,411	27,611
665,000	24,553	8,659	5,764	30533,88	19920,314	4192,903
				105,943	64,847	30,071
670,000	17,824	17,279	6,265	30639,823	19985,161	4222,974
				77,92	114,484	32,681
675,000	13,344	28,514	6,808	30717,743	20099,645	4255,655
				53,721	174,841	35,188
680,000	8,144	41,422	7,267	30771,464	20274,487	4290,843
				30,643	246,187	37,434
685,000	4,113	57,052	7,706	30802,108	20520,673	4328,277
				12,396	327,72	39,607
690,000	0,845	74,035	8,136	30814,504	20848,393	4367,884
				2,113	432,994	41,802
695,000	0	99,162	8,585	30816,617	21281,387	4409,686
				0	528,734	43,996
700,000	0	112,331	9,014	30816,617	21810,12	4453,682
				0	586,552	45,862
705,000	0	122,289	9,331	30816,617	22396,672	4499,545
				0	638,551	47,314
710,000	0	133,131	9,595	30816,617	23035,223	4546,859
				0	694,705	48,644
715,000	0	144,751	9,863	30816,617	23729,928	4595,502
				0	751,97	49,828
720,000	0	156,037	10,068	30816,617	24481,898	4645,33
				0	803,9	50,701
725,000	0	165,523	10,212	30816,617	25285,798	4696,031
				0	842,999	51,304
730,000	0	171,676	10,309	30816,617	26128,797	4747,336
				0	876,262	51,747
735,000	0	178,828	10,389	30816,617	27005,058	4799,083
				0	914,096	52,243
740,000	0	186,81	10,508	30816,617	27919,155	4851,326
				0	948,004	52,66
745,000	0	192,391	10,556	30816,617	28867,159	4903,986
				0	971,849	52,889
750,000	0	196,348	10,599	30816,617	29839,008	4956,875
				0	988,604	52,988

MOVIMIENTO DE TIERRAS Balsa BP3. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
755,000	0	199,093	10,596	30816,617	30827,612	5009,864
				0	50,982	2,713
755,256	0	199,201	10,596	30816,617	30878,594	5012,576
TOTALES	6163,317	6563,866	1023,169	30816,617	30878,594	5012,576

MOVIMIENTO DE TIERRAS Balsa BP3. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
0,000	76,778	14,232	24,445	0	0	0
				258,473	154,336	135,348
5,000	26,611	47,502	29,694	258,473	154,336	135,348
				68,44	336,555	153,857
10,000	0,765	87,12	31,849	326,913	490,891	289,205
				1,912	556,44	163,036
15,000	0	135,456	33,366	328,825	1047,331	452,241
				0,016	768,748	169,795
20,000	0,007	172,043	34,552	328,841	1816,078	622,036
				4,312	913,412	176,014
25,000	1,718	193,322	35,854	333,153	2729,49	798,05
				49,431	974,367	188,671
30,000	18,054	196,425	39,615	382,584	3703,857	986,721
				339,748	977,751	212,572
35,000	117,845	194,675	45,414	722,332	4681,609	1199,293
				1219,824	952,963	241,585
40,000	370,085	186,51	51,22	1942,156	5634,572	1440,879
				2553,003	895,318	270,793
45,000	651,116	171,617	57,097	4495,159	6529,889	1711,672
				3850,659	821,871	296,949
50,000	889,147	157,131	61,682	8345,818	7351,76	2008,621
				4601,76	743,735	310,089
55,000	951,557	140,363	62,353	12947,579	8095,495	2318,71
				4774,35	657,836	311,297
60,000	958,183	122,771	62,166	17721,928	8753,331	2630,007
				4715,969	561,913	308,914
65,000	928,205	101,994	61,4	22437,898	9315,244	2938,921
				4531,011	458,709	304,19
70,000	884,2	81,489	60,276	26968,908	9773,952	3243,11

MOVIMIENTO DE TIERRAS Balsa BP3. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				4331,764	362,69	298,514
75,000	848,506	63,586	59,129	31300,673	10136,642	3541,624
				4183,857	276,556	292,781
80,000	825,037	47,036	57,983	35484,53	10413,198	3834,404
				4096,835	194,879	287,049
85,000	813,697	30,916	56,837	39581,364	10608,077	4121,453
				4052,809	122,644	281,318
90,000	807,427	18,142	55,69	43634,173	10730,72	4402,772
				4010,501	67,869	275,587
95,000	796,774	9,006	54,544	47644,674	10798,589	4678,359
				3914,425	33,206	269,858
100,000	768,996	4,277	53,398	51559,099	10831,796	4948,217
				3803,292	14,588	264,127
105,000	752,32	1,558	52,252	55362,391	10846,384	5212,343
				3799,365	3,896	258,395
110,000	767,426	0	51,106	59161,756	10850,28	5470,739
				3924,577	0	252,664
115,000	802,405	0	49,96	63086,333	10850,28	5723,403
				4134,482	0	246,935
120,000	851,388	0	48,814	67220,815	10850,28	5970,338
				4458,419	0	241,204
125,000	931,98	0	47,668	71679,234	10850,28	6211,543
				4942,381	0	234,59
130,000	1044,973	0	46,168	76621,615	10850,28	6446,132
				5560,337	0	225,947
135,000	1179,162	0	44,211	82181,952	10850,28	6672,08
				6164,597	0	216,148
140,000	1286,677	0	42,249	88346,549	10850,28	6888,228
				6619,863	0	205,632
145,000	1361,269	0	40,004	94966,412	10850,28	7093,86
				6850,179	0	191,04
150,000	1378,803	0	36,412	101816,591	10850,28	7284,9
				6800,898	0	171,877
155,000	1341,556	0	32,339	108617,49	10850,28	7456,778
				6553,758	0	151,51
160,000	1279,947	0	28,265	115171,248	10850,28	7608,288
				6179,384	0	131,143

MOVIMIENTO DE TIERRAS Balsa BP3. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
165,000	1191,807	0	24,192	121350,631	10850,28	7739,431
				5629,721	0	110,775
170,000	1060,082	0	20,118	126980,353	10850,28	7850,206
				4772,734	0	90,407
175,000	849,012	0	16,045	131753,087	10850,28	7940,613
				3569,964	0	70,04
180,000	578,974	0	11,971	135323,051	10850,28	8010,653
				2268,107	0	49,671
185,000	328,269	0	7,898	137591,158	10850,28	8060,324
				1121,22	0	28,538
190,000	120,219	0	3,517	138712,378	10850,28	8088,861
				86,197	0	2,522
191,434	0	0	0	138798,575	10850,28	8091,383
TOTALES	27840,977	2177,171	1631,753	138798,58	10850,28	8091,383

3.6 MOVIMIENTO DE TIERRAS ALVIADERO, DESAGÜE FONDO Y CAMINO ACCESO A Balsa BP3

RAMAL	VOLUMEN EXCAVACION (m ³)	CAMA DE MATERIAL GRANULAR 6/12 (m ³)	RELLENO GRAVA (m ³)	RELLENO SELECCIONADO (m ³)	RELLENO ORDINARIO (m ³)
Aliviadero	208,35	26,27	10,43	87,99	71,53
Desagüe De Fondo	657,20	58,72	22,90	222,54	333,18

MOVIMIENTO DE TIERRAS Balsa BP3. CAMINO ACCESO A Balsa						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
0,000	0,077	1,234	1,655			
				0,289	7,295	7,781
5,000	0,038	1,684	1,457	0,289	7,295	7,781
				0,096	9,469	6,784
10,000	0	2,104	1,256	0,385	16,764	14,566
				0	11,376	6,348
15,000	0	2,447	1,283	0,385	28,141	20,914
				0	12,957	6,441

MOVIMIENTO DE TIERRAS Balsa BP3. CAMINO ACCESO A Balsa						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
20,000	0	2,736	1,294	0,385	41,098	27,355
				0	12,831	6,431
25,000	0	2,396	1,279	0,385	53,929	33,786
				0	11,924	6,401
30,000	0	2,373	1,281	0,385	65,853	40,187
				0	12,56	6,436
35,000	0	2,65	1,293	0,385	78,413	46,622
				0	13,557	6,485
40,000	0	2,772	1,301	0,385	91,97	53,108
				0	14,093	6,522
45,000	0	2,865	1,308	0,385	106,063	59,63
				0	15,236	6,595
50,000	0	3,23	1,33	0,385	121,299	66,224
				0	15,225	6,581
55,000	0	2,86	1,302	0,385	136,523	72,805
				0	14,366	6,53
60,000	0	2,886	1,31	0,385	150,89	79,336
				0	14,633	6,561
65,000	0	2,967	1,315	0,385	165,523	85,897
				0	15,028	6,582
70,000	0	3,044	1,318	0,385	180,551	92,479
				0	14,897	6,57
75,000	0	2,915	1,31	0,385	195,448	99,049
				0	15,956	6,641
80,000	0	3,468	1,347	0,385	211,404	105,69
				0	19,857	6,882
85,000	0	4,475	1,406	0,385	231,261	112,572
				0	23,846	7,12
90,000	0	5,063	1,442	0,385	255,108	119,692
				0	26,557	7,278
95,000	0	5,559	1,469	0,385	281,664	126,97
				0	28,564	7,385
100,000	0	5,866	1,485	0,385	310,228	134,355
				0	29,785	7,465
105,000	0	6,048	1,501	0,385	340,013	141,82
				0	31,776	7,588
110,000	0	6,663	1,534	0,385	371,789	149,408

MOVIMIENTO DE TIERRAS Balsa BP3. CAMINO ACCESO A Balsa						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				0	34,983	7,75
115,000	0	7,33	1,566	0,385	406,772	157,158
				0	37,368	7,878
120,000	0	7,617	1,585	0,385	444,14	165,036
				0	38,548	7,96
125,000	0	7,802	1,599	0,385	482,688	172,996
				0	40,472	8,063
130,000	0	8,386	1,626	0,385	523,159	181,058
				0	43,398	8,203
135,000	0	8,973	1,655	0,385	566,557	189,261
				0	45,531	8,311
140,000	0	9,24	1,669	0,385	612,088	197,572
				0	46,175	8,348
145,000	0	9,231	1,67	0,385	658,264	205,92
				0	46,101	8,363
150,000	0	9,21	1,675	0,385	704,365	214,283
				0	45,787	8,339
155,000	0	9,105	1,661	0,385	750,152	222,622
				0	44,199	8,248
160,000	0	8,575	1,639	0,385	794,351	230,87
				0	43,262	8,212
165,000	0	8,73	1,646	0,385	837,613	239,082
				0	43,854	8,249
170,000	0	8,811	1,654	0,385	881,466	247,331
				0	44,127	8,267
175,000	0	8,839	1,653	0,385	925,593	255,598
				0	43,032	8,21
180,000	0	8,373	1,631	0,385	968,625	263,808
				0	40,001	8,063
185,000	0	7,627	1,594	0,385	1008,626	271,87
				0	34,811	7,78
190,000	0	6,297	1,518	0,385	1043,437	279,651
				0	26,867	7,325
195,000	0	4,449	1,412	0,385	1070,304	286,975
				0	17,513	6,74
200,000	0	2,556	1,285	0,385	1087,817	293,716
				0,345	9,605	6,929

MOVIMIENTO DE TIERRAS Balsa BP3. CAMINO ACCESO A Balsa						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
205,000	0,138	1,286	1,487	0,729	1097,422	300,645
				1,646	4,113	8,085
210,000	0,52	0,359	1,747	2,375	1101,535	308,73
				4,182	1,194	8,864
215,000	1,152	0,119	1,798	6,557	1102,73	317,593
				6,986	0,453	9,037
220,000	1,642	0,062	1,816	13,544	1103,182	326,63
				7,954	0,358	9,074
225,000	1,539	0,081	1,813	21,497	1103,54	335,704
				7,637	0,386	9,089
230,000	1,515	0,074	1,823	29,134	1103,926	344,793
				7,169	0,666	9,051
235,000	1,352	0,193	1,798	36,302	1104,592	353,844
				6,044	1,23	8,952
240,000	1,065	0,299	1,783	42,346	1105,822	362,796
				4,8	1,393	8,904
245,000	0,855	0,258	1,779	47,146	1107,215	371,7
				3,965	1,832	8,309
250,000	0,731	0,474	1,545	51,111	1109,047	380,009
				3,266	2,805	7,712
255,000	0,575	0,648	1,54	54,377	1111,852	387,721
				2,381	3,138	8,162
260,000	0,377	0,607	1,725	56,759	1114,99	395,882
				1,724	3,508	8,102
265,000	0,312	0,796	1,516	58,482	1118,498	403,984
				1,626	4,334	7,616
270,000	0,338	0,938	1,531	60,108	1122,833	411,601
				1,398	5,034	7,6
275,000	0,221	1,076	1,509	61,506	1127,867	419,2
				1,089	5,037	7,526
280,000	0,215	0,939	1,501	62,595	1132,904	426,727
				1,258	4,092	7,501
285,000	0,289	0,698	1,499	63,853	1136,996	434,228
				1,739	2,975	8,068
290,000	0,407	0,492	1,728	65,592	1139,97	442,296
				2,103	2,228	8,63
295,000	0,434	0,399	1,724	67,694	1142,198	450,926

MOVIMIENTO DE TIERRAS Balsa BP3. CAMINO ACCESO A Balsa						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				2,233	1,485	8,623
300,000	0,459	0,195	1,725	69,928	1143,683	459,549
				2,186	0,998	8,614
305,000	0,415	0,204	1,721	72,114	1144,681	468,163
				2,031	0,908	8,612
310,000	0,397	0,159	1,724	74,145	1145,589	476,774
				2,09	0,604	8,656
315,000	0,439	0,083	1,738	76,235	1146,193	485,43
				1,889	0,939	8,657
320,000	0,317	0,293	1,724	78,124	1147,132	494,086
				1,415	2,211	8,591
325,000	0,249	0,591	1,712	79,539	1149,343	502,677
				1,235	2,923	8,568
330,000	0,245	0,578	1,715	80,774	1152,267	511,245
				1,103	3,185	8,534
335,000	0,197	0,696	1,699	81,877	1155,452	519,779
				0,491	5,177	7,263
340,000	0	1,375	1,207	82,368	1160,629	527,042
				0	8,321	6,127
345,000	0	1,953	1,244	82,368	1168,95	533,169
				0	11,505	6,365
350,000	0	2,648	1,302	82,368	1180,455	539,534
				0	15,01	6,597
355,000	0	3,356	1,337	82,368	1195,465	546,131
				0	16,368	6,658
360,000	0	3,191	1,326	82,368	1211,833	552,789
				0	15,604	6,616
365,000	0	3,05	1,32	82,368	1227,437	559,405
				0	16,23	6,653
370,000	0	3,442	1,341	82,368	1243,667	566,059
				0	19,625	6,825
375,000	0	4,409	1,389	82,368	1263,292	572,884
				0	26,877	7,237
380,000	0	6,342	1,506	82,368	1290,17	580,121
				0	34,708	7,714
385,000	0	7,541	1,58	82,368	1324,878	587,835
				0	40,037	8,03

MOVIMIENTO DE TIERRAS Balsa BP3. CAMINO ACCESO A Balsa						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
390,000	0	8,474	1,632	82,368	1364,915	595,864
				0	44,999	8,297
395,000	0	9,526	1,687	82,368	1409,914	604,162
				0	50,478	8,575
400,000	0	10,666	1,743	82,368	1460,392	612,736
				0	55,796	8,834
405,000	0	11,653	1,79	82,368	1516,188	621,571
				0	60,005	9,037
410,000	0	12,349	1,824	82,368	1576,193	630,607
				0	62,237	9,145
415,000	0	12,546	1,834	82,368	1638,43	639,752
				0	62,12	9,141
420,000	0	12,302	1,823	82,368	1700,55	648,893
				0	60,197	9,013
425,000	0	11,777	1,782	82,368	1760,747	657,906
				0	57,414	8,832
430,000	0	11,188	1,75	82,368	1818,161	666,738
				0	55,581	8,754
435,000	0	11,044	1,751	82,368	1873,741	675,492
				0	57,278	8,854
440,000	0	11,867	1,79	82,368	1931,019	684,346
				0	63,32	9,111
445,000	0	13,461	1,854	82,368	1994,339	693,457
				0	72,328	9,564
450,000	0	15,47	1,972	82,368	2066,667	703,021
				0	82,235	10,047
455,000	0	17,424	2,047	82,368	2148,902	713,068
				0	89,745	10,352
460,000	0	18,474	2,094	82,368	2238,648	723,42
				0	93,851	10,525
465,000	0	19,066	2,116	82,368	2332,499	733,945
				0	95,453	10,587
470,000	0	19,115	2,119	82,368	2427,952	744,532
				0	95,411	10,567
475,000	0	19,05	2,108	82,368	2523,363	755,098
				0	93,323	10,48
480,000	0	18,28	2,084	82,368	2616,686	765,578

MOVIMIENTO DE TIERRAS Balsa BP3. CAMINO ACCESO A Balsa						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				0	86,977	10,24
485,000	0	16,511	2,012	82,368	2703,662	775,819
				0	78,615	9,881
490,000	0	14,935	1,94	82,368	2782,277	785,7
				0	71,147	9,559
495,000	0	13,524	1,883	82,368	2853,424	795,259
				0	63,797	9,247
500,000	0	11,995	1,816	82,368	2917,221	804,506
				0	56,101	8,887
505,000	0	10,446	1,739	82,368	2973,322	813,393
				0	46,935	8,421
510,000	0	8,328	1,629	82,368	3020,257	821,814
				0	34,632	7,757
515,000	0	5,524	1,474	82,368	3054,889	829,571
				0	21,441	6,992
520,000	0	3,052	1,323	82,368	3076,33	836,563
				0,812	10,727	7,168
525,000	0,325	1,239	1,544	83,18	3087,057	843,732
				0,398	0,983	1,305
525,834	0,629	1,12	1,584	83,578	3088,041	845,037
TOTALES	17,464	619,766	171,93	83,578	3088,041	845,037

3.7 MOVIMIENTO DE TIERRAS Balsa DE PIE DE CANAL (BPC)

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
0,000	20,721	15,823	6,89	0	0	0
				103,653	80,353	34,542
5,000	20,74	16,318	6,927	103,653	80,353	34,542
				103,914	81,756	34,631
10,000	20,825	16,384	6,926	207,567	162,109	69,173
				104,539	81,525	34,58
15,000	20,99	16,226	6,906	312,106	243,634	103,753
				105,248	80,645	34,095
20,000	21,109	16,033	6,732	417,354	324,279	137,848
				105,948	74,251	33,209

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
25,000	21,27	13,668	6,552	523,302	398,531	171,056
				106,766	53,242	32,193
30,000	21,436	7,629	6,325	630,068	451,773	203,249
				115,08	25,95	31,121
35,000	24,596	2,751	6,123	745,148	477,723	234,37
				61,49	11,699	30,629
40,000	0	1,928	6,129	806,638	489,422	265
				93,405	8,478	30,76
45,000	37,362	1,463	6,175	900,043	497,899	295,76
				192,602	5,403	30,683
49,950	40,457	0,72	6,222	1092,645	503,302	326,443
				2,023	0,036	0,311
50,000	40,473	0,71	6,222	1094,668	503,338	326,754
				205,779	2,29	31,222
55,000	41,838	0,206	6,267	1300,447	505,628	357,976
				211,64	0,551	31,411
60,000	42,818	0,015	6,298	1512,088	506,179	389,388
				214,75	0,16	31,531
65,000	43,082	0,049	6,314	1726,838	506,34	420,918
				216,823	0,123	31,639
70,000	43,647	0	6,341	1943,661	506,463	452,558
				91,185	0	13,228
72,085	43,82	0	6,347	2034,846	506,463	465,786
				128,017	0,069	18,505
75,000	44,013	0,048	6,349	2162,863	506,532	484,291
				220,725	0,267	31,784
80,000	44,277	0,059	6,364	2383,587	506,799	516,075
				222,969	0,148	31,868
85,000	44,91	0	6,383	2606,556	506,947	547,943
				228,185	0	31,984
90,000	46,363	0	6,411	2834,741	506,947	579,928
				236,939	0	32,129
95,000	48,412	0	6,441	3071,68	506,947	612,057
				246,996	0	32,281
100,000	50,386	0	6,471	3318,675	506,947	644,338
				256,146	0	32,432
105,000	52,073	0	6,502	3574,822	506,947	676,77

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				262,535	0	32,523
110,000	52,941	0	6,508	3837,356	506,947	709,293
				266,221	0	32,531
115,000	53,547	0	6,505	4103,577	506,947	741,824
				268,76	0	32,489
120,000	53,957	0	6,491	4372,336	506,947	774,313
				270,644	0,12	32,409
125,000	54,301	0,048	6,473	4642,98	507,067	806,722
				271,467	0,12	32,319
130,000	54,286	0	6,455	4914,446	507,187	839,041
				271,119	0,12	32,229
135,000	54,162	0,048	6,437	5185,566	507,307	871,27
				269,275	0,12	32,14
140,000	53,548	0	6,419	5454,841	507,427	903,41
				266,024	0,118	32,052
145,000	52,861	0,047	6,402	5720,865	507,546	935,462
				262,64	0,118	32,006
150,000	52,195	0	6,401	5983,504	507,664	967,468
				260,506	0	32,015
155,000	52,008	0	6,405	6244,011	507,664	999,484
				261,209	0	32,045
160,000	52,476	0	6,413	6505,22	507,664	1031,529
				264,454	0	32,085
165,000	53,306	0	6,421	6769,674	507,664	1063,614
				268,658	0	32,128
170,000	54,158	0	6,43	7038,332	507,664	1095,742
				273,029	0	32,172
175,000	55,054	0	6,439	7311,361	507,664	1127,914
				277,658	0	32,224
180,000	56,009	0	6,451	7589,019	507,664	1160,137
				282,396	0	32,284
185,000	56,949	0	6,463	7871,415	507,664	1192,421
				287,046	0	32,356
190,000	57,869	0	6,479	8158,46	507,664	1224,777
				291,561	0	32,441
195,000	58,755	0	6,497	8450,022	507,664	1257,217
				296,053	0	32,534

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
200,000	59,666	0	6,517	8746,075	507,664	1289,751
				300,711	0	32,634
205,000	60,618	0	6,537	9046,786	507,664	1322,385
				306,121	0	32,696
210,000	61,83	0	6,542	9352,907	507,664	1355,081
				310,374	0	32,706
215,000	62,319	0	6,541	9663,281	507,664	1387,787
				313,338	0	32,668
220,000	63,016	0	6,527	9976,618	507,664	1420,456
				317,324	0,118	32,585
225,000	63,914	0,047	6,508	10293,942	507,782	1453,041
				322,266	0,118	32,628
230,000	64,993	0	6,544	10616,208	507,9	1485,669
				333,523	0	32,852
235,000	68,416	0	6,597	10949,731	507,9	1518,521
				347,935	0	33,061
240,000	70,758	0	6,627	11297,666	507,9	1551,582
				354,014	0	33,189
245,000	70,848	0	6,649	11651,681	507,9	1584,771
				353,331	0	33,239
250,000	70,484	0	6,647	12005,012	507,9	1618,01
				350,113	0,122	33,213
255,000	69,561	0,049	6,638	12355,125	508,022	1651,223
				345,433	0,122	33,203
260,000	68,613	0	6,643	12700,558	508,144	1684,426
				342,015	0	33,239
265,000	68,193	0	6,653	13042,573	508,144	1717,665
				337,726	0	33,216
270,000	66,897	0	6,634	13380,299	508,144	1750,881
				330,655	0,133	33,095
275,000	65,365	0,053	6,604	13710,954	508,278	1783,976
				323,918	0,133	32,919
280,000	64,202	0	6,563	14034,872	508,411	1816,895
				318,782	0,151	32,701
285,000	63,311	0,06	6,517	14353,654	508,562	1849,596
				308,676	0,151	32,599
290,000	60,16	0	6,522	14662,33	508,712	1882,195

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				299,916	0	32,666
295,000	59,806	0	6,544	14962,246	508,712	1914,86
				314,599	0	32,785
300,000	66,033	0	6,57	15276,845	508,712	1947,645
				365,208	0	32,918
305,000	80,05	0	6,597	15642,053	508,712	1980,563
				415,961	0	33,088
310,000	86,335	0	6,638	16058,014	508,712	2013,651
				439,796	0	33,301
315,000	89,584	0	6,683	16497,81	508,712	2046,952
				453,913	0	33,511
320,000	91,981	0	6,721	16951,723	508,712	2080,463
				464,651	0	33,7
325,000	93,879	0	6,759	17416,374	508,712	2114,164
				474,536	0	33,832
330,000	95,935	0	6,774	17890,91	508,712	2147,996
				483,706	0	33,892
335,000	97,547	0	6,782	18374,616	508,712	2181,888
				492,191	0,125	33,889
340,000	99,329	0,05	6,773	18866,806	508,837	2215,777
				38,567	0,019	2,628
340,388	99,471	0,047	6,772	18905,374	508,856	2218,405
				443,78	0,104	30,002
344,814	101,062	0	6,785	19349,153	508,96	2248,407
				18,802	0,004	1,262
345,000	101,11	0,047	6,785	19367,955	508,964	2249,669
				509,467	0,117	33,98
350,000	102,677	0	6,807	19877,422	509,082	2283,648
				517,576	0	34,086
355,000	104,353	0	6,828	20394,998	509,082	2317,734
				526,192	0	34,192
360,000	106,123	0	6,849	20921,19	509,082	2351,926
				535,153	0	34,299
365,000	107,938	0	6,871	21456,344	509,082	2386,225
				544,189	0	34,407
370,000	109,738	0	6,892	22000,532	509,082	2420,632
				548,956	0	34,515

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
375,000	109,845	0	6,914	22549,488	509,082	2455,147
				542,776	0	34,56
380,000	107,266	0	6,91	23092,264	509,082	2489,707
				529,354	0	34,474
385,000	104,476	0	6,88	23621,618	509,082	2524,182
				484,323	0	34,326
390,000	89,254	0	6,851	24105,941	509,082	2558,508
				433,307	0	34,188
395,000	84,069	0	6,824	24539,248	509,082	2592,696
				412,808	0	34,102
400,000	81,054	0	6,817	24952,056	509,082	2626,798
				410,929	0	34,113
405,000	83,317	0	6,829	25362,985	509,082	2660,911
				424,834	0	34,173
410,000	86,616	0	6,841	25787,818	509,082	2695,084
				435,923	0	34,231
415,000	87,753	0	6,852	26223,741	509,082	2729,316
				443,749	0	34,278
420,000	89,747	0	6,859	26667,49	509,082	2763,594
				446,687	0	34,301
425,000	88,928	0	6,861	27114,177	509,082	2797,895
				437,273	0	34,294
430,000	85,981	0	6,856	27551,45	509,082	2832,189
				424,438	0	34,249
435,000	83,794	0	6,844	27975,888	509,082	2866,438
				410,474	0	34,181
440,000	80,395	0	6,829	28386,362	509,082	2900,619
				396,187	0	34,102
445,000	78,079	0	6,812	28782,549	509,082	2934,722
				389,042	0	34,025
450,000	77,538	0	6,798	29171,591	509,082	2968,747
				386,124	0	33,962
455,000	76,912	0	6,787	29557,715	509,082	3002,709
				386,873	0	33,926
460,000	77,837	0	6,784	29944,589	509,082	3036,635
				393,105	0	33,935
465,000	79,405	0	6,79	30337,694	509,082	3070,57

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				403,059	0	33,978
470,000	81,818	0	6,801	30740,753	509,082	3104,548
				416,327	0	34,042
475,000	84,712	0	6,816	31157,079	509,082	3138,591
				430,842	0	34,13
480,000	87,625	0	6,836	31587,921	509,082	3172,72
				33,952	0	2,646
480,387	87,84	0	6,838	31621,874	509,082	3175,366
				413,061	0	31,617
485,000	91,246	0	6,87	32034,935	509,082	3206,982
				183,654	0	13,681
486,986	93,703	0	6,908	32218,589	509,082	3220,664
				286,153	0	20,913
490,000	96,18	0	6,969	32504,742	509,082	3241,577
				489,146	0	34,95
495,000	99,478	0	7,011	32993,888	509,082	3276,527
				505,06	0	35,125
500,000	102,545	0	7,039	33498,948	509,082	3311,651
				518,901	0	35,273
505,000	105,015	0	7,07	34017,849	509,082	3346,924
				531,902	0	35,428
510,000	107,746	0	7,101	34549,751	509,082	3382,352
				542,908	0	35,536
515,000	109,417	0	7,113	35092,659	509,082	3417,887
				547,978	0	35,584
520,000	109,774	0	7,12	35640,637	509,082	3453,471
				550,074	0	35,611
525,000	110,255	0	7,124	36190,711	509,082	3489,083
				552,059	0	35,628
530,000	110,568	0	7,127	36742,77	509,082	3524,711
				553,625	0	35,646
535,000	110,882	0	7,131	37296,394	509,082	3560,357
				555,22	0	35,669
540,000	111,206	0	7,136	37851,614	509,082	3596,025
				557,612	0	35,698
545,000	111,839	0	7,143	38409,226	509,082	3631,724
				560,603	0	35,737

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
550,000	112,402	0	7,151	38969,828	509,082	3667,46
				564,215	0	35,785
555,000	113,284	0	7,163	39534,044	509,082	3703,246
				569,897	0	35,846
560,000	114,675	0	7,175	40103,941	509,082	3739,091
				577,447	0	35,923
565,000	116,303	0	7,194	40681,387	509,082	3775,014
				585,521	0	36,018
570,000	117,905	0	7,213	41266,908	509,082	3811,032
				595,018	0	36,212
575,000	120,102	0	7,271	41861,926	509,082	3847,244
				605,309	0	36,523
580,000	122,021	0	7,338	42467,236	509,082	3883,767
				614,906	0	36,836
585,000	123,941	0	7,397	43082,141	509,082	3920,603
				625,859	0	37,128
590,000	126,403	0	7,454	43708,001	509,082	3957,731
				610,287	0	35,897
594,816	127,038	0	7,453	44318,287	509,082	3993,628
				23,372	0	1,371
595,000	127,006	0	7,453	44341,659	509,082	3994,999
				635,498	0	37,287
600,000	127,193	0	7,462	44977,158	509,082	4032,286
				366,93	0	21,57
602,889	126,826	0	7,471	45344,088	509,082	4053,856
				267,148	0,05	15,774
605,000	126,275	0,048	7,474	45611,235	509,132	4069,631
				627,089	0,119	37,39
610,000	124,561	0	7,482	46238,324	509,251	4107,02
				623,885	0	37,426
615,000	124,993	0	7,489	46862,209	509,251	4144,447
				628,339	0	37,453
620,000	126,343	0	7,492	47490,548	509,251	4181,9
				633,868	0	37,469
625,000	127,204	0	7,495	48124,416	509,251	4219,368
				644,489	0	37,447
630,000	130,591	0	7,483	48768,904	509,251	4256,815

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				659,69	0	37,389
635,000	133,285	0	7,472	49428,594	509,251	4294,204
				673,326	0	37,364
640,000	136,046	0	7,473	50101,92	509,251	4331,567
				690,976	0,113	37,372
645,000	140,345	0,045	7,475	50792,896	509,364	4368,939
				714,642	0,113	37,582
650,000	145,512	0	7,558	51507,538	509,477	4406,522
				741,565	0,113	37,993
655,000	151,114	0,045	7,64	52249,104	509,59	4444,515
				769,5	0,113	38,404
660,000	156,686	0	7,722	53018,603	509,703	4482,92
				793,889	0,123	38,816
665,000	160,87	0,049	7,804	53812,492	509,825	4521,736
				815,03	0,123	39,247
670,000	165,142	0	7,894	54627,522	509,948	4560,983
				835,447	0,119	39,697
675,000	169,037	0,048	7,984	55462,969	510,067	4600,68
				853,755	0,119	40,082
680,000	172,466	0	8,048	56316,724	510,186	4640,762
				870,75	0,123	40,403
685,000	175,834	0,049	8,113	57187,474	510,309	4681,164
				357,609	0,05	16,455
687,025	177,36	0	8,14	57545,083	510,359	4697,62
				531,614	0	24,319
690,000	180,028	0	8,209	58076,697	510,359	4721,938
				912,323	0	41,364
695,000	184,902	0	8,336	58989,02	510,359	4763,302
				936,951	0	41,917
700,000	189,879	0	8,43	59925,971	510,359	4805,219
				960,195	0	42,405
705,000	194,199	0	8,532	60886,166	510,359	4847,624
				259,782	0,034	11,4
706,335	194,987	0,051	8,547	61145,947	510,393	4859,024
				718,594	0,093	31,379
710,000	197,152	0	8,577	61864,542	510,485	4890,403
				993,868	0	42,988

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
715,000	200,395	0	8,618	62858,41	510,485	4933,391
				1005,349	0	43,136
720,000	201,744	0	8,636	63863,758	510,485	4976,527
				1004,79	0	43,148
725,000	200,172	0	8,623	64868,549	510,485	5019,675
				996,814	0	43,066
730,000	198,554	0	8,604	65865,362	510,485	5062,741
				989,195	0	42,955
735,000	197,124	0	8,578	66854,558	510,485	5105,696
				981,971	0	42,779
740,000	195,664	0	8,534	67836,529	510,485	5148,475
				969,396	0	42,492
745,000	192,094	0	8,463	68805,924	510,485	5190,967
				945,688	0	42,161
750,000	186,181	0	8,401	69751,612	510,485	5233,128
				919,876	0	41,887
755,000	181,77	0	8,353	70671,488	510,485	5275,016
				898,382	0	41,703
760,000	177,583	0	8,328	71569,87	510,485	5316,719
				876,53	0	41,654
765,000	173,029	0	8,334	72446,4	510,485	5358,373
				857,753	0	41,561
770,000	170,072	0	8,29	73304,153	510,485	5399,934
				839,812	0	41,163
775,000	165,853	0	8,175	74143,965	510,485	5441,097
				824,378	0	40,613
780,000	163,898	0	8,071	74968,342	510,485	5481,711
				813,404	0	40,133
785,000	161,463	0	7,983	75781,747	510,485	5521,844
				799,438	0	39,749
790,000	158,312	0	7,917	76581,184	510,485	5561,593
				784,334	0	39,502
795,000	155,422	0	7,884	77365,518	510,485	5601,095
				779,43	0	39,435
800,000	156,35	0	7,89	78144,948	510,485	5640,53
				788,378	0	39,613
805,000	159,001	0	7,955	78933,326	510,485	5680,143

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				800,036	0	39,914
810,000	161,014	0	8,011	79733,362	510,485	5720,057
				809,955	0	40,164
815,000	162,969	0	8,055	80543,317	510,485	5760,221
				820,492	0	40,309
820,000	165,228	0	8,069	81363,81	510,485	5800,53
				826,015	0	40,277
825,000	165,178	0	8,042	82189,824	510,485	5840,808
				823,24	0	40,165
830,000	164,119	0	8,024	83013,065	510,485	5880,972
				817,124	0	40,112
835,000	162,731	0	8,021	83830,189	510,485	5921,085
				809,618	0	40,019
840,000	161,116	0	7,987	84639,807	510,485	5961,104
				801,474	0	39,739
845,000	159,473	0	7,909	85441,281	510,485	6000,843
				789,056	0	39,472
850,000	156,149	0	7,88	86230,337	510,485	6040,315
				780,848	0	39,499
855,000	156,19	0	7,92	87011,185	510,485	6079,815
				783,064	0	39,678
860,000	157,035	0	7,951	87794,249	510,485	6119,493
				786,559	0	39,799
865,000	157,588	0	7,969	88580,808	510,485	6159,292
				789,392	0	39,889
870,000	158,169	0	7,987	89370,2	510,485	6199,182
				795,199	0	39,987
875,000	159,911	0	8,008	90165,399	510,485	6239,169
				807,631	0	40,086
880,000	163,141	0	8,027	90973,03	510,485	6279,255
				823,765	0	40,178
885,000	166,365	0	8,044	91796,795	510,485	6319,433
				838,17	0	40,254
890,000	168,903	0	8,057	92634,965	510,485	6359,687
				850,796	0	40,295
895,000	171,415	0	8,061	93485,761	510,485	6399,982
				793,059	0	36,864

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
899,567	175,885	0	8,083	94278,82	510,485	6436,846
				76,24	0	3,501
900,000	176,262	0	8,088	94355,059	510,485	6440,347
				894,036	0	40,576
905,000	181,352	0	8,142	95249,096	510,485	6480,923
				922,468	0	41,141
910,000	187,635	0	8,314	96171,563	510,485	6522,064
				951,114	0	41,95
915,000	192,811	0	8,466	97122,677	510,485	6564,014
				794,045	0,129	34,889
919,097	194,812	0,063	8,566	97916,723	510,615	6598,902
				175,968	0,028	7,744
920,000	194,929	0	8,586	98092,691	510,643	6606,646
				976,862	0	43,402
925,000	195,816	0	8,775	99069,553	510,643	6650,048
				976,748	0	44,401
930,000	194,883	0	8,985	100046,301	510,643	6694,449
				970,812	0	44,509
935,000	193,442	0	8,818	101017,113	510,643	6738,957
				966,415	0	43,409
940,000	193,124	0	8,545	101983,528	510,643	6782,367
				590,335	0	26,206
943,092	188,723	0	8,405	102573,863	510,643	6808,572
				358,314	0	16,007
945,000	186,869	0	8,373	102932,177	510,643	6824,579
				926,155	0	41,8
950,000	183,593	0	8,347	103858,332	510,643	6866,379
				913,371	0	41,789
955,000	181,755	0	8,369	104771,702	510,643	6908,168
				909,719	0	41,867
960,000	182,132	0	8,377	105681,421	510,643	6950,034
				783,997	0	35,974
964,301	182,433	0	8,351	106465,418	510,643	6986,009
				127,375	0	5,839
965,000	182,018	0	8,357	106592,793	510,643	6991,848
				899,411	0	41,819
970,000	177,747	0	8,371	107492,204	510,643	7033,667

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				877,032	0	41,861
975,000	173,066	0	8,373	108369,237	510,643	7075,528
				588,539	0,09	28,671
978,428	170,306	0,053	8,354	108957,776	510,733	7104,2
				266,803	0,041	13,117
980,000	169,138	0	8,334	109224,579	510,775	7117,317
				832,898	0	41,476
985,000	164,021	0	8,256	110057,476	510,775	7158,793
				804,001	0	41,102
990,000	157,58	0	8,185	110861,478	510,775	7199,896
				768,249	0	40,535
995,000	149,72	0	8,03	111629,727	510,775	7240,431
				731,707	0	39,812
1000,000	142,963	0	7,895	112361,434	510,775	7280,243
				696,424	0	39,083
1005,000	135,607	0	7,738	113057,858	510,775	7319,326
				657,558	0	38,293
1010,000	127,416	0	7,579	113715,416	510,775	7357,62
				614,543	0	37,451
1015,000	118,401	0	7,401	114329,959	510,775	7395,071
				567,546	0,118	36,473
1020,000	108,617	0,047	7,188	114897,505	510,892	7431,544
				415,721	0,093	28,134
1023,956	101,555	0	7,035	115313,226	510,985	7459,678
				105,185	0	7,33
1025,000	99,949	0	7,007	115418,411	510,985	7467,008
				481,446	0	34,726
1030,000	92,63	0	6,883	115899,857	510,985	7501,734
				445,753	0,105	34,108
1035,000	85,672	0,042	6,76	116345,611	511,091	7535,842
				405,964	0,105	33,467
1040,000	76,714	0	6,627	116751,574	511,196	7569,309
				360,664	0,113	32,794
1045,000	67,552	0,045	6,491	117112,238	511,309	7602,103
				315,766	0,113	32,116
1050,000	58,755	0	6,355	117428,004	511,422	7634,22
				272,984	0,317	31,438

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
1055,000	50,439	0,127	6,22	117700,988	511,739	7665,658
				237,156	6,102	31,195
1060,000	44,423	2,314	6,258	117938,144	517,841	7696,853
				209,244	17,571	31,776
1065,000	39,274	4,715	6,452	118147,388	535,412	7728,629
				184,427	30,338	32,743
1070,000	34,497	7,421	6,645	118331,815	565,75	7761,372
				160,777	44,953	33,692
1075,000	29,814	10,561	6,832	118492,592	610,703	7795,064
				74,535	62,534	34,731
1080,000	0	14,453	7,06	118567,127	673,238	7829,795
				53,883	88,111	36,09
1085,000	21,553	20,791	7,376	118621,01	761,348	7865,885
				84,169	105,101	31,988
1089,257	17,99	28,587	7,653	118705,179	866,45	7897,873
				6,683	21,783	5,711
1090,000	0	30,049	7,72	118711,862	888,233	7903,584
				39,306	175,967	39,757
1095,000	15,722	40,338	8,183	118751,168	1064,2	7943,341
				74,513	225,375	41,809
1100,000	14,083	49,812	8,541	118825,682	1289,574	7985,15
				67,056	264,532	43,399
1105,000	12,739	56,001	8,819	118892,737	1554,106	8028,549
				59,963	291,819	44,36
1110,000	11,246	60,726	8,925	118952,7	1845,925	8072,909
				28,115	303,308	44,626
1115,000	0	60,597	8,925	118980,816	2149,233	8117,535
				27,952	296,714	44,43
1120,000	11,181	58,089	8,847	119008,768	2445,947	8161,965
				57,44	280,941	43,845
1125,000	11,795	54,288	8,691	119066,208	2726,888	8205,81
				29,487	269,463	43,405
1130,000	0	53,498	8,671	119095,695	2996,352	8249,214
				10,876	99,357	16,094
1131,856	11,72	53,568	8,671	119106,571	3095,709	8265,308
				18,424	168,487	27,261
1135,000	0	53,612	8,67	119124,996	3264,196	8292,569

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				29,93	268,245	43,348
1140,000	11,972	53,686	8,669	119154,926	3532,441	8335,917
				29,93	267,46	43,34
1145,000	0	53,298	8,667	119184,856	3799,902	8379,257
				32,691	263,735	43,331
1150,000	13,076	52,196	8,665	119217,547	4063,637	8422,587
				32,691	257,664	43,288
1155,000	0	50,87	8,65	119250,238	4321,3	8465,875
				34,437	252,908	43,191
1160,000	13,775	50,294	8,627	119284,675	4574,208	8509,066
				34,437	250,25	43,079
1165,000	0	49,806	8,605	119319,112	4824,459	8552,145
				32,999	249,515	42,977
1170,000	13,2	50	8,585	119352,111	5073,974	8595,122
				32,999	251,784	42,906
1175,000	0	50,714	8,577	119385,111	5325,758	8638,028
				31,202	253,822	42,882
1180,000	12,481	50,815	8,576	119416,313	5579,58	8680,91
				31,202	253,926	42,873
1185,000	0	50,755	8,573	119447,515	5833,506	8723,783
				30,636	253,741	42,859
1190,000	12,254	50,741	8,57	119478,151	6087,247	8766,642
				30,636	256,968	42,917
1195,000	0	52,046	8,597	119508,786	6344,214	8809,559
				27,557	264,25	43,091
1200,000	11,023	53,654	8,64	119536,343	6608,464	8852,651
				27,557	272,759	43,301
1205,000	0	55,45	8,681	119563,9	6881,223	8895,952
				22,988	282,781	43,498
1210,000	9,195	57,662	8,719	119586,889	7164,004	8939,45
				22,988	295,971	43,758
1215,000	0	60,726	8,784	119609,877	7459,976	8983,208
				17,847	314,295	44,125
1220,000	7,139	64,992	8,866	119627,723	7774,27	9027,334
				17,847	336,006	44,573
1225,000	0	69,411	8,963	119645,57	8110,276	9071,907
				13,025	358,337	45,085

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
1230,000	5,21	73,924	9,071	119658,594	8468,613	9116,993
				13,025	379,718	45,52
1235,000	0	77,963	9,137	119671,619	8848,331	9162,512
				9,447	397,54	45,788
1240,000	3,779	81,053	9,178	119681,066	9245,871	9208,3
				9,447	413,474	45,965
1245,000	0	84,337	9,208	119690,514	9659,344	9254,265
				6,296	430,017	46,101
1250,000	2,518	87,67	9,232	119696,81	10089,361	9300,366
				6,296	436,781	46,042
1255,000	0	87,042	9,184	119703,106	10526,142	9346,408
				6,779	425,92	45,694
1260,000	2,712	83,326	9,093	119709,885	10952,062	9392,102
				6,779	406,928	45,331
1265,000	0	79,445	9,039	119716,665	11358,99	9437,433
				8,596	391,913	45,115
1270,000	3,438	77,32	9,007	119725,261	11750,903	9482,548
				8,596	383,583	44,981
1275,000	0	76,113	8,986	119733,857	12134,486	9527,529
				10,046	377,308	44,891
1280,000	4,018	74,81	8,971	119743,903	12511,794	9572,42
				10,046	370,418	44,817
1285,000	0	73,357	8,956	119753,95	12882,212	9617,237
				11,089	364,943	44,74
1290,000	4,436	72,62	8,94	119765,039	13247,155	9661,978
				8,505	138,88	17,035
1291,906	4,489	73,11	8,935	119773,544	13386,035	9679,013
				13,769	227,527	27,675
1295,000	4,411	73,967	8,955	119787,313	13613,563	9706,688
				9,751	328,624	39,644
1299,421	0	74,698	8,98	119797,064	13942,186	9746,332
				0	43,27	5,199
1300,000	0	74,767	8,979	119797,064	13985,457	9751,531
				0	374,643	44,864
1305,000	0	75,09	8,966	119797,064	14360,1	9796,394
				0	374,114	44,781
1310,000	0	74,555	8,946	119797,064	14734,215	9841,175

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				0	371,444	44,687
1315,000	0	74,022	8,929	119797,064	15105,659	9885,862
				0	367,096	44,61
1320,000	0	72,816	8,915	119797,064	15472,754	9930,472
				0	361,031	44,546
1325,000	0	71,596	8,903	119797,064	15833,785	9975,018
				12,755	355,4	44,486
1330,000	5,102	70,564	8,891	119809,819	16189,185	10019,504
				12,755	350,069	44,421
1335,000	0	69,464	8,877	119822,574	16539,254	10063,925
				14,76	342,588	44,338
1340,000	5,904	67,571	8,858	119837,334	16881,841	10108,264
				14,76	332,004	44,208
1345,000	0	65,23	8,825	119852,094	17213,845	10152,472
				16,727	320,495	43,977
1350,000	6,691	62,968	8,766	119868,821	17534,34	10196,449
				16,727	312,389	43,721
1355,000	0	61,987	8,722	119885,548	17846,729	10240,17
				17,814	307,729	43,566
1360,000	7,126	61,104	8,704	119903,362	18154,458	10283,736
				17,814	303,198	43,47
1365,000	0	60,175	8,684	119921,177	18457,655	10327,206
				18,589	298,66	43,365
1370,000	7,436	59,289	8,662	119939,766	18756,316	10370,571
				18,589	294,729	43,238
1375,000	0	58,602	8,633	119958,355	19051,045	10413,809
				19,07	290,25	43,067
1380,000	7,628	57,497	8,594	119977,425	19341,294	10456,876
				19,07	284,562	42,802
1385,000	0	56,327	8,527	119996,495	19625,856	10499,678
				20,236	278,731	42,352
1390,000	8,094	55,165	8,414	120016,731	19904,587	10542,03
				20,236	271,417	41,869
1395,000	0	53,401	8,334	120036,967	20176,004	10583,9
				21,089	264,92	41,599
1400,000	8,435	52,567	8,306	120058,056	20440,924	10625,498
				21,089	260,73	41,468

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
1405,000	0	51,725	8,282	120079,145	20701,654	10666,967
				22,058	256,64	41,364
1410,000	8,823	50,931	8,264	120101,202	20958,294	10708,331
				22,058	252,751	41,274
1415,000	0	50,17	8,245	120123,26	21211,045	10749,605
				23,164	248,487	41,177
1420,000	9,266	49,225	8,225	120146,424	21459,532	10790,782
				23,164	243,516	41,069
1425,000	0	48,181	8,202	120169,588	21703,047	10831,851
				26,5	236,713	40,938
1430,000	10,6	46,504	8,173	120196,088	21939,76	10872,789
				26,5	227,942	40,765
1435,000	0	44,673	8,133	120222,587	22167,702	10913,555
				29,944	219,569	40,526
1440,000	11,978	43,155	8,077	120252,532	22387,272	10954,081
				29,944	211,998	40,231
1445,000	0	41,644	8,015	120282,476	22599,27	10994,312
				31,354	205,429	39,892
1450,000	12,542	40,527	7,942	120313,831	22804,699	11034,204
				63,035	200,9	39,564
1455,000	12,672	39,833	7,884	120376,866	23005,599	11073,768
				22,779	71,194	14,132
1456,794	12,722	39,537	7,871	120399,645	23076,793	11087,9
				20,393	125,963	25,208
1460,000	0	39,043	7,854	120420,038	23202,756	11113,108
				13,067	79,842	16,1
1462,051	12,742	38,814	7,846	120433,106	23282,599	11129,208
				18,789	113,968	23,117
1465,000	0	38,478	7,832	120451,894	23396,566	11152,325
				32,281	191,146	39,107
1470,000	12,912	37,98	7,81	120484,175	23587,713	11191,433
				32,281	189,409	39,001
1475,000	0	37,783	7,79	120516,456	23777,122	11230,433
				30,831	190,566	38,967
1480,000	12,333	38,443	7,797	120547,287	23967,688	11269,4
				30,831	195,749	39,006
1485,000	0	39,857	7,805	120578,119	24163,437	11308,406

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				27,681	203,228	39,103
1490,000	11,072	41,435	7,836	120605,8	24366,665	11347,509
				27,681	211,783	39,258
1495,000	0	43,278	7,867	120633,481	24578,447	11386,767
				0	220,307	39,587
1500,000	0	44,845	7,967	120633,481	24798,755	11426,354
				0	226,775	40,08
1505,000	0	45,865	8,065	120633,481	25025,529	11466,434
				0	229,012	40,358
1510,000	0	45,74	8,079	120633,481	25254,542	11506,793
				0	228,132	40,427
1515,000	0	45,513	8,092	120633,481	25482,673	11547,22
				0	226,746	40,42
1520,000	0	45,185	8,076	120633,481	25709,419	11587,64
				0	225,051	40,338
1525,000	0	44,835	8,059	120633,481	25934,471	11627,978
				0	223,246	40,256
1530,000	0	44,463	8,043	120633,481	26157,716	11668,235
				0	219,975	40,177
1535,000	0	43,527	8,027	120633,481	26377,691	11708,411
				29,344	215,197	40,088
1540,000	11,737	42,552	8,008	120662,824	26592,888	11748,5
				29,344	210,551	39,991
1545,000	0	41,669	7,989	120692,168	26803,44	11788,491
				31,87	206,518	39,888
1550,000	12,748	40,939	7,966	120724,039	27009,958	11828,379
				31,87	203,167	39,778
1555,000	0	40,328	7,945	120755,909	27213,125	11868,157
				33,664	200,498	39,728
1560,000	13,466	39,871	7,947	120789,573	27413,624	11907,885
				33,664	201,198	39,736
1565,000	0	40,608	7,948	120823,237	27614,822	11947,621
				31,061	203,77	39,65
1570,000	12,424	40,9	7,912	120854,298	27818,592	11987,271
				31,061	204,428	39,475
1575,000	0	40,871	7,878	120885,359	28023,02	12026,747
				28,466	203,464	39,299

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
1580,000	11,386	40,514	7,842	120913,825	28226,483	12066,046
				28,466	200,919	39,117
1585,000	0	39,854	7,805	120942,291	28427,403	12105,163
				28,442	195,878	38,811
1590,000	11,377	38,497	7,72	120970,733	28623,28	12143,974
				58,888	188,264	38,389
1595,000	12,178	36,808	7,636	121029,621	28811,544	12182,363
				63,201	179,709	38,052
1600,000	13,102	35,075	7,585	121092,822	28991,253	12220,415
				67,924	170,944	37,797
1605,000	14,068	33,302	7,534	121160,746	29162,198	12258,212
				72,918	162,088	37,566
1610,000	15,1	31,533	7,492	121233,664	29324,286	12295,778
				37,749	153,17	37,361
1615,000	0	29,735	7,452	121271,412	29477,456	12333,139
				22,262	77,835	19,793
1617,658	16,751	28,832	7,441	121293,674	29555,291	12352,932
				39,903	66,653	17,406
1620,000	17,325	28,088	7,423	121333,577	29621,944	12370,338
				43,313	138,261	37,093
1625,000	0	27,217	7,415	121376,89	29760,205	12407,431
				33,203	95,906	26,169
1628,528	18,822	27,152	7,42	121410,093	29856,111	12433,6
				13,853	40,045	10,925
1630,000	0	27,256	7,424	121423,946	29896,156	12444,525
				47,586	137,263	37,149
1635,000	19,035	27,649	7,436	121471,533	30033,418	12481,674
				47,586	139,152	37,204
1640,000	0	28,012	7,446	121519,119	30172,57	12518,878
				46,06	141,261	37,284
1645,000	18,424	28,492	7,468	121565,179	30313,831	12556,162
				46,06	144,113	37,397
1650,000	0	29,153	7,491	121611,239	30457,944	12593,559
				43,499	147,442	37,52
1655,000	17,4	29,824	7,517	121654,739	30605,387	12631,08
				43,499	150,766	37,648
1660,000	0	30,482	7,543	121698,238	30756,152	12668,728

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				41,102	154,004	37,76
1665,000	16,441	31,119	7,562	121739,34	30910,157	12706,488
				41,102	156,42	37,852
1670,000	0	31,449	7,579	121780,441	31066,577	12744,341
				40,087	157,853	37,894
1675,000	16,035	31,693	7,578	121820,528	31224,43	12782,235
				40,087	156,324	37,88
1680,000	0	30,837	7,574	121860,615	31380,754	12820,116
				42,592	153,901	37,975
1685,000	17,037	30,723	7,616	121903,207	31534,655	12858,091
				42,592	156,585	38,209
1690,000	0	31,911	7,667	121945,799	31691,24	12896,301
				44,513	163,855	38,2
1695,000	17,805	33,631	7,612	121990,311	31855,095	12934,5
				44,513	167,764	37,876
1700,000	0	33,474	7,538	122034,824	32022,859	12972,376
				88,484	150,37	37,521
1705,000	35,394	26,674	7,471	122123,309	32173,229	13009,897
				88,484	118,032	37,188
1710,000	0	20,539	7,405	122211,793	32291,262	13047,085
				124,22	93,495	36,873
1715,000	49,688	16,859	7,345	122336,013	32384,757	13083,958
				124,22	75,605	36,575
1720,000	0	13,383	7,285	122460,232	32460,362	13120,533
				205,735	52,981	35,87
1725,000	82,294	7,809	7,063	122665,968	32513,343	13156,403
				444,257	31,054	34,681
1730,000	95,409	4,612	6,81	123110,225	32544,397	13191,084
				462,962	21,644	33,668
1735,000	89,776	4,045	6,658	123573,187	32566,041	13224,753
				407,567	23,083	32,956
1740,000	73,251	5,188	6,525	123980,754	32589,124	13257,708
				319,726	34,107	32,935
1745,000	54,64	8,455	6,649	124300,48	32623,23	13290,643
				136,599	51,116	33,679
1750,000	0	11,992	6,822	124437,079	32674,346	13324,322
				84,962	64,614	34,361

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
1755,000	33,985	13,854	6,922	124522,041	32738,96	13358,682
				84,962	73,875	34,825
1760,000	0	15,696	7,008	124607,003	32812,835	13393,507
				67,519	83,498	35,351
1765,000	27,008	17,703	7,133	124674,522	32896,333	13428,858
				67,519	96,243	35,992
1770,000	0	20,794	7,264	124742,041	32992,576	13464,851
				54,896	110,359	36,598
1775,000	21,958	23,35	7,375	124796,937	33102,935	13501,449
				54,896	123,865	37,137
1780,000	0	26,196	7,48	124851,833	33226,8	13538,586
				46,591	138,455	37,688
1785,000	18,636	29,186	7,595	124898,423	33365,255	13576,273
				46,591	153,628	38,264
1790,000	0	32,266	7,711	124945,014	33518,883	13614,537
				0	101,359	23,663
1793,056	0	34,069	7,775	124945,014	33620,242	13638,2
				0	67,198	15,141
1795,000	0	35,065	7,802	124945,014	33687,441	13653,341
				38,083	179,628	39,061
1800,000	15,233	36,786	7,822	124983,097	33867,068	13692,402
				75,325	186,5	39,169
1805,000	14,897	37,814	7,845	125058,422	34053,568	13731,57
				36,254	92,824	19,192
1807,447	14,734	38,053	7,841	125094,675	34146,392	13750,763
				37,003	97,852	20,072
1810,000	14,254	38,603	7,883	125131,679	34244,244	13770,835
				35,634	199,056	39,685
1815,000	0	41,019	7,991	125167,313	34443,299	13810,52
				31,192	210,04	40,172
1820,000	12,477	42,997	8,078	125198,505	34653,339	13850,692
				31,192	218,913	40,537
1825,000	0	44,569	8,137	125229,697	34872,253	13891,229
				27,212	226,338	40,782
1830,000	10,885	45,967	8,176	125256,91	35098,591	13932,011
				27,212	233,29	40,908
1835,000	0	47,349	8,187	125284,122	35331,881	13972,919

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				25,316	235,557	40,92
1840,000	10,127	46,873	8,181	125309,438	35567,437	14013,839
				25,316	235,727	40,825
1845,000	0	47,417	8,149	125334,755	35803,165	14054,665
				24,429	237,27	40,705
1850,000	9,772	47,491	8,132	125359,184	36040,435	14095,37
				24,429	237,381	40,667
1855,000	0	47,462	8,135	125383,612	36277,816	14136,037
				23,533	238,281	40,796
1860,000	9,413	47,85	8,184	125407,145	36516,097	14176,833
				23,533	247,16	41,209
1865,000	0	51,014	8,3	125430,678	36763,257	14218,042
				22,955	256,673	41,659
1870,000	9,182	51,656	8,364	125453,633	37019,93	14259,701
				22,955	256,931	41,805
1875,000	0	51,117	8,358	125476,588	37276,861	14301,506
				23,586	254,676	41,741
1880,000	9,434	50,754	8,338	125500,174	37531,538	14343,247
				23,586	250,858	41,598
1885,000	0	49,589	8,301	125523,76	37782,395	14384,845
				24,004	249,502	41,489
1890,000	9,601	50,211	8,295	125547,763	38031,897	14426,334
				24,004	249,445	41,571
1895,000	0	49,567	8,333	125571,767	38281,342	14467,905
				24,439	245,762	41,692
1900,000	9,776	48,738	8,343	125596,206	38527,105	14509,597
				24,439	241,283	41,643
1905,000	0	47,775	8,314	125620,645	38768,388	14551,24
				25,148	236,443	41,448
1910,000	10,059	46,802	8,265	125645,793	39004,831	14592,688
				25,148	230,111	41,14
1915,000	0	45,242	8,191	125670,941	39234,942	14633,828
				25,779	224,745	40,778
1920,000	10,312	44,656	8,121	125696,72	39459,687	14674,606
				25,779	221,673	40,444
1925,000	0	44,013	8,057	125722,499	39681,359	14715,05
				26,525	218,242	40,185

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
1930,000	10,61	43,284	8,017	125749,024	39899,602	14755,235
				26,525	214,475	40,065
1935,000	0	42,506	8,009	125775,549	40114,077	14795,3
				27,209	211,951	40,065
1940,000	10,884	42,274	8,017	125802,758	40326,028	14835,365
				27,209	213,208	40,157
1945,000	0	43,009	8,046	125829,967	40539,236	14875,522
				27,552	216,434	40,275
1950,000	11,021	43,564	8,064	125857,519	40755,67	14915,797
				27,552	218,51	40,332
1955,000	0	43,839	8,069	125885,072	40974,18	14956,129
				27,909	219,272	40,352
1960,000	11,164	43,869	8,072	125912,981	41193,452	14996,481
				27,909	219,147	40,37
1965,000	0	43,789	8,075	125940,89	41412,598	15036,851
				28,279	218,72	40,383
1970,000	11,312	43,699	8,078	125969,169	41631,319	15077,234
				28,279	218,225	40,394
1975,000	0	43,591	8,08	125997,448	41849,544	15117,628
				28,814	217,713	40,407
1980,000	11,526	43,494	8,083	126026,262	42067,257	15158,035
				28,814	217,306	40,425
1985,000	0	43,428	8,087	126055,076	42284,563	15198,46
				29,162	217,006	40,447
1990,000	11,665	43,374	8,092	126084,238	42501,569	15238,907
				29,162	216,712	40,474
1995,000	0	43,311	8,098	126113,4	42718,281	15279,381
				29,512	216,242	40,496
2000,000	11,805	43,186	8,101	126142,912	42934,523	15319,877
				29,512	215,584	40,506
2005,000	0	43,048	8,101	126172,424	43150,107	15360,383
				29,899	214,925	40,51
2010,000	11,96	42,922	8,102	126202,323	43365,032	15400,893
				29,899	214,077	40,515
2015,000	0	42,709	8,104	126232,222	43579,109	15441,408
				0	211,317	40,478
2020,000	0	41,818	8,088	126232,222	43790,426	15481,886

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				32,723	205,895	40,34
2025,000	13,089	40,54	8,048	126264,945	43996,321	15522,227
				32,723	199,848	40,142
2030,000	0	39,399	8,008	126297,667	44196,169	15562,368
				34,379	194,439	39,939
2035,000	13,752	38,376	7,967	126332,046	44390,608	15602,307
				34,379	187,634	39,686
2040,000	0	36,677	7,907	126366,426	44578,241	15641,993
				35,986	177,958	39,319
2045,000	14,394	34,506	7,82	126402,411	44756,199	15681,312
				35,986	166,927	38,888
2050,000	0	32,265	7,735	126438,397	44923,126	15720,2
				39,311	155,966	38,465
2055,000	15,724	30,121	7,651	126477,707	45079,092	15758,664
				53,663	98,898	25,595
2058,358	16,237	28,781	7,593	126531,37	45177,99	15784,259
				26,761	46,711	12,438
2060,000	16,359	28,113	7,557	126558,131	45224,701	15796,697
				83,263	135,527	37,358
2065,000	16,946	26,097	7,386	126641,394	45360,228	15834,055
				85,905	126,454	36,781
2070,000	17,416	24,484	7,326	126727,299	45486,682	15870,836
				88,21	118,459	36,434
2075,000	17,868	22,899	7,248	126815,508	45605,141	15907,27
				90,793	110,691	36,056
2080,000	18,449	21,377	7,175	126906,301	45715,832	15943,326
				93,095	103,516	35,7
2085,000	18,789	20,029	7,105	126999,396	45819,348	15979,026
				94,846	97,373	35,37
2090,000	19,149	18,92	7,043	127094,241	45916,72	16014,396
				96,649	92,293	35,086
2095,000	19,511	17,998	6,992	127190,89	46009,013	16049,483
				99,432	88,224	34,944
2100,000	20,262	17,292	6,986	127290,323	46097,237	16084,427
				50,656	85,424	34,937
2105,000	0	16,878	6,989	127340,978	46182,662	16119,364
				50,44	83,942	34,773

MOVIMIENTO DE TIERRAS Balsa BPC. DIQUE						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
2110,000	20,176	16,699	6,92	127391,419	46266,603	16154,137
				101,424	83,097	34,603
2115,000	20,393	16,54	6,921	127492,842	46349,701	16188,74
				102,428	81,305	34,536
2120,000	20,578	15,982	6,893	127595,27	46431,006	16223,276
				103,38	79,408	34,444
2125,000	20,774	15,781	6,884	127698,65	46510,414	16257,72
				51,267	39,044	17,018
2127,471	20,72	15,821	6,89	127749,917	46549,458	16274,738
TOTALES	27778,467	9799,933	3473,662	127749,92	46549,458	16274,738

MOVIMIENTO DE TIERRAS Balsa BPC. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
0,000	410,714	0	19,627	0	0	0
				2372,684	0	113,048
5,000	538,359	0	25,593	2372,684	0	113,048
				2793,29	0	131,357
10,000	578,957	0	26,95	5165,974	0	244,405
				2965,486	0	135,811
15,000	607,238	0	27,374	8131,46	0	380,216
				3105,917	0	137,844
20,000	635,129	0	27,763	11237,377	0	518,06
				3244,116	0	139,792
25,000	662,517	0	28,153	14481,493	0	657,852
				3365,524	0	141,878
30,000	683,692	0	28,598	17847,017	0	799,73
				3448,188	0	144,466
35,000	695,583	0	29,188	21295,205	0	944,196
				3504,277	0	147,805
40,000	706,128	0	29,934	24799,482	0	1092,001
				3569,2	0	151,963
45,000	721,552	0	30,851	28368,682	0	1243,963
				3664,507	0	157,04
50,000	744,251	0	31,965	32033,189	0	1401,004
				3797,864	0	163,195
55,000	774,894	0	33,313	35831,053	0	1564,199

MOVIMIENTO DE TIERRAS Balsa BPC. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				3962,076	0	170,255
60,000	809,936	0	34,788	39793,129	0	1734,454
				4137,909	0	177,629
65,000	845,228	0	36,263	43931,038	0	1912,083
				4310,838	0	185,004
70,000	879,108	0	37,738	48241,876	0	2097,087
				4473,248	0	192,253
75,000	910,192	0	39,163	52715,125	0	2289,34
				4562,596	0	197,739
80,000	914,847	0	39,933	57277,721	0	2487,079
				4542,39	0	200,509
85,000	902,109	0	40,271	61820,111	0	2687,588
				4477,873	0	202,167
90,000	889,04	0	40,596	66297,984	0	2889,755
				4416,811	0	203,791
95,000	877,685	0	40,921	70714,796	0	3093,546
				4348,466	0	205,414
100,000	861,702	0	41,245	75063,261	0	3298,961
				4265,314	0	207,037
105,000	844,424	0	41,57	79328,575	0	3505,998
				4177,384	0	208,661
110,000	826,53	0	41,894	83505,96	0	3714,659
				4090,457	0	210,284
115,000	809,653	0	42,219	87596,416	0	3924,943
				4025,017	0	211,908
120,000	800,353	0	42,544	91621,433	0	4136,851
				3982,35	0	213,532
125,000	792,586	0	42,869	95603,783	0	4350,383
				3948,776	0	215,156
130,000	786,924	0	43,193	99552,559	0	4565,538
				3937,684	0	216,779
135,000	788,15	0	43,518	103490,243	0	4782,317
				3950,809	0	218,403
140,000	792,174	0	43,843	107441,052	0	5000,72
				3977,719	0	220,026
145,000	798,914	0	44,167	111418,771	0	5220,746
				4036,338	0	221,65

MOVIMIENTO DE TIERRAS Balsa BPC. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
150,000	815,621	0	44,492	115455,108	0	5442,396
				4112,525	0	223,273
155,000	829,389	0	44,817	119567,634	0	5665,669
				4170,426	0	224,896
160,000	838,782	0	45,142	123738,06	0	5890,566
				4215,552	0	226,519
165,000	847,439	0	45,466	127953,612	0	6117,086
				4255,053	0	228,003
170,000	854,582	0	45,735	132208,665	0	6345,088
				4282,608	0	228,596
175,000	858,461	0	45,703	136491,274	0	6573,685
				4298,911	0	228,397
180,000	861,103	0	45,655	140790,185	0	6802,082
				4312,942	0	228,159
185,000	864,074	0	45,608	145103,127	0	7030,241
				4330,935	0	227,921
190,000	868,3	0	45,56	149434,062	0	7258,162
				4354,561	0	227,681
195,000	873,524	0	45,512	153788,623	0	7485,842
				4385,571	0	227,441
200,000	880,705	0	45,464	158174,194	0	7713,283
				4426,764	0	227,203
205,000	890,001	0	45,417	162600,958	0	7940,486
				4472,376	0	226,963
210,000	898,95	0	45,369	167073,334	0	8167,45
				4514,378	0	226,724
215,000	906,802	0	45,321	171587,712	0	8394,174
				4553,365	0	226,485
220,000	914,545	0	45,273	176141,078	0	8620,659
				4593,599	0	226,246
225,000	922,895	0	45,225	180734,676	0	8846,905
				4634,395	0	226,007
230,000	930,863	0	45,178	185369,072	0	9072,912
				4668,575	0	225,768
235,000	936,567	0	45,13	190037,646	0	9298,68
				4698,716	0	225,529
240,000	942,92	0	45,082	194736,363	0	9524,21

MOVIMIENTO DE TIERRAS Balsa BPC. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				4730,581	0	225,291
245,000	949,313	0	45,034	199466,944	0	9749,501
				4762,519	0	225,051
250,000	955,695	0	44,986	204229,464	0	9974,551
				4795,491	0	224,812
255,000	962,502	0	44,939	209024,955	0	10199,363
				4828,551	0	224,573
260,000	968,919	0	44,891	213853,506	0	10423,936
				4857,918	0	224,334
265,000	974,248	0	44,843	218711,424	0	10648,271
				4888,167	0	224,095
270,000	981,019	0	44,795	223599,59	0	10872,365
				4924,581	0	223,823
275,000	988,814	0	44,734	228524,172	0	11096,189
				4931,584	0	222,545
280,000	983,82	0	44,284	233455,756	0	11318,733
				4853,077	0	218,803
285,000	957,411	0	43,237	238308,832	0	11537,536
				4716,845	0	213,384
290,000	929,327	0	42,116	243025,677	0	11750,92
				4580,251	0	207,776
295,000	902,774	0	40,994	247605,928	0	11958,696
				4447,228	0	202,169
300,000	876,118	0	39,873	252053,156	0	12160,865
				4313,079	0	196,562
305,000	849,114	0	38,752	256366,235	0	12357,428
				4177,533	0	190,954
310,000	821,899	0	37,63	260543,768	0	12548,381
				4036,675	0	185,347
315,000	792,771	0	36,509	264580,443	0	12733,728
				3884,075	0	179,74
320,000	760,859	0	35,387	268464,518	0	12913,468
				3724,297	0	174,132
325,000	728,86	0	34,266	272188,815	0	13087,6
				3565,713	0	168,552
330,000	697,426	0	33,155	275754,528	0	13256,152
				3402,133	0	163,291

MOVIMIENTO DE TIERRAS Balsa BPC. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
335,000	663,428	0	32,161	279156,662	0	13419,443
				3214,803	0	158,552
340,000	622,493	0	31,259	282371,464	0	13577,994
				3027,41	0	154,051
345,000	588,47	0	30,361	285398,874	0	13732,045
				2894,381	0	149,557
350,000	569,282	0	29,462	288293,255	0	13881,602
				2799,124	0	145,198
355,000	550,368	0	28,618	291092,379	0	14026,8
				2707,031	0	141,492
360,000	532,445	0	27,979	293799,411	0	14168,292
				2622,599	0	138,699
365,000	516,594	0	27,5	296422,009	0	14306,991
				2547,655	0	136,351
370,000	502,467	0	27,04	298969,664	0	14443,342
				2477,841	0	134,048
375,000	488,669	0	26,579	301447,505	0	14577,39
				2409,186	0	131,746
380,000	475,005	0	26,119	303856,691	0	14709,137
				2343,571	0	129,444
385,000	462,423	0	25,658	306200,261	0	14838,581
				2281,219	0	127,141
390,000	450,065	0	25,198	308481,481	0	14965,721
				2224,617	0	124,838
395,000	439,782	0	24,737	310706,098	0	15090,56
				2183,137	0	122,536
400,000	433,473	0	24,277	312889,235	0	15213,095
				2159,207	0	120,233
405,000	430,21	0	23,816	315048,442	0	15333,329
				2145,894	0	117,931
410,000	428,148	0	23,356	317194,337	0	15451,259
				2133,616	0	115,629
415,000	425,299	0	22,896	319327,952	0	15566,888
				2117,43	0	113,327
420,000	421,673	0	22,435	321445,382	0	15680,216
				2094,771	0	111,025
425,000	416,235	0	21,975	323540,153	0	15791,24

MOVIMIENTO DE TIERRAS Balsa BPC. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				2060,265	0	108,721
430,000	407,871	0	21,514	325600,418	0	15899,962
				2010,263	0	106,418
435,000	396,234	0	21,053	327610,681	0	16006,38
				1945,564	0	104,116
440,000	381,992	0	20,593	329556,245	0	16110,496
				1870,372	0	101,813
445,000	366,157	0	20,132	331426,617	0	16212,309
				1791,077	0	99,511
450,000	350,274	0	19,672	333217,693	0	16311,821
				1712,886	0	97,21
455,000	334,881	0	19,212	334930,58	0	16409,03
				1637,466	0	94,906
460,000	320,106	0	18,751	336568,046	0	16503,937
				1573,29	0	92,643
465,000	309,211	0	18,306	338141,336	0	16596,58
				1527,383	0	90,752
470,000	301,743	0	17,994	339668,719	0	16687,331
				1500,916	0	89,495
475,000	298,624	0	17,804	341169,635	0	16776,827
				1487,689	0	88,581
480,000	296,452	0	17,629	342657,324	0	16865,408
				1475,606	0	87,704
485,000	293,791	0	17,453	344132,93	0	16953,112
				1465,705	0	86,827
490,000	292,492	0	17,278	345598,636	0	17039,939
				1469,17	0	86,069
495,000	295,176	0	17,15	347067,805	0	17126,007
				1490,164	0	85,792
500,000	300,889	0	17,167	348557,969	0	17211,8
				1525,135	0	86,275
505,000	309,165	0	17,343	350083,104	0	17298,075
				1572,163	0	87,474
510,000	319,701	0	17,647	351655,268	0	17385,549
				1631,895	0	89,016
515,000	333,057	0	17,96	353287,163	0	17474,565
				1689,351	0	90,581

MOVIMIENTO DE TIERRAS Balsa BPC. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
520,000	342,683	0	18,273	354976,514	0	17565,146
				1731,19	0	92,146
525,000	349,793	0	18,586	356707,704	0	17657,292
				1762,013	0	93,71
530,000	355,012	0	18,898	358469,717	0	17751,002
				1785,441	0	95,275
535,000	359,164	0	19,211	360255,158	0	17846,277
				1801,072	0	96,84
540,000	361,265	0	19,525	362056,23	0	17943,117
				1808,384	0	98,405
545,000	362,089	0	19,837	363864,614	0	18041,522
				1817,149	0	99,97
550,000	364,77	0	20,15	365681,763	0	18141,492
				1849,952	0	101,534
555,000	375,21	0	20,463	367531,715	0	18243,026
				1911,694	0	103,099
560,000	389,467	0	20,776	369443,409	0	18346,125
				2049,575	0	104,663
565,000	430,363	0	21,089	371492,983	0	18450,788
				2461,974	0	106,228
570,000	554,427	0	21,402	373954,957	0	18557,016
				2961,638	0	107,793
575,000	630,228	0	21,715	376916,595	0	18664,809
				3324,511	0	109,358
580,000	699,576	0	22,028	380241,106	0	18774,167
				3744,074	0	110,923
585,000	798,053	0	22,341	383985,18	0	18885,09
				4196,137	0	112,487
590,000	880,402	0	22,654	388181,317	0	18997,577
				4493,294	0	114,052
595,000	916,916	0	22,967	392674,611	0	19111,629
				4568,96	0	115,617
600,000	910,668	0	23,28	397243,571	0	19227,246
				4479,372	0	117,181
605,000	881,081	0	23,593	401722,943	0	19344,428
				4308,816	0	118,907
610,000	842,446	0	23,97	406031,759	0	19463,334

MOVIMIENTO DE TIERRAS Balsa BPC. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				4051,798	0	121,082
615,000	778,274	0	24,463	410083,558	0	19584,416
				3770,111	0	123,572
620,000	729,771	0	24,966	413853,669	0	19707,989
				3611,187	0	126,088
625,000	714,704	0	25,469	417464,855	0	19834,076
				3533,204	0	128,603
630,000	698,578	0	25,972	420998,059	0	19962,68
				3454,971	0	131,12
635,000	683,411	0	26,476	424453,03	0	20093,799
				3397,458	0	133,635
640,000	675,572	0	26,978	427850,488	0	20227,434
				3378,013	0	136,15
645,000	675,633	0	27,482	431228,502	0	20363,585
				3355,611	0	138,666
650,000	666,612	0	27,985	434584,113	0	20502,251
				3289,072	0	141,181
655,000	649,017	0	28,488	437873,185	0	20643,431
				3161,279	0	143,674
660,000	615,494	0	28,982	441034,464	0	20787,105
				2943,626	0	145,19
665,000	561,956	0	29,094	443978,09	0	20932,295
				2611,037	0	144,897
670,000	482,459	0	28,864	446589,127	0	21077,192
				2314,041	0	143,737
675,000	443,158	0	28,63	448903,168	0	21220,929
				2162,184	0	142,565
680,000	421,716	0	28,396	451065,352	0	21363,494
				2074,446	0	141,394
685,000	408,063	0	28,162	453139,798	0	21504,888
				2014,358	0	140,222
690,000	397,681	0	27,927	455154,156	0	21645,11
				1972,522	0	139,051
695,000	391,328	0	27,693	457126,678	0	21784,161
				1941,803	0	137,879
700,000	385,393	0	27,459	459068,482	0	21922,04
				1911,52	0	136,708

MOVIMIENTO DE TIERRAS Balsa BPC. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
705,000	379,215	0	27,224	460980,002	0	22058,748
				1880,325	0	135,536
710,000	372,915	0	26,99	462860,326	0	22194,284
				1860,714	0	134,365
715,000	371,371	0	26,756	464721,04	0	22328,649
				1846,126	0	133,193
720,000	367,08	0	26,521	466567,166	0	22461,842
				1822,81	0	132,022
725,000	362,044	0	26,287	468389,976	0	22593,864
				1799,459	0	130,85
730,000	357,739	0	26,053	470189,435	0	22724,714
				1778,582	0	129,679
735,000	353,694	0	25,819	471968,017	0	22854,394
				1759,511	0	128,508
740,000	350,111	0	25,584	473727,528	0	22982,902
				1743,145	0	127,336
745,000	347,147	0	25,35	475470,673	0	23110,238
				1724,245	0	126,164
750,000	342,551	0	25,116	477194,918	0	23236,402
				1701,598	0	124,993
755,000	338,089	0	24,881	478896,516	0	23361,395
				1680,809	0	123,822
760,000	334,235	0	24,647	480577,325	0	23485,217
				1663,469	0	122,651
765,000	331,153	0	24,413	482240,794	0	23607,867
				1649,046	0	121,478
770,000	328,466	0	24,178	483889,84	0	23729,345
				1633,457	0	120,307
775,000	324,917	0	23,944	485523,297	0	23849,652
				1615,82	0	119,135
780,000	321,411	0	23,71	487139,117	0	23968,787
				1600,796	0	117,965
785,000	318,908	0	23,476	488739,913	0	24086,752
				1588,649	0	116,793
790,000	316,552	0	23,241	490328,562	0	24203,545
				1577,536	0	115,621
795,000	314,462	0	23,007	491906,098	0	24319,166

MOVIMIENTO DE TIERRAS Balsa BPC. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				1565,521	0	114,451
800,000	311,746	0	22,773	493471,619	0	24433,617
				1551,962	0	113,279
805,000	309,039	0	22,538	495023,581	0	24546,896
				1537,724	0	112,107
810,000	306,051	0	22,304	496561,305	0	24659,003
				1520,255	0	110,936
815,000	302,051	0	22,07	498081,56	0	24769,938
				1499,98	0	109,764
820,000	297,941	0	21,836	499581,54	0	24879,702
				1479,995	0	108,593
825,000	294,057	0	21,601	501061,535	0	24988,295
				1463,214	0	107,421
830,000	291,229	0	21,367	502524,749	0	25095,716
				1448,393	0	106,249
835,000	288,129	0	21,133	503973,142	0	25201,966
				1431,949	0	105,078
840,000	284,651	0	20,898	505405,09	0	25307,044
				1413,713	0	103,907
845,000	280,834	0	20,664	506818,804	0	25410,95
				1394,121	0	102,736
850,000	276,814	0	20,43	508212,924	0	25513,686
				1374,345	0	101,564
855,000	272,924	0	20,196	509587,27	0	25615,25
				1355,672	0	100,393
860,000	269,344	0	19,961	510942,942	0	25715,643
				1339,336	0	99,221
865,000	266,39	0	19,727	512282,278	0	25814,864
				1325,73	0	98,049
870,000	263,902	0	19,493	513608,008	0	25912,913
				1313,839	0	96,878
875,000	261,634	0	19,258	514921,847	0	26009,791
				1301,911	0	95,722
880,000	259,131	0	19,03	516223,758	0	26105,513
				1273,748	0	93,674
885,000	250,368	0	18,439	517497,506	0	26199,187
				1193,933	0	88,66

MOVIMIENTO DE TIERRAS Balsa BPC. FONDO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
890,000	227,205	0	17,025	518691,439	0	26287,847
				1073,363	0	81,084
895,000	202,14	0	15,408	519764,801	0	26368,931
				954,791	0	73
900,000	179,776	0	13,792	520719,592	0	26441,931
				844,83	0	64,916
905,000	158,156	0	12,175	521564,423	0	26506,847
				736,85	0	56,832
910,000	136,584	0	10,558	522301,272	0	26563,679
				629,562	0	48,748
915,000	115,241	0	8,941	522930,835	0	26612,427
				515,952	0	39,959
920,000	91,14	0	7,042	523446,786	0	26652,386
				360,638	0	27,691
925,000	53,115	0	4,034	523807,424	0	26680,077
				57,511	0	4,365
926,689	14,986	0	1,135	523864,935	0	26684,442
TOTALES	105008,4	0	5348,971	523864,94	0	26684,442

3.8 MOVIMIENTO DE TIERRAS ALIVIADERO, DESAGÜE FONDO, DRENAJES Y REPOSICION CAMINO EN Balsa BPC

RAMAL	VOLUMEN EXCAVACION (m ³)	CAMA DE MATERIAL GRANULAR 6/12 (m ³)	RELLENO GRAVA (m ³)	RELLENO SELECCIONADO (m ³)	RELLENO ORDINARIO (m ³)
Aliviadero	1.219,97	46,30	24,00	172,01	895,72
Desagüe De Fondo	3.043,10	139,46	88,61	722,01	1.678,90
Drenajes	432,79	6,24	4,12	23,36	396,58

MOVIMIENTO DE TIERRAS Balsa BPC. REPOSICION CAMINO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
0,000	0,15	1,195	1,609	0	0	0
				0,374	9,27	7,4
5,000	0	2,513	1,351	0,374	9,27	7,4

MOVIMIENTO DE TIERRAS Balsa BPC. REPOSICION CAMINO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				0	7,371	3,789
7,764	0	2,82	1,391	0,374	16,64	11,189
				0	6,371	3,123
10,000	0	2,878	1,402	0,374	23,011	14,311
				0	16,477	7,182
15,000	0	3,713	1,471	0,374	39,488	21,493
				0	23,81	7,911
20,000	0	5,811	1,694	0,374	63,299	29,404
				0	29,033	8,518
25,000	0	5,802	1,713	0,374	92,331	37,922
				0	29,276	8,597
30,000	0	5,909	1,725	0,374	121,608	46,519
				0	18,274	5,32
33,072	0	5,989	1,738	0,374	139,882	51,839
				0	11,669	3,366
35,000	0	6,116	1,754	0,374	151,55	55,205
				0	34,257	9,121
40,000	0	7,587	1,894	0,374	185,808	64,326
				0	42,231	9,763
45,000	0	9,306	2,011	0,374	228,039	74,089
				0	43,959	9,834
50,000	0	8,278	1,923	0,374	271,998	83,923
				0	39,794	9,454
55,000	0	7,64	1,859	0,374	311,792	93,378
				0	34,937	9,078
60,000	0	6,335	1,772	0,374	346,729	102,456
				0	28,364	8,529
65,000	0	5,01	1,639	0,374	375,092	110,985
				0	24,457	8,101
70,000	0	4,772	1,601	0,374	399,55	119,085
				0	24,737	8,09
75,000	0	5,122	1,635	0,374	424,287	127,175
				0	25,311	8,155
80,000	0	5,002	1,627	0,374	449,597	135,33
				0	24,13	8,039
85,000	0	4,65	1,589	0,374	473,728	143,37
				0	22,391	7,853

MOVIMIENTO DE TIERRAS Balsa BPC. REPOSICION CAMINO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
90,000	0	4,306	1,552	0,374	496,119	151,222
				0	22,135	7,824
95,000	0	4,548	1,577	0,374	518,254	159,046
				0	23,475	7,964
100,000	0	4,842	1,609	0,374	541,729	167,01
				0	27,376	8,302
105,000	0	6,109	1,712	0,374	569,106	175,313
				0	30,303	8,571
110,000	0	6,013	1,716	0,374	599,409	183,884
				0	29,029	8,488
115,000	0	5,599	1,679	0,374	628,438	192,372
				0	26,635	8,273
120,000	0	5,055	1,63	0,374	655,073	200,645
				0	24,636	8,085
125,000	0	4,799	1,604	0,374	679,709	208,73
				0	24,101	8,029
130,000	0	4,841	1,608	0,374	703,81	216,759
				0	24,697	8,087
135,000	0	5,038	1,627	0,374	728,507	224,846
				0	25,663	8,183
140,000	0	5,228	1,646	0,374	754,17	233,029
				0	26,628	8,278
145,000	0	5,424	1,665	0,374	780,798	241,308
				0	27,588	8,372
150,000	0	5,612	1,684	0,374	808,385	249,68
				0	28,499	8,46
155,000	0	5,788	1,7	0,374	836,885	258,14
				0	29,067	8,515
160,000	0	5,839	1,706	0,374	865,952	266,655
				0	29,12	8,521
165,000	0	5,809	1,703	0,374	895,072	275,175
				0	28,95	8,505
170,000	0	5,771	1,699	0,374	924,022	283,68
				0	28,761	8,487
175,000	0	5,734	1,696	0,374	952,783	292,167
				0	28,568	8,468
180,000	0	5,694	1,692	0,374	981,351	300,636

MOVIMIENTO DE TIERRAS Balsa BPC. REPOSICION CAMINO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				0	28,356	8,444
185,000	0	5,649	1,686	0,374	1009,707	309,079
				0	28,045	8,405
190,000	0	5,569	1,676	0,374	1037,752	317,484
				0	26,663	8,266
195,000	0	5,096	1,63	0,374	1064,415	325,75
				0	24,118	8,011
200,000	0	4,551	1,574	0,374	1088,533	333,761
				0	21,415	7,731
205,000	0	4,015	1,518	0,374	1109,948	341,492
				0	18,778	7,451
210,000	0	3,496	1,462	0,374	1128,726	348,943
				0	16,21	7,173
215,000	0	2,988	1,407	0,374	1144,936	356,116
				0	13,717	6,895
220,000	0	2,499	1,351	0,374	1158,653	363,011
				0	11,461	6,635
225,000	0	2,085	1,303	0,374	1170,114	369,646
				0	11,03	6,58
230,000	0	2,327	1,329	0,374	1181,144	376,226
				0	12,508	6,751
235,000	0	2,677	1,371	0,374	1193,652	382,977
				0	14,213	6,954
240,000	0	3,009	1,41	0,374	1207,865	389,931
				0	15,885	7,145
245,000	0	3,345	1,448	0,374	1223,75	397,076
				0	17,582	7,33
250,000	0	3,688	1,484	0,374	1241,332	404,406
				0	19,166	7,501
255,000	0	3,979	1,516	0,374	1260,498	411,906
				0	16,571	6,386
259,225	0	3,865	1,507	0,374	1277,068	418,293
				0	2,983	1,167
260,000	0	3,833	1,504	0,374	1280,052	419,459
				0	18,894	7,498
265,000	0	3,724	1,495	0,374	1298,945	426,958
				0	18,711	7,487

MOVIMIENTO DE TIERRAS Balsa BPC. REPOSICION CAMINO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
270,000	0	3,76	1,499	0,374	1317,656	434,445
				0	19,066	7,513
275,000	0	3,867	1,506	0,374	1336,722	441,959
				0	19,486	7,543
280,000	0	3,928	1,511	0,374	1356,209	449,502
				0	2,459	0,945
280,625	0	3,941	1,513	0,374	1358,668	450,447
				0	17,523	6,65
285,000	0	4,069	1,526	0,374	1376,19	457,097
				0	20,32	7,632
290,000	0	4,059	1,526	0,374	1396,511	464,729
				0	19,199	7,516
295,000	0	3,621	1,48	0,374	1415,71	472,245
				0	15,662	7,127
300,000	0	2,644	1,371	0,374	1431,372	479,372
				0	10,81	6,556
305,000	0	1,68	1,251	0,374	1442,182	485,928
				0,132	7,811	6,764
309,710	0,056	1,637	1,621	0,506	1449,993	492,692
				0,016	0,488	0,477
310,000	0,057	1,726	1,669	0,523	1450,481	493,169
				0,143	12,45	7,675
315,000	0	3,254	1,401	0,665	1462,931	500,845
				0	18,131	7,327
320,000	0	3,998	1,53	0,665	1481,062	508,171
				0	19,203	7,666
325,000	0	3,683	1,536	0,665	1500,265	515,837
				0	18,516	7,674
330,000	0	3,724	1,533	0,665	1518,781	523,511
				0	19,381	7,679
335,000	0	4,029	1,538	0,665	1538,162	531,19
				0	19,07	7,587
340,000	0	3,599	1,497	0,665	1557,232	538,777
				0	7,473	3,41
342,336	0	2,799	1,423	0,665	1564,705	542,187
				0	6,92	3,735
345,000	0	2,395	1,382	0,665	1571,625	545,922

MOVIMIENTO DE TIERRAS Balsa BPC. REPOSICION CAMINO						
P.K.	SUPERFICIES (m ²)			VOLÚMENES (m ³)		
	DESMONTE	TERRAPLÉN	TIERRA VEGETAL	DESMONTE	TERRAPLEN	TIERRA VEGETAL
				0	12,579	6,996
350,000	0	2,636	1,417	0,665	1584,203	552,918
				0	12,202	7,006
355,000	0	2,245	1,386	0,665	1596,405	559,925
				0	10,023	6,667
360,000	0	1,764	1,281	0,665	1606,428	566,592
				0	9,17	6,486
365,000	0	1,904	1,313	0,665	1615,598	573,078
				0,151	9,322	7,377
370,000	0,06	1,825	1,638	0,816	1624,92	580,455
				0,365	8,2	8,074
375,000	0,086	1,455	1,592	1,181	1633,12	588,529
				0,523	7,291	8,027
380,000	0,124	1,461	1,619	1,705	1640,411	596,556
				0,714	7,432	8,226
385,000	0,162	1,512	1,671	2,419	1647,843	604,782
				0,914	6,879	8,341
390,000	0,204	1,239	1,665	3,333	1654,722	613,124
				1,068	5,347	8,228
395,000	0,223	0,899	1,626	4,401	1660,069	621,352
				1,01	4,868	8,074
400,000	0,181	1,048	1,604	5,411	1664,937	629,426
				0,472	3,131	4,466
402,775	0,16	1,209	1,615	5,883	1668,068	633,892
TOTALES	1,463	356,502	138,314	5,883	1668,068	633,892

4 MOVIMIENTO DE TIERRAS CONDUCCIONES

4.1 MOVIMIENTO DE TIERRAS TUBERÍA DE CAPTACIÓN Y LLENADO DE LA BPC

CAPTACIÓN Y LLENADO DE LA Balsa BPC					
RAMAL	VOLUMEN EXCAVACION (m ³)	CAMA DE MATERIAL GRANULAR 6/12 (m ³)	RELLENO MAT. GRANUL. 6/12 (m ³)	RELLENO SELECCIONADO (m ³)	RELLENO ORDINARIO (m ³)
TUBERÍA DE CAPTACIÓN Y LLENADO	7.608,14	126,86	101,94	736,70	6.094,62

4.2 MOVIMIENTO DE TIERRAS TUBERÍA ADMISIÓN BOMBEO

TUBERÍA DE ADMISIÓN BOMBEO					
RAMAL	VOLUMEN EXCAVACION (m ³)	CAMA DE MATERIAL GRANULAR 6/12 (m ³)	RELLENO MAT. GRANUL. 6/12 (m ³)	RELLENO SELECCIONADO (m ³)	RELLENO ORDINARIO (m ³)
TUBERÍA DE ADMISIÓN BOMBEO	4.403,69	137,76	123,21	877,62	2.561,46

4.3 MOVIMIENTO DE TIERRAS TUBERÍA DE IMPULSIÓN A BP1

IMPULSIÓN A Balsa BP1					
RAMAL	VOLUMEN EXCAVACION (m ³)	CAMA DE MATERIAL GRANULAR 6/12 (m ³)	RELLENO MAT. GRANUL. 6/12 (m ³)	RELLENO SELECCIONADO (m ³)	RELLENO ORDINARIO (m ³)
TUBERÍA DE IMPULSIÓN	5.936,18	143,21	89,10	528,66	1.703,11

4.4 MOVIMIENTO DE TIERRAS TUBERÍA DE IMPULSIÓN A BP2

IMPULSIÓN A Balsa BP2					
RAMAL	VOLUMEN EXCAVACION (m³)	CAMA DE MATERIAL GRANULAR 6/12 (m³)	RELLENO MAT. GRANUL. 6/12 (m³)	RELLENO SELECCIONADO (m³)	RELLENO ORDINARIO (m³)
TUBERÍA DE IMPULSIÓN	12.482,69	643,49	321,59	2.912,19	7.276,30

4.5 MOVIMIENTO DE TIERRAS TUBERÍA DE IMPULSIÓN A BP3

IMPULSIÓN A Balsa BP3					
RAMAL	VOLUMEN EXCAVACION (m³)	CAMA DE MATERIAL GRANULAR 6/12 (m³)	RELLENO MAT. GRANUL. 6/12 (m³)	RELLENO SELECCIONADO (m³)	RELLENO ORDINARIO (m³)
TUBERÍA DE IMPULSIÓN	24.657,20	1.317,94	775,73	6.528,97	12.448,63

4.6 MOVIMIENTO DE TIERRAS CONEXIÓN BP2

CONEXIÓN A Balsa BP2					
RAMAL	VOLUMEN EXCAVACION (m³)	CAMA DE MATERIAL GRANULAR 6/12 (m³)	RELLENO MAT. GRANUL. 6/12 (m³)	RELLENO SELECCIONADO (m³)	RELLENO ORDINARIO (m³)
TUBERÍA DE CONEXIÓN	550,82	24,42	13,33	115,99	338,59

4.7 MOVIMIENTO DE TIERRAS RED DE RIEGO

RED DE RIEGO					
RAMAL	VOLUMEN EXCAVACION (m³)	CAMA DE MATERIAL GRANULAR 6/12 (m³)	RELLENO MAT. GRANUL. 6/12 (m³)	RELLENO SELECCIONADO (m³)	RELLENO ORDINARIO (m³)
R-1	47342,090	2233,298	5437,769	8183,456	26667,225
R-1-1	16153,932	779,066	2837,650	2126,709	9135,320
R-1-10	1150,188	76,706	124,092	377,093	403,646

RED DE RIEGO					
RAMAL	VOLUMEN EXCAVACION (m³)	CAMA DE MATERIAL GRANULAR 6/12 (m³)	RELLENO MAT. GRANUL. 6/12 (m³)	RELLENO SELECCIONADO (m³)	RELLENO ORDINARIO (m³)
R-1-12	361,731	23,016	10,337	79,546	243,865
R-1-1-2	582,664	28,865	22,746	113,093	397,831
R-1-14	1456,036	91,399	45,496	321,809	972,960
R-1-1-4	1576,096	68,861	23,127	227,677	1248,352
R-1-16	138,832	9,593	4,875	33,908	87,788
R-1-1-6	571,249	23,292	18,354	91,257	422,102
R-1-1-8	182,613	8,697	3,260	29,201	140,173
R-1-2	1540,505	85,382	43,004	301,307	1087,384
R-1-3	863,116	46,016	23,383	162,657	618,263
R-1-4	1739,857	105,890	49,563	368,645	1190,685
R-1-5	366,299	19,896	6,731	65,848	271,456
R-1-6	9103,858	466,998	1131,389	1392,078	5679,870
R-1-6-2	6007,352	287,613	785,080	806,081	3852,374
R-1-6-2-1	1041,598	64,803	40,872	239,824	667,712
R-1-6-4	418,243	24,928	16,456	93,257	271,605
R-1-6-6	1575,520	69,424	37,074	247,950	1197,914
R-1-7	927,596	49,473	32,848	185,839	628,917
R-1-7-1	458,987	24,334	22,901	100,592	286,599
R-1-8	386,158	24,248	8,143	80,171	270,751
R-1-9	1352,283	54,591	31,802	198,459	1047,159
R-2	17863,009	979,430	1806,902	4068,986	8620,601
R-2-1	19020,556	1045,669	3270,388	2899,064	10558,734
R-2-1-1	413,948	26,645	10,413	90,025	282,581
R-2-1-10	120,958	6,810	3,768	24,485	83,631
R-2-1-12	918,266	55,208	38,389	209,227	585,696
R-2-1-2	1639,342	82,738	54,616	309,520	1152,651
R-2-1-3	1034,575	49,873	30,259	183,164	748,589
R-2-1-4	673,755	36,198	15,739	124,415	490,071
R-2-1-6	226,340	14,735	6,714	51,054	150,610
R-2-1-8	250,048	10,307	4,253	35,121	198,512
R-2-2	772,370	45,905	18,944	156,422	542,834
R-2-3	21736,329	1151,696	2225,620	4252,967	12098,051
R-2-3-1	13183,881	691,694	2335,915	1853,663	7412,012
R-2-3-10	2680,311	127,306	64,849	450,314	2001,070
R-2-3-1-1	896,781	63,393	36,367	229,718	544,322
R-2-3-1-1-2	87,472	5,717	2,905	20,209	57,051

RED DE RIEGO					
RAMAL	VOLUMEN EXCAVACION (m ³)	CAMA DE MATERIAL GRANULAR 6/12 (m ³)	RELLENO MAT. GRANUL. 6/12 (m ³)	RELLENO SELECCIONADO (m ³)	RELLENO ORDINARIO (m ³)
R-2-3-12	531,262	37,816	14,671	127,636	345,003
R-2-3-1-2	162,814	11,968	5,108	41,008	102,407
R-2-3-1-3	196,517	11,610	4,352	38,981	139,863
R-2-3-1-4	210,057	13,144	4,927	44,133	145,915
R-2-3-1-5	339,250	24,814	11,603	86,366	210,680
R-2-3-1-6	454,467	30,472	16,337	108,870	289,245
R-2-3-2	706,758	27,365	11,293	93,246	569,928
R-2-3-3	877,494	48,667	38,349	190,675	565,863
R-2-3-4	1533,212	90,994	57,614	337,082	1007,179
R-2-3-6	1081,539	56,608	44,607	221,789	719,057
R-2-3-8	2176,160	129,672	111,014	520,449	1307,336
R-2-4	1533,212	90,994	57,614	337,082	1007,179
R-2-5	681,299	42,355	18,699	145,963	465,388
R-2-6	635,741	32,952	17,633	117,705	456,879
R-3	7864,573	391,722	1063,668	1220,558	4655,407
R-3-1	471,330	32,982	20,154	121,195	283,365
R-3-2	878,619	53,669	42,291	210,272	534,961
R-3-4	1834,958	106,678	404,900	275,969	887,307
R-3-6	78,471	5,175	1,738	17,109	53,842
R-4	31901,652	1682,406	2091,501	7000,883	17788,091
R-4-1	116,616	7,403	2,775	24,855	80,493
R-4-10	291,096	15,923	4,486	51,520	217,869
R-4-12	2878,675	144,824	82,043	523,889	2069,980
R-4-12-1	149,237	9,115	5,044	32,776	99,272
R-4-12-2	310,019	20,737	10,538	73,301	199,676
R-4-12-3	143,956	7,585	2,843	25,466	106,944
R-4-14	1100,696	56,968	25,686	197,033	808,453
R-4-16	165,238	10,226	3,434	33,810	116,568
R-4-2	1642,453	74,564	42,604	269,961	1228,434
R-4-4	159,739	6,742	4,884	25,847	117,981
R-4-6	215,061	11,830	4,882	40,310	155,910
R-4-8	2503,698	134,633	103,462	524,358	1645,402
R-4-8-1	734,732	31,963	25,187	125,231	530,061
R-4-8-2	180,051	10,816	3,632	35,761	128,573
R-5	1720,408	67,573	227,894	174,613	1172,051
R-6	36704,326	1901,820	7302,431	4687,745	19939,448

RED DE RIEGO					
RAMAL	VOLUMEN EXCAVACION (m ³)	CAMA DE MATERIAL GRANULAR 6/12 (m ³)	RELLENO MAT. GRANUL. 6/12 (m ³)	RELLENO SELECCIONADO (m ³)	RELLENO ORDINARIO (m ³)
R-6-1	1088,455	65,742	24,645	220,735	767,643
R-6-10	290,398	18,943	7,101	63,602	197,959
R-6-11	326,225	23,306	8,615	78,106	212,735
R-6-12	1721,624	100,697	64,060	373,748	1134,001
R-6-12-1	169,723	10,835	3,639	35,824	118,153
R-6-2	366,922	20,177	9,793	70,713	261,074
R-6-3	2189,809	137,149	90,300	512,953	1381,260
R-6-3-2	1116,068	70,951	36,729	251,727	735,873
R-6-3-4	110,146	8,812	2,482	28,511	69,622
R-6-4	848,213	50,553	25,472	178,408	580,003
R-6-5	425,022	25,359	9,506	85,146	301,271
R-6-6	356,735	22,262	19,185	89,527	207,048
R-6-7	349,076	18,354	6,164	60,684	261,721
R-6-8	1579,000	88,063	41,722	303,608	1124,788
R-6-9	6615,572	309,677	622,827	1026,356	4353,643
R-6-9-1	863,589	49,145	28,060	177,900	590,895
R-6-9-1-2	250,041	11,617	3,273	37,589	196,615
R-6-9-2	1516,147	83,198	151,898	297,021	895,642
R-6-9-3	1310,861	75,511	54,052	288,309	849,674
R-6-9-3-2	99,670	6,080	2,042	20,101	70,734
TOTALES	301573,426	15690,924	33784,457	53088,830	176779,329

5 MOVIMIENTO DE TIERRAS RESUMEN

RAMAL	VOLUMEN EXCAVACION (m ³)	CAMA DE MATERIAL GRANULAR 6/12 (m ³)	RELLENO MAT. GRANUL. 6/12 (m ³)	RELLENO SELECCIONADO (m ³)	RELLENO ORDINARIO (m ³)
CAPTACIÓN Y LLENADO	7.608,14	126,86	101,94	736,70	6.094,62
ADMISIÓN BOMBEO	4.403,69	137,76	123,21	877,62	2.561,46
IMPULSIÓN BP1	5.936,18	143,21	89,10	528,66	1.703,11
IMPULSIÓN BP2	12.482,69	643,49	321,59	2.912,19	7.276,30
IMPULSIÓN BP3	24.657,20	1.317,94	775,73	6.528,97	12.448,63

RAMAL	VOLUMEN EXCAVACION (m³)	CAMA DE MATERIAL GRANULAR 6/12 (m³)	RELLENO MAT. GRANUL. 6/12 (m³)	RELLENO SELECCIONADO (m³)	RELLENO ORDINARIO (m³)
TUBERÍA DE CONEXIÓN	550,82	24,42	13,33	115,99	338,59
RED DE RIEGO	301573,426	15690,924	33784,457	53088,830	176779,329
TOTALES	357.212,15	18.084,60	35.209,36	64.788,96	207.202,04

INFRAESTRUCTURA	TIERRA VEGETAL (m³)	DESMONTE (m³)	TERRAPLEN (m³)
ESTACIÓN DE BOMBEO	548,066	1217,827	1253,639
BALSA BP1	13800,698	250509,052	332,145
BALSA BP2	10635,523	66490,9	41246,869
BALSA BP3	13103,959	169615,197	41728,874
BALSA BPC	42959,18	651614,86	46549,458
Total	81047,426	1139447,8	131110,99

RAMAL	VOLUMEN EXCAVACION (m³)	CAMA DE MATERIAL GRANULAR 6/12 (m³)	RELLENO MAT. GRANUL. 6/12 (m³)	RELLENO SELECCIONADO (m³)	RELLENO ORDINARIO (m³)
ALIVIADERO BALSA BP1	166,41	13,55	5,38	45,39	86,39
DESAGÜE DE FONDO BALSA BP1	1.847,75	105,95	38,77	402,47	1.190,66
TOTALES	2014,16	119,5	44,15	447,86	1277,05

RAMAL	VOLUMEN EXCAVACION (m³)	CAMA DE MATERIAL GRANULAR 6/12 (m³)	RELLENO MAT. GRANUL. 6/12 (m³)	RELLENO SELECCIONADO (m³)	RELLENO ORDINARIO (m³)
ALIVIADERO BALSA BP2	374,48	33,94	13,48	113,69	174,05
DESAGÜE DE FONDO BALSA BP2	2.300,56	168,26	63,75	638,35	1.307,66
TOTALES	2675,04	202,2	77,23	752,04	1481,71

RAMAL	VOLUMEN EXCAVACION (m³)	CAMA DE MATERIAL GRANULAR 6/12 (m³)	RELLENO MAT. GRANUL. 6/12 (m³)	RELLENO SELECCIONADO (m³)	RELLENO ORDINARIO (m³)
ALIVIADERO BALSA BP3	208,35	26,27	10,43	87,99	71,53
DESAGÜE DE FONDO BALSA BP3	657,20	58,72	22,90	222,54	333,18
TOTALES	865,55	84,99	33,33	310,53	404,71

RAMAL	VOLUMEN EXCAVACION (m³)	CAMA DE MATERIAL GRANULAR 6/12 (m³)	RELLENO MAT. GRANUL. 6/12 (m³)	RELLENO SELECCIONADO (m³)	RELLENO ORDINARIO (m³)
ALIVIADERO BALSA BPC	1.219,97	46,30	24,00	172,01	895,72
DESAGÜE DE FONDO BALSA BPC	3.043,10	139,46	88,61	722,01	1.678,90
DRENAJES	432,79	6,24	4,12	23,36	396,58
TOTALES	4.695,86	192,00	116,73	917,38	2.971,20

6 CONDUCCIONES

6.1 IMPULSIONES

RAMAL	PK INICIAL (m)	PK FINAL (m)	LONGITUD (m)	MATERIAL	DIAMETRO	TIMBRAJE
IMPULSION A BP1	0,000	834,898	834,898 (*)	HPCCJE	1.200	6
	0,000	320,000	320,000	HPCCJE	900	10
IMPULSION A BP2	320,000	2.089,242	1.769,242	HPCCJE	900	6
	2.089,242	2.242,208	152,966 (*)	HPCCJE	1.000	6
IMPULSION A BP3	0,000	788,279	788,279	HPCCJE	1.000	10
	788,279	2.089,242	1.300,963	HPCCJE	1.000	6
	2.089,242	3.870,037	1.780,795 (*)	HPCCJE	1.200	6

(*) Parte de esta medición corresponde con la viga de fondo de la balsa, prevista en acero helicSoldado.

6.2 CONDUCCIONES Balsa BP1

TOMA DE FONDO Balsa BP1						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
TOMA DE FONDO	0,000	48,000	48,000	ACERO HELICOIDAL	1219	e=10,3 mm

ALIVIADERO Balsa BP1						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
ALIVIADERO PARTE 1	0,000	8,000	8	ACERO HELICOIDAL	610	e=6,4 mm
ALIVIADERO PARTE 1	0,000	8,000	8	ACERO HELICOIDAL	610	e=6,4 mm
ALIVIADERO PARTE 2	8,000	29,000	21	HORMIGÓN C90	600	10
ALIVIADERO PARTE 2	8,000	29,000	21	HORMIGÓN C90	600	10

DESAGÜE DE FONDO Balsa BP1						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
DESAGÜE DE FONDO	0,000	30,950	30,950	ACERO HELICOIDAL	610	e=6,4 mm
DESAGÜE DE FONDO	0,000	200,000	200	HORMIGÓN C90	600	-
DESAGÜE DE FONDO	200,000	325,000	125	ACERO HELICOIDAL	610	e=6,4 mm
DESAGÜE DE FONDO	325,000	377,264	52,264	HORMIGÓN C90	600	-
DESAGÜE ARQUETA DRENES	0,000	76,00	76	PVC	250	10

6.3 CONDUCCIONES Balsa BP2

TOMA DE FONDO Balsa BP2						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
TOMA DE FONDO	0,000	74,000	74	ACERO HELICOIDAL	1016	e=7,9 mm

ALIVIADERO Balsa BP2						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
ALIVIADERO PARTE 1	1,200	10,000	8,800	ACERO HELICOIDAL	610	e=6,4 mm
ALIVIADERO PARTE 1	1,200	10,000	8,800	ACERO HELICOIDAL	610	e=6,4 mm
ALIVIADERO PARTE 2	10,000	70,745	60,745	HORMIGÓN C90	600	10
ALIVIADERO PARTE 2	10,000	70,745	60,745	HORMIGÓN C90	600	10

DESAGÜE DE FONDO Balsa BP2						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
DESAGÜE DE FONDO	0,000	60,000	60	ACERO HELICOIDAL	610	e=6,4 mm
DESAGÜE DE FONDO	0,000	160,000	160	HORMIGÓN C90	600	-
DESAGÜE DE FONDO	160,000	230,000	70	HORMIGÓN C135	600	-
DESAGÜE DE FONDO	230,000	442,000	212	HORMIGÓN C90	600	-
DESAGÜE DE FONDO	442,000	493,376	51,376	HORMIGÓN C135	600	-
DESAGÜE ARQUETA DRENES	0,000	270,000	270	PVC	250	10

6.4 CONDUCCIONES Balsa BP3

TOMA DE FONDO Balsa BP3						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
TOMA DE FONDO	0,000	55,000	55	ACERO HELICOIDAL	1219	e=10,3 mm

ALIVIADERO Balsa BP3						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
ALIVIADERO PARTE 1	1,200	22,000	22	ACERO HELICOIDAL	610	e=6,4 mm
ALIVIADERO PARTE 1	1,200	22,000	22	ACERO HELICOIDAL	610	e=6,4 mm
ALIVIADERO PARTE 2	22,000	55,025	33,025	HORMIGÓN C90	600	10
ALIVIADERO PARTE 2	22,000	55,025	33,025	HORMIGÓN C90	600	10

DESAGÜE DE FONDO Balsa BP3						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
DESAGÜE DE FONDO	0,000	35,000	35	ACERO HELICOIDAL	610	e=6,4 mm
DESAGÜE DE FONDO	0,000	140,480	140,480	HORMIGÓN C90	600	-
DESAGÜE ARQUETA DRENES	0,000	150,000	150,000	PVC	250	10

6.5 CONDUCCIONES Balsa BPC

OBRA DE ENTRADA Balsa BPC						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
OBRA DE ENTRADA	291,4	304,14	12,74	ACERO HELICOIDAL	1626	e=12,7 mm

TOMA DE FONDO Balsa BPC BOMBEO						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
TOMA DE FONDO	0,000	57,400	57,400	ACERO HELICOIDAL	1820	e=12,7 mm

TOMA DE FONDO Balsa BPC PRESION NATURAL						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
TOMA DE FONDO	0,000	49,000	49	ACERO HELICOIDAL	1219	e=10,3mm

ALIVIADERO Balsa BPC						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
ALIVIADERO PARTE 1	0,000	18,000	18	ACERO HELICOIDAL	813	e=7,9mm
ALIVIADERO PARTE 1	0,000	18,000	18	ACERO HELICOIDAL	813	e=7,9mm
ALIVIADERO PARTE 2	18,000	82,172	64,172	HORMIGÓN C90	800	-
ALIVIADERO PARTE 2	18,000	82,172	64,172	HORMIGÓN C90	800	-

DESAGÜE DE FONDO Balsa BPC BOMBEO						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
DESAGÜE DE FONDO	0,000	57,400	57,400	ACERO HELICOIDAL	1219	e=10,3 mm
DESAGÜE DE FONDO	0,000	382,270	382,270	HORMIGÓN C135	1200	-
DESAGÜE ARQUETA DRENES	0,000	30,000	30	PVC	250	10

DESAGÜE Balsa BPC PRESION NATURAL						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
DESAGÜE ARQUETA DRENES	0,000	61,209	61,209	PVC	250	10

6.6 CONDUCCIONES OBRA DE TOMA Y LLENADO DE LA Balsa BPC

OBRA DE TOMA Y LLENADO DE LA BPC						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
OBRA DE TOMA Y LLENADO Balsa	31,268	37,268	6	HPCC	2x1200	6
	42,268	280,000	237,732	HPCC	1600	6
	280,000	302,739 (*)	22,739	ACERO HELICOIDAL	1620	e=12,7 mm

(*) Esta longitud incluye el paso de dique de la balsa.

6.7 CONDUCCIONES DE LA RED DE RIEGO

CONDUCCIONES DE LA RED DE RIEGO: PRESIÓN NATURAL						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
R-1	0	2259,87	2259,87	HPCC	1200	6
R-1	2259,87	3986,123	1726,253	PRFV	800	6
R-1	3986,123	4198,566	212,443	PRFV	800	10
R-1	4198,566	4932,903	734,337	PRFV	700	10
R-1	4932,903	6855,771	1922,868	PRFV	600	10
R-1	6855,771	7077,668	221,897	PEAD	400	10
R-1	7077,668	7615,465	537,797	PEAD	315	10
R-1	7615,465	8467,327	851,862	PEAD	250	10
R-1	8467,327	9259,344	792,017	PEAD	250	16
R-1	9259,344	9639,962	380,618	PEAD	125	16
R-1-1	0	1170,855	1170,855	PRFV	800	6
R-1-1	1170,855	3011,98	1841,125	PRFV	600	6

CONDUCCIONES DE LA RED DE RIEGO: PRESIÓN NATURAL						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
R-1-1	3011,98	3471,008	459,028	PRFV	500	6
R-1-1	3471,008	3635,094	164,086	PRFV	500	10
R-1-1	3635,094	3950,439	315,345	PEAD	355	10
R-1-1	3950,439	4442,579	492,14	PEAD	180	10
R-1-10	0	59,081	59,081	PEAD	250	10
R-1-10	59,081	388,831	329,75	PEAD	160	10
R-1-12	0	92,111	92,111	PEAD	180	16
R-1-12	92,111	262,452	170,341	PEAD	140	16
R-1-1-2	0	258,302	258,302	PEAD	315	10
R-1-14	0	491,59	491,59	PEAD	180	10
R-1-14	491,59	774,712	283,122	PEAD	160	10
R-1-14	774,712	1006,404	231,692	PEAD	160	16
R-1-1-4	0	850,135	850,135	PEAD	110	10
R-1-16	0	104,838	104,838	PEAD	180	10
R-1-1-6	0	208,431	208,431	PEAD	315	10
R-1-1-8	0	104,468	104,468	PEAD	125	10
R-1-2	0	268,398	268,398	PEAD	200	8
R-1-2	268,398	570,649	302,251	PEAD	180	8
R-1-2	570,649	936,433	365,784	PEAD	160	8
R-1-4	0	582,788	582,788	PEAD	180	10
R-1-4	582,788	936,968	354,18	PEAD	160	10
R-1-4	936,968	1191,454	254,486	PEAD	125	10
R-1-5	0	13,555	13,555	PEAD	125	10
R-1-5	13,555	245,212	231,657	PEAD	110	10
R-1-7	0	229,312	229,312	PEAD	400	10
R-1-7	229,312	496,944	267,632	PEAD	90	10
R-1-7-1	0	195,451	195,451	PEAD	400	10
R-1-8	0	299,353	299,353	PEAD	110	10
R-1-9	0	410,029	410,029	PEAD	225	16
R-1-9	410,029	566,003	155,974	PEAD	180	16
DERIVACION A H23	0	30,504	30,504	PEAD	125	10
DERIVACION A H24 Y H28	0	24,579	24,579	PEAD	180	10
DERIVACION A H24 Y H28	24,579	48,954	24,375	PEAD	125	10
DERIVACION A H38	0	21,122	21,122	PEAD	125	10
DERIVACION A H44	0	7,181	7,181	PEAD	125	16

CONDUCCIONES DE LA RED DE RIEGO: PISO 1						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
R-1	2259,87	3351,145	1091,275	PRFV	600	10
R-1-3	0	502,903	502,903	PEAD	180	10
R-1-6	0	1791,393	1791,393	PRFV	500	10
R-1-6	1791,393	2150,306	358,913	PEAD	355	10
R-1-6	2150,306	2381,176	230,87	PEAD	315	10
R-1-6	2381,176	2980,428	599,252	PEAD	225	16
R-1-6	2980,428	3003,689	23,261	PEAD	160	16
R-1-6	3003,689	3422,486	418,797	PEAD	110	16
R-1-6-2	0	1308,288	1308,288	PRFV	500	10
R-1-6-2	1308,288	1632,835	324,547	PEAD	200	16
R-1-6-2	1632,835	1897,971	265,136	PEAD	180	16
R-1-6-2	1897,971	2016,363	118,392	PEAD	160	16
R-1-6-2-1	0	277,086	277,086	PEAD	250	16
R-1-6-2-1	277,086	514,056	236,97	PEAD	225	16
R-1-6-2-1	514,056	648,94	134,884	PEAD	225	10
R-1-6-4	0	244,396	244,396	PEAD	250	10
R-1-6-6	0	265,26	265,26	PEAD	250	10
R-1-6-6	265,26	379,547	114,287	PEAD	250	16
R-1-6-6	379,547	748,389	368,842	PEAD	125	16
R-2	0	1285,79	1285,79	HPCC	1200	6
R-2	1285,446	1557,872	272,426	HPCC	1100	6
R-2	1557,872	2232,062	674,19	PRFV	700	6
R-2	2232,062	3140,43	908,368	PRFV	700	10
R-2	3140,43	3274,043	133,613	PRFV	600	10
R-2	3274,043	3475,13	201,087	PEAD	315	16
R-2	3475,13	3513,45	38,32	PEAD	225	16
R-2	3513,45	3731,908	218,458	PEAD	200	16
R-2	3731,908	4016,803	284,895	PEAD	125	16
R-2-1	0	776,167	776,167	PRFV	500	6
R-2-1	776,167	1049,35	273,183	PEAD	355	10
R-2-1	1049,35	1417,489	368,139	PEAD	315	10
R-2-1	1417,489	1476,186	58,697	PEAD	225	10
R-2-1	1476,186	1496,255	20,069	PEAD	180	10
R-2-1-4	0	90,801	90,801	PEAD	180	10
R-2-1-4	90,801	416,938	326,137	PEAD	140	10
R-2-1-6	0	64,91	64,91	PEAD	180	10
R-2-1-6	64,91	167,256	102,346	PEAD	140	10
R-2-1-8	0	120,547	120,547	PEAD	140	10

CONDUCCIONES DE LA RED DE RIEGO: PISO 1						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
R-2-2	0	536,901	536,901	PEAD	140	8
R-2-3	0	1020	1020	HPCC	1000	6
R-2-3	1020	1486,462	466,462	HPCC	1000	10
R-2-3	1486,462	2356,671	870,209	PRFV	700	10
R-2-3	2356,671	2900,076	543,405	PRFV	600	10
R-2-3	2900,076	4186,294	1286,218	PRFV	500	10
R-2-3	4186,294	5093,169	906,875	PEAD	315	16
R-2-3	5093,169	5637,381	544,212	PEAD	250	16
R-2-3	5637,381	5804,806	167,425	PEAD	125	16
R-2-3-1	0	1579,731	1579,731	PRFV	600	10
R-2-3-1	1579,731	2527,649	947,918	PRFV	500	10
R-2-3-1	2527,649	3671,349	1143,7	PRFV	500	6
R-2-3-1	3671,349	3764,284	92,935	PEAD	355	10
R-2-3-1	3764,284	4072,905	308,621	PEAD	315	10
R-2-3-10	0	535,566	535,566	PEAD	225	16
R-2-3-10	535,566	1227,097	691,531	PEAD	160	16
R-2-3-10	1227,097	1392,726	165,629	PEAD	110	16
R-2-3-1-1	0	524,869	524,869	PEAD	225	10
R-2-3-1-1	524,869	662,045	137,176	PEAD	140	10
R-2-3-1-1-2	0	62,482	62,482	PEAD	180	10
R-2-3-12	0	175,002	175,002	PEAD	160	10
R-2-3-12	175,002	450,424	275,422	PEAD	110	16
R-2-3-1-2	0	18,774	18,774	PEAD	180	10
R-2-3-1-2	18,774	138,619	119,845	PEAD	140	10
R-2-3-1-3	0	139,457	139,457	PEAD	125	10
R-2-3-1-4	0	157,889	157,889	PEAD	125	10
R-2-3-1-5	0	32,707	32,707	PEAD	180	10
R-2-3-1-5	32,707	279,149	246,442	PEAD	160	10
R-2-3-1-6	0	293,825	293,825	PEAD	200	10
R-2-3-1-6	293,825	326,714	32,889	PEAD	110	10
R-2-3-2	0	320,057	320,057	PEAD	140	10
R-2-3-3	0	406,597	406,597	PEAD	315	10
R-2-3-3	406,597	435,5	28,903	PEAD	315	16
R-2-3-4	0	31,896	31,896	PEAD	315	10
R-2-3-4	31,896	612,641	580,745	PEAD	250	10
R-2-3-4	612,641	910,276	297,635	PEAD	200	16
R-2-3-6	0	506,563	506,563	PEAD	315	16
R-2-3-8	0	1070,248	1070,248	PEAD	355	16

CONDUCCIONES DE LA RED DE RIEGO: PISO 1						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
R-2-3-8	1070,248	1106,013	35,765	PEAD	250	16
R-2-4	0	88,953	88,953	PEAD	90	10
R-2-5	0	222,582	222,582	PEAD	180	10
R-2-5	222,582	485,852	263,27	PEAD	125	10
R-2-6	0	33,975	33,975	PEAD	315	16
R-2-6	33,975	55,582	21,607	PEAD	225	16
R-2-6	55,582	254,795	199,213	PEAD	180	16
R-2-6	254,795	354,091	99,296	PEAD	160	16
R-3-4	543,639	564,083	20,444	PEAD	180	10
DERIVACION A H114	0	29,43	29,43	PEAD	110	10
DERIVACION A H117	0	16,804	16,804	PEAD	125	10
DERIVACION A H119	0	18,221	18,221	PEAD	110	10
DERIVACION A H120	0	21,873	21,873	PEAD	125	10
DERIVACION A H125	0	14,413	14,413	PEAD	110	10
DERIVACION A H141	0	25,356	25,356	PEAD	160	10
DERIVACION A H143	0	15,579	15,579	PEAD	110	10
DERIVACION A H145	0	19,005	19,005	PEAD	125	10
DERIVACION A H170	0	19,995	19,995	PEAD	110	10
DERIVACION A H178	0	33,401	33,401	PEAD	125	10
DERIVACION A H270	0	20,599	20,599	PEAD	180	10
DERIVACION A H292	0	24,414	24,414	PEAD	160	10
DERIVACION A H296	0	15,942	15,942	PEAD	160	10
DERIVACION A H345	0	17,459	17,459	PEAD	125	10

CONDUCCIONES DE LA RED DE RIEGO: PISO 2						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
R-2-1	554,284	776,167	221,883	PEAD	250	16
R-2-1	1417,489	3685,031	2267,542	PRFV	600	10
R-2-1	3685,031	4789,288	1104,257	PRFV	500	10
R-2-1	4789,288	5363,606	574,318	PRFV	500	6
R-2-1	5363,606	5735,791	372,185	PEAD	315	10
R-2-1	5735,791	5936,232	200,441	PEAD	250	10
R-2-1	5936,232	5990,484	54,252	PEAD	225	10
R-2-1	5990,484	6242,834	252,35	PEAD	200	10
R-2-1	6242,834	6316,953	74,119	PEAD	125	16
R-2-1-1	0	51,073	51,073	PEAD	160	10
R-2-1-1	51,073	316,552	265,479	PEAD	125	10
R-2-1-10	0	72,059	72,059	PEAD	200	16

CONDUCCIONES DE LA RED DE RIEGO: PISO 2						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
R-2-1-12	0	132,278	132,278	PEAD	315	10
R-2-1-12	132,278	393,448	261,17	PEAD	250	10
R-2-1-12	393,448	528,246	134,798	PEAD	250	16
R-2-1-2	0	811,152	811,152	PEAD	250	16
R-2-1-3	0	249,168	249,168	PEAD	315	10
R-2-1-3	249,168	268,243	19,075	PEAD	250	10
R-2-1-3	268,243	371,079	102,836	PEAD	110	10
R-2-1-3	371,079	514,004	142,925	PEAD	110	16
R-3	0	505,973	505,973	PRFV	800	10
R-3	505,973	1150,401	644,428	PRFV	600	10
R-3	1150,401	2198,71	1048,309	PEAD	315	10
R-3	2198,71	2405,827	207,117	PEAD	250	10
R-3	2405,827	2557,12	151,293	PEAD	160	10
R-3	2557,12	2701,875	144,755	PEAD	125	10
R-3-1	0	228,929	228,929	PEAD	250	10
R-3-1	228,929	251,353	22,424	PEAD	200	10
R-3-1	251,353	335,473	84,12	PEAD	160	10
R-3-2	0	480,258	480,258	PEAD	315	16
R-3-4	0	564,083	564,083	PRFV	600	10
R-3-6	0	63,885	63,885	PEAD	110	10
R-6	0	1046,35	1046,35	PRFV	800	6
R-6	1046,35	1616,364	570,014	PRFV	700	6
R-6	1616,364	3602,066	1985,702	PRFV	700	10
R-6	3602,066	3908,687	306,621	PRFV	600	10
R-6	3908,687	4220,166	311,479	PRFV	600	6
R-6	4220,166	4539,82	319,654	PEAD	200	10
R-6	4539,82	4607,9	68,08	PEAD	140	10
R-6-3	0	357,386	357,386	PEAD	315	10
R-6-3	357,386	575,772	218,386	PEAD	315	16
R-6-3	575,772	1167,948	592,176	PEAD	200	16
R-6-3	1167,948	1351,538	183,59	PEAD	180	16
R-6-3-2	0	158,108	158,108	PEAD	225	16
R-6-3-2	158,108	662,446	504,338	PEAD	180	16
R-6-3-2	662,446	770,776	108,33	PEAD	140	16
R-6-3-4	0	112,9638	112,9638	PEAD	90	16
R-6-5	0	304,616	304,616	PEAD	125	10
R-6-8	0	89,195	89,195	PEAD	125	10
R-6-9	0	453,744	453,744	PRFV	600	10

CONDUCCIONES DE LA RED DE RIEGO: PISO 2						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
R-6-9	453,744	758,123	304,379	PRFV	500	6
R-6-9	758,123	976,939	218,816	PEAD	400	10
R-6-9	976,939	1196,226	219,287	PEAD	355	16
R-6-9	1196,226	1735,984	539,758	PEAD	315	16
R-6-9	1735,984	2012,399	276,415	PEAD	250	16
R-6-9	2012,399	2225,434	213,035	PEAD	200	10
R-6-9	2225,434	2362,358	136,924	PEAD	180	10
R-6-9-1	0	369,03	369,03	PEAD	225	10
R-6-9-1	369,03	514,051	145,021	PEAD	160	16
R-6-9-1-2	0	148,937	148,937	PEAD	90	10
R-6-9-2	0	177,16	177,16	PRFV	500	10
R-6-9-2	177,16	603,714	426,554	PEAD	400	10
R-6-9-3	0	301,121	301,121	PEAD	315	16
R-6-9-3	301,121	700,784	399,663	PEAD	250	16
R-6-9-3	700,784	712,254	11,47	PEAD	160	10
R-6-9-3-2	0	75,056	75,056	PEAD	110	16
DERIVACION A H166	0	19,459	19,459	PEAD	125	10
DERIVACION A H173	0	20,115	20,115	PEAD	125	10
DERIVACION A H184	0	14,464	14,464	PEAD	125	10
DERIVACION A H187	0	20,024	20,024	PEAD	140	10
DERIVACION A H189	0	21,49	21,49	PEAD	125	10
DERIVACION A H205	0	51,765	51,765	PEAD	125	10
DERIVACION A H206	0	14,023	14,023	PEAD	125	10
DERIVACION A H213	0	12,611	12,611	PEAD	125	10
DERIVACION A H215	0	14,007	14,007	PEAD	110	10
DERIVACION A H219	0	11,838	11,838	PEAD	90	10
DERIVACION A H220	0	24,825	24,825	PEAD	125	10
DERIVACION A H228	0	48,465	48,465	PEAD	125	10
DERIVACION A H252	0	47,713	47,713	PEAD	125	10
DERIVACION A H285	0	15,933	15,933	PEAD	125	10
DERIVACION A H300	0	20,135	20,135	PEAD	125	10
DERIVACION A H317	0	38,416	38,416	PEAD	140	16
DERIVACION A H328	0	45,535	45,535	PEAD	125	16
DERIVACION A H330	0	46,761	46,761	PEAD	90	10
DERIVACION A H340	0	17,296	17,296	PEAD	160	10

CONDUCCIONES DE LA RED DE RIEGO: PISO 3						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
R-4	0	1998,329	1998,329	HPCC	1000	10
R-4	1998,329	3768,16	1769,831	HPCC	900	10
R-4	3768,16	4543,96	775,8	PRFV	700	10
R-4	4543,96	4760	216,04	PRFV	600	10
R-4	4760	5107,809	347,809	PRFV	600	6
R-4	5107,809	5499,539	391,73	PRFV	500	6
R-4	5499,539	5774,097	274,558	PRFV	500	10
R-4	5774,097	6449,812	675,715	PEAD	400	10
R-4	6449,812	6750,521	300,709	PEAD	250	16
R-4-1	0	88,919	88,919	PEAD	125	10
R-4-10	0	204,135	204,135	PEAD	90	10
R-4-12	0	348,257	348,257	PEAD	355	10
R-4-12	348,257	696,642	348,385	PEAD	200	10
R-4-12	696,642	983,368	286,726	PEAD	180	10
R-4-12	983,368	1234,499	251,131	PEAD	110	10
R-4-12	1234,499	1533,449	298,95	PEAD	110	16
R-4-12-1	0	96,459	96,459	PEAD	200	10
R-4-12-2	0	226,633	226,633	PEAD	180	10
R-4-12-3	0	91,107	91,107	PEAD	125	10
R-4-14	0	18,251	18,251	PEAD	225	10
R-4-14	18,251	150,552	132,301	PEAD	200	10
R-4-14	150,552	649,109	498,557	PEAD	140	16
R-4-16	0	126,245	126,245	PEAD	110	16
R-4-2	0	561,545	561,545	PEAD	225	16
R-4-2	561,545	704,528	142,983	PEAD	180	16
R-4-2	704,528	779,845	75,317	PEAD	125	16
R-4-4	0	39,506	39,506	PEAD	355	10
R-4-4	39,506	63,859	24,353	PEAD	140	10
R-4-6	0	138,359	138,359	PEAD	140	10
R-4-8	0	86,947	86,947	PEAD	400	10
R-4-8	86,947	838,998	752,051	PEAD	355	10
R-4-8	838,998	937,021	98,023	PEAD	315	10
R-4-8	937,021	1235,871	298,85	PEAD	110	16
R-4-8-1	0	286,025	286,025	PEAD	315	10
R-4-8-2	0	133,528	133,528	PEAD	110	10
R-5	0	398,66	398,66	PRFV	500	10
R-6	0	827,91	827,91	PRFV	600	6
R-6	827,91	949,154	121,244	PRFV	600	10

CONDUCCIONES DE LA RED DE RIEGO: PISO 3						
RAMAL	PK INICIAL	PK FINAL	LONGITUD	MATERIAL	DIAMETRO	TIMBRAJE
R-6	949,154	5097,81	4148,656	PRFV	500	10
R-6	5097,81	5805,566	707,756	PEAD	355	16
R-6	5805,566	6035,627	230,061	PEAD	250	16
R-6	6035,627	6456,437	420,81	PEAD	200	16
R-6-1	0	789,691	789,691	PEAD	125	10
R-6-10	0	227,541	227,541	PEAD	125	16
R-6-11	0	17,249	17,249	PEAD	225	16
R-6-11	17,249	34,029	16,78	PEAD	180	16
R-6-11	34,029	281,377	247,348	PEAD	110	16
R-6-12	0	532,995	532,995	PEAD	315	16
R-6-12	532,995	817,427	284,432	PEAD	160	16
R-6-12	817,427	1013,37	195,943	PEAD	110	10
R-6-12-1	0	133,766	133,766	PEAD	110	10
R-6-2	0	190,236	190,236	PEAD	180	16
R-6-2	190,236	224,294	34,058	PEAD	110	16
R-6-4	0	529,398	529,398	PEAD	180	16
R-6-4	529,398	554,258	24,86	PEAD	125	16
R-6-6	0	189,064	189,064	PEAD	355	16
R-6-7	0	226,59	226,59	PEAD	110	16
R-6-8	0	160,847	160,847	PEAD	180	16
R-6-8	160,847	282,537	121,69	PEAD	180	10
R-6-8	282,537	753,5	470,963	PEAD	160	10
R-6-8	753,5	868,317	114,817	PEAD	160	16
R-6-8	868,317	905,986	37,669	PEAD	160	10
DERIVACION A H224	0	23,89	23,89	PEAD	200	10
DERIVACION A H237	0	10,666	10,666	PEAD	110	10
DERIVACION A H225	0	20,872	20,872	PEAD	160	10
DERIVACION A H304	0	33,237	33,237	PEAD	125	16
DERIVACION A H305	0	31,947	31,947	PEAD	125	16
DERIVACION A H307	0	26,132	26,132	PEAD	125	16
DERIVACION A H333	0	29,732	29,732	PEAD	140	10

6.8 RESUMEN CONDUCCIONES RED DE RIEGO

RESUMEN TUBERIAS RED			
MATERIAL	DIAMETRO	TIMBRAJE	LONGITUD
HPCC	1200	6	3458,66
HPCC	1100	6	272,426

RESUMEN TUBERIAS RED			
MATERIAL	DIAMETRO	TIMBRAJE	LONGITUD
HPCC	1000	6	1020
HPCC	1000	10	2464,791
HPCC	900	10	1769,831
PRFV	800	6	3943,458
PRFV	800	10	660,41
PRFV	700	6	1244,204
PRFV	700	10	5274,416
PRFV	600	6	3328,323
PRFV	600	10	9767,59
PRFV	500	6	3649,322
PRFV	500	10	11601,194
PEAD	400	10	2054,692
PEAD	355	10	2180,19
PEAD	355	16	2186,355
PEAD	315	10	4894,027
PEAD	315	16	3749,921
PEAD	250	10	2918,076
PEAD	250	16	4138,048
PEAD	225	10	1159,983
PEAD	225	16	2578,646
PEAD	200	8	268,398
PEAD	200	10	1702,323
PEAD	200	16	1925,685
PEAD	180	8	302,251
PEAD	180	10	3524,179
PEAD	180	16	2440,606
PEAD	160	8	365,784
PEAD	160	10	2298,964
PEAD	160	16	1708,442
PEAD	140	8	536,901
PEAD	140	10	1406,656
PEAD	140	16	815,644
PEAD	125	10	3202,428
PEAD	125	16	1747,649
PEAD	110	10	2417,434
PEAD	110	16	2309,87
PEAD	90	10	768,256
PEAD	90	16	112,9638

7 HIDRANTES

Cada hidrante de agrupación de fincas, según figura en el Anejo nº 7 "Cálculos hidráulicos y mecánicos de la red de riego", dispone de una válvula hidráulica de diámetro acorde a lo estipulado en las tablas de dicho anejo, capaz de realizar las siguientes operaciones: regulador de presión y limitador de caudal, así como una segunda válvula compuerta y un contador para cada una de las tomas.

Tanto los hidrantes únicos como los compartidos constarán de los siguientes elementos:

- Configuración Baja Pérdida.

- Una válvula de seccionamiento, tipo compuerta.
- Un filtro cazapiedras de paso recto 2-4 mm con tamaño igual a la válvula. Conexión roscada de 2" en laterales del filtro.
- Útil para limpieza de filtro cazapiedras, conectado a unión roscada prevista en laterales del filtro cazapiedras. Compuesto por conexión por válvula de bola de 2", tuberías de conexión y elemento metálico para orientar descarga a atmósfera hacia el exterior de la arqueta, y elemento cónico con aumento de diámetro de 2 a 3" con longitud mínima de 15 cm para facilitar la proyección del chorro de agua hacia el exterior.
- Una ventosa con válvula de seccionamiento.
- Una válvula hidráulica con limitador de caudal y de presión, y solenoide para su accionamiento.
- Contador volumétrico con emisor de pulsos.
- Tomas manométricas, situadas antes y después del filtro cazapiedras, y después de la válvula hidráulica principal. Estará compuesta por conexión roscada de 1/4" y válvula de bola del mismo tamaño.
- Toma auxiliar, situadas antes de la válvula de seccionamiento. Estará compuesta por conexión roscada de 2" y tapón roscado.

HIDRANTES						
TAMAÑO (MM)	PRESION NATURAL			BOMBEO		
	INDIVIDUAL	DOBLE	COMPARTIDO	INDIVIDUAL	DOBLE	COMPARTIDO
50	0		1	6		5
80	11		2	28		26
100	17		11	88		44
150	5		1	41	4	4
200	8	4	0	23	12	0
TOTALES	41	4	15	186	16	79

7.1 DESGLOSE DE HIDRANTES RED PRESION NATURAL

A continuación, se muestran los hidrantes con su tamaño y número de tomas según abastezcan una toma (individual) o más de una (compartido), ordenados por código de hidrante.

HIDRANTES				
HIDRANTE	PISO	DN HIDRANTE	TIPO	Nº TOMAS
1	PN	200	Individual	1
2	PN	200	Individual	1
3	PN	80	Compartido	2
4	PN	150	Individual	1
5	PN	100	Individual	1
6	PN	150	Individual	1
7	PN	200	Individual	1
8	PN	80	Individual	1
9	PN	200	Individual	1
10	PN	100	Individual	1
11	PN	200	Individual	1
12	PN	80	Compartido	2
13	PN	100	Individual	1
14	PN	80	Individual	1
15	PN	100	Compartido	4
16	PN	200	Individual	1
17	PN	100	Individual	1
18	PN	100	Individual	1
19	PN	50	Compartido	2
20	PN	100	Individual	1
21	PN	100	Individual	1
22	PN	100	Compartido	2
23	PN	100	Compartido	2

HIDRANTES				
HIDRANTE	PISO	DN HIDRANTE	TIPO	Nº TOMAS
24	PN	100	Individual	1
25	PN	100	Individual	1
26	PN	150	Individual	1
27	PN	100	Individual	1
28	PN	100	Individual	1
29	PN	150	Compartido	3
30	PN	200	Individual	1
31	PN	200	Individual	1
33	PN	100	Compartido	2
34	PN	100	Compartido	2
35	PN	100	Compartido	2
36	PN	100	Compartido	2
37	PN	100	Compartido	2
38	PN	100	Individual	1
39	PN	150	Individual	1
40	PN	80	Individual	1
41	PN	100	Compartido	2
42	PN	100	Compartido	2
43	PN	100	Compartido	2
44	PN	100	Individual	1
45	PN	80	Individual	1
46	PN	150	Individual	1
47	PN	100	Individual	1
48	PN	80	Individual	1
49	PN	80	Individual	1
50A	PN	80	Individual	1
50B	PN	80	Individual	1
51A	PN	100	Individual	1
51B	PN	100	Individual	1
51C	PN	100	Individual	1
52A	PN	80	Individual	1
52B	PN	80	Individual	1
52C	PN	80	Individual	1

7.2 DESGLOSE DE HIDRANTES RED BOMBEO

HIDRANTES				
HIDRANTE	PISO	DN HIDRANTE	TIPO	Nº TOMAS
100	P3	200	Individual	1
101	P2	200	Individual	1
102	P2	100	Individual	1
103	P1	80	Individual	1
104	P1	100	Individual	1
105	P2	80	Compartido	2
106	P1	80	Compartido	2
107	P1	100	Individual	1
108	P1	200	Individual	1
109	P1	150	Individual	1
110	P1	80	Individual	1
111	P1	200	Individual	1
112	P1	150	Individual	1
113	P1	100	Compartido	2
114	P1	80	Individual	1
115	P1	100	Compartido	3
116	P1	150	Individual	1
117	P1	100	Individual	1
118	P1	100	Individual	1
119	P1	80	Compartido	2
120	P1	100	Individual	1
121	P1	100	Compartido	2
122	P1	200	Individual	1
123	P1	150	Individual	1
124	P1	80	Compartido	2
125	P1	80	Individual	1
126	P1	150	Individual	1
127	P1	100	Compartido	2
128	P1	80	Individual	1
129	P1	100	Individual	1
130	P1	150	Individual	1
131	P1	80	Individual	1
132	P1	100	Compartido	2
133	P1	100	Individual	1
134	P1	150	Individual	1
135	P1	200	Individual	1

HIDRANTES				
HIDRANTE	PISO	DN HIDRANTE	TIPO	Nº TOMAS
136	P1	200	Individual	1
137	P1	200	Individual	1
138	P1	100	Individual	1
139	P1	100	Individual	1
140	P1	80	Individual	1
141	P1	150	Individual	1
142	P1	200	Individual	1
143	P1	80	Individual	1
144	P1	80	Compartido	2
145	P1	100	Compartido	2
146	P1	150	Individual	1
147	P1	100	Individual	1
148	P1	100	Individual	1
149	P1	100	Compartido	2
150	P2	150	Individual	1
151	P2	200	Individual	1
152	P2	80	Individual	1
153	P2	150	Individual	1
154	P2	200	Individual	1
155	P1	100	Compartido	2
156	P1	100	Individual	1
157	P1	150	Individual	1
158	P1	100	Individual	1
159	P1	80	Individual	1
160	P1	150	Individual	1
161	P1	100	Compartido	4
162	P1	100	Individual	1
163	P1	80	Individual	1
164	P1	100	Individual	1
165	P1	100	Individual	1
166	P2	100	Individual	1
167	P2	80	Compartido	2
168	P1	100	Compartido	3
169	P1	100	Individual	1
170	P1	100	Individual	1
171	P2	100	Individual	1
172	P2	100	Individual	1
173	P2	100	Individual	1

HIDRANTES				
HIDRANTE	PISO	DN HIDRANTE	TIPO	Nº TOMAS
174	P2	150	Individual	1
175	P1	80	Compartido	2
176	P1	100	Compartido	2
177	P1	100	Compartido	3
178	P1	100	Individual	1
179	P1	100	Compartido	2
180	P1	100	Individual	1
181	P1	100	Compartido	3
182	P1	150	Compartido	2
183	P1	100	Individual	1
184	P2	100	Individual	1
185	P2	200	Individual	1
186	P2	100	Compartido	2
187	P2	150	Individual	1
188	P2	50	Compartido	4
189	P2	100	Compartido	5
190	P2	100	Individual	1
191	P1	80	Individual	1
192	P2	100	Individual	1
193	P2	100	Individual	1
194	P3	200	Individual	1
195	P3	100	Compartido	3
196	P3	50	Compartido	2
197	P3	100	Individual	1
198	P3	80	Compartido	2
199	P3	100	Individual	1
200	P3	200	Individual	1
201	P3	80	Compartido	3
202	P3	100	Compartido	3
203	P3	100	Compartido	3
204	P3	100	Individual	1
205	P2	100	Compartido	4
206	P2	100	Compartido	4
207	P2	100	Compartido	3
208	P2	100	Individual	1
209	P2	100	Individual	1
210	P2	80	Compartido	4
211	P2	100	Individual	1

HIDRANTES				
HIDRANTE	PISO	DN HIDRANTE	TIPO	Nº TOMAS
212	P2	80	Compartido	2
213	P2	100	Individual	1
214	P2	80	Individual	1
215	P2	100	Compartido	4
216	P2	100	Individual	1
217	P3	50	Compartido	3
218	P2	80	Individual	1
219	P2	50	Compartido	2
220	P2	100	Individual	1
221	P3	100	Individual	1
222	P3	100	Individual	1
223	P3	150	Individual	1
224	P3	200	Individual	1
225	P3	150	Individual	1
226	P3	100	Compartido	2
227	P2	100	Individual	1
228	P2	100	Individual	1
229	P2	100	Individual	1
230	P2	50	Individual	1
231	P2	100	Individual	1
232	P3	50	Individual	1
233	P3	200	Individual	1
234	P3	100	Individual	1
235	P3	150	Compartido	3
236	P3	150	Individual	1
237	P3	100	Compartido	2
238	P3	150	Individual	1
239	P3	100	Individual	1
240	P3	100	Individual	1
241	P3	100	Compartido	5
242	P3	80	Compartido	3
243	P3	150	Individual	1
244	P3	100	Compartido	3
245	P3	150	Individual	1
246	P3	200	Individual	1
247	P3	150	Individual	1
248	P3	100	Individual	1
249	P3	100	Individual	1

HIDRANTES				
HIDRANTE	PISO	DN HIDRANTE	TIPO	Nº TOMAS
250	P1	150	Individual	1
251	P2	80	Individual	1
252	P2	100	Individual	1
253	P2	80	Compartido	2
254	P3	80	Compartido	3
255	P3	80	Individual	1
256	P2	100	Compartido	2
257	P2	80	Compartido	2
258	P2	100	Individual	1
259	P1	100	Compartido	2
260	P2	150	Individual	1
261	P1	100	Individual	1
262	P1	100	Individual	1
263	P1	100	Compartido	2
264	P1	150	Individual	1
265	P1	100	Compartido	2
266	P1	80	Individual	1
267	P1	100	Compartido	4
268	P1	150	Individual	1
269	P1	100	Individual	1
270	P1	150	Individual	1
271	P1	50	Individual	1
272	P1	150	Individual	1
273	P1	80	Compartido	2
274	P1	150	Individual	1
275	P1	100	Individual	1
276	P3	200	Individual	1
277	P2	150	Individual	1
278	P2	100	Individual	1
279	P3	200	Individual	1
280	P3	100	Individual	1
281	P2	150	Compartido	3
282	P2	80	Compartido	2
283	P2	150	Compartido	2
284	P2	100	Individual	1
285	P2	100	Compartido	2
286	P2	80	Compartido	2
287	P2	100	Individual	1

HIDRANTES				
HIDRANTE	PISO	DN HIDRANTE	TIPO	Nº TOMAS
288	P2	80	Compartido	3
289	P2	100	Individual	1
290	P1	100	Compartido	3
292	P1	150	Individual	1
293	P1	200	Individual	1
294	P1	100	Compartido	3
295	P1	80	Individual	1
296	P1	150	Individual	1
297	P1	100	Individual	1
298	P1	100	Individual	1
299	P1	80	Individual	1
300	P2	100	Individual	1
301	P2	100	Individual	1
302	P3	200	Individual	1
303	P3	150	Individual	1
304	P3	100	Compartido	3
305	P3	100	Compartido	2
306	P3	100	Individual	1
307	P3	100	Individual	1
308	P3	80	Compartido	2
309	P3	100	Compartido	4
310	P3	150	Individual	1
311	P3	100	Compartido	3
312	P3	150	Individual	1
313	P3	100	Individual	1
314	P3	100	Individual	1
315	P2	100	Individual	1
316	P2	200	Individual	1
317	P2	100	Individual	1
318	P2	100	Individual	1
319	P2	100	Individual	1
320	P2	100	Compartido	2
321	P2	100	Individual	1
322	P1	200	Individual	1
323	P2	100	Individual	1
324	P3	80	Individual	1
325	P2	100	Individual	1
326	P2	50	Compartido	7

HIDRANTES				
HIDRANTE	PISO	DN HIDRANTE	TIPO	Nº TOMAS
327	P2	100	Individual	1
328	P2	100	Individual	1
329	P2	100	Individual	1
330	P2	50	Individual	1
331	P3	80	Individual	1
332	P3	100	Individual	1
333	P3	100	Individual	1
334	P3	100	Individual	1
335	P1	100	Compartido	3
336	P1	80	Compartido	5
337	P3	80	Individual	1
338	P2	100	Individual	1
339	P2	100	Compartido	5
340	P2	150	Individual	1
341	P2	150	Individual	1
342	P1	100	Individual	1
343	P1	150	Individual	1
344	P1	100	Individual	1
345	P1	100	Compartido	4
346	P1	100	Individual	1
347	P1	80	Compartido	2
348	P1	150	Individual	1
349	P1	100	Individual	1
350	P2	150	Individual	1
351	P2	80	Compartido	3
352	P2	100	Compartido	5
353	P1	100	Individual	1
354	P2	80	Individual	1
355	P1	150	Individual	1
356	P1	80	Individual	1
357	P2	80	Compartido	2
358	P2	50	Individual	1
359	P1	80	Individual	1
360	P2	80	Compartido	2
361	P3	80	Individual	1
362	P3	80	Individual	1
363	P3	50	Individual	1
364	P1	80	Compartido	2

HIDRANTES				
HIDRANTE	PISO	DN HIDRANTE	TIPO	Nº TOMAS
365	P1	80	Individual	1

8 VALVULERIA Y ELEMENTOS DE MANIOBRA

8.1 VALVULERÍA Y ELEMENTOS DE MANIOBRA DE LA RED DE PRESION NATURAL

RED DE RIEGO. PRESION NATURAL				
RAMAL	PK	DENOMINACIÓN	DN	PN
R-1	123,464	Desagüe	200	16
R-1	1346,939	Desagüe	200	16
R-1	1741,792	Desagüe	200	16
R-1	2259,87	Desagüe	200	16
R-1	3986,123	Desagüe	200	16
R-1	6251,123	Desagüe	200	16
R-1	6416,555	Desagüe	200	16
R-1	6544,123	Desagüe	200	16
R-1	9015,448	Desagüe	100	16
R-1	9639,962	Desagüe	100	16
R-1-1	1800	Desagüe	200	16
R-1-1	2369,944	Desagüe	200	16
R-1-1	3215	Desagüe	200	16
R-1-1	3635,094	Desagüe	200	16
R-1-10	21,417	Desagüe	100	16
R-1-14	1006,404	Desagüe	100	16
R-1-1-4	850,135	Desagüe	100	16
R-1-16	104,838	Desagüe	100	16
R-1-1-6	208,431	Desagüe	100	16
R-1-2	570,649	Desagüe	100	16
R-1-2	850,414	Desagüe	100	16
R-1-4	1191,454	Desagüe	100	16
R-1-8	299,353	Desagüe	100	16
R-1-9	566,003	Desagüe	100	16
R-1-1-2	258,302	Desagüe	100	16
R-1-7	496,944	Desagüe	100	16
R-1	477,177	Ventosa	8	16
R-1	1004,1	Ventosa	8	16
R-1	1574,123	Ventosa	8	16
R-1	1920,658	Ventosa	8	16

RED DE RIEGO. PRESION NATURAL				
RAMAL	PK	DENOMINACIÓN	DN	PN
R-1	2516,123	Ventosa	6	16
R-1	2995,852	Ventosa	6	16
R-1	3500	Ventosa	6	16
R-1	4176,123	Ventosa	6	16
R-1	4633,445	Ventosa	4	16
R-1	5081,458	Ventosa	4	16
R-1	5574,175	Ventosa	4	16
R-1	6183,762	Ventosa	4	16
R-1	6263,123	Ventosa	4	16
R-1	6855,77	Ventosa	4	16
R-1	7077,667	Ventosa	3	16
R-1	7615,464	Ventosa	3	16
R-1	8120	Ventosa	2	16
R-1	8693,042	Ventosa	2	16
R-1	9436,123	Ventosa	2	16
R-1-1	450,9	Ventosa	6	16
R-1-1	1170,855	Ventosa	6	16
R-1-1	1509,622	Ventosa	4	16
R-1-1	2180	Ventosa	4	16
R-1-1	2630	Ventosa	4	16
R-1-1	3225	Ventosa	4	16
R-1-1	3950,439	Ventosa	3	16
R-1-1	4442,579	Ventosa	2	16
R-1-10	388,831	Ventosa	2	16
R-1-12	262,452	Ventosa	2	16
R-1-14	491,59	Ventosa	2	16
R-1-1-8	104,468	Ventosa	2	16
R-1-2	130,562	Ventosa	2	16
R-1-2	779,868	Ventosa	2	16
R-1-2	936,433	Ventosa	2	16
R-1-4	582,788	Ventosa	2	16
R-1-4	936,968	Ventosa	2	16
R-1-5	245,212	Ventosa	2	16
R-1-7	229,312	Ventosa	3	16
R-1-7-1	195,451	Ventosa	3	16
R-1-8	204,923	Ventosa	2	16

8.2 VALVULERÍA Y ELEMENTOS DE MANIOBRA DE LA RED DEL PISO 1

RED DE RIEGO. PISO 1				
RAMAL	PK	DENOMINACIÓN	DN	PN
R-2	630	Desagüe	200	16
R-2	3874,59	Desagüe	100	16
R-1-6	3422,486	Desagüe	100	16
R-1-6-2	1897,971	Desagüe	100	16
R-1-6-6	748,389	Desagüe	100	16
R-2	1258,041	Desagüe	200	16
R-2-1	776,167	Desagüe	200	16
R-2-1	1417,489	Desagüe	100	16
R-2-1-4	416,938	Desagüe	100	16
R-2-2	51,945	Desagüe	100	16
R-2-2	203,746	Desagüe	100	16
R-2-2	480,462	Desagüe	100	16
R-2-3	743,012	Desagüe	200	16
R-2-3	1486,462	Desagüe	200	16
R-2-3	1691,79	Desagüe	200	16
R-2-3	2356,671	Desagüe	200	16
R-2-3	2922,327	Desagüe	200	16
R-2-3	5093,169	Desagüe	100	16
R-2-3-1	4018,06	Desagüe	100	16
R-2-3-10	955,95	Desagüe	100	16
R-2-3-10	1392,726	Desagüe	100	16
R-2-3-1-1-2	62,482	Desagüe	100	16
R-2-3-12	450,424	Desagüe	100	16
R-2-3-1-4	157,889	Desagüe	100	16
R-2-3-2	320,057	Desagüe	100	16
R-2-3-3	435,5	Desagüe	100	16
R-2-3-4	910,276	Desagüe	100	16
R-2-3-6	506,563	Desagüe	100	16
R-2-3-8	1070,248	Desagüe	100	16
R-2-5	485,852	Desagüe	100	16
R-2-6	33,975	Desagüe	100	16
R-2-6	354,091	Desagüe	100	16
R-1-3	502,903	Desagüe	100	16
R-1-6	890	Desagüe	200	16
R-1-6-2	1150	Desagüe	200	16
R-2-1-6	167,256	Desagüe	100	16

RED DE RIEGO. PISO 1				
RAMAL	PK	DENOMINACIÓN	DN	PN
R-2-1-8	120,547	Desagüe	100	16
R-2-3	861,571	Desagüe	200	16
R-2-3	5804,806	Desagüe	100	16
R-2-3-1	692,883	Desagüe	200	16
R-2-3-1	1461,552	Desagüe	200	16
R-2-3-1	1710,053	Desagüe	200	16
R-2-3-1	1879,18	Desagüe	200	16
R-2-3-1-2	138,619	Desagüe	100	16
R-2-3-1-6	326,714	Desagüe	100	16
R-1	2516,123	Ventosa	4	16
R-1	2995,852	Ventosa	4	16
R-1-3	322,262	Ventosa	2	16
R-1-6	324,175	Ventosa	4	16
R-1-6	748,824	Ventosa	4	16
R-1-6	1217,233	Ventosa	4	16
R-1-6	1527,959	Ventosa	4	16
R-1-6	2150,306	Ventosa	3	16
R-1-6	2640	Ventosa	2	16
R-1-6	3003,689	Ventosa	2	16
R-1-6-2	639,5	Ventosa	4	16
R-1-6-2	1663,269	Ventosa	2	16
R-1-6-2	2016,363	Ventosa	2	16
R-1-6-2-1	648,94	Ventosa	2	16
R-1-6-4	244,396	Ventosa	2	16
R-1-6-6	379,547	Ventosa	2	16
R-2	150	Ventosa	8	16
R-2	909,656	Ventosa	8	16
R-2	1459,656	Ventosa	8	16
R-2	1970	Ventosa	4	16
R-2	2581,422	Ventosa	4	16
R-2	3140,43	Ventosa	4	16
R-2	3513,45	Ventosa	2	16
R-2	4016,803	Ventosa	2	16
R-2-1	554,284	Ventosa	4	16
R-2-1	1049,35	Ventosa	3	16
R-2-1	1496,255	Ventosa	2	16
R-2-1-4	90,801	Ventosa	2	16
R-2-2	20	Ventosa	2	16

RED DE RIEGO. PISO 1				
RAMAL	PK	DENOMINACIÓN	DN	PN
R-2-2	120,495	Ventosa	2	16
R-2-2	409,318	Ventosa	2	16
R-2-2	536,901	Ventosa	2	16
R-2-3	413,685	Ventosa	6	16
R-2-3	828,91	Ventosa	6	16
R-2-3	984,965	Ventosa	6	16
R-2-3	1512,486	Ventosa	6	16
R-2-3	1835,415	Ventosa	4	16
R-2-3	2569,333	Ventosa	4	16
R-2-3	3424,692	Ventosa	4	16
R-2-3	3926,8	Ventosa	4	16
R-2-3	4186,294	Ventosa	4	16
R-2-3	4681,79	Ventosa	3	16
R-2-3	5319,446	Ventosa	2	16
R-2-3-1	493,739	Ventosa	4	16
R-2-3-1	862	Ventosa	4	16
R-2-3-1	1579,731	Ventosa	4	16
R-2-3-1	1821,758	Ventosa	4	16
R-2-3-1	2348,604	Ventosa	4	16
R-2-3-1	2727,075	Ventosa	4	16
R-2-3-1	3282,29	Ventosa	4	16
R-2-3-1	3764,284	Ventosa	3	16
R-2-3-1	4072,905	Ventosa	3	16
R-2-3-10	535,566	Ventosa	2	16
R-2-3-10	982	Ventosa	2	16
R-2-3-1-1	419,662	Ventosa	2	16
R-2-3-1-1	662,045	Ventosa	2	16
R-2-3-1-3	139,457	Ventosa	2	16
R-2-3-1-5	279,149	Ventosa	2	16
R-2-3-2	249,532	Ventosa	2	16
R-2-3-3	375,666	Ventosa	3	16
R-2-3-4	410	Ventosa	2	16
R-2-3-8	530	Ventosa	3	16
R-2-3-8	1106,013	Ventosa	2	16
R-2-4	88,953	Ventosa	2	16
R-2-5	129,404	Ventosa	2	16
R-2-6	55,582	Ventosa	2	16

8.3 VALVULERÍA Y ELEMENTOS DE MANIOBRA DE LA RED DEL PISO 2

RED DE RIEGO. PISO 2				
RAMAL	PK	DENOMINACIÓN	DN	PN
R-2-1-10	72,059	Desagüe	100	16
R-2-1-2	811,152	Desagüe	100	16
R-2-1-3	514,004	Desagüe	100	16
R-3	550,605	Desagüe	200	16
R-3	994,922	Desagüe	200	16
R-3	1959,284	Desagüe	100	16
R-6	1046,35	Desagüe	200	16
R-6	2135,797	Desagüe	200	16
R-6	2400	Desagüe	200	16
R-6	2760	Desagüe	200	16
R-6	4490	Desagüe	100	16
R-6-3	529,95	Desagüe	100	16
R-6-3	835,5	Desagüe	100	16
R-6-3	1060	Desagüe	100	16
R-6-3-2	662,446	Desagüe	100	16
R-6-5	304,616	Desagüe	100	16
R-6-9	125,469	Desagüe	200	16
R-6-9	1577,279	Desagüe	100	16
R-6-9	2225,434	Desagüe	100	16
R-6-9-2	148,822	Desagüe	200	16
R-6-9-3	301,121	Desagüe	100	16
R-6-9-3-2	75,056	Desagüe	100	16
R-2-1	2802,042	Desagüe	200	16
R-2-1	3477,832	Desagüe	200	16
R-2-1	3685,031	Desagüe	200	16
R-2-1	5647,971	Desagüe	100	16
R-2-1	6316,953	Desagüe	100	16
R-2-1-12	528,246	Desagüe	100	16
R-3	2701,875	Desagüe	100	16
R-3-6	63,885	Desagüe	100	16
R-6	1740,641	Desagüe	200	16
R-6	3560	Desagüe	200	16
R-6	3870	Desagüe	200	16
R-6-9-1	514,051	Desagüe	100	16
R-2-1	554,284	Ventosa	2	16
R-2-1	1963,812	Ventosa	4	16

RED DE RIEGO. PISO 2				
RAMAL	PK	DENOMINACIÓN	DN	PN
R-2-1	2575,6	Ventosa	4	16
R-2-1	3148,095	Ventosa	4	16
R-2-1	3495,91	Ventosa	4	16
R-2-1	4258	Ventosa	4	16
R-2-1	4789,288	Ventosa	4	16
R-2-1	5230	Ventosa	4	16
R-2-1	5735,791	Ventosa	3	16
R-2-1-1	316,552	Ventosa	2	16
R-2-1-2	426,195	Ventosa	2	16
R-3	949,224	Ventosa	4	16
R-3	1304,169	Ventosa	3	16
R-3	1627,891	Ventosa	3	16
R-3	2405,827	Ventosa	2	16
R-3-1	335,473	Ventosa	2	16
R-6	558,585	Ventosa	6	16
R-6	1300	Ventosa	4	16
R-6	1764,352	Ventosa	4	16
R-6	2350	Ventosa	4	16
R-6	2575	Ventosa	4	16
R-6	3281,904	Ventosa	4	16
R-6	3530	Ventosa	4	16
R-6	3602,066	Ventosa	4	16
R-6	3963,175	Ventosa	4	16
R-6	4607,9	Ventosa	2	16
R-6-3	675,772	Ventosa	2	16
R-6-3	935,8	Ventosa	2	16
R-6-3	1351,538	Ventosa	2	16
R-6-3-2	770,776	Ventosa	2	16
R-6-3-4	112,968	Ventosa	2	16
R-6-8	89,195	Ventosa	2	16
R-6-9	300	Ventosa	4	16
R-6-9	758,123	Ventosa	4	16
R-6-9	1196,226	Ventosa	3	16
R-6-9	2012,399	Ventosa	2	16
R-6-9	2362,358	Ventosa	2	16
R-6-9-1-2	148,937	Ventosa	2	16
R-6-9-2	603,714	Ventosa	3	16
R-6-9-3	712,254	Ventosa	2	16

8.4 VALVULERÍA Y ELEMENTOS DE MANIOBRA DE LA RED PISO 3

RED DE RIEGO. PISO 3				
RAMAL	PK	DENOMINACIÓN	DN	PN
R-5	115,554	Desagüe	200	16
R-5	259,129	Desagüe	200	16
R-6-6	102,479	Desagüe	100	16
R-4	199,988	Desagüe	200	16
R-4	649,175	Desagüe	200	16
R-4	1899,988	Desagüe	200	16
R-4	2782,544	Desagüe	200	16
R-4	3419,26	Desagüe	200	16
R-4	4249,993	Desagüe	200	16
R-4	5728,703	Desagüe	200	16
R-4	6449,812	Desagüe	100	16
R-4	6750,521	Desagüe	100	16
R-4-12	1172,177	Desagüe	100	16
R-4-12	1533,449	Desagüe	100	16
R-4-12-2	226,633	Desagüe	100	16
R-4-14	649,109	Desagüe	100	16
R-4-16	126,245	Desagüe	100	16
R-4-2	779,845	Desagüe	100	16
R-4-4	39,506	Desagüe	100	16
R-4-8-2	133,528	Desagüe	100	16
R-6	1046,35	Desagüe	200	16
R-6	2135,797	Desagüe	200	16
R-6	2400	Desagüe	200	16
R-6	2760	Desagüe	200	16
R-6	4490	Desagüe	200	16
R-6	5034,755	Desagüe	200	16
R-6-1	249,827	Desagüe	100	16
R-6-1	475	Desagüe	100	16
R-6-2	224,294	Desagüe	100	16
R-6-7	226,59	Desagüe	100	16
R-6-8	160,847	Desagüe	100	16
R-6-8	419,763	Desagüe	100	16
R-6-8	793,116	Desagüe	100	16
R-4	1234,741	Desagüe	200	16
R-4	1506,226	Desagüe	200	16
R-4	2035,023	Desagüe	200	16

RED DE RIEGO. PISO 3				
RAMAL	PK	DENOMINACIÓN	DN	PN
R-4	2481,988	Desagüe	200	16
R-4-12	199,365	Desagüe	100	16
R-4-6	138,359	Desagüe	100	16
R-4-8	402,83	Desagüe	100	16
R-4-8	1235,871	Desagüe	100	16
R-6	1740,641	Desagüe	200	16
R-6	3560	Desagüe	200	16
R-6	3870	Desagüe	200	16
R-6	6456,437	Desagüe	100	16
R-6-11	281,377	Desagüe	100	16
R-6-12-1	133,766	Desagüe	100	16
R-4	635,041	Ventosa	6	16
R-4	673,488	Ventosa	6	16
R-4	1276,682	Ventosa	6	16
R-4	1874,141	Ventosa	6	16
R-4	1998,329	Ventosa	6	16
R-4	2199,988	Ventosa	6	16
R-4	2525,42	Ventosa	6	16
R-4	3289,44	Ventosa	6	16
R-4	3768,16	Ventosa	6	16
R-4	4164,459	Ventosa	4	16
R-4	4760	Ventosa	4	16
R-4	5329,962	Ventosa	4	16
R-4	6197,585	Ventosa	3	16
R-4	6579,988	Ventosa	2	16
R-4-1	88,919	Ventosa	2	16
R-4-10	204,135	Ventosa	2	16
R-4-12	348,257	Ventosa	3	16
R-4-12	696,642	Ventosa	2	16
R-4-12	1185,962	Ventosa	2	16
R-4-12-1	96,459	Ventosa	2	16
R-4-12-3	91,107	Ventosa	2	16
R-4-14	535,596	Ventosa	2	16
R-4-2	380	Ventosa	2	16
R-4-4	63,859	Ventosa	2	16
R-4-8	570	Ventosa	3	16
R-4-8	937,021	Ventosa	3	16
R-4-8-1	286,025	Ventosa	3	16

RED DE RIEGO. PISO 3				
RAMAL	PK	DENOMINACIÓN	DN	PN
R-5	240,994	Ventosa	4	16
R-5	398,66	Ventosa	4	16
R-6	558,585	Ventosa	4	16
R-6	1300	Ventosa	4	16
R-6	1764,352	Ventosa	4	16
R-6	2350	Ventosa	4	16
R-6	2575	Ventosa	4	16
R-6	3281,904	Ventosa	4	16
R-6	3530	Ventosa	4	16
R-6	3602,066	Ventosa	4	16
R-6	3963,175	Ventosa	4	16
R-6	4710	Ventosa	4	16
R-6	5461,371	Ventosa	3	16
R-6	6075,996	Ventosa	2	16
R-6-1	100,135	Ventosa	2	16
R-6-1	295,016	Ventosa	2	16
R-6-1	789,691	Ventosa	2	16
R-6-10	227,541	Ventosa	2	16
R-6-12	532,995	Ventosa	3	16
R-6-12	1013,37	Ventosa	2	16
R-6-2	190,236	Ventosa	2	16
R-6-4	554,258	Ventosa	2	16
R-6-6	70,783	Ventosa	3	16
R-6-6	189,064	Ventosa	3	16
R-6-8	156,682	Ventosa	2	16
R-6-8	282,537	Ventosa	2	16
R-6-8	620	Ventosa	2	16
R-6-8	905,986	Ventosa	2	16

9 CALDERERÍA

	Tubo						Bridas 1				Bridas 2				TOTAL
	DN	Uds	Long	Esp (mm)	Peso (kg/m)	Medición (kg)	DN	Uds	Peso (kg/m)	Medición (kg)	DN	Uds	Peso (kg/m)	Medición (kg)	
Cuello cisne DN1800	1820	1	10	12,7	569	5.690,00	1800-10		452	0	150-10		9	0	5.690,0
Admisión DN1800	1820	1	47,5	12,7	569	27.027,50	1800-10	4	452	1808	150-10		9	0	28.835,5
Cuello cisne DN1200	1220	1	10	10	301	3.008,70	1200-10		167	0	150-10		9	0	3.008,7
Admisión DN1200	1220	1	43,5	10	301	13.087,86	1200-10	4	167	668	150-10		9	0	13.755,9
Cuello cisne DN1000	1016	1	10	8	200	2.004,49	1000-10		121	0	150-10		9	0	2.004,5
Admisión DN1000	1016	1	50	8	200	10.022,43	1000-10	4	121	484	150-10		9	0	10.506,4
Cuello cisne DN900	914	1	10	8	180	1.803,25	900-10		102	0	150-10		9	0	1.803,2
Admisión DN900	914	1	44	8	180	7.934,30	900-10	4	102	408	150-10		9	0	8.342,3
Ventosas 8"	200	5	0,5	4	20	49,32	200-10	5	13	65	150-10		9	0	114,3
Ventosas 6"	150	6	0,5	4	15	44,39	150-10	6	9	54	150-10		9	0	98,4
By-pass	150	3	3,5	4	15	155,37	150-10	6	9	54	150-10		9	0	209,4
Alivio	324	3	5	4	32	479,42	250-10	6	17	102	150-10		9	0	581,4
Bombas BP1	610	5	9	6	90	4.061,75	600-10	20	53	1060	250-10	10	17	170	5.291,7
Bombas BP2	508	5	8	6	75	3.006,73	500-10	20	42	840	250-10	10	17	170	4.016,7
Bombas BP3	508	4	8	6	75	2.405,38	500-10	16	42	672	250-10	8	17	136	3.213,4
By-pass	406	3	8	6	60	1.441,81	400-16	12	34	408	150-10		9	0	1.849,8
TOTAL PESO CALDERERÍA														89.321,7	

10 OBRAS ESPECIALES

10.1 OBRAS ESPECIALES RED DE RIEGO

OBRAS ESPECIALES RED DE RIEGO. PRESION NATURAL				
RAMAL	PK	DN TUBERÍA	TIPO OBRA ESPECIAL	DN VAINA
DERIVACION A H24 Y H28		180	O.E. Acequia	-
DERIVACION A H38		125	O.E. Acequia	-
R-1	560	1200	O.E. Acequia	1600
R-1	2370	800	O.E. Acequia	1200
R-1	2387,5	800	O.E. Acequia	1200
R-1	2525	800	O.E. Acequia	1200
R-1	4923,5	700	O.E. Acequia	1000
R-1	5335	600	O.E. Acequia	-
R-1	7080	315	O.E. Acequia	-
R-1	7630	250	O.E. Acequia	-
R-1	9255,5	250	O.E. Acequia	-
R-1-1	1187	600	O.E. Acequia	-
R-1-1	1793	600	O.E. Acequia	-
R-1-1	2374	600	O.E. Acequia	-
R-1-1	2632	600	O.E. Acequia	-
R-1-1	3643	355	O.E. Acequia	-
R-1-2	207	200	O.E. Acequia	-
R-1-2	844	160	O.E. Acequia	-
R-1-4	393	180	O.E. Acequia	-
R-1-4	1048	125	O.E. Acequia	-
R-1-4	1090	125	O.E. Acequia	-
R-1-5	102,5	110	O.E. Acequia	-
DERIVACION A H23		125	O.E. Camino	400
DERIVACION A H24 Y H28		180	O.E. Camino	400
DERIVACION A H44		125	O.E. Camino	400
R-1	1120	1200	O.E. Camino	1600
R-1	1950	1200	O.E. Camino	1600
R-1	2387,5	800	O.E. Camino	1200
R-1	2525	800	O.E. Camino	1200
R-1	4187,5	800	O.E. Camino	1200
R-1	6218	600	O.E. Camino	1000
R-1	6236	600	O.E. Camino	1000
R-1	6427	600	O.E. Camino	1000
R-1	6843	600	O.E. Camino	1000

OBRAS ESPECIALES RED DE RIEGO. PRESION NATURAL					
RAMAL	PK	DN TUBERÍA	TIPO OBRA ESPECIAL	DN VAINA	
R-1	7055	400	O.E. Camino	600	
R-1	7084,5	315	O.E. Camino	600	
R-1	7624,5	250	O.E. Camino	600	
R-1	7885	250	O.E. Camino	600	
R-1	8461,5	250	O.E. Camino	600	
R-1-1	1783	600	O.E. Camino	1000	
R-1-1	2383	600	O.E. Camino	1000	
R-1-1	3020	500	O.E. Camino	800	
R-1-1	4435	180	O.E. Camino	400	
R-1-12	80	180	O.E. Camino	400	
R-1-2	89	200	O.E. Camino	400	
R-1-2	270	180	O.E. Camino	400	
R-1-2	364	180	O.E. Camino	400	
R-1-2	757	160	O.E. Camino	400	
R-1-4	377	180	O.E. Camino	400	
R-1-4	941	125	O.E. Camino	400	
R-1-5	7	125	O.E. Camino	400	
R-1-8	10	110	O.E. Camino	400	
R-1-9	420	180	O.E. Camino	400	
R-1-9	440	180	O.E. Camino	400	
R-1	520	1200	O.E. Camino Asfaltado	1600	
R-1	2245	1200	O.E. Carretera	A-1220	1400
R-1	140	1200	O.E. Carretera	A-129	800
R-1-7-1	20	400	O.E. Carretera	A-129	250
DERIVACION A H23		125	O.E. Desagüe	-	
R-1	6245,5	600	O.E. Desagüe	-	
R-1-8	29	110	O.E. Desagüe	-	
R-1-9	433	180	O.E. Desagüe	-	

OBRAS ESPECIALES RED DE RIEGO. PISO 1				
RAMAL	PK	DN TUBERÍA	TIPO OBRA ESPECIAL	DN VAINA
DERIVACION A H143		110	O.E. Acequia	-
DERIVACION A H270		180	O.E. Acequia	-
DERIVACION A H292		160	O.E. Acequia	-
DERIVACION A H296		160	O.E. Acequia	-
R-1	2370	800	O.E. Acequia	1200
R-1-3	20	180	O.E. Acequia	-

OBRAS ESPECIALES RED DE RIEGO. PISO 1				
RAMAL	PK	DN TUBERÍA	TIPO OBRA ESPECIAL	DN VAINA
R-1-6	2988,5	160	O.E. Acequia	-
R-1-6-2	1287	500	O.E. Acequia	-
R-1-6-2	1304	500	O.E. Acequia	-
R-1-6-2	1895	180	O.E. Acequia	-
R-1-6-6	7,5	250	O.E. Acequia	-
R-1-6-6	366	250	O.E. Acequia	-
R-2	710	1200	O.E. Acequia	1600
R-2	1532	1100	O.E. Acequia	1600
R-2-1	20	500	O.E. Acequia	-
R-2-1	787	355	O.E. Acequia	-
R-2-1	1043	355	O.E. Acequia	-
R-2-2	216	140	O.E. Acequia	-
R-2-3	854	1000	O.E. Acequia	1400
R-2-3	2352	700	O.E. Acequia	1000
R-2-3	2574	600	O.E. Acequia	-
R-2-3	2889	600	O.E. Acequia	-
R-2-3	3230	500	O.E. Acequia	-
R-2-3	3620	500	O.E. Acequia	-
R-2-3	3875	500	O.E. Acequia	-
R-2-3	4376,5	315	O.E. Acequia	-
R-2-3	5071	315	O.E. Acequia	-
R-2-3-1	1328	600	O.E. Acequia	-
R-2-3-1	1443	600	O.E. Acequia	-
R-2-3-1	1592	500	O.E. Acequia	-
R-2-3-1	2085	500	O.E. Acequia	-
R-2-3-1	3288	500	O.E. Acequia	-
R-2-3-10	111,5	225	O.E. Acequia	-
R-2-3-10	963	160	O.E. Acequia	-
R-2-3-1-1	529,5	140	O.E. Acequia	-
R-2-3-1-1-2	10	180	O.E. Acequia	-
R-2-3-1-1-2	48	180	O.E. Acequia	-
R-2-3-12	10	160	O.E. Acequia	-
R-2-3-1-2	136,5	140	O.E. Acequia	-
R-2-3-1-4	129	125	O.E. Acequia	-
R-2-3-1-6	315	110	O.E. Acequia	-
R-2-3-1-6	321	110	O.E. Acequia	-
R-2-3-3	5	315	O.E. Acequia	-
R-2-3-4	902	200	O.E. Acequia	-

OBRAS ESPECIALES RED DE RIEGO. PISO 1				
RAMAL	PK	DN TUBERÍA	TIPO OBRA ESPECIAL	DN VAINA
R-2-3-6	298	315	O.E. Acequia	-
R-2-3-8	465	355	O.E. Acequia	-
R-2-3-8	1088	250	O.E. Acequia	-
R-2-5	463	125	O.E. Acequia	-
R-2-6	12	315	O.E. Acequia	-
DERIVACION A H114		110	O.E. Camino	400
DERIVACION A H117		125	O.E. Camino	400
DERIVACION A H119		110	O.E. Camino	400
DERIVACION A H120		125	O.E. Camino	400
DERIVACION A H125		110	O.E. Camino	400
DERIVACION A H141		160	O.E. Camino	400
DERIVACION A H143		110	O.E. Camino	400
DERIVACION A H145		125	O.E. Camino	400
DERIVACION A H170		110	O.E. Camino	400
DERIVACION A H178		125	O.E. Camino	400
DERIVACION A H270		180	O.E. Camino	400
DERIVACION A H292		160	O.E. Camino	400
DERIVACION A H296		160	O.E. Camino	400
DERIVACION A H345		125	O.E. Camino	400
R-1	2387,5	800	O.E. Camino	1200
R-1	2525	800	O.E. Camino	1200
R-1-6	5	500	O.E. Camino	800
R-1-6	80	500	O.E. Camino	800
R-1-6	1207	500	O.E. Camino	800
R-1-6	2135	355	O.E. Camino	600
R-1-6	2972	225	O.E. Camino	600
R-1-6	2993,5	160	O.E. Camino	400
R-1-6-2	155,5	500	O.E. Camino	800
R-1-6-2	1296	500	O.E. Camino	800
R-1-6-2	1524,5	200	O.E. Camino	400
R-1-6-2	1823	180	O.E. Camino	400
R-1-6-2	1890	180	O.E. Camino	400
R-1-6-2	1970	160	O.E. Camino	400
R-1-6-2-1	630	225	O.E. Camino	600
R-1-6-4	12	250	O.E. Camino	600
R-1-6-6	14	250	O.E. Camino	600
R-1-6-6	356	250	O.E. Camino	600
R-2	2118,5	700	O.E. Camino	1000

OBRAS ESPECIALES RED DE RIEGO. PISO 1				
RAMAL	PK	DN TUBERÍA	TIPO OBRA ESPECIAL	DN VAINA
R-2	2335,5	700	O.E. Camino	1000
R-2-1	535,5	500	O.E. Camino	800
R-2-1	797	355	O.E. Camino	600
R-2-1	1036	355	O.E. Camino	600
R-2-1	1486	600	O.E. Camino	1000
R-2-1-4	380	140	O.E. Camino	400
R-2-3	403	1000	O.E. Camino	1400
R-2-3	704	1000	O.E. Camino	1400
R-2-3	837	1000	O.E. Camino	1400
R-2-3	1501	700	O.E. Camino	1000
R-2-3	1830	700	O.E. Camino	1000
R-2-3	2345	700	O.E. Camino	1000
R-2-3	2874	600	O.E. Camino	1000
R-2-3	2913	500	O.E. Camino	800
R-2-3	3344	500	O.E. Camino	800
R-2-3	4366	315	O.E. Camino	600
R-2-3	5021	315	O.E. Camino	600
R-2-3	5088	315	O.E. Camino	600
R-2-3	5630	250	O.E. Camino	600
R-2-3-1	231	600	O.E. Camino	1000
R-2-3-1	1115,5	600	O.E. Camino	1000
R-2-3-1	1453	600	O.E. Camino	1000
R-2-3-1	1634	500	O.E. Camino	800
R-2-3-1	1885	500	O.E. Camino	800
R-2-3-1	3293	500	O.E. Camino	800
R-2-3-10	525	225	O.E. Camino	600
R-2-3-1-6	300	110	O.E. Camino	400
R-2-3-3	10	315	O.E. Camino	600
R-2-3-3	385	315	O.E. Camino	600
R-2-3-4	23,5	315	O.E. Camino	600
R-2-3-4	887	200	O.E. Camino	400
R-2-3-8	693,5	355	O.E. Camino	600
R-2-3-8	1064	355	O.E. Camino	600
R-2-3-8	1098	250	O.E. Camino	600
R-2-4	80	90	O.E. Camino	400
R-2-5	122	180	O.E. Camino	400
R-2-5	474	125	O.E. Camino	400
R-2-6	21	315	O.E. Camino	600

OBRAS ESPECIALES RED DE RIEGO. PISO 1					
RAMAL	PK	DN TUBERÍA	TIPO OBRA ESPECIAL	DN VAINA	
R-3-4	553	600	O.E. Camino	1000	
R-2	1531	1100	O.E. Camino Asfaltado	1400	
R-2-3-10	1217	110	O.E. Camino Asfaltado	400	
R-2-3-1-1	537,5	140	O.E. Camino Asfaltado	400	
R-2	3243,5	600	O.E. Carretera	A-1220	800
R-1-6-2	1649	180	O.E. Carretera	A-1221	250
R-2	1126,5	1200	O.E. Carretera	A-129	1400
R-1-6	13	500	O.E. Desagüe	-	-
R-1-6-2	1873	180	O.E. Desagüe	-	-

OBRAS ESPECIALES RED DE RIEGO. PISO 2				
RAMAL	PK	DN TUBERÍA	TIPO OBRA ESPECIAL	DN VAINA
DERIVACION A H166		125	O.E. Acequia	-
DERIVACION A H189		125	O.E. Acequia	-
DERIVACION A H206		125	O.E. Acequia	-
DERIVACION A H285		125	O.E. Acequia	-
DERIVACION A H328		125	O.E. Acequia	-
DERIVACIÓN A H330		90	O.E. Acequia	-
R-2-1	2192	600	O.E. Acequia	-
R-2-1	2302	600	O.E. Acequia	-
R-2-1	2783	600	O.E. Acequia	-
R-2-1	2799	600	O.E. Acequia	-
R-2-1	3127	600	O.E. Acequia	-
R-2-1	4264	500	O.E. Acequia	-
R-2-1	4300	500	O.E. Acequia	-
R-3	553	600	O.E. Acequia	-
R-3	986,5	600	O.E. Acequia	-
R-3	1141	600	O.E. Acequia	-
R-3-1	26	250	O.E. Acequia	-
R-3-1	230	200	O.E. Acequia	-
R-6	1320	700	O.E. Acequia	1000
R-6	1732	700	O.E. Acequia	1000
R-6	2128	700	O.E. Acequia	1000
R-6	2359	700	O.E. Acequia	1000
R-6	2671,5	700	O.E. Acequia	1000
R-6	3403	700	O.E. Acequia	1000
R-6	4227	500	O.E. Acequia	-

OBRAS ESPECIALES RED DE RIEGO. PISO 2				
RAMAL	PK	DN TUBERÍA	TIPO OBRA ESPECIAL	DN VAINA
R-6-3	38,24	315	O.E. Acequia	-
R-6-3	744	200	O.E. Acequia	-
R-6-3	940	200	O.E. Acequia	-
R-6-3	1036	200	O.E. Acequia	-
R-6-9	2011	250	O.E. Acequia	-
R-6-9-1	13	225	O.E. Acequia	-
R-6-9-1	88,5	225	O.E. Acequia	-
R-6-9-1-2	44,5	90	O.E. Acequia	-
R-6-9-3	11	315	O.E. Acequia	-
R-6-9-3	620	250	O.E. Acequia	-
R-6-9-3-2	65	110	O.E. Acequia	-
DERIVACION A H166		125	O.E. Camino	400
DERIVACION A H173		125	O.E. Camino	400
DERIVACION A H184		125	O.E. Camino	400
DERIVACION A H187		140	O.E. Camino	400
DERIVACION A H189		125	O.E. Camino	400
DERIVACION A H206		125	O.E. Camino	400
DERIVACION A H213		125	O.E. Camino	400
DERIVACION A H215		110	O.E. Camino	400
DERIVACION A H219		90	O.E. Camino	400
DERIVACIÓN A H220		125	O.E. Camino	400
DERIVACION A H285		125	O.E. Camino	400
DERIVACION A H300		125	O.E. Camino	400
DERIVACION A H328		125	O.E. Camino	400
DERIVACIÓN A H330		90	O.E. Camino	400
DERIVACION A H340		160	O.E. Camino	400
R-2-1	1486	600	O.E. Camino	1000
R-2-1	1954	600	O.E. Camino	1000
R-2-1	2793	600	O.E. Camino	1000
R-2-1	3487	600	O.E. Camino	1000
R-2-1	3678,5	600	O.E. Camino	1000
R-2-1	4392	500	O.E. Camino	800
R-2-1	5348	500	O.E. Camino	800
R-2-1-2	265	250	O.E. Camino	600
R-2-1-3	257	250	O.E. Camino	600
R-3	975	600	O.E. Camino	1000
R-3	1620	315	O.E. Camino	600
R-3	1790	315	O.E. Camino	600

OBRAS ESPECIALES RED DE RIEGO. PISO 2					
RAMAL	PK	DN TUBERÍA	TIPO OBRA ESPECIAL	DN VAINA	
R-3	2415	160	O.E. Camino	400	
R-3	2546	160	O.E. Camino	400	
R-3-1	240	200	O.E. Camino	400	
R-3-2	462,5	315	O.E. Camino	600	
R-3-4	553	600	O.E. Camino	1000	
R-6	220	800	O.E. Camino	1200	
R-6	910	800	O.E. Camino	1200	
R-6	1490	700	O.E. Camino	1000	
R-6	1600	700	O.E. Camino	1000	
R-6	2010	700	O.E. Camino	1000	
R-6	3577	700	O.E. Camino	1000	
R-6	4570	500	O.E. Camino	800	
R-6-3	562	315	O.E. Camino	600	
R-6-3	1178	180	O.E. Camino	400	
R-6-9	10	600	O.E. Camino	1000	
R-6-9	1182	355	O.E. Camino	600	
R-6-9	1560	315	O.E. Camino	600	
R-6-9	1730	315	O.E. Camino	600	
R-6-9	2210	200	O.E. Camino	400	
R-6-9-1	5	225	O.E. Camino	600	
R-6-9-1	173	225	O.E. Camino	600	
R-6-9-2	596	400	O.E. Camino	600	
R-6-9-3	7	315	O.E. Camino	600	
R-6-9-3	314	250	O.E. Camino	600	
R-6-9-3	617,7	250	O.E. Camino	600	
R-6-9-3-2	60	110	O.E. Camino	400	
R-2-1	3659	600	O.E. Camino Asfaltado	1000	
R-2-1-2	416	250	O.E. Camino Asfaltado	400	
R-3	567	600	O.E. Camino Asfaltado	1000	
R-6	2724	700	O.E. Camino Asfaltado	1000	
R-6-9	140	600	O.E. Carretera	A-1220	800
R-3	484	800	O.E. Carretera	A-129	1000
R-6	2738	700	O.E. Desagüe	-	
R-6	4499	500	O.E. Desagüe	-	
R-6-3	542	315	O.E. Desagüe	-	
R-6-9-2	146	500	O.E. Desagüe	-	
R-6	590-945	600	O.E. Cruce camino	1000	

OBRAS ESPECIALES RED DE RIEGO. PISO 3				
RAMAL	PK	DN TUBERÍA	TIPO OBRA ESPECIAL	DN VAINA
DERIVACION A H333		140	O.E. Acequia	-
R-4	78,5	1000	O.E. Acequia	1400
R-4	195,5	1000	O.E. Acequia	1400
R-4	650	1000	O.E. Acequia	1400
R-4	1028,5	1000	O.E. Acequia	1400
R-4	1725	1000	O.E. Acequia	1400
R-4	1888	1000	O.E. Acequia	1400
R-4	2650	900	O.E. Acequia	1200
R-4	4411,5	700	O.E. Acequia	1000
R-4	5743	500	O.E. Acequia	-
R-4	6294,5	400	O.E. Acequia	-
R-4-12	1173,5	110	O.E. Acequia	-
R-4-12-2	220	180	O.E. Acequia	-
R-4-14	117	200	O.E. Acequia	-
R-4-14	591,5	140	O.E. Acequia	-
R-4-2	30	225	O.E. Acequia	-
R-4-4	24,5	355	O.E. Acequia	-
R-4-4	47,08	140	O.E. Acequia	-
R-4-6	17	140	O.E. Acequia	-
R-4-8	22,5	400	O.E. Acequia	-
R-4-8	260	355	O.E. Acequia	-
R-4-8	664	355	O.E. Acequia	-
R-4-8	808	355	O.E. Acequia	-
R-4-8-1	9	315	O.E. Acequia	-
R-5	266	500	O.E. Acequia	-
R-6	1320	700	O.E. Acequia	1000
R-6	1732	700	O.E. Acequia	1000
R-6	2128	700	O.E. Acequia	1000
R-6	2359	700	O.E. Acequia	1000
R-6	2671,5	700	O.E. Acequia	1000
R-6	3403	700	O.E. Acequia	1000
R-6	4227	500	O.E. Acequia	-
R-6	4887	500	O.E. Acequia	-
R-6	6444	200	O.E. Acequia	-
R-6-12	258	315	O.E. Acequia	-
R-6-12-1	120	110	O.E. Acequia	-
R-6-8	94	180	O.E. Acequia	-
R-6-8	663	160	O.E. Acequia	-

OBRAS ESPECIALES RED DE RIEGO. PISO 3				
RAMAL	PK	DN TUBERÍA	TIPO OBRA ESPECIAL	DN VAINA
R-6-8	897	160	O.E. Acequia	-
DERIVACION A H224		200	O.E. Camino	400
DERIVACION A H237		110	O.E. Camino	400
DERIVACION A H225		160	O.E. Camino	400
DERIVACION A H304		125	O.E. Camino	400
DERIVACION A H305		125	O.E. Camino	400
R-4	188	1000	O.E. Camino	1400
R-4	666,5	1000	O.E. Camino	1400
R-4	2120	900	O.E. Camino	1200
R-4	2621	900	O.E. Camino	1200
R-4	4418	700	O.E. Camino	1000
R-4	5399	500	O.E. Camino	800
R-4	5582	500	O.E. Camino	800
R-4	6250	400	O.E. Camino	600
R-4	6600	250	O.E. Camino	600
R-4-1	9	125	O.E. Camino	400
R-4-12	691	200	O.E. Camino	400
R-4-14	12	225	O.E. Camino	600
R-4-16	20	110	O.E. Camino	400
R-4-2	14	225	O.E. Camino	600
R-4-2	697	180	O.E. Camino	400
R-4-4	16,5	355	O.E. Camino	600
R-4-4	56,5	140	O.E. Camino	400
R-4-6	10	140	O.E. Camino	400
R-4-6	125	140	O.E. Camino	400
R-4-8	12,5	400	O.E. Camino	600
R-4-8	100	355	O.E. Camino	600
R-4-8	555,5	355	O.E. Camino	600
R-4-8-1	15	315	O.E. Camino	600
R-4-8-1	29	315	O.E. Camino	600
R-6	220	800	O.E. Camino	1200
R-6	910	800	O.E. Camino	1200
R-6	1490	700	O.E. Camino	1000
R-6	1600	700	O.E. Camino	1000
R-6	2010	700	O.E. Camino	1000
R-6	3577	700	O.E. Camino	1000
R-6	4570	500	O.E. Camino	800
R-6	5026	500	O.E. Camino	800

OBRAS ESPECIALES RED DE RIEGO. PISO 3					
RAMAL	PK	DN TUBERÍA	TIPO OBRA ESPECIAL		DN VAINA
R-6	6082,7	200	O.E. Camino		400
R-6	6450,5	200	O.E. Camino		400
R-6-12	601	160	O.E. Camino		400
R-6-12	827	110	O.E. Camino		400
R-6-2	178	180	O.E. Camino		400
R-6-8	570	160	O.E. Camino		400
R-4-8	849	315	O.E. Carretera Asfaltada		400
R-6	2724	700	O.E. Carretera Asfaltada		1000
R-4	1256	1000	O.E. Carretera	A-129	1200
R-6	2738	700	O.E. Desagüe		-
R-6	4499	500	O.E. Desagüe		-
R-6-1	482	125	O.E. Desagüe		-
R-6-2	212	110	O.E. Desagüe		-
R-6-8	164	180	O.E. Desagüe		-
R-6-8	810	160	O.E. Desagüe		-
R-6	590-945	800	O.E. Cruce camino		1200

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APÉNDICE 1.- MOVIMIENTO DE TIERRAS

1 TUBERIA DE ADMISION BOMBEO

Tubería ADMISIÓN Bombeo														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	0,000	4,851	0,000	2,400	5,051	0,000	1H:5V	1800		0,000	0,000	0,000	0,000
1	HPCC	20,000	4,600	20,000	2,400	4,800	487,569	1H:5V	1800		9,760	8,729	62,177	356,009
1	HPCC	40,000	4,352	20,000	2,400	4,552	933,619	1H:5V	1800		19,520	17,459	124,354	670,499
1	HPCC	60,000	4,100	20,000	2,400	4,300	1.338,568	1H:5V	1800		29,280	26,188	186,531	943,888
1	HPCC	80,000	3,842	20,000	2,400	4,042	1.702,112	1H:5V	1800		39,040	34,917	248,708	1.175,872
1	HPCC	98,360	3,611	18,360	2,400	3,811	1.999,833	1H:5V	1800		48,000	42,930	305,786	1.352,821
1	HPCC	100,000	3,592	1,640	2,400	3,792	2.024,793	1H:5V	1800		48,800	43,646	310,885	1.366,993
1	HPCC	111,656	3,423	11,656	2,400	3,623	2.193,555	1H:5V	1800		54,488	48,734	347,121	1.459,082
1	HPCC	120,000	3,253	8,344	2,400	3,453	2.303,263	1H:5V	1800		58,560	52,376	373,062	1.513,903
1	HPCC	124,952	3,174	4,952	2,400	3,374	2.363,564	1H:5V	1800		60,977	54,537	388,457	1.541,630
1	HPCC	140,000	3,049	15,048	2,400	3,249	2.534,925	1H:5V	1800		68,320	61,105	435,239	1.614,005
1	HPCC	160,000	2,974	20,000	2,400	3,174	2.747,257	1H:5V	1800		78,080	69,834	497,416	1.694,777
1	HPCC	180,000	3,215	20,000	2,400	3,415	2.972,426	1H:5V	1800		87,840	78,563	559,593	1.788,386
1	HPCC	200,000	3,458	20,000	2,400	3,658	3.235,185	1H:5V	1800		97,600	87,293	621,769	1.919,585
1	HPCC	220,000	3,617	20,000	2,400	3,817	3.529,486	1H:5V	1800		107,360	96,022	683,946	2.082,326
1	HPCC	240,000	3,554	20,000	2,400	3,754	3.831,354	1H:5V	1800		117,120	104,751	746,123	2.252,634
1	HPCC	260,000	3,894	20,000	2,400	4,094	4.155,332	1H:5V	1800		126,880	113,480	808,300	2.445,052
1	HPCC	274,296	3,000	14,296	2,400	3,200	4.356,061	1H:5V	1800		133,856	119,720	852,744	2.551,742
1	HPCC	276,756	3,000	2,460	2,400	3,200	4.381,960	1H:5V	1800		135,057	120,794	860,392	2.561,459
1	HPCC	280,000	0,244	3,244	2,400	0,444	4.400,828	1H:5V	1800		136,640	122,210	870,477	2.558,988
1	HPCC	280,056	0,300	0,056	2,400	0,500	4.400,894	1H:5V	1800		136,667	122,234	870,651	2.558,686
1	HPCC	282,296	0,300	2,240	2,400	0,500	4.403,694	1H:5V	1800		137,760	123,212	877,615	2.546,751

2 TUBERIA IMPULSION

2.1 IMPULSION BP1

Tubería IMPULSION BP1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	0,000	2,400	0,000	1,800	2,600	0,000	1H:5V	1200	0,000	0,000	0,000	0,000
1	HPCC	20,000	2,069	20,000	1,800	2,269	111,459	1H:5V	1200	7,360	4,676	38,104	38,699
1	HPCC	40,000	2,372	20,000	1,800	2,572	222,124	1H:5V	1200	14,720	9,353	76,208	76,604
1	HPCC	53,915	2,714	13,915	1,800	2,914	311,849	1H:5V	1200	19,841	12,606	102,719	115,706
1	HPCC	60,000	2,562	6,085	1,800	2,762	352,742	1H:5V	1200	22,080	14,029	114,313	134,462
1	HPCC	80,000	2,575	20,000	1,800	2,775	483,067	1H:5V	1200	29,440	18,705	152,417	192,027
1	HPCC	100,000	2,044	20,000	1,800	2,244	598,881	1H:5V	1200	36,800	23,382	190,521	235,081
1	HPCC	120,000	2,092	20,000	1,800	2,292	701,107	1H:5V	1200	44,160	28,058	228,625	264,547
1	HPCC	140,000	2,408	20,000	1,800	2,608	813,417	1H:5V	1200	51,520	32,734	266,729	304,097
1	HPCC	144,485	2,535	4,485	1,800	2,735	841,389	1H:5V	1200	53,170	33,783	275,274	315,753
1	HPCC	160,000	2,010	15,515	1,800	2,210	929,622	1H:5V	1200	58,880	37,411	304,834	347,542
1	HPCC	180,000	1,706	20,000	1,800	1,906	1.020,744	1H:5V	1200	66,240	42,087	342,938	365,904
1	HPCC	200,000	1,512	20,000	1,800	1,712	1.098,995	1H:5V	1200	73,600	46,763	381,042	371,395
1	HPCC	220,000	1,178	20,000	1,800	1,378	1.164,275	1H:5V	1200	80,960	51,440	419,146	363,915
1	HPCC	240,000	0,666	20,000	1,800	0,866	1.209,964	1H:5V	1200	88,320	56,116	457,250	336,844
1	HPCC	260,000	0,414	20,000	1,800	0,614	1.238,858	1H:5V	1200	95,680	60,792	495,355	292,978
1	HPCC	280,000	0,726	20,000	1,800	0,926	1.269,047	1H:5V	1200	103,040	65,469	533,459	250,407
1	HPCC	300,000	0,855	20,000	1,800	1,055	1.308,646	1H:5V	1200	110,400	70,145	571,563	217,246
1	HPCC	320,000	2,252	20,000	1,800	2,452	1.386,023	1H:5V	1200	117,760	74,821	609,667	221,863
1	HPCC	340,000	3,031	20,000	1,800	3,231	1.530,460	1H:5V	1200	125,120	79,498	647,771	293,540
1	HPCC	360,000	3,914	20,000	1,800	4,114	1.771,199	1H:5V	1200	132,480	84,174	685,876	461,519
1	HPCC	370,000	4,657	10,000	1,800	4,857	1.951,873	1H:5V	1200	136,160	86,512	704,928	605,813
1	HPCC	380,00	4,93	10,00	1,80	5,13	2.171,33	1H:5V	1200	139,84	88,85	723,98	788,885
1	HPCC	400,00	5,06	20,00	1,80	5,26	2.641,76	1H:5V	1200	147,20	93,53	762,08	1.186,56
1	HPCC	420,00	4,14	20,00	1,80	4,34	3.051,79	1H:5V	1200	154,56	98,20	800,19	1.523,83
1	HPCC	440,00	3,90	20,00	1,80	4,10	3.372,98	1H:5V	1200	161,92	102,88	838,29	1.772,26
1	HPCC	460,00	3,89	20,00	1,80	4,09	3.675,52	1H:5V	1200	169,28	107,56	876,40	2.002,04
1	HPCC	480,00	2,03	20,00	1,80	2,23	3.876,63	1H:5V	1200	176,64	112,23	914,50	2.130,39
1	HPCC	481,39	1,70	1,39	1,80	1,90	3.882,98	1H:5V	1200	177,15	112,56	917,14	2.131,70
1	HPCC	500,00	2,76	18,61	1,80	2,96	3.987,34	1H:5V	1200	184,00	116,91	952,60	2.168,34
1	HPCC	520,00	2,71	20,00	1,80	2,91	4.127,22	1H:5V	1200	191,36	121,58	990,71	2.235,46
1	HPCC	540,00	2,65	20,00	1,80	2,85	4.264,02	1H:5V	1200	198,72	126,26	1.028,81	2.299,50

Tubería IMPULSION BP1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	560,00	2,60	20,00	1,80	2,80	4.397,65	1H:5V	1200	206,08	130,94	1.066,92	2.360,37
1	HPCC	580,00	2,49	20,00	1,80	2,69	4.526,50	1H:5V	1200	213,44	135,61	1.105,02	2.416,46
1	HPCC	581,37	2,48	1,37	1,80	2,68	4.535,08	1H:5V	1200	213,94	135,93	1.107,63	2.420,07
1	HPCC	600,00	2,69	18,63	1,80	2,89	4.657,46	1H:5V	1200	220,80	140,29	1.143,13	2.474,66
1	HPCC	620,00	2,79	20,00	1,80	2,99	4.797,91	1H:5V	1200	228,16	144,97	1.181,23	2.542,35
1	HPCC	640,00	2,53	20,00	1,80	2,73	4.933,57	1H:5V	1200	235,52	149,64	1.219,33	2.605,25
1	HPCC	660,00	2,36	20,00	1,80	2,56	5.056,64	1H:5V	1200	242,88	154,32	1.257,44	2.655,56
1	HPCC	680,00	2,44	20,00	1,80	2,64	5.177,20	1H:5V	1200	250,24	159,00	1.295,54	2.703,36
1	HPCC	700,00	2,64	20,00	1,80	2,84	5.306,00	1H:5V	1200	257,60	163,67	1.333,65	2.759,40
1	HPCC	720,00	2,83	20,00	1,80	3,03	5.447,75	1H:5V	1200	264,96	168,35	1.371,75	2.828,39
1	HPCC	740,00	2,68	20,00	1,80	2,88	5.590,47	1H:5V	1200	272,32	173,02	1.409,86	2.898,35
1	HPCC	760,00	3,15	20,00	1,80	3,35	5.755,27	1H:5V	1200	279,68	177,70	1.447,96	2.990,39
1	HPCC	777,42	3,02	17,42	1,80	3,22	5.915,27	1H:5V	1200	286,09	181,77	1.481,15	3.087,01
1	HPCC	778,42	2,97	1,00	1,80	3,17	5.923,84	1H:5V	1200	286,46	182,01	1.483,06	3.091,94
1	HPCC	780,00	1,33	1,58	1,80	1,53	5.933,01	1H:5V	1200	287,04	182,38	1.486,06	3.095,37
1	HPCC	781,02	0,26	1,02	1,80	0,46	5.935,10	1H:5V	1200	287,42	182,62	1.488,01	3.093,74
1	HPCC	782,35	0,20	1,33	1,80	0,40	5.936,18	1H:5V	1200	287,90	182,93	1.490,54	3.090,00

2.2 IMPULSION BP2

Tubería IMPULSION BP2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	0,000	3,133	0,000	1,500	3,333	0,000	1H:5V	900	0,000	0,000	0,000	0,000
1	HPCC	20,000	2,962	20,000	1,500	3,162	159,439	1H:5V	900	6,160	3,079	27,878	109,599
1	HPCC	40,000	2,876	20,000	1,500	3,076	301,449	1H:5V	900	12,320	6,157	55,756	201,769
1	HPCC	60,000	2,833	20,000	1,500	3,033	434,766	1H:5V	900	18,480	9,236	83,634	285,246
1	HPCC	80,000	2,737	20,000	1,500	2,937	561,286	1H:5V	900	24,640	12,314	111,512	361,926
1	HPCC	100,000	2,633	20,000	1,500	2,833	681,140	1H:5V	900	30,800	15,393	139,390	431,940
1	HPCC	120,000	2,663	20,000	1,500	2,863	799,025	1H:5V	900	36,960	18,471	167,268	499,985
1	HPCC	140,000	2,602	20,000	1,500	2,802	916,096	1H:5V	900	43,120	21,550	195,146	567,216
1	HPCC	160,000	2,838	20,000	1,500	3,038	1.039,377	1H:5V	900	49,280	24,629	223,024	640,657
1	HPCC	171,975	2,676	11,975	1,500	2,876	1.114,360	1H:5V	900	52,968	26,472	239,716	685,798
1	HPCC	180,000	2,629	8,025	1,500	2,829	1.161,757	1H:5V	900	55,440	27,707	250,902	713,197
1	HPCC	182,511	2,667	2,511	1,500	2,867	1.176,558	1H:5V	900	56,213	28,094	254,402	721,740

Tubería IMPULSION BP2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	200,000	2,923	17,489	1,500	3,123	1.290,862	1H:5V	900	61,600	30,786	278,780	792,462
1	HPCC	220,000	3,048	20,000	1,500	3,248	1.441,872	1H:5V	900	67,760	33,864	306,658	893,632
1	HPCC	240,000	2,905	20,000	1,500	3,105	1.591,668	1H:5V	900	73,920	36,943	334,536	993,588
1	HPCC	254,059	2,671	14,059	1,500	2,871	1.682,776	1H:5V	900	78,250	39,107	354,133	1.049,661
1	HPCC	256,992	2,613	2,933	1,500	2,813	1.700,018	1H:5V	900	79,154	39,558	358,221	1.059,594
1	HPCC	259,925	2,564	2,933	1,500	2,764	1.716,847	1H:5V	900	80,057	40,010	362,309	1.069,114
1	HPCC	260,000	2,565	0,075	1,500	2,765	1.717,273	1H:5V	900	80,080	40,021	362,414	1.069,353
1	HPCC	280,000	2,313	20,000	1,500	2,513	1.824,364	1H:5V	900	86,240	43,100	390,292	1.126,604
1	HPCC	300,000	2,210	20,000	1,500	2,410	1.922,455	1H:5V	900	92,400	46,178	418,170	1.174,855
1	HPCC	320,000	2,181	20,000	1,500	2,381	2.017,275	1H:5V	900	98,560	49,257	446,048	1.219,835
1	HPCC	340,000	2,208	20,000	1,500	2,408	2.112,045	1H:5V	900	104,720	52,336	473,926	1.264,765
1	HPCC	360,000	2,153	20,000	1,500	2,353	2.206,130	1H:5V	900	110,880	55,414	501,804	1.309,010
1	HPCC	380,000	2,244	20,000	1,500	2,444	2.301,105	1H:5V	900	117,040	58,493	529,682	1.354,145
1	HPCC	400,000	2,304	20,000	1,500	2,504	2.399,811	1H:5V	900	123,200	61,571	557,560	1.403,011
1	HPCC	420,000	2,281	20,000	1,500	2,481	2.499,437	1H:5V	900	129,360	64,650	585,438	1.452,797
1	HPCC	440,000	2,184	20,000	1,500	2,384	2.596,089	1H:5V	900	135,520	67,728	613,316	1.499,609
1	HPCC	460,000	2,083	20,000	1,500	2,283	2.687,885	1H:5V	900	141,680	70,807	641,194	1.541,565
1	HPCC	477,342	2,369	17,342	1,500	2,569	2.771,477	1H:5V	900	147,021	73,476	665,367	1.581,941
1	HPCC	480,000	2,904	2,658	1,500	3,104	2.787,654	1H:5V	900	147,840	73,886	669,072	1.591,494
1	HPCC	483,154	2,851	3,154	1,500	3,051	2.809,166	1H:5V	900	148,811	74,371	673,468	1.605,147
1	HPCC	488,966	2,440	5,812	1,500	2,640	2.844,027	1H:5V	900	150,602	75,266	681,569	1.625,524
1	HPCC	499,264	2,785	10,298	1,500	2,985	2.903,825	1H:5V	900	153,773	76,851	695,924	1.659,659
1	HPCC	500,000	2,675	0,736	1,500	2,875	2.908,324	1H:5V	900	154,000	76,964	696,950	1.662,324
1	HPCC	510,671	2,074	10,671	1,500	2,274	2.963,871	1H:5V	900	157,287	78,607	711,824	1.691,279
1	HPCC	520,000	2,056	9,329	1,500	2,256	3.005,138	1H:5V	900	160,160	80,043	724,828	1.709,298
1	HPCC	540,000	2,016	20,000	1,500	2,216	3.092,219	1H:5V	900	166,320	83,121	752,706	1.746,539
1	HPCC	560,000	2,320	20,000	1,500	2,520	3.185,781	1H:5V	900	172,480	86,200	780,584	1.790,261
1	HPCC	577,875	2,635	17,875	1,500	2,835	3.283,289	1H:5V	900	177,986	88,951	805,499	1.843,225
1	HPCC	580,000	2,655	2,125	1,500	2,855	3.295,797	1H:5V	900	178,640	89,278	808,462	1.850,437
1	HPCC	593,527	2,543	13,527	1,500	2,743	3.373,794	1H:5V	900	182,806	91,361	827,317	1.894,725
1	HPCC	600,000	2,371	6,473	1,500	2,571	3.408,741	1H:5V	900	184,800	92,357	836,340	1.913,541
1	HPCC	609,179	2,182	9,179	1,500	2,382	3.454,115	1H:5V	900	187,627	93,770	849,134	1.936,040
1	HPCC	612,772	2,084	3,593	1,500	2,284	3.470,601	1H:5V	900	188,734	94,323	854,142	1.943,573
1	HPCC	620,000	2,666	7,228	1,500	2,866	3.508,227	1H:5V	900	190,960	95,436	864,217	1.963,187
1	HPCC	640,000	2,730	20,000	1,500	2,930	3.628,765	1H:5V	900	197,120	98,514	892,095	2.033,885
1	HPCC	651,818	2,599	11,818	1,500	2,799	3.698,948	1H:5V	900	200,760	100,333	908,569	2.074,618

Tubería IMPULSION BP2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	651,853	2,601	0,035	1,500	2,801	3.699,150	1H:5V	900	200,771	100,339	908,617	2.074,732
1	HPCC	660,000	3,054	8,147	1,500	3,254	3.755,304	1H:5V	900	203,280	101,593	919,973	2.110,584
1	HPCC	680,000	4,170	20,000	1,500	4,370	3.993,995	1H:5V	900	209,440	104,671	947,851	2.299,435
1	HPCC	700,000	2,046	20,000	1,500	2,246	4.196,318	1H:5V	900	215,600	107,750	975,729	2.451,918
1	HPCC	720,000	2,006	20,000	1,500	2,206	4.282,920	1H:5V	900	221,760	110,828	1.003,607	2.488,680
1	HPCC	721,793	2,002	1,793	1,500	2,202	4.290,590	1H:5V	900	222,312	111,104	1.006,107	2.491,881
1	HPCC	740,000	6,870	18,207	1,500	7,070	4.665,242	1H:5V	900	227,920	113,907	1.031,485	2.821,162
1	HPCC	742,641	6,891	2,641	1,500	7,091	4.762,878	1H:5V	900	228,733	114,313	1.035,167	2.912,217
1	HPCC	760,000	4,495	17,359	1,500	4,695	5.242,751	1H:5V	900	234,080	116,986	1.059,363	3.348,831
1	HPCC	772,936	3,590	12,936	1,500	3,790	5.436,461	1H:5V	900	238,064	118,977	1.077,395	3.510,304
1	HPCC	780,000	2,928	7,064	1,500	3,128	5.503,140	1H:5V	900	240,240	120,064	1.087,241	3.559,380
1	HPCC	788,279	2,333	8,279	1,500	2,533	5.553,822	1H:5V	900	242,790	121,338	1.098,781	3.589,431
1	HPCC	800,000	2,424	11,721	1,500	2,624	5.614,747	1H:5V	900	246,400	123,143	1.115,119	3.621,147
1	HPCC	803,622	2,274	3,622	1,500	2,474	5.633,307	1H:5V	900	247,516	123,700	1.120,168	3.630,681
1	HPCC	815,049	2,424	11,427	1,500	2,624	5.691,860	1H:5V	900	251,035	125,459	1.136,096	3.660,758
1	HPCC	820,000	2,453	4,951	1,500	2,653	5.718,348	1H:5V	900	252,560	126,221	1.142,997	3.674,908
1	HPCC	840,000	2,495	20,000	1,500	2,695	5.827,171	1H:5V	900	258,720	129,300	1.170,875	3.733,891
1	HPCC	860,000	2,560	20,000	1,500	2,760	5.938,757	1H:5V	900	264,880	132,378	1.198,753	3.795,637
1	HPCC	880,000	2,578	20,000	1,500	2,778	6.052,497	1H:5V	900	271,040	135,457	1.226,631	3.859,537
1	HPCC	900,000	2,361	20,000	1,500	2,561	6.161,134	1H:5V	900	277,200	138,535	1.254,509	3.918,334
1	HPCC	920,000	2,661	20,000	1,500	2,861	6.271,952	1H:5V	900	283,360	141,614	1.282,387	3.979,312
1	HPCC	940,000	2,703	20,000	1,500	2,903	6.391,638	1H:5V	900	289,520	144,693	1.310,265	4.049,158
1	HPCC	954,214	2,696	14,214	1,500	2,896	6.477,358	1H:5V	900	293,898	146,881	1.330,078	4.099,456
1	HPCC	960,000	2,585	5,786	1,500	2,785	6.511,351	1H:5V	900	295,680	147,771	1.338,143	4.119,031
1	HPCC	965,152	2,525	5,152	1,500	2,725	6.540,463	1H:5V	900	297,267	148,564	1.345,325	4.135,304
1	HPCC	976,090	2,452	10,938	1,500	2,652	6.600,388	1H:5V	900	300,636	150,248	1.360,571	4.167,972
1	HPCC	980,000	2,126	3,910	1,500	2,326	6.619,852	1H:5V	900	301,840	150,850	1.366,021	4.177,692
1	HPCC	999,801	2,686	19,801	1,500	2,886	6.724,459	1H:5V	900	307,939	153,898	1.393,622	4.232,955
1	HPCC	1.000,000	2,673	0,199	1,500	2,873	6.725,648	1H:5V	900	308,000	153,928	1.393,899	4.233,648
1	HPCC	1.005,539	2,197	5,539	1,500	2,397	6.755,296	1H:5V	900	309,706	154,781	1.401,620	4.249,492
1	HPCC	1.020,000	3,182	14,461	1,500	3,382	6.853,871	1H:5V	900	314,160	157,007	1.421,777	4.312,031
1	HPCC	1.040,000	2,933	20,000	1,500	3,133	7.014,703	1H:5V	900	320,320	160,085	1.449,655	4.423,023
1	HPCC	1.060,000	3,013	20,000	1,500	3,213	7.164,011	1H:5V	900	326,480	163,164	1.477,533	4.522,491
1	HPCC	1.067,064	3,041	7,064	1,500	3,241	7.219,331	1H:5V	900	328,656	164,251	1.487,380	4.560,207
1	HPCC	1.068,245	3,000	1,181	1,500	3,200	7.228,527	1H:5V	900	329,019	164,433	1.489,026	4.566,461
1	HPCC	1.078,911	2,372	10,666	1,500	2,572	7.296,945	1H:5V	900	332,305	166,075	1.503,893	4.608,298

Tubería IMPULSION BP2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	1.080,000	2,264	1,089	1,500	2,464	7.302,439	1H:5V	900	332,640	166,243	1.505,411	4.611,079
1	HPCC	1.100,000	1,989	20,000	1,500	2,189	7.393,960	1H:5V	900	338,800	169,321	1.533,289	4.652,760
1	HPCC	1.120,000	2,289	20,000	1,500	2,489	7.486,104	1H:5V	900	344,960	172,400	1.561,167	4.695,064
1	HPCC	1.132,926	2,341	12,926	1,500	2,541	7.551,221	1H:5V	900	348,941	174,389	1.579,185	4.727,970
1	HPCC	1.140,000	2,145	7,074	1,500	2,345	7.585,601	1H:5V	900	351,120	175,478	1.589,045	4.744,721
1	HPCC	1.160,000	2,836	20,000	1,500	3,036	7.697,189	1H:5V	900	357,280	178,557	1.616,923	4.806,469
1	HPCC	1.176,858	2,880	16,858	1,500	3,080	7.809,958	1H:5V	900	362,472	181,152	1.640,421	4.877,228
1	HPCC	1.180,000	2,901	3,142	1,500	3,101	7.831,663	1H:5V	900	363,440	181,635	1.644,801	4.891,103
1	HPCC	1.200,000	2,830	20,000	1,500	3,030	7.966,463	1H:5V	900	369,600	184,714	1.672,679	4.976,063
1	HPCC	1.220,000	2,556	20,000	1,500	2,756	8.088,005	1H:5V	900	375,760	187,793	1.700,557	5.047,765
1	HPCC	1.220,770	2,556	0,770	1,500	2,756	8.092,358	1H:5V	900	375,997	187,911	1.701,630	5.050,199
1	HPCC	1.240,000	2,252	19,230	1,500	2,452	8.193,639	1H:5V	900	381,920	190,871	1.728,435	5.103,559
1	HPCC	1.244,650	2,157	4,650	1,500	2,357	8.215,789	1H:5V	900	383,352	191,587	1.734,917	5.114,121
1	HPCC	1.260,000	2,119	15,350	1,500	2,319	8.286,404	1H:5V	900	388,080	193,950	1.756,313	5.146,484
1	HPCC	1.280,000	2,174	20,000	1,500	2,374	8.378,826	1H:5V	900	394,240	197,028	1.784,191	5.189,066
1	HPCC	1.300,000	2,298	20,000	1,500	2,498	8.475,658	1H:5V	900	400,400	200,107	1.812,069	5.236,058
1	HPCC	1.320,000	2,353	20,000	1,500	2,553	8.576,939	1H:5V	900	406,560	203,185	1.839,947	5.287,499
1	HPCC	1.325,430	2,242	5,430	1,500	2,442	8.604,058	1H:5V	900	408,232	204,021	1.847,516	5.301,086
1	HPCC	1.340,000	2,624	14,570	1,500	2,824	8.681,910	1H:5V	900	412,720	206,264	1.867,825	5.342,630
1	HPCC	1.360,000	2,401	20,000	1,500	2,601	8.792,766	1H:5V	900	418,880	209,342	1.895,703	5.403,646
1	HPCC	1.380,000	2,178	20,000	1,500	2,378	8.892,291	1H:5V	900	425,040	212,421	1.923,581	5.453,331
1	HPCC	1.400,000	2,100	20,000	1,500	2,300	8.984,351	1H:5V	900	431,200	215,500	1.951,459	5.495,551
1	HPCC	1.420,000	2,045	20,000	1,500	2,245	9.073,186	1H:5V	900	437,360	218,578	1.979,337	5.534,546
1	HPCC	1.440,000	2,272	20,000	1,500	2,472	9.166,242	1H:5V	900	443,520	221,657	2.007,215	5.577,762
1	HPCC	1.446,074	2,500	6,074	1,500	2,700	9.197,943	1H:5V	900	445,391	222,592	2.015,681	5.594,327
1	HPCC	1.448,860	2,668	2,786	1,500	2,868	9.213,900	1H:5V	900	446,249	223,021	2.019,565	5.603,341
1	HPCC	1.451,646	2,827	2,786	1,500	3,027	9.231,212	1H:5V	900	447,107	223,449	2.023,448	5.613,710
1	HPCC	1.460,000	3,100	8,354	1,500	3,300	9.293,070	1H:5V	900	449,680	224,735	2.035,093	5.654,750
1	HPCC	1.464,954	3,070	4,954	1,500	3,270	9.333,820	1H:5V	900	451,206	225,498	2.041,998	5.683,155
1	HPCC	1.480,000	2,231	15,046	1,500	2,431	9.431,258	1H:5V	900	455,840	227,814	2.062,971	5.743,098
1	HPCC	1.500,000	2,006	20,000	1,500	2,206	9.522,366	1H:5V	900	462,000	230,892	2.090,849	5.784,366
1	HPCC	1.503,131	2,016	3,131	1,500	2,216	9.535,811	1H:5V	900	462,964	231,374	2.095,213	5.790,008
1	HPCC	1.506,294	2,033	3,163	1,500	2,233	9.549,495	1H:5V	900	463,939	231,861	2.099,622	5.795,811
1	HPCC	1.509,457	2,044	3,163	1,500	2,244	9.563,286	1H:5V	900	464,913	232,348	2.104,031	5.801,719
1	HPCC	1.520,000	2,033	10,543	1,500	2,233	9.609,253	1H:5V	900	468,160	233,971	2.118,727	5.821,413
1	HPCC	1.522,076	2,030	2,076	1,500	2,230	9.618,269	1H:5V	900	468,799	234,291	2.121,620	5.825,256

Tubería IMPULSION BP2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	1.540,000	2,146	17,924	1,500	2,346	9.698,563	1H:5V	900	474,320	237,050	2.146,605	5.860,883
1	HPCC	1.554,143	2,344	14,143	1,500	2,544	9.767,369	1H:5V	900	478,676	239,227	2.166,319	5.894,445
1	HPCC	1.560,000	2,340	5,857	1,500	2,540	9.797,271	1H:5V	900	480,480	240,128	2.174,483	5.909,751
1	HPCC	1.580,000	2,184	20,000	1,500	2,384	9.895,401	1H:5V	900	486,640	243,207	2.202,361	5.958,041
1	HPCC	1.597,285	2,112	17,285	1,500	2,312	9.975,342	1H:5V	900	491,964	245,867	2.226,454	5.994,908
1	HPCC	1.600,000	2,160	2,715	1,500	2,360	9.987,819	1H:5V	900	492,800	246,285	2.230,239	6.000,619
1	HPCC	1.620,000	2,551	20,000	1,500	2,751	10.090,759	1H:5V	900	498,960	249,364	2.258,117	6.053,719
1	HPCC	1.640,000	2,660	20,000	1,500	2,860	10.206,420	1H:5V	900	505,120	252,442	2.285,995	6.119,540
1	HPCC	1.653,691	2,543	13,691	1,500	2,743	10.285,452	1H:5V	900	509,337	254,550	2.305,079	6.164,454
1	HPCC	1.660,000	2,418	6,309	1,500	2,618	10.319,890	1H:5V	900	511,280	255,521	2.313,873	6.183,170
1	HPCC	1.663,562	2,330	3,562	1,500	2,530	10.338,365	1H:5V	900	512,377	256,069	2.318,838	6.192,768
1	HPCC	1.673,433	2,186	9,871	1,500	2,386	10.386,697	1H:5V	900	515,417	257,589	2.332,597	6.216,502
1	HPCC	1.680,000	2,264	6,567	1,500	2,464	10.418,310	1H:5V	900	517,440	258,600	2.341,751	6.231,750
1	HPCC	1.682,299	2,315	2,299	1,500	2,515	10.429,745	1H:5V	900	518,148	258,953	2.344,955	6.237,456
1	HPCC	1.692,170	2,284	9,871	1,500	2,484	10.479,088	1H:5V	900	521,188	260,473	2.358,714	6.262,200
1	HPCC	1.700,000	2,040	7,830	1,500	2,240	10.515,590	1H:5V	900	523,600	261,678	2.369,629	6.279,190
1	HPCC	1.702,041	2,028	2,041	1,500	2,228	10.524,467	1H:5V	900	524,229	261,992	2.372,474	6.282,980
1	HPCC	1.720,000	2,114	17,959	1,500	2,314	10.604,175	1H:5V	900	529,760	264,757	2.397,507	6.317,935
1	HPCC	1.740,000	2,149	20,000	1,500	2,349	10.695,865	1H:5V	900	535,920	267,835	2.425,385	6.359,785
1	HPCC	1.760,000	2,097	20,000	1,500	2,297	10.787,143	1H:5V	900	542,080	270,914	2.453,263	6.401,223
1	HPCC	1.760,269	2,099	0,269	1,500	2,299	10.788,354	1H:5V	900	542,163	270,955	2.453,638	6.401,764
1	HPCC	1.780,000	2,098	19,731	1,500	2,298	10.877,230	1H:5V	900	548,240	273,992	2.481,141	6.441,470
1	HPCC	1.781,443	2,046	1,443	1,500	2,246	10.883,638	1H:5V	900	548,684	274,214	2.483,152	6.444,282
1	HPCC	1.791,959	2,498	10,516	1,500	2,698	10.935,591	1H:5V	900	551,923	275,833	2.497,810	6.470,029
1	HPCC	1.800,000	2,293	8,041	1,500	2,493	10.977,747	1H:5V	900	554,400	277,071	2.509,019	6.492,147
1	HPCC	1.802,475	2,311	2,475	1,500	2,511	10.990,134	1H:5V	900	555,162	277,452	2.512,468	6.498,367
1	HPCC	1.820,000	2,228	17,525	1,500	2,428	11.076,432	1H:5V	900	560,560	280,150	2.536,897	6.540,992
1	HPCC	1.826,436	2,393	6,436	1,500	2,593	11.108,790	1H:5V	900	562,542	281,140	2.545,868	6.557,312
1	HPCC	1.840,000	2,522	13,564	1,500	2,722	11.182,030	1H:5V	900	566,720	283,228	2.564,775	6.596,750
1	HPCC	1.860,000	2,394	20,000	1,500	2,594	11.290,046	1H:5V	900	572,880	286,307	2.592,652	6.654,926
1	HPCC	1.863,449	2,462	3,449	1,500	2,662	11.308,407	1H:5V	900	573,942	286,838	2.597,460	6.664,692
1	HPCC	1.880,000	2,275	16,551	1,500	2,475	11.394,040	1H:5V	900	579,040	289,385	2.620,530	6.709,080
1	HPCC	1.882,393	2,471	2,393	1,500	2,671	11.406,449	1H:5V	900	579,777	289,754	2.623,866	6.715,526
1	HPCC	1.900,000	2,604	17,607	1,500	2,804	11.505,153	1H:5V	900	585,200	292,464	2.648,408	6.770,353
1	HPCC	1.901,337	2,599	1,337	1,500	2,799	11.512,870	1H:5V	900	585,612	292,670	2.650,272	6.774,738
1	HPCC	1.920,000	2,093	18,663	1,500	2,293	11.608,578	1H:5V	900	591,360	295,542	2.676,286	6.823,938

Tubería IMPULSION BP2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	1.930,407	2,014	10,407	1,500	2,214	11.654,329	1H:5V	900	594,565	297,144	2.690,793	6.843,755
1	HPCC	1.940,000	2,230	9,593	1,500	2,430	11.698,108	1H:5V	900	597,520	298,621	2.704,164	6.863,628
1	HPCC	1.941,145	2,251	1,145	1,500	2,451	11.703,664	1H:5V	900	597,873	298,797	2.705,760	6.866,331
1	HPCC	1.951,883	2,374	10,738	1,500	2,574	11.757,698	1H:5V	900	601,180	300,450	2.720,728	6.893,606
1	HPCC	1.960,000	2,422	8,117	1,500	2,622	11.800,288	1H:5V	900	603,680	301,699	2.732,042	6.915,968
1	HPCC	1.980,000	2,169	20,000	1,500	2,369	11.900,127	1H:5V	900	609,840	304,778	2.759,920	6.965,967
1	HPCC	2.000,000	2,244	20,000	1,500	2,444	11.995,493	1H:5V	900	616,000	307,857	2.787,798	7.011,493
1	HPCC	2.020,000	2,381	20,000	1,500	2,581	12.096,137	1H:5V	900	622,160	310,935	2.815,676	7.062,297
1	HPCC	2.040,000	2,691	20,000	1,500	2,891	12.208,256	1H:5V	900	628,320	314,014	2.843,554	7.124,576
1	HPCC	2.060,000	2,731	20,000	1,500	2,931	12.329,483	1H:5V	900	634,480	317,092	2.871,432	7.195,963
1	HPCC	2.080,000	2,215	20,000	1,500	2,415	12.438,519	1H:5V	900	640,640	320,171	2.899,310	7.255,159
1	HPCC	2.089,242	2,207	9,242	1,500	2,407	12.482,688	1H:5V	900	643,487	321,593	2.912,193	7.276,297

2.3 CONEXIÓN BP2

Conexión BP2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	0,000	2,207	0,000	1,600	2,407	0,000	1H:5V	1000	0,000	0,000	0,000	0,000
1	HPCC	12,489	2,374	12,489	1,600	2,574	65,276	1H:5V	1000	4,096	2,235	19,453	29,683
1	HPCC	20,000	2,425	7,511	1,600	2,625	106,668	1H:5V	1000	6,560	3,579	31,153	49,668
1	HPCC	29,447	2,883	9,447	1,600	3,083	166,864	1H:5V	1000	9,659	5,270	45,868	82,940
1	HPCC	40,000	3,314	10,553	1,600	3,514	258,220	1H:5V	1000	13,120	7,159	62,305	144,220
1	HPCC	60,000	3,083	20,000	1,600	3,283	445,105	1H:5V	1000	19,680	10,738	93,458	274,105
1	HPCC	74,466	2,610	14,466	1,600	2,810	550,820	1H:5V	1000	24,425	13,327	115,991	338,592

2.4 IMPULSION BP3

Tubería IMPULSION BP3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	0,000	3,133	0,000	1,600	3,333	0,000	1H:5V	1000	0,000	0,000	0,000	0,000
1	HPCC	20,000	2,962	20,000	1,600	3,162	165,934	1H:5V	1000	6,560	3,579	31,153	108,934
1	HPCC	40,000	2,876	20,000	1,600	3,076	314,182	1H:5V	1000	13,120	7,159	62,305	200,182

Tubería IMPULSION BP3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	60,000	2,833	20,000	1,600	3,033	453,608	1H:5V	1000	19,680	10,738	93,458	282,608
1	HPCC	80,000	2,737	20,000	1,600	2,937	586,098	1H:5V	1000	26,240	14,318	124,611	358,098
1	HPCC	100,000	2,633	20,000	1,600	2,833	711,722	1H:5V	1000	32,800	17,897	155,763	426,722
1	HPCC	120,000	2,663	20,000	1,600	2,863	835,303	1H:5V	1000	39,360	21,476	186,916	493,303
1	HPCC	140,000	2,602	20,000	1,600	2,802	958,039	1H:5V	1000	45,920	25,056	218,068	559,039
1	HPCC	160,000	2,838	20,000	1,600	3,038	1.087,160	1H:5V	1000	52,480	28,635	249,221	631,160
1	HPCC	171,975	2,676	11,975	1,600	2,876	1.165,684	1H:5V	1000	56,408	30,778	267,874	675,555
1	HPCC	180,000	2,629	8,025	1,600	2,829	1.215,370	1H:5V	1000	59,040	32,215	280,374	702,370
1	HPCC	182,511	2,667	2,511	1,600	2,867	1.230,886	1H:5V	1000	59,864	32,664	284,285	710,730
1	HPCC	200,000	2,923	17,489	1,600	3,123	1.350,428	1H:5V	1000	65,600	35,794	311,526	780,428
1	HPCC	220,000	3,048	20,000	1,600	3,248	1.507,810	1H:5V	1000	72,160	39,373	342,679	880,810
1	HPCC	240,000	2,905	20,000	1,600	3,105	1.663,959	1H:5V	1000	78,720	42,953	373,832	979,959
1	HPCC	254,059	2,671	14,059	1,600	2,871	1.759,267	1H:5V	1000	83,331	45,469	395,730	1.035,199
1	HPCC	256,992	2,613	2,933	1,600	2,813	1.777,342	1H:5V	1000	84,293	45,994	400,299	1.044,915
1	HPCC	259,925	2,564	2,933	1,600	2,764	1.794,990	1H:5V	1000	85,255	46,519	404,867	1.054,204
1	HPCC	260,000	2,565	0,075	1,600	2,765	1.795,436	1H:5V	1000	85,280	46,532	404,984	1.054,436
1	HPCC	280,000	2,313	20,000	1,600	2,513	1.907,805	1H:5V	1000	91,840	50,112	436,137	1.109,805
1	HPCC	300,000	2,210	20,000	1,600	2,410	2.010,819	1H:5V	1000	98,400	53,691	467,290	1.155,819
1	HPCC	320,000	2,181	20,000	1,600	2,381	2.110,430	1H:5V	1000	104,960	57,270	498,442	1.198,430
1	HPCC	340,000	2,208	20,000	1,600	2,408	2.209,989	1H:5V	1000	111,520	60,850	529,595	1.240,989
1	HPCC	360,000	2,153	20,000	1,600	2,353	2.308,835	1H:5V	1000	118,080	64,429	560,747	1.282,835
1	HPCC	380,000	2,244	20,000	1,600	2,444	2.408,607	1H:5V	1000	124,640	68,009	591,900	1.325,607
1	HPCC	400,000	2,304	20,000	1,600	2,504	2.512,261	1H:5V	1000	131,200	71,588	623,053	1.372,261
1	HPCC	420,000	2,281	20,000	1,600	2,481	2.616,872	1H:5V	1000	137,760	75,167	654,205	1.419,872
1	HPCC	440,000	2,184	20,000	1,600	2,384	2.718,390	1H:5V	1000	144,320	78,747	685,358	1.464,390
1	HPCC	460,000	2,083	20,000	1,600	2,283	2.814,853	1H:5V	1000	150,880	82,326	716,511	1.503,853
1	HPCC	477,342	2,369	17,342	1,600	2,569	2.902,651	1H:5V	1000	156,568	85,430	743,523	1.542,227
1	HPCC	480,000	2,904	2,658	1,600	3,104	2.919,583	1H:5V	1000	157,440	85,906	747,663	1.551,583
1	HPCC	483,154	2,851	3,154	1,600	3,051	2.942,065	1H:5V	1000	158,475	86,470	752,576	1.565,076
1	HPCC	488,966	2,440	5,812	1,600	2,640	2.978,580	1H:5V	1000	160,381	87,510	761,629	1.585,027
1	HPCC	499,264	2,785	10,298	1,600	2,985	3.041,274	1H:5V	1000	163,759	89,353	777,669	1.618,372
1	HPCC	500,000	2,675	0,736	1,600	2,875	3.045,989	1H:5V	1000	164,000	89,485	778,816	1.620,989
1	HPCC	510,671	2,074	10,671	1,600	2,274	3.104,283	1H:5V	1000	167,500	91,395	795,437	1.648,870
1	HPCC	520,000	2,056	9,329	1,600	2,256	3.147,663	1H:5V	1000	170,560	93,064	809,969	1.665,663
1	HPCC	540,000	2,016	20,000	1,600	2,216	3.239,216	1H:5V	1000	177,120	96,644	841,121	1.700,216
1	HPCC	560,000	2,320	20,000	1,600	2,520	3.337,514	1H:5V	1000	183,680	100,223	872,274	1.741,514

Tubería IMPULSION BP3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	577,875	2,635	17,875	1,600	2,835	3.439,808	1H:5V	1000	189,543	103,422	900,116	1.792,864
1	HPCC	580,000	2,655	2,125	1,600	2,855	3.452,921	1H:5V	1000	190,240	103,803	903,426	1.799,921
1	HPCC	593,527	2,543	13,527	1,600	2,743	3.534,704	1H:5V	1000	194,677	106,224	924,497	1.843,152
1	HPCC	600,000	2,371	6,473	1,600	2,571	3.571,371	1H:5V	1000	196,800	107,382	934,579	1.861,371
1	HPCC	609,179	2,182	9,179	1,600	2,382	3.619,017	1H:5V	1000	199,811	109,025	948,877	1.882,857
1	HPCC	612,772	2,084	3,593	1,600	2,284	3.636,342	1H:5V	1000	200,989	109,668	954,473	1.889,942
1	HPCC	620,000	2,666	7,228	1,600	2,866	3.675,829	1H:5V	1000	203,360	110,961	965,732	1.908,829
1	HPCC	640,000	2,730	20,000	1,600	2,930	3.802,163	1H:5V	1000	209,920	114,541	996,884	1.978,163
1	HPCC	651,818	2,599	11,818	1,600	2,799	3.875,732	1H:5V	1000	213,796	116,656	1.015,292	2.018,050
1	HPCC	651,853	2,601	0,035	1,600	2,801	3.875,943	1H:5V	1000	213,808	116,662	1.015,347	2.018,162
1	HPCC	660,000	3,054	8,147	1,600	3,254	3.934,564	1H:5V	1000	216,480	118,120	1.028,037	2.053,564
1	HPCC	680,000	4,170	20,000	1,600	4,370	4.180,879	1H:5V	1000	223,040	121,700	1.059,190	2.242,879
1	HPCC	700,000	2,046	20,000	1,600	2,246	4.389,818	1H:5V	1000	229,600	125,279	1.090,342	2.394,818
1	HPCC	720,000	2,006	20,000	1,600	2,206	4.480,872	1H:5V	1000	236,160	128,858	1.121,495	2.428,872
1	HPCC	721,793	2,002	1,793	1,600	2,202	4.488,937	1H:5V	1000	236,748	129,179	1.124,288	2.431,827
1	HPCC	740,000	6,870	18,207	1,600	7,070	4.872,030	1H:5V	1000	242,720	132,438	1.152,647	2.763,030
1	HPCC	742,641	6,891	2,641	1,600	7,091	4.971,536	1H:5V	1000	243,586	132,911	1.156,761	2.855,009
1	HPCC	760,000	4,495	17,359	1,600	4,695	5.461,638	1H:5V	1000	249,280	136,017	1.183,800	3.295,638
1	HPCC	772,936	3,590	12,936	1,600	3,790	5.660,836	1H:5V	1000	253,523	138,332	1.203,950	3.457,969
1	HPCC	780,000	2,928	7,064	1,600	3,128	5.729,959	1H:5V	1000	255,840	139,597	1.214,953	3.506,959
1	HPCC	788,279	2,333	8,279	1,600	2,533	5.782,985	1H:5V	1000	258,556	141,078	1.227,848	3.536,390
1	HPCC	800,000	2,424	11,721	1,600	2,624	5.846,932	1H:5V	1000	262,400	143,176	1.246,105	3.566,932
1	HPCC	803,622	2,274	3,622	1,600	2,474	5.866,414	1H:5V	1000	263,588	143,824	1.251,747	3.576,092
1	HPCC	815,049	2,424	11,427	1,600	2,624	5.927,880	1H:5V	1000	267,336	145,869	1.269,546	3.604,991
1	HPCC	820,000	2,453	4,951	1,600	2,653	5.955,675	1H:5V	1000	268,960	146,755	1.277,258	3.618,675
1	HPCC	840,000	2,495	20,000	1,600	2,695	6.069,846	1H:5V	1000	275,520	150,335	1.308,411	3.675,846
1	HPCC	860,000	2,560	20,000	1,600	2,760	6.186,887	1H:5V	1000	282,080	153,914	1.339,563	3.735,887
1	HPCC	880,000	2,578	20,000	1,600	2,778	6.306,165	1H:5V	1000	288,640	157,494	1.370,716	3.798,165
1	HPCC	900,000	2,361	20,000	1,600	2,561	6.420,141	1H:5V	1000	295,200	161,073	1.401,869	3.855,141
1	HPCC	920,000	2,661	20,000	1,600	2,861	6.536,381	1H:5V	1000	301,760	164,652	1.433,021	3.914,381
1	HPCC	940,000	2,703	20,000	1,600	2,903	6.661,831	1H:5V	1000	308,320	168,232	1.464,174	3.982,831
1	HPCC	954,214	2,696	14,214	1,600	2,896	6.751,672	1H:5V	1000	312,982	170,776	1.486,314	4.032,162
1	HPCC	960,000	2,585	5,786	1,600	2,785	6.787,308	1H:5V	1000	314,880	171,811	1.495,326	4.051,308
1	HPCC	965,152	2,525	5,152	1,600	2,725	6.817,840	1H:5V	1000	316,570	172,733	1.503,351	4.067,157
1	HPCC	976,090	2,452	10,938	1,600	2,652	6.880,706	1H:5V	1000	320,158	174,691	1.520,389	4.098,850
1	HPCC	980,000	2,126	3,910	1,600	2,326	6.901,143	1H:5V	1000	321,440	175,391	1.526,479	4.108,143

Tubería IMPULSION BP3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	999,801	2,686	19,801	1,600	2,886	7.010,910	1H:5V	1000	327,935	178,934	1.557,322	4.161,477
1	HPCC	1.000,000	2,673	0,199	1,600	2,873	7.012,157	1H:5V	1000	328,000	178,970	1.557,632	4.162,157
1	HPCC	1.005,539	2,197	5,539	1,600	2,397	7.043,264	1H:5V	1000	329,817	179,961	1.566,259	4.177,477
1	HPCC	1.020,000	3,182	14,461	1,600	3,382	7.146,017	1H:5V	1000	334,560	182,549	1.588,784	4.239,017
1	HPCC	1.040,000	2,933	20,000	1,600	3,133	7.313,364	1H:5V	1000	341,120	186,129	1.619,937	4.349,364
1	HPCC	1.060,000	3,013	20,000	1,600	3,213	7.469,018	1H:5V	1000	347,680	189,708	1.651,090	4.448,018
1	HPCC	1.067,064	3,041	7,064	1,600	3,241	7.526,618	1H:5V	1000	349,997	190,973	1.662,093	4.485,485
1	HPCC	1.068,245	3,000	1,181	1,600	3,200	7.536,195	1H:5V	1000	350,384	191,184	1.663,932	4.491,697
1	HPCC	1.078,911	2,372	10,666	1,600	2,572	7.607,690	1H:5V	1000	353,883	193,093	1.680,546	4.532,794
1	HPCC	1.080,000	2,264	1,089	1,600	2,464	7.613,459	1H:5V	1000	354,240	193,288	1.682,242	4.535,459
1	HPCC	1.100,000	1,989	20,000	1,600	2,189	7.709,633	1H:5V	1000	360,800	196,867	1.713,395	4.574,633
1	HPCC	1.120,000	2,289	20,000	1,600	2,489	7.806,455	1H:5V	1000	367,360	200,446	1.744,548	4.614,455
1	HPCC	1.132,926	2,341	12,926	1,600	2,541	7.874,823	1H:5V	1000	371,600	202,760	1.764,682	4.645,984
1	HPCC	1.140,000	2,145	7,074	1,600	2,345	7.910,931	1H:5V	1000	373,920	204,026	1.775,700	4.661,931
1	HPCC	1.160,000	2,836	20,000	1,600	3,036	8.027,900	1H:5V	1000	380,480	207,605	1.806,853	4.721,900
1	HPCC	1.176,858	2,880	16,858	1,600	3,080	8.145,824	1H:5V	1000	386,009	210,622	1.833,111	4.791,779
1	HPCC	1.180,000	2,901	3,142	1,600	3,101	8.168,500	1H:5V	1000	387,040	211,185	1.838,005	4.805,500
1	HPCC	1.200,000	2,830	20,000	1,600	3,030	8.309,431	1H:5V	1000	393,600	214,764	1.869,158	4.889,431
1	HPCC	1.220,000	2,556	20,000	1,600	2,756	8.436,759	1H:5V	1000	400,160	218,344	1.900,311	4.959,759
1	HPCC	1.220,770	2,556	0,770	1,600	2,756	8.441,325	1H:5V	1000	400,413	218,481	1.901,510	4.962,130
1	HPCC	1.240,000	2,252	19,230	1,600	2,452	8.547,612	1H:5V	1000	406,720	221,923	1.931,463	5.013,612
1	HPCC	1.244,650	2,157	4,650	1,600	2,357	8.570,881	1H:5V	1000	408,245	222,755	1.938,706	5.023,628
1	HPCC	1.260,000	2,119	15,350	1,600	2,319	8.645,085	1H:5V	1000	413,280	225,502	1.962,616	5.054,085
1	HPCC	1.280,000	2,174	20,000	1,600	2,374	8.742,200	1H:5V	1000	419,840	229,082	1.993,769	5.094,200
1	HPCC	1.300,000	2,298	20,000	1,600	2,498	8.843,904	1H:5V	1000	426,400	232,661	2.024,921	5.138,904
1	HPCC	1.320,000	2,353	20,000	1,600	2,553	8.950,235	1H:5V	1000	432,960	236,241	2.056,074	5.188,235
1	HPCC	1.325,430	2,242	5,430	1,600	2,442	8.978,711	1H:5V	1000	434,741	237,212	2.064,532	5.201,235
1	HPCC	1.340,000	2,624	14,570	1,600	2,824	9.060,399	1H:5V	1000	439,520	239,820	2.087,227	5.241,399
1	HPCC	1.360,000	2,401	20,000	1,600	2,601	9.176,680	1H:5V	1000	446,080	243,399	2.118,379	5.300,680
1	HPCC	1.380,000	2,178	20,000	1,600	2,378	9.281,184	1H:5V	1000	452,640	246,979	2.149,532	5.348,184
1	HPCC	1.400,000	2,100	20,000	1,600	2,300	9.377,922	1H:5V	1000	459,200	250,558	2.180,684	5.387,922
1	HPCC	1.420,000	2,045	20,000	1,600	2,245	9.471,302	1H:5V	1000	465,760	254,138	2.211,837	5.424,302
1	HPCC	1.440,000	2,272	20,000	1,600	2,472	9.569,075	1H:5V	1000	472,320	257,717	2.242,990	5.465,075
1	HPCC	1.446,074	2,500	6,074	1,600	2,700	9.602,347	1H:5V	1000	474,312	258,804	2.252,451	5.481,036
1	HPCC	1.448,860	2,668	2,786	1,600	2,868	9.619,079	1H:5V	1000	475,226	259,303	2.256,790	5.489,828
1	HPCC	1.451,646	2,827	2,786	1,600	3,027	9.637,213	1H:5V	1000	476,140	259,801	2.261,130	5.500,022

Tubería IMPULSION BP3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	1.460,000	3,100	8,354	1,600	3,300	9.701,713	1H:5V	1000	478,880	261,296	2.274,142	5.540,713
1	HPCC	1.464,954	3,070	4,954	1,600	3,270	9.744,091	1H:5V	1000	480,505	262,183	2.281,859	5.568,972
1	HPCC	1.480,000	2,231	15,046	1,600	2,431	9.845,818	1H:5V	1000	485,440	264,876	2.305,295	5.627,818
1	HPCC	1.500,000	2,006	20,000	1,600	2,206	9.941,562	1H:5V	1000	492,000	268,455	2.336,448	5.666,562
1	HPCC	1.503,131	2,016	3,131	1,600	2,216	9.955,700	1H:5V	1000	493,027	269,015	2.341,325	5.671,777
1	HPCC	1.506,294	2,033	3,163	1,600	2,233	9.970,088	1H:5V	1000	494,064	269,582	2.346,251	5.677,150
1	HPCC	1.509,457	2,044	3,163	1,600	2,244	9.984,587	1H:5V	1000	495,102	270,148	2.351,178	5.682,634
1	HPCC	1.520,000	2,033	10,543	1,600	2,233	10.032,913	1H:5V	1000	498,560	272,035	2.367,600	5.700,913
1	HPCC	1.522,076	2,030	2,076	1,600	2,230	10.042,393	1H:5V	1000	499,241	272,406	2.370,834	5.704,476
1	HPCC	1.540,000	2,146	17,924	1,600	2,346	10.126,788	1H:5V	1000	505,120	275,614	2.398,753	5.737,788
1	HPCC	1.554,143	2,344	14,143	1,600	2,544	10.199,052	1H:5V	1000	509,759	278,145	2.420,782	5.769,745
1	HPCC	1.560,000	2,340	5,857	1,600	2,540	10.230,443	1H:5V	1000	511,680	279,193	2.429,906	5.784,443
1	HPCC	1.580,000	2,184	20,000	1,600	2,384	10.333,497	1H:5V	1000	518,240	282,773	2.461,058	5.830,497
1	HPCC	1.597,285	2,112	17,285	1,600	2,312	10.417,497	1H:5V	1000	523,909	285,866	2.487,982	5.865,234
1	HPCC	1.600,000	2,160	2,715	1,600	2,360	10.430,608	1H:5V	1000	524,800	286,352	2.492,211	5.870,608
1	HPCC	1.620,000	2,551	20,000	1,600	2,751	10.538,659	1H:5V	1000	531,360	289,932	2.523,363	5.921,659
1	HPCC	1.640,000	2,660	20,000	1,600	2,860	10.659,930	1H:5V	1000	537,920	293,511	2.554,516	5.985,930
1	HPCC	1.653,691	2,543	13,691	1,600	2,743	10.742,798	1H:5V	1000	542,411	295,961	2.575,842	6.029,779
1	HPCC	1.660,000	2,418	6,309	1,600	2,618	10.778,928	1H:5V	1000	544,480	297,090	2.585,669	6.047,928
1	HPCC	1.663,562	2,330	3,562	1,600	2,530	10.798,319	1H:5V	1000	545,648	297,728	2.591,217	6.057,167
1	HPCC	1.673,433	2,186	9,871	1,600	2,386	10.849,077	1H:5V	1000	548,886	299,494	2.606,592	6.079,793
1	HPCC	1.680,000	2,264	6,567	1,600	2,464	10.882,283	1H:5V	1000	551,040	300,670	2.616,821	6.094,283
1	HPCC	1.682,299	2,315	2,299	1,600	2,515	10.894,290	1H:5V	1000	551,794	301,081	2.620,402	6.099,738
1	HPCC	1.692,170	2,284	9,871	1,600	2,484	10.946,101	1H:5V	1000	555,032	302,848	2.635,778	6.123,416
1	HPCC	1.700,000	2,040	7,830	1,600	2,240	10.984,452	1H:5V	1000	557,600	304,249	2.647,974	6.139,452
1	HPCC	1.702,041	2,028	2,041	1,600	2,228	10.993,784	1H:5V	1000	558,269	304,614	2.651,153	6.142,968
1	HPCC	1.720,000	2,114	17,959	1,600	2,314	11.077,571	1H:5V	1000	564,160	307,829	2.679,127	6.175,571
1	HPCC	1.740,000	2,149	20,000	1,600	2,349	11.173,924	1H:5V	1000	570,720	311,408	2.710,279	6.214,924
1	HPCC	1.760,000	2,097	20,000	1,600	2,297	11.269,848	1H:5V	1000	577,280	314,987	2.741,432	6.253,848
1	HPCC	1.760,269	2,099	0,269	1,600	2,299	11.271,121	1H:5V	1000	577,368	315,035	2.741,851	6.254,355
1	HPCC	1.780,000	2,098	19,731	1,600	2,298	11.364,532	1H:5V	1000	583,840	318,567	2.772,585	6.291,532
1	HPCC	1.781,443	2,046	1,443	1,600	2,246	11.371,268	1H:5V	1000	584,313	318,825	2.774,832	6.294,155
1	HPCC	1.791,959	2,498	10,516	1,600	2,698	11.425,820	1H:5V	1000	587,763	320,707	2.791,212	6.318,737
1	HPCC	1.800,000	2,293	8,041	1,600	2,493	11.470,064	1H:5V	1000	590,400	322,146	2.803,737	6.340,064
1	HPCC	1.802,475	2,311	2,475	1,600	2,511	11.483,070	1H:5V	1000	591,212	322,589	2.807,592	6.346,017
1	HPCC	1.820,000	2,228	17,525	1,600	2,428	11.573,696	1H:5V	1000	596,960	325,726	2.834,890	6.386,696

Tubería IMPULSION BP3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	1.826,436	2,393	6,436	1,600	2,593	11.607,670	1H:5V	1000	599,071	326,877	2.844,915	6.402,327
1	HPCC	1.840,000	2,522	13,564	1,600	2,722	11.684,514	1H:5V	1000	603,520	329,305	2.866,042	6.440,514
1	HPCC	1.860,000	2,394	20,000	1,600	2,594	11.797,846	1H:5V	1000	610,080	332,884	2.897,195	6.496,846
1	HPCC	1.863,449	2,462	3,449	1,600	2,662	11.817,113	1H:5V	1000	611,211	333,502	2.902,567	6.506,284
1	HPCC	1.880,000	2,275	16,551	1,600	2,475	11.906,998	1H:5V	1000	616,640	336,464	2.928,348	6.548,998
1	HPCC	1.882,393	2,471	2,393	1,600	2,671	11.920,023	1H:5V	1000	617,425	336,892	2.932,075	6.555,203
1	HPCC	1.900,000	2,604	17,607	1,600	2,804	12.023,546	1H:5V	1000	623,200	340,043	2.959,500	6.608,546
1	HPCC	1.901,337	2,599	1,337	1,600	2,799	12.031,638	1H:5V	1000	623,639	340,282	2.961,583	6.612,827
1	HPCC	1.920,000	2,093	18,663	1,600	2,293	12.132,097	1H:5V	1000	629,760	343,623	2.990,653	6.660,097
1	HPCC	1.930,407	2,014	10,407	1,600	2,214	12.180,194	1H:5V	1000	633,173	345,485	3.006,863	6.678,534
1	HPCC	1.940,000	2,230	9,593	1,600	2,430	12.226,201	1H:5V	1000	636,320	347,202	3.021,806	6.697,201
1	HPCC	1.941,145	2,251	1,145	1,600	2,451	12.232,036	1H:5V	1000	636,696	347,407	3.023,589	6.699,772
1	HPCC	1.951,883	2,374	10,738	1,600	2,574	12.288,768	1H:5V	1000	640,218	349,329	3.040,315	6.725,901
1	HPCC	1.960,000	2,422	8,117	1,600	2,622	12.333,467	1H:5V	1000	642,880	350,781	3.052,958	6.747,467
1	HPCC	1.980,000	2,169	20,000	1,600	2,369	12.438,297	1H:5V	1000	649,440	354,361	3.084,111	6.795,297
1	HPCC	2.000,000	2,244	20,000	1,600	2,444	12.538,475	1H:5V	1000	656,000	357,940	3.115,264	6.838,475
1	HPCC	2.020,000	2,381	20,000	1,600	2,581	12.644,145	1H:5V	1000	662,560	361,520	3.146,416	6.887,145
1	HPCC	2.040,000	2,691	20,000	1,600	2,891	12.761,736	1H:5V	1000	669,120	365,099	3.177,569	6.947,736
1	HPCC	2.060,000	2,731	20,000	1,600	2,931	12.888,785	1H:5V	1000	675,680	368,678	3.208,721	7.017,785
1	HPCC	2.080,000	2,215	20,000	1,600	2,415	13.003,167	1H:5V	1000	682,240	372,258	3.239,874	7.075,167
1	HPCC	2.089,242	2,207	9,242	1,600	2,407	13.049,563	1H:5V	1000	685,271	373,912	3.254,270	7.095,224
1	HPCC	2.100,000	2,357	10,758	1,800	2,557	13.108,303	1H:5V	1200	689,015	376,132	3.272,896	7.117,206
1	HPCC	2.114,184	2,200	14,184	1,800	2,400	13.189,026	1H:5V	1200	694,235	379,449	3.299,920	7.146,327
1	HPCC	2.120,000	2,208	5,816	1,800	2,408	13.220,915	1H:5V	1200	696,375	380,809	3.311,000	7.157,058
1	HPCC	2.139,576	2,336	19,576	1,800	2,536	13.331,962	1H:5V	1200	703,579	385,386	3.348,297	7.196,887
1	HPCC	2.140,000	2,333	0,424	1,800	2,533	13.334,441	1H:5V	1200	703,735	385,485	3.349,105	7.197,823
1	HPCC	2.153,716	2,396	13,716	1,800	2,596	13.415,799	1H:5V	1200	708,783	388,692	3.375,237	7.229,283
1	HPCC	2.160,000	2,300	6,284	1,800	2,500	13.452,782	1H:5V	1200	711,095	390,161	3.387,209	7.243,405
1	HPCC	2.167,856	2,230	7,856	1,800	2,430	13.497,188	1H:5V	1200	713,986	391,998	3.402,176	7.259,231
1	HPCC	2.177,413	2,230	9,557	1,800	2,430	13.550,277	1H:5V	1200	717,503	394,233	3.420,384	7.277,551
1	HPCC	2.180,000	2,240	2,587	1,800	2,440	13.564,684	1H:5V	1200	718,455	394,838	3.425,313	7.282,546
1	HPCC	2.200,000	2,279	20,000	1,800	2,479	13.677,424	1H:5V	1200	725,815	399,514	3.463,417	7.322,526
1	HPCC	2.220,000	2,467	20,000	1,800	2,667	13.796,569	1H:5V	1200	733,175	404,190	3.501,521	7.368,911
1	HPCC	2.220,136	2,471	0,136	1,800	2,671	13.797,416	1H:5V	1200	733,225	404,222	3.501,781	7.369,263
1	HPCC	2.240,000	2,227	19,864	1,800	2,427	13.914,428	1H:5V	1200	740,535	408,867	3.539,626	7.414,010
1	HPCC	2.240,978	2,245	0,978	1,800	2,445	13.919,877	1H:5V	1200	740,895	409,095	3.541,489	7.415,901

Tubería IMPULSION BP3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	2.260,000	3,615	19,022	1,800	3,815	14.097,109	1H:5V	1200	747,895	413,543	3.577,730	7.523,932
1	HPCC	2.262,254	3,755	2,254	1,800	3,955	14.127,657	1H:5V	1200	748,725	414,070	3.582,024	7.546,279
1	HPCC	2.275,207	4,702	12,953	1,800	4,902	14.356,309	1H:5V	1200	753,491	417,099	3.606,702	7.727,808
1	HPCC	2.280,000	4,826	4,793	1,800	5,026	14.460,414	1H:5V	1200	755,255	418,219	3.615,834	7.814,477
1	HPCC	2.300,000	3,906	20,000	1,800	4,106	14.834,310	1H:5V	1200	762,615	422,896	3.653,938	8.115,612
1	HPCC	2.320,000	2,986	20,000	1,800	3,186	15.071,266	1H:5V	1200	769,975	427,572	3.692,042	8.279,808
1	HPCC	2.340,000	2,623	20,000	1,800	2,823	15.223,107	1H:5V	1200	777,335	432,248	3.730,147	8.358,890
1	HPCC	2.340,678	2,578	0,678	1,800	2,778	15.227,589	1H:5V	1200	777,585	432,407	3.731,438	8.360,905
1	HPCC	2.347,683	2,371	7,005	1,800	2,571	15.271,348	1H:5V	1200	780,163	434,045	3.744,784	8.379,180
1	HPCC	2.354,128	2,268	6,445	1,800	2,468	15.308,762	1H:5V	1200	782,534	435,552	3.757,063	8.393,147
1	HPCC	2.360,000	2,297	5,872	1,800	2,497	15.342,239	1H:5V	1200	784,695	436,925	3.768,251	8.405,262
1	HPCC	2.360,573	2,314	0,573	1,800	2,514	15.345,543	1H:5V	1200	784,906	437,059	3.769,343	8.406,481
1	HPCC	2.380,000	2,517	19,427	1,800	2,717	15.463,623	1H:5V	1200	792,055	441,601	3.806,355	8.453,885
1	HPCC	2.400,000	3,033	20,000	1,800	3,233	15.615,711	1H:5V	1200	799,415	446,277	3.844,459	8.533,214
1	HPCC	2.420,000	2,768	20,000	1,800	2,968	15.775,172	1H:5V	1200	806,775	450,954	3.882,563	8.619,914
1	HPCC	2.440,000	2,230	20,000	1,800	2,430	15.901,764	1H:5V	1200	814,135	455,630	3.920,668	8.673,746
1	HPCC	2.440,530	2,220	0,530	1,800	2,420	15.904,701	1H:5V	1200	814,330	455,754	3.921,677	8.674,755
1	HPCC	2.460,000	2,230	19,470	1,800	2,430	16.012,586	1H:5V	1200	821,495	460,306	3.958,772	8.711,809
1	HPCC	2.480,000	2,289	20,000	1,800	2,489	16.125,328	1H:5V	1200	828,855	464,983	3.996,876	8.751,791
1	HPCC	2.500,000	2,786	20,000	1,800	2,986	16.254,101	1H:5V	1200	836,215	469,659	4.034,980	8.807,804
1	HPCC	2.520,000	2,737	20,000	1,800	2,937	16.395,799	1H:5V	1200	843,575	474,335	4.073,084	8.876,742
1	HPCC	2.540,000	2,654	20,000	1,800	2,854	16.533,580	1H:5V	1200	850,935	479,012	4.111,189	8.941,762
1	HPCC	2.560,000	2,427	20,000	1,800	2,627	16.662,331	1H:5V	1200	858,295	483,688	4.149,293	8.997,753
1	HPCC	2.567,048	2,203	7,048	1,800	2,403	16.703,171	1H:5V	1200	860,889	485,336	4.162,721	9.012,953
1	HPCC	2.580,000	2,258	12,952	1,800	2,458	16.775,139	1H:5V	1200	865,655	488,364	4.187,397	9.037,801
1	HPCC	2.600,000	2,445	20,000	1,800	2,645	16.893,068	1H:5V	1200	873,015	493,041	4.225,501	9.082,971
1	HPCC	2.620,000	2,338	20,000	1,800	2,538	17.013,237	1H:5V	1200	880,375	497,717	4.263,605	9.130,380
1	HPCC	2.640,000	2,274	20,000	1,800	2,474	17.128,578	1H:5V	1200	887,735	502,393	4.301,710	9.172,960
1	HPCC	2.660,000	2,407	20,000	1,800	2,607	17.245,870	1H:5V	1200	895,095	507,070	4.339,814	9.217,492
1	HPCC	2.679,128	2,473	19,128	1,800	2,673	17.363,433	1H:5V	1200	902,134	511,542	4.376,257	9.265,468
1	HPCC	2.680,000	2,463	0,872	1,800	2,663	17.368,862	1H:5V	1200	902,455	511,746	4.377,918	9.267,725
1	HPCC	2.684,364	2,358	4,364	1,800	2,558	17.395,319	1H:5V	1200	904,061	512,766	4.386,232	9.278,305
1	HPCC	2.689,600	2,282	5,236	1,800	2,482	17.425,721	1H:5V	1200	905,988	513,991	4.396,208	9.289,658
1	HPCC	2.700,000	2,440	10,400	1,800	2,640	17.487,318	1H:5V	1200	909,815	516,422	4.416,022	9.313,420
1	HPCC	2.720,000	2,936	20,000	1,800	3,136	17.630,334	1H:5V	1200	917,175	521,099	4.454,126	9.383,677
1	HPCC	2.740,000	2,947	20,000	1,800	3,147	17.794,224	1H:5V	1200	924,535	525,775	4.492,231	9.474,807

Tubería IMPULSION BP3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	2.760,000	2,466	20,000	1,800	2,666	17.938,761	1H:5V	1200	931,895	530,451	4.530,335	9.546,583
1	HPCC	2.780,000	2,416	20,000	1,800	2,616	18.061,739	1H:5V	1200	939,255	535,128	4.568,439	9.596,801
1	HPCC	2.800,000	2,475	20,000	1,800	2,675	18.184,975	1H:5V	1200	946,615	539,804	4.606,543	9.647,277
1	HPCC	2.820,000	2,254	20,000	1,800	2,454	18.303,652	1H:5V	1200	953,975	544,480	4.644,647	9.693,195
1	HPCC	2.821,608	2,254	1,608	1,800	2,454	18.312,692	1H:5V	1200	954,567	544,856	4.647,711	9.696,384
1	HPCC	2.840,000	2,229	18,392	1,800	2,429	18.415,446	1H:5V	1200	961,335	549,157	4.682,752	9.732,229
1	HPCC	2.860,000	2,538	20,000	1,800	2,738	18.535,246	1H:5V	1200	968,695	553,833	4.720,856	9.779,268
1	HPCC	2.880,000	2,646	20,000	1,800	2,846	18.666,950	1H:5V	1200	976,055	558,509	4.758,960	9.838,213
1	HPCC	2.896,537	2,729	16,537	1,800	2,929	18.780,483	1H:5V	1200	982,141	562,376	4.790,466	9.891,584
1	HPCC	2.900,000	2,749	3,463	1,800	2,949	18.804,786	1H:5V	1200	983,415	563,186	4.797,064	9.903,288
1	HPCC	2.903,463	2,746	3,463	1,800	2,946	18.829,176	1H:5V	1200	984,690	563,995	4.803,662	9.915,080
1	HPCC	2.914,763	2,756	11,300	1,800	2,956	18.908,880	1H:5V	1200	988,848	566,638	4.825,191	9.953,675
1	HPCC	2.920,000	2,783	5,237	1,800	2,983	18.946,109	1H:5V	1200	990,775	567,862	4.835,168	9.971,851
1	HPCC	2.940,000	2,973	20,000	1,800	3,173	19.101,769	1H:5V	1200	998,135	572,538	4.873,273	10.054,751
1	HPCC	2.960,000	2,796	20,000	1,800	2,996	19.257,819	1H:5V	1200	1.005,495	577,215	4.911,377	10.138,041
1	HPCC	2.980,000	2,604	20,000	1,800	2,804	19.395,896	1H:5V	1200	1.012,855	581,891	4.949,481	10.203,358
1	HPCC	2.990,678	2,653	10,678	1,800	2,853	19.467,348	1H:5V	1200	1.016,785	584,388	4.969,825	10.235,964
1	HPCC	2.999,468	2,494	8,790	1,800	2,694	19.524,764	1H:5V	1200	1.020,019	586,443	4.986,572	10.261,402
1	HPCC	3.000,000	2,489	0,532	1,800	2,689	19.528,112	1H:5V	1200	1.020,215	586,567	4.987,585	10.262,815
1	HPCC	3.008,258	2,391	8,258	1,800	2,591	19.578,869	1H:5V	1200	1.023,254	588,498	5.003,318	10.283,529
1	HPCC	3.020,000	2,320	11,742	1,800	2,520	19.648,221	1H:5V	1200	1.027,575	591,244	5.025,689	10.310,163
1	HPCC	3.040,000	2,206	20,000	1,800	2,406	19.761,167	1H:5V	1200	1.034,935	595,920	5.063,794	10.350,350
1	HPCC	3.060,000	2,292	20,000	1,800	2,492	19.873,329	1H:5V	1200	1.042,295	600,596	5.101,898	10.389,751
1	HPCC	3.080,000	2,311	20,000	1,800	2,511	19.988,413	1H:5V	1200	1.049,655	605,273	5.140,002	10.432,076
1	HPCC	3.100,000	2,371	20,000	1,800	2,571	20.105,720	1H:5V	1200	1.057,015	609,949	5.178,106	10.476,622
1	HPCC	3.120,000	2,737	20,000	1,800	2,937	20.235,336	1H:5V	1200	1.064,375	614,625	5.216,210	10.533,478
1	HPCC	3.124,448	2,770	4,448	1,800	2,970	20.266,743	1H:5V	1200	1.066,012	615,665	5.224,685	10.548,704
1	HPCC	3.134,257	2,904	9,809	1,800	3,104	20.340,508	1H:5V	1200	1.069,622	617,959	5.243,373	10.586,784
1	HPCC	3.140,000	2,894	5,743	1,800	3,094	20.385,849	1H:5V	1200	1.071,735	619,302	5.254,315	10.611,232
1	HPCC	3.144,066	2,846	4,066	1,800	3,046	20.417,121	1H:5V	1200	1.073,231	620,252	5.262,061	10.627,711
1	HPCC	3.160,000	2,595	15,934	1,800	2,795	20.529,582	1H:5V	1200	1.079,095	623,978	5.292,419	10.682,204
1	HPCC	3.180,000	2,423	20,000	1,800	2,623	20.656,490	1H:5V	1200	1.086,455	628,654	5.330,523	10.736,353
1	HPCC	3.200,000	2,224	20,000	1,800	2,424	20.772,848	1H:5V	1200	1.093,815	633,331	5.368,627	10.779,950
1	HPCC	3.220,000	2,203	20,000	1,800	2,403	20.883,034	1H:5V	1200	1.101,175	638,007	5.406,731	10.817,377
1	HPCC	3.240,000	2,347	20,000	1,800	2,547	20.996,658	1H:5V	1200	1.108,535	642,683	5.444,835	10.858,240
1	HPCC	3.255,189	2,718	15,189	1,800	2,918	21.094,151	1H:5V	1200	1.114,125	646,235	5.473,774	10.900,476

Tubería IMPULSION BP3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	3.260,000	2,686	4,811	1,800	2,886	21.127,385	1H:5V	1200	1.115,895	647,360	5.482,940	10.916,208
1	HPCC	3.280,000	2,686	20,000	1,800	2,886	21.264,597	1H:5V	1200	1.123,255	652,036	5.521,044	10.980,660
1	HPCC	3.280,400	2,689	0,400	1,800	2,889	21.267,343	1H:5V	1200	1.123,402	652,130	5.521,806	10.981,951
1	HPCC	3.285,109	2,806	4,709	1,800	3,006	21.300,569	1H:5V	1200	1.125,135	653,231	5.530,778	10.998,045
1	HPCC	3.289,818	2,826	4,709	1,800	3,026	21.335,001	1H:5V	1200	1.126,868	654,332	5.539,749	11.015,346
1	HPCC	3.300,000	2,770	10,182	1,800	2,970	21.408,782	1H:5V	1200	1.130,615	656,712	5.559,148	11.052,084
1	HPCC	3.320,000	2,760	20,000	1,800	2,960	21.550,687	1H:5V	1200	1.137,975	661,389	5.597,252	11.121,229
1	HPCC	3.340,000	2,389	20,000	1,800	2,589	21.681,498	1H:5V	1200	1.145,335	666,065	5.635,356	11.179,280
1	HPCC	3.360,000	2,219	20,000	1,800	2,419	21.796,751	1H:5V	1200	1.152,695	670,741	5.673,461	11.221,773
1	HPCC	3.366,782	2,234	6,782	1,800	2,434	21.834,359	1H:5V	1200	1.155,191	672,327	5.686,382	11.234,708
1	HPCC	3.378,287	2,434	11,505	1,800	2,634	21.901,634	1H:5V	1200	1.159,425	675,017	5.708,301	11.260,128
1	HPCC	3.380,000	2,495	1,713	1,800	2,695	21.912,282	1H:5V	1200	1.160,055	675,418	5.711,565	11.264,544
1	HPCC	3.381,300	2,545	1,300	1,800	2,745	21.920,570	1H:5V	1200	1.160,534	675,722	5.714,042	11.268,104
1	HPCC	3.395,818	2,680	14,518	1,800	2,880	22.017,049	1H:5V	1200	1.165,876	679,116	5.741,701	11.311,766
1	HPCC	3.400,000	2,686	4,182	1,800	2,886	22.045,703	1H:5V	1200	1.167,415	680,094	5.749,669	11.325,205
1	HPCC	3.420,000	2,871	20,000	1,800	3,071	22.191,289	1H:5V	1200	1.174,775	684,770	5.787,773	11.398,032
1	HPCC	3.440,000	2,847	20,000	1,800	3,047	22.343,564	1H:5V	1200	1.182,135	689,447	5.825,877	11.477,546
1	HPCC	3.460,000	2,674	20,000	1,800	2,874	22.487,110	1H:5V	1200	1.189,495	694,123	5.863,982	11.548,332
1	HPCC	3.480,000	2,422	20,000	1,800	2,622	22.616,307	1H:5V	1200	1.196,855	698,799	5.902,086	11.604,770
1	HPCC	3.496,831	2,205	16,831	1,800	2,405	22.713,762	1H:5V	1200	1.203,049	702,735	5.934,152	11.640,993
1	HPCC	3.500,000	2,213	3,169	1,800	2,413	22.731,181	1H:5V	1200	1.204,215	703,476	5.940,190	11.646,884
1	HPCC	3.520,000	2,368	20,000	1,800	2,568	22.845,674	1H:5V	1200	1.211,575	708,152	5.978,294	11.688,616
1	HPCC	3.531,660	2,576	11,660	1,800	2,776	22.918,429	1H:5V	1200	1.215,866	710,878	6.000,509	11.718,952
1	HPCC	3.540,000	2,698	8,340	1,800	2,898	22.974,449	1H:5V	1200	1.218,935	712,828	6.016,398	11.744,631
1	HPCC	3.547,302	2,758	7,302	1,800	2,958	23.025,455	1H:5V	1200	1.221,622	714,536	6.030,310	11.769,073
1	HPCC	3.560,000	2,632	12,698	1,800	2,832	23.112,919	1H:5V	1200	1.226,295	717,505	6.054,503	11.810,341
1	HPCC	3.562,944	2,582	2,944	1,800	2,782	23.132,433	1H:5V	1200	1.227,379	718,193	6.060,112	11.819,145
1	HPCC	3.580,000	2,286	17,056	1,800	2,486	23.237,041	1H:5V	1200	1.233,655	722,181	6.092,607	11.861,703
1	HPCC	3.600,000	2,222	20,000	1,800	2,422	23.349,477	1H:5V	1200	1.241,015	726,857	6.130,711	11.901,380
1	HPCC	3.620,000	2,343	20,000	1,800	2,543	23.463,513	1H:5V	1200	1.248,375	731,534	6.168,815	11.942,656
1	HPCC	3.640,000	2,231	20,000	1,800	2,431	23.577,798	1H:5V	1200	1.255,735	736,210	6.206,919	11.984,181
1	HPCC	3.660,000	2,631	20,000	1,800	2,831	23.700,363	1H:5V	1200	1.263,095	740,886	6.245,024	12.033,985
1	HPCC	3.675,000	2,403	15,000	1,800	2,603	23.795,907	1H:5V	1200	1.268,615	744,394	6.273,602	12.074,960
1	HPCC	3.680,000	2,772	5,000	1,800	2,972	23.828,799	1H:5V	1200	1.270,455	745,563	6.283,128	12.089,661
1	HPCC	3.700,000	2,620	20,000	1,800	2,820	23.966,625	1H:5V	1200	1.277,815	750,239	6.321,232	12.154,728
1	HPCC	3.712,841	2,908	12,841	1,800	3,108	24.060,524	1H:5V	1200	1.282,541	753,242	6.345,697	12.201,911

Tubería IMPULSION BP3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	3.720,000	2,781	7,159	1,800	2,981	24.114,579	1H:5V	1200	1.285,175	754,915	6.359,336	12.229,922
1	HPCC	3.740,000	2,366	20,000	1,800	2,566	24.245,367	1H:5V	1200	1.292,535	759,592	6.397,440	12.287,949
1	HPCC	3.760,000	2,203	20,000	1,800	2,403	24.359,526	1H:5V	1200	1.299,895	764,268	6.435,545	12.329,349
1	HPCC	3.780,000	2,344	20,000	1,800	2,544	24.473,065	1H:5V	1200	1.307,255	768,944	6.473,649	12.370,127
1	HPCC	3.800,000	2,576	20,000	1,800	2,776	24.597,181	1H:5V	1200	1.314,615	773,621	6.511,753	12.421,484
1	HPCC	3.809,037	2,647	9,037	1,800	2,847	24.657,204	1H:5V	1200	1.317,941	775,734	6.528,970	12.448,630

3 RED DE RIEGO

3.1 RAMAL R-1

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	0,000	5,751	0,000	1,800	5,951	0,000	1H:5V	1200		0,000	0,000	0,000	0,000
1	HPCC	20,000	5,518	20,000	1,800	5,718	573,022	1H:5V	1200		7,360	4,676	38,104	500,262
1	HPCC	40,000	4,808	20,000	1,800	5,008	1.070,681	1H:5V	1200		14,720	9,353	76,208	925,161
1	HPCC	60,000	4,975	20,000	1,800	5,175	1.525,016	1H:5V	1200		22,080	14,029	114,313	1.306,736
1	HPCC	80,000	4,390	20,000	1,800	4,590	1.947,084	1H:5V	1200		29,440	18,705	152,417	1.656,044
1	HPCC	100,000	4,490	20,000	1,800	4,690	2.331,452	1H:5V	1200		36,800	23,382	190,521	1.967,652
1	HPCC	120,000	5,228	20,000	1,800	5,428	2.781,215	1H:5V	1200		44,160	28,058	228,625	2.344,655
1	HPCC	123,464	5,237	3,464	1,800	5,437	2.869,238	1H:5V	1200		45,435	28,868	235,225	2.420,076
1	HPCC	140,000	4,650	16,536	1,800	4,850	3.251,892	1H:5V	1200		51,520	32,734	266,729	2.742,572
1	HPCC	160,000	3,298	20,000	1,800	3,498	3.567,593	1H:5V	1200		58,880	37,411	304,834	2.985,513
1	HPCC	180,000	2,852	20,000	1,800	3,052	3.750,594	1H:5V	1200		66,240	42,087	342,938	3.095,754
1	HPCC	200,000	3,320	20,000	1,800	3,520	3.935,181	1H:5V	1200		73,600	46,763	381,042	3.207,581
1	HPCC	220,000	3,245	20,000	1,800	3,445	4.147,667	1H:5V	1200		80,960	51,440	419,146	3.347,307
1	HPCC	240,000	3,199	20,000	1,800	3,399	4.351,462	1H:5V	1200		88,320	56,116	457,250	3.478,342
1	HPCC	260,000	3,036	20,000	1,800	3,236	4.540,342	1H:5V	1200		95,680	60,792	495,355	3.594,462
1	HPCC	280,000	2,927	20,000	1,800	3,127	4.709,895	1H:5V	1200		103,040	65,469	533,459	3.691,255
1	HPCC	291,553	2,895	11,553	1,800	3,095	4.802,083	1H:5V	1200		107,292	68,170	555,470	3.741,413
1	HPCC	300,000	2,664	8,447	1,800	2,864	4.864,010	1H:5V	1200		110,400	70,145	571,563	3.772,610
1	HPCC	310,830	2,412	10,830	1,800	2,612	4.933,656	1H:5V	1200		114,385	72,677	592,196	3.802,857
1	HPCC	312,095	2,385	1,265	1,800	2,585	4.941,282	1H:5V	1200		114,851	72,973	594,606	3.805,880
1	HPCC	313,360	2,360	1,265	1,800	2,560	4.948,814	1H:5V	1200		115,316	73,269	597,017	3.808,810

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	320,000	2,321	6,640	1,800	2,521	4.987,749	1H:5V	1200		117,760	74,821	609,667	3.823,589
1	HPCC	340,000	2,713	20,000	1,800	2,913	5.115,243	1H:5V	1200		125,120	79,498	647,771	3.878,323
1	HPCC	360,000	3,009	20,000	1,800	3,209	5.271,366	1H:5V	1200		132,480	84,174	685,876	3.961,686
1	HPCC	380,000	2,596	20,000	1,800	2,796	5.424,046	1H:5V	1200		139,840	88,850	723,980	4.041,606
1	HPCC	392,140	2,477	12,140	1,800	2,677	5.502,035	1H:5V	1200		144,308	91,689	747,109	4.075,429
1	HPCC	400,000	2,256	7,860	1,800	2,456	5.548,719	1H:5V	1200		147,200	93,527	762,084	4.093,519
1	HPCC	402,920	2,276	2,920	1,800	2,476	5.565,232	1H:5V	1200		148,275	94,209	767,647	4.099,409
1	HPCC	413,700	2,686	10,780	1,800	2,886	5.632,842	1H:5V	1200		152,242	96,730	788,185	4.127,801
1	HPCC	420,000	2,839	6,300	1,800	3,039	5.677,994	1H:5V	1200		154,560	98,203	800,188	4.150,034
1	HPCC	440,000	3,252	20,000	1,800	3,452	5.856,775	1H:5V	1200		161,920	102,879	838,292	4.256,055
1	HPCC	460,000	2,755	20,000	1,800	2,955	6.031,478	1H:5V	1200		169,280	107,556	876,397	4.357,998
1	HPCC	477,177	2,200	17,177	1,800	2,400	6.139,155	1H:5V	1200		175,601	111,572	909,122	4.403,185
1	HPCC	480,000	2,491	2,823	1,800	2,691	6.155,760	1H:5V	1200		176,640	112,232	914,501	4.409,520
1	HPCC	491,674	2,540	11,674	1,800	2,740	6.230,040	1H:5V	1200		180,936	114,962	936,742	4.441,330
1	HPCC	500,000	2,285	8,326	1,800	2,485	6.280,585	1H:5V	1200		184,000	116,908	952,605	4.461,585
1	HPCC	520,000	3,154	20,000	1,800	3,354	6.434,696	1H:5V	1200		191,360	121,585	990,709	4.542,936
1	HPCC	540,000	3,166	20,000	1,800	3,366	6.629,615	1H:5V	1200		198,720	126,261	1.028,813	4.665,095
1	HPCC	560,000	2,490	20,000	1,800	2,690	6.790,395	1H:5V	1200		206,080	130,937	1.066,917	4.753,115
1	HPCC	563,472	2,625	3,472	1,800	2,825	6.812,911	1H:5V	1200		207,358	131,749	1.073,532	4.763,000
1	HPCC	580,000	3,267	16,528	1,800	3,467	6.955,001	1H:5V	1200		213,440	135,614	1.105,022	4.844,961
1	HPCC	588,472	3,281	8,472	1,800	3,481	7.044,490	1H:5V	1200		216,558	137,595	1.121,163	4.903,629
1	HPCC	591,592	3,165	3,120	1,800	3,365	7.076,306	1H:5V	1200		217,706	138,324	1.127,107	4.924,094
1	HPCC	594,712	2,800	3,120	1,800	3,000	7.102,797	1H:5V	1200		218,854	139,054	1.133,051	4.939,235
1	HPCC	600,000	2,484	5,288	1,800	2,684	7.138,417	1H:5V	1200		220,800	140,290	1.143,126	4.955,617
1	HPCC	620,000	2,439	20,000	1,800	2,639	7.262,567	1H:5V	1200		228,160	144,966	1.181,230	5.007,007
1	HPCC	640,000	2,404	20,000	1,800	2,604	7.384,432	1H:5V	1200		235,520	149,643	1.219,334	5.056,112
1	HPCC	660,000	2,462	20,000	1,800	2,662	7.506,954	1H:5V	1200		242,880	154,319	1.257,438	5.105,874
1	HPCC	662,695	2,277	2,695	1,800	2,477	7.522,982	1H:5V	1200		243,872	154,949	1.262,573	5.112,097
1	HPCC	663,528	2,220	0,833	1,800	2,420	7.527,652	1H:5V	1200		244,178	155,144	1.264,160	5.113,737
1	HPCC	664,361	2,221	0,833	1,800	2,421	7.532,257	1H:5V	1200		244,485	155,339	1.265,747	5.115,312
1	HPCC	680,000	2,381	15,639	1,800	2,581	7.622,245	1H:5V	1200		250,240	158,995	1.295,543	5.148,405
1	HPCC	700,000	2,459	20,000	1,800	2,659	7.744,029	1H:5V	1200		257,600	163,672	1.333,647	5.197,429
1	HPCC	719,431	2,597	19,431	1,800	2,797	7.868,383	1H:5V	1200		264,751	168,215	1.370,667	5.251,093
1	HPCC	720,000	2,597	0,569	1,800	2,797	7.872,138	1H:5V	1200		264,960	168,348	1.371,751	5.252,778
1	HPCC	740,000	3,133	20,000	1,800	3,333	8.033,662	1H:5V	1200		272,320	173,024	1.409,855	5.341,542
1	HPCC	760,000	2,959	20,000	1,800	3,159	8.212,374	1H:5V	1200		279,680	177,701	1.447,959	5.447,494

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	780,000	3,142	20,000	1,800	3,342	8.391,729	1H:5V	1200		287,040	182,377	1.486,064	5.554,089
1	HPCC	790,123	3,087	10,123	1,800	3,287	8.487,102	1H:5V	1200		290,765	184,744	1.505,350	5.612,634
1	HPCC	800,000	3,030	9,877	1,800	3,230	8.576,222	1H:5V	1200		294,400	187,053	1.524,168	5.665,822
1	HPCC	820,000	2,921	20,000	1,800	3,121	8.744,927	1H:5V	1200		301,760	191,730	1.562,272	5.761,767
1	HPCC	840,000	2,861	20,000	1,800	3,061	8.901,704	1H:5V	1200		309,120	196,406	1.600,376	5.845,784
1	HPCC	843,991	2,828	3,991	1,800	3,028	8.931,684	1H:5V	1200		310,589	197,339	1.607,980	5.861,245
1	HPCC	849,454	2,836	5,463	1,800	3,036	8.972,243	1H:5V	1200		312,599	198,617	1.618,388	5.881,929
1	HPCC	854,917	2,907	5,463	1,800	3,107	9.014,317	1H:5V	1200		314,609	199,894	1.628,796	5.904,129
1	HPCC	860,000	3,002	5,083	1,800	3,202	9.056,439	1H:5V	1200		316,480	201,082	1.638,480	5.927,759
1	HPCC	880,000	2,514	20,000	1,800	2,714	9.206,244	1H:5V	1200		323,840	205,759	1.676,585	6.004,804
1	HPCC	900,000	2,785	20,000	1,800	2,985	9.341,378	1H:5V	1200		331,200	210,435	1.714,689	6.067,178
1	HPCC	920,000	2,250	20,000	1,800	2,450	9.469,034	1H:5V	1200		338,560	215,111	1.752,793	6.122,074
1	HPCC	921,204	2,238	1,204	1,800	2,438	9.475,769	1H:5V	1200		339,003	215,393	1.755,087	6.124,428
1	HPCC	926,123	2,234	4,919	1,800	2,434	9.503,175	1H:5V	1200		340,813	216,543	1.764,459	6.133,940
1	HPCC	931,042	2,295	4,919	1,800	2,495	9.530,973	1H:5V	1200		342,623	217,693	1.773,830	6.143,842
1	HPCC	940,000	2,357	8,958	1,800	2,557	9.583,136	1H:5V	1200		345,920	219,788	1.790,897	6.163,416
1	HPCC	960,000	2,520	20,000	1,800	2,720	9.705,996	1H:5V	1200		353,280	224,464	1.829,001	6.213,516
1	HPCC	980,000	2,707	20,000	1,800	2,907	9.838,980	1H:5V	1200		360,640	229,140	1.867,106	6.273,740
1	HPCC	1.000,000	2,870	20,000	1,800	3,070	9.985,117	1H:5V	1200		368,000	233,817	1.905,210	6.347,117
1	HPCC	1.020,000	3,089	20,000	1,800	3,289	10.154,424	1H:5V	1200		375,360	238,493	1.943,314	6.443,664
1	HPCC	1.040,000	3,272	20,000	1,800	3,472	10.352,306	1H:5V	1200		382,720	243,170	1.981,418	6.568,786
1	HPCC	1.060,000	3,111	20,000	1,800	3,311	10.551,755	1H:5V	1200		390,080	247,846	2.019,522	6.695,475
1	HPCC	1.080,000	2,809	20,000	1,800	3,009	10.718,349	1H:5V	1200		397,440	252,522	2.057,627	6.789,309
1	HPCC	1.100,000	3,009	20,000	1,800	3,209	10.877,696	1H:5V	1200		404,800	257,199	2.095,731	6.875,896
1	HPCC	1.120,000	3,027	20,000	1,800	3,227	11.052,407	1H:5V	1200		412,160	261,875	2.133,835	6.977,847
1	HPCC	1.140,000	2,775	20,000	1,800	2,975	11.211,651	1H:5V	1200		419,520	266,551	2.171,939	7.064,331
1	HPCC	1.160,000	2,903	20,000	1,800	3,103	11.362,134	1H:5V	1200		426,880	271,228	2.210,043	7.142,054
1	HPCC	1.180,000	2,984	20,000	1,800	3,184	11.526,313	1H:5V	1200		434,240	275,904	2.248,148	7.233,473
1	HPCC	1.200,000	2,885	20,000	1,800	3,085	11.689,225	1H:5V	1200		441,600	280,580	2.286,252	7.323,625
1	HPCC	1.220,000	2,660	20,000	1,800	2,860	11.835,028	1H:5V	1200		448,960	285,257	2.324,356	7.396,668
1	HPCC	1.240,000	2,502	20,000	1,800	2,702	11.966,105	1H:5V	1200		456,320	289,933	2.362,460	7.454,985
1	HPCC	1.260,000	2,936	20,000	1,800	3,136	12.110,900	1H:5V	1200		463,680	294,609	2.400,564	7.527,020
1	HPCC	1.280,000	2,296	20,000	1,800	2,496	12.249,845	1H:5V	1200		471,040	299,286	2.438,669	7.593,205
1	HPCC	1.300,000	2,379	20,000	1,800	2,579	12.366,957	1H:5V	1200		478,400	303,962	2.476,773	7.637,557
1	HPCC	1.320,000	2,567	20,000	1,800	2,767	12.491,800	1H:5V	1200		485,760	308,638	2.514,877	7.689,640
1	HPCC	1.340,000	2,598	20,000	1,800	2,798	12.622,941	1H:5V	1200		493,120	313,315	2.552,981	7.748,021

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	1.346,939	2,611	6,939	1,800	2,811	12.668,885	1H:5V	1200		495,674	314,937	2.566,201	7.768,721
1	HPCC	1.346,941	2,611	0,002	1,800	2,811	12.668,898	1H:5V	1200		495,674	314,937	2.566,205	7.768,727
1	HPCC	1.360,000	2,571	13,059	1,800	2,771	12.754,850	1H:5V	1200		500,480	317,991	2.591,085	7.807,170
1	HPCC	1.380,000	2,532	20,000	1,800	2,732	12.884,189	1H:5V	1200		507,840	322,667	2.629,190	7.863,749
1	HPCC	1.400,000	2,494	20,000	1,800	2,694	13.011,299	1H:5V	1200		515,200	327,344	2.667,294	7.918,099
1	HPCC	1.420,000	2,460	20,000	1,800	2,660	13.136,338	1H:5V	1200		522,560	332,020	2.705,398	7.970,378
1	HPCC	1.440,000	2,410	20,000	1,800	2,610	13.258,973	1H:5V	1200		529,920	336,696	2.743,502	8.020,253
1	HPCC	1.460,000	2,396	20,000	1,800	2,596	13.379,784	1H:5V	1200		537,280	341,373	2.781,606	8.068,304
1	HPCC	1.480,000	2,297	20,000	1,800	2,497	13.497,406	1H:5V	1200		544,640	346,049	2.819,711	8.113,166
1	HPCC	1.500,000	2,266	20,000	1,800	2,466	13.611,373	1H:5V	1200		552,000	350,725	2.857,815	8.154,373
1	HPCC	1.520,000	2,234	20,000	1,800	2,434	13.723,584	1H:5V	1200		559,360	355,402	2.895,919	8.193,824
1	HPCC	1.540,000	2,210	20,000	1,800	2,410	13.834,241	1H:5V	1200		566,720	360,078	2.934,023	8.231,721
1	HPCC	1.560,000	2,473	20,000	1,800	2,673	13.951,641	1H:5V	1200		574,080	364,754	2.972,127	8.276,361
1	HPCC	1.571,268	2,736	11,268	1,800	2,936	14.026,287	1H:5V	1200		578,227	367,389	2.993,595	8.310,014
1	HPCC	1.574,123	2,845	2,855	1,800	3,045	14.047,020	1H:5V	1200		579,277	368,056	2.999,035	8.320,361
1	HPCC	1.577,175	2,857	3,052	1,800	3,057	14.070,086	1H:5V	1200		580,400	368,770	3.004,849	8.332,323
1	HPCC	1.580,000	2,869	2,825	1,800	3,069	14.091,674	1H:5V	1200		581,440	369,431	3.010,231	8.343,634
1	HPCC	1.600,000	2,605	20,000	1,800	2,805	14.234,739	1H:5V	1200		588,800	374,107	3.048,336	8.413,939
1	HPCC	1.620,000	2,656	20,000	1,800	2,856	14.368,687	1H:5V	1200		596,160	378,783	3.086,440	8.475,127
1	HPCC	1.640,000	2,723	20,000	1,800	2,923	14.506,110	1H:5V	1200		603,520	383,460	3.124,544	8.539,790
1	HPCC	1.660,000	2,887	20,000	1,800	3,087	14.653,917	1H:5V	1200		610,880	388,136	3.162,648	8.614,837
1	HPCC	1.680,000	2,960	20,000	1,800	3,160	14.815,273	1H:5V	1200		618,240	392,812	3.200,752	8.703,433
1	HPCC	1.700,000	2,979	20,000	1,800	3,179	14.983,119	1H:5V	1200		625,600	397,489	3.238,857	8.798,519
1	HPCC	1.720,000	3,030	20,000	1,800	3,230	15.155,919	1H:5V	1200		632,960	402,165	3.276,961	8.898,559
1	HPCC	1.740,000	2,994	20,000	1,800	3,194	15.329,780	1H:5V	1200		640,320	406,841	3.315,065	8.999,660
1	HPCC	1.741,792	3,000	1,792	1,800	3,200	15.345,167	1H:5V	1200		640,979	407,260	3.318,479	9.008,528
1	HPCC	1.760,000	2,895	18,208	1,800	3,095	15.495,154	1H:5V	1200		647,680	411,518	3.353,169	9.092,274
1	HPCC	1.780,000	2,791	20,000	1,800	2,991	15.645,552	1H:5V	1200		655,040	416,194	3.391,273	9.169,912
1	HPCC	1.800,000	2,610	20,000	1,800	2,810	15.783,654	1H:5V	1200		662,400	420,870	3.429,378	9.235,254
1	HPCC	1.820,000	2,490	20,000	1,800	2,690	15.912,919	1H:5V	1200		669,760	425,547	3.467,482	9.291,759
1	HPCC	1.840,000	2,418	20,000	1,800	2,618	16.036,643	1H:5V	1200		677,120	430,223	3.505,586	9.342,723
1	HPCC	1.860,000	2,346	20,000	1,800	2,546	16.156,267	1H:5V	1200		684,480	434,899	3.543,690	9.389,587
1	HPCC	1.880,000	2,280	20,000	1,800	2,480	16.272,000	1H:5V	1200		691,840	439,576	3.581,794	9.432,560
1	HPCC	1.900,000	2,241	20,000	1,800	2,441	16.384,796	1H:5V	1200		699,200	444,252	3.619,899	9.472,596
1	HPCC	1.904,897	2,210	4,897	1,800	2,410	16.411,938	1H:5V	1200		701,002	445,397	3.629,228	9.481,922
1	HPCC	1.920,000	2,536	15,103	1,800	2,736	16.501,963	1H:5V	1200		706,560	448,928	3.658,003	9.517,003

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	1.920,658	2,571	0,658	1,800	2,771	16.506,222	1H:5V	1200		706,802	449,082	3.659,256	9.518,869
1	HPCC	1.936,430	3,102	15,772	1,800	3,302	16.631,261	1H:5V	1200		712,606	452,770	3.689,305	9.586,528
1	HPCC	1.940,000	3,003	3,570	1,800	3,203	16.663,322	1H:5V	1200		713,920	453,605	3.696,107	9.605,602
1	HPCC	1.960,000	2,642	20,000	1,800	2,842	16.816,924	1H:5V	1200		721,280	458,281	3.734,211	9.686,444
1	HPCC	1.965,538	2,510	5,538	1,800	2,710	16.853,137	1H:5V	1200		723,318	459,576	3.744,762	9.702,509
1	HPCC	1.968,123	2,526	2,585	1,800	2,726	16.869,603	1H:5V	1200		724,269	460,180	3.749,687	9.709,571
1	HPCC	1.970,708	2,525	2,585	1,800	2,725	16.886,125	1H:5V	1200		725,221	460,785	3.754,612	9.716,689
1	HPCC	1.980,000	2,376	9,292	1,800	2,576	16.943,522	1H:5V	1200		728,640	462,957	3.772,315	9.740,282
1	HPCC	2.000,000	2,301	20,000	1,800	2,501	17.060,690	1H:5V	1200		736,000	467,634	3.810,420	9.784,690
1	HPCC	2.020,000	2,320	20,000	1,800	2,520	17.176,279	1H:5V	1200		743,360	472,310	3.848,524	9.827,519
1	HPCC	2.040,000	2,329	20,000	1,800	2,529	17.292,653	1H:5V	1200		750,720	476,986	3.886,628	9.871,133
1	HPCC	2.060,000	2,471	20,000	1,800	2,671	17.413,313	1H:5V	1200		758,080	481,663	3.924,732	9.919,033
1	HPCC	2.080,000	2,507	20,000	1,800	2,707	17.539,041	1H:5V	1200		765,440	486,339	3.962,836	9.972,001
1	HPCC	2.100,000	2,579	20,000	1,800	2,779	17.667,891	1H:5V	1200		772,800	491,015	4.000,941	10.028,091
1	HPCC	2.120,000	2,601	20,000	1,800	2,801	17.799,468	1H:5V	1200		780,160	495,692	4.039,045	10.086,908
1	HPCC	2.140,000	2,936	20,000	1,800	3,136	17.947,134	1H:5V	1200		787,520	500,368	4.077,149	10.161,814
1	HPCC	2.160,000	2,932	20,000	1,800	3,132	18.109,966	1H:5V	1200		794,880	505,044	4.115,253	10.251,886
1	HPCC	2.178,857	2,630	18,857	1,800	2,830	18.249,727	1H:5V	1200		801,819	509,453	4.151,180	10.323,045
1	HPCC	2.180,000	2,604	1,143	1,800	2,804	18.257,337	1H:5V	1200		802,240	509,721	4.153,357	10.326,497
1	HPCC	2.189,062	2,473	9,062	1,800	2,673	18.315,606	1H:5V	1200		805,575	511,840	4.170,622	10.351,798
1	HPCC	2.199,267	2,498	10,205	1,800	2,698	18.379,655	1H:5V	1200		809,330	514,226	4.190,065	10.378,722
1	HPCC	2.200,000	2,533	0,733	1,800	2,733	18.384,319	1H:5V	1200		809,600	514,397	4.191,462	10.380,719
1	HPCC	2.220,000	2,475	20,000	1,800	2,675	18.510,913	1H:5V	1200		816,960	519,073	4.229,566	10.434,553
1	HPCC	2.240,000	2,955	20,000	1,800	3,155	18.656,272	1H:5V	1200		824,320	523,750	4.267,670	10.507,152
1	HPCC	2.259,870	3,340	19,870	1,800	3,540	18.848,297	1H:5V	1200		831,632	528,396	4.305,526	10.626,890
1	PRFV	2.260,000	3,337	0,130	2,600	3,487	18.849,889	1H:5V	800	600	831,682	528,526	4.305,710	10.628,016
1	PRFV	2.280,000	2,720	20,000	2,600	2,870	19.075,443	1H:5V	800	600	839,572	563,938	4.324,190	10.776,080
1	PRFV	2.300,000	2,340	20,000	2,600	2,490	19.243,677	1H:5V	800	600	847,462	599,350	4.342,670	10.866,824
1	PRFV	2.320,000	2,612	20,000	2,600	2,762	19.407,886	1H:5V	800	600	855,352	634,762	4.361,150	10.953,543
1	PRFV	2.337,381	2,159	17,381	2,600	2,309	19.544,993	1H:5V	800	600	862,209	665,537	4.377,210	11.023,308
1	PRFV	2.340,000	2,059	2,619	2,600	2,209	19.563,050	1H:5V	800	600	863,242	670,174	4.379,630	11.031,217
1	PRFV	2.360,000	2,105	20,000	2,600	2,255	19.699,043	1H:5V	800	600	871,132	705,586	4.398,110	11.089,720
1	PRFV	2.374,925	1,849	14,925	2,600	1,999	19.795,135	1H:5V	800	600	877,020	732,012	4.411,901	11.127,985
1	PRFV	2.375,402	1,860	0,477	2,600	2,010	19.798,004	1H:5V	800	600	877,208	732,857	4.412,342	11.129,006
1	PRFV	2.375,879	1,871	0,477	2,600	2,021	19.800,891	1H:5V	800	600	877,396	733,702	4.412,783	11.130,045
1	PRFV	2.380,000	1,995	4,121	2,600	2,145	19.826,789	1H:5V	800	600	879,022	740,998	4.416,590	11.139,976

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	2.400,000	2,244	20,000	2,600	2,394	19.965,468	1H:5V	800	600	886,912	776,410	4.435,070	11.201,165
1	PRFV	2.420,000	3,117	20,000	2,600	3,267	20.156,143	1H:5V	800	600	894,802	811,822	4.453,550	11.314,350
1	PRFV	2.440,000	4,025	20,000	2,600	4,175	20.463,523	1H:5V	800	600	902,692	847,234	4.472,030	11.544,240
1	PRFV	2.440,991	4,027	0,991	2,600	4,177	20.482,401	1H:5V	800	600	903,083	848,989	4.472,946	11.559,278
1	PRFV	2.460,000	3,453	19,009	2,600	3,603	20.800,172	1H:5V	800	600	910,582	882,646	4.490,510	11.803,399
1	PRFV	2.462,910	3,372	2,910	2,600	3,522	20.841,061	1H:5V	800	600	911,730	887,799	4.493,199	11.833,013
1	PRFV	2.480,000	2,998	17,090	2,600	3,148	21.050,284	1H:5V	800	600	918,472	918,058	4.508,990	11.976,021
1	PRFV	2.500,000	2,270	20,000	2,600	2,420	21.232,505	1H:5V	800	600	926,362	953,470	4.527,470	12.080,752
1	PRFV	2.516,123	1,800	16,123	2,600	1,950	21.339,672	1H:5V	800	600	932,722	982,018	4.542,368	12.125,451
1	PRFV	2.520,000	2,015	3,877	2,600	2,165	21.363,704	1H:5V	800	600	934,252	988,882	4.545,950	12.134,461
1	PRFV	2.540,000	2,124	20,000	2,600	2,274	21.498,835	1H:5V	800	600	942,142	1.024,294	4.564,430	12.192,102
1	PRFV	2.560,000	2,234	20,000	2,600	2,384	21.641,652	1H:5V	800	600	950,032	1.059,706	4.582,910	12.257,429
1	PRFV	2.580,000	2,343	20,000	2,600	2,493	21.792,251	1H:5V	800	600	957,922	1.095,119	4.601,390	12.330,538
1	PRFV	2.586,900	1,938	6,900	2,600	2,088	21.840,639	1H:5V	800	600	960,644	1.107,336	4.607,766	12.352,192
1	PRFV	2.595,789	2,219	8,889	2,600	2,369	21.901,007	1H:5V	800	600	964,150	1.123,075	4.615,979	12.378,119
1	PRFV	2.600,000	2,322	4,211	2,600	2,472	21.932,444	1H:5V	800	600	965,812	1.130,531	4.619,870	12.393,241
1	PRFV	2.620,000	2,235	20,000	2,600	2,385	22.082,324	1H:5V	800	600	973,702	1.165,943	4.638,350	12.465,631
1	PRFV	2.640,000	2,049	20,000	2,600	2,199	22.222,556	1H:5V	800	600	981,592	1.201,355	4.656,830	12.528,373
1	PRFV	2.660,000	1,965	20,000	2,600	2,115	22.353,337	1H:5V	800	600	989,482	1.236,767	4.675,310	12.581,665
1	PRFV	2.680,000	1,836	20,000	2,600	1,986	22.476,798	1H:5V	800	600	997,372	1.272,179	4.693,790	12.627,635
1	PRFV	2.700,000	1,836	20,000	2,600	1,986	22.595,847	1H:5V	800	600	1.005,262	1.307,591	4.712,270	12.669,194
1	PRFV	2.720,000	2,257	20,000	2,600	2,407	22.729,541	1H:5V	800	600	1.013,152	1.343,003	4.730,750	12.725,398
1	PRFV	2.740,000	2,542	20,000	2,600	2,692	22.888,196	1H:5V	800	600	1.021,042	1.378,415	4.749,230	12.806,563
1	PRFV	2.760,000	2,824	20,000	2,600	2,974	23.067,695	1H:5V	800	600	1.028,932	1.413,827	4.767,710	12.908,572
1	PRFV	2.780,000	2,547	20,000	2,600	2,697	23.247,378	1H:5V	800	600	1.036,822	1.449,239	4.786,190	13.010,765
1	PRFV	2.800,000	2,489	20,000	2,600	2,639	23.414,590	1H:5V	800	600	1.044,712	1.484,651	4.804,670	13.100,487
1	PRFV	2.820,000	2,703	20,000	2,600	2,853	23.587,590	1H:5V	800	600	1.052,602	1.520,063	4.823,150	13.195,997
1	PRFV	2.826,171	2,854	6,171	2,600	3,004	23.645,218	1H:5V	800	600	1.055,036	1.530,989	4.828,852	13.229,715
1	PRFV	2.840,000	2,848	13,829	2,600	2,998	23.778,139	1H:5V	800	600	1.060,492	1.555,475	4.841,630	13.309,056
1	PRFV	2.860,000	2,541	20,000	2,600	2,691	23.958,512	1H:5V	800	600	1.068,382	1.590,887	4.860,110	13.411,939
1	PRFV	2.880,000	2,355	20,000	2,600	2,505	24.120,641	1H:5V	800	600	1.076,272	1.626,299	4.878,590	13.496,578
1	PRFV	2.900,000	2,172	20,000	2,600	2,322	24.269,477	1H:5V	800	600	1.084,162	1.661,711	4.897,070	13.567,924
1	PRFV	2.920,000	2,005	20,000	2,600	2,155	24.405,950	1H:5V	800	600	1.092,052	1.697,123	4.915,550	13.626,907
1	PRFV	2.940,000	1,850	20,000	2,600	2,000	24.531,268	1H:5V	800	600	1.099,942	1.732,535	4.934,030	13.674,735
1	PRFV	2.943,189	1,827	3,189	2,600	1,977	24.550,278	1H:5V	800	600	1.101,200	1.738,182	4.936,977	13.681,389
1	PRFV	2.947,388	1,819	4,199	2,600	1,969	24.575,087	1H:5V	800	600	1.102,856	1.745,616	4.940,857	13.689,929

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	2.960,000	2,533	12,612	2,600	2,683	24.665,327	1H:5V	800	600	1.107,832	1.767,947	4.952,510	13.731,305
1	PRFV	2.980,000	2,528	20,000	2,600	2,678	24.833,454	1H:5V	800	600	1.115,722	1.803,359	4.970,990	13.821,941
1	PRFV	2.995,852	2,177	15,852	2,600	2,327	24.956,547	1H:5V	800	600	1.121,975	1.831,427	4.985,638	13.883,616
1	PRFV	3.000,000	2,277	4,148	2,600	2,427	24.986,872	1H:5V	800	600	1.123,612	1.838,771	4.989,470	13.897,869
1	PRFV	3.020,000	2,759	20,000	2,600	2,909	25.154,313	1H:5V	800	600	1.131,502	1.874,183	5.007,950	13.987,820
1	PRFV	3.040,000	3,242	20,000	2,600	3,392	25.373,755	1H:5V	800	600	1.139,392	1.909,595	5.026,430	14.129,772
1	PRFV	3.060,000	2,842	20,000	2,600	2,992	25.596,335	1H:5V	800	600	1.147,282	1.945,007	5.044,910	14.274,862
1	PRFV	3.080,000	3,140	20,000	2,600	3,290	25.810,819	1H:5V	800	600	1.155,172	1.980,419	5.063,390	14.411,856
1	PRFV	3.085,598	2,342	5,598	2,600	2,492	25.865,679	1H:5V	800	600	1.157,380	1.990,331	5.068,563	14.445,027
1	PRFV	3.100,000	2,511	14,402	2,600	2,661	25.981,299	1H:5V	800	600	1.163,062	2.015,831	5.081,870	14.504,846
1	PRFV	3.120,000	2,632	20,000	2,600	2,782	26.152,458	1H:5V	800	600	1.170,952	2.051,244	5.100,350	14.598,515
1	PRFV	3.140,000	1,982	20,000	2,600	2,132	26.304,791	1H:5V	800	600	1.178,842	2.086,656	5.118,830	14.673,359
1	PRFV	3.160,000	2,218	20,000	2,600	2,368	26.442,097	1H:5V	800	600	1.186,732	2.122,068	5.137,310	14.733,174
1	PRFV	3.167,067	2,301	7,067	2,600	2,451	26.494,578	1H:5V	800	600	1.189,520	2.134,580	5.143,840	14.758,274
1	PRFV	3.170,957	2,340	3,890	2,600	2,490	26.524,313	1H:5V	800	600	1.191,054	2.141,468	5.147,435	14.772,938
1	PRFV	3.174,847	2,363	3,890	2,600	2,513	26.554,482	1H:5V	800	600	1.192,589	2.148,356	5.151,029	14.788,034
1	PRFV	3.180,000	2,383	5,153	2,600	2,533	26.594,845	1H:5V	800	600	1.194,622	2.157,480	5.155,790	14.808,432
1	PRFV	3.200,000	2,463	20,000	2,600	2,613	26.755,129	1H:5V	800	600	1.202,512	2.192,892	5.174,270	14.891,226
1	PRFV	3.217,598	2,534	17,598	2,600	2,684	26.901,003	1H:5V	800	600	1.209,454	2.224,051	5.190,531	14.968,917
1	PRFV	3.220,000	2,543	2,402	2,600	2,693	26.921,266	1H:5V	800	600	1.210,402	2.228,304	5.192,750	14.979,873
1	PRFV	3.240,000	1,898	20,000	2,600	2,048	27.067,425	1H:5V	800	600	1.218,292	2.263,716	5.211,230	15.048,542
1	PRFV	3.260,000	1,867	20,000	2,600	2,017	27.189,640	1H:5V	800	600	1.226,182	2.299,128	5.229,710	15.093,267
1	PRFV	3.280,000	1,928	20,000	2,600	2,078	27.312,883	1H:5V	800	600	1.234,072	2.334,540	5.248,190	15.139,020
1	PRFV	3.298,842	1,983	18,842	2,600	2,133	27.432,738	1H:5V	800	600	1.241,505	2.367,901	5.265,600	15.185,872
1	PRFV	3.300,000	1,986	1,158	2,600	2,136	27.440,220	1H:5V	800	600	1.241,962	2.369,952	5.266,670	15.188,867
1	PRFV	3.320,000	2,017	20,000	2,600	2,167	27.570,615	1H:5V	800	600	1.249,852	2.405,364	5.285,150	15.241,772
1	PRFV	3.340,000	2,023	20,000	2,600	2,173	27.702,290	1H:5V	800	600	1.257,742	2.440,776	5.303,630	15.295,957
1	PRFV	3.351,145	2,068	11,145	2,600	2,218	27.776,655	1H:5V	800	600	1.262,138	2.460,509	5.313,928	15.327,141
1	PRFV	3.360,000	2,186	8,855	1,400	2,336	27.825,855	1H:5V	800		1.264,835	2.472,658	5.320,516	15.350,457
1	PRFV	3.380,000	1,857	20,000	1,400	2,007	27.905,627	1H:5V	800		1.269,125	2.492,125	5.331,796	15.385,139
1	PRFV	3.400,000	1,839	20,000	1,400	1,989	27.977,539	1H:5V	800		1.273,415	2.511,592	5.343,076	15.411,961
1	PRFV	3.420,000	1,983	20,000	1,400	2,133	28.052,259	1H:5V	800		1.277,705	2.531,059	5.354,356	15.441,591
1	PRFV	3.435,977	2,195	15,977	1,400	2,345	28.118,395	1H:5V	800		1.281,132	2.546,610	5.363,368	15.471,707
1	PRFV	3.440,000	2,241	4,023	1,400	2,391	28.136,245	1H:5V	800		1.281,995	2.550,526	5.365,636	15.480,486
1	PRFV	3.440,310	2,244	0,310	1,400	2,394	28.137,638	1H:5V	800		1.282,061	2.550,827	5.365,811	15.481,180
1	PRFV	3.444,643	2,273	4,333	1,400	2,423	28.157,276	1H:5V	800		1.282,991	2.555,045	5.368,255	15.491,049

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	3.460,000	2,344	15,357	1,400	2,494	28.228,701	1H:5V	800		1.286,285	2.569,993	5.376,916	15.527,852
1	PRFV	3.480,000	2,437	20,000	1,400	2,587	28.325,660	1H:5V	800		1.290,575	2.589,460	5.388,196	15.579,722
1	PRFV	3.500,000	2,529	20,000	1,400	2,679	28.427,123	1H:5V	800		1.294,865	2.608,926	5.399,476	15.636,095
1	PRFV	3.520,000	2,621	20,000	1,400	2,771	28.533,134	1H:5V	800		1.299,155	2.628,393	5.410,756	15.697,016
1	PRFV	3.540,000	2,198	20,000	1,400	2,348	28.631,183	1H:5V	800		1.303,445	2.647,860	5.422,036	15.749,975
1	PRFV	3.560,000	1,999	20,000	1,400	2,149	28.714,404	1H:5V	800		1.307,735	2.667,327	5.433,316	15.788,105
1	PRFV	3.580,000	1,899	20,000	1,400	2,049	28.790,809	1H:5V	800		1.312,025	2.686,794	5.444,596	15.819,421
1	PRFV	3.600,000	1,991	20,000	1,400	2,141	28.867,034	1H:5V	800		1.316,315	2.706,261	5.455,876	15.850,555
1	PRFV	3.620,000	2,084	20,000	1,400	2,234	28.947,433	1H:5V	800		1.320,605	2.725,728	5.467,156	15.885,865
1	PRFV	3.640,000	2,176	20,000	1,400	2,326	29.032,075	1H:5V	800		1.324,895	2.745,195	5.478,436	15.925,417
1	PRFV	3.660,000	2,269	20,000	1,400	2,419	29.121,029	1H:5V	800		1.329,185	2.764,662	5.489,716	15.969,280
1	PRFV	3.680,000	2,361	20,000	1,400	2,511	29.214,362	1H:5V	800		1.333,475	2.784,129	5.500,996	16.017,524
1	PRFV	3.700,000	2,454	20,000	1,400	2,604	29.312,144	1H:5V	800		1.337,765	2.803,595	5.512,276	16.070,216
1	PRFV	3.720,000	2,546	20,000	1,400	2,696	29.414,442	1H:5V	800		1.342,055	2.823,062	5.523,556	16.127,424
1	PRFV	3.740,000	2,639	20,000	1,400	2,789	29.521,326	1H:5V	800		1.346,345	2.842,529	5.534,836	16.189,218
1	PRFV	3.744,422	2,659	4,422	1,400	2,809	29.545,583	1H:5V	800		1.347,293	2.846,833	5.537,330	16.203,505
1	PRFV	3.760,000	2,731	15,578	1,400	2,881	29.632,852	1H:5V	800		1.350,635	2.861,996	5.546,116	16.255,654
1	PRFV	3.775,602	2,804	15,602	1,400	2,954	29.723,143	1H:5V	800		1.353,981	2.877,182	5.554,916	16.310,770
1	PRFV	3.780,000	2,824	4,398	1,400	2,974	29.749,121	1H:5V	800		1.354,925	2.881,463	5.557,396	16.326,832
1	PRFV	3.800,000	2,916	20,000	1,400	3,066	29.872,811	1H:5V	800		1.359,215	2.900,930	5.568,676	16.405,432
1	PRFV	3.820,000	2,844	20,000	1,400	2,994	29.997,019	1H:5V	800		1.363,505	2.920,397	5.579,956	16.484,551
1	PRFV	3.840,000	2,101	20,000	1,400	2,251	30.098,511	1H:5V	800		1.367,795	2.939,864	5.591,236	16.540,953
1	PRFV	3.846,385	2,048	6,385	1,400	2,198	30.124,716	1H:5V	800		1.369,164	2.946,079	5.594,838	16.552,763
1	PRFV	3.860,000	1,979	13,615	1,400	2,129	30.178,704	1H:5V	800		1.372,085	2.959,331	5.602,516	16.576,055
1	PRFV	3.880,000	1,877	20,000	1,400	2,027	30.254,170	1H:5V	800		1.376,375	2.978,798	5.613,796	16.606,432
1	PRFV	3.900,000	1,865	20,000	1,400	2,015	30.327,096	1H:5V	800		1.380,665	2.998,265	5.625,076	16.634,268
1	PRFV	3.920,000	2,139	20,000	1,400	2,289	30.405,952	1H:5V	800		1.384,955	3.017,731	5.636,356	16.668,033
1	PRFV	3.940,000	2,413	20,000	1,400	2,563	30.497,497	1H:5V	800		1.389,245	3.037,198	5.647,636	16.714,488
1	PRFV	3.960,000	2,687	20,000	1,400	2,837	30.602,332	1H:5V	800		1.393,535	3.056,665	5.658,916	16.774,233
1	PRFV	3.980,000	2,960	20,000	1,400	3,110	30.725,431	1H:5V	800		1.397,825	3.076,132	5.670,196	16.852,243
1	PRFV	3.986,123	3,930	6,123	1,400	4,080	30.786,936	1H:5V	800		1.399,138	3.082,092	5.673,650	16.899,943
1	PRFV	4.000,000	2,717	13,877	1,400	2,867	30.918,899	1H:5V	800		1.402,115	3.095,599	5.681,476	17.000,621
1	PRFV	4.020,000	2,822	20,000	1,400	2,972	31.034,750	1H:5V	800		1.406,405	3.115,066	5.692,756	17.071,382
1	PRFV	4.040,000	2,691	20,000	1,400	2,841	31.149,940	1H:5V	800		1.410,695	3.134,533	5.704,036	17.141,482
1	PRFV	4.060,000	2,560	20,000	1,400	2,710	31.258,485	1H:5V	800		1.414,985	3.154,000	5.715,316	17.204,937
1	PRFV	4.075,803	2,457	15,803	1,400	2,607	31.339,649	1H:5V	800		1.418,375	3.169,382	5.724,229	17.250,472

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	4.080,000	2,429	4,197	1,400	2,579	31.360,528	1H:5V	800		1.419,275	3.173,467	5.726,596	17.261,890
1	PRFV	4.100,000	2,299	20,000	1,400	2,449	31.456,218	1H:5V	800		1.423,565	3.192,934	5.737,876	17.312,490
1	PRFV	4.120,000	2,168	20,000	1,400	2,318	31.545,698	1H:5V	800		1.427,855	3.212,400	5.749,156	17.356,879
1	PRFV	4.140,000	2,037	20,000	1,400	2,187	31.629,080	1H:5V	800		1.432,145	3.231,867	5.760,436	17.395,171
1	PRFV	4.160,000	1,906	20,000	1,400	2,056	31.706,502	1H:5V	800		1.436,435	3.251,334	5.771,716	17.427,504
1	PRFV	4.176,123	1,800	16,123	1,400	1,950	31.764,660	1H:5V	800		1.439,893	3.267,027	5.780,810	17.449,313
1	PRFV	4.180,000	2,001	3,877	1,400	2,151	31.779,058	1H:5V	800		1.440,725	3.270,801	5.782,996	17.454,970
1	PRFV	4.198,566	1,902	18,566	1,400	2,052	31.850,089	1H:5V	800		1.444,707	3.288,872	5.793,468	17.484,143
1	PRFV	4.200,000	1,880	1,434	1,300	2,030	31.855,236	1H:5V	700		1.445,004	3.290,166	5.794,246	17.486,369
1	PRFV	4.213,407	1,744	13,407	1,300	1,894	31.899,766	1H:5V	700		1.447,679	3.301,309	5.801,245	17.504,923
1	PRFV	4.220,000	1,890	6,593	1,300	2,040	31.921,733	1H:5V	700		1.448,994	3.306,789	5.804,686	17.514,117
1	PRFV	4.222,960	1,902	2,960	1,300	2,052	31.932,085	1H:5V	700		1.449,585	3.309,249	5.806,231	17.518,733
1	PRFV	4.232,513	1,874	9,553	1,300	2,024	31.965,330	1H:5V	700		1.451,490	3.317,189	5.811,218	17.533,470
1	PRFV	4.240,000	1,786	7,487	1,300	1,936	31.990,475	1H:5V	700		1.452,984	3.323,412	5.815,126	17.544,108
1	PRFV	4.260,000	1,732	20,000	1,300	1,882	32.054,689	1H:5V	700		1.456,974	3.340,035	5.825,566	17.569,572
1	PRFV	4.280,000	1,723	20,000	1,300	1,873	32.117,604	1H:5V	700		1.460,964	3.356,658	5.836,006	17.593,738
1	PRFV	4.300,000	1,768	20,000	1,300	1,918	32.181,261	1H:5V	700		1.464,954	3.373,282	5.846,446	17.618,644
1	PRFV	4.320,000	1,819	20,000	1,300	1,969	32.246,903	1H:5V	700		1.468,944	3.389,905	5.856,886	17.645,537
1	PRFV	4.340,000	1,849	20,000	1,300	1,999	32.314,233	1H:5V	700		1.472,934	3.406,528	5.867,326	17.674,117
1	PRFV	4.360,000	1,773	20,000	1,300	1,923	32.380,607	1H:5V	700		1.476,924	3.423,151	5.877,766	17.701,740
1	PRFV	4.374,144	1,829	14,144	1,300	1,979	32.427,250	1H:5V	700		1.479,746	3.434,907	5.885,150	17.720,980
1	PRFV	4.380,000	1,853	5,856	1,300	2,003	32.447,050	1H:5V	700		1.480,914	3.439,774	5.888,206	17.729,434
1	PRFV	4.387,078	1,881	7,078	1,300	2,031	32.471,369	1H:5V	700		1.482,326	3.445,657	5.891,901	17.740,039
1	PRFV	4.400,000	1,933	12,922	1,300	2,083	32.516,861	1H:5V	700		1.484,904	3.456,397	5.898,646	17.760,494
1	PRFV	4.420,000	2,013	20,000	1,300	2,163	32.590,094	1H:5V	700		1.488,894	3.473,020	5.909,086	17.794,977
1	PRFV	4.440,000	2,093	20,000	1,300	2,243	32.666,791	1H:5V	700		1.492,884	3.489,643	5.919,526	17.832,924
1	PRFV	4.451,218	2,137	11,218	1,300	2,287	32.711,333	1H:5V	700		1.495,122	3.498,967	5.925,382	17.855,732
1	PRFV	4.453,854	2,151	2,636	1,300	2,301	32.721,969	1H:5V	700		1.495,648	3.501,158	5.926,758	17.861,260
1	PRFV	4.456,490	2,172	2,636	1,300	2,322	32.732,707	1H:5V	700		1.496,174	3.503,349	5.928,134	17.866,891
1	PRFV	4.460,000	2,205	3,510	1,300	2,355	32.747,217	1H:5V	700		1.496,874	3.506,266	5.929,966	17.874,600
1	PRFV	4.480,000	2,110	20,000	1,300	2,260	32.828,519	1H:5V	700		1.500,864	3.522,889	5.940,406	17.917,152
1	PRFV	4.500,000	1,971	20,000	1,300	2,121	32.904,684	1H:5V	700		1.504,854	3.539,513	5.950,846	17.954,568
1	PRFV	4.520,000	1,761	20,000	1,300	1,911	32.973,401	1H:5V	700		1.508,844	3.556,136	5.961,286	17.984,535
1	PRFV	4.540,000	1,947	20,000	1,300	2,097	33.041,604	1H:5V	700		1.512,834	3.572,759	5.971,726	18.013,987
1	PRFV	4.560,000	2,132	20,000	1,300	2,282	33.117,741	1H:5V	700		1.516,824	3.589,382	5.982,166	18.051,374
1	PRFV	4.580,000	1,844	20,000	1,300	1,994	33.191,696	1H:5V	700		1.520,814	3.606,005	5.992,606	18.086,579

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	4.600,000	1,707	20,000	1,300	1,857	33.256,608	1H:5V	700		1.524,804	3.622,628	6.003,046	18.112,741
1	PRFV	4.620,000	1,803	20,000	1,300	1,953	33.320,663	1H:5V	700		1.528,794	3.639,251	6.013,486	18.138,047
1	PRFV	4.633,445	1,918	13,445	1,300	2,068	33.366,682	1H:5V	700		1.531,476	3.650,426	6.020,505	18.158,016
1	PRFV	4.640,000	1,983	6,555	1,300	2,133	33.390,367	1H:5V	700		1.532,784	3.655,874	6.023,926	18.169,000
1	PRFV	4.658,912	2,170	18,912	1,300	2,320	33.463,891	1H:5V	700		1.536,557	3.671,593	6.033,798	18.205,882
1	PRFV	4.660,000	2,179	1,088	1,300	2,329	33.468,354	1H:5V	700		1.536,774	3.672,497	6.034,366	18.208,237
1	PRFV	4.661,245	2,187	1,245	1,300	2,337	33.473,485	1H:5V	700		1.537,022	3.673,532	6.035,016	18.210,956
1	PRFV	4.663,578	2,191	2,333	1,300	2,341	33.483,132	1H:5V	700		1.537,488	3.675,471	6.036,234	18.216,083
1	PRFV	4.680,000	2,247	16,422	1,300	2,397	33.552,142	1H:5V	700		1.540,764	3.689,120	6.044,806	18.253,275
1	PRFV	4.681,102	2,247	1,102	1,300	2,397	33.556,842	1H:5V	700		1.540,984	3.690,036	6.045,382	18.255,840
1	PRFV	4.700,000	2,294	18,898	1,300	2,444	33.638,454	1H:5V	700		1.544,754	3.705,744	6.055,246	18.300,837
1	PRFV	4.720,000	2,342	20,000	1,300	2,492	33.726,988	1H:5V	700		1.548,744	3.722,367	6.065,686	18.350,621
1	PRFV	4.740,000	2,434	20,000	1,300	2,584	33.818,750	1H:5V	700		1.552,734	3.738,990	6.076,126	18.403,634
1	PRFV	4.760,000	1,891	20,000	1,300	2,041	33.900,561	1H:5V	700		1.556,724	3.755,613	6.086,566	18.446,694
1	PRFV	4.780,000	1,884	20,000	1,300	2,034	33.970,141	1H:5V	700		1.560,714	3.772,236	6.097,006	18.477,525
1	PRFV	4.800,000	1,907	20,000	1,300	2,057	34.040,061	1H:5V	700		1.564,704	3.788,859	6.107,446	18.508,695
1	PRFV	4.820,000	1,802	20,000	1,300	1,952	34.108,261	1H:5V	700		1.568,694	3.805,482	6.117,886	18.538,145
1	PRFV	4.840,000	1,894	20,000	1,300	2,044	34.176,186	1H:5V	700		1.572,684	3.822,105	6.128,326	18.567,319
1	PRFV	4.860,000	1,986	20,000	1,300	2,136	34.248,007	1H:5V	700		1.576,674	3.838,728	6.138,766	18.600,390
1	PRFV	4.880,000	2,078	20,000	1,300	2,228	34.323,792	1H:5V	700		1.580,664	3.855,351	6.149,206	18.637,425
1	PRFV	4.900,000	2,171	20,000	1,300	2,321	34.403,631	1H:5V	700		1.584,654	3.871,975	6.159,646	18.678,514
1	PRFV	4.920,000	2,263	20,000	1,300	2,413	34.487,592	1H:5V	700		1.588,644	3.888,598	6.170,086	18.723,725
1	PRFV	4.932,903	2,322	12,903	1,300	2,472	34.543,960	1H:5V	700		1.591,218	3.899,322	6.176,822	18.755,094
1	PRFV	4.940,000	2,355	7,097	1,200	2,505	34.574,820	1H:5V	600		1.592,581	3.904,746	6.180,377	18.773,606
1	PRFV	4.960,000	2,447	20,000	1,200	2,597	34.662,083	1H:5V	600		1.596,271	3.918,691	6.189,977	18.827,978
1	PRFV	4.980,000	1,923	20,000	1,200	2,073	34.740,207	1H:5V	600		1.599,961	3.932,636	6.199,577	18.873,212
1	PRFV	5.000,000	1,882	20,000	1,200	2,032	34.806,319	1H:5V	600		1.603,651	3.946,581	6.209,177	18.906,435
1	PRFV	5.020,000	1,903	20,000	1,200	2,053	34.872,027	1H:5V	600		1.607,341	3.960,526	6.218,777	18.939,252
1	PRFV	5.040,000	1,954	20,000	1,200	2,104	34.939,194	1H:5V	600		1.611,031	3.974,471	6.228,377	18.973,530
1	PRFV	5.060,000	1,970	20,000	1,200	2,120	35.007,725	1H:5V	600		1.614,721	3.988,416	6.237,977	19.009,170
1	PRFV	5.080,000	2,000	20,000	1,200	2,150	35.077,198	1H:5V	600		1.618,411	4.002,362	6.247,577	19.045,754
1	PRFV	5.081,458	2,006	1,458	1,200	2,156	35.082,317	1H:5V	600		1.618,680	4.003,378	6.248,277	19.048,475
1	PRFV	5.100,000	2,092	18,542	1,200	2,242	35.149,185	1H:5V	600		1.622,101	4.016,307	6.257,177	19.084,850
1	PRFV	5.120,000	2,184	20,000	1,200	2,334	35.225,045	1H:5V	600		1.625,791	4.030,252	6.266,777	19.127,820
1	PRFV	5.140,000	2,276	20,000	1,200	2,426	35.304,831	1H:5V	600		1.629,481	4.044,197	6.276,377	19.174,716
1	PRFV	5.160,000	2,368	20,000	1,200	2,518	35.388,611	1H:5V	600		1.633,171	4.058,142	6.285,977	19.225,606

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	5.180,000	2,460	20,000	1,200	2,610	35.476,452	1H:5V	600		1.636,861	4.072,087	6.295,577	19.280,557
1	PRFV	5.200,000	2,026	20,000	1,200	2,176	35.556,978	1H:5V	600		1.640,551	4.086,032	6.305,177	19.328,193
1	PRFV	5.220,000	1,644	20,000	1,200	1,794	35.620,525	1H:5V	600		1.644,241	4.099,977	6.314,777	19.358,850
1	PRFV	5.240,000	1,736	20,000	1,200	1,886	35.678,235	1H:5V	600		1.647,931	4.113,923	6.324,377	19.383,671
1	PRFV	5.260,000	1,828	20,000	1,200	1,978	35.739,542	1H:5V	600		1.651,621	4.127,868	6.333,977	19.412,088
1	PRFV	5.280,000	1,921	20,000	1,200	2,071	35.804,534	1H:5V	600		1.655,311	4.141,813	6.343,577	19.444,189
1	PRFV	5.300,000	2,013	20,000	1,200	2,163	35.873,277	1H:5V	600		1.659,001	4.155,758	6.353,177	19.480,042
1	PRFV	5.316,634	2,089	16,634	1,200	2,239	35.933,332	1H:5V	600		1.662,070	4.167,356	6.361,162	19.512,742
1	PRFV	5.320,000	2,119	3,366	1,200	2,269	35.945,856	1H:5V	600		1.662,691	4.169,703	6.362,777	19.519,732
1	PRFV	5.327,498	2,287	7,498	1,200	2,437	35.975,341	1H:5V	600		1.664,074	4.174,931	6.366,376	19.536,886
1	PRFV	5.338,362	1,653	10,864	1,200	1,803	36.012,963	1H:5V	600		1.666,079	4.182,506	6.371,591	19.556,642
1	PRFV	5.340,000	1,639	1,638	1,200	1,789	36.017,550	1H:5V	600		1.666,381	4.183,648	6.372,377	19.558,535
1	PRFV	5.347,107	1,650	7,107	1,200	1,800	36.037,431	1H:5V	600		1.667,692	4.188,604	6.375,789	19.566,729
1	PRFV	5.360,000	1,724	12,893	1,200	1,874	36.074,558	1H:5V	600		1.670,071	4.197,593	6.381,977	19.582,653
1	PRFV	5.380,000	1,765	20,000	1,200	1,915	36.134,384	1H:5V	600		1.673,761	4.211,539	6.391,577	19.609,589
1	PRFV	5.400,000	1,828	20,000	1,200	1,978	36.196,259	1H:5V	600		1.677,451	4.225,484	6.401,177	19.638,575
1	PRFV	5.420,000	1,958	20,000	1,200	2,108	36.262,004	1H:5V	600		1.681,141	4.239,429	6.410,777	19.671,429
1	PRFV	5.440,000	1,819	20,000	1,200	1,969	36.327,569	1H:5V	600		1.684,831	4.253,374	6.420,377	19.704,104
1	PRFV	5.460,000	1,669	20,000	1,200	1,819	36.387,396	1H:5V	600		1.688,521	4.267,319	6.429,977	19.731,042
1	PRFV	5.480,000	1,750	20,000	1,200	1,900	36.445,862	1H:5V	600		1.692,211	4.281,264	6.439,577	19.756,617
1	PRFV	5.500,000	1,842	20,000	1,200	1,992	36.507,722	1H:5V	600		1.695,901	4.295,209	6.449,177	19.785,587
1	PRFV	5.520,000	1,981	20,000	1,200	2,131	36.574,216	1H:5V	600		1.699,591	4.309,154	6.458,777	19.819,192
1	PRFV	5.540,000	2,068	20,000	1,200	2,218	36.645,326	1H:5V	600		1.703,281	4.323,100	6.468,377	19.857,411
1	PRFV	5.560,000	2,231	20,000	1,200	2,381	36.721,691	1H:5V	600		1.706,971	4.337,045	6.477,977	19.900,886
1	PRFV	5.574,175	2,360	14,175	1,200	2,510	36.780,256	1H:5V	600		1.709,586	4.346,928	6.484,781	19.936,140
1	PRFV	5.580,000	2,384	5,825	1,200	2,534	36.805,294	1H:5V	600		1.710,661	4.350,990	6.487,577	19.951,600
1	PRFV	5.600,000	2,468	20,000	1,200	2,618	36.893,669	1H:5V	600		1.714,351	4.364,935	6.497,177	20.007,084
1	PRFV	5.620,000	2,552	20,000	1,200	2,702	36.985,818	1H:5V	600		1.718,041	4.378,880	6.506,777	20.066,343
1	PRFV	5.640,000	2,635	20,000	1,200	2,785	37.081,776	1H:5V	600		1.721,731	4.392,825	6.516,377	20.129,411
1	PRFV	5.660,000	2,719	20,000	1,200	2,869	37.181,599	1H:5V	600		1.725,421	4.406,770	6.525,977	20.196,344
1	PRFV	5.680,000	2,803	20,000	1,200	2,953	37.285,366	1H:5V	600		1.729,111	4.420,716	6.535,577	20.267,221
1	PRFV	5.700,000	2,887	20,000	1,200	3,037	37.394,613	1H:5V	600		1.732,801	4.434,661	6.545,177	20.343,578
1	PRFV	5.720,000	2,719	20,000	1,200	2,869	37.501,874	1H:5V	600		1.736,491	4.448,606	6.554,777	20.417,949
1	PRFV	5.733,932	2,063	13,932	1,200	2,213	37.562,646	1H:5V	600		1.739,061	4.458,320	6.561,465	20.455,810
1	PRFV	5.740,000	2,079	6,068	1,200	2,229	37.584,805	1H:5V	600		1.740,181	4.462,551	6.564,377	20.467,990
1	PRFV	5.760,000	1,808	20,000	1,200	1,958	37.652,653	1H:5V	600		1.743,871	4.476,496	6.573,977	20.502,949

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	5.780,000	1,682	20,000	1,200	1,832	37.712,513	1H:5V	600		1.747,561	4.490,441	6.583,577	20.529,919
1	PRFV	5.800,000	1,805	20,000	1,200	1,955	37.772,314	1H:5V	600		1.751,251	4.504,386	6.593,177	20.556,829
1	PRFV	5.820,000	1,967	20,000	1,200	2,117	37.837,785	1H:5V	600		1.754,941	4.518,331	6.602,777	20.589,411
1	PRFV	5.840,000	2,097	20,000	1,200	2,247	37.909,215	1H:5V	600		1.758,631	4.532,277	6.612,377	20.627,950
1	PRFV	5.855,688	2,212	15,688	1,200	2,362	37.969,272	1H:5V	600		1.761,525	4.543,215	6.619,908	20.662,208
1	PRFV	5.860,000	2,219	4,312	1,200	2,369	37.986,337	1H:5V	600		1.762,321	4.546,222	6.621,977	20.672,183
1	PRFV	5.880,000	2,288	20,000	1,200	2,438	38.067,133	1H:5V	600		1.766,011	4.560,167	6.631,577	20.720,089
1	PRFV	5.900,000	2,268	20,000	1,200	2,418	38.148,986	1H:5V	600		1.769,701	4.574,112	6.641,177	20.769,052
1	PRFV	5.920,000	2,292	20,000	1,200	2,442	38.230,927	1H:5V	600		1.773,391	4.588,057	6.650,777	20.818,102
1	PRFV	5.940,000	2,372	20,000	1,200	2,522	38.315,142	1H:5V	600		1.777,081	4.602,002	6.660,377	20.869,428
1	PRFV	5.940,963	2,375	0,963	1,200	2,525	38.319,285	1H:5V	600		1.777,258	4.602,674	6.660,840	20.871,987
1	PRFV	5.960,000	2,452	19,037	1,200	2,602	38.402,873	1H:5V	600		1.780,771	4.615,947	6.669,977	20.924,268
1	PRFV	5.980,000	2,524	20,000	1,200	2,674	38.494,026	1H:5V	600		1.784,461	4.629,893	6.679,577	20.982,531
1	PRFV	6.000,000	1,974	20,000	1,200	2,124	38.574,925	1H:5V	600		1.788,151	4.643,838	6.689,177	21.030,541
1	PRFV	6.020,000	1,880	20,000	1,200	2,030	38.642,038	1H:5V	600		1.791,841	4.657,783	6.698,777	21.064,763
1	PRFV	6.036,692	1,847	16,692	1,200	1,997	38.695,904	1H:5V	600		1.794,920	4.669,421	6.706,789	21.091,180
1	PRFV	6.037,883	1,842	1,191	1,200	1,992	38.699,703	1H:5V	600		1.795,140	4.670,252	6.707,361	21.093,019
1	PRFV	6.039,074	1,842	1,191	1,200	1,992	38.703,495	1H:5V	600		1.795,360	4.671,082	6.707,933	21.094,853
1	PRFV	6.040,000	1,842	0,926	1,200	1,992	38.706,443	1H:5V	600		1.795,531	4.671,728	6.708,377	21.096,278
1	PRFV	6.060,000	1,983	20,000	1,200	2,133	38.772,979	1H:5V	600		1.799,221	4.685,673	6.717,977	21.129,924
1	PRFV	6.080,000	2,182	20,000	1,200	2,332	38.846,534	1H:5V	600		1.802,911	4.699,618	6.727,577	21.170,590
1	PRFV	6.100,000	2,143	20,000	1,200	2,293	38.923,427	1H:5V	600		1.806,601	4.713,563	6.737,177	21.214,592
1	PRFV	6.120,000	1,664	20,000	1,200	1,814	38.989,807	1H:5V	600		1.810,291	4.727,508	6.746,777	21.248,083
1	PRFV	6.140,000	1,780	20,000	1,200	1,930	39.048,766	1H:5V	600		1.813,981	4.741,454	6.756,377	21.274,152
1	PRFV	6.160,000	1,979	20,000	1,200	2,129	39.113,990	1H:5V	600		1.817,671	4.755,399	6.765,977	21.306,485
1	PRFV	6.180,000	2,162	20,000	1,200	2,312	39.187,038	1H:5V	600		1.821,361	4.769,344	6.775,577	21.346,643
1	PRFV	6.183,762	2,077	3,762	1,200	2,227	39.201,160	1H:5V	600		1.822,055	4.771,967	6.777,383	21.354,578
1	PRFV	6.200,000	2,308	16,238	1,200	2,458	39.264,669	1H:5V	600		1.825,051	4.783,289	6.785,177	21.391,384
1	PRFV	6.220,000	1,681	20,000	1,200	1,831	39.334,925	1H:5V	600		1.828,741	4.797,234	6.794,777	21.428,750
1	PRFV	6.226,703	1,643	6,703	1,200	1,793	39.353,902	1H:5V	600		1.829,977	4.801,908	6.797,995	21.436,705
1	PRFV	6.240,000	2,916	13,297	1,200	3,066	39.411,198	1H:5V	600		1.832,431	4.811,179	6.804,377	21.472,133
1	PRFV	6.251,123	3,756	11,123	1,200	3,906	39.506,777	1H:5V	600		1.834,483	4.818,935	6.809,716	21.549,421
1	PRFV	6.260,000	2,286	8,877	1,200	2,436	39.575,452	1H:5V	600		1.836,121	4.825,124	6.813,977	21.603,497
1	PRFV	6.263,123	1,600	3,123	1,200	1,750	39.586,106	1H:5V	600		1.836,697	4.827,302	6.815,476	21.609,015
1	PRFV	6.280,000	1,907	16,877	1,200	2,057	39.636,966	1H:5V	600		1.839,811	4.839,070	6.823,577	21.632,121
1	PRFV	6.300,000	2,243	20,000	1,200	2,393	39.710,281	1H:5V	600		1.843,501	4.853,015	6.833,177	21.672,546

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	6.320,000	2,236	20,000	1,200	2,386	39.790,468	1H:5V	600		1.847,191	4.866,960	6.842,777	21.719,843
1	PRFV	6.340,000	2,222	20,000	1,200	2,372	39.870,203	1H:5V	600		1.850,881	4.880,905	6.852,377	21.766,688
1	PRFV	6.360,000	2,214	20,000	1,200	2,364	39.949,464	1H:5V	600		1.854,571	4.894,850	6.861,977	21.813,060
1	PRFV	6.380,000	2,186	20,000	1,200	2,336	40.027,955	1H:5V	600		1.858,261	4.908,795	6.871,577	21.858,661
1	PRFV	6.400,000	2,158	20,000	1,200	2,308	40.105,251	1H:5V	600		1.861,951	4.922,740	6.881,177	21.903,066
1	PRFV	6.416,555	2,155	16,555	1,200	2,305	40.168,686	1H:5V	600		1.865,005	4.934,283	6.889,124	21.939,277
1	PRFV	6.420,000	2,112	3,445	1,200	2,262	40.181,719	1H:5V	600		1.865,641	4.936,685	6.890,777	21.946,644
1	PRFV	6.440,000	2,347	20,000	1,200	2,497	40.261,530	1H:5V	600		1.869,331	4.950,631	6.900,377	21.993,566
1	PRFV	6.445,752	2,008	5,752	1,200	2,158	40.283,861	1H:5V	600		1.870,392	4.954,641	6.903,138	22.006,437
1	PRFV	6.460,000	1,940	14,248	1,200	2,090	40.333,035	1H:5V	600		1.873,021	4.964,576	6.909,977	22.032,180
1	PRFV	6.477,645	1,913	17,645	1,200	2,063	40.392,220	1H:5V	600		1.876,276	4.976,879	6.918,447	22.062,348
1	PRFV	6.480,000	1,898	2,355	1,200	2,048	40.400,019	1H:5V	600		1.876,711	4.978,521	6.919,577	22.066,274
1	PRFV	6.500,000	1,869	20,000	1,200	2,019	40.465,364	1H:5V	600		1.880,401	4.992,466	6.929,177	22.098,729
1	PRFV	6.520,000	1,645	20,000	1,200	1,795	40.525,729	1H:5V	600		1.884,091	5.006,411	6.938,777	22.126,204
1	PRFV	6.540,000	2,043	20,000	1,200	2,193	40.589,647	1H:5V	600		1.887,781	5.020,356	6.948,377	22.157,233
1	PRFV	6.544,123	2,560	4,123	1,200	2,710	40.606,787	1H:5V	600		1.888,541	5.023,231	6.950,356	22.167,592
1	PRFV	6.560,000	2,914	15,877	1,200	3,064	40.690,390	1H:5V	600		1.891,471	5.034,301	6.957,977	22.225,085
1	PRFV	6.580,000	2,505	20,000	1,200	2,655	40.794,452	1H:5V	600		1.895,161	5.048,247	6.967,577	22.296,257
1	PRFV	6.600,000	2,120	20,000	1,200	2,270	40.877,956	1H:5V	600		1.898,851	5.062,192	6.977,177	22.346,871
1	PRFV	6.620,000	1,825	20,000	1,200	1,975	40.947,003	1H:5V	600		1.902,541	5.076,137	6.986,777	22.383,028
1	PRFV	6.640,000	1,656	20,000	1,200	1,806	41.006,699	1H:5V	600		1.906,231	5.090,082	6.996,377	22.409,835
1	PRFV	6.660,000	1,945	20,000	1,200	2,095	41.068,813	1H:5V	600		1.909,921	5.104,027	7.005,977	22.439,058
1	PRFV	6.680,000	2,323	20,000	1,200	2,473	41.144,638	1H:5V	600		1.913,611	5.117,972	7.015,577	22.481,993
1	PRFV	6.693,599	2,186	13,599	1,200	2,336	41.199,614	1H:5V	600		1.916,120	5.127,454	7.022,105	22.514,606
1	PRFV	6.696,581	2,144	2,982	1,200	2,294	41.211,095	1H:5V	600		1.916,670	5.129,533	7.023,536	22.521,183
1	PRFV	6.699,325	2,087	2,744	1,200	2,237	41.221,372	1H:5V	600		1.917,176	5.131,447	7.024,853	22.526,947
1	PRFV	6.700,000	2,070	0,675	1,200	2,220	41.223,847	1H:5V	600		1.917,301	5.131,917	7.025,177	22.528,313
1	PRFV	6.705,051	1,906	5,051	1,200	2,056	41.241,431	1H:5V	600		1.918,233	5.135,439	7.027,602	22.537,589
1	PRFV	6.720,000	2,328	14,949	1,200	2,478	41.297,596	1H:5V	600		1.920,991	5.145,862	7.034,777	22.569,172
1	PRFV	6.740,000	2,379	20,000	1,200	2,529	41.382,753	1H:5V	600		1.924,681	5.159,808	7.044,377	22.621,438
1	PRFV	6.760,000	1,779	20,000	1,200	1,929	41.456,483	1H:5V	600		1.928,371	5.173,753	7.053,977	22.662,278
1	PRFV	6.775,794	2,604	15,794	1,200	2,754	41.518,717	1H:5V	600		1.931,285	5.184,765	7.061,558	22.698,539
1	PRFV	6.780,000	2,132	4,206	1,200	2,282	41.536,806	1H:5V	600		1.932,061	5.187,698	7.063,577	22.709,711
1	PRFV	6.800,000	1,679	20,000	1,200	1,829	41.603,243	1H:5V	600		1.935,751	5.201,643	7.073,177	22.743,259
1	PRFV	6.820,000	2,673	20,000	1,200	2,823	41.681,697	1H:5V	600		1.939,441	5.215,588	7.082,777	22.788,822
1	PRFV	6.840,000	4,326	20,000	1,200	4,476	41.884,332	1H:5V	600		1.943,131	5.229,533	7.092,377	22.958,568

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	6.855,771	1,600	15,771	1,200	1,750	42.026,229	1H:5V	600		1.946,041	5.240,530	7.099,947	23.074,529
1	PEAD	6.860,000	1,664	4,229	0,800	1,814	42.036,425	1H:5V	400		1.946,694	5.242,252	7.102,051	23.079,714
1	PEAD	6.880,000	1,877	20,000	0,800	2,027	42.081,951	1H:5V	400		1.949,184	5.244,595	7.112,344	23.107,601
1	PEAD	6.900,000	2,051	20,000	0,800	2,201	42.133,682	1H:5V	400		1.951,674	5.246,939	7.122,637	23.141,691
1	PEAD	6.920,000	1,879	20,000	0,800	2,029	42.185,444	1H:5V	400		1.954,164	5.249,282	7.132,931	23.175,814
1	PEAD	6.940,000	1,706	20,000	0,800	1,856	42.231,647	1H:5V	400		1.956,654	5.251,625	7.143,224	23.204,377
1	PEAD	6.960,000	1,534	20,000	0,800	1,684	42.272,528	1H:5V	400		1.959,144	5.253,969	7.153,517	23.227,618
1	PEAD	6.980,000	1,464	20,000	0,800	1,614	42.309,794	1H:5V	400		1.961,634	5.256,312	7.163,811	23.247,244
1	PEAD	7.000,000	1,674	20,000	0,800	1,824	42.349,162	1H:5V	400		1.964,124	5.258,655	7.174,104	23.268,972
1	PEAD	7.020,000	1,898	20,000	0,800	2,048	42.395,181	1H:5V	400		1.966,614	5.260,999	7.184,398	23.297,350
1	PEAD	7.028,984	1,940	8,984	0,800	2,090	42.417,743	1H:5V	400		1.967,732	5.262,051	7.189,021	23.311,989
1	PEAD	7.040,000	1,845	11,016	0,800	1,995	42.444,940	1H:5V	400		1.969,104	5.263,342	7.194,691	23.329,470
1	PEAD	7.060,000	1,673	20,000	0,800	1,823	42.490,091	1H:5V	400		1.971,594	5.265,685	7.204,984	23.356,980
1	PEAD	7.061,761	1,658	1,761	0,800	1,808	42.493,809	1H:5V	400		1.971,813	5.265,892	7.205,891	23.359,146
1	PEAD	7.077,668	1,474	15,907	0,800	1,624	42.525,041	1H:5V	400		1.973,794	5.267,756	7.214,077	23.376,348
1	PEAD	7.080,000	1,700	2,332	0,715	1,850	42.529,512	1H:5V	315		1.974,069	5.267,995	7.215,188	23.379,011
1	PEAD	7.091,378	1,315	11,378	0,715	1,465	42.549,332	1H:5V	315		1.975,341	5.268,997	7.220,170	23.390,690
1	PEAD	7.100,000	1,393	8,622	0,715	1,543	42.562,507	1H:5V	315		1.976,304	5.269,756	7.223,945	23.397,695
1	PEAD	7.120,000	1,432	20,000	0,715	1,582	42.594,618	1H:5V	315		1.978,539	5.271,517	7.232,701	23.415,495
1	PEAD	7.140,000	1,515	20,000	0,715	1,665	42.628,384	1H:5V	315		1.980,774	5.273,278	7.241,458	23.434,949
1	PEAD	7.160,000	1,651	20,000	0,715	1,801	42.665,197	1H:5V	315		1.983,009	5.275,039	7.250,214	23.457,451
1	PEAD	7.180,000	1,680	20,000	0,715	1,830	42.704,344	1H:5V	315		1.985,244	5.276,801	7.258,971	23.482,286
1	PEAD	7.200,000	1,754	20,000	0,715	1,904	42.744,990	1H:5V	315		1.987,479	5.278,562	7.267,728	23.508,621
1	PEAD	7.220,000	1,821	20,000	0,715	1,971	42.787,717	1H:5V	315		1.989,714	5.280,323	7.276,484	23.537,036
1	PEAD	7.240,000	1,886	20,000	0,715	2,036	42.832,427	1H:5V	315		1.991,949	5.282,084	7.285,241	23.567,435
1	PEAD	7.260,000	1,957	20,000	0,715	2,107	42.879,219	1H:5V	315		1.994,184	5.283,845	7.293,998	23.599,916
1	PEAD	7.280,000	2,021	20,000	0,715	2,171	42.928,112	1H:5V	315		1.996,419	5.285,606	7.302,754	23.634,498
1	PEAD	7.300,000	2,100	20,000	0,715	2,250	42.979,274	1H:5V	315		1.998,654	5.287,368	7.311,511	23.671,348
1	PEAD	7.320,000	2,179	20,000	0,715	2,329	43.032,987	1H:5V	315		2.000,889	5.289,129	7.320,267	23.710,750
1	PEAD	7.340,000	2,148	20,000	0,715	2,298	43.087,480	1H:5V	315		2.003,124	5.290,890	7.329,024	23.750,931
1	PEAD	7.360,000	1,421	20,000	0,715	1,571	43.130,641	1H:5V	315		2.005,359	5.292,651	7.337,781	23.779,781
1	PEAD	7.380,000	1,424	20,000	0,715	1,574	43.163,019	1H:5V	315		2.007,594	5.294,412	7.346,537	23.797,847
1	PEAD	7.400,000	1,453	20,000	0,715	1,603	43.195,829	1H:5V	315		2.009,829	5.296,173	7.355,294	23.816,346
1	PEAD	7.420,000	1,497	20,000	0,715	1,647	43.229,631	1H:5V	315		2.012,064	5.297,935	7.364,050	23.835,836
1	PEAD	7.440,000	1,586	20,000	0,715	1,736	43.265,272	1H:5V	315		2.014,299	5.299,696	7.372,807	23.857,166
1	PEAD	7.460,000	1,659	20,000	0,715	1,809	43.303,191	1H:5V	315		2.016,534	5.301,457	7.381,564	23.880,774

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	7.480,000	1,716	20,000	0,715	1,866	43.342,976	1H:5V	315		2.018,769	5.303,218	7.390,320	23.906,247
1	PEAD	7.500,000	1,801	20,000	0,715	1,951	43.384,844	1H:5V	315		2.021,004	5.304,979	7.399,077	23.933,804
1	PEAD	7.520,000	1,837	20,000	0,715	1,987	43.428,510	1H:5V	315		2.023,239	5.306,740	7.407,834	23.963,159
1	PEAD	7.540,000	1,915	20,000	0,715	2,065	43.473,907	1H:5V	315		2.025,474	5.308,502	7.416,590	23.994,244
1	PEAD	7.560,000	1,741	20,000	0,715	1,891	43.517,872	1H:5V	315		2.027,709	5.310,263	7.425,347	24.023,898
1	PEAD	7.580,000	1,327	20,000	0,715	1,477	43.553,468	1H:5V	315		2.029,944	5.312,024	7.434,103	24.045,183
1	PEAD	7.600,000	1,410	20,000	0,715	1,560	43.584,413	1H:5V	315		2.032,179	5.313,785	7.442,860	24.061,816
1	PEAD	7.615,465	1,473	15,465	0,715	1,623	43.609,848	1H:5V	315		2.033,907	5.315,147	7.449,631	24.076,185
1	PEAD	7.620,000	1,492	4,535	0,650	1,642	43.617,317	1H:5V	250		2.034,392	5.315,499	7.451,489	24.080,736
1	PEAD	7.639,360	1,550	19,360	0,650	1,700	43.649,160	1H:5V	250		2.036,367	5.316,803	7.458,876	24.100,963
1	PEAD	7.640,000	1,548	0,640	0,650	1,698	43.650,236	1H:5V	250		2.036,432	5.316,846	7.459,121	24.101,655
1	PEAD	7.660,000	1,539	20,000	0,650	1,689	43.683,723	1H:5V	250		2.038,472	5.318,193	7.466,752	24.123,142
1	PEAD	7.680,000	1,570	20,000	0,650	1,720	43.717,504	1H:5V	250		2.040,512	5.319,539	7.474,384	24.144,923
1	PEAD	7.680,478	1,568	0,478	0,650	1,718	43.718,321	1H:5V	250		2.040,561	5.319,571	7.474,566	24.145,453
1	PEAD	7.681,041	1,567	0,563	0,650	1,717	43.719,281	1H:5V	250		2.040,618	5.319,609	7.474,781	24.146,076
1	PEAD	7.681,604	1,566	0,563	0,650	1,716	43.720,241	1H:5V	250		2.040,676	5.319,647	7.474,996	24.146,698
1	PEAD	7.700,000	1,636	18,396	0,650	1,786	43.752,464	1H:5V	250		2.042,552	5.320,886	7.482,016	24.167,883
1	PEAD	7.720,000	1,587	20,000	0,650	1,737	43.787,777	1H:5V	250		2.044,592	5.322,232	7.489,647	24.191,196
1	PEAD	7.740,000	1,252	20,000	0,650	1,402	43.818,146	1H:5V	250		2.046,632	5.323,579	7.497,279	24.209,565
1	PEAD	7.760,000	1,425	20,000	0,650	1,575	43.846,389	1H:5V	250		2.048,672	5.324,926	7.504,910	24.225,808
1	PEAD	7.780,000	1,597	20,000	0,650	1,747	43.879,047	1H:5V	250		2.050,712	5.326,272	7.512,542	24.246,466
1	PEAD	7.800,000	1,707	20,000	0,650	1,857	43.915,474	1H:5V	250		2.052,752	5.327,619	7.520,174	24.270,893
1	PEAD	7.820,000	1,766	20,000	0,650	1,916	43.954,238	1H:5V	250		2.054,792	5.328,966	7.527,805	24.297,657
1	PEAD	7.840,000	1,743	20,000	0,650	1,893	43.993,505	1H:5V	250		2.056,832	5.330,312	7.535,437	24.324,924
1	PEAD	7.854,025	1,804	14,025	0,650	1,954	44.021,421	1H:5V	250		2.058,262	5.331,256	7.540,789	24.344,425
1	PEAD	7.855,805	1,814	1,780	0,650	1,964	44.025,054	1H:5V	250		2.058,444	5.331,376	7.541,468	24.346,990
1	PEAD	7.857,585	1,833	1,780	0,650	1,983	44.028,724	1H:5V	250		2.058,626	5.331,496	7.542,147	24.349,592
1	PEAD	7.860,000	1,877	2,415	0,650	2,027	44.033,813	1H:5V	250		2.058,872	5.331,659	7.543,069	24.353,232
1	PEAD	7.880,000	2,019	20,000	0,650	2,169	44.078,714	1H:5V	250		2.060,912	5.333,005	7.550,700	24.386,133
1	PEAD	7.890,486	1,744	10,486	0,650	1,894	44.101,255	1H:5V	250		2.061,982	5.333,711	7.554,701	24.402,382
1	PEAD	7.900,000	1,393	9,514	0,650	1,543	44.117,560	1H:5V	250		2.062,952	5.334,352	7.558,332	24.412,979
1	PEAD	7.920,000	1,480	20,000	0,650	1,630	44.148,260	1H:5V	250		2.064,992	5.335,699	7.565,963	24.431,679
1	PEAD	7.940,000	1,443	20,000	0,650	1,593	44.179,599	1H:5V	250		2.067,032	5.337,045	7.573,595	24.451,018
1	PEAD	7.960,000	1,634	20,000	0,650	1,784	44.212,990	1H:5V	250		2.069,072	5.338,392	7.581,227	24.472,409
1	PEAD	7.980,000	1,946	20,000	0,650	2,096	44.253,362	1H:5V	250		2.071,112	5.339,739	7.588,858	24.500,781
1	PEAD	8.000,000	1,452	20,000	0,650	1,602	44.291,318	1H:5V	250		2.073,152	5.341,085	7.596,490	24.526,737

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	8.020,000	1,429	20,000	0,650	1,579	44.322,114	1H:5V	250		2.075,192	5.342,432	7.604,122	24.545,533
1	PEAD	8.040,000	1,417	20,000	0,650	1,567	44.352,460	1H:5V	250		2.077,232	5.343,778	7.611,753	24.563,879
1	PEAD	8.060,000	1,349	20,000	0,650	1,499	44.381,794	1H:5V	250		2.079,272	5.345,125	7.619,385	24.581,213
1	PEAD	8.080,000	1,378	20,000	0,650	1,528	44.410,633	1H:5V	250		2.081,312	5.346,472	7.627,016	24.598,052
1	PEAD	8.100,000	1,316	20,000	0,650	1,466	44.439,062	1H:5V	250		2.083,352	5.347,818	7.634,648	24.614,481
1	PEAD	8.111,183	1,445	11,183	0,650	1,595	44.455,436	1H:5V	250		2.084,493	5.348,571	7.638,915	24.624,145
1	PEAD	8.112,588	1,472	1,405	0,650	1,622	44.457,632	1H:5V	250		2.084,636	5.348,666	7.639,451	24.625,498
1	PEAD	8.113,993	1,485	1,405	0,650	1,635	44.459,864	1H:5V	250		2.084,779	5.348,760	7.639,988	24.626,887
1	PEAD	8.120,000	1,506	6,007	0,650	1,656	44.469,542	1H:5V	250		2.085,392	5.349,165	7.642,280	24.632,961
1	PEAD	8.140,000	1,566	20,000	0,650	1,716	44.502,834	1H:5V	250		2.087,432	5.350,512	7.649,911	24.654,253
1	PEAD	8.160,000	1,579	20,000	0,650	1,729	44.537,095	1H:5V	250		2.089,472	5.351,858	7.657,543	24.676,514
1	PEAD	8.180,000	1,286	20,000	0,650	1,436	44.567,770	1H:5V	250		2.091,512	5.353,205	7.665,175	24.695,189
1	PEAD	8.200,000	1,292	20,000	0,650	1,442	44.594,760	1H:5V	250		2.093,552	5.354,551	7.672,806	24.710,179
1	PEAD	8.220,000	1,377	20,000	0,650	1,527	44.622,881	1H:5V	250		2.095,592	5.355,898	7.680,438	24.726,300
1	PEAD	8.240,000	1,604	20,000	0,650	1,754	44.655,024	1H:5V	250		2.097,632	5.357,245	7.688,069	24.746,443
1	PEAD	8.244,744	1,660	4,744	0,650	1,810	44.663,533	1H:5V	250		2.098,116	5.357,564	7.689,880	24.752,105
1	PEAD	8.246,123	1,679	1,379	0,650	1,829	44.666,077	1H:5V	250		2.098,256	5.357,657	7.690,406	24.753,822
1	PEAD	8.247,502	1,707	1,379	0,650	1,857	44.668,665	1H:5V	250		2.098,397	5.357,750	7.690,932	24.755,583
1	PEAD	8.260,000	1,428	12,498	0,650	1,578	44.690,040	1H:5V	250		2.099,672	5.358,591	7.695,701	24.769,459
1	PEAD	8.280,000	1,550	20,000	0,650	1,700	44.722,107	1H:5V	250		2.101,712	5.359,938	7.703,333	24.789,526
1	PEAD	8.300,000	1,900	20,000	0,650	2,050	44.760,667	1H:5V	250		2.103,752	5.361,285	7.710,964	24.816,086
1	PEAD	8.320,000	1,350	20,000	0,650	1,500	44.796,647	1H:5V	250		2.105,792	5.362,631	7.718,596	24.840,066
1	PEAD	8.338,242	1,414	18,242	0,650	1,564	44.823,379	1H:5V	250		2.107,653	5.363,859	7.725,557	24.855,853
1	PEAD	8.339,643	1,343	1,401	0,650	1,493	44.825,426	1H:5V	250		2.107,796	5.363,954	7.726,091	24.857,059
1	PEAD	8.340,000	1,368	0,357	0,650	1,518	44.825,937	1H:5V	250		2.107,832	5.363,978	7.726,228	24.857,356
1	PEAD	8.341,042	1,436	1,042	0,650	1,586	44.827,491	1H:5V	250		2.107,938	5.364,048	7.726,625	24.858,284
1	PEAD	8.360,000	1,390	18,958	0,650	1,540	44.856,016	1H:5V	250		2.109,872	5.365,324	7.733,859	24.875,435
1	PEAD	8.380,000	1,599	20,000	0,650	1,749	44.888,255	1H:5V	250		2.111,912	5.366,671	7.741,491	24.895,674
1	PEAD	8.400,000	1,774	20,000	0,650	1,924	44.925,651	1H:5V	250		2.113,952	5.368,018	7.749,122	24.921,071
1	PEAD	8.420,000	1,871	20,000	0,650	2,021	44.966,866	1H:5V	250		2.115,992	5.369,364	7.756,754	24.950,285
1	PEAD	8.440,000	2,052	20,000	0,650	2,202	45.012,182	1H:5V	250		2.118,032	5.370,711	7.764,386	24.983,601
1	PEAD	8.460,000	2,276	20,000	0,650	2,426	45.063,733	1H:5V	250		2.120,072	5.372,058	7.772,017	25.023,152
1	PEAD	8.466,694	2,303	6,694	0,650	2,453	45.082,315	1H:5V	250		2.120,755	5.372,508	7.774,572	25.037,718
1	PEAD	8.467,327	2,307	0,633	0,650	2,457	45.084,088	1H:5V	250		2.120,819	5.372,551	7.774,813	25.039,111
1	PEAD	8.467,842	2,310	0,515	0,650	2,460	45.085,534	1H:5V	250		2.120,872	5.372,586	7.775,010	25.040,248
1	PEAD	8.468,990	2,323	1,148	0,650	2,473	45.088,771	1H:5V	250		2.120,989	5.372,663	7.775,448	25.042,796

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	8.480,000	2,456	11,010	0,650	2,606	45.121,156	1H:5V	250		2.122,112	5.373,404	7.779,649	25.068,575
1	PEAD	8.500,000	1,974	20,000	0,650	2,124	45.174,506	1H:5V	250		2.124,152	5.374,751	7.787,281	25.109,925
1	PEAD	8.520,000	1,996	20,000	0,650	2,146	45.220,494	1H:5V	250		2.126,192	5.376,097	7.794,912	25.143,913
1	PEAD	8.540,000	1,259	20,000	0,650	1,409	45.256,783	1H:5V	250		2.128,232	5.377,444	7.802,544	25.168,202
1	PEAD	8.560,000	1,523	20,000	0,650	1,673	45.286,384	1H:5V	250		2.130,272	5.378,791	7.810,175	25.185,803
1	PEAD	8.580,000	1,627	20,000	0,650	1,777	45.320,723	1H:5V	250		2.132,312	5.380,137	7.817,807	25.208,142
1	PEAD	8.600,000	1,377	20,000	0,650	1,527	45.353,178	1H:5V	250		2.134,352	5.381,484	7.825,439	25.228,597
1	PEAD	8.611,207	1,280	11,207	0,650	1,430	45.368,853	1H:5V	250		2.135,495	5.382,239	7.829,715	25.237,548
1	PEAD	8.620,000	1,314	8,793	0,650	1,464	45.380,806	1H:5V	250		2.136,392	5.382,831	7.833,070	25.244,225
1	PEAD	8.637,337	1,297	17,337	0,650	1,447	45.404,554	1H:5V	250		2.138,160	5.383,998	7.839,686	25.257,570
1	PEAD	8.639,331	1,263	1,994	0,650	1,413	45.407,223	1H:5V	250		2.138,364	5.384,132	7.840,447	25.259,043
1	PEAD	8.640,000	1,258	0,669	0,650	1,408	45.408,102	1H:5V	250		2.138,432	5.384,177	7.840,702	25.259,521
1	PEAD	8.640,270	1,257	0,270	0,650	1,407	45.408,456	1H:5V	250		2.138,459	5.384,195	7.840,805	25.259,713
1	PEAD	8.641,325	1,261	1,055	0,650	1,411	45.409,841	1H:5V	250		2.138,567	5.384,266	7.841,208	25.260,465
1	PEAD	8.660,000	1,391	18,675	0,650	1,541	45.435,911	1H:5V	250		2.140,472	5.385,524	7.848,334	25.275,330
1	PEAD	8.680,000	1,982	20,000	0,650	2,132	45.473,626	1H:5V	250		2.142,512	5.386,870	7.855,965	25.301,045
1	PEAD	8.693,043	1,819	13,043	0,650	1,969	45.501,995	1H:5V	250		2.143,842	5.387,749	7.860,942	25.321,588
1	PEAD	8.700,000	1,803	6,957	0,650	1,953	45.516,213	1H:5V	250		2.144,552	5.388,217	7.863,597	25.331,632
1	PEAD	8.706,504	1,663	6,504	0,650	1,813	45.528,793	1H:5V	250		2.145,215	5.388,655	7.866,079	25.340,309
1	PEAD	8.707,280	1,682	0,776	0,650	1,832	45.530,227	1H:5V	250		2.145,295	5.388,707	7.866,375	25.341,278
1	PEAD	8.708,056	1,705	0,776	0,650	1,855	45.531,685	1H:5V	250		2.145,374	5.388,759	7.866,671	25.342,270
1	PEAD	8.720,000	2,528	11,944	0,650	2,678	45.561,957	1H:5V	250		2.146,592	5.389,564	7.871,229	25.365,376
1	PEAD	8.740,000	1,635	20,000	0,650	1,785	45.611,682	1H:5V	250		2.148,632	5.390,910	7.878,860	25.403,101
1	PEAD	8.760,000	1,986	20,000	0,650	2,136	45.652,666	1H:5V	250		2.150,672	5.392,257	7.886,492	25.432,085
1	PEAD	8.780,000	1,607	20,000	0,650	1,757	45.693,270	1H:5V	250		2.152,712	5.393,604	7.894,123	25.460,689
1	PEAD	8.800,000	1,506	20,000	0,650	1,656	45.727,113	1H:5V	250		2.154,752	5.394,950	7.901,755	25.482,532
1	PEAD	8.820,000	1,923	20,000	0,650	2,073	45.765,431	1H:5V	250		2.156,792	5.396,297	7.909,387	25.508,850
1	PEAD	8.822,030	2,024	2,030	0,650	2,174	45.770,064	1H:5V	250		2.156,999	5.396,434	7.910,161	25.512,265
1	PEAD	8.829,520	2,587	7,490	0,650	2,737	45.791,170	1H:5V	250		2.157,763	5.396,938	7.913,019	25.528,877
1	PEAD	8.837,010	1,523	7,490	0,650	1,673	45.809,612	1H:5V	250		2.158,527	5.397,442	7.915,877	25.542,825
1	PEAD	8.840,000	1,972	2,990	0,650	2,122	45.815,483	1H:5V	250		2.158,832	5.397,643	7.917,018	25.546,902
1	PEAD	8.840,692	2,076	0,692	0,650	2,226	45.817,116	1H:5V	250		2.158,903	5.397,690	7.917,282	25.548,119
1	PEAD	8.860,000	2,079	19,308	0,650	2,229	45.864,231	1H:5V	250		2.160,872	5.398,990	7.924,650	25.583,651
1	PEAD	8.866,889	2,275	6,889	0,650	2,425	45.882,125	1H:5V	250		2.161,575	5.399,454	7.927,279	25.597,411
1	PEAD	8.880,000	2,374	13,111	0,650	2,524	45.919,276	1H:5V	250		2.162,912	5.400,337	7.932,282	25.626,695
1	PEAD	8.900,000	2,002	20,000	0,650	2,152	45.971,673	1H:5V	250		2.164,952	5.401,683	7.939,913	25.667,092

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	8.920,000	1,890	20,000	0,650	2,040	46.016,507	1H:5V	250		2.166,992	5.403,030	7.947,545	25.699,926
1	PEAD	8.940,000	2,013	20,000	0,650	2,163	46.061,507	1H:5V	250		2.169,032	5.404,377	7.955,176	25.732,926
1	PEAD	8.960,000	2,134	20,000	0,650	2,284	46.110,202	1H:5V	250		2.171,072	5.405,723	7.962,808	25.769,622
1	PEAD	8.980,000	2,302	20,000	0,650	2,452	46.163,444	1H:5V	250		2.173,112	5.407,070	7.970,440	25.810,863
1	PEAD	9.000,000	2,340	20,000	0,650	2,490	46.219,992	1H:5V	250		2.175,152	5.408,416	7.978,071	25.855,411
1	PEAD	9.004,728	2,329	4,728	0,650	2,479	46.233,465	1H:5V	250		2.175,634	5.408,735	7.979,875	25.866,047
1	PEAD	9.005,448	2,326	0,720	0,650	2,476	46.235,508	1H:5V	250		2.175,708	5.408,783	7.980,150	25.867,658
1	PEAD	9.006,168	2,326	0,720	0,650	2,476	46.237,549	1H:5V	250		2.175,781	5.408,832	7.980,425	25.869,268
1	PEAD	9.015,448	1,307	9,280	0,650	1,457	46.257,071	1H:5V	250		2.176,728	5.409,457	7.983,966	25.883,221
1	PEAD	9.020,000	1,298	4,552	0,650	1,448	46.263,289	1H:5V	250		2.177,192	5.409,763	7.985,703	25.886,708
1	PEAD	9.040,000	1,258	20,000	0,650	1,408	46.290,011	1H:5V	250		2.179,232	5.411,110	7.993,335	25.901,430
1	PEAD	9.046,426	1,704	6,426	0,650	1,854	46.300,307	1H:5V	250		2.179,887	5.411,542	7.995,787	25.907,870
1	PEAD	9.048,319	2,087	1,893	0,650	2,237	46.304,421	1H:5V	250		2.180,080	5.411,670	7.996,509	25.910,849
1	PEAD	9.050,212	2,231	1,893	0,650	2,381	46.309,283	1H:5V	250		2.180,274	5.411,797	7.997,231	25.914,575
1	PEAD	9.060,000	2,154	9,788	0,650	2,304	46.334,931	1H:5V	250		2.181,272	5.412,456	8.000,966	25.934,350
1	PEAD	9.080,000	2,051	20,000	0,650	2,201	46.384,519	1H:5V	250		2.183,312	5.413,803	8.008,598	25.971,939
1	PEAD	9.100,000	1,943	20,000	0,650	2,093	46.430,881	1H:5V	250		2.185,352	5.415,150	8.016,229	26.006,300
1	PEAD	9.120,000	1,832	20,000	0,650	1,982	46.473,986	1H:5V	250		2.187,392	5.416,496	8.023,861	26.037,405
1	PEAD	9.140,000	1,759	20,000	0,650	1,909	46.514,423	1H:5V	250		2.189,432	5.417,843	8.031,493	26.065,842
1	PEAD	9.160,000	2,089	20,000	0,650	2,239	46.558,700	1H:5V	250		2.191,472	5.419,189	8.039,124	26.098,119
1	PEAD	9.180,000	1,511	20,000	0,650	1,661	46.599,594	1H:5V	250		2.193,512	5.420,536	8.046,756	26.127,013
1	PEAD	9.200,000	1,418	20,000	0,650	1,568	46.631,017	1H:5V	250		2.195,552	5.421,883	8.054,388	26.146,436
1	PEAD	9.220,000	2,001	20,000	0,650	2,151	46.669,362	1H:5V	250		2.197,592	5.423,229	8.062,019	26.172,781
1	PEAD	9.240,000	1,751	20,000	0,650	1,901	46.712,181	1H:5V	250		2.199,632	5.424,576	8.069,651	26.203,600
1	PEAD	9.259,344	1,360	19,344	0,650	1,510	46.745,026	1H:5V	250		2.201,605	5.425,878	8.077,032	26.224,839
1	PEAD	9.260,000	1,345	0,656	0,525	1,495	46.745,902	1H:5V	125		2.201,666	5.425,911	8.077,249	26.225,396
1	PEAD	9.280,000	1,777	20,000	0,525	1,927	46.775,764	1H:5V	125		2.203,331	5.426,535	8.082,839	26.247,134
1	PEAD	9.300,000	1,527	20,000	0,525	1,677	46.807,736	1H:5V	125		2.204,996	5.427,159	8.088,430	26.270,981
1	PEAD	9.320,000	1,689	20,000	0,525	1,839	46.838,584	1H:5V	125		2.206,661	5.427,783	8.094,020	26.293,703
1	PEAD	9.340,000	1,580	20,000	0,525	1,730	46.870,071	1H:5V	125		2.208,326	5.428,407	8.099,611	26.317,065
1	PEAD	9.360,000	1,514	20,000	0,525	1,664	46.899,413	1H:5V	125		2.209,991	5.429,032	8.105,201	26.338,282
1	PEAD	9.380,000	1,418	20,000	0,525	1,568	46.926,836	1H:5V	125		2.211,656	5.429,656	8.110,791	26.357,580
1	PEAD	9.400,000	1,315	20,000	0,525	1,465	46.951,969	1H:5V	125		2.213,321	5.430,280	8.116,382	26.374,588
1	PEAD	9.420,000	1,237	20,000	0,525	1,387	46.975,082	1H:5V	125		2.214,986	5.430,904	8.121,972	26.389,576
1	PEAD	9.428,049	1,199	8,049	0,525	1,349	46.983,876	1H:5V	125		2.215,656	5.431,155	8.124,222	26.395,101
1	PEAD	9.435,652	1,147	7,603	0,525	1,297	46.991,819	1H:5V	125		2.216,289	5.431,392	8.126,347	26.399,955

R-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	9.440,000	1,220	4,348	0,525	1,370	46.996,411	1H:5V	125		2.216,651	5.431,528	8.127,563	26.402,780
1	PEAD	9.440,810	1,258	0,810	0,525	1,408	46.997,314	1H:5V	125		2.216,718	5.431,553	8.127,789	26.403,355
1	PEAD	9.445,968	1,583	5,158	0,525	1,733	47.004,138	1H:5V	125		2.217,148	5.431,714	8.129,231	26.408,084
1	PEAD	9.460,000	2,839	14,032	0,525	2,989	47.038,282	1H:5V	125		2.218,316	5.432,152	8.133,153	26.436,527
1	PEAD	9.462,887	2,365	2,887	0,525	2,515	47.046,858	1H:5V	125		2.218,556	5.432,242	8.133,960	26.443,930
1	PEAD	9.467,918	1,372	5,031	0,525	1,522	47.056,538	1H:5V	125		2.218,975	5.432,399	8.135,366	26.451,566
1	PEAD	9.472,949	1,249	5,031	0,525	1,399	47.062,545	1H:5V	125		2.219,394	5.432,556	8.136,773	26.455,529
1	PEAD	9.480,000	1,440	7,051	0,525	1,590	47.071,240	1H:5V	125		2.219,981	5.432,776	8.138,743	26.461,360
1	PEAD	9.482,823	1,562	2,823	0,525	1,712	47.075,228	1H:5V	125		2.220,216	5.432,865	8.139,532	26.464,201
1	PEAD	9.484,087	1,558	1,264	0,525	1,708	47.077,102	1H:5V	125		2.220,321	5.432,904	8.139,886	26.465,561
1	PEAD	9.492,523	1,970	8,436	0,525	2,120	47.091,831	1H:5V	125		2.221,023	5.433,167	8.142,244	26.476,864
1	PEAD	9.500,000	2,151	7,477	0,525	2,301	47.107,828	1H:5V	125		2.221,646	5.433,401	8.144,334	26.489,823
1	PEAD	9.501,912	2,134	1,912	0,525	2,284	47.112,139	1H:5V	125		2.221,805	5.433,460	8.144,868	26.493,357
1	PEAD	9.502,223	2,127	0,311	0,525	2,277	47.112,835	1H:5V	125		2.221,831	5.433,470	8.144,955	26.493,926
1	PEAD	9.520,000	1,750	17,777	0,525	1,900	47.147,961	1H:5V	125		2.223,311	5.434,025	8.149,924	26.521,831
1	PEAD	9.529,643	1,631	9,643	0,525	1,781	47.163,818	1H:5V	125		2.224,114	5.434,326	8.152,620	26.533,771
1	PEAD	9.540,000	1,672	10,357	0,525	1,822	47.180,337	1H:5V	125		2.224,976	5.434,649	8.155,515	26.546,082
1	PEAD	9.560,000	1,752	20,000	0,525	1,902	47.213,763	1H:5V	125		2.226,641	5.435,273	8.161,105	26.571,383
1	PEAD	9.580,000	1,726	20,000	0,525	1,876	47.247,871	1H:5V	125		2.228,306	5.435,897	8.166,695	26.597,366
1	PEAD	9.583,846	1,734	3,846	0,525	1,884	47.254,386	1H:5V	125		2.228,626	5.436,017	8.167,770	26.602,318
1	PEAD	9.600,000	1,803	16,154	0,525	1,953	47.282,552	1H:5V	125		2.229,971	5.436,521	8.172,286	26.623,921
1	PEAD	9.620,000	1,646	20,000	0,525	1,796	47.316,314	1H:5V	125		2.231,636	5.437,146	8.177,876	26.649,558
1	PEAD	9.639,962	1,125	19,962	0,525	1,275	47.342,090	1H:5V	125		2.233,298	5.437,769	8.183,456	26.667,225

3.2 RAMAL R-1-1

R-1-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)	
1	PRFV	0,000	2,812	0,000	1,400	2,962	0,000	1H:5V	800	0,000	0,000	0,000	0,000	
1	PRFV	20,000	1,892	20,000	1,400	2,042	95,942	1H:5V	800	4,290	19,467	11,280	50,852	
1	PRFV	40,000	1,912	20,000	1,400	2,062	170,242	1H:5V	800	8,580	38,934	22,560	80,062	
1	PRFV	60,000	1,961	20,000	1,400	2,111	246,080	1H:5V	800	12,870	58,401	33,840	110,810	
1	PRFV	80,000	2,047	20,000	1,400	2,197	324,958	1H:5V	800	17,160	77,868	45,120	144,598	
1	PRFV	100,000	2,133	20,000	1,400	2,283	407,756	1H:5V	800	21,450	97,335	56,400	182,306	

R-1-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	120,000	2,247	20,000	1,400	2,397	495,191	1H:5V	800	25,740	116,801	67,680	224,651
1	PRFV	126,876	2,320	6,876	1,400	2,470	526,763	1H:5V	800	27,215	123,494	71,558	240,721
1	PRFV	129,048	2,334	2,172	1,400	2,484	536,960	1H:5V	800	27,681	125,608	72,783	246,022
1	PRFV	131,220	2,360	2,172	1,400	2,510	547,262	1H:5V	800	28,147	127,722	74,008	251,426
1	PRFV	140,000	2,491	8,780	1,400	2,641	590,575	1H:5V	800	30,030	136,268	78,960	274,945
1	PRFV	160,000	1,875	20,000	1,400	2,025	678,050	1H:5V	800	34,320	155,735	90,240	317,330
1	PRFV	180,000	1,872	20,000	1,400	2,022	751,086	1H:5V	800	38,610	175,202	101,520	345,276
1	PRFV	200,000	2,133	20,000	1,400	2,283	829,958	1H:5V	800	42,900	194,669	112,800	379,058
1	PRFV	220,000	2,364	20,000	1,400	2,514	920,180	1H:5V	800	47,190	214,136	124,080	424,190
1	PRFV	229,168	2,469	9,168	1,400	2,619	965,205	1H:5V	800	49,157	223,060	129,251	448,545
1	PRFV	240,000	2,527	10,832	1,400	2,677	1.020,553	1H:5V	800	51,480	233,603	135,360	479,473
1	PRFV	260,000	2,399	20,000	1,400	2,549	1.121,045	1H:5V	800	55,770	253,070	146,640	534,875
1	PRFV	268,096	2,394	8,096	1,400	2,544	1.160,408	1H:5V	800	57,507	260,950	151,206	555,985
1	PRFV	270,268	2,421	2,172	1,400	2,571	1.171,026	1H:5V	800	57,972	263,064	152,431	561,707
1	PRFV	272,440	2,435	2,172	1,400	2,585	1.181,752	1H:5V	800	58,438	265,178	153,656	567,536
1	PRFV	280,000	2,466	7,560	1,400	2,616	1.219,501	1H:5V	800	60,060	272,537	157,920	588,241
1	PRFV	300,000	2,546	20,000	1,400	2,696	1.322,093	1H:5V	800	64,350	292,004	169,200	645,743
1	PRFV	320,000	2,063	20,000	1,400	2,213	1.415,151	1H:5V	800	68,640	311,470	180,480	693,711
1	PRFV	340,000	1,897	20,000	1,400	2,047	1.492,966	1H:5V	800	72,930	330,937	191,760	726,436
1	PRFV	360,000	1,842	20,000	1,400	1,992	1.565,828	1H:5V	800	77,220	350,404	203,040	754,208
1	PRFV	379,004	1,862	19,004	1,400	2,012	1.634,327	1H:5V	800	81,296	368,902	213,758	779,862
1	PRFV	380,000	1,866	0,996	1,400	2,016	1.637,943	1H:5V	800	81,510	369,871	214,320	781,233
1	PRFV	392,369	1,915	12,369	1,400	2,065	1.683,579	1H:5V	800	84,163	381,910	221,296	798,983
1	PRFV	394,679	1,931	2,310	1,400	2,081	1.692,269	1H:5V	800	84,659	384,159	222,599	802,465
1	PRFV	396,989	1,960	2,310	1,400	2,110	1.701,074	1H:5V	800	85,154	386,407	223,902	806,063
1	PRFV	400,000	2,007	3,011	1,400	2,157	1.712,809	1H:5V	800	85,800	389,338	225,600	811,009
1	PRFV	420,000	2,303	20,000	1,400	2,453	1.798,689	1H:5V	800	90,090	408,805	236,880	851,799
1	PRFV	440,000	2,009	20,000	1,400	2,159	1.884,614	1H:5V	800	94,380	428,272	248,160	892,634
1	PRFV	460,000	1,840	20,000	1,400	1,990	1.959,943	1H:5V	800	98,670	447,739	259,440	922,873
1	PRFV	480,000	1,809	20,000	1,400	1,959	2.030,824	1H:5V	800	102,960	467,206	270,720	948,664
1	PRFV	500,000	1,853	20,000	1,400	2,003	2.101,992	1H:5V	800	107,250	486,673	282,000	974,742
1	PRFV	520,000	1,873	20,000	1,400	2,023	2.174,565	1H:5V	800	111,540	506,139	293,280	1.002,225
1	PRFV	540,000	2,184	20,000	1,400	2,334	2.254,643	1H:5V	800	115,830	525,606	304,560	1.037,213
1	PRFV	545,284	2,207	5,284	1,400	2,357	2.277,808	1H:5V	800	116,963	530,750	307,540	1.048,465
1	PRFV	547,594	2,207	2,310	1,400	2,357	2.287,997	1H:5V	800	117,459	532,998	308,843	1.053,446
1	PRFV	549,904	2,194	2,310	1,400	2,344	2.298,151	1H:5V	800	117,954	535,246	310,146	1.058,393

R-1-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	560,000	2,126	10,096	1,400	2,276	2.341,579	1H:5V	800	120,120	545,073	315,840	1.079,059
1	PRFV	580,000	2,119	20,000	1,400	2,269	2.425,866	1H:5V	800	124,410	564,540	327,120	1.118,256
1	PRFV	600,000	2,135	20,000	1,400	2,285	2.510,361	1H:5V	800	128,700	584,007	338,400	1.157,661
1	PRFV	620,000	2,207	20,000	1,400	2,357	2.596,902	1H:5V	800	132,990	603,474	349,680	1.199,112
1	PRFV	640,000	2,100	20,000	1,400	2,250	2.682,636	1H:5V	800	137,280	622,941	360,960	1.239,756
1	PRFV	660,000	1,915	20,000	1,400	2,065	2.761,700	1H:5V	800	141,570	642,408	372,240	1.273,730
1	PRFV	680,000	1,832	20,000	1,400	1,982	2.834,743	1H:5V	800	145,860	661,875	383,520	1.301,683
1	PRFV	700,000	1,912	20,000	1,400	2,062	2.907,719	1H:5V	800	150,150	681,342	394,800	1.329,569
1	PRFV	720,000	1,952	20,000	1,400	2,102	2.983,356	1H:5V	800	154,440	700,809	406,080	1.360,116
1	PRFV	740,000	2,012	20,000	1,400	2,162	3.061,237	1H:5V	800	158,730	720,275	417,360	1.392,907
1	PRFV	740,235	2,013	0,235	1,400	2,163	3.062,168	1H:5V	800	158,780	720,504	417,493	1.393,308
1	PRFV	755,331	2,072	15,096	1,400	2,222	3.123,021	1H:5V	800	162,018	735,198	426,007	1.420,128
1	PRFV	760,000	2,091	4,669	1,400	2,241	3.142,258	1H:5V	800	163,020	739,742	428,640	1.428,838
1	PRFV	780,000	2,162	20,000	1,400	2,312	3.226,735	1H:5V	800	167,310	759,209	439,920	1.468,225
1	PRFV	800,000	2,238	20,000	1,400	2,388	3.314,630	1H:5V	800	171,600	778,676	451,200	1.511,030
1	PRFV	820,000	2,290	20,000	1,400	2,440	3.405,535	1H:5V	800	175,890	798,143	462,480	1.556,845
1	PRFV	840,000	2,343	20,000	1,400	2,493	3.498,934	1H:5V	800	180,180	817,610	473,760	1.605,154
1	PRFV	860,000	2,414	20,000	1,400	2,564	3.595,310	1H:5V	800	184,470	837,077	485,040	1.656,440
1	PRFV	880,000	2,495	20,000	1,400	2,645	3.695,377	1H:5V	800	188,760	856,544	496,320	1.711,417
1	PRFV	900,000	2,579	20,000	1,400	2,729	3.799,499	1H:5V	800	193,050	876,011	507,600	1.770,449
1	PRFV	920,000	2,663	20,000	1,400	2,813	3.907,808	1H:5V	800	197,340	895,478	518,880	1.833,668
1	PRFV	940,000	2,749	20,000	1,400	2,899	4.020,411	1H:5V	800	201,630	914,944	530,160	1.901,181
1	PRFV	960,000	2,820	20,000	1,400	2,970	4.137,027	1H:5V	800	205,920	934,411	541,440	1.972,707
1	PRFV	980,000	2,585	20,000	1,400	2,735	4.249,499	1H:5V	800	210,210	953,878	552,720	2.040,089
1	PRFV	1.000,000	2,112	20,000	1,400	2,262	4.344,651	1H:5V	800	214,500	973,345	564,000	2.090,151
1	PRFV	1.020,000	2,192	20,000	1,400	2,342	4.430,310	1H:5V	800	218,790	992,812	575,280	2.130,720
1	PRFV	1.040,000	2,272	20,000	1,400	2,422	4.519,708	1H:5V	800	223,080	1.012,279	586,560	2.175,028
1	PRFV	1.060,000	2,352	20,000	1,400	2,502	4.612,896	1H:5V	800	227,370	1.031,746	597,840	2.223,126
1	PRFV	1.080,000	2,432	20,000	1,400	2,582	4.709,926	1H:5V	800	231,660	1.051,213	609,120	2.275,066
1	PRFV	1.100,000	2,471	20,000	1,400	2,621	4.809,840	1H:5V	800	235,950	1.070,680	620,400	2.329,890
1	PRFV	1.120,000	2,497	20,000	1,400	2,647	4.911,345	1H:5V	800	240,240	1.090,147	631,680	2.386,305
1	PRFV	1.140,000	2,536	20,000	1,400	2,686	5.014,449	1H:5V	800	244,530	1.109,613	642,960	2.444,319
1	PRFV	1.160,000	2,370	20,000	1,400	2,520	5.114,463	1H:5V	800	248,820	1.129,080	654,240	2.499,243
1	PRFV	1.170,855	2,249	10,855	1,400	2,399	5.164,981	1H:5V	800	251,148	1.139,646	660,362	2.525,288
1	PRFV	1.180,000	2,089	9,145	1,200	2,239	5.202,471	1H:5V	600	252,973	1.147,285	665,136	2.545,956
1	PRFV	1.189,761	1,942	9,761	1,200	2,092	5.237,001	1H:5V	600	254,774	1.154,091	669,821	2.564,434

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	1.200,000	1,912	10,239	1,200	2,062	5.271,356	1H:5V	600	256,663	1.161,230	674,736	2.581,950
1	PRFV	1.220,000	1,992	20,000	1,200	2,142	5.339,484	1H:5V	600	260,353	1.175,175	684,336	2.617,188
1	PRFV	1.240,000	2,072	20,000	1,200	2,222	5.410,902	1H:5V	600	264,043	1.189,120	693,936	2.655,717
1	PRFV	1.260,000	2,102	20,000	1,200	2,252	5.484,608	1H:5V	600	267,733	1.203,065	703,536	2.696,533
1	PRFV	1.280,000	2,172	20,000	1,200	2,322	5.560,422	1H:5V	600	271,423	1.217,011	713,136	2.739,457
1	PRFV	1.300,000	2,252	20,000	1,200	2,402	5.639,433	1H:5V	600	275,113	1.230,956	722,736	2.785,578
1	PRFV	1.320,000	2,324	20,000	1,200	2,474	5.721,726	1H:5V	600	278,803	1.244,901	732,336	2.834,980
1	PRFV	1.340,000	2,391	20,000	1,200	2,541	5.807,060	1H:5V	600	282,493	1.258,846	741,936	2.887,425
1	PRFV	1.360,000	2,478	20,000	1,200	2,628	5.895,814	1H:5V	600	286,183	1.272,791	751,536	2.943,289
1	PRFV	1.380,000	2,509	20,000	1,200	2,659	5.987,212	1H:5V	600	289,873	1.286,736	761,136	3.001,797
1	PRFV	1.400,000	2,578	20,000	1,200	2,728	6.080,880	1H:5V	600	293,563	1.300,681	770,736	3.062,575
1	PRFV	1.420,000	2,585	20,000	1,200	2,735	6.176,281	1H:5V	600	297,253	1.314,626	780,336	3.125,085
1	PRFV	1.440,000	2,522	20,000	1,200	2,672	6.270,404	1H:5V	600	300,943	1.328,572	789,936	3.186,319
1	PRFV	1.460,000	1,952	20,000	1,200	2,102	6.350,808	1H:5V	600	304,633	1.342,517	799,536	3.233,833
1	PRFV	1.480,000	2,032	20,000	1,200	2,182	6.420,575	1H:5V	600	308,323	1.356,462	809,136	3.270,710
1	PRFV	1.500,000	2,112	20,000	1,200	2,262	6.493,659	1H:5V	600	312,013	1.370,407	818,736	3.310,904
1	PRFV	1.509,622	2,150	9,622	1,200	2,300	6.530,009	1H:5V	600	313,788	1.377,116	823,354	3.331,431
1	PRFV	1.520,000	2,192	10,378	1,200	2,342	6.570,097	1H:5V	600	315,703	1.384,352	828,336	3.354,451
1	PRFV	1.540,000	2,272	20,000	1,200	2,422	6.649,967	1H:5V	600	319,393	1.398,297	837,936	3.401,431
1	PRFV	1.560,000	2,352	20,000	1,200	2,502	6.733,307	1H:5V	600	323,083	1.412,242	847,536	3.451,882
1	PRFV	1.580,000	2,356	20,000	1,200	2,506	6.818,483	1H:5V	600	326,773	1.426,188	857,136	3.504,168
1	PRFV	1.600,000	2,422	20,000	1,200	2,572	6.905,209	1H:5V	600	330,463	1.440,133	866,736	3.558,004
1	PRFV	1.620,000	2,489	20,000	1,200	2,639	6.994,900	1H:5V	600	334,153	1.454,078	876,336	3.614,805
1	PRFV	1.640,000	2,522	20,000	1,200	2,672	7.086,840	1H:5V	600	337,843	1.468,023	885,936	3.673,855
1	PRFV	1.660,000	2,559	20,000	1,200	2,709	7.180,369	1H:5V	600	341,533	1.481,968	895,536	3.734,493
1	PRFV	1.680,000	2,510	20,000	1,200	2,660	7.273,625	1H:5V	600	345,223	1.495,913	905,136	3.794,860
1	PRFV	1.700,000	2,125	20,000	1,200	2,275	7.357,348	1H:5V	600	348,913	1.509,858	914,736	3.845,692
1	PRFV	1.720,000	2,591	20,000	1,200	2,741	7.442,917	1H:5V	600	352,603	1.523,803	924,336	3.898,372
1	PRFV	1.740,000	2,072	20,000	1,200	2,222	7.527,374	1H:5V	600	356,293	1.537,749	933,936	3.949,939
1	PRFV	1.760,000	2,152	20,000	1,200	2,302	7.602,135	1H:5V	600	359,983	1.551,694	943,536	3.991,810
1	PRFV	1.767,257	2,181	7,257	1,200	2,331	7.630,097	1H:5V	600	361,322	1.556,754	947,019	4.007,837
1	PRFV	1.780,000	2,976	12,743	1,200	3,126	7.694,407	1H:5V	600	363,673	1.565,639	953,136	4.051,192
1	PRFV	1.800,000	3,380	20,000	1,200	3,530	7.844,985	1H:5V	600	367,363	1.579,584	962,736	4.168,880
1	PRFV	1.805,770	2,755	5,770	1,200	2,905	7.885,438	1H:5V	600	368,427	1.583,607	965,506	4.199,844
1	PRFV	1.820,000	2,946	14,230	1,200	3,096	7.965,055	1H:5V	600	371,053	1.593,529	972,336	4.256,060
1	PRFV	1.840,000	3,029	20,000	1,200	3,179	8.090,738	1H:5V	600	374,743	1.607,474	981,936	4.348,853

R-1-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	1.860,000	3,087	20,000	1,200	3,237	8.225,538	1H:5V	600	378,433	1.621,419	991,536	4.450,763
1	PRFV	1.880,000	3,160	20,000	1,200	3,310	8.368,851	1H:5V	600	382,123	1.635,365	1.001,136	4.561,186
1	PRFV	1.900,000	3,052	20,000	1,200	3,202	8.509,893	1H:5V	600	385,813	1.649,310	1.010,736	4.669,337
1	PRFV	1.920,000	2,993	20,000	1,200	3,143	8.640,095	1H:5V	600	389,503	1.663,255	1.020,336	4.766,650
1	PRFV	1.940,000	2,949	20,000	1,200	3,099	8.763,644	1H:5V	600	393,193	1.677,200	1.029,936	4.857,308
1	PRFV	1.960,000	2,896	20,000	1,200	3,046	8.880,948	1H:5V	600	396,883	1.691,145	1.039,536	4.941,722
1	PRFV	1.980,000	2,903	20,000	1,200	3,053	8.995,293	1H:5V	600	400,573	1.705,090	1.049,136	5.023,178
1	PRFV	2.000,000	2,957	20,000	1,200	3,107	9.113,562	1H:5V	600	404,263	1.719,035	1.058,736	5.108,557
1	PRFV	2.020,000	2,930	20,000	1,200	3,080	9.233,566	1H:5V	600	407,953	1.732,980	1.068,336	5.195,670
1	PRFV	2.040,000	2,890	20,000	1,200	3,040	9.349,262	1H:5V	600	411,643	1.746,926	1.077,936	5.278,476
1	PRFV	2.060,000	2,795	20,000	1,200	2,945	9.458,511	1H:5V	600	415,333	1.760,871	1.087,536	5.354,836
1	PRFV	2.080,000	2,678	20,000	1,200	2,828	9.561,128	1H:5V	600	419,023	1.774,816	1.097,136	5.424,563
1	PRFV	2.100,000	2,471	20,000	1,200	2,621	9.656,251	1H:5V	600	422,713	1.788,761	1.106,736	5.486,795
1	PRFV	2.120,000	2,261	20,000	1,200	2,411	9.742,000	1H:5V	600	426,403	1.802,706	1.116,336	5.539,654
1	PRFV	2.140,000	1,781	20,000	1,200	1,931	9.813,187	1H:5V	600	430,093	1.816,651	1.125,936	5.577,952
1	PRFV	2.160,000	1,650	20,000	1,200	1,800	9.871,897	1H:5V	600	433,783	1.830,596	1.135,536	5.603,771
1	PRFV	2.180,000	1,610	20,000	1,200	1,760	9.927,292	1H:5V	600	437,473	1.844,542	1.145,136	5.626,276
1	PRFV	2.200,000	1,679	20,000	1,200	1,829	9.983,245	1H:5V	600	441,163	1.858,487	1.154,736	5.649,340
1	PRFV	2.203,183	1,660	3,183	1,200	1,810	9.992,303	1H:5V	600	441,750	1.860,706	1.156,264	5.653,163
1	PRFV	2.208,917	1,623	5,734	1,200	1,773	10.008,311	1H:5V	600	442,808	1.864,704	1.159,016	5.659,741
1	PRFV	2.214,651	1,775	5,734	1,200	1,925	10.024,961	1H:5V	600	443,866	1.868,702	1.161,768	5.666,962
1	PRFV	2.220,000	1,609	5,349	1,200	1,759	10.040,421	1H:5V	600	444,853	1.872,432	1.164,336	5.673,626
1	PRFV	2.240,000	1,679	20,000	1,200	1,829	10.096,356	1H:5V	600	448,543	1.886,377	1.173,936	5.696,671
1	PRFV	2.260,000	1,759	20,000	1,200	1,909	10.155,191	1H:5V	600	452,233	1.900,322	1.183,536	5.722,616
1	PRFV	2.280,000	1,839	20,000	1,200	1,989	10.217,168	1H:5V	600	455,923	1.914,267	1.193,136	5.751,702
1	PRFV	2.300,000	1,919	20,000	1,200	2,069	10.282,337	1H:5V	600	459,613	1.928,212	1.202,736	5.783,982
1	PRFV	2.320,000	1,999	20,000	1,200	2,149	10.350,751	1H:5V	600	463,303	1.942,157	1.212,336	5.819,506
1	PRFV	2.340,000	2,079	20,000	1,200	2,229	10.422,461	1H:5V	600	466,993	1.956,103	1.221,936	5.858,325
1	PRFV	2.360,000	2,159	20,000	1,200	2,309	10.497,517	1H:5V	600	470,683	1.970,048	1.231,536	5.900,491
1	PRFV	2.369,944	2,199	9,944	1,200	2,349	10.536,097	1H:5V	600	472,517	1.976,981	1.236,309	5.922,718
1	PRFV	2.380,000	2,327	10,056	1,200	2,477	10.576,933	1H:5V	600	474,373	1.983,993	1.241,136	5.947,018
1	PRFV	2.389,760	2,113	9,760	1,200	2,263	10.615,677	1H:5V	600	476,174	1.990,798	1.245,821	5.969,712
1	PRFV	2.400,000	2,177	10,240	1,200	2,327	10.654,667	1H:5V	600	478,063	1.997,938	1.250,736	5.991,862
1	PRFV	2.420,000	2,130	20,000	1,200	2,280	10.731,178	1H:5V	600	481,753	2.011,883	1.260,336	6.035,483
1	PRFV	2.440,000	2,083	20,000	1,200	2,233	10.805,703	1H:5V	600	485,443	2.025,828	1.269,936	6.077,118
1	PRFV	2.460,000	2,036	20,000	1,200	2,186	10.878,261	1H:5V	600	489,133	2.039,773	1.279,536	6.116,786

R-1-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	2.480,000	1,989	20,000	1,200	2,139	10.948,869	1H:5V	600	492,823	2.053,719	1.289,136	6.154,504
1	PRFV	2.500,000	1,942	20,000	1,200	2,092	11.017,544	1H:5V	600	496,513	2.067,664	1.298,736	6.190,289
1	PRFV	2.520,000	1,895	20,000	1,200	2,045	11.084,305	1H:5V	600	500,203	2.081,609	1.308,336	6.224,160
1	PRFV	2.540,000	1,848	20,000	1,200	1,998	11.149,169	1H:5V	600	503,893	2.095,554	1.317,936	6.256,134
1	PRFV	2.560,000	1,801	20,000	1,200	1,951	11.212,154	1H:5V	600	507,583	2.109,499	1.327,536	6.286,229
1	PRFV	2.580,000	1,754	20,000	1,200	1,904	11.273,277	1H:5V	600	511,273	2.123,444	1.337,136	6.314,462
1	PRFV	2.600,000	1,707	20,000	1,200	1,857	11.332,557	1H:5V	600	514,963	2.137,389	1.346,736	6.340,852
1	PRFV	2.603,493	1,699	3,493	1,200	1,849	11.342,723	1H:5V	600	515,607	2.139,825	1.348,413	6.345,273
1	PRFV	2.615,665	1,730	12,172	1,200	1,880	11.378,420	1H:5V	600	517,853	2.148,312	1.354,255	6.360,953
1	PRFV	2.620,000	1,789	4,335	1,200	1,939	11.391,515	1H:5V	600	518,653	2.151,334	1.356,336	6.366,920
1	PRFV	2.627,837	1,719	7,837	1,200	1,869	11.415,105	1H:5V	600	520,099	2.156,799	1.360,098	6.377,622
1	PRFV	2.630,000	1,600	2,163	1,200	1,750	11.421,220	1H:5V	600	520,498	2.158,307	1.361,136	6.380,179
1	PRFV	2.640,000	1,758	10,000	1,200	1,908	11.449,871	1H:5V	600	522,343	2.165,280	1.365,936	6.392,385
1	PRFV	2.658,506	1,633	18,506	1,200	1,783	11.503,474	1H:5V	600	525,757	2.178,183	1.374,819	6.415,556
1	PRFV	2.660,000	1,620	1,494	1,200	1,770	11.507,602	1H:5V	600	526,033	2.179,225	1.375,536	6.417,227
1	PRFV	2.663,099	1,630	3,099	1,200	1,780	11.516,156	1H:5V	600	526,605	2.181,386	1.377,023	6.420,684
1	PRFV	2.667,692	1,675	4,593	1,200	1,825	11.529,075	1H:5V	600	527,452	2.184,588	1.379,228	6.426,051
1	PRFV	2.680,000	1,724	12,308	1,200	1,874	11.564,814	1H:5V	600	529,723	2.193,170	1.385,136	6.441,548
1	PRFV	2.700,000	1,804	20,000	1,200	1,954	11.625,410	1H:5V	600	533,413	2.207,115	1.394,736	6.469,254
1	PRFV	2.720,000	1,884	20,000	1,200	2,034	11.689,176	1H:5V	600	537,103	2.221,060	1.404,336	6.500,131
1	PRFV	2.740,000	1,964	20,000	1,200	2,114	11.756,164	1H:5V	600	540,793	2.235,005	1.413,936	6.534,229
1	PRFV	2.760,000	2,019	20,000	1,200	2,169	11.825,908	1H:5V	600	544,483	2.248,950	1.423,536	6.571,082
1	PRFV	2.780,000	1,803	20,000	1,200	1,953	11.892,409	1H:5V	600	548,173	2.262,896	1.433,136	6.604,694
1	PRFV	2.800,000	1,675	20,000	1,200	1,825	11.952,035	1H:5V	600	551,863	2.276,841	1.442,736	6.631,430
1	PRFV	2.805,857	1,637	5,857	1,200	1,787	11.968,549	1H:5V	600	552,943	2.280,925	1.445,547	6.638,312
1	PRFV	2.807,741	1,629	1,884	1,200	1,779	11.973,778	1H:5V	600	553,291	2.282,238	1.446,452	6.640,443
1	PRFV	2.809,625	1,627	1,884	1,200	1,777	11.978,989	1H:5V	600	553,639	2.283,552	1.447,356	6.642,555
1	PRFV	2.820,000	1,617	10,375	1,200	1,767	12.007,566	1H:5V	600	555,553	2.290,786	1.452,336	6.654,071
1	PRFV	2.840,000	1,668	20,000	1,200	1,818	12.063,441	1H:5V	600	559,243	2.304,731	1.461,936	6.677,055
1	PRFV	2.860,000	1,936	20,000	1,200	2,086	12.125,602	1H:5V	600	562,933	2.318,676	1.471,536	6.706,326
1	PRFV	2.880,000	2,174	20,000	1,200	2,324	12.198,026	1H:5V	600	566,623	2.332,621	1.481,136	6.745,861
1	PRFV	2.900,000	2,307	20,000	1,200	2,457	12.278,274	1H:5V	600	570,313	2.346,566	1.490,736	6.793,219
1	PRFV	2.920,000	2,406	20,000	1,200	2,556	12.363,570	1H:5V	600	574,003	2.360,511	1.500,336	6.845,625
1	PRFV	2.940,000	2,285	20,000	1,200	2,435	12.448,387	1H:5V	600	577,693	2.374,457	1.509,936	6.897,552
1	PRFV	2.960,000	1,949	20,000	1,200	2,099	12.523,465	1H:5V	600	581,383	2.388,402	1.519,536	6.939,740
1	PRFV	2.980,000	1,655	20,000	1,200	1,805	12.585,640	1H:5V	600	585,073	2.402,347	1.529,136	6.969,025

R-1-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	2.982,899	1,615	2,899	1,200	1,765	12.593,698	1H:5V	600	585,608	2.404,368	1.530,527	6.972,315
1	PRFV	2.996,623	2,005	13,724	1,200	2,155	12.636,625	1H:5V	600	588,140	2.413,937	1.537,115	6.992,674
1	PRFV	3.000,000	2,181	3,377	1,200	2,331	12.649,118	1H:5V	600	588,763	2.416,292	1.538,736	6.999,613
1	PRFV	3.010,347	2,616	10,347	1,200	2,766	12.694,300	1H:5V	600	590,672	2.423,507	1.543,702	7.027,779
1	PRFV	3.011,980	2,651	1,633	1,200	2,801	12.702,285	1H:5V	600	590,973	2.424,645	1.544,486	7.033,078
1	PRFV	3.020,000	2,901	8,020	1,100	3,051	12.743,797	1H:5V	500	592,393	2.429,733	1.548,167	7.062,827
1	PRFV	3.030,510	1,550	10,510	1,100	1,700	12.785,153	1H:5V	500	594,174	2.435,742	1.552,771	7.089,726
1	PRFV	3.040,000	1,588	9,490	1,100	1,738	12.808,707	1H:5V	500	595,783	2.441,166	1.556,927	7.100,227
1	PRFV	3.060,000	1,663	20,000	1,100	1,813	12.860,383	1H:5V	500	599,173	2.452,599	1.565,687	7.124,393
1	PRFV	3.080,000	1,726	20,000	1,100	1,876	12.914,575	1H:5V	500	602,563	2.464,032	1.574,447	7.151,074
1	PRFV	3.100,000	1,788	20,000	1,100	1,938	12.971,079	1H:5V	500	605,953	2.475,466	1.583,207	7.180,069
1	PRFV	3.116,327	1,844	16,327	1,100	1,994	13.019,012	1H:5V	500	608,720	2.484,799	1.590,359	7.205,544
1	PRFV	3.120,000	1,848	3,673	1,100	1,998	13.030,003	1H:5V	500	609,343	2.486,899	1.591,967	7.211,483
1	PRFV	3.123,673	1,822	3,673	1,100	1,972	13.040,917	1H:5V	500	609,965	2.488,998	1.593,576	7.217,345
1	PRFV	3.140,000	1,983	16,327	1,100	2,133	13.091,557	1H:5V	500	612,733	2.498,332	1.600,727	7.245,527
1	PRFV	3.145,036	1,979	5,036	1,100	2,129	13.107,936	1H:5V	500	613,586	2.501,210	1.602,933	7.254,979
1	PRFV	3.148,709	1,533	3,673	1,100	1,683	13.118,342	1H:5V	500	614,209	2.503,310	1.604,542	7.260,333
1	PRFV	3.152,382	1,565	3,673	1,100	1,715	13.127,327	1H:5V	500	614,831	2.505,410	1.606,151	7.264,265
1	PRFV	3.160,000	1,579	7,618	1,100	1,729	13.146,275	1H:5V	500	616,123	2.509,765	1.609,487	7.272,735
1	PRFV	3.180,000	1,622	20,000	1,100	1,772	13.197,045	1H:5V	500	619,513	2.521,198	1.618,247	7.295,995
1	PRFV	3.200,000	1,708	20,000	1,100	1,858	13.250,159	1H:5V	500	622,903	2.532,631	1.627,007	7.321,599
1	PRFV	3.215,000	2,891	15,000	1,100	3,041	13.310,856	1H:5V	500	625,445	2.541,205	1.633,577	7.361,663
1	PRFV	3.220,000	2,431	5,000	1,100	2,581	13.334,681	1H:5V	500	626,293	2.544,064	1.635,767	7.378,611
1	PRFV	3.225,000	1,835	5,000	1,100	1,985	13.352,538	1H:5V	500	627,140	2.546,922	1.637,957	7.389,591
1	PRFV	3.240,000	1,629	15,000	1,100	1,779	13.394,249	1H:5V	500	629,683	2.555,497	1.644,527	7.410,669
1	PRFV	3.260,000	1,766	20,000	1,100	1,916	13.448,566	1H:5V	500	633,073	2.566,930	1.653,287	7.437,475
1	PRFV	3.280,000	1,977	20,000	1,100	2,127	13.509,429	1H:5V	500	636,463	2.578,363	1.662,047	7.470,829
1	PRFV	3.294,003	2,229	14,003	1,100	2,379	13.558,393	1H:5V	500	638,836	2.586,367	1.668,181	7.500,532
1	PRFV	3.298,522	2,765	4,519	1,100	2,915	13.577,948	1H:5V	500	639,602	2.588,951	1.670,160	7.513,871
1	PRFV	3.300,000	2,785	1,478	1,100	2,935	13.585,233	1H:5V	500	639,853	2.589,796	1.670,807	7.519,123
1	PRFV	3.303,041	2,665	3,041	1,100	2,815	13.599,879	1H:5V	500	640,368	2.591,534	1.672,139	7.529,586
1	PRFV	3.320,000	2,081	16,959	1,100	2,231	13.668,826	1H:5V	500	643,243	2.601,229	1.679,567	7.575,205
1	PRFV	3.321,406	1,971	1,406	1,100	2,121	13.673,523	1H:5V	500	643,481	2.602,032	1.680,183	7.577,969
1	PRFV	3.340,000	1,956	18,594	1,100	2,106	13.733,363	1H:5V	500	646,633	2.612,662	1.688,327	7.612,233
1	PRFV	3.353,101	1,553	13,101	1,100	1,703	13.770,419	1H:5V	500	648,853	2.620,151	1.694,066	7.631,269
1	PRFV	3.360,000	1,539	6,899	1,100	1,689	13.787,259	1H:5V	500	650,023	2.624,095	1.697,087	7.638,619

R-1-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	3.380,000	2,116	20,000	1,100	2,266	13.846,739	1H:5V	500	653,413	2.635,528	1.705,847	7.670,589
1	PRFV	3.398,033	2,265	18,033	1,100	2,415	13.912,943	1H:5V	500	656,469	2.645,836	1.713,746	7.711,988
1	PRFV	3.400,000	2,182	1,967	1,100	2,332	13.920,295	1H:5V	500	656,803	2.646,961	1.714,607	7.716,635
1	PRFV	3.418,951	2,156	18,951	1,100	2,306	13.989,021	1H:5V	500	660,015	2.657,794	1.722,908	7.759,293
1	PRFV	3.420,000	2,080	1,049	1,100	2,230	13.992,717	1H:5V	500	660,193	2.658,394	1.723,367	7.761,547
1	PRFV	3.430,367	1,901	10,367	1,100	2,051	14.026,643	1H:5V	500	661,950	2.664,320	1.727,908	7.781,213
1	PRFV	3.440,000	1,620	9,633	1,100	1,770	14.053,957	1H:5V	500	663,583	2.669,827	1.732,127	7.795,277
1	PRFV	3.441,783	1,554	1,783	1,100	1,704	14.058,441	1H:5V	500	663,885	2.670,846	1.732,908	7.797,308
1	PRFV	3.460,000	1,552	18,217	1,100	1,702	14.103,133	1H:5V	500	666,973	2.681,260	1.740,887	7.816,943
1	PRFV	3.480,000	2,349	20,000	1,100	2,499	14.167,628	1H:5V	500	670,363	2.692,693	1.749,647	7.853,928
1	PRFV	3.483,723	2,295	3,723	1,100	2,445	14.182,302	1H:5V	500	670,994	2.694,821	1.751,278	7.863,481
1	PRFV	3.495,139	2,195	11,416	1,100	2,345	14.225,480	1H:5V	500	672,929	2.701,347	1.756,278	7.890,956
1	PRFV	3.500,000	2,240	4,861	1,100	2,390	14.243,589	1H:5V	500	673,753	2.704,126	1.758,407	7.902,378
1	PRFV	3.506,555	2,241	6,555	1,100	2,391	14.268,317	1H:5V	500	674,864	2.707,873	1.761,279	7.918,090
1	PRFV	3.520,000	2,035	13,445	1,100	2,185	14.316,261	1H:5V	500	677,143	2.715,559	1.767,167	7.947,540
1	PRFV	3.537,997	1,732	17,997	1,100	1,882	14.371,484	1H:5V	500	680,193	2.725,847	1.775,050	7.978,009
1	PRFV	3.540,000	1,698	2,003	1,100	1,848	14.376,986	1H:5V	500	680,533	2.726,992	1.775,927	7.980,756
1	PRFV	3.560,000	1,533	20,000	1,100	1,683	14.428,323	1H:5V	500	683,923	2.738,425	1.784,687	8.004,582
1	PRFV	3.580,000	1,613	20,000	1,100	1,763	14.478,110	1H:5V	500	687,313	2.749,858	1.793,447	8.026,860
1	PRFV	3.600,000	1,693	20,000	1,100	1,843	14.530,786	1H:5V	500	690,703	2.761,291	1.802,207	8.052,025
1	PRFV	3.612,906	1,745	12,906	1,100	1,895	14.566,337	1H:5V	500	692,890	2.768,668	1.807,860	8.069,825
1	PRFV	3.620,000	1,857	7,094	1,100	2,007	14.586,967	1H:5V	500	694,093	2.772,724	1.810,967	8.080,697
1	PRFV	3.627,094	2,137	7,094	1,100	2,287	14.610,288	1H:5V	500	695,295	2.776,779	1.814,075	8.094,261
1	PRFV	3.635,094	2,397	8,000	1,100	2,547	14.640,932	1H:5V	500	696,651	2.781,352	1.817,579	8.113,900
1	PEAD	3.640,000	1,736	4,906	0,755	1,886	14.656,225	1H:5V	355	697,356	2.783,003	1.819,815	8.124,116
1	PEAD	3.660,000	1,978	20,000	0,755	2,128	14.702,702	1H:5V	355	699,711	2.785,033	1.829,285	8.154,758
1	PEAD	3.680,000	1,847	20,000	0,755	1,997	14.750,878	1H:5V	355	702,066	2.787,062	1.838,756	8.187,100
1	PEAD	3.699,954	1,561	19,954	0,755	1,711	14.792,609	1H:5V	355	704,415	2.789,087	1.848,204	8.213,032
1	PEAD	3.700,000	1,560	0,046	0,755	1,710	14.792,695	1H:5V	355	704,421	2.789,092	1.848,226	8.213,082
1	PEAD	3.706,263	1,501	6,263	0,755	1,651	14.804,180	1H:5V	355	705,158	2.789,727	1.851,192	8.219,608
1	PEAD	3.712,572	1,600	6,309	0,755	1,750	14.815,932	1H:5V	355	705,901	2.790,368	1.854,179	8.226,365
1	PEAD	3.719,698	1,596	7,126	0,755	1,746	14.829,691	1H:5V	355	706,740	2.791,091	1.857,554	8.234,482
1	PEAD	3.720,000	1,600	0,302	0,755	1,750	14.830,274	1H:5V	355	706,776	2.791,121	1.857,697	8.234,826
1	PEAD	3.724,788	1,705	4,788	0,755	1,855	14.839,904	1H:5V	355	707,340	2.791,607	1.859,964	8.240,665
1	PEAD	3.729,585	1,714	4,797	0,755	1,864	14.849,956	1H:5V	355	707,904	2.792,094	1.862,235	8.246,919
1	PEAD	3.739,472	2,457	9,887	0,755	2,607	14.876,798	1H:5V	355	709,069	2.793,097	1.866,917	8.265,934

R-1-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	3.740,000	2,456	0,528	0,755	2,606	14.878,554	1H:5V	355	709,131	2.793,151	1.867,167	8.267,272
1	PEAD	3.750,564	2,435	10,564	0,755	2,585	14.913,489	1H:5V	355	710,375	2.794,223	1.872,170	8.293,843
1	PEAD	3.760,000	1,627	9,436	0,755	1,777	14.938,312	1H:5V	355	711,486	2.795,180	1.876,638	8.311,195
1	PEAD	3.779,623	1,376	19,623	0,755	1,526	14.973,545	1H:5V	355	713,796	2.797,171	1.885,930	8.330,892
1	PEAD	3.780,000	1,375	0,377	0,755	1,525	14.974,155	1H:5V	355	713,841	2.797,210	1.886,108	8.331,204
1	PEAD	3.780,412	1,384	0,412	0,755	1,534	14.974,824	1H:5V	355	713,889	2.797,252	1.886,303	8.331,546
1	PEAD	3.788,679	1,939	8,267	0,755	2,089	14.991,683	1H:5V	355	714,863	2.798,090	1.890,218	8.341,860
1	PEAD	3.797,735	1,684	9,056	0,755	1,834	15.012,093	1H:5V	355	715,929	2.799,009	1.894,506	8.355,100
1	PEAD	3.800,000	1,742	2,265	0,755	1,892	15.016,851	1H:5V	355	716,196	2.799,239	1.895,579	8.358,065
1	PEAD	3.803,064	1,900	3,064	0,755	2,050	15.023,795	1H:5V	355	716,557	2.799,550	1.897,030	8.362,583
1	PEAD	3.812,120	1,777	9,056	0,755	1,927	15.044,560	1H:5V	355	717,623	2.800,469	1.901,318	8.376,178
1	PEAD	3.820,000	2,600	7,880	0,755	2,750	15.067,358	1H:5V	355	718,551	2.801,269	1.905,049	8.392,737
1	PEAD	3.821,176	2,595	1,176	0,755	2,745	15.071,572	1H:5V	355	718,689	2.801,388	1.905,606	8.396,021
1	PEAD	3.840,000	2,557	18,824	0,755	2,707	15.138,293	1H:5V	355	720,906	2.803,298	1.914,520	8.447,837
1	PEAD	3.860,000	2,486	20,000	0,755	2,636	15.207,185	1H:5V	355	723,261	2.805,328	1.923,990	8.500,895
1	PEAD	3.870,628	2,468	10,628	0,755	2,618	15.242,934	1H:5V	355	724,512	2.806,406	1.929,023	8.528,229
1	PEAD	3.880,000	2,450	9,372	0,755	2,600	15.274,153	1H:5V	355	725,616	2.807,357	1.933,461	8.552,029
1	PEAD	3.900,000	1,882	20,000	0,755	2,032	15.330,903	1H:5V	355	727,971	2.809,387	1.942,931	8.592,944
1	PEAD	3.920,000	1,397	20,000	0,755	1,547	15.370,969	1H:5V	355	730,326	2.811,416	1.952,402	8.617,175
1	PEAD	3.937,210	1,363	17,210	0,755	1,513	15.398,908	1H:5V	355	732,352	2.813,162	1.960,551	8.631,488
1	PEAD	3.940,000	1,357	2,790	0,755	1,507	15.403,361	1H:5V	355	732,681	2.813,446	1.961,873	8.633,732
1	PEAD	3.941,908	1,381	1,908	0,755	1,531	15.406,429	1H:5V	355	732,905	2.813,639	1.962,776	8.635,290
1	PEAD	3.943,501	1,434	1,593	0,755	1,584	15.409,076	1H:5V	355	733,093	2.813,801	1.963,530	8.636,675
1	PEAD	3.945,094	1,474	1,593	0,755	1,624	15.411,825	1H:5V	355	733,281	2.813,962	1.964,285	8.638,163
1	PEAD	3.950,439	1,566	5,345	0,755	1,716	15.421,547	1H:5V	355	733,910	2.814,505	1.966,816	8.643,654
1	PEAD	3.960,000	1,511	9,561	0,580	1,661	15.437,800	1H:5V	180	734,910	2.815,212	1.970,626	8.654,146
1	PEAD	3.980,000	1,460	20,000	0,580	1,610	15.467,473	1H:5V	180	736,740	2.816,142	1.977,094	8.674,082
1	PEAD	3.998,407	1,366	18,407	0,580	1,516	15.493,162	1H:5V	180	738,424	2.816,998	1.983,048	8.690,808
1	PEAD	4.000,000	1,344	1,593	0,580	1,494	15.495,274	1H:5V	180	738,570	2.817,072	1.983,563	8.692,145
1	PEAD	4.001,593	1,334	1,593	0,580	1,484	15.497,356	1H:5V	180	738,716	2.817,146	1.984,078	8.693,451
1	PEAD	4.020,000	1,297	18,407	0,580	1,447	15.520,910	1H:5V	180	740,400	2.818,002	1.990,032	8.708,043
1	PEAD	4.040,000	1,257	20,000	0,580	1,407	15.545,610	1H:5V	180	742,230	2.818,932	1.996,500	8.723,005
1	PEAD	4.060,000	1,217	20,000	0,580	1,367	15.569,396	1H:5V	180	744,060	2.819,862	2.002,969	8.737,054
1	PEAD	4.080,000	1,202	20,000	0,580	1,352	15.592,559	1H:5V	180	745,890	2.820,792	2.009,438	8.750,479
1	PEAD	4.080,251	1,208	0,251	0,580	1,358	15.592,848	1H:5V	180	745,913	2.820,803	2.009,519	8.750,647
1	PEAD	4.081,007	1,227	0,756	0,580	1,377	15.593,731	1H:5V	180	745,982	2.820,839	2.009,764	8.751,161

R-1-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	4.081,763	1,257	0,756	0,580	1,407	15.594,634	1H:5V	180	746,052	2.820,874	2.010,008	8.751,696
1	PEAD	4.100,000	1,540	18,237	0,580	1,690	15.619,832	1H:5V	180	747,720	2.821,722	2.015,907	8.768,015
1	PEAD	4.120,000	1,802	20,000	0,580	1,952	15.654,289	1H:5V	180	749,550	2.822,652	2.022,375	8.792,734
1	PEAD	4.140,000	1,611	20,000	0,580	1,761	15.689,647	1H:5V	180	751,380	2.823,582	2.028,844	8.818,355
1	PEAD	4.160,000	1,420	20,000	0,580	1,570	15.720,099	1H:5V	180	753,210	2.824,512	2.035,313	8.839,069
1	PEAD	4.180,000	1,716	20,000	0,580	1,866	15.751,921	1H:5V	180	755,040	2.825,441	2.041,782	8.861,154
1	PEAD	4.200,000	1,830	20,000	0,580	1,980	15.789,033	1H:5V	180	756,870	2.826,371	2.048,250	8.888,528
1	PEAD	4.220,000	1,846	20,000	0,580	1,996	15.827,903	1H:5V	180	758,700	2.827,301	2.054,719	8.917,660
1	PEAD	4.240,000	1,655	20,000	0,580	1,805	15.864,432	1H:5V	180	760,530	2.828,231	2.061,188	8.944,452
1	PEAD	4.260,000	1,464	20,000	0,580	1,614	15.895,989	1H:5V	180	762,360	2.829,161	2.067,657	8.966,271
1	PEAD	4.280,000	1,273	20,000	0,580	1,423	15.922,863	1H:5V	180	764,190	2.830,091	2.074,125	8.983,407
1	PEAD	4.300,000	1,514	20,000	0,580	1,664	15.950,355	1H:5V	180	766,020	2.831,021	2.080,594	9.001,162
1	PEAD	4.320,000	1,693	20,000	0,580	1,843	15.983,027	1H:5V	180	767,850	2.831,951	2.087,063	9.024,096
1	PEAD	4.340,000	1,699	20,000	0,580	1,849	16.018,072	1H:5V	180	769,680	2.832,881	2.093,531	9.049,403
1	PEAD	4.360,000	1,508	20,000	0,580	1,658	16.050,748	1H:5V	180	771,510	2.833,811	2.100,000	9.072,342
1	PEAD	4.360,928	1,499	0,928	0,580	1,649	16.052,145	1H:5V	180	771,595	2.833,854	2.100,300	9.073,287
1	PEAD	4.366,274	1,448	5,346	0,580	1,598	16.059,998	1H:5V	180	772,084	2.834,103	2.102,029	9.078,537
1	PEAD	4.380,000	1,316	13,726	0,580	1,466	16.078,649	1H:5V	180	773,340	2.834,741	2.106,469	9.090,506
1	PEAD	4.387,502	1,245	7,502	0,580	1,395	16.087,946	1H:5V	180	774,027	2.835,090	2.108,895	9.096,150
1	PEAD	4.388,258	1,239	0,756	0,580	1,389	16.088,849	1H:5V	180	774,096	2.835,125	2.109,140	9.096,685
1	PEAD	4.389,014	1,236	0,756	0,580	1,386	16.089,749	1H:5V	180	774,165	2.835,160	2.109,384	9.097,216
1	PEAD	4.400,000	1,214	10,986	0,580	1,364	16.102,664	1H:5V	180	775,170	2.835,671	2.112,938	9.104,783
1	PEAD	4.420,000	1,220	20,000	0,580	1,370	16.125,996	1H:5V	180	777,000	2.836,601	2.119,406	9.118,377
1	PEAD	4.429,986	1,348	9,986	0,580	1,498	16.138,417	1H:5V	180	777,914	2.837,065	2.122,636	9.125,936
1	PEAD	4.440,000	1,230	10,014	0,580	1,380	16.150,929	1H:5V	180	778,830	2.837,531	2.125,875	9.133,573
1	PEAD	4.442,579	1,200	2,579	0,580	1,350	16.153,932	1H:5V	180	779,066	2.837,650	2.126,709	9.135,320

3.3 RAMAL R-1-10

R-1-10													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,322	0,000	0,650	2,472	0,000	1H:5V	250	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,912	20,000	0,650	3,062	69,424	1H:5V	250	2,040	1,347	7,632	57,424
1	PEAD	21,417	3,052	1,417	0,650	3,202	75,839	1H:5V	250	2,185	1,442	8,172	62,988

R-1-10													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	40,000	2,160	18,583	0,650	2,310	145,605	1H:5V	250	4,080	2,693	15,263	121,605
1	PEAD	52,560	1,572	12,560	0,650	1,722	172,490	1H:5V	250	5,361	3,539	20,056	140,954
1	PEAD	57,599	1,409	5,039	0,650	1,559	180,582	1H:5V	250	5,875	3,878	21,979	146,022
1	PEAD	59,081	1,393	1,482	0,650	1,543	182,789	1H:5V	250	6,026	3,978	22,544	147,340
1	PEAD	60,000	1,383	0,919	1,400	1,533	184,671	1H:5V	800	6,172	4,177	23,214	147,746
1	PEAD	62,638	1,386	2,638	1,400	1,536	191,580	1H:5V	800	6,738	5,139	26,053	148,963
1	PEAD	80,000	1,389	17,362	1,400	1,539	237,160	1H:5V	800	10,462	11,470	44,737	157,076
1	PEAD	100,000	1,349	20,000	1,400	1,499	288,923	1H:5V	800	14,752	18,763	66,261	165,679
1	PEAD	120,000	1,309	20,000	1,400	1,459	339,087	1H:5V	800	19,042	26,057	87,784	172,683
1	PEAD	140,000	1,269	20,000	1,400	1,419	387,663	1H:5V	800	23,332	33,350	109,308	178,099
1	PEAD	160,000	1,445	20,000	1,400	1,595	438,974	1H:5V	800	27,622	40,644	130,831	186,250
1	PEAD	180,000	1,528	20,000	1,400	1,678	495,516	1H:5V	800	31,912	47,937	152,355	199,632
1	PEAD	200,000	1,888	20,000	1,400	2,038	561,478	1H:5V	800	36,202	55,231	173,878	222,434
1	PEAD	220,000	1,597	20,000	1,400	1,747	628,879	1H:5V	800	40,492	62,524	195,402	246,675
1	PEAD	232,788	1,196	12,788	1,400	1,346	662,786	1H:5V	800	43,235	67,188	209,164	252,985
1	PEAD	239,409	1,468	6,621	1,400	1,618	679,456	1H:5V	800	44,655	69,602	216,289	255,367
1	PEAD	240,000	1,500	0,591	1,400	1,650	681,124	1H:5V	800	44,782	69,818	216,925	255,760
1	PEAD	260,000	1,792	20,000	1,400	1,942	744,400	1H:5V	800	49,072	77,111	238,449	275,875
1	PEAD	280,000	1,789	20,000	1,400	1,939	813,796	1H:5V	800	53,362	84,404	259,972	302,111
1	PEAD	300,000	1,949	20,000	1,400	2,099	886,659	1H:5V	800	57,652	91,698	281,495	331,814
1	PEAD	309,600	1,930	9,600	1,400	2,080	923,125	1H:5V	800	59,711	95,199	291,827	347,563
1	PEAD	315,060	1,889	5,460	1,400	2,039	943,500	1H:5V	800	60,882	97,190	297,703	356,156
1	PEAD	320,000	1,801	4,940	1,400	1,951	961,231	1H:5V	800	61,942	98,991	303,019	363,227
1	PEAD	320,520	1,789	0,520	1,400	1,939	963,041	1H:5V	800	62,053	99,181	303,579	363,914
1	PEAD	340,000	1,324	19,480	1,400	1,474	1.021,137	1H:5V	800	66,232	106,285	324,542	379,972
1	PEAD	360,000	1,500	20,000	1,400	1,650	1.074,663	1H:5V	800	70,522	113,578	346,066	390,339
1	PEAD	380,000	1,371	20,000	1,400	1,521	1.129,129	1H:5V	800	74,812	120,872	367,589	401,644
1	PEAD	388,831	1,160	8,831	1,400	1,310	1.150,188	1H:5V	800	76,706	124,092	377,093	403,646

3.4 RAMAL R-1-12

R-1-12													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,155	0,000	0,580	2,305	0,000	1H:5V	180	0,000	0,000	0,000	0,000

R-1-12													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	20,000	1,570	20,000	0,580	1,720	39,888	1H:5V	180	1,830	0,930	6,469	30,150
1	PEAD	29,624	1,284	9,624	0,580	1,434	53,517	1H:5V	180	2,711	1,377	9,581	39,093
1	PEAD	32,088	1,241	2,464	0,580	1,391	56,519	1H:5V	180	2,936	1,492	10,378	40,896
1	PEAD	34,552	1,258	2,464	0,580	1,408	59,484	1H:5V	180	3,162	1,607	11,175	42,661
1	PEAD	40,000	1,364	5,448	0,580	1,514	66,429	1H:5V	180	3,660	1,860	12,937	46,954
1	PEAD	60,000	1,453	20,000	0,580	1,603	94,232	1H:5V	180	5,490	2,790	19,406	65,019
1	PEAD	80,000	1,413	20,000	0,580	1,563	122,620	1H:5V	180	7,320	3,720	25,875	83,669
1	PEAD	92,111	1,389	12,111	0,580	1,539	139,342	1H:5V	180	8,428	4,283	29,792	94,495
1	PEAD	100,000	1,373	7,889	0,540	1,523	149,805	1H:5V	140	9,126	4,605	32,217	101,391
1	PEAD	120,000	1,333	20,000	0,540	1,483	175,075	1H:5V	140	10,836	5,311	38,044	118,110
1	PEAD	140,000	1,293	20,000	0,540	1,443	199,439	1H:5V	140	12,546	6,017	43,871	133,924
1	PEAD	160,000	1,253	20,000	0,540	1,403	222,908	1H:5V	140	14,256	6,722	49,698	148,843
1	PEAD	180,000	1,213	20,000	0,540	1,363	245,497	1H:5V	140	15,966	7,428	55,525	162,881
1	PEAD	190,447	1,193	10,447	0,540	1,343	256,955	1H:5V	140	16,860	7,797	58,568	169,873
1	PEAD	192,253	1,203	1,806	0,540	1,353	258,926	1H:5V	140	17,014	7,860	59,094	171,072
1	PEAD	194,059	1,244	1,806	0,540	1,394	260,947	1H:5V	140	17,168	7,924	59,621	172,321
1	PEAD	200,000	1,356	5,941	0,540	1,506	268,101	1H:5V	140	17,676	8,134	61,351	176,934
1	PEAD	220,000	1,732	20,000	0,540	1,882	298,016	1H:5V	140	19,386	8,839	67,178	198,299
1	PEAD	240,000	1,404	20,000	0,540	1,554	328,484	1H:5V	140	21,096	9,545	73,005	220,217
1	PEAD	260,000	1,608	20,000	0,540	1,758	357,380	1H:5V	140	22,806	10,251	78,832	240,562
1	PEAD	262,452	1,925	2,452	0,540	2,075	361,731	1H:5V	140	23,016	10,337	79,546	243,865

3.5 RAMAL R-1-1-2

R-1-12													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,249	0,000	0,715	2,399	0,000	1H:5V	315	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,074	20,000	0,715	2,224	54,457	1H:5V	315	2,235	1,761	8,757	40,146
1	PEAD	40,000	1,955	20,000	0,715	2,105	104,164	1H:5V	315	4,470	3,522	17,513	75,541
1	PEAD	60,000	2,035	20,000	0,715	2,185	153,248	1H:5V	315	6,705	5,283	26,270	110,314
1	PEAD	80,000	2,115	20,000	0,715	2,265	204,874	1H:5V	315	8,940	7,045	35,026	147,629
1	PEAD	100,000	2,195	20,000	0,715	2,345	259,094	1H:5V	315	11,175	8,806	43,783	187,537
1	PEAD	120,000	2,186	20,000	0,715	2,336	314,475	1H:5V	315	13,410	10,567	52,540	228,607
1	PEAD	140,000	1,889	20,000	0,715	2,039	364,985	1H:5V	315	15,645	12,328	61,296	264,806

R-1-12													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	160,000	1,435	20,000	0,715	1,585	404,237	1H:5V	315	17,880	14,089	70,053	289,745
1	PEAD	180,000	1,515	20,000	0,715	1,665	438,043	1H:5V	315	20,115	15,850	78,810	309,240
1	PEAD	200,000	1,595	20,000	0,715	1,745	474,059	1H:5V	315	22,350	17,612	87,566	330,945
1	PEAD	220,000	1,675	20,000	0,715	1,825	512,336	1H:5V	315	24,585	19,373	96,323	354,910
1	PEAD	240,000	1,650	20,000	0,715	1,800	551,396	1H:5V	315	26,820	21,134	105,079	379,659
1	PEAD	258,302	1,319	18,302	0,715	1,469	582,664	1H:5V	315	28,865	22,746	113,093	397,831

3.6 RAMAL R-1-14

R-1-14													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,315	0,000	0,580	1,465	0,000	1H:5V	180	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,364	20,000	0,580	1,514	26,155	1H:5V	180	1,830	0,930	6,469	16,417
1	PEAD	40,000	1,228	20,000	0,580	1,378	51,311	1H:5V	180	3,660	1,860	12,937	31,836
1	PEAD	60,000	1,208	20,000	0,580	1,358	74,666	1H:5V	180	5,490	2,790	19,406	45,453
1	PEAD	80,000	1,183	20,000	0,580	1,333	97,516	1H:5V	180	7,320	3,720	25,875	58,565
1	PEAD	100,000	1,224	20,000	0,580	1,374	120,546	1H:5V	180	9,150	4,650	32,344	71,858
1	PEAD	120,000	1,265	20,000	0,580	1,415	144,502	1H:5V	180	10,980	5,580	38,812	86,077
1	PEAD	140,000	1,302	20,000	0,580	1,452	169,352	1H:5V	180	12,810	6,510	45,281	101,189
1	PEAD	160,000	1,324	20,000	0,580	1,474	194,885	1H:5V	180	14,640	7,439	51,750	116,984
1	PEAD	180,000	1,364	20,000	0,580	1,514	221,145	1H:5V	180	16,470	8,369	58,219	133,506
1	PEAD	200,000	1,399	20,000	0,580	1,549	248,293	1H:5V	180	18,300	9,299	64,687	150,917
1	PEAD	220,000	1,440	20,000	0,580	1,590	276,354	1H:5V	180	20,130	10,229	71,156	169,241
1	PEAD	238,985	1,426	18,985	0,580	1,576	303,300	1H:5V	180	21,867	11,112	77,296	186,943
1	PEAD	240,000	1,417	1,015	0,580	1,567	304,727	1H:5V	180	21,960	11,159	77,625	187,876
1	PEAD	241,015	1,419	1,015	0,580	1,569	306,149	1H:5V	180	22,053	11,206	77,953	188,804
1	PEAD	255,103	1,511	14,088	0,580	1,661	326,700	1H:5V	180	23,342	11,861	82,510	202,496
1	PEAD	260,000	1,543	4,897	0,580	1,693	334,218	1H:5V	180	23,790	12,089	84,094	207,629
1	PEAD	280,000	1,906	20,000	0,580	2,056	370,149	1H:5V	180	25,620	13,019	90,562	233,823
1	PEAD	300,000	1,351	20,000	0,580	1,501	403,740	1H:5V	180	27,450	13,949	97,031	257,676
1	PEAD	315,648	1,224	15,648	0,580	1,374	423,266	1H:5V	180	28,882	14,677	102,092	269,583
1	PEAD	320,000	1,186	4,352	0,580	1,336	428,285	1H:5V	180	29,280	14,879	103,500	272,483
1	PEAD	340,000	1,701	20,000	0,580	1,851	457,191	1H:5V	180	31,110	15,809	109,968	291,652
1	PEAD	350,833	1,715	10,833	0,580	1,865	476,345	1H:5V	180	32,101	16,313	113,472	305,531

R-1-14													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	352,144	1,691	1,311	0,580	1,841	478,654	1H:5V	180	32,221	16,373	113,896	307,202
1	PEAD	353,455	1,653	1,311	0,580	1,803	480,910	1H:5V	180	32,341	16,434	114,320	308,820
1	PEAD	360,000	1,422	6,545	0,580	1,572	491,061	1H:5V	180	32,940	16,739	116,437	315,784
1	PEAD	380,000	1,197	20,000	0,580	1,347	516,563	1H:5V	180	34,770	17,669	122,906	331,548
1	PEAD	400,000	1,218	20,000	0,580	1,368	539,681	1H:5V	180	36,600	18,599	129,375	344,929
1	PEAD	419,103	1,354	19,103	0,580	1,504	563,488	1H:5V	180	38,348	19,487	135,553	359,435
1	PEAD	420,000	1,361	0,897	0,580	1,511	564,680	1H:5V	180	38,430	19,529	135,843	360,190
1	PEAD	420,897	1,377	0,897	0,580	1,527	565,884	1H:5V	180	38,512	19,570	136,133	360,958
1	PEAD	440,000	1,213	19,103	0,580	1,363	589,898	1H:5V	180	40,260	20,458	142,312	375,670
1	PEAD	460,000	1,273	20,000	0,580	1,423	613,822	1H:5V	180	42,090	21,388	148,781	389,857
1	PEAD	480,000	1,565	20,000	0,580	1,715	641,954	1H:5V	180	43,920	22,318	155,250	408,252
1	PEAD	491,590	1,775	11,590	0,580	1,925	661,893	1H:5V	180	44,980	22,857	158,998	422,547
1	PEAD	494,379	1,850	2,789	0,580	2,000	667,216	1H:5V	180	45,236	22,987	159,900	426,513
1	PEAD	495,276	1,871	0,897	0,580	2,021	668,987	1H:5V	180	45,318	23,029	160,190	427,847
1	PEAD	496,173	1,883	0,897	0,580	2,033	670,779	1H:5V	180	45,400	23,070	160,480	429,202
1	PEAD	500,000	1,918	3,827	0,580	2,068	678,549	1H:5V	180	45,750	23,248	161,718	435,109
1	PEAD	511,119	1,759	11,119	0,580	1,909	700,180	1H:5V	180	46,767	23,765	165,315	451,326
1	PEAD	520,000	1,521	8,881	0,580	1,671	715,117	1H:5V	180	47,580	24,178	168,187	461,939
1	PEAD	523,148	1,434	3,148	0,580	1,584	719,757	1H:5V	180	47,868	24,325	169,205	465,047
1	PEAD	540,000	1,169	16,852	0,580	1,319	741,104	1H:5V	180	49,410	25,108	174,656	478,189
1	PEAD	560,000	1,175	20,000	0,580	1,325	763,430	1H:5V	180	51,240	26,038	181,124	490,777
1	PEAD	565,554	1,199	5,554	0,580	1,349	769,723	1H:5V	180	51,748	26,296	182,921	494,366
1	PEAD	566,754	1,178	1,200	0,580	1,328	771,085	1H:5V	180	51,858	26,352	183,309	495,143
1	PEAD	567,954	1,171	1,200	0,580	1,321	772,427	1H:5V	180	51,968	26,408	183,697	495,902
1	PEAD	580,000	1,176	12,046	0,580	1,326	785,894	1H:5V	180	53,070	26,968	187,593	503,504
1	PEAD	600,000	1,225	20,000	0,580	1,375	808,858	1H:5V	180	54,900	27,898	194,062	516,730
1	PEAD	620,000	1,785	20,000	0,580	1,935	839,326	1H:5V	180	56,730	28,828	200,531	537,460
1	PEAD	633,985	1,318	13,985	0,580	1,468	861,377	1H:5V	180	58,010	29,478	205,054	552,703
1	PEAD	635,185	1,203	1,200	0,580	1,353	862,837	1H:5V	180	58,119	29,534	205,442	553,578
1	PEAD	636,385	1,215	1,200	0,580	1,365	864,226	1H:5V	180	58,229	29,590	205,830	554,383
1	PEAD	640,000	1,229	3,615	0,580	1,379	868,464	1H:5V	180	58,560	29,758	206,999	556,861
1	PEAD	660,000	1,309	20,000	0,580	1,459	892,985	1H:5V	180	60,390	30,688	213,468	571,644
1	PEAD	680,000	1,389	20,000	0,580	1,539	919,368	1H:5V	180	62,220	31,618	219,937	588,289
1	PEAD	681,308	1,394	1,308	0,580	1,544	921,159	1H:5V	180	62,340	31,678	220,360	589,444
1	PEAD	683,929	1,405	2,621	0,580	1,555	924,773	1H:5V	180	62,580	31,800	221,208	591,782
1	PEAD	700,000	1,469	16,071	0,580	1,619	947,664	1H:5V	180	64,050	32,548	226,406	606,848

R-1-14													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	710,621	1,512	10,621	0,580	1,662	963,488	1H:5V	180	65,022	33,041	229,841	617,500
1	PEAD	712,144	1,529	1,523	0,580	1,679	965,813	1H:5V	180	65,161	33,112	230,333	619,085
1	PEAD	713,667	1,570	1,523	0,580	1,720	968,194	1H:5V	180	65,301	33,183	230,826	620,724
1	PEAD	720,000	1,789	6,333	0,580	1,939	979,169	1H:5V	180	65,880	33,478	232,874	628,615
1	PEAD	740,000	1,530	20,000	0,580	1,680	1.013,323	1H:5V	180	67,710	34,407	239,343	653,032
1	PEAD	760,000	2,167	20,000	0,580	2,317	1.052,888	1H:5V	180	69,540	35,337	245,812	682,859
1	PEAD	774,712	1,609	14,712	0,580	1,759	1.082,728	1H:5V	180	70,886	36,021	250,570	705,536
1	PEAD	780,000	1,575	5,288	0,560	1,725	1.091,189	1H:5V	160	71,362	36,252	252,238	711,517
1	PEAD	800,000	1,546	20,000	0,560	1,696	1.122,051	1H:5V	160	73,132	37,069	258,384	733,244
1	PEAD	820,000	2,152	20,000	0,560	2,302	1.160,791	1H:5V	160	74,902	37,885	264,529	762,850
1	PEAD	840,000	1,924	20,000	0,560	2,074	1.204,498	1H:5V	160	76,672	38,702	270,675	797,422
1	PEAD	846,774	1,377	6,774	0,560	1,527	1.215,821	1H:5V	160	77,272	38,978	272,757	805,652
1	PEAD	848,297	1,198	1,523	0,560	1,348	1.217,679	1H:5V	160	77,406	39,041	273,225	806,814
1	PEAD	849,820	1,216	1,523	0,560	1,366	1.219,398	1H:5V	160	77,541	39,103	273,693	807,837
1	PEAD	860,000	1,257	10,180	0,560	1,407	1.231,217	1H:5V	160	78,442	39,518	276,821	815,007
1	PEAD	872,355	1,306	12,355	0,560	1,456	1.246,186	1H:5V	160	79,535	40,023	280,617	824,333
1	PEAD	880,000	1,337	7,645	0,560	1,487	1.255,797	1H:5V	160	80,212	40,335	282,966	830,452
1	PEAD	900,000	1,417	20,000	0,560	1,567	1.282,233	1H:5V	160	81,982	41,152	289,112	847,754
1	PEAD	920,000	1,497	20,000	0,560	1,647	1.310,567	1H:5V	160	83,752	41,968	295,258	866,954
1	PEAD	940,000	1,577	20,000	0,560	1,727	1.340,852	1H:5V	160	85,522	42,785	301,404	888,104
1	PEAD	960,000	1,657	20,000	0,560	1,807	1.373,138	1H:5V	160	87,292	43,601	307,549	911,256
1	PEAD	980,000	1,737	20,000	0,560	1,887	1.407,476	1H:5V	160	89,062	44,418	313,695	936,460
1	PEAD	1.000,000	1,817	20,000	0,560	1,967	1.443,918	1H:5V	160	90,832	45,234	319,841	963,767
1	PEAD	1.006,404	1,842	6,404	0,560	1,992	1.456,036	1H:5V	160	91,399	45,496	321,809	972,960

3.7 RAMAL R-1-1-4

R-1-1-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,181	0,000	0,510	2,331	0,000	1H:5V	110	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,261	20,000	0,510	2,411	46,677	1H:5V	110	1,620	0,544	5,356	38,967
1	PEAD	40,000	2,341	20,000	0,510	2,491	95,713	1H:5V	110	3,240	1,088	10,713	80,293
1	PEAD	60,000	2,421	20,000	0,510	2,571	147,160	1H:5V	110	4,860	1,632	16,069	124,029
1	PEAD	80,000	2,501	20,000	0,510	2,651	201,068	1H:5V	110	6,480	2,176	21,425	170,226

R-1-1-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	100,000	2,581	20,000	0,510	2,731	257,488	1H:5V	110	8,100	2,720	26,781	218,936
1	PEAD	120,000	2,661	20,000	0,510	2,811	316,473	1H:5V	110	9,720	3,264	32,138	270,210
1	PEAD	140,000	2,588	20,000	0,510	2,738	375,569	1H:5V	110	11,340	3,808	37,494	321,596
1	PEAD	160,000	2,629	20,000	0,510	2,779	434,145	1H:5V	110	12,960	4,353	42,850	372,462
1	PEAD	180,000	2,640	20,000	0,510	2,790	493,561	1H:5V	110	14,580	4,897	48,206	424,167
1	PEAD	200,000	2,019	20,000	0,510	2,169	543,829	1H:5V	110	16,200	5,441	53,563	466,725
1	PEAD	220,000	2,061	20,000	0,510	2,211	585,353	1H:5V	110	17,820	5,985	58,919	500,539
1	PEAD	240,000	2,141	20,000	0,510	2,291	628,588	1H:5V	110	19,440	6,529	64,275	536,063
1	PEAD	260,000	2,221	20,000	0,510	2,371	674,105	1H:5V	110	21,060	7,073	69,631	573,869
1	PEAD	280,000	2,236	20,000	0,510	2,386	720,994	1H:5V	110	22,680	7,617	74,988	613,049
1	PEAD	300,000	1,927	20,000	0,510	2,077	763,770	1H:5V	110	24,300	8,161	80,344	648,114
1	PEAD	320,000	1,461	20,000	0,510	1,611	796,397	1H:5V	110	25,920	8,705	85,700	673,031
1	PEAD	340,000	1,541	20,000	0,510	1,691	824,147	1H:5V	110	27,540	9,249	91,057	693,070
1	PEAD	360,000	1,621	20,000	0,510	1,771	853,795	1H:5V	110	29,160	9,793	96,413	715,008
1	PEAD	380,000	1,701	20,000	0,510	1,851	885,392	1H:5V	110	30,780	10,337	101,769	738,895
1	PEAD	400,000	1,715	20,000	0,510	1,865	918,153	1H:5V	110	32,400	10,881	107,125	763,945
1	PEAD	420,000	1,786	20,000	0,510	1,936	951,990	1H:5V	110	34,020	11,425	112,482	790,072
1	PEAD	426,649	1,833	6,649	0,510	1,983	963,742	1H:5V	110	34,559	11,606	114,262	799,260
1	PEAD	427,367	1,826	0,718	0,510	1,976	965,029	1H:5V	110	34,617	11,626	114,455	800,271
1	PEAD	428,085	1,818	0,718	0,510	1,968	966,310	1H:5V	110	34,675	11,645	114,647	801,275
1	PEAD	440,000	1,884	11,915	0,510	2,034	988,013	1H:5V	110	35,640	11,969	117,838	818,385
1	PEAD	460,000	1,844	20,000	0,510	1,994	1.024,783	1H:5V	110	37,260	12,514	123,194	847,443
1	PEAD	480,000	1,479	20,000	0,510	1,629	1.056,519	1H:5V	110	38,880	13,058	128,550	871,470
1	PEAD	500,000	1,702	20,000	0,510	1,852	1.086,439	1H:5V	110	40,500	13,602	133,907	893,679
1	PEAD	520,000	1,596	20,000	0,510	1,746	1.117,746	1H:5V	110	42,120	14,146	139,263	917,276
1	PEAD	540,000	1,149	20,000	0,510	1,299	1.142,747	1H:5V	110	43,740	14,690	144,619	934,567
1	PEAD	560,000	1,373	20,000	0,510	1,523	1.165,153	1H:5V	110	45,360	15,234	149,975	949,262
1	PEAD	580,000	1,539	20,000	0,510	1,689	1.191,879	1H:5V	110	46,980	15,778	155,332	968,278
1	PEAD	600,000	1,696	20,000	0,510	1,846	1.222,429	1H:5V	110	48,600	16,322	160,688	991,117
1	PEAD	620,000	1,447	20,000	0,510	1,597	1.251,904	1H:5V	110	50,220	16,866	166,044	1.012,882
1	PEAD	640,000	1,267	20,000	0,510	1,417	1.276,392	1H:5V	110	51,840	17,410	171,401	1.029,659
1	PEAD	660,000	1,490	20,000	0,510	1,640	1.301,378	1H:5V	110	53,460	17,954	176,757	1.046,935
1	PEAD	680,000	1,714	20,000	0,510	1,864	1.331,576	1H:5V	110	55,080	18,498	182,113	1.069,423
1	PEAD	680,861	1,723	0,861	0,510	1,873	1.332,998	1H:5V	110	55,150	18,522	182,344	1.070,512
1	PEAD	681,579	1,730	0,718	0,510	1,880	1.334,191	1H:5V	110	55,208	18,541	182,536	1.071,428
1	PEAD	682,297	1,734	0,718	0,510	1,884	1.335,389	1H:5V	110	55,266	18,561	182,728	1.072,349

R-1-1-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	700,000	1,738	17,703	0,510	1,888	1.365,010	1H:5V	110	56,700	19,042	187,469	1.095,146
1	PEAD	720,000	1,797	20,000	0,510	1,947	1.399,279	1H:5V	110	58,320	19,586	192,826	1.121,705
1	PEAD	740,000	1,842	20,000	0,510	1,992	1.434,886	1H:5V	110	59,940	20,130	198,182	1.149,601
1	PEAD	760,000	1,778	20,000	0,510	1,928	1.470,249	1H:5V	110	61,560	20,675	203,538	1.177,253
1	PEAD	780,000	1,125	20,000	0,510	1,275	1.497,270	1H:5V	110	63,180	21,219	208,894	1.196,564
1	PEAD	800,000	1,205	20,000	0,510	1,355	1.517,606	1H:5V	110	64,800	21,763	214,251	1.209,190
1	PEAD	820,000	1,285	20,000	0,510	1,435	1.539,625	1H:5V	110	66,420	22,307	219,607	1.223,499
1	PEAD	840,000	1,365	20,000	0,510	1,515	1.563,379	1H:5V	110	68,040	22,851	224,963	1.239,542
1	PEAD	850,135	1,406	10,135	0,510	1,556	1.576,096	1H:5V	110	68,861	23,127	227,677	1.248,352

3.8 RAMAL R-1-16

R-1-16													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,473	0,000	0,580	1,623	0,000	1H:5V	180	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,553	20,000	0,580	1,703	30,359	1H:5V	180	1,830	0,930	6,469	20,622
1	PEAD	22,512	1,401	2,512	0,580	1,551	34,063	1H:5V	180	2,060	1,047	7,281	23,102
1	PEAD	26,494	1,259	3,982	0,580	1,409	39,229	1H:5V	180	2,424	1,232	8,569	26,330
1	PEAD	30,476	1,328	3,982	0,580	1,478	44,224	1H:5V	180	2,789	1,417	9,857	29,385
1	PEAD	36,229	1,542	5,753	0,580	1,692	52,416	1H:5V	180	3,315	1,685	11,718	34,777
1	PEAD	39,864	1,697	3,635	0,580	1,847	58,427	1H:5V	180	3,648	1,854	12,893	39,018
1	PEAD	40,000	1,709	0,136	0,580	1,859	58,667	1H:5V	180	3,660	1,860	12,937	39,192
1	PEAD	43,484	2,066	3,484	0,580	2,216	65,699	1H:5V	180	3,979	2,022	14,064	44,528
1	PEAD	47,104	1,334	3,620	0,580	1,484	72,158	1H:5V	180	4,310	2,190	15,235	49,224
1	PEAD	51,036	1,216	3,932	0,580	1,366	77,008	1H:5V	180	4,670	2,373	16,507	52,159
1	PEAD	60,000	1,231	8,964	0,580	1,381	87,531	1H:5V	180	5,490	2,790	19,406	58,318
1	PEAD	80,000	1,192	20,000	0,580	1,342	110,741	1H:5V	180	7,320	3,720	25,875	71,790
1	PEAD	87,312	1,182	7,312	0,580	1,332	119,025	1H:5V	180	7,989	4,060	28,240	76,514
1	PEAD	89,606	1,181	2,294	0,580	1,331	121,610	1H:5V	180	8,199	4,166	28,982	77,982
1	PEAD	91,138	1,192	1,532	0,580	1,342	123,345	1H:5V	180	8,339	4,238	29,477	78,971
1	PEAD	92,670	1,187	1,532	0,580	1,337	125,085	1H:5V	180	8,479	4,309	29,973	79,966
1	PEAD	100,000	1,184	7,330	0,580	1,334	133,377	1H:5V	180	9,150	4,650	32,344	84,689
1	PEAD	104,838	1,180	4,838	0,580	1,330	138,832	1H:5V	180	9,593	4,875	33,908	87,788

3.9 RAMAL R-1-1-6

R-1-1-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,199	0,000	0,715	2,349	0,000	1H:5V	315	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,279	20,000	0,715	2,429	56,998	1H:5V	315	2,235	1,761	8,757	42,687
1	PEAD	40,000	2,359	20,000	0,715	2,509	116,695	1H:5V	315	4,470	3,522	17,513	88,073
1	PEAD	60,000	2,439	20,000	0,715	2,589	179,142	1H:5V	315	6,705	5,283	26,270	136,208
1	PEAD	80,000	2,519	20,000	0,715	2,669	244,390	1H:5V	315	8,940	7,045	35,026	187,144
1	PEAD	100,000	2,599	20,000	0,715	2,749	312,490	1H:5V	315	11,175	8,806	43,783	240,933
1	PEAD	120,000	1,882	20,000	0,715	2,032	370,046	1H:5V	315	13,410	10,567	52,540	284,177
1	PEAD	140,000	1,759	20,000	0,715	1,909	413,770	1H:5V	315	15,645	12,328	61,296	313,591
1	PEAD	160,000	1,839	20,000	0,715	1,989	456,842	1H:5V	315	17,880	14,089	70,053	342,351
1	PEAD	180,000	1,919	20,000	0,715	2,069	502,330	1H:5V	315	20,115	15,850	78,810	373,528
1	PEAD	200,000	1,999	20,000	0,715	2,149	550,287	1H:5V	315	22,350	17,612	87,566	407,173
1	PEAD	208,431	2,032	8,431	0,715	2,182	571,249	1H:5V	315	23,292	18,354	91,257	422,102

3.10 RAMAL R-1-1-8

R-1-1-8													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,651	0,000	0,525	2,801	0,000	1H:5V	125	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,136	20,000	0,525	2,286	52,850	1H:5V	125	1,665	0,624	5,590	44,725
1	PEAD	40,000	1,909	20,000	0,525	2,059	94,591	1H:5V	125	3,330	1,248	11,181	78,341
1	PEAD	60,000	1,560	20,000	0,525	1,710	128,706	1H:5V	125	4,995	1,872	16,771	104,331
1	PEAD	80,000	1,331	20,000	0,525	1,481	155,693	1H:5V	125	6,660	2,497	22,362	123,193
1	PEAD	100,000	1,134	20,000	0,525	1,284	177,894	1H:5V	125	8,325	3,121	27,952	137,269
1	PEAD	104,468	1,233	4,468	0,525	1,383	182,613	1H:5V	125	8,697	3,260	29,201	140,173

3.11 RAMAL R-1-2

R-1-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,219	0,000	0,600	2,369	0,000	1H:5V	200	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,414	20,000	0,600	1,564	39,715	1H:5V	200	1,890	1,046	6,796	29,355

R-1-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	40,000	2,609	20,000	0,600	2,759	85,769	1H:5V	200	3,780	2,092	13,592	65,049
1	PEAD	60,000	1,803	20,000	0,600	1,953	136,893	1H:5V	200	5,670	3,138	20,388	105,813
1	PEAD	61,814	1,730	1,814	0,600	1,880	140,312	1H:5V	200	5,841	3,232	21,004	108,293
1	PEAD	62,683	1,699	0,869	0,600	1,849	141,889	1H:5V	200	5,924	3,278	21,299	109,419
1	PEAD	63,552	1,675	0,869	0,600	1,825	143,433	1H:5V	200	6,006	3,323	21,594	110,513
1	PEAD	80,000	2,005	16,448	0,600	2,155	176,189	1H:5V	200	7,560	4,183	27,183	134,749
1	PEAD	93,993	1,303	13,993	0,600	1,453	200,787	1H:5V	200	8,882	4,915	31,938	152,099
1	PEAD	100,000	1,199	6,007	0,600	1,349	208,198	1H:5V	200	9,450	5,229	33,979	156,398
1	PEAD	120,000	1,384	20,000	0,600	1,534	233,842	1H:5V	200	11,340	6,275	40,775	171,682
1	PEAD	128,312	1,523	8,312	0,600	1,673	246,122	1H:5V	200	12,125	6,710	43,599	179,656
1	PEAD	130,004	1,448	1,692	0,600	1,598	248,688	1H:5V	200	12,285	6,798	44,174	181,345
1	PEAD	131,696	1,471	1,692	0,600	1,621	251,198	1H:5V	200	12,445	6,887	44,749	182,980
1	PEAD	140,000	1,678	8,304	0,600	1,828	264,747	1H:5V	200	13,230	7,321	47,571	192,227
1	PEAD	150,254	1,838	10,254	0,600	1,988	283,965	1H:5V	200	14,199	7,857	51,055	206,133
1	PEAD	160,000	1,864	9,746	0,600	2,014	303,471	1H:5V	200	15,120	8,367	54,367	220,591
1	PEAD	180,000	1,703	20,000	0,600	1,853	341,652	1H:5V	200	17,010	9,413	61,163	248,412
1	PEAD	194,839	1,860	14,839	0,600	2,010	369,940	1H:5V	200	18,412	10,189	66,205	269,013
1	PEAD	200,000	1,767	5,161	0,600	1,917	380,002	1H:5V	200	18,900	10,458	67,958	276,402
1	PEAD	215,447	1,261	15,447	0,600	1,411	404,176	1H:5V	200	20,360	11,266	73,207	292,574
1	PEAD	220,000	1,226	4,553	0,600	1,376	409,751	1H:5V	200	20,790	11,504	74,754	295,791
1	PEAD	240,000	1,338	20,000	0,600	1,488	435,150	1H:5V	200	22,680	12,550	81,550	310,830
1	PEAD	260,000	1,573	20,000	0,600	1,723	464,782	1H:5V	200	24,570	13,596	88,346	330,102
1	PEAD	268,398	1,672	8,398	0,580	1,822	478,841	1H:5V	180	25,351	14,011	91,131	339,967
1	PEAD	280,000	1,418	11,602	0,580	1,568	496,951	1H:5V	180	26,413	14,550	94,883	352,428
1	PEAD	300,000	1,346	20,000	0,580	1,496	524,116	1H:5V	180	28,243	15,480	101,352	369,855
1	PEAD	320,000	2,237	20,000	0,580	2,387	562,508	1H:5V	180	30,073	16,410	107,821	398,510
1	PEAD	340,000	2,421	20,000	0,580	2,571	615,881	1H:5V	180	31,903	17,340	114,290	442,145
1	PEAD	360,000	1,771	20,000	0,580	1,921	662,535	1H:5V	180	33,733	18,270	120,758	479,061
1	PEAD	380,000	1,888	20,000	0,580	2,038	701,184	1H:5V	180	35,563	19,200	127,227	507,973
1	PEAD	400,000	1,986	20,000	0,580	2,136	742,825	1H:5V	180	37,393	20,130	133,696	539,877
1	PEAD	414,673	1,328	14,673	0,580	1,478	768,103	1H:5V	180	38,735	20,812	138,442	558,011
1	PEAD	420,000	1,270	5,327	0,580	1,420	774,818	1H:5V	180	39,223	21,060	140,164	562,132
1	PEAD	423,248	1,230	3,248	0,580	1,380	778,729	1H:5V	180	39,520	21,211	141,215	564,461
1	PEAD	440,000	1,313	16,752	0,580	1,463	799,316	1H:5V	180	41,053	21,990	146,633	576,892
1	PEAD	460,000	1,475	20,000	0,580	1,625	826,789	1H:5V	180	42,883	22,920	153,102	594,627
1	PEAD	480,000	1,870	20,000	0,580	2,020	861,372	1H:5V	180	44,713	23,850	159,571	619,472

R-1-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	500,000	2,223	20,000	0,580	2,373	906,274	1H:5V	180	46,543	24,779	166,039	654,637
1	PEAD	500,738	2,228	0,738	0,580	2,378	908,124	1H:5V	180	46,610	24,814	166,278	656,128
1	PEAD	520,000	1,918	19,262	0,580	2,068	952,089	1H:5V	180	48,373	25,709	172,508	690,715
1	PEAD	528,824	1,286	8,824	0,580	1,436	966,649	1H:5V	180	49,180	26,120	175,362	700,978
1	PEAD	540,000	1,212	11,176	0,580	1,362	980,095	1H:5V	180	50,203	26,639	178,977	708,983
1	PEAD	541,446	1,196	1,446	0,580	1,346	981,761	1H:5V	180	50,335	26,707	179,445	709,945
1	PEAD	544,039	1,213	2,593	0,580	1,363	984,750	1H:5V	180	50,572	26,827	180,283	711,671
1	PEAD	546,632	1,298	2,593	0,580	1,448	987,889	1H:5V	180	50,809	26,948	181,122	713,548
1	PEAD	560,000	1,724	13,368	0,580	1,874	1.008,265	1H:5V	180	52,033	27,569	185,446	727,415
1	PEAD	564,638	1,677	4,638	0,580	1,827	1.016,420	1H:5V	180	52,457	27,785	186,946	733,312
1	PEAD	568,649	1,405	4,011	0,580	1,555	1.022,662	1H:5V	180	52,824	27,971	188,243	737,602
1	PEAD	570,649	1,214	2,000	0,580	1,364	1.025,211	1H:5V	180	53,007	28,064	188,890	739,177
1	PEAD	572,660	1,170	2,011	0,560	1,320	1.027,474	1H:5V	160	53,188	28,152	189,524	740,497
1	PEAD	580,000	1,439	7,340	0,560	1,589	1.036,585	1H:5V	160	53,838	28,452	191,780	746,255
1	PEAD	600,000	1,693	20,000	0,560	1,843	1.067,647	1H:5V	160	55,608	29,268	197,925	768,183
1	PEAD	620,000	1,377	20,000	0,560	1,527	1.097,976	1H:5V	160	57,378	30,085	204,071	789,377
1	PEAD	640,000	1,712	20,000	0,560	1,862	1.128,552	1H:5V	160	59,148	30,901	210,217	810,819
1	PEAD	660,000	1,564	20,000	0,560	1,714	1.161,387	1H:5V	160	60,918	31,718	216,362	834,520
1	PEAD	677,939	1,312	17,939	0,560	1,462	1.186,445	1H:5V	160	62,505	32,450	221,875	851,384
1	PEAD	678,695	1,298	0,756	0,560	1,448	1.187,381	1H:5V	160	62,572	32,481	222,107	851,975
1	PEAD	679,451	1,290	0,756	0,560	1,440	1.188,307	1H:5V	160	62,639	32,512	222,340	852,556
1	PEAD	680,000	1,290	0,549	0,560	1,440	1.188,978	1H:5V	160	62,688	32,535	222,508	852,976
1	PEAD	695,460	1,327	15,460	0,560	1,477	1.208,183	1H:5V	160	64,056	33,166	227,259	865,120
1	PEAD	700,000	1,346	4,540	0,560	1,496	1.213,969	1H:5V	160	64,458	33,351	228,654	868,833
1	PEAD	720,000	1,272	20,000	0,560	1,422	1.238,830	1H:5V	160	66,228	34,168	234,800	884,559
1	PEAD	720,424	1,269	0,424	0,560	1,419	1.239,339	1H:5V	160	66,265	34,185	234,930	884,874
1	PEAD	740,000	1,205	19,576	0,560	1,355	1.262,080	1H:5V	160	67,998	34,984	240,945	898,674
1	PEAD	746,900	1,180	6,900	0,560	1,330	1.269,754	1H:5V	160	68,608	35,266	243,066	903,198
1	PEAD	750,581	1,271	3,681	0,560	1,421	1.273,984	1H:5V	160	68,934	35,416	244,197	905,746
1	PEAD	754,262	1,426	3,681	0,560	1,576	1.278,731	1H:5V	160	69,260	35,566	245,328	908,812
1	PEAD	760,000	1,927	5,738	0,560	2,077	1.288,500	1H:5V	160	69,768	35,801	247,091	915,961
1	PEAD	772,118	1,526	12,118	0,560	1,676	1.309,866	1H:5V	160	70,840	36,295	250,815	931,792
1	PEAD	776,936	1,276	4,818	0,560	1,426	1.316,384	1H:5V	160	71,266	36,492	252,295	936,109
1	PEAD	780,000	1,238	3,064	0,560	1,388	1.320,011	1H:5V	160	71,538	36,617	253,237	938,337
1	PEAD	781,754	1,292	1,754	0,560	1,442	1.322,104	1H:5V	160	71,693	36,689	253,776	939,629
1	PEAD	800,000	1,571	18,246	0,560	1,721	1.347,461	1H:5V	160	73,308	37,434	259,383	956,653

R-1-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	813,154	1,649	13,154	0,560	1,799	1.368,579	1H:5V	160	74,472	37,971	263,425	971,763
1	PEAD	820,000	1,711	6,846	0,560	1,861	1.380,181	1H:5V	160	75,078	38,250	265,528	980,239
1	PEAD	840,000	1,739	20,000	0,560	1,889	1.415,245	1H:5V	160	76,848	39,067	271,674	1.006,167
1	PEAD	843,879	1,530	3,879	0,560	1,680	1.421,600	1H:5V	160	77,191	39,225	272,866	1.010,751
1	PEAD	848,191	1,523	4,312	0,560	1,673	1.428,072	1H:5V	160	77,572	39,401	274,191	1.015,254
1	PEAD	849,414	1,470	1,223	0,560	1,620	1.429,863	1H:5V	160	77,681	39,451	274,567	1.016,486
1	PEAD	850,637	1,403	1,223	0,560	1,553	1.431,566	1H:5V	160	77,789	39,501	274,943	1.017,630
1	PEAD	860,000	1,251	9,363	0,560	1,401	1.443,406	1H:5V	160	78,618	39,883	277,820	1.025,194
1	PEAD	880,000	1,212	20,000	0,560	1,362	1.466,514	1H:5V	160	80,388	40,700	283,966	1.039,168
1	PEAD	888,709	1,361	8,709	0,560	1,511	1.477,124	1H:5V	160	81,158	41,055	286,642	1.045,801
1	PEAD	889,547	1,362	0,838	0,560	1,512	1.478,216	1H:5V	160	81,232	41,090	286,899	1.046,510
1	PEAD	890,385	1,364	0,838	0,560	1,514	1.479,310	1H:5V	160	81,307	41,124	287,157	1.047,221
1	PEAD	900,000	1,374	9,615	0,560	1,524	1.491,926	1H:5V	160	82,158	41,516	290,111	1.055,446
1	PEAD	920,000	1,491	20,000	0,560	1,641	1.519,681	1H:5V	160	83,928	42,333	296,257	1.074,066
1	PEAD	936,433	1,160	16,433	0,560	1,310	1.540,505	1H:5V	160	85,382	43,004	301,307	1.087,384

3.12 RAMAL R-1-3

R-1-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,938	0,000	0,580	2,088	0,000	1H:5V	180	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,850	20,000	0,580	3,000	56,230	1H:5V	180	1,830	0,930	6,469	46,492
1	PEAD	40,000	2,733	20,000	0,580	2,883	124,975	1H:5V	180	3,660	1,860	12,937	105,499
1	PEAD	60,000	1,962	20,000	0,580	2,112	179,490	1H:5V	180	5,490	2,790	19,406	150,277
1	PEAD	76,825	1,397	16,825	0,580	1,547	208,875	1H:5V	180	7,029	3,572	24,848	171,470
1	PEAD	78,143	1,361	1,318	0,580	1,511	210,660	1H:5V	180	7,150	3,633	25,274	172,614
1	PEAD	79,461	1,343	1,318	0,580	1,493	212,403	1H:5V	180	7,271	3,695	25,701	173,715
1	PEAD	80,000	1,339	0,539	0,580	1,489	213,109	1H:5V	180	7,320	3,720	25,875	174,158
1	PEAD	100,000	1,191	20,000	0,580	1,341	237,553	1H:5V	180	9,150	4,650	32,344	188,865
1	PEAD	120,000	2,144	20,000	0,580	2,294	272,758	1H:5V	180	10,980	5,580	38,812	214,332
1	PEAD	140,000	2,012	20,000	0,580	2,162	318,476	1H:5V	180	12,810	6,510	45,281	250,313
1	PEAD	160,000	1,884	20,000	0,580	2,034	360,436	1H:5V	180	14,640	7,439	51,750	282,535
1	PEAD	180,000	2,047	20,000	0,580	2,197	402,903	1H:5V	180	16,470	8,369	58,219	315,265
1	PEAD	198,716	1,774	18,716	0,580	1,924	441,233	1H:5V	180	18,183	9,240	64,272	344,482

R-1-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	200,000	1,762	1,284	0,580	1,912	443,606	1H:5V	180	18,300	9,299	64,687	346,230
1	PEAD	220,000	1,502	20,000	0,580	1,652	477,047	1H:5V	180	20,130	10,229	71,156	369,933
1	PEAD	230,429	1,257	10,429	0,580	1,407	491,209	1H:5V	180	21,084	10,714	74,529	379,018
1	PEAD	240,000	1,325	9,571	0,580	1,475	503,185	1H:5V	180	21,960	11,159	77,625	386,334
1	PEAD	245,142	1,289	5,142	0,580	1,439	509,714	1H:5V	180	22,430	11,398	79,288	390,359
1	PEAD	260,000	1,272	14,858	0,580	1,422	528,123	1H:5V	180	23,790	12,089	84,094	401,534
1	PEAD	270,876	1,262	10,876	0,580	1,412	541,429	1H:5V	180	24,785	12,595	87,611	409,545
1	PEAD	271,950	1,267	1,074	0,580	1,417	542,740	1H:5V	180	24,883	12,645	87,959	410,333
1	PEAD	273,024	1,280	1,074	0,580	1,430	544,062	1H:5V	180	24,982	12,695	88,306	411,132
1	PEAD	280,000	1,266	6,976	0,580	1,416	552,645	1H:5V	180	25,620	13,019	90,562	416,318
1	PEAD	293,345	1,239	13,345	0,580	1,389	568,751	1H:5V	180	26,841	13,640	94,878	425,927
1	PEAD	300,000	1,226	6,655	0,580	1,376	576,631	1H:5V	180	27,450	13,949	97,031	430,567
1	PEAD	300,483	1,225	0,483	0,580	1,375	577,199	1H:5V	180	27,494	13,971	97,187	430,900
1	PEAD	320,000	1,186	19,517	0,580	1,336	599,717	1H:5V	180	29,280	14,879	103,500	443,915
1	PEAD	322,019	1,182	2,019	0,580	1,332	601,997	1H:5V	180	29,465	14,973	104,153	445,213
1	PEAD	322,988	1,184	0,969	0,580	1,334	603,091	1H:5V	180	29,553	15,018	104,466	445,834
1	PEAD	323,957	1,197	0,969	0,580	1,347	604,192	1H:5V	180	29,642	15,063	104,780	446,464
1	PEAD	330,651	1,286	6,694	0,580	1,436	612,190	1H:5V	180	30,255	15,374	106,945	451,203
1	PEAD	340,000	1,293	9,349	0,580	1,443	623,870	1H:5V	180	31,110	15,809	109,968	458,331
1	PEAD	340,755	1,295	0,755	0,580	1,445	624,817	1H:5V	180	31,179	15,844	110,213	458,910
1	PEAD	360,000	1,534	19,245	0,580	1,684	651,756	1H:5V	180	32,940	16,739	116,437	476,480
1	PEAD	380,000	1,202	20,000	0,580	1,352	678,693	1H:5V	180	34,770	17,669	122,906	493,678
1	PEAD	400,000	1,518	20,000	0,580	1,668	705,429	1H:5V	180	36,600	18,599	129,375	510,677
1	PEAD	420,000	1,656	20,000	0,580	1,806	737,666	1H:5V	180	38,430	19,529	135,843	533,176
1	PEAD	440,000	1,669	20,000	0,580	1,819	771,832	1H:5V	180	40,260	20,458	142,312	557,604
1	PEAD	443,648	1,690	3,648	0,580	1,840	778,145	1H:5V	180	40,594	20,628	143,492	562,141
1	PEAD	446,993	1,682	3,345	0,580	1,832	783,962	1H:5V	180	40,900	20,784	144,574	566,330
1	PEAD	450,338	1,646	3,345	0,580	1,796	789,683	1H:5V	180	41,206	20,939	145,656	570,422
1	PEAD	460,000	1,511	9,662	0,580	1,661	805,151	1H:5V	180	42,090	21,388	148,781	581,187
1	PEAD	480,000	1,187	20,000	0,580	1,337	831,633	1H:5V	180	43,920	22,318	155,250	597,930
1	PEAD	500,000	1,547	20,000	0,580	1,697	858,565	1H:5V	180	45,750	23,248	161,718	615,125
1	PEAD	502,903	1,559	2,903	0,580	1,709	863,116	1H:5V	180	46,016	23,383	162,657	618,263

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R-1-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,068	0,000	0,580	2,218	0,000	1H:5V	180	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,656	20,000	0,580	1,806	39,702	1H:5V	180	1,830	0,930	6,469	29,964
1	PEAD	40,000	1,358	20,000	0,580	1,508	69,994	1H:5V	180	3,660	1,860	12,937	50,519
1	PEAD	59,569	1,200	19,569	0,580	1,350	94,230	1H:5V	180	5,451	2,770	19,267	65,227
1	PEAD	60,000	1,191	0,431	0,580	1,341	94,722	1H:5V	180	5,490	2,790	19,406	65,509
1	PEAD	80,000	1,419	20,000	0,580	1,569	120,120	1H:5V	180	7,320	3,720	25,875	81,170
1	PEAD	84,676	1,322	4,676	0,580	1,472	126,408	1H:5V	180	7,748	3,937	27,387	85,181
1	PEAD	85,607	1,308	0,931	0,580	1,458	127,599	1H:5V	180	7,833	3,980	27,688	85,919
1	PEAD	86,538	1,301	0,931	0,580	1,451	128,778	1H:5V	180	7,918	4,024	27,990	86,645
1	PEAD	100,000	1,274	13,462	0,580	1,424	145,566	1H:5V	180	9,150	4,650	32,344	96,878
1	PEAD	114,748	1,245	14,748	0,580	1,395	163,484	1H:5V	180	10,499	5,335	37,114	107,615
1	PEAD	120,000	1,234	5,252	0,580	1,384	169,744	1H:5V	180	10,980	5,580	38,812	111,319
1	PEAD	140,000	1,194	20,000	0,580	1,344	193,010	1H:5V	180	12,810	6,510	45,281	124,847
1	PEAD	160,000	1,343	20,000	0,580	1,493	217,536	1H:5V	180	14,640	7,439	51,750	139,635
1	PEAD	173,867	1,404	13,867	0,580	1,554	236,229	1H:5V	180	15,909	8,084	56,235	151,576
1	PEAD	175,869	1,390	2,002	0,580	1,540	238,983	1H:5V	180	16,092	8,177	56,882	153,356
1	PEAD	177,871	1,360	2,002	0,580	1,510	241,685	1H:5V	180	16,275	8,270	57,530	155,084
1	PEAD	180,000	1,391	2,129	0,580	1,541	244,560	1H:5V	180	16,470	8,369	58,219	156,922
1	PEAD	199,489	1,697	19,489	0,580	1,847	274,985	1H:5V	180	18,253	9,276	64,522	177,858
1	PEAD	200,000	1,688	0,511	0,580	1,838	275,878	1H:5V	180	18,300	9,299	64,687	178,502
1	PEAD	220,000	1,328	20,000	0,580	1,478	306,236	1H:5V	180	20,130	10,229	71,156	199,123
1	PEAD	220,024	1,327	0,024	0,580	1,477	306,267	1H:5V	180	20,132	10,230	71,164	199,142
1	PEAD	220,825	1,316	0,801	0,580	1,466	307,298	1H:5V	180	20,205	10,268	71,423	199,783
1	PEAD	221,626	1,311	0,801	0,580	1,461	308,321	1H:5V	180	20,279	10,305	71,682	200,416
1	PEAD	240,000	1,274	18,374	0,580	1,424	331,341	1H:5V	180	21,960	11,159	77,625	214,490
1	PEAD	260,000	1,234	20,000	0,580	1,384	355,514	1H:5V	180	23,790	12,089	84,094	228,925
1	PEAD	280,000	1,194	20,000	0,580	1,344	378,780	1H:5V	180	25,620	13,019	90,562	242,454
1	PEAD	300,000	1,276	20,000	0,580	1,426	402,526	1H:5V	180	27,450	13,949	97,031	256,462
1	PEAD	320,000	1,234	20,000	0,580	1,384	426,722	1H:5V	180	29,280	14,879	103,500	270,920
1	PEAD	330,732	1,221	10,732	0,580	1,371	439,369	1H:5V	180	30,262	15,378	106,971	278,342
1	PEAD	340,000	1,195	9,268	0,580	1,345	450,087	1H:5V	180	31,110	15,809	109,968	284,548
1	PEAD	341,716	1,189	1,716	0,580	1,339	452,041	1H:5V	180	31,267	15,889	110,523	285,666
1	PEAD	343,248	1,200	1,532	0,580	1,350	453,790	1H:5V	180	31,407	15,960	111,019	286,669
1	PEAD	344,780	1,204	1,532	0,580	1,354	455,551	1H:5V	180	31,547	16,031	111,514	287,685

R-1-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	360,000	1,314	15,220	0,580	1,464	474,042	1H:5V	180	32,940	16,739	116,437	298,765
1	PEAD	367,836	1,397	7,836	0,580	1,547	484,439	1H:5V	180	33,657	17,103	118,972	305,347
1	PEAD	368,854	1,496	1,018	0,580	1,646	485,901	1H:5V	180	33,750	17,150	119,301	306,313
1	PEAD	380,000	1,544	11,146	0,580	1,694	502,915	1H:5V	180	34,770	17,669	122,906	317,901
1	PEAD	397,197	1,299	17,197	0,580	1,449	527,135	1H:5V	180	36,344	18,468	128,468	333,748
1	PEAD	400,000	1,259	2,803	0,580	1,409	530,603	1H:5V	180	36,600	18,599	129,375	335,851
1	PEAD	420,000	1,374	20,000	0,580	1,524	556,230	1H:5V	180	38,430	19,529	135,843	351,741
1	PEAD	440,000	1,363	20,000	0,580	1,513	583,069	1H:5V	180	40,260	20,458	142,312	368,841
1	PEAD	454,888	1,454	14,888	0,580	1,604	603,765	1H:5V	180	41,622	21,151	147,127	382,289
1	PEAD	457,554	1,438	2,666	0,580	1,588	607,591	1H:5V	180	41,866	21,275	147,990	384,817
1	PEAD	458,167	1,431	0,613	0,580	1,581	608,462	1H:5V	180	41,922	21,303	148,188	385,390
1	PEAD	458,780	1,428	0,613	0,580	1,578	609,329	1H:5V	180	41,978	21,332	148,386	385,959
1	PEAD	460,000	1,426	1,220	0,580	1,576	611,052	1H:5V	180	42,090	21,388	148,781	387,087
1	PEAD	480,000	1,386	20,000	0,580	1,536	638,788	1H:5V	180	43,920	22,318	155,250	405,085
1	PEAD	480,232	1,385	0,232	0,580	1,535	639,104	1H:5V	180	43,941	22,329	155,325	405,289
1	PEAD	500,000	1,485	19,768	0,580	1,635	667,219	1H:5V	180	45,750	23,248	161,718	423,779
1	PEAD	520,000	1,512	20,000	0,580	1,662	697,212	1H:5V	180	47,580	24,178	168,187	444,035
1	PEAD	540,000	1,571	20,000	0,580	1,721	728,282	1H:5V	180	49,410	25,108	174,656	465,367
1	PEAD	560,000	1,226	20,000	0,580	1,376	755,955	1H:5V	180	51,240	26,038	181,124	483,302
1	PEAD	580,000	1,186	20,000	0,580	1,336	779,041	1H:5V	180	53,070	26,968	187,593	496,651
1	PEAD	582,788	1,180	2,788	0,580	1,330	782,187	1H:5V	180	53,325	27,098	188,495	498,440
1	PEAD	600,000	1,203	17,212	0,560	1,353	801,542	1H:5V	160	54,874	27,849	193,923	509,720
1	PEAD	616,994	1,345	16,994	0,560	1,495	822,003	1H:5V	160	56,378	28,543	199,145	522,419
1	PEAD	617,776	1,363	0,782	0,560	1,513	823,015	1H:5V	160	56,447	28,575	199,385	523,074
1	PEAD	618,558	1,379	0,782	0,560	1,529	824,043	1H:5V	160	56,517	28,607	199,626	523,745
1	PEAD	620,000	1,407	1,442	0,560	1,557	825,976	1H:5V	160	56,644	28,666	200,069	525,019
1	PEAD	640,000	1,607	20,000	0,560	1,757	855,557	1H:5V	160	58,414	29,482	206,214	545,466
1	PEAD	660,000	1,507	20,000	0,560	1,657	886,341	1H:5V	160	60,184	30,299	212,360	567,115
1	PEAD	680,000	1,379	20,000	0,560	1,529	914,349	1H:5V	160	61,954	31,115	218,506	585,989
1	PEAD	700,000	1,204	20,000	0,560	1,354	938,837	1H:5V	160	63,724	31,932	224,652	601,342
1	PEAD	720,000	1,196	20,000	0,560	1,346	961,247	1H:5V	160	65,494	32,748	230,797	614,618
1	PEAD	740,000	1,266	20,000	0,560	1,416	984,347	1H:5V	160	67,264	33,565	236,943	628,584
1	PEAD	759,629	1,595	19,629	0,560	1,745	1.011,633	1H:5V	160	69,001	34,366	242,975	646,905
1	PEAD	760,000	1,608	0,371	0,560	1,758	1.012,225	1H:5V	160	69,034	34,381	243,089	647,327
1	PEAD	780,000	1,771	20,000	0,560	1,921	1.046,389	1H:5V	160	70,804	35,198	249,235	672,357
1	PEAD	792,907	1,664	12,907	0,560	1,814	1.068,897	1H:5V	160	71,946	35,725	253,201	688,970

R-1-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	795,198	1,619	2,291	0,560	1,769	1.072,666	1H:5V	160	72,149	35,818	253,905	691,693
1	PEAD	797,489	1,521	2,291	0,560	1,671	1.076,230	1H:5V	160	72,352	35,912	254,609	694,210
1	PEAD	800,000	1,386	2,511	0,560	1,536	1.079,778	1H:5V	160	72,574	36,015	255,380	696,612
1	PEAD	804,386	1,329	4,386	0,560	1,479	1.085,475	1H:5V	160	72,962	36,194	256,728	700,305
1	PEAD	814,800	1,538	10,414	0,560	1,688	1.099,955	1H:5V	160	73,884	36,619	259,928	710,029
1	PEAD	820,000	1,304	5,200	0,560	1,454	1.107,111	1H:5V	160	74,344	36,831	261,526	714,810
1	PEAD	840,000	1,880	20,000	0,560	2,030	1.139,091	1H:5V	160	76,114	37,648	267,672	737,656
1	PEAD	848,704	1,611	8,704	0,560	1,761	1.154,616	1H:5V	160	76,884	38,003	270,346	749,206
1	PEAD	860,000	1,186	11,296	0,560	1,336	1.169,931	1H:5V	160	77,884	38,464	273,818	759,361
1	PEAD	866,766	1,241	6,766	0,560	1,391	1.177,614	1H:5V	160	78,483	38,740	275,897	763,954
1	PEAD	871,546	1,243	4,780	0,560	1,393	1.183,193	1H:5V	160	78,906	38,936	277,365	767,350
1	PEAD	874,149	1,215	2,603	0,560	1,365	1.186,193	1H:5V	160	79,136	39,042	278,165	769,161
1	PEAD	876,752	1,193	2,603	0,560	1,343	1.189,121	1H:5V	160	79,367	39,148	278,965	770,900
1	PEAD	877,548	1,196	0,796	0,560	1,346	1.190,008	1H:5V	160	79,437	39,181	279,210	771,424
1	PEAD	880,000	1,194	2,452	0,560	1,344	1.192,742	1H:5V	160	79,654	39,281	279,963	773,038
1	PEAD	900,000	1,232	20,000	0,560	1,382	1.215,440	1H:5V	160	81,424	40,097	286,109	786,602
1	PEAD	906,585	1,286	6,585	0,560	1,436	1.223,252	1H:5V	160	82,007	40,366	288,133	791,406
1	PEAD	920,000	1,285	13,415	0,560	1,435	1.239,564	1H:5V	160	83,194	40,914	292,255	801,592
1	PEAD	935,624	1,254	15,624	0,560	1,404	1.258,281	1H:5V	160	84,577	41,552	297,056	813,173
1	PEAD	936,280	1,254	0,656	0,560	1,404	1.259,056	1H:5V	160	84,635	41,578	297,257	813,648
1	PEAD	936,968	1,260	0,688	0,560	1,410	1.259,870	1H:5V	160	84,696	41,606	297,469	814,148
1	PEAD	940,000	1,268	3,032	0,525	1,418	1.263,408	1H:5V	125	84,956	41,716	298,358	816,389
1	PEAD	940,517	1,245	0,517	0,525	1,395	1.263,995	1H:5V	125	84,999	41,732	298,503	816,766
1	PEAD	945,410	1,137	4,893	0,525	1,287	1.269,202	1H:5V	125	85,407	41,885	299,871	819,985
1	PEAD	947,814	1,260	2,404	0,525	1,410	1.271,780	1H:5V	125	85,607	41,960	300,543	821,587
1	PEAD	960,000	1,161	12,186	0,525	1,311	1.285,001	1H:5V	125	86,621	42,340	303,949	829,857
1	PEAD	980,000	1,248	20,000	0,525	1,398	1.306,570	1H:5V	125	88,286	42,964	309,539	843,301
1	PEAD	1.000,000	1,294	20,000	0,525	1,444	1.329,569	1H:5V	125	89,951	43,588	315,130	858,176
1	PEAD	1.020,000	1,381	20,000	0,525	1,531	1.354,046	1H:5V	125	91,616	44,212	320,720	874,527
1	PEAD	1.040,000	1,916	20,000	0,525	2,066	1.386,155	1H:5V	125	93,281	44,836	326,310	898,511
1	PEAD	1.041,939	1,987	1,939	0,525	2,137	1.390,008	1H:5V	125	93,443	44,897	326,852	901,576
1	PEAD	1.060,000	2,146	18,061	0,525	2,296	1.428,794	1H:5V	125	94,946	45,461	331,901	933,025
1	PEAD	1.063,553	2,164	3,553	0,525	2,314	1.436,869	1H:5V	125	95,242	45,572	332,894	939,656
1	PEAD	1.080,000	2,472	16,447	0,525	2,622	1.478,293	1H:5V	125	96,611	46,085	337,491	974,399
1	PEAD	1.100,000	2,121	20,000	0,525	2,271	1.528,046	1H:5V	125	98,276	46,709	343,082	1.016,027
1	PEAD	1.120,000	2,130	20,000	0,525	2,280	1.572,650	1H:5V	125	99,941	47,333	348,672	1.052,506

R-1-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	1.140,000	2,167	20,000	0,525	2,317	1.617,918	1H:5V	125	101,606	47,957	354,262	1.089,649
1	PEAD	1.160,000	2,186	20,000	0,525	2,336	1.663,997	1H:5V	125	103,271	48,581	359,853	1.127,603
1	PEAD	1.180,000	2,314	20,000	0,525	2,464	1.712,254	1H:5V	125	104,936	49,206	365,443	1.167,735
1	PEAD	1.191,454	2,182	11,454	0,525	2,332	1.739,857	1H:5V	125	105,890	49,563	368,645	1.190,685

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R-1-5													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,177	0,000	0,525	2,327	0,000	1H:5V	125	0,000	0,000	0,000	0,000
1	PEAD	6,858	1,708	6,858	0,525	1,858	13,615	1H:5V	125	0,571	0,214	1,917	10,829
1	PEAD	13,555	1,717	6,697	0,525	1,867	24,810	1H:5V	125	1,128	0,423	3,789	19,303
1	PEAD	16,658	2,181	3,103	0,510	2,331	30,943	1H:5V	110	1,383	0,514	4,638	24,212
1	PEAD	20,000	2,081	3,342	0,510	2,231	38,310	1H:5V	110	1,654	0,605	5,533	30,290
1	PEAD	26,458	1,859	6,458	0,510	2,009	51,113	1H:5V	110	2,177	0,780	7,263	40,604
1	PEAD	40,000	1,832	13,542	0,510	1,982	75,680	1H:5V	110	3,274	1,149	10,889	59,950
1	PEAD	60,000	1,792	20,000	0,510	1,942	111,092	1H:5V	110	4,894	1,693	16,246	87,652
1	PEAD	80,000	1,767	20,000	0,510	1,917	145,665	1H:5V	110	6,514	2,237	21,602	114,515
1	PEAD	84,520	1,825	4,520	0,510	1,975	153,575	1H:5V	110	6,880	2,360	22,812	120,682
1	PEAD	98,156	1,718	13,636	0,510	1,868	177,015	1H:5V	110	7,985	2,731	26,464	138,865
1	PEAD	100,000	1,700	1,844	0,510	1,850	180,038	1H:5V	110	8,134	2,781	26,958	141,177
1	PEAD	120,000	1,201	20,000	0,510	1,351	206,858	1H:5V	110	9,754	3,325	32,314	160,287
1	PEAD	139,278	1,112	19,278	0,510	1,262	226,293	1H:5V	110	11,316	3,849	37,477	172,289
1	PEAD	140,000	1,124	0,722	0,510	1,274	226,992	1H:5V	110	11,374	3,869	37,671	172,710
1	PEAD	160,000	1,592	20,000	0,510	1,742	251,689	1H:5V	110	12,994	4,413	43,027	189,697
1	PEAD	180,000	1,552	20,000	0,510	1,702	281,116	1H:5V	110	14,614	4,957	48,383	211,413
1	PEAD	200,000	1,624	20,000	0,510	1,774	310,931	1H:5V	110	16,234	5,501	53,740	233,518
1	PEAD	212,904	1,486	12,904	0,510	1,636	329,667	1H:5V	110	17,279	5,852	57,195	247,279
1	PEAD	215,080	1,458	2,176	0,510	1,608	332,612	1H:5V	110	17,455	5,911	57,778	249,385
1	PEAD	216,492	1,415	1,412	0,510	1,565	334,465	1H:5V	110	17,570	5,950	58,156	250,694
1	PEAD	217,256	1,383	0,764	0,510	1,533	335,435	1H:5V	110	17,632	5,971	58,361	251,370
1	PEAD	220,000	1,258	2,744	0,510	1,408	338,682	1H:5V	110	17,854	6,045	59,096	253,559
1	PEAD	240,000	1,252	20,000	0,510	1,402	360,909	1H:5V	110	19,474	6,589	64,452	268,075
1	PEAD	245,212	1,110	5,212	0,510	1,260	366,299	1H:5V	110	19,896	6,731	65,848	271,456

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	0,000	2,068	0,000	1,100	2,218	0,000	1H:5V	500	0,000	0,000	0,000	0,000
1	PRFV	20,000	1,916	20,000	1,100	2,066	65,500	1H:5V	500	3,390	11,433	8,760	37,990
1	PRFV	40,000	2,046	20,000	1,100	2,196	130,563	1H:5V	500	6,780	22,866	17,520	75,543
1	PRFV	47,408	2,261	7,408	1,100	2,411	157,213	1H:5V	500	8,036	27,101	20,765	92,003
1	PRFV	60,000	2,505	12,592	1,100	2,655	208,494	1H:5V	500	10,170	34,299	26,280	125,964
1	PRFV	63,974	2,582	3,974	1,100	2,732	226,035	1H:5V	500	10,844	36,571	28,021	138,039
1	PRFV	80,000	1,562	16,026	1,100	1,712	281,865	1H:5V	500	13,560	45,732	35,040	171,825
1	PRFV	86,060	1,634	6,060	1,100	1,784	297,222	1H:5V	500	14,587	49,196	37,694	178,846
1	PRFV	97,657	1,716	11,597	1,100	1,866	328,232	1H:5V	500	16,553	55,826	42,774	193,904
1	PRFV	100,000	1,778	2,343	1,100	1,928	334,808	1H:5V	500	16,950	57,165	43,800	197,258
1	PRFV	100,813	1,798	0,813	1,100	1,948	337,151	1H:5V	500	17,088	57,630	44,156	198,483
1	PRFV	103,969	1,847	3,156	1,100	1,997	346,455	1H:5V	500	17,623	59,434	45,538	203,446
1	PRFV	120,000	1,795	16,031	1,100	1,945	393,670	1H:5V	500	20,340	68,598	52,560	228,610
1	PRFV	140,000	1,942	20,000	1,100	2,092	454,396	1H:5V	500	23,730	80,031	61,320	261,826
1	PRFV	160,000	1,677	20,000	1,100	1,827	512,934	1H:5V	500	27,120	91,464	70,080	292,854
1	PRFV	180,000	1,586	20,000	1,100	1,736	564,830	1H:5V	500	30,510	102,897	78,840	317,240
1	PRFV	200,000	1,645	20,000	1,100	1,795	616,142	1H:5V	500	33,900	114,330	87,600	341,042
1	PRFV	220,000	1,710	20,000	1,100	1,860	669,711	1H:5V	500	37,290	125,763	96,360	367,101
1	PRFV	240,000	1,612	20,000	1,100	1,762	722,681	1H:5V	500	40,680	137,196	105,120	392,561
1	PRFV	260,000	1,743	20,000	1,100	1,893	776,262	1H:5V	500	44,070	148,629	113,880	418,632
1	PRFV	280,000	1,605	20,000	1,100	1,755	829,717	1H:5V	500	47,460	160,062	122,640	444,577
1	PRFV	300,000	1,767	20,000	1,100	1,917	883,619	1H:5V	500	50,850	171,495	131,400	470,969
1	PRFV	303,791	1,830	3,791	1,100	1,980	894,624	1H:5V	500	51,493	173,662	133,060	476,759
1	PRFV	305,239	1,851	1,448	1,100	2,001	898,942	1H:5V	500	51,738	174,490	133,695	479,086
1	PRFV	306,687	1,869	1,448	1,100	2,019	903,313	1H:5V	500	51,983	175,318	134,329	481,465
1	PRFV	320,000	1,848	13,313	1,100	1,998	943,468	1H:5V	500	54,240	182,928	140,160	503,308
1	PRFV	324,175	1,795	4,175	1,100	1,945	955,768	1H:5V	500	54,948	185,315	141,989	509,865
1	PRFV	340,000	1,932	15,825	1,100	2,082	1.003,664	1H:5V	500	57,630	194,361	148,920	535,994
1	PRFV	360,000	1,562	20,000	1,100	1,712	1.059,930	1H:5V	500	61,020	205,794	157,680	564,750
1	PRFV	380,000	2,851	20,000	1,100	3,001	1.135,687	1H:5V	500	64,410	217,227	166,440	612,997
1	PRFV	400,000	2,220	20,000	1,100	2,370	1.224,053	1H:5V	500	67,800	228,660	175,200	673,853
1	PRFV	420,000	2,747	20,000	1,100	2,897	1.310,009	1H:5V	500	71,190	240,093	183,960	732,299
1	PRFV	440,000	2,537	20,000	1,100	2,687	1.402,659	1H:5V	500	74,580	251,526	192,720	797,439
1	PRFV	460,000	2,119	20,000	1,100	2,269	1.481,911	1H:5V	500	77,970	262,959	201,480	849,181

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	480,000	1,708	20,000	1,100	1,858	1.544,509	1H:5V	500	81,360	274,392	210,240	884,269
1	PRFV	491,276	1,628	11,276	1,100	1,778	1.574,516	1H:5V	500	83,271	280,838	215,179	898,766
1	PRFV	493,655	1,618	2,379	1,100	1,768	1.580,652	1H:5V	500	83,675	282,198	216,221	901,629
1	PRFV	498,520	1,638	4,865	1,100	1,788	1.593,243	1H:5V	500	84,499	284,979	218,352	907,529
1	PRFV	500,000	1,653	1,480	1,100	1,803	1.597,120	1H:5V	500	84,750	285,825	219,000	909,370
1	PRFV	503,385	1,643	3,385	1,100	1,793	1.606,004	1H:5V	500	85,324	287,760	220,483	913,598
1	PRFV	520,000	1,603	16,615	1,100	1,753	1.648,855	1H:5V	500	88,140	297,258	227,760	933,595
1	PRFV	540,000	1,632	20,000	1,100	1,782	1.700,237	1H:5V	500	91,530	308,691	236,520	957,467
1	PRFV	560,000	1,571	20,000	1,100	1,721	1.751,045	1H:5V	500	94,920	320,124	245,280	980,765
1	PRFV	579,030	2,278	19,030	1,100	2,428	1.811,325	1H:5V	500	98,146	331,003	253,615	1.014,870
1	PRFV	580,000	2,277	0,970	1,100	2,427	1.815,059	1H:5V	500	98,310	331,557	254,040	1.017,269
1	PRFV	588,940	2,214	8,940	1,100	2,364	1.848,878	1H:5V	500	99,825	336,668	257,956	1.038,791
1	PRFV	598,850	1,825	9,910	1,100	1,975	1.881,932	1H:5V	500	101,505	342,333	262,296	1.058,213
1	PRFV	600,000	1,772	1,150	1,100	1,922	1.885,270	1H:5V	500	101,700	342,990	262,800	1.059,970
1	PRFV	611,868	2,434	11,868	1,100	2,584	1.926,991	1H:5V	500	103,712	349,775	267,998	1.085,366
1	PRFV	620,000	2,254	8,132	1,100	2,404	1.959,430	1H:5V	500	105,090	354,423	271,560	1.106,620
1	PRFV	621,391	2,200	1,391	1,100	2,350	1.964,639	1H:5V	500	105,326	355,218	272,169	1.109,915
1	PRFV	624,129	2,113	2,738	1,100	2,263	1.974,500	1H:5V	500	105,790	356,784	273,369	1.116,010
1	PRFV	630,914	1,880	6,785	1,100	2,030	1.996,791	1H:5V	500	106,940	360,662	276,340	1.128,969
1	PRFV	640,000	1,774	9,086	1,100	1,924	2.023,658	1H:5V	500	108,480	365,856	280,320	1.143,338
1	PRFV	660,000	1,665	20,000	1,100	1,815	2.078,779	1H:5V	500	111,870	377,289	289,080	1.170,949
1	PRFV	680,000	1,533	20,000	1,100	1,683	2.129,510	1H:5V	500	115,260	388,722	297,840	1.194,170
1	PRFV	700,000	1,501	20,000	1,100	1,651	2.177,301	1H:5V	500	118,650	400,155	306,600	1.214,451
1	PRFV	720,000	1,645	20,000	1,100	1,795	2.227,102	1H:5V	500	122,040	411,588	315,360	1.236,742
1	PRFV	740,000	1,641	20,000	1,100	1,791	2.279,408	1H:5V	500	125,430	423,021	324,120	1.261,538
1	PRFV	748,744	1,503	8,744	1,100	1,653	2.301,165	1H:5V	500	126,912	428,020	327,950	1.271,267
1	PRFV	748,824	1,501	0,080	1,100	1,651	2.301,354	1H:5V	500	126,926	428,066	327,985	1.271,346
1	PRFV	760,000	1,608	11,176	1,100	1,758	2.328,809	1H:5V	500	128,820	434,454	332,880	1.283,429
1	PRFV	780,000	1,945	20,000	1,100	2,095	2.386,151	1H:5V	500	132,210	445,887	341,640	1.313,261
1	PRFV	800,000	2,276	20,000	1,100	2,426	2.456,431	1H:5V	500	135,600	457,320	350,400	1.356,031
1	PRFV	812,978	2,038	12,978	1,100	2,188	2.503,216	1H:5V	500	137,800	464,739	356,084	1.384,965
1	PRFV	820,000	2,056	7,022	1,100	2,206	2.526,965	1H:5V	500	138,990	468,753	359,160	1.399,055
1	PRFV	823,532	2,076	3,532	1,100	2,226	2.539,044	1H:5V	500	139,589	470,772	360,707	1.406,276
1	PRFV	834,086	2,325	10,554	1,100	2,475	2.578,026	1H:5V	500	141,378	476,806	365,330	1.430,741
1	PRFV	840,000	2,296	5,914	1,100	2,446	2.601,194	1H:5V	500	142,380	480,186	367,920	1.445,774
1	PRFV	860,000	2,404	20,000	1,100	2,554	2.681,205	1H:5V	500	145,770	491,619	376,680	1.498,275

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	880,000	2,653	20,000	1,100	2,803	2.768,892	1H:5V	500	149,160	503,052	385,440	1.558,452
1	PRFV	890,000	2,600	10,000	1,100	2,750	2.814,853	1H:5V	500	150,855	508,769	389,820	1.590,658
1	PRFV	900,000	2,042	10,000	1,100	2,192	2.854,401	1H:5V	500	152,550	514,485	394,200	1.616,451
1	PRFV	920,000	1,808	20,000	1,100	1,958	2.917,328	1H:5V	500	155,940	525,918	402,960	1.651,868
1	PRFV	940,000	1,589	20,000	1,100	1,739	2.971,711	1H:5V	500	159,330	537,351	411,720	1.678,741
1	PRFV	960,000	1,751	20,000	1,100	1,901	3.025,027	1H:5V	500	162,720	548,784	420,480	1.704,547
1	PRFV	980,000	1,782	20,000	1,100	1,932	3.081,883	1H:5V	500	166,110	560,217	429,240	1.733,893
1	PRFV	983,288	1,800	3,288	1,100	1,950	3.091,381	1H:5V	500	166,667	562,097	430,680	1.738,868
1	PRFV	989,001	1,777	5,713	1,100	1,927	3.107,856	1H:5V	500	167,636	565,363	433,182	1.747,486
1	PRFV	994,714	1,608	5,713	1,100	1,758	3.123,322	1H:5V	500	168,604	568,629	435,685	1.755,093
1	PRFV	1.000,000	1,642	5,286	1,100	1,792	3.136,974	1H:5V	500	169,500	571,650	438,000	1.761,474
1	PRFV	1.000,069	1,647	0,069	1,100	1,797	3.137,155	1H:5V	500	169,512	571,690	438,030	1.761,560
1	PRFV	1.005,782	1,875	5,713	1,100	2,025	3.153,352	1H:5V	500	170,480	574,956	440,533	1.769,899
1	PRFV	1.011,495	2,200	5,713	1,100	2,350	3.172,596	1H:5V	500	171,448	578,222	443,035	1.781,285
1	PRFV	1.020,000	2,130	8,505	1,100	2,280	3.203,373	1H:5V	500	172,890	583,083	446,760	1.800,363
1	PRFV	1.040,000	2,544	20,000	1,100	2,694	3.282,999	1H:5V	500	176,280	594,516	455,520	1.852,479
1	PRFV	1.060,000	2,335	20,000	1,100	2,485	3.366,833	1H:5V	500	179,670	605,949	464,280	1.908,803
1	PRFV	1.080,000	1,584	20,000	1,100	1,734	3.431,606	1H:5V	500	183,060	617,382	473,040	1.946,066
1	PRFV	1.086,749	2,029	6,749	1,100	2,179	3.451,365	1H:5V	500	184,204	621,241	475,996	1.956,542
1	PRFV	1.100,000	3,003	13,251	1,100	3,153	3.513,745	1H:5V	500	186,450	628,816	481,800	2.000,695
1	PRFV	1.100,373	3,002	0,373	1,100	3,152	3.516,007	1H:5V	500	186,513	629,029	481,963	2.002,444
1	PRFV	1.114,747	2,629	14,374	1,100	2,779	3.592,647	1H:5V	500	188,950	637,246	488,259	2.059,312
1	PRFV	1.120,000	2,466	5,253	1,100	2,616	3.615,886	1H:5V	500	189,840	640,249	490,560	2.075,326
1	PRFV	1.129,121	2,567	9,121	1,100	2,717	3.655,614	1H:5V	500	191,386	645,463	494,555	2.102,508
1	PRFV	1.140,000	2,071	10,879	1,100	2,221	3.698,558	1H:5V	500	193,230	651,682	499,320	2.130,488
1	PRFV	1.160,000	1,656	20,000	1,100	1,806	3.759,244	1H:5V	500	196,620	663,115	508,080	2.163,664
1	PRFV	1.180,000	2,360	20,000	1,100	2,510	3.825,843	1H:5V	500	200,010	674,548	516,840	2.202,753
1	PRFV	1.185,744	2,434	5,744	1,100	2,584	3.849,390	1H:5V	500	200,984	677,831	519,356	2.218,399
1	PRFV	1.200,000	2,667	14,256	1,100	2,817	3.912,570	1H:5V	500	203,400	685,981	525,600	2.261,970
1	PRFV	1.217,233	1,745	17,233	1,100	1,895	3.977,095	1H:5V	500	206,321	695,832	533,148	2.302,791
1	PRFV	1.220,000	1,877	2,767	1,100	2,027	3.985,194	1H:5V	500	206,790	697,414	534,360	2.307,084
1	PRFV	1.240,000	1,961	20,000	1,100	2,111	4.047,842	1H:5V	500	210,180	708,847	543,120	2.342,222
1	PRFV	1.260,000	2,267	20,000	1,100	2,417	4.118,246	1H:5V	500	213,570	720,280	551,880	2.385,116
1	PRFV	1.280,000	2,607	20,000	1,100	2,757	4.202,046	1H:5V	500	216,960	731,713	560,640	2.441,406
1	PRFV	1.300,000	2,782	20,000	1,100	2,932	4.297,021	1H:5V	500	220,350	743,146	569,400	2.508,871
1	PRFV	1.320,000	2,742	20,000	1,100	2,892	4.395,005	1H:5V	500	223,740	754,579	578,160	2.579,345

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	1.340,000	2,632	20,000	1,100	2,782	4.489,625	1H:5V	500	227,130	766,012	586,920	2.646,455
1	PRFV	1.360,000	2,580	20,000	1,100	2,730	4.580,642	1H:5V	500	230,520	777,445	595,680	2.709,962
1	PRFV	1.380,000	2,417	20,000	1,100	2,567	4.666,994	1H:5V	500	233,910	788,878	604,440	2.768,804
1	PRFV	1.400,000	2,250	20,000	1,100	2,400	4.746,330	1H:5V	500	237,300	800,311	613,200	2.820,630
1	PRFV	1.420,000	2,266	20,000	1,100	2,416	4.822,500	1H:5V	500	240,690	811,744	621,960	2.869,290
1	PRFV	1.432,708	2,294	12,708	1,100	2,444	4.871,477	1H:5V	500	242,844	819,008	627,526	2.900,787
1	PRFV	1.440,000	2,257	7,292	1,100	2,407	4.899,513	1H:5V	500	244,080	823,177	630,720	2.918,793
1	PRFV	1.444,014	2,255	4,014	1,100	2,405	4.914,784	1H:5V	500	244,760	825,471	632,478	2.928,542
1	PRFV	1.460,000	2,142	15,986	1,100	2,292	4.973,725	1H:5V	500	247,470	834,610	639,480	2.965,495
1	PRFV	1.480,000	2,020	20,000	1,100	2,170	5.042,732	1H:5V	500	250,860	846,043	648,240	3.006,992
1	PRFV	1.500,000	1,845	20,000	1,100	1,995	5.105,924	1H:5V	500	254,250	857,476	657,000	3.042,674
1	PRFV	1.520,000	1,635	20,000	1,100	1,785	5.161,837	1H:5V	500	257,640	868,909	665,760	3.071,077
1	PRFV	1.527,959	1,500	7,959	1,100	1,650	5.181,576	1H:5V	500	258,989	873,458	669,246	3.079,869
1	PRFV	1.540,000	1,574	12,041	1,100	1,724	5.210,778	1H:5V	500	261,030	880,342	674,520	3.092,508
1	PRFV	1.560,000	1,602	20,000	1,100	1,752	5.261,097	1H:5V	500	264,420	891,775	683,280	3.115,317
1	PRFV	1.580,000	1,774	20,000	1,100	1,924	5.315,076	1H:5V	500	267,810	903,208	692,040	3.141,786
1	PRFV	1.600,000	1,946	20,000	1,100	2,096	5.375,486	1H:5V	500	271,200	914,641	700,800	3.174,686
1	PRFV	1.620,000	2,119	20,000	1,100	2,269	5.442,584	1H:5V	500	274,590	926,074	709,560	3.214,274
1	PRFV	1.640,000	1,802	20,000	1,100	1,952	5.506,932	1H:5V	500	277,980	937,507	718,320	3.251,112
1	PRFV	1.660,000	1,540	20,000	1,100	1,690	5.560,327	1H:5V	500	281,370	948,940	727,080	3.276,997
1	PRFV	1.680,000	1,635	20,000	1,100	1,785	5.610,636	1H:5V	500	284,760	960,373	735,840	3.299,796
1	PRFV	1.700,000	1,808	20,000	1,100	1,958	5.665,849	1H:5V	500	288,150	971,806	744,600	3.327,499
1	PRFV	1.720,000	1,818	20,000	1,100	1,968	5.724,449	1H:5V	500	291,540	983,239	753,360	3.358,589
1	PRFV	1.740,000	1,734	20,000	1,100	1,884	5.781,666	1H:5V	500	294,930	994,672	762,120	3.388,296
1	PRFV	1.760,000	1,650	20,000	1,100	1,800	5.835,769	1H:5V	500	298,320	1.006,105	770,880	3.414,889
1	PRFV	1.780,000	1,595	20,000	1,100	1,745	5.887,334	1H:5V	500	301,710	1.017,538	779,640	3.438,944
1	PRFV	1.791,393	1,595	11,393	1,100	1,745	5.916,141	1H:5V	500	303,641	1.024,051	784,630	3.452,080
1	PEAD	1.800,000	1,669	8,607	0,755	1,819	5.935,781	1H:5V	355	304,877	1.026,947	788,553	3.462,812
1	PEAD	1.820,000	1,841	20,000	0,755	1,991	5.979,092	1H:5V	355	307,232	1.028,977	798,023	3.490,289
1	PEAD	1.835,700	1,976	15,700	0,755	2,126	6.016,812	1H:5V	355	309,081	1.030,570	805,458	3.515,579
1	PEAD	1.836,747	1,986	1,047	0,755	2,136	6.019,448	1H:5V	355	309,204	1.030,676	805,954	3.517,385
1	PEAD	1.837,794	1,996	1,047	0,755	2,146	6.022,100	1H:5V	355	309,328	1.030,783	806,449	3.519,208
1	PEAD	1.840,000	2,020	2,206	0,755	2,170	6.027,749	1H:5V	355	309,587	1.031,006	807,494	3.523,111
1	PEAD	1.860,000	2,179	20,000	0,755	2,329	6.081,982	1H:5V	355	311,942	1.033,036	816,964	3.561,510
1	PEAD	1.880,000	1,934	20,000	0,755	2,084	6.134,835	1H:5V	355	314,297	1.035,065	826,435	3.598,528
1	PEAD	1.900,000	1,688	20,000	0,755	1,838	6.179,889	1H:5V	355	316,652	1.037,095	835,906	3.627,747

R-1-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	1.920,000	1,876	20,000	0,755	2,026	6.224,028	1H:5V	355	319,007	1.039,124	845,376	3.656,052
1	PEAD	1.940,000	1,567	20,000	0,755	1,717	6.266,393	1H:5V	355	321,362	1.041,154	854,847	3.682,582
1	PEAD	1.960,000	1,408	20,000	0,755	1,558	6.301,870	1H:5V	355	323,717	1.043,183	864,317	3.702,225
1	PEAD	1.980,000	1,519	20,000	0,755	1,669	6.336,660	1H:5V	355	326,072	1.045,213	873,788	3.721,180
1	PEAD	2.000,000	1,733	20,000	0,755	1,883	6.376,140	1H:5V	355	328,427	1.047,242	883,258	3.744,825
1	PEAD	2.020,000	1,627	20,000	0,755	1,777	6.417,180	1H:5V	355	330,782	1.049,272	892,729	3.770,031
1	PEAD	2.040,000	1,542	20,000	0,755	1,692	6.455,412	1H:5V	355	333,137	1.051,301	902,199	3.792,428
1	PEAD	2.060,000	1,375	20,000	0,755	1,525	6.490,077	1H:5V	355	335,492	1.053,331	911,670	3.811,259
1	PEAD	2.080,000	1,589	20,000	0,755	1,739	6.525,420	1H:5V	355	337,847	1.055,360	921,140	3.830,767
1	PEAD	2.100,000	1,803	20,000	0,755	1,953	6.566,971	1H:5V	355	340,202	1.057,390	930,611	3.856,484
1	PEAD	2.120,000	2,017	20,000	0,755	2,167	6.615,098	1H:5V	355	342,557	1.059,419	940,081	3.888,775
1	PEAD	2.140,000	2,232	20,000	0,755	2,382	6.670,182	1H:5V	355	344,912	1.061,449	949,552	3.928,025
1	PEAD	2.150,306	2,318	10,306	0,755	2,468	6.701,176	1H:5V	355	346,126	1.062,494	954,432	3.950,860
1	PEAD	2.160,000	2,275	9,694	0,715	2,425	6.730,217	1H:5V	315	347,238	1.063,413	958,849	3.972,697
1	PEAD	2.180,000	2,161	20,000	0,715	2,311	6.786,522	1H:5V	315	349,473	1.065,174	967,606	4.014,690
1	PEAD	2.200,000	2,047	20,000	0,715	2,197	6.839,089	1H:5V	315	351,708	1.066,935	976,363	4.052,946
1	PEAD	2.220,000	2,088	20,000	0,715	2,238	6.890,471	1H:5V	315	353,943	1.068,696	985,119	4.090,016
1	PEAD	2.240,000	2,302	20,000	0,715	2,452	6.946,046	1H:5V	315	356,178	1.070,458	993,876	4.131,280
1	PEAD	2.257,425	2,457	17,425	0,715	2,607	6.999,880	1H:5V	315	358,125	1.071,992	1.001,505	4.172,645
1	PEAD	2.259,281	2,473	1,856	0,715	2,623	7.005,889	1H:5V	315	358,333	1.072,155	1.002,318	4.177,326
1	PEAD	2.260,000	2,478	0,719	0,715	2,628	7.008,230	1H:5V	315	358,413	1.072,219	1.002,632	4.179,152
1	PEAD	2.261,137	2,485	1,137	0,715	2,635	7.011,944	1H:5V	315	358,540	1.072,319	1.003,130	4.182,053
1	PEAD	2.280,000	2,595	18,863	0,715	2,745	7.075,534	1H:5V	315	360,648	1.073,980	1.011,389	4.232,145
1	PEAD	2.300,000	2,527	20,000	0,715	2,677	7.143,704	1H:5V	315	362,883	1.075,741	1.020,146	4.286,004
1	PEAD	2.320,000	2,150	20,000	0,715	2,300	7.204,202	1H:5V	315	365,118	1.077,502	1.028,902	4.332,191
1	PEAD	2.340,000	2,073	20,000	0,715	2,223	7.257,005	1H:5V	315	367,353	1.079,263	1.037,659	4.370,682
1	PEAD	2.360,000	2,178	20,000	0,715	2,328	7.310,267	1H:5V	315	369,588	1.081,025	1.046,415	4.409,633
1	PEAD	2.380,000	1,850	20,000	0,715	2,000	7.360,052	1H:5V	315	371,823	1.082,786	1.055,172	4.445,106
1	PEAD	2.381,176	1,758	1,176	0,715	1,908	7.362,593	1H:5V	315	371,955	1.082,889	1.055,687	4.446,806
1	PEAD	2.400,000	1,493	18,824	0,625	1,643	7.397,033	1H:5V	225	373,931	1.084,280	1.063,201	4.469,615
1	PEAD	2.420,000	1,632	20,000	0,625	1,782	7.430,189	1H:5V	225	375,896	1.085,474	1.070,412	4.491,607
1	PEAD	2.440,000	1,772	20,000	0,625	1,922	7.467,078	1H:5V	225	377,861	1.086,669	1.077,622	4.517,331
1	PEAD	2.460,000	1,912	20,000	0,625	2,062	7.507,870	1H:5V	225	379,826	1.087,863	1.084,833	4.546,958
1	PEAD	2.480,000	1,652	20,000	0,625	1,802	7.547,018	1H:5V	225	381,791	1.089,057	1.092,043	4.574,941
1	PEAD	2.500,000	1,307	20,000	0,625	1,457	7.578,127	1H:5V	225	383,756	1.090,251	1.099,254	4.594,885
1	PEAD	2.520,000	1,332	20,000	0,625	1,482	7.605,134	1H:5V	225	385,721	1.091,446	1.106,464	4.610,727

R-1-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	2.540,000	1,472	20,000	0,625	1,622	7.634,188	1H:5V	225	387,686	1.092,640	1.113,675	4.628,616
1	PEAD	2.560,000	1,611	20,000	0,625	1,761	7.666,796	1H:5V	225	389,651	1.093,834	1.120,885	4.650,059
1	PEAD	2.580,000	1,751	20,000	0,625	1,901	7.703,113	1H:5V	225	391,616	1.095,029	1.128,096	4.675,211
1	PEAD	2.600,000	1,858	20,000	0,625	2,008	7.742,836	1H:5V	225	393,581	1.096,223	1.135,306	4.703,769
1	PEAD	2.620,000	1,613	20,000	0,625	1,763	7.780,686	1H:5V	225	395,546	1.097,417	1.142,517	4.730,453
1	PEAD	2.640,000	1,333	20,000	0,625	1,483	7.811,588	1H:5V	225	397,511	1.098,611	1.149,727	4.750,191
1	PEAD	2.645,635	1,254	5,635	0,625	1,404	7.819,022	1H:5V	225	398,065	1.098,948	1.151,759	4.754,479
1	PEAD	2.647,734	1,229	2,099	0,625	1,379	7.821,660	1H:5V	225	398,271	1.099,073	1.152,516	4.755,946
1	PEAD	2.649,833	1,257	2,099	0,625	1,407	7.824,302	1H:5V	225	398,477	1.099,199	1.153,272	4.757,416
1	PEAD	2.660,000	1,414	10,167	0,625	1,564	7.838,241	1H:5V	225	399,476	1.099,806	1.156,938	4.765,679
1	PEAD	2.680,000	1,721	20,000	0,625	1,871	7.871,604	1H:5V	225	401,441	1.101,000	1.164,148	4.787,877
1	PEAD	2.700,000	2,010	20,000	0,625	2,160	7.913,130	1H:5V	225	403,406	1.102,194	1.171,359	4.818,238
1	PEAD	2.720,000	2,186	20,000	0,625	2,336	7.961,475	1H:5V	225	405,371	1.103,388	1.178,569	4.855,418
1	PEAD	2.740,000	1,645	20,000	0,625	1,795	8.004,652	1H:5V	225	407,336	1.104,583	1.185,780	4.887,429
1	PEAD	2.760,000	1,371	20,000	0,625	1,521	8.036,447	1H:5V	225	409,301	1.105,777	1.192,990	4.908,060
1	PEAD	2.763,449	1,379	3,449	0,625	1,529	8.041,339	1H:5V	225	409,640	1.105,983	1.194,234	4.911,026
1	PEAD	2.765,364	1,271	1,915	0,625	1,421	8.043,939	1H:5V	225	409,828	1.106,097	1.194,924	4.912,557
1	PEAD	2.767,279	1,291	1,915	0,625	1,441	8.046,436	1H:5V	225	410,016	1.106,212	1.195,615	4.913,985
1	PEAD	2.780,000	1,304	12,721	0,625	1,454	8.063,275	1H:5V	225	411,266	1.106,971	1.200,201	4.923,723
1	PEAD	2.800,000	1,317	20,000	0,625	1,467	8.090,064	1H:5V	225	413,231	1.108,166	1.207,411	4.939,347
1	PEAD	2.820,000	1,457	20,000	0,625	1,607	8.118,745	1H:5V	225	415,196	1.109,360	1.214,622	4.956,863
1	PEAD	2.840,000	1,612	20,000	0,625	1,762	8.151,176	1H:5V	225	417,161	1.110,554	1.221,833	4.978,129
1	PEAD	2.860,000	1,766	20,000	0,625	1,916	8.187,715	1H:5V	225	419,126	1.111,748	1.229,043	5.003,503
1	PEAD	2.880,000	1,793	20,000	0,625	1,943	8.226,726	1H:5V	225	421,091	1.112,943	1.236,254	5.031,349
1	PEAD	2.900,000	1,514	20,000	0,625	1,664	8.262,358	1H:5V	225	423,056	1.114,137	1.243,464	5.055,816
1	PEAD	2.902,378	1,482	2,378	0,625	1,632	8.266,099	1H:5V	225	423,290	1.114,279	1.244,321	5.058,230
1	PEAD	2.913,864	1,320	11,486	0,625	1,470	8.282,775	1H:5V	225	424,418	1.114,965	1.248,462	5.068,493
1	PEAD	2.920,000	1,232	6,136	0,625	1,382	8.290,741	1H:5V	225	425,021	1.115,331	1.250,675	5.073,034
1	PEAD	2.940,000	1,385	20,000	0,625	1,535	8.317,505	1H:5V	225	426,986	1.116,525	1.257,885	5.088,633
1	PEAD	2.943,516	1,412	3,516	0,625	1,562	8.322,594	1H:5V	225	427,332	1.116,735	1.259,153	5.091,759
1	PEAD	2.945,085	1,436	1,569	0,625	1,586	8.324,915	1H:5V	225	427,486	1.116,829	1.259,718	5.093,204
1	PEAD	2.946,654	1,485	1,569	0,625	1,635	8.327,308	1H:5V	225	427,640	1.116,923	1.260,284	5.094,722
1	PEAD	2.960,000	2,007	13,346	0,625	2,157	8.352,901	1H:5V	225	428,951	1.117,720	1.265,096	5.112,863
1	PEAD	2.980,000	1,789	20,000	0,625	1,939	8.395,325	1H:5V	225	430,916	1.118,914	1.272,306	5.144,123
1	PEAD	2.980,428	1,767	0,428	0,560	1,917	8.396,133	1H:5V	160	430,956	1.118,935	1.272,449	5.144,717
1	PEAD	2.984,973	1,383	4,545	0,560	1,533	8.403,261	1H:5V	160	431,358	1.119,121	1.273,846	5.149,770

R-1-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	2.986,728	1,245	1,755	0,560	1,395	8.405,454	1H:5V	160	431,514	1.119,193	1.274,385	5.151,162
1	PEAD	2.988,483	1,377	1,755	0,560	1,527	8.407,641	1H:5V	160	431,669	1.119,264	1.274,924	5.152,547
1	PEAD	3.000,000	1,603	11,517	0,560	1,753	8.424,443	1H:5V	160	432,688	1.119,734	1.278,463	5.164,089
1	PEAD	3.003,689	1,701	3,689	0,560	1,851	8.430,563	1H:5V	160	433,015	1.119,885	1.279,597	5.168,524
1	PEAD	3.020,000	1,796	16,311	0,510	1,946	8.458,876	1H:5V	110	434,397	1.120,440	1.284,287	5.190,054
1	PEAD	3.040,000	1,910	20,000	0,510	2,060	8.495,367	1H:5V	110	436,017	1.120,984	1.289,643	5.218,836
1	PEAD	3.060,000	1,987	20,000	0,510	2,137	8.534,393	1H:5V	110	437,637	1.121,528	1.295,000	5.250,151
1	PEAD	3.080,000	2,083	20,000	0,510	2,233	8.575,786	1H:5V	110	439,257	1.122,072	1.300,356	5.283,833
1	PEAD	3.100,000	2,032	20,000	0,510	2,182	8.617,797	1H:5V	110	440,877	1.122,616	1.305,712	5.318,134
1	PEAD	3.120,000	1,585	20,000	0,510	1,735	8.653,317	1H:5V	110	442,497	1.123,160	1.311,068	5.345,943
1	PEAD	3.140,000	1,665	20,000	0,510	1,815	8.684,031	1H:5V	110	444,117	1.123,704	1.316,425	5.368,947
1	PEAD	3.157,741	1,736	17,741	0,510	1,886	8.712,929	1H:5V	110	445,554	1.124,187	1.321,176	5.391,005
1	PEAD	3.160,000	1,745	2,259	0,510	1,895	8.716,721	1H:5V	110	445,737	1.124,248	1.321,781	5.393,927
1	PEAD	3.180,000	1,825	20,000	0,510	1,975	8.751,442	1H:5V	110	447,357	1.124,792	1.327,137	5.420,937
1	PEAD	3.200,000	1,905	20,000	0,510	2,055	8.788,242	1H:5V	110	448,977	1.125,337	1.332,493	5.450,027
1	PEAD	3.220,000	1,985	20,000	0,510	2,135	8.827,173	1H:5V	110	450,597	1.125,881	1.337,850	5.481,248
1	PEAD	3.240,000	1,281	20,000	0,510	1,431	8.858,572	1H:5V	110	452,217	1.126,425	1.343,206	5.504,936
1	PEAD	3.260,000	1,145	20,000	0,510	1,295	8.879,924	1H:5V	110	453,837	1.126,969	1.348,562	5.518,578
1	PEAD	3.280,000	1,225	20,000	0,510	1,375	8.900,676	1H:5V	110	455,457	1.127,513	1.353,919	5.531,620
1	PEAD	3.298,364	1,299	18,364	0,510	1,449	8.921,228	1H:5V	110	456,945	1.128,012	1.358,837	5.545,092
1	PEAD	3.300,000	1,318	1,636	0,510	1,468	8.923,141	1H:5V	110	457,077	1.128,057	1.359,275	5.546,374
1	PEAD	3.301,636	1,365	1,636	0,510	1,515	8.925,114	1H:5V	110	457,210	1.128,101	1.359,713	5.547,716
1	PEAD	3.320,000	1,294	18,364	0,510	1,444	8.947,014	1H:5V	110	458,697	1.128,601	1.364,631	5.562,537
1	PEAD	3.340,000	1,532	20,000	0,510	1,682	8.972,786	1H:5V	110	460,317	1.129,145	1.369,987	5.580,598
1	PEAD	3.360,000	1,552	20,000	0,510	1,702	9.001,496	1H:5V	110	461,937	1.129,689	1.375,344	5.601,598
1	PEAD	3.369,126	1,843	9,126	0,510	1,993	9.016,363	1H:5V	110	462,676	1.129,937	1.377,788	5.612,947
1	PEAD	3.370,762	1,890	1,636	0,510	2,040	9.019,376	1H:5V	110	462,809	1.129,982	1.378,226	5.615,329
1	PEAD	3.372,398	1,910	1,636	0,510	2,060	9.022,462	1H:5V	110	462,941	1.130,026	1.378,664	5.617,784
1	PEAD	3.380,000	1,940	7,602	0,510	2,090	9.037,053	1H:5V	110	463,557	1.130,233	1.380,700	5.629,445
1	PEAD	3.400,000	1,724	20,000	0,510	1,874	9.073,030	1H:5V	110	465,177	1.130,777	1.386,056	5.657,711
1	PEAD	3.420,000	1,301	20,000	0,510	1,451	9.101,222	1H:5V	110	466,797	1.131,321	1.391,412	5.678,192
1	PEAD	3.422,486	1,110	2,486	0,510	1,260	9.103,858	1H:5V	110	466,998	1.131,389	1.392,078	5.679,870

3.16 RAMAL R-1-6-2

R-1-6-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	0,000	2,261	0,000	1,100	2,411	0,000	1H:5V	500	0,000	0,000	0,000	0,000
1	PRFV	20,000	2,223	20,000	1,100	2,373	75,512	1H:5V	500	3,390	11,433	8,760	48,002
1	PRFV	40,000	2,218	20,000	1,100	2,368	150,140	1H:5V	500	6,780	22,866	17,520	95,120
1	PRFV	60,000	1,973	20,000	1,100	2,123	219,770	1H:5V	500	10,170	34,299	26,280	137,240
1	PRFV	80,000	1,728	20,000	1,100	1,878	279,849	1H:5V	500	13,560	45,732	35,040	169,809
1	PRFV	96,911	1,803	16,911	1,100	1,953	327,896	1H:5V	500	16,426	55,399	42,447	194,595
1	PRFV	100,000	1,794	3,089	1,100	1,944	336,863	1H:5V	500	16,950	57,165	43,800	199,313
1	PRFV	120,000	1,744	20,000	1,100	1,894	393,813	1H:5V	500	20,340	68,598	52,560	228,753
1	PRFV	140,000	1,616	20,000	1,100	1,766	447,485	1H:5V	500	23,730	80,031	61,320	254,915
1	PRFV	160,000	1,658	20,000	1,100	1,808	499,575	1H:5V	500	27,120	91,464	70,080	279,495
1	PRFV	170,187	1,927	10,187	1,100	2,077	529,066	1H:5V	500	28,847	97,287	74,542	294,974
1	PRFV	180,000	1,701	9,813	1,100	1,851	557,862	1H:5V	500	30,510	102,897	78,840	310,272
1	PRFV	183,784	1,673	3,784	1,100	1,823	568,062	1H:5V	500	31,151	105,060	80,497	315,267
1	PRFV	183,787	1,672	0,003	1,100	1,822	568,070	1H:5V	500	31,152	105,062	80,499	315,271
1	PRFV	200,000	1,640	16,213	1,100	1,790	610,856	1H:5V	500	33,900	114,330	87,600	335,756
1	PRFV	220,000	1,600	20,000	1,100	1,750	662,329	1H:5V	500	37,290	125,763	96,360	359,719
1	PRFV	240,000	1,560	20,000	1,100	1,710	712,362	1H:5V	500	40,680	137,196	105,120	382,242
1	PRFV	244,904	1,550	4,904	1,100	1,700	724,411	1H:5V	500	41,511	139,999	107,268	387,545
1	PRFV	260,000	2,481	15,096	1,100	2,631	775,183	1H:5V	500	44,070	148,629	113,880	417,553
1	PRFV	267,897	2,044	7,897	1,100	2,194	805,407	1H:5V	500	45,409	153,143	117,339	436,915
1	PRFV	280,000	2,354	12,103	1,100	2,504	850,095	1H:5V	500	47,460	160,062	122,640	464,955
1	PRFV	282,597	2,257	2,597	1,100	2,407	860,242	1H:5V	500	47,900	161,547	123,777	471,530
1	PRFV	297,297	2,108	14,700	1,100	2,258	913,970	1H:5V	500	50,392	169,950	130,216	505,038
1	PRFV	300,000	2,148	2,703	1,100	2,298	923,549	1H:5V	500	50,850	171,495	131,400	510,899
1	PRFV	320,000	2,423	20,000	1,100	2,573	1.000,932	1H:5V	500	54,240	182,928	140,160	560,772
1	PRFV	340,000	2,666	20,000	1,100	2,816	1.089,312	1H:5V	500	57,630	194,361	148,920	621,642
1	PRFV	360,000	2,069	20,000	1,100	2,219	1.170,404	1H:5V	500	61,020	205,794	157,680	675,224
1	PRFV	380,000	1,586	20,000	1,100	1,736	1.229,785	1H:5V	500	64,410	217,227	166,440	707,095
1	PRFV	395,529	1,555	15,529	1,100	1,705	1.268,368	1H:5V	500	67,042	226,104	173,242	724,318
1	PRFV	400,000	1,577	4,471	1,100	1,727	1.279,441	1H:5V	500	67,800	228,660	175,200	729,241
1	PRFV	404,471	1,604	4,471	1,100	1,754	1.290,710	1H:5V	500	68,558	231,216	177,158	734,360
1	PRFV	420,000	1,649	15,529	1,100	1,799	1.330,859	1H:5V	500	71,190	240,093	183,960	753,149
1	PRFV	440,000	2,273	20,000	1,100	2,423	1.395,516	1H:5V	500	74,580	251,526	192,720	790,296
1	PRFV	460,000	1,808	20,000	1,100	1,958	1.463,116	1H:5V	500	77,970	262,959	201,480	830,386

R-1-6-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	480,000	1,927	20,000	1,100	2,077	1.523,797	1H:5V	500	81,360	274,392	210,240	863,557
1	PRFV	500,000	1,977	20,000	1,100	2,127	1.587,717	1H:5V	500	84,750	285,825	219,000	899,967
1	PRFV	502,310	1,945	2,310	1,100	2,095	1.595,140	1H:5V	500	85,142	287,146	220,012	904,212
1	PRFV	506,781	1,895	4,471	1,100	2,045	1.609,152	1H:5V	500	85,899	289,702	221,970	912,075
1	PRFV	511,252	1,902	4,471	1,100	2,052	1.622,979	1H:5V	500	86,657	292,257	223,928	919,752
1	PRFV	520,000	1,887	8,748	1,100	2,037	1.649,967	1H:5V	500	88,140	297,258	227,760	934,707
1	PRFV	540,000	1,838	20,000	1,100	1,988	1.710,445	1H:5V	500	91,530	308,691	236,520	967,675
1	PRFV	560,000	1,728	20,000	1,100	1,878	1.767,929	1H:5V	500	94,920	320,124	245,280	997,649
1	PRFV	580,000	1,668	20,000	1,100	1,818	1.822,249	1H:5V	500	98,310	331,557	254,040	1.024,459
1	PRFV	600,000	1,543	20,000	1,100	1,693	1.873,212	1H:5V	500	101,700	342,990	262,800	1.047,912
1	PRFV	607,221	1,520	7,221	1,100	1,670	1.890,652	1H:5V	500	102,924	347,118	265,963	1.055,420
1	PRFV	620,000	1,590	12,779	1,100	1,740	1.922,052	1H:5V	500	105,090	354,423	271,560	1.069,242
1	PRFV	639,500	1,576	19,500	1,100	1,726	1.970,938	1H:5V	500	108,395	365,570	280,101	1.091,306
1	PRFV	640,000	1,581	0,500	1,100	1,731	1.972,188	1H:5V	500	108,480	365,856	280,320	1.091,868
1	PRFV	640,571	1,591	0,571	1,100	1,741	1.973,622	1H:5V	500	108,577	366,183	280,570	1.092,517
1	PRFV	652,081	1,640	11,510	1,100	1,790	2.003,152	1H:5V	500	110,528	372,762	285,611	1.106,214
1	PRFV	660,000	1,661	7,919	1,100	1,811	2.023,970	1H:5V	500	111,870	377,289	289,080	1.116,140
1	PRFV	663,591	1,602	3,591	1,100	1,752	2.033,287	1H:5V	500	112,479	379,342	290,653	1.120,518
1	PRFV	680,000	1,667	16,409	1,100	1,817	2.075,952	1H:5V	500	115,260	388,722	297,840	1.140,612
1	PRFV	689,088	1,676	9,088	1,100	1,826	2.100,191	1H:5V	500	116,800	393,917	301,821	1.152,351
1	PRFV	700,000	1,670	10,912	1,100	1,820	2.129,326	1H:5V	500	118,650	400,155	306,600	1.166,476
1	PRFV	720,000	1,786	20,000	1,100	1,936	2.184,763	1H:5V	500	122,040	411,588	315,360	1.194,403
1	PRFV	740,000	1,955	20,000	1,100	2,105	2.245,572	1H:5V	500	125,430	423,021	324,120	1.227,702
1	PRFV	760,000	2,030	20,000	1,100	2,180	2.311,074	1H:5V	500	128,820	434,454	332,880	1.265,694
1	PRFV	780,000	2,098	20,000	1,100	2,248	2.379,394	1H:5V	500	132,210	445,887	341,640	1.306,504
1	PRFV	800,000	2,248	20,000	1,100	2,398	2.452,108	1H:5V	500	135,600	457,320	350,400	1.351,708
1	PRFV	820,000	2,660	20,000	1,100	2,810	2.536,689	1H:5V	500	138,990	468,753	359,160	1.408,779
1	PRFV	840,000	3,143	20,000	1,100	3,293	2.653,022	1H:5V	500	142,380	480,186	367,920	1.497,602
1	PRFV	860,000	3,207	20,000	1,100	3,357	2.796,398	1H:5V	500	145,770	491,619	376,680	1.613,468
1	PRFV	880,000	3,171	20,000	1,100	3,321	2.941,573	1H:5V	500	149,160	503,052	385,440	1.731,133
1	PRFV	900,000	3,083	20,000	1,100	3,233	3.078,790	1H:5V	500	152,550	514,485	394,200	1.840,840
1	PRFV	920,000	3,013	20,000	1,100	3,163	3.205,900	1H:5V	500	155,940	525,918	402,960	1.940,440
1	PRFV	940,000	2,920	20,000	1,100	3,070	3.322,642	1H:5V	500	159,330	537,351	411,720	2.029,672
1	PRFV	960,000	2,409	20,000	1,100	2,559	3.419,307	1H:5V	500	162,720	548,784	420,480	2.098,827
1	PRFV	980,000	2,189	20,000	1,100	2,339	3.497,224	1H:5V	500	166,110	560,217	429,240	2.149,234
1	PRFV	1.000,000	2,039	20,000	1,100	2,189	3.567,557	1H:5V	500	169,500	571,650	438,000	2.192,057

R-1-6-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	1.020,000	2,000	20,000	1,100	2,150	3.634,115	1H:5V	500	172,890	583,083	446,760	2.231,105
1	PRFV	1.040,000	1,902	20,000	1,100	2,052	3.698,003	1H:5V	500	176,280	594,516	455,520	2.267,483
1	PRFV	1.060,000	1,975	20,000	1,100	2,125	3.761,403	1H:5V	500	179,670	605,949	464,280	2.303,373
1	PRFV	1.080,000	1,885	20,000	1,100	2,035	3.824,477	1H:5V	500	183,060	617,382	473,040	2.338,937
1	PRFV	1.100,000	1,689	20,000	1,100	1,839	3.882,137	1H:5V	500	186,450	628,816	481,800	2.369,087
1	PRFV	1.120,000	1,948	20,000	1,100	2,098	3.941,011	1H:5V	500	189,840	640,249	490,560	2.400,451
1	PRFV	1.140,000	2,534	20,000	1,100	2,684	4.016,824	1H:5V	500	193,230	651,682	499,320	2.448,754
1	PRFV	1.148,799	2,789	8,799	1,100	2,939	4.057,975	1H:5V	500	194,721	656,711	503,174	2.477,802
1	PRFV	1.151,000	2,835	2,201	1,100	2,985	4.069,009	1H:5V	500	195,095	657,970	504,138	2.485,808
1	PRFV	1.153,201	2,865	2,201	1,100	3,015	4.080,300	1H:5V	500	195,468	659,228	505,102	2.494,072
1	PRFV	1.160,000	2,865	6,799	1,100	3,015	4.115,618	1H:5V	500	196,620	663,115	508,080	2.520,038
1	PRFV	1.180,000	2,719	20,000	1,100	2,869	4.215,584	1H:5V	500	200,010	674,548	516,840	2.592,494
1	PRFV	1.200,000	2,572	20,000	1,100	2,722	4.308,366	1H:5V	500	203,400	685,981	525,600	2.657,766
1	PRFV	1.220,000	2,157	20,000	1,100	2,307	4.389,148	1H:5V	500	206,790	697,414	534,360	2.711,038
1	PRFV	1.240,000	1,943	20,000	1,100	2,093	4.456,954	1H:5V	500	210,180	708,847	543,120	2.751,334
1	PRFV	1.260,000	1,730	20,000	1,100	1,880	4.516,487	1H:5V	500	213,570	720,280	551,880	2.783,357
1	PRFV	1.280,000	1,516	20,000	1,100	1,666	4.568,113	1H:5V	500	216,960	731,713	560,640	2.807,473
1	PRFV	1.288,866	1,753	8,866	1,100	1,903	4.591,188	1H:5V	500	218,463	736,781	564,523	2.818,353
1	PRFV	1.291,727	1,830	2,861	1,100	1,980	4.599,456	1H:5V	500	218,948	738,416	565,776	2.822,686
1	PRFV	1.294,588	1,891	2,861	1,100	2,041	4.608,097	1H:5V	500	219,433	740,052	567,030	2.827,391
1	PRFV	1.300,000	1,990	5,412	1,100	2,140	4.625,275	1H:5V	500	220,350	743,146	569,400	2.837,125
1	PRFV	1.308,288	2,025	8,288	1,100	2,175	4.652,661	1H:5V	500	221,755	747,883	573,030	2.853,111
1	PEAD	1.320,000	1,766	11,712	0,600	1,916	4.683,243	1H:5V	200	223,301	751,537	577,585	2.873,571
1	PEAD	1.340,000	1,323	20,000	0,600	1,473	4.715,259	1H:5V	200	225,191	752,583	584,381	2.895,226
1	PEAD	1.360,000	1,294	20,000	0,600	1,444	4.741,271	1H:5V	200	227,081	753,629	591,177	2.910,878
1	PEAD	1.371,193	1,328	11,193	0,600	1,478	4.755,861	1H:5V	200	228,139	754,214	594,980	2.919,671
1	PEAD	1.372,032	1,324	0,839	0,600	1,474	4.756,970	1H:5V	200	228,218	754,258	595,265	2.920,345
1	PEAD	1.372,871	1,337	0,839	0,600	1,487	4.758,083	1H:5V	200	228,297	754,302	595,550	2.921,023
1	PEAD	1.380,000	1,407	7,129	0,600	1,557	4.767,898	1H:5V	200	228,971	754,675	597,972	2.927,145
1	PEAD	1.400,000	1,465	20,000	0,600	1,615	4.796,995	1H:5V	200	230,861	755,721	604,768	2.945,882
1	PEAD	1.420,000	1,359	20,000	0,600	1,509	4.825,509	1H:5V	200	232,751	756,766	611,564	2.964,037
1	PEAD	1.440,000	1,252	20,000	0,600	1,402	4.851,461	1H:5V	200	234,641	757,812	618,360	2.979,628
1	PEAD	1.460,000	1,577	20,000	0,600	1,727	4.880,131	1H:5V	200	236,531	758,858	625,156	2.997,938
1	PEAD	1.480,000	1,911	20,000	0,600	2,061	4.917,320	1H:5V	200	238,421	759,904	631,952	3.024,767
1	PEAD	1.500,000	1,932	20,000	0,600	2,082	4.959,342	1H:5V	200	240,311	760,950	638,747	3.056,430
1	PEAD	1.520,000	2,096	20,000	0,600	2,246	5.004,069	1H:5V	200	242,201	761,996	645,543	3.090,796

R-1-6-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	1.540,000	2,549	20,000	0,600	2,699	5.058,397	1H:5V	200	244,091	763,041	652,339	3.134,764
1	PEAD	1.560,000	1,611	20,000	0,600	1,761	5.105,929	1H:5V	200	245,981	764,087	659,135	3.171,936
1	PEAD	1.580,000	1,505	20,000	0,600	1,655	5.138,105	1H:5V	200	247,871	765,133	665,931	3.193,752
1	PEAD	1.600,000	1,398	20,000	0,600	1,548	5.167,594	1H:5V	200	249,761	766,179	672,727	3.212,881
1	PEAD	1.620,000	1,291	20,000	0,600	1,441	5.194,473	1H:5V	200	251,651	767,225	679,523	3.229,400
1	PEAD	1.632,835	1,223	12,835	0,600	1,373	5.210,393	1H:5V	200	252,864	767,896	683,884	3.238,672
1	PEAD	1.640,000	1,184	7,165	0,580	1,334	5.218,742	1H:5V	180	253,530	768,250	686,260	3.243,442
1	PEAD	1.660,000	1,373	20,000	0,580	1,523	5.243,511	1H:5V	180	255,360	769,180	692,728	3.258,473
1	PEAD	1.662,832	1,415	2,832	0,580	1,565	5.247,397	1H:5V	180	255,619	769,312	693,644	3.260,981
1	PEAD	1.663,299	1,441	0,467	0,580	1,591	5.248,057	1H:5V	180	255,662	769,333	693,796	3.261,414
1	PEAD	1.663,766	1,484	0,467	0,580	1,634	5.248,737	1H:5V	180	255,705	769,355	693,947	3.261,866
1	PEAD	1.680,000	2,081	16,234	0,580	2,231	5.279,348	1H:5V	180	257,190	770,110	699,197	3.284,573
1	PEAD	1.700,000	1,568	20,000	0,580	1,718	5.318,110	1H:5V	180	259,020	771,040	705,666	3.313,597
1	PEAD	1.720,000	1,567	20,000	0,580	1,717	5.349,832	1H:5V	180	260,850	771,970	712,135	3.335,582
1	PEAD	1.740,000	1,669	20,000	0,580	1,819	5.382,854	1H:5V	180	262,680	772,900	718,603	3.358,867
1	PEAD	1.760,000	1,673	20,000	0,580	1,823	5.417,242	1H:5V	180	264,510	773,830	725,072	3.383,517
1	PEAD	1.780,000	2,527	20,000	0,580	2,677	5.464,321	1H:5V	180	266,340	774,759	731,541	3.420,858
1	PEAD	1.800,000	2,607	20,000	0,580	2,757	5.525,373	1H:5V	180	268,170	775,689	738,010	3.472,173
1	PEAD	1.820,000	2,687	20,000	0,580	2,837	5.589,118	1H:5V	180	270,000	776,619	744,478	3.526,180
1	PEAD	1.840,000	2,767	20,000	0,580	2,917	5.655,606	1H:5V	180	271,830	777,549	750,947	3.582,930
1	PEAD	1.860,000	2,223	20,000	0,580	2,373	5.714,568	1H:5V	180	273,660	778,479	757,416	3.632,155
1	PEAD	1.880,000	1,927	20,000	0,580	2,077	5.760,268	1H:5V	180	275,490	779,409	763,885	3.668,117
1	PEAD	1.897,470	2,328	17,470	0,580	2,478	5.801,609	1H:5V	180	277,089	780,221	769,535	3.700,952
1	PEAD	1.897,971	2,337	0,501	0,580	2,487	5.802,948	1H:5V	180	277,134	780,245	769,697	3.702,047
1	PEAD	1.898,451	2,335	0,480	0,560	2,485	5.804,221	1H:5V	160	277,178	780,266	769,848	3.703,095
1	PEAD	1.899,432	2,327	0,981	0,560	2,477	5.806,792	1H:5V	160	277,264	780,306	770,150	3.705,218
1	PEAD	1.900,000	2,318	0,568	0,560	2,468	5.808,273	1H:5V	160	277,315	780,329	770,324	3.706,439
1	PEAD	1.920,000	2,014	20,000	0,560	2,164	5.855,760	1H:5V	160	279,085	781,145	776,470	3.744,792
1	PEAD	1.940,000	1,703	20,000	0,560	1,853	5.894,488	1H:5V	160	280,855	781,962	782,616	3.774,386
1	PEAD	1.960,000	1,394	20,000	0,560	1,544	5.925,146	1H:5V	160	282,625	782,779	788,762	3.795,910
1	PEAD	1.980,000	1,728	20,000	0,560	1,878	5.956,131	1H:5V	160	284,395	783,595	794,907	3.817,760
1	PEAD	2.000,000	1,415	20,000	0,560	1,565	5.987,364	1H:5V	160	286,165	784,412	801,053	3.839,859
1	PEAD	2.016,363	1,160	16,363	0,560	1,310	6.007,352	1H:5V	160	287,613	785,080	806,081	3.852,374

3.17 RAMAL 1-6-2-1

R-1-6-2-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,025	0,000	0,650	2,175	0,000	1H:5V	250	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,872	20,000	0,650	2,022	44,919	1H:5V	250	2,040	1,347	7,632	32,919
1	PEAD	40,000	1,719	20,000	0,650	1,869	85,374	1H:5V	250	4,080	2,693	15,263	61,374
1	PEAD	60,000	1,566	20,000	0,650	1,716	121,552	1H:5V	250	6,120	4,040	22,895	85,552
1	PEAD	80,000	1,414	20,000	0,650	1,564	153,653	1H:5V	250	8,160	5,387	30,527	105,653
1	PEAD	100,000	1,362	20,000	0,650	1,512	183,112	1H:5V	250	10,200	6,733	38,158	123,112
1	PEAD	115,457	1,386	15,457	0,650	1,536	205,604	1H:5V	250	11,777	7,774	44,056	136,330
1	PEAD	120,000	1,345	4,543	0,650	1,495	212,166	1H:5V	250	12,240	8,080	45,790	140,166
1	PEAD	140,000	1,287	20,000	0,650	1,437	239,824	1H:5V	250	14,280	9,426	53,421	155,824
1	PEAD	160,000	1,365	20,000	0,650	1,515	267,733	1H:5V	250	16,320	10,773	61,053	171,733
1	PEAD	180,000	1,613	20,000	0,650	1,763	299,846	1H:5V	250	18,360	12,120	68,685	191,846
1	PEAD	200,000	1,496	20,000	0,650	1,646	333,640	1H:5V	250	20,400	13,466	76,316	213,640
1	PEAD	220,000	1,344	20,000	0,650	1,494	363,933	1H:5V	250	22,440	14,813	83,948	231,933
1	PEAD	240,000	1,623	20,000	0,650	1,773	395,919	1H:5V	250	24,480	16,160	91,580	251,919
1	PEAD	244,001	1,689	4,001	0,650	1,839	403,227	1H:5V	250	24,888	16,429	93,106	256,826
1	PEAD	253,153	1,770	9,152	0,650	1,920	420,876	1H:5V	250	25,822	17,045	96,598	268,985
1	PEAD	254,564	1,789	1,411	0,650	1,939	423,697	1H:5V	250	25,966	17,140	97,137	270,958
1	PEAD	255,975	1,812	1,411	0,650	1,962	426,559	1H:5V	250	26,109	17,235	97,675	272,974
1	PEAD	259,912	1,881	3,937	0,650	2,031	434,808	1H:5V	250	26,511	17,500	99,178	278,861
1	PEAD	260,000	1,883	0,088	0,650	2,033	434,997	1H:5V	250	26,520	17,506	99,211	278,997
1	PEAD	277,086	2,034	17,086	0,650	2,184	473,625	1H:5V	250	28,263	18,657	105,731	307,374
1	PEAD	280,000	2,029	2,914	0,625	2,179	480,451	1H:5V	225	28,555	18,842	106,812	312,526
1	PEAD	300,000	1,615	20,000	0,625	1,765	520,828	1H:5V	225	30,520	20,036	114,023	341,737
1	PEAD	320,000	1,409	20,000	0,625	1,559	552,694	1H:5V	225	32,485	21,230	121,233	362,439
1	PEAD	340,000	1,313	20,000	0,625	1,463	580,723	1H:5V	225	34,450	22,424	128,444	379,303
1	PEAD	360,000	1,233	20,000	0,625	1,383	606,617	1H:5V	225	36,415	23,619	135,654	394,032
1	PEAD	380,000	1,248	20,000	0,625	1,398	631,733	1H:5V	225	38,380	24,813	142,865	407,982
1	PEAD	400,000	1,317	20,000	0,625	1,467	657,852	1H:5V	225	40,345	26,007	150,075	422,936
1	PEAD	402,658	1,336	2,658	0,625	1,486	661,464	1H:5V	225	40,606	26,166	151,033	425,064
1	PEAD	404,138	1,331	1,480	0,625	1,481	663,487	1H:5V	225	40,751	26,254	151,567	426,262
1	PEAD	405,618	1,314	1,480	0,625	1,464	665,491	1H:5V	225	40,897	26,343	152,101	427,439
1	PEAD	420,000	1,240	14,382	0,625	1,390	684,179	1H:5V	225	42,310	27,202	157,286	438,099
1	PEAD	440,000	1,286	20,000	0,625	1,436	709,830	1H:5V	225	44,275	28,396	164,496	452,585
1	PEAD	460,000	1,450	20,000	0,625	1,600	738,049	1H:5V	225	46,240	29,590	171,707	469,639

R-1-6-2-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	480,000	1,498	20,000	0,625	1,648	768,901	1H:5V	225	48,205	30,784	178,917	489,326
1	PEAD	500,000	1,454	20,000	0,625	1,604	799,804	1H:5V	225	50,170	31,979	186,128	509,063
1	PEAD	514,056	1,259	14,056	0,625	1,409	819,445	1H:5V	225	51,551	32,818	191,195	520,858
1	PEAD	519,351	1,226	5,295	0,625	1,376	826,107	1H:5V	225	52,071	33,134	193,104	524,564
1	PEAD	520,000	1,252	0,649	0,625	1,402	826,921	1H:5V	225	52,135	33,173	193,338	525,015
1	PEAD	520,649	1,295	0,649	0,625	1,445	827,762	1H:5V	225	52,198	33,212	193,572	525,494
1	PEAD	540,000	1,874	19,351	0,625	2,024	860,707	1H:5V	225	54,100	34,367	200,549	547,636
1	PEAD	560,000	1,571	20,000	0,625	1,721	898,230	1H:5V	225	56,065	35,561	207,759	573,995
1	PEAD	580,000	1,323	20,000	0,625	1,473	928,456	1H:5V	225	58,030	36,756	214,970	593,055
1	PEAD	600,000	1,703	20,000	0,625	1,853	960,450	1H:5V	225	59,995	37,950	222,180	613,884
1	PEAD	611,179	1,761	11,179	0,625	1,911	981,520	1H:5V	225	61,093	38,617	226,211	628,714
1	PEAD	620,000	1,663	8,821	0,625	1,813	997,906	1H:5V	225	61,960	39,144	229,391	640,176
1	PEAD	640,000	1,360	20,000	0,625	1,510	1.029,809	1H:5V	225	63,925	40,338	236,601	660,914
1	PEAD	648,940	1,225	8,940	0,625	1,375	1.041,598	1H:5V	225	64,803	40,872	239,824	667,712

3.18 RAMAL R-1-6-4

R-1-6-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,745	0,000	0,650	1,895	0,000	1H:5V	250	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,558	20,000	0,650	1,708	36,436	1H:5V	250	2,040	1,347	7,632	24,436
1	PEAD	40,000	1,394	20,000	0,650	1,544	68,176	1H:5V	250	4,080	2,693	15,263	44,176
1	PEAD	60,000	1,624	20,000	0,650	1,774	100,806	1H:5V	250	6,120	4,040	22,895	64,806
1	PEAD	80,000	1,390	20,000	0,650	1,540	133,384	1H:5V	250	8,160	5,387	30,527	85,384
1	PEAD	98,894	1,516	18,894	0,650	1,666	162,795	1H:5V	250	10,087	6,659	37,736	103,459
1	PEAD	100,000	1,545	1,106	0,650	1,695	164,628	1H:5V	250	10,200	6,733	38,158	104,628
1	PEAD	100,203	1,552	0,203	0,650	1,702	164,970	1H:5V	250	10,221	6,747	38,236	104,848
1	PEAD	101,512	1,599	1,309	0,650	1,749	167,217	1H:5V	250	10,354	6,835	38,735	106,310
1	PEAD	120,000	1,958	18,488	0,650	2,108	204,263	1H:5V	250	12,240	8,080	45,790	132,263
1	PEAD	140,000	1,918	20,000	0,650	2,068	248,848	1H:5V	250	14,280	9,426	53,421	164,848
1	PEAD	160,000	1,569	20,000	0,650	1,719	287,927	1H:5V	250	16,320	10,773	61,053	191,927
1	PEAD	180,000	1,310	20,000	0,650	1,460	318,763	1H:5V	250	18,360	12,120	68,685	210,763
1	PEAD	186,498	1,297	6,498	0,650	1,447	327,648	1H:5V	250	19,023	12,557	71,164	215,749
1	PEAD	187,683	1,345	1,185	0,650	1,495	329,294	1H:5V	250	19,144	12,637	71,616	216,684

R-1-6-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	188,868	1,388	1,185	0,650	1,538	331,007	1H:5V	250	19,265	12,717	72,068	217,687
1	PEAD	200,000	1,681	11,132	0,650	1,831	349,561	1H:5V	250	20,400	13,466	76,316	229,561
1	PEAD	220,000	1,451	20,000	0,650	1,601	383,701	1H:5V	250	22,440	14,813	83,948	251,701
1	PEAD	240,000	1,260	20,000	0,650	1,410	412,375	1H:5V	250	24,480	16,160	91,580	268,375
1	PEAD	244,396	1,294	4,396	0,650	1,444	418,243	1H:5V	250	24,928	16,456	93,257	271,605

3.19 RAMAL 1-6-6

R-1-6-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,318	0,000	0,650	2,468	0,000	1H:5V	250	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,396	20,000	0,650	2,546	57,737	1H:5V	250	2,040	1,347	7,632	45,737
1	PEAD	40,000	2,313	20,000	0,650	2,463	115,393	1H:5V	250	4,080	2,693	15,263	91,393
1	PEAD	60,000	2,389	20,000	0,650	2,539	172,932	1H:5V	250	6,120	4,040	22,895	136,932
1	PEAD	80,000	2,396	20,000	0,650	2,546	231,841	1H:5V	250	8,160	5,387	30,527	183,841
1	PEAD	100,000	2,397	20,000	0,650	2,547	290,884	1H:5V	250	10,200	6,733	38,158	230,884
1	PEAD	120,000	2,493	20,000	0,650	2,643	351,565	1H:5V	250	12,240	8,080	45,790	279,565
1	PEAD	140,000	2,563	20,000	0,650	2,713	415,070	1H:5V	250	14,280	9,426	53,421	331,070
1	PEAD	160,000	2,348	20,000	0,650	2,498	476,143	1H:5V	250	16,320	10,773	61,053	380,143
1	PEAD	180,000	1,838	20,000	0,650	1,988	525,686	1H:5V	250	18,360	12,120	68,685	417,686
1	PEAD	200,000	1,276	20,000	0,650	1,426	559,848	1H:5V	250	20,400	13,466	76,316	439,848
1	PEAD	203,669	1,252	3,669	0,650	1,402	564,688	1H:5V	250	20,774	13,713	77,716	442,486
1	PEAD	220,000	1,330	16,331	0,650	1,480	586,771	1H:5V	250	22,440	14,813	83,948	454,771
1	PEAD	234,110	1,403	14,110	0,650	1,553	607,174	1H:5V	250	23,879	15,763	89,332	466,708
1	PEAD	239,193	1,515	5,083	0,650	1,665	615,125	1H:5V	250	24,398	16,105	91,272	471,609
1	PEAD	240,000	1,549	0,807	0,650	1,699	616,464	1H:5V	250	24,480	16,160	91,580	472,464
1	PEAD	244,276	1,800	4,276	0,650	1,950	624,395	1H:5V	250	24,916	16,447	93,211	477,829
1	PEAD	260,000	1,769	15,724	0,650	1,919	655,936	1H:5V	250	26,520	17,506	99,211	499,936
1	PEAD	260,141	1,761	0,141	0,650	1,911	656,215	1H:5V	250	26,534	17,516	99,265	500,130
1	PEAD	265,260	1,371	5,119	0,650	1,521	664,978	1H:5V	250	27,057	17,860	101,218	505,822
1	PEAD	270,379	1,314	5,119	0,650	1,464	672,226	1H:5V	250	27,579	18,205	103,172	509,999
1	PEAD	280,000	1,353	9,621	0,650	1,503	685,739	1H:5V	250	28,560	18,853	106,843	517,739
1	PEAD	300,000	1,433	20,000	0,650	1,583	715,327	1H:5V	250	30,600	20,199	114,474	535,327
1	PEAD	316,289	1,498	16,289	0,650	1,648	740,938	1H:5V	250	32,261	21,296	120,690	551,165

R-1-6-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	320,000	1,559	3,711	0,650	1,709	747,078	1H:5V	250	32,640	21,546	122,106	555,078
1	PEAD	323,711	1,711	3,711	0,650	1,861	753,753	1H:5V	250	33,019	21,796	123,522	559,527
1	PEAD	340,000	2,583	16,289	0,650	2,733	795,882	1H:5V	250	34,680	22,893	129,738	591,882
1	PEAD	360,000	2,873	20,000	0,650	3,023	867,431	1H:5V	250	36,720	24,239	137,369	651,431
1	PEAD	375,836	2,499	15,836	0,650	2,649	922,936	1H:5V	250	38,335	25,306	143,412	697,434
1	PEAD	379,547	2,652	3,711	0,650	2,802	935,028	1H:5V	250	38,714	25,555	144,828	707,300
1	PEAD	380,000	2,664	0,453	0,525	2,814	936,490	1H:5V	125	38,756	25,578	144,978	708,542
1	PEAD	383,258	2,713	3,258	0,525	2,863	946,595	1H:5V	125	39,027	25,679	145,888	717,324
1	PEAD	400,000	2,780	16,742	0,525	2,930	1.000,150	1H:5V	125	40,421	26,202	150,568	764,077
1	PEAD	420,000	1,991	20,000	0,525	2,141	1.053,110	1H:5V	125	42,086	26,826	156,159	808,912
1	PEAD	440,000	1,940	20,000	0,525	2,090	1.093,227	1H:5V	125	43,751	27,450	161,749	840,904
1	PEAD	460,000	2,020	20,000	0,525	2,170	1.133,746	1H:5V	125	45,416	28,074	167,339	873,298
1	PEAD	480,000	2,100	20,000	0,525	2,250	1.176,494	1H:5V	125	47,081	28,698	172,930	907,921
1	PEAD	500,000	2,180	20,000	0,525	2,330	1.221,521	1H:5V	125	48,746	29,323	178,520	944,824
1	PEAD	520,000	2,191	20,000	0,525	2,341	1.267,863	1H:5V	125	50,411	29,947	184,111	983,040
1	PEAD	524,470	2,086	4,470	0,525	2,236	1.277,918	1H:5V	125	50,783	30,086	185,360	991,279
1	PEAD	525,433	2,049	0,963	0,525	2,199	1.279,986	1H:5V	125	50,863	30,116	185,629	992,956
1	PEAD	526,396	2,013	0,963	0,525	2,163	1.282,005	1H:5V	125	50,943	30,146	185,898	994,584
1	PEAD	540,000	1,522	13,604	0,525	1,672	1.305,868	1H:5V	125	52,076	30,571	189,701	1.012,920
1	PEAD	551,572	1,487	11,572	0,525	1,637	1.322,255	1H:5V	125	53,039	30,932	192,936	1.024,606
1	PEAD	560,000	1,553	8,428	0,525	1,703	1.334,347	1H:5V	125	53,741	31,195	195,291	1.033,275
1	PEAD	576,847	1,685	16,847	0,525	1,835	1.360,552	1H:5V	125	55,143	31,721	200,001	1.052,635
1	PEAD	580,000	1,710	3,153	0,525	1,860	1.365,763	1H:5V	125	55,406	31,819	200,882	1.056,565
1	PEAD	600,000	1,586	20,000	0,525	1,736	1.397,589	1H:5V	125	57,071	32,443	206,472	1.080,266
1	PEAD	620,000	1,180	20,000	0,525	1,330	1.423,250	1H:5V	125	58,736	33,068	212,063	1.097,803
1	PEAD	640,000	1,181	20,000	0,525	1,331	1.444,301	1H:5V	125	60,401	33,692	217,653	1.110,729
1	PEAD	660,000	1,338	20,000	0,525	1,488	1.467,073	1H:5V	125	62,066	34,316	223,243	1.125,375
1	PEAD	673,346	1,443	13,346	0,525	1,593	1.484,208	1H:5V	125	63,177	34,732	226,974	1.137,089
1	PEAD	675,057	1,459	1,711	0,525	1,609	1.486,523	1H:5V	125	63,319	34,786	227,452	1.138,709
1	PEAD	676,768	1,482	1,711	0,525	1,632	1.488,878	1H:5V	125	63,462	34,839	227,930	1.140,368
1	PEAD	680,000	1,529	3,232	0,525	1,679	1.493,459	1H:5V	125	63,731	34,940	228,834	1.143,636
1	PEAD	700,000	1,271	20,000	0,525	1,421	1.519,410	1H:5V	125	65,396	35,564	234,424	1.161,462
1	PEAD	720,000	1,129	20,000	0,525	1,279	1.540,895	1H:5V	125	67,061	36,188	240,015	1.174,823
1	PEAD	740,000	1,411	20,000	0,525	1,561	1.563,951	1H:5V	125	68,726	36,813	245,605	1.189,753
1	PEAD	748,389	1,534	8,389	0,525	1,684	1.575,520	1H:5V	125	69,424	37,074	247,950	1.197,914

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R-1-7													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,918	0,000	0,800	2,068	0,000	1H:5V	400	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,993	20,000	0,800	2,143	51,426	1H:5V	400	2,490	2,343	10,293	33,786
1	PEAD	40,000	2,069	20,000	0,800	2,219	105,355	1H:5V	400	4,980	4,687	20,587	70,075
1	PEAD	60,000	2,146	20,000	0,800	2,296	161,866	1H:5V	400	7,470	7,030	30,880	108,946
1	PEAD	80,000	1,970	20,000	0,800	2,120	216,726	1H:5V	400	9,960	9,373	41,173	146,166
1	PEAD	100,000	1,759	20,000	0,800	1,909	265,236	1H:5V	400	12,450	11,717	51,467	177,036
1	PEAD	120,000	1,763	20,000	0,800	1,913	310,419	1H:5V	400	14,940	14,060	61,760	204,579
1	PEAD	140,000	1,765	20,000	0,800	1,915	355,697	1H:5V	400	17,430	16,404	72,054	232,217
1	PEAD	160,000	1,783	20,000	0,800	1,933	401,288	1H:5V	400	19,920	18,747	82,347	260,168
1	PEAD	180,000	1,805	20,000	0,800	1,955	447,509	1H:5V	400	22,410	21,090	92,640	288,749
1	PEAD	200,000	1,834	20,000	0,800	1,984	494,538	1H:5V	400	24,900	23,434	102,934	318,138
1	PEAD	220,000	1,495	20,000	0,800	1,645	536,854	1H:5V	400	27,390	25,777	113,227	342,814
1	PEAD	226,530	1,426	6,530	0,800	1,576	548,657	1H:5V	400	28,203	26,542	116,588	348,857
1	PEAD	228,964	1,413	2,434	0,800	1,563	552,912	1H:5V	400	28,506	26,827	117,840	350,966
1	PEAD	229,312	1,414	0,348	0,800	1,564	553,517	1H:5V	400	28,549	26,868	118,020	351,264
1	PEAD	231,398	1,422	2,086	0,490	1,572	556,651	1H:5V	90	28,761	27,013	118,820	353,229
1	PEAD	240,000	1,499	8,602	0,490	1,649	567,904	1H:5V	90	29,432	27,202	120,991	361,396
1	PEAD	260,000	1,666	20,000	0,490	1,816	596,917	1H:5V	90	30,992	27,642	126,038	383,234
1	PEAD	280,000	1,610	20,000	0,490	1,760	627,230	1H:5V	90	32,552	28,081	131,086	406,373
1	PEAD	300,000	1,615	20,000	0,490	1,765	656,929	1H:5V	90	34,112	28,521	136,134	428,897
1	PEAD	320,000	1,587	20,000	0,490	1,737	686,353	1H:5V	90	35,672	28,960	141,181	451,147
1	PEAD	340,000	1,393	20,000	0,490	1,543	713,221	1H:5V	90	37,232	29,400	146,229	470,841
1	PEAD	360,000	1,572	20,000	0,490	1,722	739,912	1H:5V	90	38,792	29,839	151,277	490,357
1	PEAD	380,000	1,751	20,000	0,490	1,901	770,823	1H:5V	90	40,352	30,279	156,324	514,093
1	PEAD	400,000	1,930	20,000	0,490	2,080	806,210	1H:5V	90	41,912	30,718	161,372	542,306
1	PEAD	420,000	1,764	20,000	0,490	1,914	841,760	1H:5V	90	43,472	31,158	166,420	570,682
1	PEAD	423,362	1,351	3,362	0,490	1,501	846,562	1H:5V	90	43,734	31,231	167,268	574,278
1	PEAD	424,597	1,155	1,235	0,490	1,305	847,900	1H:5V	90	43,830	31,259	167,580	575,173
1	PEAD	425,832	1,155	1,235	0,490	1,305	849,110	1H:5V	90	43,926	31,286	167,892	575,940
1	PEAD	440,000	1,211	14,168	0,490	1,361	863,402	1H:5V	90	45,032	31,597	171,467	585,149
1	PEAD	460,000	1,291	20,000	0,490	1,441	884,989	1H:5V	90	46,592	32,037	176,515	599,562
1	PEAD	480,000	1,371	20,000	0,490	1,521	908,283	1H:5V	90	48,152	32,476	181,563	615,681
1	PEAD	496,944	1,244	16,944	0,490	1,394	927,596	1H:5V	90	49,473	32,848	185,839	628,917

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R-1-7-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,414	0,000	0,800	1,564	0,000	1H:5V	400	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,819	20,000	0,800	2,969	58,786	1H:5V	400	2,490	2,343	10,293	41,146
1	PEAD	40,000	2,225	20,000	0,800	2,375	130,449	1H:5V	400	4,980	4,687	20,587	95,169
1	PEAD	60,000	1,699	20,000	0,800	1,849	182,360	1H:5V	400	7,470	7,030	30,880	129,440
1	PEAD	65,594	1,687	5,594	0,800	1,837	194,408	1H:5V	400	8,166	7,686	33,759	136,554
1	PEAD	68,511	1,663	2,917	0,800	1,813	200,610	1H:5V	400	8,530	8,027	35,260	140,183
1	PEAD	71,428	1,606	2,917	0,800	1,756	206,633	1H:5V	400	8,893	8,369	36,762	143,633
1	PEAD	80,000	1,417	8,572	0,800	1,567	222,775	1H:5V	400	9,960	9,373	41,173	152,215
1	PEAD	100,000	1,604	20,000	0,800	1,754	260,407	1H:5V	400	12,450	11,717	51,467	172,207
1	PEAD	118,352	1,734	18,352	0,800	1,884	299,272	1H:5V	400	14,735	13,867	60,912	194,886
1	PEAD	120,000	1,703	1,648	0,800	1,853	302,887	1H:5V	400	14,940	14,060	61,760	197,047
1	PEAD	121,136	1,704	1,136	0,800	1,854	305,352	1H:5V	400	15,081	14,193	62,345	198,510
1	PEAD	123,920	1,729	2,784	0,800	1,879	311,449	1H:5V	400	15,428	14,519	63,778	202,151
1	PEAD	140,000	1,871	16,080	0,800	2,021	348,779	1H:5V	400	17,430	16,404	72,054	225,299
1	PEAD	160,000	1,418	20,000	0,800	1,568	390,577	1H:5V	400	19,920	18,747	82,347	249,457
1	PEAD	180,000	1,651	20,000	0,800	1,801	428,933	1H:5V	400	22,410	21,090	92,640	270,173
1	PEAD	195,451	1,456	15,451	0,800	1,606	458,987	1H:5V	400	24,334	22,901	100,592	286,599

3.22 RAMAL R-1-8

R-1-8													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,804	0,000	0,510	2,954	0,000	1H:5V	110	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,201	20,000	0,510	1,351	43,058	1H:5V	110	1,620	0,544	5,356	35,348
1	PEAD	38,391	2,007	18,391	0,510	2,157	71,423	1H:5V	110	3,110	1,044	10,282	56,623
1	PEAD	39,798	1,806	1,407	0,510	1,956	74,092	1H:5V	110	3,224	1,083	10,658	58,749
1	PEAD	40,000	1,779	0,202	0,510	1,929	74,444	1H:5V	110	3,240	1,088	10,713	59,023
1	PEAD	41,205	1,626	1,205	0,510	1,776	76,411	1H:5V	110	3,338	1,121	11,035	60,526
1	PEAD	60,000	1,564	18,795	0,510	1,714	104,588	1H:5V	110	4,860	1,632	16,069	81,456
1	PEAD	80,000	1,333	20,000	0,510	1,483	131,166	1H:5V	110	6,480	2,176	21,425	100,325
1	PEAD	100,000	1,314	20,000	0,510	1,464	154,881	1H:5V	110	8,100	2,720	26,781	116,329
1	PEAD	120,000	1,304	20,000	0,510	1,454	178,278	1H:5V	110	9,720	3,264	32,138	132,016

R-1-8													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	140,000	1,307	20,000	0,510	1,457	201,598	1H:5V	110	11,340	3,808	37,494	147,625
1	PEAD	160,000	1,276	20,000	0,510	1,426	224,614	1H:5V	110	12,960	4,353	42,850	162,931
1	PEAD	169,366	1,260	9,366	0,510	1,410	235,154	1H:5V	110	13,719	4,607	45,358	169,860
1	PEAD	180,000	1,220	10,634	0,510	1,370	246,802	1H:5V	110	14,580	4,897	48,206	177,409
1	PEAD	200,000	1,171	20,000	0,510	1,321	267,770	1H:5V	110	16,200	5,441	53,563	190,666
1	PEAD	204,923	1,160	4,923	0,510	1,310	272,777	1H:5V	110	16,599	5,575	54,881	193,775
1	PEAD	205,837	1,159	0,914	0,510	1,309	273,701	1H:5V	110	16,673	5,599	55,126	194,347
1	PEAD	206,751	1,164	0,914	0,510	1,314	274,627	1H:5V	110	16,747	5,624	55,371	194,920
1	PEAD	219,509	1,323	12,758	0,510	1,473	288,665	1H:5V	110	17,780	5,971	58,787	204,039
1	PEAD	220,000	1,329	0,491	0,510	1,479	289,248	1H:5V	110	17,820	5,985	58,919	204,434
1	PEAD	240,000	1,449	20,000	0,510	1,599	314,434	1H:5V	110	19,440	6,529	64,275	221,910
1	PEAD	258,818	1,210	18,818	0,510	1,360	336,925	1H:5V	110	20,964	7,041	69,315	237,146
1	PEAD	260,000	1,171	1,182	0,510	1,321	338,158	1H:5V	110	21,060	7,073	69,631	237,923
1	PEAD	260,354	1,155	0,354	0,510	1,305	338,518	1H:5V	110	21,089	7,082	69,726	238,146
1	PEAD	261,890	1,166	1,536	0,510	1,316	340,072	1H:5V	110	21,213	7,124	70,138	239,108
1	PEAD	280,000	1,239	18,110	0,510	1,389	359,194	1H:5V	110	22,680	7,617	74,988	251,248
1	PEAD	299,353	1,751	19,353	0,510	1,901	386,158	1H:5V	110	24,248	8,143	80,171	270,751

3.23 RAMAL R-1-9

R-1-9													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,643	0,000	0,625	1,793	0,000	1H:5V	225	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,808	20,000	0,625	1,958	37,541	1H:5V	225	1,965	1,194	7,211	26,376
1	PEAD	40,000	1,878	20,000	0,625	2,028	78,347	1H:5V	225	3,930	2,389	14,421	56,017
1	PEAD	60,000	1,892	20,000	0,625	2,042	120,349	1H:5V	225	5,895	3,583	21,632	86,854
1	PEAD	80,000	1,970	20,000	0,625	2,120	163,690	1H:5V	225	7,860	4,777	28,842	119,030
1	PEAD	98,084	2,043	18,084	0,625	2,193	204,889	1H:5V	225	9,637	5,857	35,362	150,133
1	PEAD	100,000	2,051	1,916	0,625	2,201	209,369	1H:5V	225	9,825	5,971	36,053	153,544
1	PEAD	109,381	2,090	9,381	0,625	2,240	231,640	1H:5V	225	10,747	6,532	39,435	170,578
1	PEAD	120,000	2,133	10,619	0,625	2,283	257,512	1H:5V	225	11,790	7,166	43,263	190,522
1	PEAD	140,000	2,215	20,000	0,625	2,365	308,173	1H:5V	225	13,755	8,360	50,474	230,018
1	PEAD	160,000	2,296	20,000	0,625	2,446	361,394	1H:5V	225	15,720	9,554	57,684	272,074
1	PEAD	180,000	2,378	20,000	0,625	2,528	417,228	1H:5V	225	17,685	10,748	64,895	316,743

R-1-9													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	200,000	2,150	20,000	0,625	2,300	470,765	1H:5V	225	19,650	11,943	72,105	359,115
1	PEAD	220,000	2,041	20,000	0,625	2,191	519,015	1H:5V	225	21,615	13,137	79,316	396,200
1	PEAD	240,000	2,031	20,000	0,625	2,181	565,454	1H:5V	225	23,580	14,331	86,526	431,474
1	PEAD	260,000	2,704	20,000	0,625	2,854	622,727	1H:5V	225	25,545	15,525	93,737	477,582
1	PEAD	280,000	2,786	20,000	0,625	2,936	692,445	1H:5V	225	27,510	16,720	100,947	536,135
1	PEAD	300,000	2,142	20,000	0,625	2,292	752,867	1H:5V	225	29,475	17,914	108,158	585,392
1	PEAD	320,000	1,612	20,000	0,625	1,762	794,921	1H:5V	225	31,440	19,108	115,368	616,281
1	PEAD	340,000	1,316	20,000	0,625	1,466	825,603	1H:5V	225	33,405	20,303	122,579	635,798
1	PEAD	360,000	1,276	20,000	0,625	1,426	852,043	1H:5V	225	35,370	21,497	129,789	651,073
1	PEAD	380,000	1,333	20,000	0,625	1,483	878,690	1H:5V	225	37,335	22,691	137,000	666,555
1	PEAD	400,000	2,276	20,000	0,625	2,426	919,291	1H:5V	225	39,300	23,885	144,210	695,991
1	PEAD	410,029	1,317	10,029	0,625	1,467	939,553	1H:5V	225	40,285	24,484	147,826	710,654
1	PEAD	420,000	2,444	9,971	0,580	2,594	960,480	1H:5V	180	41,231	25,014	151,236	726,442
1	PEAD	421,903	2,432	1,903	0,580	2,582	965,885	1H:5V	180	41,405	25,102	151,851	730,921
1	PEAD	427,356	1,451	5,453	0,580	1,601	977,533	1H:5V	180	41,904	25,356	153,615	739,914
1	PEAD	432,809	1,298	5,453	0,580	1,448	984,896	1H:5V	180	42,403	25,609	155,379	744,622
1	PEAD	440,000	2,327	7,191	0,580	2,477	999,001	1H:5V	180	43,061	25,944	157,705	755,226
1	PEAD	453,297	2,380	13,297	0,580	2,530	1.034,978	1H:5V	180	44,278	26,562	162,005	784,729
1	PEAD	460,000	2,407	6,703	0,580	2,557	1.053,540	1H:5V	180	44,891	26,874	164,173	800,027
1	PEAD	480,000	2,487	20,000	0,580	2,637	1.110,649	1H:5V	180	46,721	27,804	170,642	847,398
1	PEAD	500,000	2,546	20,000	0,580	2,696	1.170,025	1H:5V	180	48,551	28,733	177,111	897,037
1	PEAD	520,000	2,484	20,000	0,580	2,634	1.229,352	1H:5V	180	50,381	29,663	183,580	946,626
1	PEAD	540,000	2,479	20,000	0,580	2,629	1.287,576	1H:5V	180	52,211	30,593	190,048	995,113
1	PEAD	548,024	2,402	8,024	0,580	2,552	1.310,404	1H:5V	180	52,946	30,966	192,644	1.014,034
1	PEAD	560,000	1,964	11,976	0,580	2,114	1.339,761	1H:5V	180	54,041	31,523	196,517	1.037,560
1	PEAD	566,003	1,916	6,003	0,580	2,066	1.352,283	1H:5V	180	54,591	31,802	198,459	1.047,159

3.24 RAMAL R-2

R-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	0,000	2,772	0,000	1,800	2,972	0,000	1H:5V	1200	0,000	0,000	0,000	0,000
1	HPCC	20,000	2,419	20,000	1,800	2,619	132,022	1H:5V	1200	7,360	4,676	38,104	59,262
1	HPCC	37,550	2,113	17,550	1,800	2,313	231,350	1H:5V	1200	13,818	8,780	71,541	94,743

R-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	40,000	2,080	2,450	1,800	2,280	244,062	1H:5V	1200	14,720	9,353	76,208	98,542
1	HPCC	42,450	2,069	2,450	1,800	2,269	256,627	1H:5V	1200	15,622	9,926	80,876	102,194
1	HPCC	60,000	1,969	17,550	1,800	2,169	344,017	1H:5V	1200	22,080	14,029	114,313	125,737
1	HPCC	80,000	1,855	20,000	1,800	2,055	437,905	1H:5V	1200	29,440	18,705	152,417	146,865
1	HPCC	100,000	1,852	20,000	1,800	2,052	528,698	1H:5V	1200	36,800	23,382	190,521	164,898
1	HPCC	120,000	1,859	20,000	1,800	2,059	619,596	1H:5V	1200	44,160	28,058	228,625	183,036
1	HPCC	140,000	1,735	20,000	1,800	1,935	707,456	1H:5V	1200	51,520	32,734	266,729	198,136
1	HPCC	150,000	1,679	10,000	1,800	1,879	749,057	1H:5V	1200	55,200	35,073	285,781	203,357
1	HPCC	160,000	1,740	10,000	1,800	1,940	790,722	1H:5V	1200	58,880	37,411	304,834	208,642
1	HPCC	180,000	1,686	20,000	1,800	1,886	874,231	1H:5V	1200	66,240	42,087	342,938	219,391
1	HPCC	181,490	1,599	1,490	1,800	1,799	880,185	1H:5V	1200	66,788	42,435	345,777	219,924
1	HPCC	200,000	1,371	18,510	1,800	1,571	946,885	1H:5V	1200	73,600	46,763	381,042	219,285
1	HPCC	220,000	1,274	20,000	1,800	1,474	1.010,976	1H:5V	1200	80,960	51,440	419,146	210,616
1	HPCC	240,000	1,451	20,000	1,800	1,651	1.077,023	1H:5V	1200	88,320	56,116	457,250	203,903
1	HPCC	260,000	1,417	20,000	1,800	1,617	1.146,528	1H:5V	1200	95,680	60,792	495,355	200,648
1	HPCC	280,000	1,322	20,000	1,800	1,522	1.212,892	1H:5V	1200	103,040	65,469	533,459	194,252
1	HPCC	300,000	1,239	20,000	1,800	1,439	1.274,965	1H:5V	1200	110,400	70,145	571,563	183,565
1	HPCC	320,000	1,191	20,000	1,800	1,391	1.333,916	1H:5V	1200	117,760	74,821	609,667	169,756
1	HPCC	329,636	1,209	9,636	1,800	1,409	1.361,976	1H:5V	1200	121,306	77,074	628,026	162,760
1	HPCC	340,000	1,218	10,364	1,800	1,418	1.392,487	1H:5V	1200	125,120	79,498	647,771	155,567
1	HPCC	360,000	1,258	20,000	1,800	1,458	1.452,528	1H:5V	1200	132,480	84,174	685,876	142,848
1	HPCC	380,000	1,286	20,000	1,800	1,486	1.514,188	1H:5V	1200	139,840	88,850	723,980	131,748
1	HPCC	400,000	1,347	20,000	1,800	1,547	1.577,984	1H:5V	1200	147,200	93,527	762,084	122,784
1	HPCC	420,000	1,387	20,000	1,800	1,587	1.644,220	1H:5V	1200	154,560	98,203	800,188	116,260
1	HPCC	440,000	1,446	20,000	1,800	1,646	1.712,870	1H:5V	1200	161,920	102,879	838,292	112,150
1	HPCC	460,000	1,498	20,000	1,800	1,698	1.784,247	1H:5V	1200	169,280	107,556	876,397	110,767
1	HPCC	480,000	1,562	20,000	1,800	1,762	1.858,502	1H:5V	1200	176,640	112,232	914,501	112,262
1	HPCC	500,000	1,612	20,000	1,800	1,812	1.935,610	1H:5V	1200	184,000	116,908	952,605	116,610
1	HPCC	520,000	1,665	20,000	1,800	1,865	2.015,320	1H:5V	1200	191,360	121,585	990,709	123,560
1	HPCC	540,000	1,856	20,000	1,800	2,056	2.101,308	1H:5V	1200	198,720	126,261	1.028,813	136,788
1	HPCC	560,000	2,367	20,000	1,800	2,567	2.206,156	1H:5V	1200	206,080	130,937	1.066,917	168,876
1	HPCC	580,000	3,029	20,000	1,800	3,229	2.353,675	1H:5V	1200	213,440	135,614	1.105,022	243,635
1	HPCC	600,000	3,115	20,000	1,800	3,315	2.536,059	1H:5V	1200	220,800	140,290	1.143,126	353,259
1	HPCC	620,000	3,202	20,000	1,800	3,402	2.730,770	1H:5V	1200	228,160	144,966	1.181,230	475,210
1	HPCC	630,000	3,245	10,000	1,800	3,445	2.832,775	1H:5V	1200	231,840	147,305	1.200,282	540,835
1	HPCC	640,000	3,085	10,000	1,800	3,285	2.930,604	1H:5V	1200	235,520	149,643	1.219,334	602,284

R-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	660,000	2,765	20,000	1,800	2,965	3.093,669	1H:5V	1200	242,880	154,319	1.257,438	692,589
1	HPCC	680,000	2,445	20,000	1,800	2,645	3.226,224	1H:5V	1200	250,240	158,995	1.295,543	752,384
1	HPCC	683,375	2,391	3,375	1,800	2,591	3.246,755	1H:5V	1200	251,482	159,785	1.301,973	760,637
1	HPCC	685,002	2,365	1,627	1,800	2,565	3.256,468	1H:5V	1200	252,081	160,165	1.305,073	764,430
1	HPCC	688,502	2,321	3,500	1,800	2,521	3.277,016	1H:5V	1200	253,369	160,983	1.311,741	772,245
1	HPCC	692,002	2,196	3,500	1,800	2,396	3.296,738	1H:5V	1200	254,657	161,802	1.318,409	779,235
1	HPCC	700,000	1,286	7,998	1,800	1,486	3.331,039	1H:5V	1200	257,600	163,672	1.333,647	784,439
1	HPCC	720,000	2,281	20,000	1,800	2,481	3.419,172	1H:5V	1200	264,960	168,348	1.371,751	799,812
1	HPCC	740,000	2,523	20,000	1,800	2,723	3.539,984	1H:5V	1200	272,320	173,024	1.409,855	847,864
1	HPCC	758,538	2,508	18,538	1,800	2,708	3.657,936	1H:5V	1200	279,142	177,359	1.445,174	898,375
1	HPCC	760,000	2,497	1,462	1,800	2,697	3.667,183	1H:5V	1200	279,680	177,701	1.447,959	902,303
1	HPCC	769,008	2,446	9,008	1,800	2,646	3.723,359	1H:5V	1200	282,995	179,807	1.465,122	925,708
1	HPCC	780,000	2,502	10,992	1,800	2,702	3.791,987	1H:5V	1200	287,040	182,377	1.486,064	954,347
1	HPCC	800,000	2,379	20,000	1,800	2,579	3.914,949	1H:5V	1200	294,400	187,053	1.524,168	1.004,549
1	HPCC	817,670	2,337	17,670	1,800	2,537	4.019,434	1H:5V	1200	300,903	191,185	1.557,833	1.044,751
1	HPCC	820,000	2,542	2,330	1,800	2,742	4.033,756	1H:5V	1200	301,760	191,730	1.562,272	1.050,596
1	HPCC	821,342	2,530	1,342	1,800	2,730	4.042,374	1H:5V	1200	302,254	192,044	1.564,829	1.054,332
1	HPCC	825,014	2,761	3,672	1,800	2,961	4.067,138	1H:5V	1200	303,605	192,902	1.571,825	1.065,737
1	HPCC	836,643	1,802	11,629	1,800	2,002	4.133,938	1H:5V	1200	307,885	195,621	1.593,980	1.090,231
1	HPCC	840,000	1,801	3,357	1,800	2,001	4.148,722	1H:5V	1200	309,120	196,406	1.600,376	1.092,802
1	HPCC	860,000	2,083	20,000	1,800	2,283	4.244,266	1H:5V	1200	316,480	201,082	1.638,480	1.115,586
1	HPCC	880,000	1,930	20,000	1,800	2,130	4.343,198	1H:5V	1200	323,840	205,759	1.676,585	1.141,758
1	HPCC	900,000	1,521	20,000	1,800	1,721	4.427,513	1H:5V	1200	331,200	210,435	1.714,689	1.153,313
1	HPCC	909,656	1,362	9,656	1,800	1,562	4.461,260	1H:5V	1200	334,753	212,693	1.733,086	1.151,931
1	HPCC	910,617	1,375	0,961	1,800	1,575	4.464,446	1H:5V	1200	335,107	212,918	1.734,916	1.151,621
1	HPCC	920,000	1,556	9,383	1,800	1,756	4.497,796	1H:5V	1200	338,560	215,111	1.752,793	1.150,836
1	HPCC	940,000	2,026	20,000	1,800	2,226	4.585,549	1H:5V	1200	345,920	219,788	1.790,897	1.165,829
1	HPCC	949,452	2,130	9,452	1,800	2,330	4.634,121	1H:5V	1200	349,398	221,998	1.808,905	1.180,015
1	HPCC	960,000	2,044	10,548	1,800	2,244	4.688,581	1H:5V	1200	353,280	224,464	1.829,001	1.196,101
1	HPCC	965,419	1,987	5,419	1,800	2,187	4.715,512	1H:5V	1200	355,274	225,731	1.839,326	1.203,318
1	HPCC	968,934	1,937	3,515	1,800	2,137	4.732,477	1H:5V	1200	356,568	226,553	1.846,023	1.207,496
1	HPCC	972,449	1,957	3,515	1,800	2,157	4.749,302	1H:5V	1200	357,861	227,375	1.852,719	1.211,533
1	HPCC	980,000	2,009	7,551	1,800	2,209	4.786,171	1H:5V	1200	360,640	229,140	1.867,106	1.220,931
1	HPCC	1.000,000	1,994	20,000	1,800	2,194	4.884,812	1H:5V	1200	368,000	233,817	1.905,210	1.246,812
1	HPCC	1.020,000	2,265	20,000	1,800	2,465	4.990,453	1H:5V	1200	375,360	238,493	1.943,314	1.279,693
1	HPCC	1.040,000	2,643	20,000	1,800	2,843	5.114,315	1H:5V	1200	382,720	243,170	1.981,418	1.330,795

R-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	1.060,000	2,394	20,000	1,800	2,594	5.241,804	1H:5V	1200	390,080	247,846	2.019,522	1.385,524
1	HPCC	1.080,000	2,501	20,000	1,800	2,701	5.365,162	1H:5V	1200	397,440	252,522	2.057,627	1.436,122
1	HPCC	1.100,000	3,357	20,000	1,800	3,557	5.539,982	1H:5V	1200	404,800	257,199	2.095,731	1.538,182
1	HPCC	1.104,262	3,564	4,262	1,800	3,764	5.590,755	1H:5V	1200	406,368	258,195	2.103,851	1.573,449
1	HPCC	1.120,000	3,310	15,738	1,800	3,510	5.775,572	1H:5V	1200	412,160	261,875	2.133,835	1.701,012
1	HPCC	1.140,000	2,769	20,000	1,800	2,969	5.954,864	1H:5V	1200	419,520	266,551	2.171,939	1.807,544
1	HPCC	1.160,000	2,360	20,000	1,800	2,560	6.085,123	1H:5V	1200	426,880	271,228	2.210,043	1.865,043
1	HPCC	1.180,000	2,485	20,000	1,800	2,685	6.207,059	1H:5V	1200	434,240	275,904	2.248,148	1.914,219
1	HPCC	1.200,000	2,800	20,000	1,800	3,000	6.341,807	1H:5V	1200	441,600	280,580	2.286,252	1.976,207
1	HPCC	1.220,000	2,946	20,000	1,800	3,146	6.496,070	1H:5V	1200	448,960	285,257	2.324,356	2.057,710
1	HPCC	1.240,000	3,154	20,000	1,800	3,354	6.675,363	1H:5V	1200	456,320	289,933	2.362,460	2.164,243
1	HPCC	1.258,041	3,207	18,041	1,800	3,407	6.853,835	1H:5V	1200	462,959	294,151	2.396,832	2.277,082
1	HPCC	1.260,000	3,185	1,959	1,800	3,385	6.873,432	1H:5V	1200	463,680	294,609	2.400,564	2.289,552
1	HPCC	1.280,000	2,949	20,000	1,800	3,149	7.055,153	1H:5V	1200	471,040	299,286	2.438,669	2.398,513
1	HPCC	1.285,790	2,882	5,790	1,800	3,082	7.101,539	1H:5V	1200	473,171	300,639	2.449,700	2.423,835
1	HPCC	1.300,000	2,557	14,210	1,700	2,757	7.200,884	1H:5V	1100	478,258	303,761	2.475,514	2.475,652
1	HPCC	1.320,000	2,532	20,000	1,700	2,732	7.324,327	1H:5V	1100	485,218	307,873	2.510,076	2.534,455
1	HPCC	1.340,000	3,055	20,000	1,700	3,255	7.472,424	1H:5V	1100	492,178	311,985	2.544,637	2.617,912
1	HPCC	1.360,000	3,087	20,000	1,700	3,287	7.648,116	1H:5V	1100	499,138	316,097	2.579,198	2.728,964
1	HPCC	1.380,000	2,573	20,000	1,700	2,773	7.799,604	1H:5V	1100	506,098	320,209	2.613,760	2.815,812
1	HPCC	1.400,000	2,122	20,000	1,700	2,322	7.912,382	1H:5V	1100	513,058	324,321	2.648,321	2.863,950
1	HPCC	1.420,000	3,187	20,000	1,700	3,387	8.058,642	1H:5V	1100	520,018	328,433	2.682,882	2.945,570
1	HPCC	1.434,457	3,134	14,457	1,700	3,334	8.194,734	1H:5V	1100	525,049	331,406	2.707,865	3.034,937
1	HPCC	1.440,000	2,061	5,543	1,700	2,261	8.233,793	1H:5V	1100	526,978	332,545	2.717,444	3.056,081
1	HPCC	1.459,656	2,100	19,656	1,700	2,300	8.330,442	1H:5V	1100	533,818	336,587	2.751,411	3.089,202
1	HPCC	1.460,000	2,145	0,344	1,700	2,345	8.332,172	1H:5V	1100	533,938	336,657	2.752,005	3.089,820
1	HPCC	1.480,000	2,142	20,000	1,700	2,342	8.433,819	1H:5V	1100	540,898	340,769	2.786,567	3.126,827
1	HPCC	1.490,720	2,241	10,720	1,700	2,441	8.489,669	1H:5V	1100	544,628	342,973	2.805,091	3.148,030
1	HPCC	1.500,000	2,111	9,280	1,700	2,311	8.537,638	1H:5V	1100	547,858	344,881	2.821,128	3.166,006
1	HPCC	1.520,000	2,716	20,000	1,700	2,916	8.654,185	1H:5V	1100	554,818	348,993	2.855,689	3.217,913
1	HPCC	1.533,481	2,421	13,481	1,700	2,621	8.738,356	1H:5V	1100	559,509	351,765	2.878,985	3.258,514
1	HPCC	1.540,000	2,144	6,519	1,700	2,344	8.773,928	1H:5V	1100	561,778	353,105	2.890,251	3.273,016
1	HPCC	1.543,215	2,289	3,215	1,700	2,489	8.790,894	1H:5V	1100	562,897	353,766	2.895,806	3.279,591
1	HPCC	1.557,872	2,291	14,657	1,700	2,491	8.871,112	1H:5V	1100	567,997	356,780	2.921,135	3.312,438
1	PRFV	1.560,000	2,401	2,128	1,300	2,551	8.881,851	1H:5V	700	568,580	357,883	2.923,529	3.318,278
1	PRFV	1.572,529	2,863	12,529	1,300	3,013	8.947,017	1H:5V	700	571,079	368,296	2.930,069	3.359,169

R-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	1.580,000	3,045	7,471	1,300	3,195	8.994,680	1H:5V	700	572,570	374,506	2.933,969	3.392,358
1	PRFV	1.600,000	2,533	20,000	1,300	2,683	9.113,707	1H:5V	700	576,560	391,129	2.944,409	3.472,635
1	PRFV	1.620,000	2,086	20,000	1,300	2,236	9.202,051	1H:5V	700	580,550	407,752	2.954,849	3.522,228
1	PRFV	1.640,000	2,508	20,000	1,300	2,658	9.289,802	1H:5V	700	584,540	424,375	2.965,289	3.571,229
1	PRFV	1.660,000	1,723	20,000	1,300	1,873	9.369,851	1H:5V	700	588,530	440,998	2.975,729	3.612,528
1	PRFV	1.680,000	1,958	20,000	1,300	2,108	9.437,508	1H:5V	700	592,520	457,621	2.986,169	3.641,435
1	PRFV	1.700,000	1,918	20,000	1,300	2,068	9.509,237	1H:5V	700	596,510	474,245	2.996,609	3.674,414
1	PRFV	1.720,000	2,033	20,000	1,300	2,183	9.582,584	1H:5V	700	600,500	490,868	3.007,049	3.709,011
1	PRFV	1.725,290	2,125	5,290	1,300	2,275	9.603,171	1H:5V	700	601,555	495,264	3.009,810	3.719,349
1	PRFV	1.740,000	2,279	14,710	1,300	2,429	9.664,441	1H:5V	700	604,490	507,491	3.017,489	3.752,118
1	PRFV	1.760,000	2,513	20,000	1,300	2,663	9.756,620	1H:5V	700	608,480	524,114	3.027,929	3.805,547
1	PRFV	1.780,000	2,868	20,000	1,300	3,018	9.863,593	1H:5V	700	612,470	540,737	3.038,369	3.873,770
1	PRFV	1.781,844	2,879	1,844	1,300	3,029	9.874,386	1H:5V	700	612,838	542,270	3.039,331	3.880,990
1	PRFV	1.800,000	2,745	18,156	1,300	2,895	9.977,225	1H:5V	700	616,460	557,360	3.048,809	3.948,652
1	PRFV	1.803,452	2,738	3,452	1,300	2,888	9.995,973	1H:5V	700	617,149	560,229	3.050,611	3.960,712
1	PRFV	1.806,487	2,737	3,035	1,300	2,887	10.012,426	1H:5V	700	617,754	562,752	3.052,195	3.971,285
1	PRFV	1.809,522	2,748	3,035	1,300	2,898	10.028,917	1H:5V	700	618,360	565,274	3.053,779	3.981,896
1	PRFV	1.820,000	2,789	10,478	1,300	2,939	10.086,522	1H:5V	700	620,450	573,983	3.059,249	4.019,199
1	PRFV	1.840,000	2,987	20,000	1,300	3,137	10.207,947	1H:5V	700	624,440	590,606	3.069,689	4.101,874
1	PRFV	1.860,000	2,297	20,000	1,300	2,447	10.317,676	1H:5V	700	628,430	607,229	3.080,129	4.172,853
1	PRFV	1.880,000	2,406	20,000	1,300	2,556	10.407,757	1H:5V	700	632,420	623,852	3.090,569	4.224,184
1	PRFV	1.900,000	2,459	20,000	1,300	2,609	10.501,582	1H:5V	700	636,410	640,476	3.101,009	4.279,259
1	PRFV	1.918,420	1,944	18,420	1,300	2,094	10.578,506	1H:5V	700	640,085	655,785	3.110,624	4.320,494
1	PRFV	1.920,000	1,711	1,580	1,300	1,861	10.583,808	1H:5V	700	640,400	657,099	3.111,449	4.322,735
1	PRFV	1.920,920	1,741	0,920	1,300	1,891	10.586,699	1H:5V	700	640,583	657,863	3.111,929	4.323,844
1	PRFV	1.923,420	1,813	2,500	1,300	1,963	10.594,819	1H:5V	700	641,082	659,941	3.113,234	4.327,120
1	PRFV	1.940,000	1,758	16,580	1,300	1,908	10.648,962	1H:5V	700	644,390	673,722	3.121,889	4.349,139
1	PRFV	1.960,000	1,939	20,000	1,300	2,089	10.716,932	1H:5V	700	648,380	690,345	3.132,329	4.378,359
1	PRFV	1.980,000	2,144	20,000	1,300	2,294	10.793,163	1H:5V	700	652,370	706,968	3.142,769	4.415,840
1	PRFV	2.000,000	2,304	20,000	1,300	2,454	10.877,456	1H:5V	700	656,360	723,591	3.153,209	4.461,383
1	PRFV	2.020,000	2,469	20,000	1,300	2,619	10.969,168	1H:5V	700	660,350	740,214	3.163,649	4.514,345
1	PRFV	2.040,000	1,813	20,000	1,300	1,963	11.050,159	1H:5V	700	664,340	756,837	3.174,089	4.556,586
1	PRFV	2.060,000	2,001	20,000	1,300	2,151	11.120,601	1H:5V	700	668,330	773,460	3.184,529	4.588,278
1	PRFV	2.080,000	2,201	20,000	1,300	2,351	11.199,435	1H:5V	700	672,320	790,083	3.194,969	4.628,362
1	PRFV	2.100,000	2,315	20,000	1,300	2,465	11.285,250	1H:5V	700	676,310	806,707	3.205,409	4.675,427
1	PRFV	2.120,000	2,070	20,000	1,300	2,220	11.368,164	1H:5V	700	680,300	823,330	3.215,849	4.719,592

R-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	2.140,000	2,144	20,000	1,300	2,294	11.447,228	1H:5V	700	684,290	839,953	3.226,289	4.759,905
1	PRFV	2.160,000	2,234	20,000	1,300	2,384	11.529,934	1H:5V	700	688,280	856,576	3.236,729	4.803,861
1	PRFV	2.180,000	2,339	20,000	1,300	2,489	11.617,040	1H:5V	700	692,270	873,199	3.247,169	4.852,217
1	PRFV	2.200,000	2,403	20,000	1,300	2,553	11.708,012	1H:5V	700	696,260	889,822	3.257,609	4.904,439
1	PRFV	2.220,000	2,253	20,000	1,300	2,403	11.797,024	1H:5V	700	700,250	906,445	3.268,049	4.954,701
1	PRFV	2.240,000	2,211	20,000	1,300	2,361	11.881,654	1H:5V	700	704,240	923,068	3.278,489	5.000,581
1	PRFV	2.260,000	1,780	20,000	1,300	1,930	11.956,035	1H:5V	700	708,230	939,691	3.288,929	5.036,212
1	PRFV	2.280,000	1,935	20,000	1,300	2,085	12.024,374	1H:5V	700	712,220	956,314	3.299,369	5.065,802
1	PRFV	2.300,000	2,001	20,000	1,300	2,151	12.097,391	1H:5V	700	716,210	972,938	3.309,809	5.100,068
1	PRFV	2.319,502	2,319	19,502	1,300	2,469	12.176,867	1H:5V	700	720,101	989,147	3.319,989	5.141,759
1	PRFV	2.320,000	2,333	0,498	1,300	2,483	12.179,080	1H:5V	700	720,200	989,561	3.320,249	5.143,007
1	PRFV	2.340,000	2,457	20,000	1,300	2,607	12.271,174	1H:5V	700	724,190	1.006,184	3.330,689	5.196,351
1	PRFV	2.351,422	2,344	11,422	1,300	2,494	12.323,912	1H:5V	700	726,469	1.015,677	3.336,651	5.226,959
1	PRFV	2.360,000	2,149	8,578	1,300	2,299	12.360,506	1H:5V	700	728,180	1.022,807	3.341,129	5.246,933
1	PRFV	2.380,000	2,037	20,000	1,300	2,187	12.438,961	1H:5V	700	732,170	1.039,430	3.351,569	5.286,638
1	PRFV	2.400,000	1,993	20,000	1,300	2,143	12.514,002	1H:5V	700	736,160	1.056,053	3.362,009	5.322,929
1	PRFV	2.420,000	1,977	20,000	1,300	2,127	12.587,745	1H:5V	700	740,150	1.072,676	3.372,449	5.357,922
1	PRFV	2.440,000	1,989	20,000	1,300	2,139	12.661,402	1H:5V	700	744,140	1.089,299	3.382,889	5.392,829
1	PRFV	2.460,000	1,949	20,000	1,300	2,099	12.734,458	1H:5V	700	748,130	1.105,922	3.393,329	5.427,135
1	PRFV	2.480,000	1,909	20,000	1,300	2,059	12.805,803	1H:5V	700	752,120	1.122,545	3.403,769	5.459,730
1	PRFV	2.500,000	1,836	20,000	1,300	1,986	12.874,755	1H:5V	700	756,110	1.139,168	3.414,209	5.489,932
1	PRFV	2.520,000	1,809	20,000	1,300	1,959	12.941,604	1H:5V	700	760,100	1.155,792	3.424,649	5.518,031
1	PRFV	2.540,000	1,778	20,000	1,300	1,928	13.007,244	1H:5V	700	764,090	1.172,415	3.435,089	5.544,921
1	PRFV	2.560,000	1,741	20,000	1,300	1,891	13.071,478	1H:5V	700	768,080	1.189,038	3.445,529	5.570,405
1	PRFV	2.580,000	1,722	20,000	1,300	1,872	13.134,557	1H:5V	700	772,070	1.205,661	3.455,969	5.594,734
1	PRFV	2.581,422	1,706	1,422	1,300	1,856	13.138,991	1H:5V	700	772,354	1.206,843	3.456,711	5.596,413
1	PRFV	2.600,000	1,949	18,578	1,300	2,099	13.201,335	1H:5V	700	776,060	1.222,284	3.466,409	5.622,762
1	PRFV	2.620,000	2,095	20,000	1,300	2,245	13.276,699	1H:5V	700	780,050	1.238,907	3.476,849	5.659,376
1	PRFV	2.640,000	2,007	20,000	1,300	2,157	13.353,310	1H:5V	700	784,040	1.255,530	3.487,289	5.697,237
1	PRFV	2.660,000	2,312	20,000	1,300	2,462	13.434,785	1H:5V	700	788,030	1.272,153	3.497,729	5.739,962
1	PRFV	2.680,000	2,463	20,000	1,300	2,613	13.526,539	1H:5V	700	792,020	1.288,776	3.508,169	5.792,966
1	PRFV	2.700,000	2,466	20,000	1,300	2,616	13.621,858	1H:5V	700	796,010	1.305,399	3.518,609	5.849,535
1	PRFV	2.720,000	2,504	20,000	1,300	2,654	13.718,143	1H:5V	700	800,000	1.322,023	3.529,049	5.907,070
1	PRFV	2.740,000	2,480	20,000	1,300	2,630	13.814,756	1H:5V	700	803,990	1.338,646	3.539,489	5.964,933
1	PRFV	2.760,000	2,520	20,000	1,300	2,670	13.911,747	1H:5V	700	807,980	1.355,269	3.549,929	6.023,174
1	PRFV	2.780,000	2,500	20,000	1,300	2,650	14.009,210	1H:5V	700	811,970	1.371,892	3.560,369	6.081,887

R-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	2.800,000	2,580	20,000	1,300	2,730	14.108,101	1H:5V	700	815,960	1.388,515	3.570,809	6.142,028
1	PRFV	2.820,000	2,520	20,000	1,300	2,670	14.207,465	1H:5V	700	819,950	1.405,138	3.581,249	6.202,642
1	PRFV	2.840,000	2,238	20,000	1,300	2,388	14.298,881	1H:5V	700	823,940	1.421,761	3.591,689	6.255,309
1	PRFV	2.860,000	2,223	20,000	1,300	2,373	14.383,442	1H:5V	700	827,930	1.438,384	3.602,129	6.301,119
1	PRFV	2.880,000	2,395	20,000	1,300	2,545	14.471,592	1H:5V	700	831,920	1.455,007	3.612,569	6.350,519
1	PRFV	2.900,000	2,458	20,000	1,300	2,608	14.565,138	1H:5V	700	835,910	1.471,630	3.623,009	6.405,316
1	PRFV	2.914,108	2,342	14,108	1,300	2,492	14.630,263	1H:5V	700	838,724	1.483,356	3.630,373	6.443,106
1	PRFV	2.920,000	2,194	5,892	1,300	2,344	14.655,681	1H:5V	700	839,900	1.488,254	3.633,449	6.457,108
1	PRFV	2.940,000	2,140	20,000	1,300	2,290	14.737,399	1H:5V	700	843,890	1.504,877	3.643,889	6.500,077
1	PRFV	2.943,718	2,188	3,718	1,300	2,338	14.752,566	1H:5V	700	844,632	1.507,967	3.645,830	6.508,040
1	PRFV	2.960,000	2,208	16,282	1,300	2,358	14.820,218	1H:5V	700	847,880	1.521,500	3.654,329	6.544,146
1	PRFV	2.980,000	2,282	20,000	1,300	2,432	14.905,438	1H:5V	700	851,870	1.538,123	3.664,769	6.590,615
1	PRFV	3.000,000	2,339	20,000	1,300	2,489	14.993,630	1H:5V	700	855,860	1.554,746	3.675,209	6.640,058
1	PRFV	3.020,000	2,427	20,000	1,300	2,577	15.085,161	1H:5V	700	859,850	1.571,369	3.685,649	6.692,838
1	PRFV	3.040,000	2,474	20,000	1,300	2,624	15.179,826	1H:5V	700	863,840	1.587,992	3.696,089	6.748,753
1	PRFV	3.060,000	2,562	20,000	1,300	2,712	15.277,675	1H:5V	700	867,830	1.604,615	3.706,529	6.807,852
1	PRFV	3.080,000	2,681	20,000	1,300	2,831	15.380,473	1H:5V	700	871,820	1.621,238	3.716,969	6.871,900
1	PRFV	3.100,000	2,584	20,000	1,300	2,734	15.483,796	1H:5V	700	875,810	1.637,861	3.727,409	6.936,474
1	PRFV	3.120,000	2,552	20,000	1,300	2,702	15.584,016	1H:5V	700	879,800	1.654,485	3.737,849	6.997,943
1	PRFV	3.140,000	2,882	20,000	1,300	3,032	15.692,825	1H:5V	700	883,790	1.671,108	3.748,289	7.068,002
1	PRFV	3.140,430	2,920	0,430	1,200	3,070	15.695,353	1H:5V	600	883,872	1.671,436	3.748,504	7.069,782
1	PRFV	3.160,000	3,020	19,570	1,200	3,170	15.816,127	1H:5V	600	887,483	1.685,082	3.757,898	7.158,373
1	PRFV	3.180,000	2,617	20,000	1,200	2,767	15.929,581	1H:5V	600	891,173	1.699,027	3.767,498	7.238,937
1	PRFV	3.196,448	2,187	16,448	1,200	2,337	16.001,528	1H:5V	600	894,208	1.710,495	3.775,393	7.283,835
1	PRFV	3.200,000	2,100	3,552	1,200	2,250	16.015,042	1H:5V	600	894,863	1.712,972	3.777,098	7.291,508
1	PRFV	3.213,162	1,949	13,162	1,200	2,099	16.061,849	1H:5V	600	897,292	1.722,149	3.783,416	7.316,670
1	PRFV	3.220,000	2,003	6,838	1,200	2,153	16.085,476	1H:5V	600	898,553	1.726,917	3.786,698	7.329,053
1	PRFV	3.229,876	2,380	9,876	1,200	2,530	16.124,126	1H:5V	600	900,375	1.733,803	3.791,438	7.351,461
1	PRFV	3.240,000	2,905	10,124	1,200	3,055	16.175,094	1H:5V	600	902,243	1.740,862	3.796,298	7.385,780
1	PRFV	3.256,134	2,996	16,134	1,200	3,146	16.272,634	1H:5V	600	905,220	1.752,112	3.804,042	7.456,788
1	PRFV	3.260,000	3,022	3,866	1,200	3,172	16.297,464	1H:5V	600	905,933	1.754,807	3.805,898	7.475,260
1	PRFV	3.274,043	3,089	14,043	1,200	3,239	16.391,887	1H:5V	600	908,524	1.764,599	3.812,638	7.546,590
1	PEAD	3.280,000	3,043	5,957	0,715	3,193	16.427,734	1H:5V	315	909,406	1.766,938	3.815,372	7.576,017
1	PEAD	3.300,000	2,937	20,000	0,715	3,087	16.523,286	1H:5V	315	911,641	1.768,699	3.824,129	7.657,257
1	PEAD	3.320,000	2,736	20,000	0,715	2,886	16.605,190	1H:5V	315	913,876	1.770,460	3.832,885	7.724,850
1	PEAD	3.340,000	2,559	20,000	0,715	2,709	16.676,529	1H:5V	315	916,111	1.772,221	3.841,642	7.781,878

R-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	3.360,000	2,694	20,000	0,715	2,844	16.747,087	1H:5V	315	918,346	1.773,983	3.850,399	7.838,125
1	PEAD	3.380,000	1,570	20,000	0,715	1,720	16.801,813	1H:5V	315	920,581	1.775,744	3.859,155	7.878,539
1	PEAD	3.400,000	1,394	20,000	0,715	1,544	16.835,836	1H:5V	315	922,816	1.777,505	3.867,912	7.898,250
1	PEAD	3.420,000	1,290	20,000	0,715	1,440	16.866,086	1H:5V	315	925,051	1.779,266	3.876,668	7.914,189
1	PEAD	3.432,690	1,216	12,690	0,715	1,366	16.883,815	1H:5V	315	926,470	1.780,383	3.882,225	7.922,838
1	PEAD	3.435,379	1,207	2,689	0,715	1,357	16.887,430	1H:5V	315	926,770	1.780,620	3.883,402	7.924,528
1	PEAD	3.438,068	1,247	2,689	0,715	1,397	16.891,097	1H:5V	315	927,071	1.780,857	3.884,579	7.926,272
1	PEAD	3.440,000	1,281	1,932	0,715	1,431	16.893,823	1H:5V	315	927,286	1.781,027	3.885,425	7.927,615
1	PEAD	3.460,000	1,625	20,000	0,715	1,775	16.927,143	1H:5V	315	929,521	1.782,788	3.894,182	7.946,623
1	PEAD	3.475,130	1,452	15,130	0,715	1,602	16.954,059	1H:5V	315	931,212	1.784,121	3.900,806	7.962,713
1	PEAD	3.480,000	1,407	4,870	0,625	1,557	16.961,648	1H:5V	225	931,724	1.784,480	3.902,750	7.967,293
1	PEAD	3.500,000	1,329	20,000	0,625	1,479	16.989,847	1H:5V	225	933,689	1.785,675	3.909,961	7.984,326
1	PEAD	3.513,450	1,564	13,450	0,625	1,714	17.010,161	1H:5V	225	935,010	1.786,478	3.914,810	7.997,132
1	PEAD	3.520,000	1,678	6,550	0,600	1,828	17.021,374	1H:5V	200	935,641	1.786,845	3.917,103	8.004,848
1	PEAD	3.528,433	1,826	8,433	0,600	1,976	17.037,108	1H:5V	200	936,438	1.787,286	3.919,969	8.016,214
1	PEAD	3.530,961	1,864	2,528	0,600	2,014	17.042,147	1H:5V	200	936,677	1.787,418	3.920,828	8.019,943
1	PEAD	3.533,489	1,889	2,528	0,600	2,039	17.047,297	1H:5V	200	936,916	1.787,550	3.921,687	8.023,784
1	PEAD	3.540,000	1,937	6,511	0,600	2,087	17.060,899	1H:5V	200	937,531	1.787,891	3.923,899	8.034,013
1	PEAD	3.560,000	2,049	20,000	0,600	2,199	17.104,998	1H:5V	200	939,421	1.788,936	3.930,695	8.067,752
1	PEAD	3.580,000	1,231	20,000	0,600	1,381	17.139,963	1H:5V	200	941,311	1.789,982	3.937,491	8.092,357
1	PEAD	3.600,000	1,378	20,000	0,600	1,528	17.165,901	1H:5V	200	943,201	1.791,028	3.944,287	8.107,935
1	PEAD	3.620,000	1,525	20,000	0,600	1,675	17.195,400	1H:5V	200	945,091	1.792,074	3.951,082	8.127,074
1	PEAD	3.640,000	1,673	20,000	0,600	1,823	17.228,646	1H:5V	200	946,981	1.793,120	3.957,878	8.149,960
1	PEAD	3.660,000	1,820	20,000	0,600	1,970	17.265,812	1H:5V	200	948,871	1.794,166	3.964,674	8.176,766
1	PEAD	3.680,000	1,950	20,000	0,600	2,100	17.306,814	1H:5V	200	950,761	1.795,211	3.971,470	8.207,408
1	PEAD	3.700,000	1,685	20,000	0,600	1,835	17.345,978	1H:5V	200	952,651	1.796,257	3.978,266	8.236,213
1	PEAD	3.720,000	1,262	20,000	0,600	1,412	17.376,182	1H:5V	200	954,541	1.797,303	3.985,062	8.256,056
1	PEAD	3.731,908	1,349	11,908	0,600	1,499	17.391,631	1H:5V	200	955,667	1.797,926	3.989,108	8.265,337
1	PEAD	3.740,000	1,409	8,092	0,525	1,559	17.402,367	1H:5V	125	956,386	1.798,264	3.991,614	8.272,411
1	PEAD	3.760,000	1,556	20,000	0,525	1,706	17.430,190	1H:5V	125	958,051	1.798,888	3.997,204	8.292,109
1	PEAD	3.780,000	1,703	20,000	0,525	1,853	17.461,563	1H:5V	125	959,716	1.799,512	4.002,794	8.315,357
1	PEAD	3.800,000	1,850	20,000	0,525	2,000	17.496,658	1H:5V	125	961,381	1.800,136	4.008,385	8.342,327
1	PEAD	3.820,000	1,998	20,000	0,525	2,148	17.535,663	1H:5V	125	963,046	1.800,760	4.013,975	8.373,207
1	PEAD	3.840,000	1,786	20,000	0,525	1,936	17.573,828	1H:5V	125	964,711	1.801,384	4.019,566	8.403,247
1	PEAD	3.860,000	1,952	20,000	0,525	2,102	17.611,361	1H:5V	125	966,376	1.802,009	4.025,156	8.432,654
1	PEAD	3.873,840	2,043	13,840	0,525	2,193	17.639,736	1H:5V	125	967,528	1.802,440	4.029,025	8.455,407

R-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	3.874,656	2,045	0,816	0,525	2,195	17.641,461	1H:5V	125	967,596	1.802,466	4.029,253	8.456,801
1	PEAD	3.875,472	2,041	0,816	0,525	2,191	17.643,185	1H:5V	125	967,664	1.802,491	4.029,481	8.458,194
1	PEAD	3.880,000	1,997	4,528	0,525	2,147	17.652,602	1H:5V	125	968,041	1.802,633	4.030,746	8.465,771
1	PEAD	3.900,000	1,864	20,000	0,525	2,014	17.691,779	1H:5V	125	969,706	1.803,257	4.036,337	8.496,823
1	PEAD	3.920,000	1,773	20,000	0,525	1,923	17.727,957	1H:5V	125	971,371	1.803,881	4.041,927	8.524,875
1	PEAD	3.940,000	1,644	20,000	0,525	1,794	17.761,304	1H:5V	125	973,036	1.804,505	4.047,518	8.550,097
1	PEAD	3.960,000	1,534	20,000	0,525	1,684	17.791,672	1H:5V	125	974,701	1.805,129	4.053,108	8.572,341
1	PEAD	3.980,000	1,456	20,000	0,525	1,606	17.819,775	1H:5V	125	976,366	1.805,754	4.058,698	8.592,318
1	PEAD	4.000,000	1,277	20,000	0,525	1,427	17.844,929	1H:5V	125	978,031	1.806,378	4.064,289	8.609,348
1	PEAD	4.016,803	1,126	16,803	0,525	1,276	17.863,009	1H:5V	125	979,430	1.806,902	4.068,986	8.620,601

3.25 RAMAL R-2-1

R-2-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	0,000	2,882	0,000	1,100	3,032	0,000	1H:5V	500		0,000	0,000	0,000	0,000
1	PRFV	20,000	2,194	20,000	1,100	2,344	89,791	1H:5V	500		3,390	11,433	8,760	62,281
1	PRFV	40,000	2,426	20,000	1,100	2,576	168,171	1H:5V	500		6,780	22,866	17,520	113,151
1	PRFV	60,000	2,497	20,000	1,100	2,647	252,909	1H:5V	500		10,170	34,299	26,280	170,379
1	PRFV	80,000	2,394	20,000	1,100	2,544	336,967	1H:5V	500		13,560	45,732	35,040	226,927
1	PRFV	100,000	2,233	20,000	1,100	2,383	415,465	1H:5V	500		16,950	57,165	43,800	277,915
1	PRFV	120,000	2,209	20,000	1,100	2,359	490,114	1H:5V	500		20,340	68,598	52,560	325,054
1	PRFV	140,000	1,999	20,000	1,100	2,149	560,068	1H:5V	500		23,730	80,031	61,320	367,498
1	PRFV	160,000	1,646	20,000	1,100	1,796	619,151	1H:5V	500		27,120	91,464	70,080	399,071
1	PRFV	180,000	2,117	20,000	1,100	2,267	680,574	1H:5V	500		30,510	102,897	78,840	432,984
1	PRFV	200,000	1,732	20,000	1,100	1,882	743,575	1H:5V	500		33,900	114,330	87,600	468,475
1	PRFV	220,000	2,077	20,000	1,100	2,227	805,777	1H:5V	500		37,290	125,763	96,360	503,167
1	PRFV	240,000	2,105	20,000	1,100	2,255	875,168	1H:5V	500		40,680	137,196	105,120	545,048
1	PRFV	260,000	2,578	20,000	1,100	2,728	955,035	1H:5V	500		44,070	148,629	113,880	597,405
1	PRFV	270,675	1,906	10,675	1,100	2,056	995,580	1H:5V	500		45,879	154,731	118,556	623,267
1	PRFV	280,000	2,193	9,325	1,100	2,343	1.027,202	1H:5V	500		47,460	160,062	122,640	642,062
1	PRFV	300,000	2,302	20,000	1,100	2,452	1.102,951	1H:5V	500		50,850	171,495	131,400	690,301
1	PRFV	315,925	2,272	15,925	1,100	2,422	1.164,558	1H:5V	500		53,549	180,599	138,375	730,003
1	PRFV	318,557	2,259	2,632	1,100	2,409	1.174,622	1H:5V	500		53,995	182,103	139,528	736,447

R-2-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	320,000	2,242	1,443	1,100	2,392	1.180,096	1H:5V	500		54,240	182,928	140,160	739,936
1	PRFV	321,189	2,223	1,189	1,100	2,373	1.184,562	1H:5V	500		54,442	183,608	140,681	742,766
1	PRFV	340,000	2,012	18,811	1,100	2,162	1.250,867	1H:5V	500		57,630	194,361	148,920	783,197
1	PRFV	360,000	2,036	20,000	1,100	2,186	1.317,600	1H:5V	500		61,020	205,794	157,680	822,420
1	PRFV	380,000	1,740	20,000	1,100	1,890	1.379,138	1H:5V	500		64,410	217,227	166,440	856,448
1	PRFV	400,000	1,604	20,000	1,100	1,754	1.432,519	1H:5V	500		67,800	228,660	175,200	882,319
1	PRFV	420,000	1,720	20,000	1,100	1,870	1.485,530	1H:5V	500		71,190	240,093	183,960	907,820
1	PRFV	429,004	1,839	9,004	1,100	1,989	1.511,351	1H:5V	500		72,716	245,240	187,904	921,256
1	PRFV	440,000	1,984	10,996	1,100	2,134	1.545,644	1H:5V	500		74,580	251,526	192,720	940,424
1	PRFV	460,000	1,815	20,000	1,100	1,965	1.607,563	1H:5V	500		77,970	262,959	201,480	974,833
1	PRFV	480,000	1,747	20,000	1,100	1,897	1.664,965	1H:5V	500		81,360	274,392	210,240	1.004,725
1	PRFV	500,000	1,867	20,000	1,100	2,017	1.723,353	1H:5V	500		84,750	285,825	219,000	1.035,603
1	PRFV	504,320	1,834	4,320	1,100	1,984	1.736,317	1H:5V	500		85,482	288,295	220,892	1.042,625
1	PRFV	520,000	1,735	15,680	1,100	1,885	1.781,427	1H:5V	500		88,140	297,258	227,760	1.066,167
1	PRFV	540,000	1,609	20,000	1,100	1,759	1.834,805	1H:5V	500		91,530	308,691	236,520	1.092,035
1	PRFV	554,284	1,521	14,284	1,100	1,671	1.870,160	1H:5V	500		93,951	316,857	242,776	1.107,742
1	PRFV	560,000	1,517	5,716	1,950	1,667	1.887,888	1H:5V	500	250	95,284	321,442	246,009	1.114,917
1	PRFV	580,000	1,597	20,000	1,950	1,747	1.966,123	1H:5V	500	250	101,224	342,093	259,869	1.147,792
1	PRFV	600,000	1,538	20,000	1,950	1,688	2.044,908	1H:5V	500	250	107,164	362,744	273,729	1.181,217
1	PRFV	620,000	1,574	20,000	1,950	1,724	2.123,085	1H:5V	500	250	113,104	383,395	287,589	1.214,034
1	PRFV	636,016	1,701	16,016	1,950	1,851	2.189,159	1H:5V	500	250	117,861	399,933	298,688	1.243,783
1	PRFV	636,957	1,710	0,941	1,950	1,860	2.193,211	1H:5V	500	250	118,141	400,905	299,340	1.245,702
1	PRFV	637,898	1,722	0,941	1,950	1,872	2.197,291	1H:5V	500	250	118,420	401,876	299,992	1.247,647
1	PRFV	640,000	1,752	2,102	1,950	1,902	2.206,522	1H:5V	500	250	119,044	404,047	301,449	1.252,111
1	PRFV	642,030	1,780	2,030	1,950	1,930	2.215,597	1H:5V	500	250	119,647	406,143	302,856	1.256,582
1	PRFV	656,487	1,935	14,457	1,950	2,085	2.283,861	1H:5V	500	250	123,941	421,070	312,874	1.292,057
1	PRFV	660,000	1,983	3,513	1,950	2,133	2.301,434	1H:5V	500	250	124,984	424,698	315,309	1.301,663
1	PRFV	680,000	2,257	20,000	1,950	2,407	2.410,650	1H:5V	500	250	130,924	445,349	329,169	1.365,519
1	PRFV	700,000	1,625	20,000	1,950	1,775	2.510,088	1H:5V	500	250	136,864	466,000	343,029	1.419,597
1	PRFV	720,000	1,628	20,000	1,950	1,778	2.591,995	1H:5V	500	250	142,804	486,652	356,889	1.456,144
1	PRFV	725,129	1,655	5,129	1,950	1,805	2.613,206	1H:5V	500	250	144,328	491,948	360,443	1.465,722
1	PRFV	740,000	1,779	14,871	1,950	1,929	2.677,724	1H:5V	500	250	148,744	507,303	370,749	1.496,513
1	PRFV	760,000	1,832	20,000	1,950	1,982	2.769,287	1H:5V	500	250	154,684	527,954	384,609	1.542,716
1	PRFV	761,143	1,835	1,143	1,950	1,985	2.774,608	1H:5V	500	250	155,024	529,134	385,401	1.545,444
1	PRFV	768,129	1,937	6,986	1,950	2,087	2.808,139	1H:5V	500	250	157,099	536,348	390,242	1.563,131
1	PRFV	775,115	2,501	6,986	1,950	2,651	2.848,364	1H:5V	500	250	159,174	543,561	395,083	1.587,512

R-2-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	776,167	2,623	1,052	1,950	2,773	2.855,475	1H:5V	500	250	159,486	544,648	395,813	1.592,237
1	PEAD	780,000	2,475	3,833	0,755	2,625	2.875,225	1H:5V	355		160,281	546,821	398,048	1.606,404
1	PEAD	789,908	1,955	9,908	0,755	2,105	2.904,134	1H:5V	355		161,448	547,826	402,740	1.627,469
1	PEAD	795,676	3,173	5,768	0,755	3,323	2.928,604	1H:5V	355		162,127	548,412	405,471	1.647,372
1	PEAD	800,000	2,821	4,324	0,755	2,971	2.950,263	1H:5V	355		162,636	548,850	407,519	1.665,607
1	PEAD	801,444	2,662	1,444	0,755	2,812	2.955,832	1H:5V	355		162,806	548,997	408,202	1.670,033
1	PEAD	808,895	1,788	7,451	0,755	1,938	2.977,883	1H:5V	355		163,683	549,753	411,731	1.686,184
1	PEAD	808,897	1,787	0,002	0,755	1,937	2.977,887	1H:5V	355		163,683	549,753	411,732	1.686,187
1	PEAD	820,000	1,765	11,103	0,755	1,915	3.002,270	1H:5V	355		164,991	550,880	416,989	1.701,779
1	PEAD	840,000	1,651	20,000	0,755	1,801	3.044,147	1H:5V	355		167,346	552,909	426,460	1.727,822
1	PEAD	860,000	1,640	20,000	0,755	1,790	3.084,155	1H:5V	355		169,701	554,939	435,930	1.751,995
1	PEAD	880,000	1,602	20,000	0,755	1,752	3.123,444	1H:5V	355		172,056	556,968	445,401	1.775,450
1	PEAD	900,000	1,572	20,000	0,755	1,722	3.161,742	1H:5V	355		174,411	558,998	454,871	1.797,914
1	PEAD	902,295	1,569	2,295	0,755	1,719	3.166,082	1H:5V	355		174,681	559,231	455,958	1.800,436
1	PEAD	920,000	1,544	17,705	0,755	1,694	3.199,206	1H:5V	355		176,766	561,027	464,342	1.819,542
1	PEAD	940,000	1,504	20,000	0,755	1,654	3.235,694	1H:5V	355		179,121	563,057	473,812	1.840,196
1	PEAD	952,047	1,490	12,047	0,755	1,640	3.257,210	1H:5V	355		180,539	564,279	479,517	1.852,174
1	PEAD	960,000	1,485	7,953	0,755	1,635	3.271,307	1H:5V	355		181,476	565,086	483,283	1.859,975
1	PEAD	975,668	1,454	15,668	0,755	1,604	3.298,685	1H:5V	355		183,321	566,676	490,702	1.874,947
1	PEAD	980,000	1,445	4,332	0,755	1,595	3.306,133	1H:5V	355		183,831	567,116	492,753	1.878,965
1	PEAD	1.000,000	1,405	20,000	0,755	1,555	3.339,839	1H:5V	355		186,186	569,145	502,224	1.896,837
1	PEAD	1.007,758	1,390	7,758	0,755	1,540	3.352,619	1H:5V	355		187,099	569,932	505,898	1.903,475
1	PEAD	1.018,150	1,369	10,392	0,755	1,519	3.369,482	1H:5V	355		188,323	570,987	510,818	1.912,110
1	PEAD	1.020,000	1,354	1,850	0,755	1,504	3.372,438	1H:5V	355		188,541	571,175	511,694	1.913,602
1	PEAD	1.020,976	1,429	0,976	0,755	1,579	3.374,038	1H:5V	355		188,656	571,274	512,157	1.914,429
1	PEAD	1.023,802	1,706	2,826	0,755	1,856	3.379,381	1H:5V	355		188,989	571,561	513,495	1.917,535
1	PEAD	1.040,000	1,608	16,198	0,755	1,758	3.412,066	1H:5V	355		190,896	573,204	521,165	1.937,395
1	PEAD	1.043,378	1,474	3,378	0,755	1,624	3.418,313	1H:5V	355		191,294	573,547	522,765	1.940,968
1	PEAD	1.046,656	1,380	3,278	0,755	1,530	3.423,848	1H:5V	355		191,680	573,880	524,317	1.943,907
1	PEAD	1.049,350	1,356	2,694	0,755	1,506	3.428,177	1H:5V	355		191,997	574,153	525,592	1.946,104
1	PEAD	1.049,934	1,358	0,584	0,715	1,508	3.429,089	1H:5V	315		192,064	574,208	525,859	1.946,582
1	PEAD	1.060,000	1,398	10,066	0,715	1,548	3.444,788	1H:5V	315		193,189	575,095	530,266	1.955,077
1	PEAD	1.080,000	1,479	20,000	0,715	1,629	3.477,603	1H:5V	315		195,424	576,856	539,022	1.973,581
1	PEAD	1.100,000	1,379	20,000	0,715	1,529	3.510,166	1H:5V	315		197,659	578,617	547,779	1.991,833
1	PEAD	1.120,000	1,467	20,000	0,715	1,617	3.542,565	1H:5V	315		199,894	580,378	556,536	2.009,920
1	PEAD	1.140,000	1,507	20,000	0,715	1,657	3.576,695	1H:5V	315		202,129	582,139	565,292	2.029,739

R-2-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	1.160,000	1,457	20,000	0,715	1,607	3.610,688	1H:5V	315		204,364	583,901	574,049	2.049,421
1	PEAD	1.180,000	1,508	20,000	0,715	1,658	3.644,696	1H:5V	315		206,599	585,662	582,805	2.069,117
1	PEAD	1.200,000	1,567	20,000	0,715	1,717	3.680,221	1H:5V	315		208,834	587,423	591,562	2.090,331
1	PEAD	1.220,000	1,663	20,000	0,715	1,813	3.717,931	1H:5V	315		211,069	589,184	600,319	2.113,729
1	PEAD	1.240,000	1,740	20,000	0,715	1,890	3.758,126	1H:5V	315		213,304	590,945	609,075	2.139,612
1	PEAD	1.260,000	1,831	20,000	0,715	1,981	3.800,796	1H:5V	315		215,539	592,706	617,832	2.167,972
1	PEAD	1.280,000	1,945	20,000	0,715	2,095	3.846,566	1H:5V	315		217,774	594,468	626,589	2.199,430
1	PEAD	1.300,000	2,060	20,000	0,715	2,210	3.895,893	1H:5V	315		220,009	596,229	635,345	2.234,446
1	PEAD	1.320,000	2,139	20,000	0,715	2,289	3.948,308	1H:5V	315		222,244	597,990	644,102	2.272,550
1	PEAD	1.340,000	2,217	20,000	0,715	2,367	4.003,283	1H:5V	315		224,479	599,751	652,858	2.313,213
1	PEAD	1.360,000	2,307	20,000	0,715	2,457	4.061,054	1H:5V	315		226,714	601,512	661,615	2.356,672
1	PEAD	1.380,000	2,403	20,000	0,715	2,553	4.121,985	1H:5V	315		228,949	603,273	670,372	2.403,292
1	PEAD	1.400,000	2,500	20,000	0,715	2,650	4.186,267	1H:5V	315		231,184	605,034	679,128	2.453,263
1	PRFV	1.417,489	1,839	17,489	2,025	1,989	4.257,256	1H:5V	600	225	234,856	616,604	689,318	2.493,179
1	PRFV	1.420,000	1,834	2,511	2,025	1,984	4.269,339	1H:5V	600	225	235,630	619,705	691,145	2.498,750
1	PRFV	1.440,000	2,323	20,000	2,025	2,473	4.379,697	1H:5V	600	225	241,795	644,405	705,695	2.557,244
1	PRFV	1.460,000	1,949	20,000	2,025	2,099	4.493,323	1H:5V	600	225	247,960	669,105	720,245	2.619,005
1	PRFV	1.476,186	1,966	16,186	2,025	2,116	4.576,779	1H:5V	600	225	252,950	689,094	732,021	2.660,486
1	PRFV	1.480,000	2,469	3,814	1,980	2,619	4.599,163	1H:5V	600	180	254,113	693,772	734,769	2.673,105
1	PRFV	1.496,255	1,682	16,255	1,980	1,832	4.687,395	1H:5V	600	180	259,013	713,567	746,376	2.720,026
1	PRFV	1.500,000	1,970	3,745	1,200	2,120	4.701,891	1H:5V	600		259,923	717,153	748,611	2.726,731
1	PRFV	1.520,000	1,634	20,000	1,200	1,784	4.764,093	1H:5V	600		263,613	731,099	758,211	2.756,043
1	PRFV	1.540,000	1,973	20,000	1,200	2,123	4.826,357	1H:5V	600		267,303	745,044	767,811	2.785,417
1	PRFV	1.560,000	2,130	20,000	1,200	2,280	4.898,604	1H:5V	600		270,993	758,989	777,411	2.824,774
1	PRFV	1.580,000	2,154	20,000	1,200	2,304	4.974,626	1H:5V	600		274,683	772,934	787,011	2.867,905
1	PRFV	1.600,000	2,209	20,000	1,200	2,359	5.052,328	1H:5V	600		278,373	786,879	796,611	2.912,718
1	PRFV	1.620,000	2,273	20,000	1,200	2,423	5.132,584	1H:5V	600		282,063	800,824	806,211	2.960,083
1	PRFV	1.640,000	2,241	20,000	1,200	2,391	5.213,527	1H:5V	600		285,753	814,769	815,811	3.008,137
1	PRFV	1.660,000	2,210	20,000	1,200	2,360	5.293,112	1H:5V	600		289,443	828,715	825,411	3.054,832
1	PRFV	1.674,063	2,187	14,063	1,200	2,337	5.348,258	1H:5V	600		292,038	838,520	832,162	3.086,851
1	PRFV	1.680,000	2,168	5,937	1,200	2,318	5.371,272	1H:5V	600		293,133	842,660	835,011	3.100,102
1	PRFV	1.700,000	2,107	20,000	1,200	2,257	5.447,107	1H:5V	600		296,823	856,605	844,611	3.143,046
1	PRFV	1.720,000	2,060	20,000	1,200	2,210	5.520,667	1H:5V	600		300,513	870,550	854,211	3.183,717
1	PRFV	1.740,000	2,016	20,000	1,200	2,166	5.592,330	1H:5V	600		304,203	884,495	863,811	3.222,490
1	PRFV	1.760,000	1,975	20,000	1,200	2,125	5.662,237	1H:5V	600		307,893	898,440	873,411	3.259,506
1	PRFV	1.780,000	1,946	20,000	1,200	2,096	5.730,706	1H:5V	600		311,583	912,385	883,011	3.295,086

R-2-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	1.800,000	1,902	20,000	1,200	2,052	5.797,690	1H:5V	600		315,273	926,330	892,611	3.329,180
1	PRFV	1.820,000	1,881	20,000	1,200	2,031	5.863,358	1H:5V	600		318,963	940,276	902,211	3.361,957
1	PRFV	1.840,000	1,844	20,000	1,200	1,994	5.927,860	1H:5V	600		322,653	954,221	911,811	3.393,569
1	PRFV	1.860,000	1,853	20,000	1,200	2,003	5.991,800	1H:5V	600		326,343	968,166	921,411	3.424,619
1	PRFV	1.880,000	1,824	20,000	1,200	1,974	6.055,341	1H:5V	600		330,033	982,111	931,011	3.455,271
1	PRFV	1.900,000	1,795	20,000	1,200	1,945	6.117,728	1H:5V	600		333,723	996,056	940,611	3.484,768
1	PRFV	1.920,000	1,834	20,000	1,200	1,984	6.180,315	1H:5V	600		337,413	1.010,001	950,211	3.514,465
1	PRFV	1.940,000	1,794	20,000	1,200	1,944	6.242,882	1H:5V	600		341,103	1.023,946	959,811	3.544,141
1	PRFV	1.960,000	1,754	20,000	1,200	1,904	6.303,867	1H:5V	600		344,793	1.037,892	969,411	3.572,236
1	PRFV	1.963,812	1,746	3,812	1,200	1,896	6.315,310	1H:5V	600		345,497	1.040,549	971,241	3.577,411
1	PRFV	1.972,335	1,729	8,523	1,200	1,879	6.340,688	1H:5V	600		347,069	1.046,492	975,332	3.588,773
1	PRFV	1.980,000	1,714	7,665	1,200	1,864	6.363,271	1H:5V	600		348,483	1.051,837	979,011	3.598,751
1	PRFV	2.000,000	1,674	20,000	1,200	1,824	6.421,130	1H:5V	600		352,173	1.065,782	988,611	3.623,720
1	PRFV	2.020,000	2,506	20,000	1,200	2,656	6.495,653	1H:5V	600		355,863	1.079,727	998,211	3.665,353
1	PRFV	2.040,000	2,594	20,000	1,200	2,744	6.589,621	1H:5V	600		359,553	1.093,672	1.007,811	3.726,430
1	PRFV	2.055,055	2,564	15,055	1,200	2,714	6.661,348	1H:5V	600		362,331	1.104,169	1.015,038	3.773,399
1	PRFV	2.056,913	2,559	1,858	1,200	2,709	6.670,125	1H:5V	600		362,674	1.105,465	1.015,930	3.779,122
1	PRFV	2.058,771	2,550	1,858	1,200	2,700	6.678,873	1H:5V	600		363,017	1.106,760	1.016,821	3.784,814
1	PRFV	2.060,000	2,543	1,229	1,200	2,693	6.684,637	1H:5V	600		363,243	1.107,617	1.017,411	3.788,557
1	PRFV	2.070,375	2,483	10,375	1,200	2,633	6.732,508	1H:5V	600		365,158	1.114,851	1.022,391	3.819,366
1	PRFV	2.080,000	2,428	9,625	1,200	2,578	6.775,672	1H:5V	600		366,933	1.121,562	1.027,011	3.846,701
1	PRFV	2.100,000	2,913	20,000	1,200	3,063	6.877,940	1H:5V	600		370,623	1.135,507	1.036,611	3.916,079
1	PRFV	2.120,000	2,862	20,000	1,200	3,012	6.990,748	1H:5V	600		374,313	1.149,453	1.046,211	3.995,998
1	PRFV	2.140,000	2,681	20,000	1,200	2,831	7.095,517	1H:5V	600		378,003	1.163,398	1.055,811	4.067,877
1	PRFV	2.160,000	2,472	20,000	1,200	2,622	7.190,732	1H:5V	600		381,693	1.177,343	1.065,411	4.130,202
1	PRFV	2.180,000	2,211	20,000	1,200	2,361	7.275,427	1H:5V	600		385,383	1.191,288	1.075,011	4.182,006
1	PRFV	2.200,000	1,957	20,000	1,200	2,107	7.349,070	1H:5V	600		389,073	1.205,233	1.084,611	4.222,760
1	PRFV	2.220,000	2,242	20,000	1,200	2,392	7.423,380	1H:5V	600		392,763	1.219,178	1.094,211	4.264,180
1	PRFV	2.240,000	2,190	20,000	1,200	2,340	7.502,559	1H:5V	600		396,453	1.233,123	1.103,811	4.310,469
1	PRFV	2.260,000	2,183	20,000	1,200	2,333	7.580,472	1H:5V	600		400,143	1.247,069	1.113,411	4.355,492
1	PRFV	2.280,000	2,142	20,000	1,200	2,292	7.657,364	1H:5V	600		403,833	1.261,014	1.123,011	4.399,494
1	PRFV	2.283,943	2,147	3,943	1,200	2,297	7.672,373	1H:5V	600		404,561	1.263,763	1.124,904	4.408,018
1	PRFV	2.284,051	2,147	0,108	1,200	2,297	7.672,784	1H:5V	600		404,581	1.263,838	1.124,956	4.408,252
1	PRFV	2.300,000	2,116	15,949	1,200	2,266	7.733,054	1H:5V	600		407,523	1.274,959	1.132,611	4.442,294
1	PRFV	2.320,000	2,056	20,000	1,200	2,206	7.806,720	1H:5V	600		411,213	1.288,904	1.142,211	4.483,070
1	PRFV	2.340,000	1,996	20,000	1,200	2,146	7.877,888	1H:5V	600		414,903	1.302,849	1.151,811	4.521,347

R-2-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	2.360,000	1,978	20,000	1,200	2,128	7.947,443	1H:5V	600		418,593	1.316,794	1.161,411	4.558,013
1	PRFV	2.380,000	1,941	20,000	1,200	2,091	8.015,873	1H:5V	600		422,283	1.330,739	1.171,011	4.593,552
1	PRFV	2.400,000	1,906	20,000	1,200	2,056	8.082,835	1H:5V	600		425,973	1.344,684	1.180,611	4.627,625
1	PRFV	2.420,000	1,894	20,000	1,200	2,044	8.148,846	1H:5V	600		429,663	1.358,630	1.190,211	4.660,745
1	PRFV	2.440,000	1,857	20,000	1,200	2,007	8.213,869	1H:5V	600		433,353	1.372,575	1.199,811	4.692,879
1	PRFV	2.460,000	1,823	20,000	1,200	1,973	8.277,471	1H:5V	600		437,043	1.386,520	1.209,411	4.723,591
1	PRFV	2.480,000	1,785	20,000	1,200	1,935	8.339,641	1H:5V	600		440,733	1.400,465	1.219,011	4.752,871
1	PRFV	2.492,925	1,800	12,925	1,200	1,950	8.379,523	1H:5V	600		443,118	1.409,477	1.225,215	4.771,498
1	PRFV	2.500,000	1,786	7,075	1,200	1,936	8.401,361	1H:5V	600		444,423	1.414,410	1.228,611	4.781,701
1	PRFV	2.520,000	1,743	20,000	1,200	1,893	8.461,972	1H:5V	600		448,113	1.428,355	1.238,211	4.809,422
1	PRFV	2.540,000	1,701	20,000	1,200	1,851	8.520,920	1H:5V	600		451,803	1.442,300	1.247,811	4.835,479
1	PRFV	2.560,000	1,659	20,000	1,200	1,809	8.578,237	1H:5V	600		455,493	1.456,246	1.257,411	4.859,907
1	PRFV	2.575,600	1,679	15,600	1,200	1,829	8.622,612	1H:5V	600		458,372	1.467,123	1.264,899	4.878,628
1	PRFV	2.580,000	1,775	4,400	1,200	1,925	8.635,625	1H:5V	600		459,183	1.470,191	1.267,011	4.884,405
1	PRFV	2.600,000	1,606	20,000	1,200	1,756	8.693,376	1H:5V	600		462,873	1.484,136	1.276,611	4.909,265
1	PRFV	2.620,000	1,648	20,000	1,200	1,798	8.748,656	1H:5V	600		466,563	1.498,081	1.286,211	4.931,656
1	PRFV	2.640,000	2,083	20,000	1,200	2,233	8.813,467	1H:5V	600		470,253	1.512,026	1.295,811	4.963,576
1	PRFV	2.645,505	2,203	5,505	1,200	2,353	8.834,407	1H:5V	600		471,269	1.515,864	1.298,454	4.975,464
1	PRFV	2.649,067	2,265	3,562	1,200	2,415	8.848,647	1H:5V	600		471,926	1.518,348	1.300,163	4.983,846
1	PRFV	2.652,629	2,295	3,562	1,200	2,445	8.863,240	1H:5V	600		472,584	1.520,832	1.301,873	4.992,582
1	PRFV	2.660,000	2,325	7,371	1,200	2,475	8.893,921	1H:5V	600		473,943	1.525,971	1.305,411	5.011,141
1	PRFV	2.680,000	2,346	20,000	1,200	2,496	8.978,284	1H:5V	600		477,633	1.539,916	1.315,011	5.062,614
1	PRFV	2.700,000	2,118	20,000	1,200	2,268	9.058,200	1H:5V	600		481,323	1.553,861	1.324,611	5.109,640
1	PRFV	2.720,000	1,803	20,000	1,200	1,953	9.126,768	1H:5V	600		485,013	1.567,807	1.334,211	5.145,318
1	PRFV	2.740,000	1,645	20,000	1,200	1,795	9.185,817	1H:5V	600		488,703	1.581,752	1.343,811	5.171,476
1	PRFV	2.760,000	1,725	20,000	1,200	1,875	9.243,332	1H:5V	600		492,393	1.595,697	1.353,411	5.196,102
1	PRFV	2.779,572	1,803	19,572	1,200	1,953	9.302,631	1H:5V	600		496,004	1.609,344	1.362,806	5.223,214
1	PRFV	2.780,000	1,805	0,428	1,200	1,955	9.303,961	1H:5V	600		496,083	1.609,642	1.363,011	5.223,841
1	PRFV	2.800,000	1,885	20,000	1,200	2,035	9.367,768	1H:5V	600		499,773	1.623,587	1.372,611	5.254,757
1	PRFV	2.802,042	1,893	2,042	1,200	2,043	9.374,462	1H:5V	600		500,150	1.625,011	1.373,591	5.258,094
1	PRFV	2.820,000	1,880	17,958	1,200	2,030	9.433,244	1H:5V	600		503,463	1.637,532	1.382,211	5.287,343
1	PRFV	2.840,000	2,000	20,000	1,200	2,150	9.500,890	1H:5V	600		507,153	1.651,477	1.391,811	5.322,100
1	PRFV	2.860,000	1,965	20,000	1,200	2,115	9.570,262	1H:5V	600		510,843	1.665,423	1.401,411	5.358,581
1	PRFV	2.880,000	1,873	20,000	1,200	2,023	9.637,049	1H:5V	600		514,533	1.679,368	1.411,011	5.392,479
1	PRFV	2.900,000	1,821	20,000	1,200	1,971	9.700,932	1H:5V	600		518,223	1.693,313	1.420,611	5.423,472
1	PRFV	2.911,389	1,796	11,389	1,200	1,946	9.736,436	1H:5V	600		520,325	1.701,254	1.426,078	5.440,246

R-2-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	2.912,493	1,789	1,104	1,200	1,939	9.739,842	1H:5V	600		520,528	1.702,024	1.426,608	5.441,837
1	PRFV	2.913,597	1,785	1,104	1,200	1,935	9.743,237	1H:5V	600		520,732	1.702,793	1.427,138	5.443,416
1	PRFV	2.920,000	1,775	6,403	1,200	1,925	9.762,836	1H:5V	600		521,913	1.707,258	1.430,211	5.452,486
1	PRFV	2.940,000	1,765	20,000	1,200	1,915	9.823,662	1H:5V	600		525,603	1.721,203	1.439,811	5.480,422
1	PRFV	2.960,000	1,730	20,000	1,200	1,880	9.883,605	1H:5V	600		529,293	1.735,148	1.449,411	5.507,475
1	PRFV	2.980,000	1,737	20,000	1,200	1,887	9.943,000	1H:5V	600		532,983	1.749,093	1.459,011	5.533,979
1	PRFV	3.000,000	1,768	20,000	1,200	1,918	10.003,139	1H:5V	600		536,673	1.763,038	1.468,611	5.561,228
1	PRFV	3.020,000	1,781	20,000	1,200	1,931	10.064,142	1H:5V	600		540,363	1.776,984	1.478,211	5.589,341
1	PRFV	3.040,000	1,799	20,000	1,200	1,949	10.125,756	1H:5V	600		544,053	1.790,929	1.487,811	5.618,066
1	PRFV	3.060,000	1,895	20,000	1,200	2,045	10.189,646	1H:5V	600		547,743	1.804,874	1.497,411	5.649,065
1	PRFV	3.080,000	1,898	20,000	1,200	2,048	10.255,514	1H:5V	600		551,433	1.818,819	1.507,011	5.682,044
1	PRFV	3.100,000	1,825	20,000	1,200	1,975	10.319,980	1H:5V	600		555,123	1.832,764	1.516,611	5.713,620
1	PRFV	3.120,000	1,699	20,000	1,200	1,849	10.380,507	1H:5V	600		558,813	1.846,709	1.526,211	5.741,257
1	PRFV	3.140,000	1,620	20,000	1,200	1,770	10.437,038	1H:5V	600		562,503	1.860,654	1.535,811	5.764,898
1	PRFV	3.148,095	1,670	8,095	1,200	1,820	10.459,693	1H:5V	600		563,997	1.866,299	1.539,697	5.774,240
1	PRFV	3.154,208	1,720	6,113	1,200	1,870	10.477,389	1H:5V	600		565,125	1.870,561	1.542,631	5.781,884
1	PRFV	3.160,000	1,766	5,792	1,200	1,916	10.494,698	1H:5V	600		566,193	1.874,600	1.545,411	5.789,668
1	PRFV	3.180,000	1,896	20,000	1,200	2,046	10.557,956	1H:5V	600		569,883	1.888,545	1.555,011	5.820,036
1	PRFV	3.200,000	2,001	20,000	1,200	2,151	10.625,946	1H:5V	600		573,573	1.902,490	1.564,611	5.855,136
1	PRFV	3.220,000	1,945	20,000	1,200	2,095	10.694,930	1H:5V	600		577,263	1.916,435	1.574,211	5.891,230
1	PRFV	3.240,000	1,793	20,000	1,200	1,943	10.759,714	1H:5V	600		580,953	1.930,380	1.583,811	5.923,124
1	PRFV	3.260,000	1,630	20,000	1,200	1,780	10.818,278	1H:5V	600		584,643	1.944,325	1.593,411	5.948,797
1	PRFV	3.280,000	1,807	20,000	1,200	1,957	10.877,118	1H:5V	600		588,333	1.958,270	1.603,011	5.974,748
1	PRFV	3.300,000	1,872	20,000	1,200	2,022	10.940,703	1H:5V	600		592,023	1.972,215	1.612,611	6.005,443
1	PRFV	3.320,000	1,885	20,000	1,200	2,035	11.005,846	1H:5V	600		595,713	1.986,161	1.622,211	6.037,696
1	PRFV	3.340,000	1,879	20,000	1,200	2,029	11.071,130	1H:5V	600		599,403	2.000,106	1.631,811	6.070,090
1	PRFV	3.360,000	1,854	20,000	1,200	2,004	11.135,792	1H:5V	600		603,093	2.014,051	1.641,411	6.101,862
1	PRFV	3.380,000	1,842	20,000	1,200	1,992	11.199,712	1H:5V	600		606,783	2.027,996	1.651,011	6.132,892
1	PRFV	3.400,000	1,846	20,000	1,200	1,996	11.263,472	1H:5V	600		610,473	2.041,941	1.660,611	6.163,762
1	PRFV	3.420,000	1,907	20,000	1,200	2,057	11.328,539	1H:5V	600		614,163	2.055,886	1.670,211	6.195,939
1	PRFV	3.440,000	2,007	20,000	1,200	2,157	11.396,875	1H:5V	600		617,853	2.069,831	1.679,811	6.231,384
1	PRFV	3.460,000	1,967	20,000	1,200	2,117	11.466,431	1H:5V	600		621,543	2.083,777	1.689,411	6.268,051
1	PRFV	3.477,832	1,931	17,832	1,200	2,081	11.527,061	1H:5V	600		624,833	2.096,210	1.697,971	6.299,356
1	PRFV	3.480,000	1,778	2,168	1,200	1,928	11.534,020	1H:5V	600		625,233	2.097,722	1.699,011	6.302,750
1	PRFV	3.495,910	1,655	15,910	1,200	1,805	11.580,753	1H:5V	600		628,169	2.108,815	1.706,648	6.323,319
1	PRFV	3.500,000	1,700	4,090	1,200	1,850	11.592,455	1H:5V	600		628,923	2.111,667	1.708,611	6.328,295

R-2-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	3.520,000	1,656	20,000	1,200	1,806	11.649,695	1H:5V	600		632,613	2.125,612	1.718,211	6.352,645
1	PRFV	3.540,000	1,647	20,000	1,200	1,797	11.705,913	1H:5V	600		636,303	2.139,557	1.727,811	6.375,972
1	PRFV	3.560,000	1,704	20,000	1,200	1,854	11.763,058	1H:5V	600		639,993	2.153,502	1.737,411	6.400,228
1	PRFV	3.580,000	1,837	20,000	1,200	1,987	11.823,921	1H:5V	600		643,683	2.167,447	1.747,011	6.428,201
1	PRFV	3.600,000	1,902	20,000	1,200	2,052	11.888,707	1H:5V	600		647,373	2.181,392	1.756,611	6.460,096
1	PRFV	3.620,000	2,024	20,000	1,200	2,174	11.957,293	1H:5V	600		651,063	2.195,338	1.766,211	6.495,792
1	PRFV	3.640,000	2,245	20,000	1,200	2,395	12.033,045	1H:5V	600		654,753	2.209,283	1.775,811	6.538,655
1	PRFV	3.660,000	2,466	20,000	1,200	2,616	12.118,336	1H:5V	600		658,443	2.223,228	1.785,411	6.591,056
1	PRFV	3.680,000	2,538	20,000	1,200	2,688	12.210,122	1H:5V	600		662,133	2.237,173	1.795,011	6.649,951
1	PRFV	3.685,031	1,885	5,031	1,200	2,035	12.230,097	1H:5V	600		663,062	2.240,681	1.797,426	6.661,653
1	PRFV	3.700,000	1,762	14,969	1,100	1,912	12.275,787	1H:5V	500		665,711	2.250,178	1.804,297	6.685,387
1	PRFV	3.720,000	1,596	20,000	1,100	1,746	12.329,433	1H:5V	500		669,101	2.261,611	1.813,057	6.711,523
1	PRFV	3.740,000	1,513	20,000	1,100	1,663	12.378,561	1H:5V	500		672,491	2.273,044	1.821,817	6.733,140
1	PRFV	3.744,329	1,569	4,329	1,100	1,719	12.389,089	1H:5V	500		673,225	2.275,519	1.823,713	6.737,714
1	PRFV	3.745,008	1,580	0,679	1,100	1,730	12.390,781	1H:5V	500		673,340	2.275,907	1.824,010	6.738,472
1	PRFV	3.745,687	1,590	0,679	1,100	1,740	12.392,486	1H:5V	500		673,455	2.276,295	1.824,308	6.739,243
1	PRFV	3.760,000	1,787	14,313	1,100	1,937	12.431,135	1H:5V	500		675,881	2.284,477	1.830,577	6.758,205
1	PRFV	3.780,000	2,061	20,000	1,100	2,211	12.494,044	1H:5V	500		679,271	2.295,910	1.839,337	6.793,604
1	PRFV	3.800,000	1,996	20,000	1,100	2,146	12.560,959	1H:5V	500		682,661	2.307,343	1.848,097	6.833,009
1	PRFV	3.820,000	1,924	20,000	1,100	2,074	12.625,193	1H:5V	500		686,051	2.318,776	1.856,857	6.869,732
1	PRFV	3.840,000	1,773	20,000	1,100	1,923	12.685,158	1H:5V	500		689,441	2.330,209	1.865,617	6.902,188
1	PRFV	3.860,000	2,169	20,000	1,100	2,319	12.749,972	1H:5V	500		692,831	2.341,642	1.874,377	6.939,491
1	PRFV	3.880,000	2,166	20,000	1,100	2,316	12.822,440	1H:5V	500		696,221	2.353,075	1.883,137	6.984,450
1	PRFV	3.900,000	2,110	20,000	1,100	2,260	12.893,719	1H:5V	500		699,611	2.364,508	1.891,897	7.028,219
1	PRFV	3.920,000	2,005	20,000	1,100	2,155	12.961,787	1H:5V	500		703,001	2.375,941	1.900,657	7.068,777
1	PRFV	3.940,000	1,996	20,000	1,100	2,146	13.027,597	1H:5V	500		706,391	2.387,374	1.909,417	7.107,077
1	PRFV	3.960,000	1,865	20,000	1,100	2,015	13.090,699	1H:5V	500		709,781	2.398,807	1.918,177	7.142,669
1	PRFV	3.968,353	1,802	8,353	1,100	1,952	13.115,498	1H:5V	500		711,197	2.403,582	1.921,836	7.155,978
1	PRFV	3.980,000	1,714	11,647	1,100	1,864	13.148,428	1H:5V	500		713,171	2.410,240	1.926,937	7.172,887
1	PRFV	4.000,000	1,562	20,000	1,100	1,712	13.200,574	1H:5V	500		716,561	2.421,673	1.935,697	7.197,524
1	PRFV	4.003,857	1,618	3,857	1,100	1,768	13.210,293	1H:5V	500		717,215	2.423,878	1.937,386	7.201,937
1	PRFV	4.020,000	1,970	16,143	1,100	2,120	13.257,114	1H:5V	500		719,951	2.433,106	1.944,457	7.226,554
1	PRFV	4.040,000	2,015	20,000	1,100	2,165	13.322,613	1H:5V	500		723,341	2.444,539	1.953,217	7.264,542
1	PRFV	4.060,000	2,108	20,000	1,100	2,258	13.390,837	1H:5V	500		726,731	2.455,972	1.961,977	7.305,257
1	PRFV	4.080,000	1,957	20,000	1,100	2,107	13.457,928	1H:5V	500		730,121	2.467,405	1.970,737	7.344,838
1	PRFV	4.100,000	1,806	20,000	1,100	1,956	13.519,152	1H:5V	500		733,511	2.478,838	1.979,497	7.378,552

R-2-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	4.108,087	1,793	8,087	1,100	1,943	13.542,641	1H:5V	500		734,882	2.483,461	1.983,039	7.390,917
1	PRFV	4.120,000	2,053	11,913	1,100	2,203	13.580,086	1H:5V	500		736,901	2.490,271	1.988,257	7.411,975
1	PRFV	4.140,000	2,468	20,000	1,100	2,618	13.656,531	1H:5V	500		740,291	2.501,704	1.997,017	7.460,910
1	PRFV	4.149,321	2,433	9,321	1,100	2,583	13.695,801	1H:5V	500		741,871	2.507,033	2.001,100	7.487,360
1	PRFV	4.160,000	2,352	10,679	1,100	2,502	13.739,478	1H:5V	500		743,681	2.513,137	2.005,777	7.516,348
1	PRFV	4.180,000	2,661	20,000	1,100	2,811	13.826,244	1H:5V	500		747,071	2.524,570	2.014,537	7.575,604
1	PRFV	4.200,000	2,588	20,000	1,100	2,738	13.918,080	1H:5V	500		750,461	2.536,003	2.023,297	7.639,930
1	PRFV	4.220,000	2,359	20,000	1,100	2,509	14.003,381	1H:5V	500		753,851	2.547,436	2.032,057	7.697,720
1	PRFV	4.240,000	2,028	20,000	1,100	2,178	14.077,015	1H:5V	500		757,241	2.558,869	2.040,817	7.743,845
1	PRFV	4.260,000	1,595	20,000	1,100	1,745	14.135,745	1H:5V	500		760,631	2.570,302	2.049,577	7.775,065
1	PRFV	4.280,000	2,444	20,000	1,100	2,594	14.203,022	1H:5V	500		764,021	2.581,735	2.058,337	7.814,832
1	PRFV	4.300,000	2,908	20,000	1,100	3,058	14.299,675	1H:5V	500		767,411	2.593,168	2.067,097	7.883,974
1	PRFV	4.320,000	2,141	20,000	1,100	2,291	14.390,034	1H:5V	500		770,801	2.604,601	2.075,857	7.946,823
1	PRFV	4.340,000	1,990	20,000	1,100	2,140	14.458,431	1H:5V	500		774,191	2.616,034	2.084,617	7.987,711
1	PRFV	4.360,000	1,839	20,000	1,100	1,989	14.520,922	1H:5V	500		777,581	2.627,467	2.093,377	8.022,691
1	PRFV	4.375,499	1,721	15,499	1,100	1,871	14.565,383	1H:5V	500		780,208	2.636,327	2.100,166	8.045,834
1	PRFV	4.380,000	1,712	4,501	1,100	1,862	14.577,761	1H:5V	500		780,971	2.638,900	2.102,137	8.052,020
1	PRFV	4.400,000	1,672	20,000	1,100	1,822	14.631,858	1H:5V	500		784,361	2.650,333	2.110,897	8.078,608
1	PRFV	4.400,287	1,672	0,287	1,100	1,822	14.632,624	1H:5V	500		784,410	2.650,497	2.111,023	8.078,979
1	PRFV	4.420,000	1,632	19,713	1,100	1,782	14.684,503	1H:5V	500		787,751	2.661,766	2.119,657	8.103,743
1	PRFV	4.440,000	1,592	20,000	1,100	1,742	14.735,687	1H:5V	500		791,141	2.673,199	2.128,417	8.127,417
1	PRFV	4.460,000	1,552	20,000	1,100	1,702	14.785,434	1H:5V	500		794,531	2.684,632	2.137,177	8.149,654
1	PRFV	4.480,000	1,512	20,000	1,100	1,662	14.833,756	1H:5V	500		797,921	2.696,065	2.145,937	8.170,466
1	PRFV	4.500,000	1,796	20,000	1,100	1,946	14.886,542	1H:5V	500		801,311	2.707,498	2.154,697	8.195,742
1	PRFV	4.520,000	2,093	20,000	1,100	2,243	14.950,257	1H:5V	500		804,701	2.718,931	2.163,457	8.231,947
1	PRFV	4.540,000	2,326	20,000	1,100	2,476	15.024,489	1H:5V	500		808,091	2.730,364	2.172,217	8.278,669
1	PRFV	4.547,806	2,377	7,806	1,100	2,527	15.055,739	1H:5V	500		809,414	2.734,827	2.175,636	8.299,182
1	PRFV	4.550,970	2,358	3,164	1,100	2,508	15.068,512	1H:5V	500		809,951	2.736,635	2.177,022	8.307,602
1	PRFV	4.554,134	2,314	3,164	1,100	2,464	15.081,075	1H:5V	500		810,487	2.738,444	2.178,408	8.315,813
1	PRFV	4.560,000	2,210	5,866	1,100	2,360	15.103,467	1H:5V	500		811,481	2.741,797	2.180,977	8.330,137
1	PRFV	4.580,000	1,853	20,000	1,100	2,003	15.170,623	1H:5V	500		814,871	2.753,230	2.189,737	8.369,783
1	PRFV	4.600,000	1,748	20,000	1,100	1,898	15.228,763	1H:5V	500		818,261	2.764,663	2.198,497	8.400,413
1	PRFV	4.620,000	1,858	20,000	1,100	2,008	15.286,998	1H:5V	500		821,651	2.776,096	2.207,257	8.431,138
1	PRFV	4.640,000	1,784	20,000	1,100	1,934	15.345,905	1H:5V	500		825,041	2.787,529	2.216,017	8.462,535
1	PRFV	4.660,000	1,520	20,000	1,100	1,670	15.398,608	1H:5V	500		828,431	2.798,962	2.224,777	8.487,727
1	PRFV	4.680,000	1,709	20,000	1,100	1,859	15.449,916	1H:5V	500		831,821	2.810,395	2.233,537	8.511,526

R-2-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	4.700,000	1,715	20,000	1,100	1,865	15.504,748	1H:5V	500		835,211	2.821,828	2.242,297	8.538,848
1	PRFV	4.719,090	1,913	19,090	1,100	2,063	15.560,755	1H:5V	500		838,447	2.832,741	2.250,658	8.568,596
1	PRFV	4.720,000	1,914	0,910	1,100	2,064	15.563,596	1H:5V	500		838,601	2.833,261	2.251,057	8.570,185
1	PRFV	4.740,000	1,833	20,000	1,100	1,983	15.624,497	1H:5V	500		841,991	2.844,694	2.259,817	8.603,577
1	PRFV	4.760,000	1,646	20,000	1,100	1,796	15.680,382	1H:5V	500		845,381	2.856,127	2.268,577	8.631,952
1	PRFV	4.780,000	1,528	20,000	1,100	1,678	15.730,679	1H:5V	500		848,771	2.867,560	2.277,337	8.654,738
1	PRFV	4.789,288	1,500	9,288	1,100	1,650	15.752,823	1H:5V	500		850,346	2.872,870	2.281,405	8.664,107
1	PRFV	4.800,000	1,619	10,712	1,100	1,769	15.779,235	1H:5V	500		852,161	2.878,994	2.286,097	8.675,785
1	PRFV	4.820,000	1,816	20,000	1,100	1,966	15.834,309	1H:5V	500		855,551	2.890,427	2.294,857	8.703,349
1	PRFV	4.840,000	1,863	20,000	1,100	2,013	15.893,913	1H:5V	500		858,941	2.901,860	2.303,617	8.735,443
1	PRFV	4.860,000	1,835	20,000	1,100	1,985	15.953,876	1H:5V	500		862,331	2.913,293	2.312,377	8.767,895
1	PRFV	4.880,000	1,825	20,000	1,100	1,975	16.013,117	1H:5V	500		865,721	2.924,726	2.321,137	8.799,627
1	PRFV	4.900,000	1,781	20,000	1,100	1,931	16.071,342	1H:5V	500		869,111	2.936,159	2.329,897	8.830,342
1	PRFV	4.920,000	1,748	20,000	1,100	1,898	16.128,123	1H:5V	500		872,501	2.947,592	2.338,657	8.859,613
1	PRFV	4.940,000	1,713	20,000	1,100	1,863	16.183,641	1H:5V	500		875,891	2.959,025	2.347,417	8.887,620
1	PRFV	4.960,000	1,745	20,000	1,100	1,895	16.239,102	1H:5V	500		879,281	2.970,458	2.356,177	8.915,572
1	PRFV	4.980,000	1,711	20,000	1,100	1,861	16.294,527	1H:5V	500		882,671	2.981,891	2.364,937	8.943,487
1	PRFV	5.000,000	1,738	20,000	1,100	1,888	16.349,822	1H:5V	500		886,061	2.993,324	2.373,697	8.971,271
1	PRFV	5.020,000	1,754	20,000	1,100	1,904	16.405,913	1H:5V	500		889,451	3.004,757	2.382,457	8.999,853
1	PRFV	5.040,000	1,658	20,000	1,100	1,808	16.460,534	1H:5V	500		892,841	3.016,190	2.391,217	9.026,963
1	PRFV	5.060,000	1,592	20,000	1,100	1,742	16.512,190	1H:5V	500		896,231	3.027,623	2.399,977	9.051,110
1	PRFV	5.080,000	1,566	20,000	1,100	1,716	16.562,187	1H:5V	500		899,621	3.039,056	2.408,737	9.073,596
1	PRFV	5.100,000	1,632	20,000	1,100	1,782	16.612,905	1H:5V	500		903,011	3.050,489	2.417,497	9.096,805
1	PRFV	5.120,000	1,682	20,000	1,100	1,832	16.665,723	1H:5V	500		906,401	3.061,922	2.426,257	9.122,112
1	PRFV	5.140,000	1,744	20,000	1,100	1,894	16.720,596	1H:5V	500		909,791	3.073,355	2.435,017	9.149,475
1	PRFV	5.160,000	1,802	20,000	1,100	1,952	16.777,697	1H:5V	500		913,181	3.084,788	2.443,777	9.179,066
1	PRFV	5.180,000	1,880	20,000	1,100	2,030	16.837,361	1H:5V	500		916,571	3.096,221	2.452,537	9.211,221
1	PRFV	5.200,000	1,927	20,000	1,100	2,077	16.899,408	1H:5V	500		919,961	3.107,654	2.461,297	9.245,757
1	PRFV	5.220,000	2,081	20,000	1,100	2,231	16.965,378	1H:5V	500		923,351	3.119,087	2.470,057	9.284,218
1	PRFV	5.230,000	2,146	10,000	1,100	2,296	17.000,526	1H:5V	500		925,046	3.124,803	2.474,437	9.305,610
1	PRFV	5.240,000	2,026	10,000	1,100	2,176	17.035,128	1H:5V	500		926,741	3.130,520	2.478,817	9.326,458
1	PRFV	5.260,000	1,739	20,000	1,100	1,889	17.096,450	1H:5V	500		930,131	3.141,953	2.487,577	9.360,270
1	PRFV	5.280,000	1,590	20,000	1,100	1,740	17.149,561	1H:5V	500		933,521	3.153,386	2.496,337	9.385,870
1	PRFV	5.300,000	1,742	20,000	1,100	1,892	17.202,727	1H:5V	500		936,911	3.164,819	2.505,097	9.411,527
1	PRFV	5.320,000	1,843	20,000	1,100	1,993	17.260,566	1H:5V	500		940,301	3.176,252	2.513,857	9.441,855
1	PRFV	5.340,000	1,937	20,000	1,100	2,087	17.322,101	1H:5V	500		943,691	3.187,685	2.522,617	9.475,881

R-2-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	5.360,000	2,061	20,000	1,100	2,211	17.387,867	1H:5V	500		947,081	3.199,118	2.531,377	9.514,137
1	PRFV	5.363,606	2,155	3,606	1,100	2,305	17.400,502	1H:5V	500		947,692	3.201,179	2.532,956	9.521,812
1	PEAD	5.380,000	1,959	16,394	0,715	2,109	17.449,649	1H:5V	315		949,998	3.206,587	2.540,136	9.554,788
1	PEAD	5.400,000	1,899	20,000	0,715	2,049	17.496,671	1H:5V	315		952,233	3.208,348	2.548,892	9.587,499
1	PEAD	5.420,000	2,072	20,000	0,715	2,222	17.545,480	1H:5V	315		954,468	3.210,109	2.557,649	9.621,997
1	PEAD	5.440,000	1,768	20,000	0,715	1,918	17.592,313	1H:5V	315		956,703	3.211,870	2.566,405	9.654,518
1	PEAD	5.460,000	1,518	20,000	0,715	1,668	17.630,875	1H:5V	315		958,938	3.213,631	2.575,162	9.678,769
1	PEAD	5.480,000	1,724	20,000	0,715	1,874	17.668,788	1H:5V	315		961,173	3.215,393	2.583,919	9.702,371
1	PEAD	5.500,000	1,891	20,000	0,715	2,041	17.712,135	1H:5V	315		963,408	3.217,154	2.592,675	9.731,407
1	PEAD	5.520,000	1,602	20,000	0,715	1,752	17.753,726	1H:5V	315		965,643	3.218,915	2.601,432	9.758,686
1	PEAD	5.540,000	1,343	20,000	0,715	1,493	17.787,525	1H:5V	315		967,878	3.220,676	2.610,188	9.778,173
1	PEAD	5.560,000	1,549	20,000	0,715	1,699	17.820,579	1H:5V	315		970,113	3.222,437	2.618,945	9.796,916
1	PEAD	5.580,000	1,529	20,000	0,715	1,679	17.856,143	1H:5V	315		972,348	3.224,198	2.627,702	9.818,168
1	PEAD	5.592,020	1,335	12,020	0,715	1,485	17.875,778	1H:5V	315		973,691	3.225,257	2.632,964	9.829,203
1	PEAD	5.593,474	1,322	1,454	0,715	1,472	17.877,951	1H:5V	315		973,854	3.225,385	2.633,601	9.830,335
1	PEAD	5.594,928	1,322	1,454	0,715	1,472	17.880,111	1H:5V	315		974,016	3.225,513	2.634,238	9.831,455
1	PEAD	5.600,000	1,346	5,072	0,715	1,496	17.887,727	1H:5V	315		974,583	3.225,960	2.636,458	9.835,441
1	PEAD	5.620,000	1,682	20,000	0,715	1,832	17.922,711	1H:5V	315		976,818	3.227,721	2.645,215	9.856,114
1	PEAD	5.622,003	1,741	2,003	0,715	1,891	17.926,765	1H:5V	315		977,042	3.227,897	2.646,092	9.858,735
1	PEAD	5.640,000	1,632	17,997	0,715	1,782	17.962,547	1H:5V	315		979,053	3.229,482	2.653,972	9.881,639
1	PEAD	5.643,522	1,410	3,522	0,715	1,560	17.968,731	1H:5V	315		979,446	3.229,792	2.655,514	9.885,302
1	PEAD	5.645,899	1,432	2,377	0,715	1,582	17.972,574	1H:5V	315		979,712	3.230,001	2.656,554	9.887,445
1	PEAD	5.647,971	1,446	2,072	0,715	1,596	17.975,975	1H:5V	315		979,944	3.230,184	2.657,462	9.889,363
1	PEAD	5.648,276	1,446	0,305	0,715	1,596	17.976,478	1H:5V	315		979,978	3.230,211	2.657,595	9.889,648
1	PEAD	5.660,000	1,423	11,724	0,715	1,573	17.995,648	1H:5V	315		981,288	3.231,243	2.662,728	9.900,428
1	PEAD	5.680,000	1,383	20,000	0,715	1,533	18.027,505	1H:5V	315		983,523	3.233,004	2.671,485	9.917,973
1	PEAD	5.700,000	1,343	20,000	0,715	1,493	18.058,299	1H:5V	315		985,758	3.234,765	2.680,241	9.934,456
1	PEAD	5.720,000	1,707	20,000	0,715	1,857	18.093,606	1H:5V	315		987,993	3.236,527	2.688,998	9.955,452
1	PEAD	5.735,163	2,272	15,163	0,715	2,422	18.130,925	1H:5V	315		989,687	3.237,862	2.695,637	9.981,921
1	PEAD	5.735,791	2,272	0,628	0,715	2,422	18.132,750	1H:5V	315		989,757	3.237,917	2.695,912	9.983,296
1	PEAD	5.736,419	2,275	0,628	0,650	2,425	18.134,526	1H:5V	250		989,825	3.237,966	2.696,169	9.984,668
1	PEAD	5.740,000	2,239	3,581	0,650	2,389	18.144,278	1H:5V	250		990,190	3.238,207	2.697,536	9.992,272
1	PEAD	5.760,000	1,983	20,000	0,650	2,133	18.194,185	1H:5V	250		992,230	3.239,554	2.705,167	10.030,179
1	PEAD	5.780,000	1,729	20,000	0,650	1,879	18.236,424	1H:5V	250		994,270	3.240,900	2.712,799	10.060,418
1	PEAD	5.800,000	1,680	20,000	0,650	1,830	18.274,292	1H:5V	250		996,310	3.242,247	2.720,430	10.086,285
1	PEAD	5.820,000	1,808	20,000	0,650	1,958	18.313,279	1H:5V	250		998,350	3.243,593	2.728,062	10.113,273

R-2-1														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	5.840,000	1,723	20,000	0,650	1,873	18.352,864	1H:5V	250		1.000,390	3.244,940	2.735,694	10.140,858
1	PEAD	5.860,000	1,532	20,000	0,650	1,682	18.388,646	1H:5V	250		1.002,430	3.246,287	2.743,325	10.164,640
1	PEAD	5.880,000	1,340	20,000	0,650	1,490	18.419,363	1H:5V	250		1.004,470	3.247,633	2.750,957	10.183,356
1	PEAD	5.900,000	1,318	20,000	0,650	1,468	18.447,340	1H:5V	250		1.006,510	3.248,980	2.758,589	10.199,334
1	PEAD	5.920,000	1,445	20,000	0,650	1,595	18.476,647	1H:5V	250		1.008,550	3.250,327	2.766,220	10.216,641
1	PEAD	5.936,232	1,258	16,232	0,650	1,408	18.499,837	1H:5V	250		1.010,206	3.251,420	2.772,414	10.230,091
1	PEAD	5.939,592	1,221	3,360	0,625	1,371	18.504,112	1H:5V	225		1.010,542	3.251,633	2.773,661	10.232,436
1	PEAD	5.940,000	1,217	0,408	0,625	1,367	18.504,614	1H:5V	225		1.010,582	3.251,657	2.773,808	10.232,710
1	PEAD	5.940,643	1,213	0,643	0,625	1,363	18.505,402	1H:5V	225		1.010,645	3.251,696	2.774,040	10.233,139
1	PEAD	5.941,694	1,210	1,051	0,625	1,360	18.506,686	1H:5V	225		1.010,748	3.251,758	2.774,419	10.233,837
1	PEAD	5.960,000	1,211	18,306	0,625	1,361	18.529,028	1H:5V	225		1.012,547	3.252,852	2.781,018	10.245,960
1	PEAD	5.980,000	1,241	20,000	0,625	1,391	18.553,803	1H:5V	225		1.014,512	3.254,046	2.788,229	10.259,569
1	PEAD	5.990,484	1,418	10,484	0,625	1,568	18.568,103	1H:5V	225		1.015,542	3.254,672	2.792,009	10.268,017
1	PEAD	5.997,618	1,539	7,134	0,600	1,689	18.579,003	1H:5V	200		1.016,230	3.255,071	2.794,507	10.275,108
1	PEAD	5.999,302	1,564	1,684	0,600	1,714	18.581,697	1H:5V	200		1.016,389	3.255,159	2.795,079	10.276,930
1	PEAD	6.000,000	1,573	0,698	0,600	1,723	18.582,829	1H:5V	200		1.016,455	3.255,196	2.795,316	10.277,700
1	PEAD	6.000,986	1,584	0,986	0,600	1,734	18.584,441	1H:5V	200		1.016,548	3.255,248	2.795,651	10.278,801
1	PEAD	6.020,000	1,588	19,014	0,600	1,738	18.615,706	1H:5V	200		1.018,345	3.256,242	2.802,112	10.300,217
1	PEAD	6.040,000	1,458	20,000	0,600	1,608	18.646,995	1H:5V	200		1.020,235	3.257,288	2.808,908	10.321,146
1	PEAD	6.060,000	1,305	20,000	0,600	1,455	18.674,778	1H:5V	200		1.022,125	3.258,334	2.815,704	10.338,569
1	PEAD	6.080,000	1,386	20,000	0,600	1,536	18.701,677	1H:5V	200		1.024,015	3.259,379	2.822,499	10.355,108
1	PEAD	6.100,000	1,588	20,000	0,600	1,738	18.732,081	1H:5V	200		1.025,905	3.260,425	2.829,295	10.375,152
1	PEAD	6.120,000	1,509	20,000	0,600	1,659	18.764,009	1H:5V	200		1.027,795	3.261,471	2.836,091	10.396,720
1	PEAD	6.120,284	1,506	0,284	0,600	1,656	18.764,447	1H:5V	200		1.027,822	3.261,486	2.836,188	10.397,011
1	PEAD	6.140,000	1,280	19,716	0,600	1,430	18.792,139	1H:5V	200		1.029,685	3.262,517	2.842,887	10.414,490
1	PEAD	6.157,308	1,170	17,308	0,600	1,320	18.812,973	1H:5V	200		1.031,320	3.263,422	2.848,768	10.426,358
1	PEAD	6.160,000	1,197	2,692	0,600	1,347	18.816,084	1H:5V	200		1.031,575	3.263,563	2.849,683	10.428,075
1	PEAD	6.180,000	1,400	20,000	0,600	1,550	18.841,900	1H:5V	200		1.033,465	3.264,609	2.856,479	10.443,531
1	PEAD	6.200,000	1,505	20,000	0,600	1,655	18.871,413	1H:5V	200		1.035,355	3.265,654	2.863,274	10.462,684
1	PEAD	6.220,000	1,363	20,000	0,600	1,513	18.900,478	1H:5V	200		1.037,245	3.266,700	2.870,070	10.481,389
1	PEAD	6.240,000	1,212	20,000	0,600	1,362	18.926,016	1H:5V	200		1.039,135	3.267,746	2.876,866	10.496,567
1	PEAD	6.242,834	1,190	2,834	0,600	1,340	18.929,348	1H:5V	200		1.039,403	3.267,894	2.877,829	10.498,431
1	PEAD	6.260,000	1,211	17,166	0,525	1,361	18.948,643	1H:5V	125		1.040,928	3.268,611	2.883,145	10.509,958
1	PEAD	6.280,000	1,414	20,000	0,525	1,564	18.972,597	1H:5V	125		1.042,593	3.269,235	2.888,735	10.525,786
1	PEAD	6.300,000	1,453	20,000	0,525	1,603	18.999,255	1H:5V	125		1.044,258	3.269,859	2.894,325	10.544,319
1	PEAD	6.316,953	1,278	16,953	0,525	1,428	19.020,556	1H:5V	125		1.045,669	3.270,388	2.899,064	10.558,734

3.26 RAMAL R-2-1-1

R-2-1-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,931	0,000	0,560	2,081	0,000	1H:5V	160	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,437	20,000	0,560	1,587	34,239	1H:5V	160	1,770	0,817	6,146	25,105
1	PEAD	23,712	1,243	3,712	0,560	1,393	38,992	1H:5V	160	2,099	0,968	7,286	28,162
1	PEAD	26,629	1,213	2,917	0,560	1,363	42,350	1H:5V	160	2,357	1,087	8,183	30,188
1	PEAD	29,546	1,171	2,917	0,560	1,321	45,594	1H:5V	160	2,615	1,206	9,079	32,099
1	PEAD	40,000	1,296	10,454	0,560	1,446	57,703	1H:5V	160	3,540	1,633	12,291	39,434
1	PEAD	51,073	1,276	11,073	0,560	1,426	71,174	1H:5V	160	4,520	2,085	15,694	47,848
1	PEAD	60,000	1,258	8,927	0,525	1,408	81,623	1H:5V	125	5,287	2,407	18,313	54,480
1	PEAD	74,084	1,230	14,084	0,525	1,380	97,405	1H:5V	125	6,459	2,846	22,250	64,540
1	PEAD	75,442	1,223	1,358	0,525	1,373	98,901	1H:5V	125	6,572	2,889	22,630	65,485
1	PEAD	76,800	1,209	1,358	0,525	1,359	100,382	1H:5V	125	6,685	2,931	23,009	66,414
1	PEAD	80,000	1,168	3,200	0,525	1,318	103,777	1H:5V	125	6,952	3,031	23,904	68,509
1	PEAD	100,000	1,554	20,000	0,525	1,704	128,924	1H:5V	125	8,617	3,655	29,494	85,531
1	PEAD	120,000	1,654	20,000	0,525	1,804	159,657	1H:5V	125	10,282	4,279	35,084	108,139
1	PEAD	140,000	1,396	20,000	0,525	1,546	188,534	1H:5V	125	11,947	4,903	40,675	128,891
1	PEAD	160,000	1,139	20,000	0,525	1,289	211,521	1H:5V	125	13,612	5,527	46,265	143,753
1	PEAD	180,000	1,531	20,000	0,525	1,681	236,088	1H:5V	125	15,277	6,152	51,856	160,195
1	PEAD	200,000	1,624	20,000	0,525	1,774	266,172	1H:5V	125	16,942	6,776	57,446	182,154
1	PEAD	220,000	1,367	20,000	0,525	1,517	294,347	1H:5V	125	18,607	7,400	63,037	202,204
1	PEAD	240,000	1,145	20,000	0,525	1,295	317,066	1H:5V	125	20,272	8,024	68,627	216,798
1	PEAD	260,000	1,432	20,000	0,525	1,582	340,530	1H:5V	125	21,937	8,648	74,217	232,137
1	PEAD	280,000	1,554	20,000	0,525	1,704	368,594	1H:5V	125	23,602	9,272	79,808	252,076
1	PEAD	300,000	1,338	20,000	0,525	1,488	395,588	1H:5V	125	25,267	9,897	85,398	270,945
1	PEAD	316,552	1,125	16,552	0,525	1,275	413,948	1H:5V	125	26,645	10,413	90,025	282,581

3.27 RAMAL R-2-1-10

R-2-1-10													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,746	0,000	0,600	1,896	0,000	1H:5V	200	0,000	0,000	0,000	0,000
1	PEAD	7,309	1,775	7,309	0,600	1,925	13,714	1H:5V	200	0,691	0,382	2,484	9,928
1	PEAD	20,000	1,826	12,691	0,600	1,976	38,225	1H:5V	200	1,890	1,046	6,796	27,865

R-2-1-10													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	37,302	1,690	17,302	0,600	1,840	70,645	1H:5V	200	3,525	1,951	12,675	51,323
1	PEAD	39,498	1,690	2,196	0,600	1,840	74,557	1H:5V	200	3,733	2,065	13,421	54,097
1	PEAD	40,000	1,690	0,502	0,600	1,840	75,451	1H:5V	200	3,780	2,092	13,592	54,731
1	PEAD	40,502	1,693	0,502	0,600	1,843	76,346	1H:5V	200	3,827	2,118	13,762	55,366
1	PEAD	58,746	1,315	18,244	0,600	1,465	104,564	1H:5V	200	5,551	3,072	19,961	74,133
1	PEAD	60,000	1,281	1,254	0,600	1,431	106,179	1H:5V	200	5,670	3,138	20,388	75,099
1	PEAD	61,254	1,249	1,254	0,600	1,399	107,746	1H:5V	200	5,789	3,203	20,814	76,016
1	PEAD	72,059	1,235	10,805	0,600	1,385	120,958	1H:5V	200	6,810	3,768	24,485	83,631

3.28 RAMAL R-2-1-12

R-2-1-12													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,672	0,000	0,715	1,822	0,000	1H:5V	315	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,822	20,000	0,715	1,972	41,544	1H:5V	315	2,235	1,761	8,757	27,233
1	PEAD	40,000	1,785	20,000	0,715	1,935	84,745	1H:5V	315	4,470	3,522	17,513	56,122
1	PEAD	60,000	1,599	20,000	0,715	1,749	124,692	1H:5V	315	6,705	5,283	26,270	81,758
1	PEAD	80,000	1,418	20,000	0,715	1,568	159,444	1H:5V	315	8,940	7,045	35,026	102,198
1	PEAD	100,000	1,605	20,000	0,715	1,755	194,281	1H:5V	315	11,175	8,806	43,783	122,724
1	PEAD	101,960	1,622	1,960	0,715	1,772	197,971	1H:5V	315	11,394	8,978	44,641	125,012
1	PEAD	103,991	1,609	2,031	0,715	1,759	201,801	1H:5V	315	11,621	9,157	45,530	127,388
1	PEAD	106,022	1,601	2,031	0,715	1,751	205,601	1H:5V	315	11,848	9,336	46,420	129,735
1	PEAD	120,000	1,559	13,978	0,715	1,709	231,259	1H:5V	315	13,410	10,567	52,540	145,391
1	PEAD	132,278	1,522	12,278	0,715	1,672	253,118	1H:5V	315	14,782	11,648	57,915	158,464
1	PEAD	140,000	1,500	7,722	0,650	1,650	266,136	1H:5V	250	15,607	12,248	61,079	166,514
1	PEAD	160,000	1,492	20,000	0,650	1,642	298,371	1H:5V	250	17,647	13,595	68,711	186,749
1	PEAD	180,000	1,659	20,000	0,650	1,809	332,740	1H:5V	250	19,687	14,941	76,342	209,118
1	PEAD	200,000	1,634	20,000	0,650	1,784	369,005	1H:5V	250	21,727	16,288	83,974	233,382
1	PEAD	220,000	1,305	20,000	0,650	1,455	400,657	1H:5V	250	23,767	17,635	91,606	253,035
1	PEAD	228,107	1,303	8,107	0,650	1,453	411,747	1H:5V	250	24,594	18,180	94,699	259,261
1	PEAD	229,685	1,323	1,578	0,650	1,473	413,923	1H:5V	250	24,755	18,287	95,301	260,490
1	PEAD	231,263	1,341	1,578	0,650	1,491	416,137	1H:5V	250	24,916	18,393	95,903	261,757
1	PEAD	240,000	1,430	8,737	0,650	1,580	428,980	1H:5V	250	25,807	18,981	99,237	269,358
1	PEAD	260,000	1,635	20,000	0,650	1,785	462,218	1H:5V	250	27,847	20,328	106,869	290,596

R-2-1-12													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	276,042	1,799	16,042	0,650	1,949	492,891	1H:5V	250	29,484	21,408	112,990	311,643
1	PEAD	280,000	1,839	3,958	0,650	1,989	501,026	1H:5V	250	29,887	21,675	114,500	317,404
1	PEAD	300,000	1,662	20,000	0,650	1,812	540,211	1H:5V	250	31,927	23,021	122,132	344,589
1	PEAD	320,000	1,248	20,000	0,650	1,398	571,552	1H:5V	250	33,967	24,368	129,764	363,929
1	PEAD	340,000	1,453	20,000	0,650	1,603	600,106	1H:5V	250	36,007	25,714	137,395	380,484
1	PEAD	360,000	1,658	20,000	0,650	1,808	633,955	1H:5V	250	38,047	27,061	145,027	402,332
1	PEAD	380,000	1,807	20,000	0,650	1,957	672,625	1H:5V	250	40,087	28,408	152,659	429,002
1	PEAD	400,000	1,351	20,000	0,650	1,501	707,267	1H:5V	250	42,127	29,754	160,290	451,645
1	PEAD	420,000	1,325	20,000	0,650	1,475	735,469	1H:5V	250	44,167	31,101	167,922	467,846
1	PEAD	440,000	1,476	20,000	0,650	1,626	765,264	1H:5V	250	46,207	32,448	175,554	485,642
1	PEAD	460,000	1,681	20,000	0,650	1,831	799,727	1H:5V	250	48,247	33,794	183,185	508,105
1	PEAD	476,629	1,949	16,629	0,650	2,099	833,868	1H:5V	250	49,944	34,914	189,530	532,269
1	PEAD	480,000	1,860	3,371	0,650	2,010	841,217	1H:5V	250	50,287	35,141	190,817	537,595
1	PEAD	482,237	1,754	2,237	0,650	1,904	845,777	1H:5V	250	50,516	35,291	191,670	540,813
1	PEAD	500,000	1,316	17,763	0,650	1,466	875,489	1H:5V	250	52,327	36,487	198,448	559,867
1	PEAD	520,000	1,461	20,000	0,650	1,611	904,979	1H:5V	250	54,367	37,834	206,080	577,357
1	PEAD	528,246	1,530	8,246	0,650	1,680	918,266	1H:5V	250	55,208	38,389	209,227	585,696

3.29 RAMAL R-2-1-2

R-2-1-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,521	0,000	0,650	1,671	0,000	1H:5V	250	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,633	20,000	0,650	1,783	34,394	1H:5V	250	2,040	1,347	7,632	22,394
1	PEAD	40,000	1,751	20,000	0,650	1,901	71,925	1H:5V	250	4,080	2,693	15,263	47,925
1	PEAD	60,000	1,888	20,000	0,650	2,038	113,063	1H:5V	250	6,120	4,040	22,895	77,063
1	PEAD	80,000	2,531	20,000	0,650	2,681	166,419	1H:5V	250	8,160	5,387	30,527	118,419
1	PEAD	100,000	2,661	20,000	0,650	2,811	232,296	1H:5V	250	10,200	6,733	38,158	172,296
1	PEAD	120,000	2,324	20,000	0,650	2,474	294,694	1H:5V	250	12,240	8,080	45,790	222,694
1	PEAD	140,000	2,400	20,000	0,650	2,550	352,596	1H:5V	250	14,280	9,426	53,421	268,596
1	PEAD	160,000	2,322	20,000	0,650	2,472	410,466	1H:5V	250	16,320	10,773	61,053	314,466
1	PEAD	180,000	2,369	20,000	0,650	2,519	467,819	1H:5V	250	18,360	12,120	68,685	359,819
1	PEAD	200,000	2,424	20,000	0,650	2,574	526,865	1H:5V	250	20,400	13,466	76,316	406,865
1	PEAD	220,000	2,374	20,000	0,650	2,524	585,995	1H:5V	250	22,440	14,813	83,948	453,995

R-2-1-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	240,000	2,454	20,000	0,650	2,604	645,629	1H:5V	250	24,480	16,160	91,580	501,629
1	PEAD	249,852	2,493	9,852	0,650	2,643	675,992	1H:5V	250	25,485	16,823	95,339	526,081
1	PEAD	260,000	2,534	10,148	0,650	2,684	707,961	1H:5V	250	26,520	17,506	99,211	551,961
1	PEAD	267,270	1,563	7,270	0,650	1,713	725,720	1H:5V	250	27,262	17,996	101,985	565,358
1	PEAD	280,000	1,440	12,730	0,650	1,590	746,339	1H:5V	250	28,560	18,853	106,843	578,339
1	PEAD	284,209	1,392	4,209	0,650	1,542	752,688	1H:5V	250	28,989	19,136	108,449	582,163
1	PEAD	285,907	1,378	1,698	0,650	1,528	755,183	1H:5V	250	29,163	19,250	109,097	583,638
1	PEAD	287,605	1,376	1,698	0,650	1,526	757,660	1H:5V	250	29,336	19,365	109,745	585,097
1	PEAD	300,000	1,401	12,395	0,650	1,551	775,923	1H:5V	250	30,600	20,199	114,474	595,923
1	PEAD	320,000	1,402	20,000	0,650	1,552	805,721	1H:5V	250	32,640	21,546	122,106	613,721
1	PEAD	340,000	1,376	20,000	0,650	1,526	835,203	1H:5V	250	34,680	22,893	129,738	631,203
1	PEAD	360,000	1,276	20,000	0,650	1,426	863,116	1H:5V	250	36,720	24,239	137,369	647,116
1	PEAD	380,000	1,292	20,000	0,650	1,442	889,983	1H:5V	250	38,760	25,586	145,001	661,983
1	PEAD	400,000	1,644	20,000	0,650	1,794	921,613	1H:5V	250	40,800	26,933	152,633	681,613
1	PEAD	409,524	1,863	9,524	0,650	2,013	940,321	1H:5V	250	41,771	27,574	156,267	694,607
1	PEAD	411,222	2,124	1,698	0,650	2,274	944,253	1H:5V	250	41,945	27,688	156,915	697,520
1	PEAD	412,920	2,190	1,698	0,650	2,340	948,607	1H:5V	250	42,118	27,802	157,563	700,855
1	PEAD	420,000	1,967	7,080	0,650	2,117	965,912	1H:5V	250	42,840	28,279	160,264	713,912
1	PEAD	426,195	1,776	6,195	0,650	1,926	979,127	1H:5V	250	43,472	28,696	162,628	723,410
1	PEAD	440,000	1,525	13,805	0,650	1,675	1.004,277	1H:5V	250	44,880	29,626	167,896	740,277
1	PEAD	460,000	1,553	20,000	0,650	1,703	1.037,646	1H:5V	250	46,920	30,972	175,527	761,646
1	PEAD	480,000	1,651	20,000	0,650	1,801	1.072,710	1H:5V	250	48,960	32,319	183,159	784,710
1	PEAD	500,000	1,775	20,000	0,650	1,925	1.110,827	1H:5V	250	51,000	33,666	190,791	810,827
1	PEAD	520,000	1,277	20,000	0,650	1,427	1.144,099	1H:5V	250	53,040	35,012	198,422	832,099
1	PEAD	540,000	1,357	20,000	0,650	1,507	1.171,785	1H:5V	250	55,080	36,359	206,054	847,785
1	PEAD	560,000	1,437	20,000	0,650	1,587	1.201,475	1H:5V	250	57,120	37,706	213,686	865,475
1	PEAD	580,000	1,517	20,000	0,650	1,667	1.233,221	1H:5V	250	59,160	39,052	221,317	885,221
1	PEAD	600,000	1,597	20,000	0,650	1,747	1.267,074	1H:5V	250	61,200	40,399	228,949	907,074
1	PEAD	620,000	1,486	20,000	0,650	1,636	1.300,520	1H:5V	250	63,240	41,745	236,580	928,520
1	PEAD	640,000	1,517	20,000	0,650	1,667	1.332,900	1H:5V	250	65,280	43,092	244,212	948,900
1	PEAD	660,000	1,758	20,000	0,650	1,908	1.368,977	1H:5V	250	67,320	44,439	251,844	972,977
1	PEAD	680,000	1,443	20,000	0,650	1,593	1.404,089	1H:5V	250	69,360	45,785	259,475	996,089
1	PEAD	700,000	1,368	20,000	0,650	1,518	1.433,995	1H:5V	250	71,400	47,132	267,107	1.013,995
1	PEAD	720,000	1,471	20,000	0,650	1,621	1.464,262	1H:5V	250	73,440	48,479	274,739	1.032,262
1	PEAD	740,000	1,583	20,000	0,650	1,733	1.497,325	1H:5V	250	75,480	49,825	282,370	1.053,325
1	PEAD	760,000	1,660	20,000	0,650	1,810	1.532,913	1H:5V	250	77,520	51,172	290,002	1.076,913

R-2-1-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	780,000	1,738	20,000	0,650	1,888	1.570,632	1H:5V	250	79,560	52,518	297,633	1.102,632
1	PEAD	800,000	2,093	20,000	0,650	2,243	1.614,674	1H:5V	250	81,600	53,865	305,265	1.134,674
1	PEAD	811,152	1,752	11,152	0,650	1,902	1.639,342	1H:5V	250	82,738	54,616	309,520	1.152,651

3.30 RAMAL R-2-1-3

R-2-1-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,155	0,000	0,715	2,305	0,000	1H:5V	315	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,075	20,000	0,715	2,225	52,917	1H:5V	315	2,235	1,761	8,757	38,605
1	PEAD	40,000	1,816	20,000	0,715	1,966	100,514	1H:5V	315	4,470	3,522	17,513	71,891
1	PEAD	60,000	1,901	20,000	0,715	2,051	145,379	1H:5V	315	6,705	5,283	26,270	102,445
1	PEAD	80,000	2,094	20,000	0,715	2,244	194,573	1H:5V	315	8,940	7,045	35,026	137,327
1	PEAD	100,000	2,235	20,000	0,715	2,385	249,117	1H:5V	315	11,175	8,806	43,783	177,560
1	PEAD	120,000	2,487	20,000	0,715	2,637	310,309	1H:5V	315	13,410	10,567	52,540	224,440
1	PEAD	140,000	2,397	20,000	0,715	2,547	374,256	1H:5V	315	15,645	12,328	61,296	274,077
1	PEAD	160,000	2,164	20,000	0,715	2,314	432,696	1H:5V	315	17,880	14,089	70,053	318,205
1	PEAD	180,000	2,243	20,000	0,715	2,393	488,513	1H:5V	315	20,115	15,850	78,810	359,711
1	PEAD	200,000	2,115	20,000	0,715	2,265	543,531	1H:5V	315	22,350	17,612	87,566	400,417
1	PEAD	220,000	1,577	20,000	0,715	1,727	588,300	1H:5V	315	24,585	19,373	96,323	430,874
1	PEAD	234,077	1,460	14,077	0,715	1,610	612,941	1H:5V	315	26,158	20,612	102,486	445,442
1	PEAD	235,600	1,478	1,523	0,715	1,628	615,502	1H:5V	315	26,328	20,747	103,153	446,914
1	PEAD	237,123	1,519	1,523	0,715	1,669	618,125	1H:5V	315	26,498	20,881	103,820	448,447
1	PEAD	240,000	1,618	2,877	0,715	1,768	623,361	1H:5V	315	26,820	21,134	105,079	451,624
1	PEAD	249,168	1,336	9,168	0,715	1,486	638,916	1H:5V	315	27,845	21,941	109,093	460,619
1	PEAD	260,000	1,649	10,832	0,650	1,799	656,901	1H:5V	250	29,002	22,783	113,531	471,635
1	PEAD	268,243	2,720	8,243	0,650	2,870	678,867	1H:5V	250	29,843	23,338	116,677	488,655
1	PEAD	280,000	1,201	11,757	0,510	1,351	705,714	1H:5V	110	30,919	23,894	120,494	509,941
1	PEAD	300,000	1,534	20,000	0,510	1,684	730,514	1H:5V	110	32,539	24,438	125,850	527,031
1	PEAD	320,000	1,276	20,000	0,510	1,426	756,114	1H:5V	110	34,159	24,982	131,207	544,921
1	PEAD	320,539	1,251	0,539	0,510	1,401	756,718	1H:5V	110	34,202	24,996	131,351	545,317
1	PEAD	323,552	1,155	3,013	0,510	1,305	759,901	1H:5V	110	34,446	25,078	132,158	547,339
1	PEAD	326,565	1,150	3,013	0,510	1,300	762,925	1H:5V	110	34,691	25,160	132,965	549,201
1	PEAD	340,000	1,373	13,435	0,510	1,523	777,983	1H:5V	110	35,779	25,526	136,563	559,080

R-2-1-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	360,000	1,441	20,000	0,510	1,591	803,566	1H:5V	110	37,399	26,070	141,919	576,952
1	PEAD	380,000	1,246	20,000	0,510	1,396	827,760	1H:5V	110	39,019	26,614	147,276	593,436
1	PEAD	387,472	1,343	7,472	0,510	1,493	836,387	1H:5V	110	39,624	26,817	149,277	599,181
1	PEAD	388,753	1,323	1,281	0,510	1,473	837,919	1H:5V	110	39,728	26,852	149,620	600,220
1	PEAD	390,034	1,286	1,281	0,510	1,436	839,411	1H:5V	110	39,831	26,887	149,963	601,218
1	PEAD	398,171	1,325	8,137	0,510	1,475	848,900	1H:5V	110	40,491	27,108	152,142	607,570
1	PEAD	400,000	1,387	1,829	0,510	1,537	851,134	1H:5V	110	40,639	27,158	152,632	609,100
1	PEAD	420,000	1,586	20,000	0,510	1,736	878,579	1H:5V	110	42,259	27,702	157,988	628,834
1	PEAD	431,761	1,658	11,761	0,510	1,808	896,596	1H:5V	110	43,211	28,022	161,138	642,317
1	PEAD	440,000	1,663	8,239	0,510	1,813	909,605	1H:5V	110	43,879	28,246	163,344	652,150
1	PEAD	448,239	2,168	8,239	0,510	2,318	925,419	1H:5V	110	44,546	28,470	165,551	664,787
1	PEAD	460,000	2,035	11,761	0,510	2,185	950,858	1H:5V	110	45,499	28,790	168,701	685,692
1	PEAD	460,025	2,031	0,025	0,510	2,181	950,910	1H:5V	110	45,501	28,791	168,707	685,734
1	PEAD	471,520	1,667	11,495	0,510	1,817	971,892	1H:5V	110	46,432	29,104	171,786	702,285
1	PEAD	480,000	1,815	8,480	0,510	1,965	986,144	1H:5V	110	47,119	29,334	174,057	713,268
1	PEAD	483,015	1,712	3,015	0,510	1,862	991,296	1H:5V	110	47,363	29,416	174,864	717,257
1	PEAD	489,388	1,660	6,373	0,510	1,810	1.001,561	1H:5V	110	47,879	29,590	176,571	725,065
1	PEAD	500,000	1,559	10,612	0,510	1,709	1.017,659	1H:5V	110	48,739	29,878	179,413	737,073
1	PEAD	514,004	1,110	14,004	0,510	1,260	1.034,575	1H:5V	110	49,873	30,259	183,164	748,589

3.31 RAMAL R-2-1-4

R-2-1-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,623	0,000	0,580	2,773	0,000	1H:5V	180	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,270	20,000	0,580	2,420	57,211	1H:5V	180	1,830	0,930	6,469	47,474
1	PEAD	40,000	2,162	20,000	0,580	2,312	107,060	1H:5V	180	3,660	1,860	12,937	87,585
1	PEAD	60,000	2,055	20,000	0,580	2,205	153,674	1H:5V	180	5,490	2,790	19,406	124,461
1	PEAD	80,000	1,863	20,000	0,580	2,013	195,966	1H:5V	180	7,320	3,720	25,875	157,016
1	PEAD	90,203	1,298	10,203	0,580	1,448	212,481	1H:5V	180	8,254	4,194	29,175	168,563
1	PEAD	90,801	1,266	0,598	0,580	1,416	213,223	1H:5V	180	8,308	4,222	29,368	169,014
1	PEAD	92,581	1,195	1,780	0,540	1,345	215,279	1H:5V	140	8,466	4,295	29,916	170,265
1	PEAD	94,959	1,148	2,378	0,540	1,298	217,807	1H:5V	140	8,669	4,379	30,608	171,776
1	PEAD	100,000	1,273	5,041	0,540	1,423	223,380	1H:5V	140	9,100	4,556	32,077	175,195

R-2-1-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	109,460	1,603	9,460	0,540	1,753	236,315	1H:5V	140	9,909	4,890	34,833	184,085
1	PEAD	111,369	1,653	1,909	0,540	1,803	239,355	1H:5V	140	10,072	4,958	35,389	186,309
1	PEAD	113,278	1,679	1,909	0,540	1,829	242,486	1H:5V	140	10,235	5,025	35,945	188,624
1	PEAD	120,000	1,706	6,722	0,540	1,856	253,739	1H:5V	140	10,810	5,262	37,904	197,003
1	PEAD	140,000	1,786	20,000	0,540	1,936	288,601	1H:5V	140	12,520	5,968	43,731	223,315
1	PEAD	160,000	1,228	20,000	0,540	1,378	317,791	1H:5V	140	14,230	6,673	49,558	243,954
1	PEAD	180,000	1,172	20,000	0,540	1,322	339,664	1H:5V	140	15,940	7,379	55,384	257,276
1	PEAD	200,000	1,203	20,000	0,540	1,353	361,265	1H:5V	140	17,650	8,085	61,211	270,328
1	PEAD	220,000	1,214	20,000	0,540	1,364	383,320	1H:5V	140	19,360	8,790	67,038	283,831
1	PEAD	240,000	1,268	20,000	0,540	1,418	406,085	1H:5V	140	21,070	9,496	72,865	298,046
1	PEAD	260,000	1,327	20,000	0,540	1,477	430,102	1H:5V	140	22,780	10,202	78,692	313,513
1	PEAD	280,000	1,393	20,000	0,540	1,543	455,535	1H:5V	140	24,490	10,907	84,519	330,396
1	PEAD	300,000	1,466	20,000	0,540	1,616	482,578	1H:5V	140	26,200	11,613	90,346	348,888
1	PEAD	320,000	1,506	20,000	0,540	1,656	510,955	1H:5V	140	27,910	12,319	96,172	368,714
1	PEAD	332,197	1,555	12,197	0,540	1,705	528,914	1H:5V	140	28,953	12,749	99,726	381,459
1	PEAD	340,000	1,586	7,803	0,540	1,736	540,783	1H:5V	140	29,620	13,024	101,999	389,992
1	PEAD	360,000	1,666	20,000	0,540	1,816	572,587	1H:5V	140	31,330	13,730	107,826	413,246
1	PEAD	374,319	1,723	14,319	0,540	1,873	596,595	1H:5V	140	32,554	14,235	111,998	431,132
1	PEAD	380,000	1,746	5,681	0,540	1,896	606,411	1H:5V	140	33,040	14,436	113,653	438,519
1	PEAD	400,000	1,826	20,000	0,540	1,976	642,318	1H:5V	140	34,750	15,141	119,480	465,877
1	PEAD	416,938	1,838	16,938	0,540	1,988	673,755	1H:5V	140	36,198	15,739	124,415	490,071

3.32 RAMAL R-2-1-6

R-2-1-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,356	0,000	0,580	1,506	0,000	1H:5V	180	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,538	20,000	0,580	1,688	28,760	1H:5V	180	1,830	0,930	6,469	19,022
1	PEAD	39,138	1,564	19,138	0,580	1,714	58,717	1H:5V	180	3,581	1,820	12,659	39,661
1	PEAD	40,000	1,547	0,862	0,580	1,697	60,071	1H:5V	180	3,660	1,860	12,937	40,596
1	PEAD	50,219	1,431	10,219	0,580	1,581	75,282	1H:5V	180	4,595	2,335	16,243	50,832
1	PEAD	60,000	1,315	9,781	0,580	1,465	88,466	1H:5V	180	5,490	2,790	19,406	59,253
1	PEAD	64,910	1,336	4,910	0,580	1,486	94,806	1H:5V	180	5,939	3,018	20,994	63,203
1	PEAD	80,000	1,249	15,090	0,540	1,399	113,295	1H:5V	140	7,275	3,635	25,633	74,868

R-2-1-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	100,000	1,265	20,000	0,540	1,415	136,409	1H:5V	140	8,985	4,341	31,460	89,432
1	PEAD	117,949	1,428	17,949	0,540	1,578	158,977	1H:5V	140	10,519	4,974	36,689	104,326
1	PEAD	119,222	1,438	1,273	0,540	1,588	160,703	1H:5V	140	10,628	5,019	37,060	105,508
1	PEAD	120,000	1,443	0,778	0,540	1,593	161,765	1H:5V	140	10,695	5,046	37,287	106,238
1	PEAD	120,495	1,445	0,495	0,540	1,595	162,443	1H:5V	140	10,737	5,064	37,431	106,704
1	PEAD	140,000	1,520	19,505	0,540	1,670	190,039	1H:5V	140	12,405	5,752	43,113	125,961
1	PEAD	160,000	1,401	20,000	0,540	1,551	217,822	1H:5V	140	14,115	6,458	48,940	145,193
1	PEAD	167,256	1,140	7,256	0,540	1,290	226,340	1H:5V	140	14,735	6,714	51,054	150,610

3.33 RAMAL R-2-1-8

R-2-1-8													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,966	0,000	0,540	2,116	0,000	1H:5V	140	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,302	20,000	0,540	2,452	45,647	1H:5V	140	1,710	0,706	5,827	37,096
1	PEAD	40,000	1,882	20,000	0,540	2,032	90,143	1H:5V	140	3,420	1,411	11,654	73,042
1	PEAD	60,000	1,962	20,000	0,540	2,112	129,700	1H:5V	140	5,130	2,117	17,481	104,049
1	PEAD	80,000	2,042	20,000	0,540	2,192	171,472	1H:5V	140	6,840	2,823	23,307	137,271
1	PEAD	100,000	1,914	20,000	0,540	2,064	212,584	1H:5V	140	8,550	3,528	29,134	169,832
1	PEAD	120,000	1,704	20,000	0,540	1,854	249,136	1H:5V	140	10,260	4,234	34,961	197,834
1	PEAD	120,547	1,670	0,547	0,540	1,820	250,048	1H:5V	140	10,307	4,253	35,121	198,512

3.34 RAMAL R-2-2

R-2-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,505	0,000	0,540	2,655	0,000	1H:5V	140	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,168	20,000	0,540	1,318	39,026	1H:5V	140	1,710	0,706	5,827	30,476
1	PEAD	40,000	1,228	20,000	0,540	1,378	60,857	1H:5V	140	3,420	1,411	11,654	43,756
1	PEAD	46,945	1,286	6,945	0,540	1,436	68,884	1H:5V	140	4,014	1,656	13,677	48,815
1	PEAD	50,000	1,365	3,055	0,540	1,515	72,650	1H:5V	140	4,275	1,764	14,567	51,274
1	PEAD	53,055	1,395	3,055	0,540	1,545	76,604	1H:5V	140	4,536	1,872	15,457	53,922

R-2-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	60,000	1,231	6,945	0,540	1,381	85,073	1H:5V	140	5,130	2,117	17,481	59,422
1	PEAD	72,666	1,193	12,666	0,540	1,343	99,089	1H:5V	140	6,213	2,564	21,171	68,023
1	PEAD	74,664	1,204	1,998	0,540	1,354	101,271	1H:5V	140	6,384	2,634	21,753	69,350
1	PEAD	76,662	1,200	1,998	0,540	1,350	103,460	1H:5V	140	6,555	2,705	22,335	70,685
1	PEAD	80,000	1,179	3,338	0,540	1,329	107,072	1H:5V	140	6,840	2,823	23,307	72,870
1	PEAD	100,000	1,509	20,000	0,540	1,659	132,244	1H:5V	140	8,550	3,528	29,134	89,492
1	PEAD	117,745	1,210	17,745	0,540	1,360	154,875	1H:5V	140	10,067	4,154	34,304	104,536
1	PEAD	120,000	1,171	2,255	0,540	1,321	157,318	1H:5V	140	10,260	4,234	34,961	106,015
1	PEAD	122,255	1,183	2,255	0,540	1,333	159,728	1H:5V	140	10,453	4,314	35,618	107,461
1	PEAD	140,000	1,478	17,745	0,540	1,628	181,771	1H:5V	140	11,970	4,940	40,788	121,918
1	PEAD	160,000	1,779	20,000	0,540	1,929	213,721	1H:5V	140	13,680	5,645	46,615	145,318
1	PEAD	178,013	1,764	18,013	0,540	1,914	245,713	1H:5V	140	15,220	6,281	51,863	169,609
1	PEAD	178,645	1,697	0,632	0,540	1,847	246,802	1H:5V	140	15,274	6,303	52,047	170,428
1	PEAD	179,277	1,626	0,632	0,540	1,776	247,835	1H:5V	140	15,328	6,325	52,231	171,191
1	PEAD	180,000	1,542	0,723	0,540	1,692	248,947	1H:5V	140	15,390	6,351	52,442	171,994
1	PEAD	200,000	1,206	20,000	0,540	1,356	274,810	1H:5V	140	17,100	7,057	58,269	189,306
1	PEAD	203,446	1,220	3,446	0,540	1,370	278,627	1H:5V	140	17,395	7,178	59,273	191,649
1	PEAD	203,746	1,221	0,300	0,540	1,371	278,961	1H:5V	140	17,420	7,189	59,360	191,856
1	PEAD	204,046	1,220	0,300	0,540	1,370	279,296	1H:5V	140	17,446	7,199	59,447	192,062
1	PEAD	214,944	1,754	10,898	0,540	1,904	294,926	1H:5V	140	18,378	7,584	62,622	203,033
1	PEAD	220,000	2,638	5,056	0,540	2,788	307,094	1H:5V	140	18,810	7,762	64,095	213,039
1	PEAD	221,005	2,738	1,005	0,540	2,888	310,253	1H:5V	140	18,896	7,798	64,388	215,769
1	PEAD	227,066	2,625	6,061	0,540	2,775	329,243	1H:5V	140	19,414	8,012	66,154	232,168
1	PEAD	240,000	1,931	12,934	0,540	2,081	361,763	1H:5V	140	20,520	8,468	69,922	259,158
1	PEAD	260,000	1,632	20,000	0,540	1,782	397,635	1H:5V	140	22,230	9,174	75,749	286,480
1	PEAD	280,000	2,144	20,000	0,540	2,294	436,521	1H:5V	140	23,940	9,879	81,576	316,816
1	PEAD	280,483	2,225	0,483	0,540	2,375	437,657	1H:5V	140	23,981	9,896	81,717	317,745
1	PEAD	284,222	2,301	3,739	0,540	2,451	446,884	1H:5V	140	24,301	10,028	82,806	325,373
1	PEAD	287,961	2,050	3,739	0,540	2,200	455,635	1H:5V	140	24,621	10,160	83,895	332,526
1	PEAD	300,000	1,428	12,039	0,540	1,578	476,740	1H:5V	140	25,650	10,585	87,403	348,484
1	PEAD	307,309	1,417	7,309	0,540	1,567	486,561	1H:5V	140	26,275	10,843	89,532	355,181
1	PEAD	313,115	2,041	5,806	0,540	2,191	496,665	1H:5V	140	26,771	11,048	91,224	362,802
1	PEAD	317,109	1,767	3,994	0,540	1,917	504,480	1H:5V	140	27,113	11,189	92,388	368,910
1	PEAD	320,000	1,596	2,891	0,540	1,746	509,283	1H:5V	140	27,360	11,291	93,230	372,477
1	PEAD	320,840	1,562	0,840	0,540	1,712	510,570	1H:5V	140	27,432	11,320	93,475	373,404
1	PEAD	326,909	1,321	6,069	0,540	1,471	518,878	1H:5V	140	27,951	11,534	95,243	379,118

R-2-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	340,000	1,166	13,091	0,540	1,316	533,828	1H:5V	140	29,070	11,996	99,057	388,472
1	PEAD	349,537	1,215	9,537	0,540	1,365	544,161	1H:5V	140	29,885	12,333	101,835	394,726
1	PEAD	356,977	1,202	7,440	0,540	1,352	552,365	1H:5V	140	30,522	12,595	104,003	399,750
1	PEAD	360,000	1,173	3,023	0,540	1,323	555,630	1H:5V	140	30,780	12,702	104,884	401,723
1	PEAD	363,286	1,144	3,286	0,540	1,294	559,077	1H:5V	140	31,061	12,818	105,841	403,765
1	PEAD	364,417	1,227	1,131	0,540	1,377	560,296	1H:5V	140	31,158	12,858	106,170	404,501
1	PEAD	369,104	1,994	4,687	0,540	2,144	567,795	1H:5V	140	31,558	13,023	107,536	409,996
1	PEAD	376,012	1,379	6,908	0,540	1,529	579,437	1H:5V	140	32,149	13,267	109,549	418,684
1	PEAD	380,000	1,263	3,988	0,540	1,413	584,333	1H:5V	140	32,490	13,408	110,710	421,875
1	PEAD	382,920	1,245	2,920	0,540	1,395	587,698	1H:5V	140	32,740	13,511	111,561	423,992
1	PEAD	400,000	1,177	17,080	0,540	1,327	606,582	1H:5V	140	34,200	14,113	116,537	435,574
1	PEAD	408,068	1,147	8,068	0,540	1,297	615,076	1H:5V	140	34,890	14,398	118,888	440,619
1	PEAD	410,000	1,159	1,932	0,540	1,309	617,092	1H:5V	140	35,055	14,466	119,451	441,808
1	PEAD	411,932	1,175	1,932	0,540	1,325	619,136	1H:5V	140	35,220	14,534	120,014	443,027
1	PEAD	420,000	1,248	8,068	0,540	1,398	628,061	1H:5V	140	35,910	14,819	122,364	448,502
1	PEAD	440,000	1,248	20,000	0,540	1,398	650,977	1H:5V	140	37,620	15,525	128,191	462,868
1	PEAD	460,000	1,159	20,000	0,540	1,309	672,930	1H:5V	140	39,330	16,230	134,018	476,271
1	PEAD	477,712	1,349	17,712	0,540	1,499	693,374	1H:5V	140	40,844	16,855	139,178	489,142
1	PEAD	480,000	1,376	2,288	0,540	1,526	696,289	1H:5V	140	41,040	16,936	139,845	491,080
1	PEAD	482,288	1,372	2,288	0,540	1,522	699,235	1H:5V	140	41,236	17,017	140,511	493,047
1	PEAD	500,000	1,452	17,712	0,540	1,602	722,823	1H:5V	140	42,750	17,642	145,672	509,063
1	PEAD	520,000	1,526	20,000	0,540	1,676	751,275	1H:5V	140	44,460	18,347	151,498	528,965
1	PEAD	536,901	1,140	16,901	0,540	1,290	772,370	1H:5V	140	45,905	18,944	156,422	542,834

3.35 RAMAL R-2-3

R-2-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	0,000	2,505	0,000	1,600	2,705	0,000	1H:5V	1000	0,000	0,000	0,000	0,000
1	HPCC	20,000	2,621	20,000	1,600	2,821	118,966	1H:5V	1000	6,560	3,579	31,153	61,966
1	HPCC	40,000	2,504	20,000	1,600	2,704	237,905	1H:5V	1000	13,120	7,159	62,305	123,905
1	HPCC	60,000	2,577	20,000	1,600	2,777	355,648	1H:5V	1000	19,680	10,738	93,458	184,648
1	HPCC	80,000	2,147	20,000	1,600	2,347	464,072	1H:5V	1000	26,240	14,318	124,611	236,072
1	HPCC	92,907	2,044	12,907	1,600	2,244	525,086	1H:5V	1000	30,473	16,628	144,715	260,301

R-2-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	100,000	2,085	7,093	1,600	2,285	558,061	1H:5V	1000	32,800	17,897	155,763	273,061
1	HPCC	102,266	2,098	2,266	1,600	2,298	568,749	1H:5V	1000	33,543	18,303	159,293	277,291
1	HPCC	120,000	2,036	17,734	1,600	2,236	651,305	1H:5V	1000	39,360	21,476	186,916	309,305
1	HPCC	120,580	2,000	0,580	1,600	2,200	653,934	1H:5V	1000	39,550	21,580	187,819	310,281
1	HPCC	140,000	2,149	19,420	1,600	2,349	744,722	1H:5V	1000	45,920	25,056	218,068	345,722
1	HPCC	160,000	2,058	20,000	1,600	2,258	839,667	1H:5V	1000	52,480	28,635	249,221	383,667
1	HPCC	177,636	2,532	17,636	1,600	2,732	932,225	1H:5V	1000	58,265	31,792	276,691	425,962
1	HPCC	180,000	2,969	2,364	1,600	3,169	948,322	1H:5V	1000	59,040	32,215	280,374	435,322
1	HPCC	185,047	2,000	5,047	1,600	2,200	979,217	1H:5V	1000	60,695	33,118	288,235	451,833
1	HPCC	200,000	2,420	14,953	1,600	2,620	1.054,377	1H:5V	1000	65,600	35,794	311,526	484,377
1	HPCC	220,000	2,020	20,000	1,600	2,220	1.155,403	1H:5V	1000	72,160	39,373	342,679	528,403
1	HPCC	240,000	2,193	20,000	1,600	2,393	1.250,521	1H:5V	1000	78,720	42,953	373,832	566,521
1	HPCC	260,000	2,530	20,000	1,600	2,730	1.358,847	1H:5V	1000	85,280	46,532	404,984	617,847
1	HPCC	278,719	2,418	18,719	1,600	2,618	1.465,716	1H:5V	1000	91,420	49,882	434,142	671,367
1	HPCC	280,000	2,470	1,281	1,600	2,670	1.472,926	1H:5V	1000	91,840	50,112	436,137	674,926
1	HPCC	300,000	2,086	20,000	1,600	2,286	1.576,932	1H:5V	1000	98,400	53,691	467,290	721,932
1	HPCC	320,000	2,122	20,000	1,600	2,322	1.671,894	1H:5V	1000	104,960	57,270	498,442	759,894
1	HPCC	340,000	2,191	20,000	1,600	2,391	1.769,520	1H:5V	1000	111,520	60,850	529,595	800,520
1	HPCC	360,000	2,579	20,000	1,600	2,779	1.879,119	1H:5V	1000	118,080	64,429	560,747	853,119
1	HPCC	380,000	2,803	20,000	1,600	3,003	2.005,233	1H:5V	1000	124,640	68,009	591,900	922,233
1	HPCC	392,899	3,095	12,899	1,600	3,295	2.103,548	1H:5V	1000	128,871	70,317	611,992	983,786
1	HPCC	400,000	3,054	7,101	1,600	3,254	2.163,777	1H:5V	1000	131,200	71,588	623,053	1.023,777
1	HPCC	413,685	2,777	13,685	1,600	2,977	2.265,564	1H:5V	1000	135,689	74,037	644,369	1.086,562
1	HPCC	420,000	2,608	6,315	1,600	2,808	2.305,366	1H:5V	1000	137,760	75,167	654,205	1.108,366
1	HPCC	440,000	2,535	20,000	1,600	2,735	2.424,784	1H:5V	1000	144,320	78,747	685,358	1.170,784
1	HPCC	460,000	2,455	20,000	1,600	2,655	2.540,083	1H:5V	1000	150,880	82,326	716,511	1.229,083
1	HPCC	480,000	2,039	20,000	1,600	2,239	2.642,511	1H:5V	1000	157,440	85,906	747,663	1.274,511
1	HPCC	489,739	2,092	9,739	1,600	2,292	2.687,811	1H:5V	1000	160,634	87,649	762,833	1.292,055
1	HPCC	500,000	2,010	10,261	1,600	2,210	2.735,169	1H:5V	1000	164,000	89,485	778,816	1.310,169
1	HPCC	520,000	2,099	20,000	1,600	2,299	2.827,652	1H:5V	1000	170,560	93,064	809,969	1.345,652
1	HPCC	540,000	2,115	20,000	1,600	2,315	2.922,766	1H:5V	1000	177,120	96,644	841,121	1.383,766
1	HPCC	560,000	2,204	20,000	1,600	2,404	3.020,547	1H:5V	1000	183,680	100,223	872,274	1.424,547
1	HPCC	580,000	2,334	20,000	1,600	2,534	3.123,955	1H:5V	1000	190,240	103,803	903,426	1.470,955
1	HPCC	600,000	2,447	20,000	1,600	2,647	3.233,707	1H:5V	1000	196,800	107,382	934,579	1.523,707
1	HPCC	620,000	2,533	20,000	1,600	2,733	3.348,739	1H:5V	1000	203,360	110,961	965,732	1.581,739
1	HPCC	640,000	2,622	20,000	1,600	2,822	3.468,485	1H:5V	1000	209,920	114,541	996,884	1.644,485

R-2-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	660,000	2,768	20,000	1,600	2,968	3.594,670	1H:5V	1000	216,480	118,120	1.028,037	1.713,670
1	HPCC	680,000	3,035	20,000	1,600	3,235	3.741,866	1H:5V	1000	223,040	121,700	1.059,190	1.803,866
1	HPCC	700,000	3,230	20,000	1,600	3,430	3.919,567	1H:5V	1000	229,600	125,279	1.090,342	1.924,567
1	HPCC	720,000	3,029	20,000	1,600	3,229	4.096,853	1H:5V	1000	236,160	128,858	1.121,495	2.044,853
1	HPCC	740,000	3,109	20,000	1,600	3,309	4.265,733	1H:5V	1000	242,720	132,438	1.152,647	2.156,733
1	HPCC	743,012	3,121	3,012	1,600	3,321	4.292,124	1H:5V	1000	243,708	132,977	1.157,339	2.174,540
1	HPCC	760,000	2,932	16,988	1,600	3,132	4.430,614	1H:5V	1000	249,280	136,017	1.183,800	2.264,614
1	HPCC	780,000	2,713	20,000	1,600	2,913	4.569,204	1H:5V	1000	255,840	139,597	1.214,953	2.346,204
1	HPCC	800,000	2,508	20,000	1,600	2,708	4.690,778	1H:5V	1000	262,400	143,176	1.246,105	2.410,778
1	HPCC	820,000	2,129	20,000	1,600	2,329	4.796,885	1H:5V	1000	268,960	146,755	1.277,258	2.459,885
1	HPCC	828,910	2,000	8,910	1,600	2,200	4.838,313	1H:5V	1000	271,882	148,350	1.291,137	2.475,920
1	HPCC	840,000	3,123	11,090	1,600	3,323	4.912,091	1H:5V	1000	275,520	150,335	1.308,411	2.518,091
1	HPCC	851,616	2,000	11,616	1,600	2,200	4.989,368	1H:5V	1000	279,330	152,414	1.326,504	2.562,262
1	HPCC	860,000	3,034	8,384	1,600	3,234	5.042,565	1H:5V	1000	282,080	153,914	1.339,563	2.591,565
1	HPCC	861,571	3,040	1,571	1,600	3,240	5.055,483	1H:5V	1000	282,595	154,195	1.342,010	2.600,006
1	HPCC	880,000	3,033	18,429	1,600	3,233	5.206,958	1H:5V	1000	288,640	157,494	1.370,716	2.698,958
1	HPCC	900,000	2,943	20,000	1,600	3,143	5.364,676	1H:5V	1000	295,200	161,073	1.401,869	2.799,676
1	HPCC	920,000	2,892	20,000	1,600	3,092	5.512,713	1H:5V	1000	301,760	164,652	1.433,021	2.890,713
1	HPCC	940,000	2,842	20,000	1,600	3,042	5.653,846	1H:5V	1000	308,320	168,232	1.464,174	2.974,846
1	HPCC	960,000	2,791	20,000	1,600	2,991	5.788,454	1H:5V	1000	314,880	171,811	1.495,326	3.052,454
1	HPCC	980,000	2,741	20,000	1,600	2,941	5.918,557	1H:5V	1000	321,440	175,391	1.526,479	3.125,557
1	HPCC	984,965	2,416	4,965	1,600	2,616	5.948,321	1H:5V	1000	323,069	176,279	1.534,213	3.141,171
1	HPCC	1.000,000	2,062	15,035	1,600	2,262	6.024,976	1H:5V	1000	328,000	178,970	1.557,632	3.174,976
1	HPCC	1.020,000	2,057	20,000	1,600	2,257	6.117,701	1H:5V	1000	334,560	182,549	1.588,784	3.210,701
1	HPCC	1.040,000	2,212	20,000	1,600	2,412	6.214,229	1H:5V	1000	341,120	186,129	1.619,937	3.250,229
1	HPCC	1.060,000	2,341	20,000	1,600	2,541	6.318,026	1H:5V	1000	347,680	189,708	1.651,090	3.297,026
1	HPCC	1.080,000	2,478	20,000	1,600	2,678	6.428,786	1H:5V	1000	354,240	193,288	1.682,242	3.350,786
1	HPCC	1.100,000	2,616	20,000	1,600	2,816	6.546,894	1H:5V	1000	360,800	196,867	1.713,395	3.411,894
1	HPCC	1.120,000	2,160	20,000	1,600	2,360	6.656,708	1H:5V	1000	367,360	200,446	1.744,548	3.464,708
1	HPCC	1.140,000	2,149	20,000	1,600	2,349	6.754,227	1H:5V	1000	373,920	204,026	1.775,700	3.505,227
1	HPCC	1.160,000	2,243	20,000	1,600	2,443	6.853,871	1H:5V	1000	380,480	207,605	1.806,853	3.547,871
1	HPCC	1.160,054	2,243	0,054	1,600	2,443	6.854,147	1H:5V	1000	380,498	207,615	1.806,937	3.547,993
1	HPCC	1.180,000	2,386	19,946	1,600	2,586	6.959,637	1H:5V	1000	387,040	211,185	1.838,005	3.596,637
1	HPCC	1.200,000	2,469	20,000	1,600	2,669	7.071,339	1H:5V	1000	393,600	214,764	1.869,158	3.651,339
1	HPCC	1.220,000	2,164	20,000	1,600	2,364	7.177,291	1H:5V	1000	400,160	218,344	1.900,311	3.700,291
1	HPCC	1.240,000	2,076	20,000	1,600	2,276	7.273,068	1H:5V	1000	406,720	221,923	1.931,463	3.739,068

R-2-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	1.260,000	2,153	20,000	1,600	2,353	7.368,566	1H:5V	1000	413,280	225,502	1.962,616	3.777,566
1	HPCC	1.280,000	2,294	20,000	1,600	2,494	7.469,631	1H:5V	1000	419,840	229,082	1.993,769	3.821,631
1	HPCC	1.300,000	2,432	20,000	1,600	2,632	7.577,942	1H:5V	1000	426,400	232,661	2.024,921	3.872,942
1	HPCC	1.320,000	2,518	20,000	1,600	2,718	7.692,172	1H:5V	1000	432,960	236,241	2.056,074	3.930,172
1	HPCC	1.340,000	2,698	20,000	1,600	2,898	7.813,600	1H:5V	1000	439,520	239,820	2.087,227	3.994,600
1	HPCC	1.360,000	2,779	20,000	1,600	2,979	7.942,177	1H:5V	1000	446,080	243,399	2.118,379	4.066,177
1	HPCC	1.380,000	2,548	20,000	1,600	2,748	8.066,661	1H:5V	1000	452,640	246,979	2.149,532	4.133,661
1	HPCC	1.400,000	2,431	20,000	1,600	2,631	8.181,672	1H:5V	1000	459,200	250,558	2.180,684	4.191,672
1	HPCC	1.420,000	2,568	20,000	1,600	2,768	8.297,224	1H:5V	1000	465,760	254,138	2.211,837	4.250,224
1	HPCC	1.440,000	2,722	20,000	1,600	2,922	8.420,664	1H:5V	1000	472,320	257,717	2.242,990	4.316,664
1	HPCC	1.460,000	2,777	20,000	1,600	2,977	8.549,849	1H:5V	1000	478,880	261,296	2.274,142	4.388,849
1	HPCC	1.480,000	2,957	20,000	1,600	3,157	8.691,932	1H:5V	1000	485,440	264,876	2.305,295	4.473,932
1	HPCC	1.486,462	3,351	6,462	1,600	3,551	8.750,348	1H:5V	1000	487,560	266,032	2.315,360	4.513,932
1	PRFV	1.500,000	2,844	13,538	1,300	2,994	8.859,279	1H:5V	700	491,130	272,870	2.329,437	4.593,167
1	PRFV	1.512,486	1,700	12,486	1,300	1,850	8.914,058	1H:5V	700	493,621	283,248	2.335,955	4.623,754
1	PRFV	1.520,000	1,763	7,514	1,300	1,913	8.937,758	1H:5V	700	495,120	289,493	2.339,877	4.632,896
1	PRFV	1.540,000	1,929	20,000	1,300	2,079	9.005,618	1H:5V	700	499,110	306,116	2.350,317	4.662,006
1	PRFV	1.560,000	2,095	20,000	1,300	2,245	9.080,554	1H:5V	700	503,100	322,739	2.360,757	4.698,193
1	PRFV	1.580,000	2,262	20,000	1,300	2,412	9.162,811	1H:5V	700	507,090	339,362	2.371,197	4.741,699
1	PRFV	1.600,000	2,124	20,000	1,300	2,274	9.245,707	1H:5V	700	511,080	355,985	2.381,637	4.785,845
1	PRFV	1.620,000	1,719	20,000	1,300	1,869	9.316,894	1H:5V	700	515,070	372,608	2.392,077	4.818,282
1	PRFV	1.640,000	1,889	20,000	1,300	2,039	9.383,000	1H:5V	700	519,060	389,231	2.402,517	4.845,638
1	PRFV	1.660,000	2,134	20,000	1,300	2,284	9.457,947	1H:5V	700	523,050	405,855	2.412,957	4.881,835
1	PRFV	1.662,876	2,181	2,876	1,300	2,331	9.469,637	1H:5V	700	523,624	408,245	2.414,459	4.887,953
1	PRFV	1.680,000	2,437	17,124	1,300	2,587	9.545,142	1H:5V	700	527,040	422,478	2.423,397	4.930,280
1	PRFV	1.691,790	2,595	11,790	1,300	2,745	9.602,778	1H:5V	700	529,392	432,277	2.429,552	4.965,073
1	PRFV	1.700,000	2,601	8,210	1,300	2,751	9.644,507	1H:5V	700	531,030	439,101	2.433,837	4.990,895
1	PRFV	1.720,000	2,543	20,000	1,300	2,693	9.744,920	1H:5V	700	535,020	455,724	2.444,277	5.052,558
1	PRFV	1.740,000	2,438	20,000	1,300	2,588	9.841,473	1H:5V	700	539,010	472,347	2.454,717	5.110,361
1	PRFV	1.760,000	2,327	20,000	1,300	2,477	9.932,984	1H:5V	700	543,000	488,970	2.465,157	5.163,122
1	PRFV	1.780,000	2,210	20,000	1,300	2,360	10.019,276	1H:5V	700	546,990	505,593	2.475,597	5.210,664
1	PRFV	1.800,000	2,083	20,000	1,300	2,233	10.100,096	1H:5V	700	550,980	522,216	2.486,037	5.252,734
1	PRFV	1.820,000	1,753	20,000	1,300	1,903	10.171,080	1H:5V	700	554,970	538,839	2.496,477	5.284,968
1	PRFV	1.835,415	1,700	15,415	1,300	1,850	10.219,542	1H:5V	700	558,045	551,652	2.504,524	5.303,564
1	PRFV	1.840,000	1,745	4,585	1,300	1,895	10.233,919	1H:5V	700	558,960	555,462	2.506,917	5.309,057
1	PRFV	1.860,000	1,944	20,000	1,300	2,094	10.301,728	1H:5V	700	562,950	572,086	2.517,357	5.338,116

R-2-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	1.880,000	2,142	20,000	1,300	2,292	10.378,022	1H:5V	700	566,940	588,709	2.527,797	5.375,660
1	PRFV	1.900,000	2,046	20,000	1,300	2,196	10.456,517	1H:5V	700	570,930	605,332	2.538,237	5.415,405
1	PRFV	1.920,000	1,865	20,000	1,300	2,015	10.529,025	1H:5V	700	574,920	621,955	2.548,677	5.449,163
1	PRFV	1.940,000	1,738	20,000	1,300	1,888	10.595,014	1H:5V	700	578,910	638,578	2.559,117	5.476,402
1	PRFV	1.946,276	1,800	6,276	1,300	1,950	10.615,294	1H:5V	700	580,162	643,794	2.562,394	5.484,523
1	PRFV	1.947,752	1,814	1,476	1,300	1,964	10.620,180	1H:5V	700	580,457	645,021	2.563,164	5.486,548
1	PRFV	1.949,228	1,825	1,476	1,300	1,975	10.625,104	1H:5V	700	580,751	646,248	2.563,934	5.488,613
1	PRFV	1.960,000	1,900	10,772	1,300	2,050	10.662,015	1H:5V	700	582,900	655,201	2.569,557	5.504,653
1	PRFV	1.980,000	2,040	20,000	1,300	2,190	10.735,132	1H:5V	700	586,890	671,824	2.579,997	5.539,020
1	PRFV	2.000,000	2,179	20,000	1,300	2,329	10.814,320	1H:5V	700	590,880	688,447	2.590,437	5.579,458
1	PRFV	2.020,000	2,227	20,000	1,300	2,377	10.897,647	1H:5V	700	594,870	705,070	2.600,877	5.624,035
1	PRFV	2.040,000	2,239	20,000	1,300	2,389	10.982,320	1H:5V	700	598,860	721,693	2.611,317	5.669,958
1	PRFV	2.060,000	2,213	20,000	1,300	2,363	11.066,678	1H:5V	700	602,850	738,317	2.621,757	5.715,566
1	PRFV	2.079,091	2,009	19,091	1,300	2,159	11.142,351	1H:5V	700	606,659	754,184	2.631,723	5.754,250
1	PRFV	2.080,000	1,998	0,909	1,300	2,148	11.145,739	1H:5V	700	606,840	754,940	2.632,197	5.755,877
1	PRFV	2.100,000	1,983	20,000	1,300	2,133	11.219,719	1H:5V	700	610,830	771,563	2.642,637	5.791,107
1	PRFV	2.120,000	2,016	20,000	1,300	2,166	11.294,088	1H:5V	700	614,820	788,186	2.653,077	5.826,726
1	PRFV	2.140,000	2,127	20,000	1,300	2,277	11.371,600	1H:5V	700	618,810	804,809	2.663,517	5.865,488
1	PRFV	2.160,000	1,964	20,000	1,300	2,114	11.447,990	1H:5V	700	622,800	821,432	2.673,957	5.903,128
1	PRFV	2.180,000	1,873	20,000	1,300	2,023	11.518,894	1H:5V	700	626,790	838,055	2.684,397	5.935,282
1	PRFV	2.200,000	1,783	20,000	1,300	1,933	11.585,980	1H:5V	700	630,780	854,678	2.694,837	5.963,618
1	PRFV	2.220,000	1,713	20,000	1,300	1,863	11.649,743	1H:5V	700	634,770	871,301	2.705,277	5.988,631
1	PRFV	2.240,000	1,852	20,000	1,300	2,002	11.714,945	1H:5V	700	638,760	887,924	2.715,717	6.015,083
1	PRFV	2.260,000	1,992	20,000	1,300	2,142	11.786,010	1H:5V	700	642,750	904,547	2.726,157	6.047,398
1	PRFV	2.280,000	2,131	20,000	1,300	2,281	11.863,091	1H:5V	700	646,740	921,171	2.736,597	6.085,729
1	PRFV	2.300,000	2,271	20,000	1,300	2,421	11.946,345	1H:5V	700	650,730	937,794	2.747,037	6.130,233
1	PRFV	2.320,000	2,410	20,000	1,300	2,560	12.035,928	1H:5V	700	654,720	954,417	2.757,477	6.181,066
1	PRFV	2.340,000	2,550	20,000	1,300	2,700	12.131,995	1H:5V	700	658,710	971,040	2.767,917	6.238,383
1	PRFV	2.356,671	2,666	16,671	1,300	2,816	12.217,141	1H:5V	700	662,036	984,896	2.776,620	6.291,229
1	PRFV	2.360,000	2,649	3,329	1,200	2,799	12.234,073	1H:5V	600	662,675	987,440	2.778,288	6.302,368
1	PRFV	2.380,000	2,549	20,000	1,200	2,699	12.330,287	1H:5V	600	666,365	1.001,385	2.787,888	6.365,692
1	PRFV	2.400,000	2,449	20,000	1,200	2,599	12.421,941	1H:5V	600	670,055	1.015,330	2.797,488	6.424,457
1	PRFV	2.420,000	2,348	20,000	1,200	2,498	12.509,095	1H:5V	600	673,745	1.029,276	2.807,088	6.478,721
1	PRFV	2.440,000	2,248	20,000	1,200	2,398	12.591,828	1H:5V	600	677,435	1.043,221	2.816,688	6.528,564
1	PRFV	2.460,000	2,148	20,000	1,200	2,298	12.670,242	1H:5V	600	681,125	1.057,166	2.826,288	6.574,088
1	PRFV	2.479,759	2,049	19,759	1,200	2,199	12.743,545	1H:5V	600	684,771	1.070,943	2.835,772	6.614,897

R-2-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	2.480,000	2,048	0,241	1,200	2,198	12.744,414	1H:5V	600	684,815	1.071,111	2.835,888	6.615,369
1	PRFV	2.500,000	1,948	20,000	1,200	2,098	12.814,431	1H:5V	600	688,505	1.085,056	2.845,488	6.652,497
1	PRFV	2.520,000	1,847	20,000	1,200	1,997	12.880,351	1H:5V	600	692,195	1.099,001	2.855,088	6.685,526
1	PRFV	2.540,000	1,747	20,000	1,200	1,897	12.942,252	1H:5V	600	695,885	1.112,946	2.864,688	6.714,538
1	PRFV	2.560,000	1,647	20,000	1,200	1,797	13.000,235	1H:5V	600	699,575	1.126,891	2.874,288	6.739,631
1	PRFV	2.569,333	1,600	9,333	1,200	1,750	13.025,970	1H:5V	600	701,297	1.133,399	2.878,767	6.750,018
1	PRFV	2.580,000	1,729	10,667	1,200	1,879	13.056,229	1H:5V	600	703,265	1.140,837	2.883,888	6.762,735
1	PRFV	2.600,000	1,602	20,000	1,200	1,752	13.113,002	1H:5V	600	706,955	1.154,782	2.893,488	6.786,617
1	PRFV	2.620,000	1,650	20,000	1,200	1,800	13.168,245	1H:5V	600	710,645	1.168,727	2.903,088	6.808,970
1	PRFV	2.622,796	1,697	2,796	1,200	1,847	13.176,222	1H:5V	600	711,161	1.170,676	2.904,430	6.812,350
1	PRFV	2.625,489	1,734	2,693	1,200	1,884	13.184,126	1H:5V	600	711,658	1.172,554	2.905,722	6.815,825
1	PRFV	2.628,182	1,751	2,693	1,200	1,901	13.192,170	1H:5V	600	712,155	1.174,432	2.907,015	6.819,441
1	PRFV	2.640,000	1,794	11,818	1,200	1,944	13.228,172	1H:5V	600	714,335	1.182,672	2.912,688	6.836,007
1	PRFV	2.660,000	1,832	20,000	1,200	1,982	13.290,698	1H:5V	600	718,025	1.196,617	2.922,288	6.865,644
1	PRFV	2.680,000	1,848	20,000	1,200	1,998	13.354,299	1H:5V	600	721,715	1.210,562	2.931,888	6.896,355
1	PRFV	2.700,000	1,879	20,000	1,200	2,029	13.418,841	1H:5V	600	725,405	1.224,507	2.941,488	6.928,007
1	PRFV	2.718,174	1,951	18,174	1,200	2,101	13.479,380	1H:5V	600	728,758	1.237,179	2.950,211	6.958,659
1	PRFV	2.720,000	1,959	1,826	1,200	2,109	13.485,611	1H:5V	600	729,095	1.238,453	2.951,088	6.961,887
1	PRFV	2.740,000	2,039	20,000	1,200	2,189	13.555,666	1H:5V	600	732,785	1.252,398	2.960,688	6.999,052
1	PRFV	2.760,000	2,119	20,000	1,200	2,269	13.629,042	1H:5V	600	736,475	1.266,343	2.970,288	7.039,538
1	PRFV	2.767,465	2,149	7,465	1,200	2,299	13.657,291	1H:5V	600	737,853	1.271,548	2.973,871	7.055,511
1	PRFV	2.780,000	2,395	12,535	1,200	2,545	13.708,467	1H:5V	600	740,165	1.280,288	2.979,888	7.086,073
1	PRFV	2.786,665	2,673	6,665	1,200	2,823	13.739,562	1H:5V	600	741,395	1.284,935	2.983,087	7.106,207
1	PRFV	2.800,000	1,736	13,335	1,200	1,886	13.792,609	1H:5V	600	743,855	1.294,233	2.989,488	7.137,325
1	PRFV	2.805,865	2,099	5,865	1,200	2,249	13.812,213	1H:5V	600	744,937	1.298,322	2.992,303	7.147,284
1	PRFV	2.809,009	2,379	3,144	1,200	2,529	13.824,827	1H:5V	600	745,517	1.300,515	2.993,812	7.154,728
1	PRFV	2.820,000	2,599	10,991	1,200	2,749	13.874,969	1H:5V	600	747,545	1.308,178	2.999,088	7.186,795
1	PRFV	2.840,000	2,115	20,000	1,200	2,265	13.960,512	1H:5V	600	751,235	1.322,123	3.008,688	7.239,447
1	PRFV	2.860,000	1,762	20,000	1,200	1,912	14.028,208	1H:5V	600	754,925	1.336,068	3.018,288	7.274,253
1	PRFV	2.868,625	2,813	8,625	1,200	2,963	14.064,161	1H:5V	600	756,517	1.342,082	3.022,428	7.296,023
1	PRFV	2.880,000	2,880	11,375	1,200	3,030	14.126,176	1H:5V	600	758,615	1.350,014	3.027,888	7.339,331
1	PRFV	2.900,000	2,453	20,000	1,200	2,603	14.226,885	1H:5V	600	762,305	1.363,959	3.037,488	7.407,150
1	PRFV	2.900,076	2,457	0,076	1,200	2,607	14.227,225	1H:5V	600	762,319	1.364,012	3.037,524	7.407,366
1	PRFV	2.920,000	2,057	19,924	1,100	2,207	14.305,821	1H:5V	500	765,846	1.376,653	3.046,669	7.456,737
1	PRFV	2.922,327	1,908	2,327	1,100	2,058	14.313,399	1H:5V	500	766,240	1.377,983	3.047,688	7.461,114
1	PRFV	2.922,371	1,907	0,044	1,100	2,057	14.313,536	1H:5V	500	766,248	1.378,008	3.047,708	7.461,190

R-2-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	2.940,000	1,958	17,629	1,100	2,108	14.369,212	1H:5V	500	769,236	1.388,086	3.055,429	7.492,618
1	PRFV	2.960,000	1,872	20,000	1,100	2,022	14.431,707	1H:5V	500	772,626	1.399,519	3.064,189	7.527,603
1	PRFV	2.980,000	1,923	20,000	1,100	2,073	14.493,523	1H:5V	500	776,016	1.410,952	3.072,949	7.561,909
1	PRFV	3.000,000	2,542	20,000	1,100	2,692	14.569,027	1H:5V	500	779,406	1.422,385	3.081,709	7.609,903
1	PRFV	3.020,000	2,710	20,000	1,100	2,860	14.660,951	1H:5V	500	782,796	1.433,818	3.090,469	7.674,318
1	PRFV	3.040,000	2,710	20,000	1,100	2,860	14.756,590	1H:5V	500	786,186	1.445,251	3.099,229	7.742,446
1	PRFV	3.059,213	2,721	19,213	1,100	2,871	14.848,702	1H:5V	500	789,442	1.456,234	3.107,644	7.808,131
1	PRFV	3.060,000	2,722	0,787	1,100	2,872	14.852,486	1H:5V	500	789,576	1.456,684	3.107,989	7.810,832
1	PRFV	3.075,109	2,730	15,109	1,100	2,880	14.925,279	1H:5V	500	792,137	1.465,321	3.114,607	7.862,843
1	PRFV	3.080,000	2,698	4,891	1,100	2,848	14.948,712	1H:5V	500	792,966	1.468,117	3.116,749	7.879,548
1	PRFV	3.100,000	2,630	20,000	1,100	2,780	15.042,299	1H:5V	500	796,356	1.479,550	3.125,509	7.945,625
1	PRFV	3.120,000	2,599	20,000	1,100	2,749	15.133,689	1H:5V	500	799,746	1.490,983	3.134,269	8.009,505
1	PRFV	3.140,000	2,588	20,000	1,100	2,738	15.224,153	1H:5V	500	803,136	1.502,416	3.143,029	8.072,459
1	PRFV	3.160,000	2,532	20,000	1,100	2,682	15.313,152	1H:5V	500	806,526	1.513,849	3.151,789	8.133,949
1	PRFV	3.180,000	2,406	20,000	1,100	2,556	15.398,223	1H:5V	500	809,916	1.525,282	3.160,549	8.191,509
1	PRFV	3.200,000	2,323	20,000	1,100	2,473	15.478,840	1H:5V	500	813,306	1.536,715	3.169,309	8.244,616
1	PRFV	3.220,000	2,536	20,000	1,100	2,686	15.562,249	1H:5V	500	816,696	1.548,148	3.178,069	8.300,515
1	PRFV	3.240,000	1,507	20,000	1,100	1,657	15.629,943	1H:5V	500	820,086	1.559,581	3.186,829	8.340,699
1	PRFV	3.260,000	1,946	20,000	1,100	2,096	15.685,504	1H:5V	500	823,476	1.571,014	3.195,589	8.368,750
1	PRFV	3.280,000	2,069	20,000	1,100	2,219	15.751,603	1H:5V	500	826,866	1.582,447	3.204,349	8.407,339
1	PRFV	3.300,000	2,111	20,000	1,100	2,261	15.820,955	1H:5V	500	830,256	1.593,880	3.213,109	8.449,181
1	PRFV	3.320,000	2,271	20,000	1,100	2,421	15.894,404	1H:5V	500	833,646	1.605,313	3.221,869	8.495,120
1	PRFV	3.337,856	2,300	17,856	1,100	2,450	15.963,425	1H:5V	500	836,672	1.615,520	3.229,690	8.539,580
1	PRFV	3.337,942	2,292	0,086	1,100	2,442	15.963,759	1H:5V	500	836,687	1.615,569	3.229,728	8.539,796
1	PRFV	3.340,000	2,285	2,058	1,100	2,435	15.971,727	1H:5V	500	837,036	1.616,746	3.230,629	8.544,933
1	PRFV	3.351,029	1,663	11,029	1,100	1,813	16.007,660	1H:5V	500	838,905	1.623,050	3.235,460	8.565,695
1	PRFV	3.360,000	1,694	8,971	1,100	1,844	16.031,703	1H:5V	500	840,426	1.628,179	3.239,389	8.577,399
1	PRFV	3.380,000	1,821	20,000	1,100	1,971	16.088,238	1H:5V	500	843,816	1.639,612	3.248,149	8.606,424
1	PRFV	3.400,000	1,812	20,000	1,100	1,962	16.146,969	1H:5V	500	847,206	1.651,045	3.256,909	8.637,646
1	PRFV	3.420,000	1,806	20,000	1,100	1,956	16.205,418	1H:5V	500	850,596	1.662,478	3.265,669	8.668,584
1	PRFV	3.424,692	1,802	4,692	1,100	1,952	16.219,086	1H:5V	500	851,391	1.665,160	3.267,724	8.675,798
1	PRFV	3.440,000	1,767	15,308	1,100	1,917	16.263,119	1H:5V	500	853,986	1.673,911	3.274,429	8.698,775
1	PRFV	3.460,000	1,748	20,000	1,100	1,898	16.319,639	1H:5V	500	857,376	1.685,344	3.283,189	8.727,785
1	PRFV	3.480,000	1,714	20,000	1,100	1,864	16.375,175	1H:5V	500	860,766	1.696,777	3.291,949	8.755,811
1	PRFV	3.500,000	1,688	20,000	1,100	1,838	16.429,602	1H:5V	500	864,156	1.708,210	3.300,709	8.782,728
1	PRFV	3.502,071	1,685	2,071	1,100	1,835	16.435,183	1H:5V	500	864,507	1.709,394	3.301,616	8.785,460

R-2-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	3.520,000	1,649	17,929	1,100	1,799	16.482,857	1H:5V	500	867,546	1.719,643	3.309,469	8.808,473
1	PRFV	3.540,000	1,599	20,000	1,100	1,749	16.534,476	1H:5V	500	870,936	1.731,076	3.318,229	8.832,582
1	PRFV	3.560,000	1,597	20,000	1,100	1,747	16.585,154	1H:5V	500	874,326	1.742,509	3.326,989	8.855,750
1	PRFV	3.580,000	1,557	20,000	1,100	1,707	16.635,080	1H:5V	500	877,716	1.753,942	3.335,749	8.878,166
1	PRFV	3.584,009	1,549	4,009	1,100	1,699	16.644,915	1H:5V	500	878,395	1.756,234	3.337,505	8.882,487
1	PRFV	3.600,000	1,517	15,991	1,100	1,667	16.683,579	1H:5V	500	881,106	1.765,375	3.344,509	8.899,155
1	PRFV	3.620,000	1,781	20,000	1,100	1,931	16.736,172	1H:5V	500	884,496	1.776,808	3.353,269	8.924,238
1	PRFV	3.640,000	2,122	20,000	1,100	2,272	16.800,187	1H:5V	500	887,886	1.788,241	3.362,029	8.960,743
1	PRFV	3.660,000	2,110	20,000	1,100	2,260	16.870,578	1H:5V	500	891,276	1.799,674	3.370,789	9.003,624
1	PRFV	3.680,000	2,095	20,000	1,100	2,245	16.940,428	1H:5V	500	894,666	1.811,107	3.379,549	9.045,964
1	PRFV	3.700,000	2,076	20,000	1,100	2,226	17.009,599	1H:5V	500	898,056	1.822,540	3.388,309	9.087,625
1	PRFV	3.701,335	2,073	1,335	1,100	2,223	17.014,187	1H:5V	500	898,282	1.823,303	3.388,894	9.090,377
1	PRFV	3.720,000	2,051	18,665	1,100	2,201	17.077,869	1H:5V	500	901,446	1.833,973	3.397,069	9.128,385
1	PRFV	3.740,000	2,075	20,000	1,100	2,225	17.146,145	1H:5V	500	904,836	1.845,406	3.405,829	9.169,151
1	PRFV	3.760,000	2,025	20,000	1,100	2,175	17.213,907	1H:5V	500	908,226	1.856,839	3.414,589	9.209,403
1	PRFV	3.780,000	1,977	20,000	1,100	2,127	17.279,739	1H:5V	500	911,616	1.868,272	3.423,349	9.247,725
1	PRFV	3.800,000	1,922	20,000	1,100	2,072	17.343,562	1H:5V	500	915,006	1.879,705	3.432,109	9.284,039
1	PRFV	3.820,000	1,891	20,000	1,100	2,041	17.405,723	1H:5V	500	918,396	1.891,138	3.440,869	9.318,689
1	PRFV	3.840,000	1,834	20,000	1,100	1,984	17.466,202	1H:5V	500	921,786	1.902,571	3.449,629	9.351,658
1	PRFV	3.860,000	1,789	20,000	1,100	1,939	17.524,747	1H:5V	500	925,176	1.914,004	3.458,389	9.382,693
1	PRFV	3.880,000	1,783	20,000	1,100	1,933	17.582,331	1H:5V	500	928,566	1.925,437	3.467,149	9.412,767
1	PRFV	3.880,701	1,784	0,701	1,100	1,934	17.584,346	1H:5V	500	928,685	1.925,838	3.467,456	9.413,818
1	PRFV	3.900,000	1,720	19,299	1,100	1,870	17.638,691	1H:5V	500	931,956	1.936,870	3.475,909	9.441,617
1	PRFV	3.920,000	1,719	20,000	1,100	1,869	17.693,800	1H:5V	500	935,346	1.948,303	3.484,669	9.469,216
1	PRFV	3.923,985	1,706	3,985	1,100	1,856	17.704,729	1H:5V	500	936,021	1.950,581	3.486,415	9.474,664
1	PRFV	3.925,977	1,701	1,992	1,100	1,851	17.710,159	1H:5V	500	936,359	1.951,720	3.487,287	9.477,354
1	PRFV	3.927,969	1,695	1,992	1,100	1,845	17.715,569	1H:5V	500	936,697	1.952,858	3.488,160	9.480,024
1	PRFV	3.940,000	1,658	12,031	1,100	1,808	17.747,769	1H:5V	500	938,736	1.959,736	3.493,429	9.495,675
1	PRFV	3.948,238	1,630	8,238	1,100	1,780	17.769,329	1H:5V	500	940,132	1.964,445	3.497,037	9.505,904
1	PRFV	3.960,000	1,590	11,762	1,100	1,740	17.799,388	1H:5V	500	942,126	1.971,169	3.502,189	9.519,784
1	PRFV	3.980,000	1,527	20,000	1,100	1,677	17.848,655	1H:5V	500	945,516	1.982,602	3.510,949	9.541,541
1	PRFV	4.000,000	1,567	20,000	1,100	1,717	17.897,510	1H:5V	500	948,906	1.994,035	3.519,709	9.562,886
1	PRFV	4.020,000	1,528	20,000	1,100	1,678	17.946,382	1H:5V	500	952,296	2.005,468	3.528,469	9.584,249
1	PRFV	4.040,000	1,764	20,000	1,100	1,914	17.998,853	1H:5V	500	955,686	2.016,901	3.537,229	9.609,209
1	PRFV	4.060,000	2,040	20,000	1,100	2,190	18.060,916	1H:5V	500	959,076	2.028,334	3.545,989	9.643,762
1	PRFV	4.076,840	2,170	16,840	1,100	2,320	18.119,828	1H:5V	500	961,930	2.037,961	3.553,365	9.679,511

R-2-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	4.080,000	2,167	3,160	1,100	2,317	18.131,284	1H:5V	500	962,466	2.039,767	3.554,749	9.686,620
1	PRFV	4.100,000	2,114	20,000	1,100	2,264	18.202,664	1H:5V	500	965,856	2.051,200	3.563,509	9.730,490
1	PRFV	4.120,000	2,051	20,000	1,100	2,201	18.271,719	1H:5V	500	969,246	2.062,633	3.572,269	9.772,035
1	PRFV	4.134,216	1,920	14,216	1,100	2,070	18.318,091	1H:5V	500	971,655	2.070,760	3.578,496	9.798,853
1	PRFV	4.140,000	1,873	5,784	1,100	2,023	18.335,957	1H:5V	500	972,636	2.074,066	3.581,029	9.808,763
1	PRFV	4.160,000	1,717	20,000	1,100	1,867	18.393,904	1H:5V	500	976,026	2.085,499	3.589,789	9.839,200
1	PRFV	4.180,000	1,568	20,000	1,100	1,718	18.446,213	1H:5V	500	979,416	2.096,932	3.598,549	9.863,999
1	PRFV	4.186,294	1,500	6,294	1,100	1,650	18.461,443	1H:5V	500	980,483	2.100,530	3.601,306	9.870,572
1	PEAD	4.200,000	1,461	13,706	0,715	1,611	18.489,064	1H:5V	315	982,410	2.105,051	3.607,308	9.884,674
1	PEAD	4.220,000	1,379	20,000	0,715	1,529	18.521,381	1H:5V	315	984,645	2.106,812	3.616,065	9.902,680
1	PEAD	4.240,000	1,364	20,000	0,715	1,514	18.552,399	1H:5V	315	986,880	2.108,573	3.624,821	9.919,386
1	PEAD	4.260,000	1,414	20,000	0,715	1,564	18.583,883	1H:5V	315	989,115	2.110,335	3.633,578	9.936,559
1	PEAD	4.280,000	1,500	20,000	0,715	1,650	18.617,200	1H:5V	315	991,350	2.112,096	3.642,334	9.955,565
1	PEAD	4.300,000	1,601	20,000	0,715	1,751	18.653,094	1H:5V	315	993,585	2.113,857	3.651,091	9.977,148
1	PEAD	4.320,000	1,702	20,000	0,715	1,852	18.691,848	1H:5V	315	995,820	2.115,618	3.659,848	10.001,589
1	PEAD	4.340,000	1,804	20,000	0,715	1,954	18.733,557	1H:5V	315	998,055	2.117,379	3.668,604	10.028,987
1	PEAD	4.360,000	1,953	20,000	0,715	2,103	18.779,046	1H:5V	315	1.000,290	2.119,140	3.677,361	10.060,165
1	PEAD	4.370,238	1,990	10,238	0,715	2,140	18.803,792	1H:5V	315	1.001,434	2.120,042	3.681,843	10.077,585
1	PEAD	4.380,000	1,894	9,762	0,715	2,044	18.826,943	1H:5V	315	1.002,525	2.120,902	3.686,117	10.093,750
1	PEAD	4.400,000	1,557	20,000	0,715	1,707	18.867,946	1H:5V	315	1.004,760	2.122,663	3.694,874	10.120,442
1	PEAD	4.420,000	1,351	20,000	0,715	1,501	18.901,217	1H:5V	315	1.006,995	2.124,424	3.703,631	10.139,402
1	PEAD	4.422,481	1,366	2,481	0,715	1,516	18.905,022	1H:5V	315	1.007,272	2.124,642	3.704,717	10.141,431
1	PEAD	4.423,330	1,370	0,849	0,715	1,520	18.906,335	1H:5V	315	1.007,367	2.124,717	3.705,089	10.142,137
1	PEAD	4.424,179	1,374	0,849	0,715	1,524	18.907,652	1H:5V	315	1.007,462	2.124,792	3.705,460	10.142,846
1	PEAD	4.440,000	1,444	15,821	0,715	1,594	18.932,982	1H:5V	315	1.009,230	2.126,185	3.712,387	10.156,855
1	PEAD	4.441,254	1,449	1,254	0,715	1,599	18.935,052	1H:5V	315	1.009,370	2.126,295	3.712,936	10.158,029
1	PEAD	4.460,000	1,531	18,746	0,715	1,681	18.967,124	1H:5V	315	1.011,465	2.127,946	3.721,144	10.176,686
1	PEAD	4.480,000	1,619	20,000	0,715	1,769	19.003,702	1H:5V	315	1.013,700	2.129,707	3.729,901	10.198,953
1	PEAD	4.500,000	1,707	20,000	0,715	1,857	19.042,783	1H:5V	315	1.015,935	2.131,469	3.738,657	10.223,723
1	PEAD	4.520,000	1,794	20,000	0,715	1,944	19.084,416	1H:5V	315	1.018,170	2.133,230	3.747,414	10.251,044
1	PEAD	4.529,793	1,837	9,793	0,715	1,987	19.105,746	1H:5V	315	1.019,264	2.134,092	3.751,701	10.265,366
1	PEAD	4.540,000	1,882	10,207	0,715	2,032	19.128,655	1H:5V	315	1.020,405	2.134,991	3.756,170	10.280,972
1	PEAD	4.560,000	1,969	20,000	0,715	2,119	19.175,573	1H:5V	315	1.022,640	2.136,752	3.764,927	10.313,578
1	PEAD	4.580,000	2,057	20,000	0,715	2,207	19.225,226	1H:5V	315	1.024,875	2.138,513	3.773,684	10.348,920
1	PEAD	4.591,865	2,109	11,865	0,715	2,259	19.256,004	1H:5V	315	1.026,201	2.139,558	3.778,878	10.371,207
1	PEAD	4.600,000	2,145	8,135	0,715	2,295	19.277,684	1H:5V	315	1.027,110	2.140,274	3.782,440	10.387,066

R-2-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	4.620,000	2,232	20,000	0,715	2,382	19.333,007	1H:5V	315	1.029,345	2.142,036	3.791,197	10.428,077
1	PEAD	4.640,000	2,320	20,000	0,715	2,470	19.391,248	1H:5V	315	1.031,580	2.143,797	3.799,953	10.472,007
1	PEAD	4.660,000	2,407	20,000	0,715	2,557	19.452,469	1H:5V	315	1.033,815	2.145,558	3.808,710	10.518,917
1	PEAD	4.680,000	2,495	20,000	0,715	2,645	19.516,732	1H:5V	315	1.036,050	2.147,319	3.817,467	10.568,869
1	PEAD	4.681,790	2,503	1,790	0,715	2,653	19.522,635	1H:5V	315	1.036,250	2.147,477	3.818,250	10.573,490
1	PEAD	4.700,000	2,459	18,210	0,715	2,609	19.582,103	1H:5V	315	1.038,285	2.149,080	3.826,223	10.619,928
1	PEAD	4.720,000	2,291	20,000	0,715	2,441	19.643,741	1H:5V	315	1.040,520	2.150,841	3.834,980	10.667,255
1	PEAD	4.740,000	2,119	20,000	0,715	2,269	19.699,631	1H:5V	315	1.042,755	2.152,602	3.843,737	10.708,834
1	PEAD	4.760,000	1,927	20,000	0,715	2,077	19.749,630	1H:5V	315	1.044,990	2.154,364	3.852,493	10.744,521
1	PEAD	4.780,000	1,933	20,000	0,715	2,083	19.796,680	1H:5V	315	1.047,225	2.156,125	3.861,250	10.777,259
1	PEAD	4.800,000	1,813	20,000	0,715	1,963	19.841,993	1H:5V	315	1.049,460	2.157,886	3.870,006	10.808,261
1	PEAD	4.820,000	1,674	20,000	0,715	1,824	19.883,431	1H:5V	315	1.051,695	2.159,647	3.878,763	10.835,388
1	PEAD	4.840,000	1,536	20,000	0,715	1,686	19.920,866	1H:5V	315	1.053,930	2.161,408	3.887,520	10.858,512
1	PEAD	4.860,000	1,397	20,000	0,715	1,547	19.954,454	1H:5V	315	1.056,165	2.163,169	3.896,276	10.877,788
1	PEAD	4.880,000	1,371	20,000	0,715	1,521	19.985,803	1H:5V	315	1.058,400	2.164,931	3.905,033	10.894,826
1	PEAD	4.882,490	1,382	2,490	0,715	1,532	19.989,682	1H:5V	315	1.058,678	2.165,150	3.906,123	10.896,922
1	PEAD	4.900,000	1,458	17,510	0,715	1,608	20.017,975	1H:5V	315	1.060,635	2.166,692	3.913,789	10.912,686
1	PEAD	4.920,000	1,546	20,000	0,715	1,696	20.052,522	1H:5V	315	1.062,870	2.168,453	3.922,546	10.932,922
1	PEAD	4.940,000	1,634	20,000	0,715	1,784	20.089,523	1H:5V	315	1.065,105	2.170,214	3.931,303	10.955,611
1	PEAD	4.960,000	1,721	20,000	0,715	1,871	20.129,022	1H:5V	315	1.067,340	2.171,975	3.940,059	10.980,799
1	PEAD	4.980,000	1,809	20,000	0,715	1,959	20.171,083	1H:5V	315	1.069,575	2.173,736	3.948,816	11.008,549
1	PEAD	5.000,000	1,896	20,000	0,715	2,046	20.215,767	1H:5V	315	1.071,810	2.175,498	3.957,573	11.038,921
1	PEAD	5.010,776	1,944	10,776	0,715	2,094	20.240,952	1H:5V	315	1.073,014	2.176,447	3.962,291	11.056,395
1	PEAD	5.020,000	1,984	9,224	0,715	2,134	20.263,139	1H:5V	315	1.074,045	2.177,259	3.966,329	11.071,982
1	PEAD	5.026,985	1,909	6,985	0,715	2,059	20.279,752	1H:5V	315	1.074,826	2.177,874	3.969,387	11.083,596
1	PEAD	5.040,000	1,811	13,015	0,715	1,961	20.308,979	1H:5V	315	1.076,280	2.179,020	3.975,086	11.103,510
1	PEAD	5.060,000	1,508	20,000	0,715	1,658	20.348,044	1H:5V	315	1.078,515	2.180,781	3.983,842	11.128,264
1	PEAD	5.061,721	1,476	1,721	0,715	1,626	20.350,993	1H:5V	315	1.078,707	2.180,933	3.984,596	11.129,981
1	PEAD	5.080,000	1,617	18,279	0,715	1,767	20.383,705	1H:5V	315	1.080,750	2.182,542	3.992,599	11.149,613
1	PEAD	5.092,850	2,303	12,850	0,715	2,453	20.414,835	1H:5V	315	1.082,186	2.183,674	3.998,225	11.171,549
1	PEAD	5.093,169	2,304	0,319	0,715	2,454	20.415,779	1H:5V	315	1.082,222	2.183,702	3.998,365	11.172,264
1	PEAD	5.093,488	2,304	0,319	0,650	2,454	20.416,697	1H:5V	250	1.082,256	2.183,727	3.998,495	11.172,977
1	PEAD	5.100,000	2,291	6,512	0,650	2,441	20.434,859	1H:5V	250	1.082,920	2.184,165	4.000,980	11.187,232
1	PEAD	5.120,000	2,082	20,000	0,650	2,232	20.487,114	1H:5V	250	1.084,960	2.185,512	4.008,612	11.227,487
1	PEAD	5.140,000	2,075	20,000	0,650	2,225	20.535,949	1H:5V	250	1.087,000	2.186,858	4.016,244	11.264,322
1	PEAD	5.160,000	2,124	20,000	0,650	2,274	20.585,436	1H:5V	250	1.089,040	2.188,205	4.023,875	11.301,809

R-2-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	5.180,000	2,131	20,000	0,650	2,281	20.635,792	1H:5V	250	1.091,080	2.189,552	4.031,507	11.340,165
1	PEAD	5.200,000	1,832	20,000	0,650	1,982	20.681,764	1H:5V	250	1.093,120	2.190,898	4.039,138	11.374,137
1	PEAD	5.220,000	2,051	20,000	0,650	2,201	20.726,499	1H:5V	250	1.095,160	2.192,245	4.046,770	11.406,872
1	PEAD	5.240,000	2,011	20,000	0,650	2,161	20.773,881	1H:5V	250	1.097,200	2.193,592	4.054,402	11.442,253
1	PEAD	5.260,000	1,971	20,000	0,650	2,121	20.820,051	1H:5V	250	1.099,240	2.194,938	4.062,033	11.476,424
1	PEAD	5.280,000	1,931	20,000	0,650	2,081	20.865,022	1H:5V	250	1.101,280	2.196,285	4.069,665	11.509,395
1	PEAD	5.300,000	1,891	20,000	0,650	2,041	20.908,808	1H:5V	250	1.103,320	2.197,631	4.077,297	11.541,180
1	PEAD	5.319,139	1,557	19,139	0,650	1,707	20.945,670	1H:5V	250	1.105,272	2.198,920	4.084,600	11.566,560
1	PEAD	5.319,439	1,534	0,300	0,650	1,684	20.946,173	1H:5V	250	1.105,303	2.198,940	4.084,714	11.566,883
1	PEAD	5.319,446	1,533	0,007	0,650	1,683	20.946,185	1H:5V	250	1.105,303	2.198,941	4.084,717	11.566,890
1	PEAD	5.319,739	1,535	0,293	0,650	1,685	20.946,672	1H:5V	250	1.105,333	2.198,960	4.084,829	11.567,201
1	PEAD	5.320,000	1,536	0,261	0,650	1,686	20.947,106	1H:5V	250	1.105,360	2.198,978	4.084,928	11.567,479
1	PEAD	5.340,000	1,663	20,000	0,650	1,813	20.982,109	1H:5V	250	1.107,400	2.200,325	4.092,560	11.590,482
1	PEAD	5.360,000	2,014	20,000	0,650	2,164	21.023,899	1H:5V	250	1.109,440	2.201,671	4.100,191	11.620,272
1	PEAD	5.368,314	2,032	8,314	0,650	2,182	21.043,494	1H:5V	250	1.110,288	2.202,231	4.103,364	11.634,878
1	PEAD	5.380,000	2,040	11,686	0,650	2,190	21.071,267	1H:5V	250	1.111,480	2.203,018	4.107,823	11.655,640
1	PEAD	5.400,000	1,738	20,000	0,650	1,888	21.114,495	1H:5V	250	1.113,520	2.204,365	4.115,455	11.686,868
1	PEAD	5.420,000	1,254	20,000	0,650	1,404	21.146,965	1H:5V	250	1.115,560	2.205,711	4.123,086	11.707,338
1	PEAD	5.432,900	1,306	12,900	0,650	1,456	21.164,233	1H:5V	250	1.116,876	2.206,580	4.128,009	11.716,866
1	PEAD	5.433,735	1,310	0,835	0,650	1,460	21.165,379	1H:5V	250	1.116,961	2.206,636	4.128,327	11.717,511
1	PEAD	5.434,570	1,318	0,835	0,650	1,468	21.166,532	1H:5V	250	1.117,046	2.206,692	4.128,646	11.718,163
1	PEAD	5.438,524	1,360	3,954	0,650	1,510	21.172,112	1H:5V	250	1.117,449	2.206,958	4.130,155	11.721,371
1	PEAD	5.440,000	1,376	1,476	0,650	1,526	21.174,249	1H:5V	250	1.117,600	2.207,058	4.130,718	11.722,622
1	PEAD	5.460,000	1,589	20,000	0,650	1,739	21.206,177	1H:5V	250	1.119,640	2.208,404	4.138,350	11.742,550
1	PEAD	5.480,000	1,803	20,000	0,650	1,953	21.243,852	1H:5V	250	1.121,680	2.209,751	4.145,981	11.768,225
1	PEAD	5.500,000	1,662	20,000	0,650	1,812	21.282,519	1H:5V	250	1.123,720	2.211,098	4.153,613	11.794,892
1	PEAD	5.510,020	1,336	10,020	0,650	1,486	21.298,762	1H:5V	250	1.124,742	2.211,772	4.157,436	11.805,123
1	PEAD	5.520,000	1,261	9,980	0,650	1,411	21.312,349	1H:5V	250	1.125,760	2.212,444	4.161,244	11.812,722
1	PEAD	5.540,000	1,444	20,000	0,650	1,594	21.340,945	1H:5V	250	1.127,800	2.213,791	4.168,876	11.829,318
1	PEAD	5.560,000	1,657	20,000	0,650	1,807	21.374,664	1H:5V	250	1.129,840	2.215,138	4.176,508	11.851,037
1	PEAD	5.561,381	1,672	1,381	0,650	1,822	21.377,202	1H:5V	250	1.129,981	2.215,231	4.177,035	11.852,746
1	PEAD	5.580,000	1,639	18,619	0,650	1,789	21.411,193	1H:5V	250	1.131,880	2.216,484	4.184,139	11.875,565
1	PEAD	5.600,000	1,420	20,000	0,650	1,570	21.444,357	1H:5V	250	1.133,920	2.217,831	4.191,771	11.896,730
1	PEAD	5.619,165	1,289	19,165	0,650	1,439	21.471,791	1H:5V	250	1.135,875	2.219,121	4.199,084	11.912,665
1	PEAD	5.620,000	1,296	0,835	0,650	1,446	21.472,922	1H:5V	250	1.135,960	2.219,177	4.199,403	11.913,295
1	PEAD	5.620,835	1,301	0,835	0,650	1,451	21.474,058	1H:5V	250	1.136,045	2.219,234	4.199,721	11.913,930

R-2-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	5.637,381	1,367	16,546	0,650	1,517	21.497,310	1H:5V	250	1.137,733	2.220,348	4.206,035	11.927,254
1	PEAD	5.640,000	1,378	2,619	0,525	1,528	21.500,866	1H:5V	125	1.137,975	2.220,477	4.206,901	11.929,541
1	PEAD	5.660,000	1,458	20,000	0,525	1,608	21.527,171	1H:5V	125	1.139,640	2.221,101	4.212,491	11.947,721
1	PEAD	5.680,000	1,538	20,000	0,525	1,688	21.555,345	1H:5V	125	1.141,305	2.221,725	4.218,081	11.967,770
1	PEAD	5.687,795	1,569	7,795	0,525	1,719	21.566,841	1H:5V	125	1.141,954	2.221,968	4.220,260	11.976,099
1	PEAD	5.700,000	1,618	12,205	0,525	1,768	21.585,434	1H:5V	125	1.142,970	2.222,349	4.223,672	11.989,734
1	PEAD	5.705,443	1,639	5,443	0,525	1,789	21.593,960	1H:5V	125	1.143,424	2.222,519	4.225,193	11.996,048
1	PEAD	5.720,000	1,698	14,557	0,525	1,848	21.617,488	1H:5V	125	1.144,635	2.222,973	4.229,262	12.013,662
1	PEAD	5.727,253	1,727	7,253	0,525	1,877	21.629,612	1H:5V	125	1.145,239	2.223,200	4.231,290	12.022,840
1	PEAD	5.740,000	1,642	12,747	0,525	1,792	21.650,473	1H:5V	125	1.146,300	2.223,598	4.234,853	12.038,523
1	PEAD	5.760,000	1,504	20,000	0,525	1,654	21.680,459	1H:5V	125	1.147,965	2.224,222	4.240,443	12.060,383
1	PEAD	5.780,000	1,366	20,000	0,525	1,516	21.707,169	1H:5V	125	1.149,630	2.224,846	4.246,033	12.078,969
1	PEAD	5.799,098	1,245	19,098	0,525	1,395	21.729,868	1H:5V	125	1.151,220	2.225,442	4.251,372	12.093,909
1	PEAD	5.800,000	1,248	0,902	0,525	1,398	21.730,881	1H:5V	125	1.151,295	2.225,470	4.251,624	12.094,556
1	PEAD	5.804,806	1,264	4,806	0,525	1,414	21.736,329	1H:5V	125	1.151,696	2.225,620	4.252,967	12.098,051

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R-2-3-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	0,000	3,351	0,000	1,200	3,501	0,000	1H:5V	600	0,000	0,000	0,000	0,000
1	PRFV	20,000	2,578	20,000	1,200	2,728	134,186	1H:5V	600	3,690	13,945	9,600	101,296
1	PRFV	40,000	2,171	20,000	1,200	2,321	220,432	1H:5V	600	7,380	27,890	19,200	154,652
1	PRFV	60,000	1,747	20,000	1,200	1,897	289,019	1H:5V	600	11,070	41,835	28,800	190,349
1	PRFV	80,000	1,970	20,000	1,200	2,120	353,409	1H:5V	600	14,760	55,781	38,400	221,849
1	PRFV	100,000	1,831	20,000	1,200	1,981	419,459	1H:5V	600	18,450	69,726	48,000	255,009
1	PRFV	100,433	1,821	0,433	1,200	1,971	420,824	1H:5V	600	18,530	70,028	48,208	255,662
1	PRFV	104,401	1,754	3,968	1,200	1,904	433,029	1H:5V	600	19,262	72,794	50,112	261,342
1	PRFV	108,369	1,727	3,968	1,200	1,877	444,868	1H:5V	600	19,994	75,561	52,017	266,655
1	PRFV	120,000	1,704	11,631	1,200	1,854	479,000	1H:5V	600	22,140	83,671	57,600	281,660
1	PRFV	140,000	1,664	20,000	1,200	1,814	536,472	1H:5V	600	25,830	97,616	67,200	306,242
1	PRFV	160,000	1,624	20,000	1,200	1,774	592,404	1H:5V	600	29,520	111,561	76,800	329,284
1	PRFV	180,000	1,609	20,000	1,200	1,759	647,282	1H:5V	600	33,210	125,506	86,400	351,272
1	PRFV	200,000	2,139	20,000	1,200	2,289	712,525	1H:5V	600	36,900	139,451	96,000	383,625

R-2-3-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	211,856	2,520	11,856	1,200	2,670	762,465	1H:5V	600	39,087	147,718	101,691	414,068
1	PRFV	220,000	2,462	8,144	1,200	2,612	799,637	1H:5V	600	40,590	153,396	105,600	437,847
1	PRFV	240,000	2,258	20,000	1,200	2,408	885,120	1H:5V	600	44,280	167,342	115,200	490,440
1	PRFV	240,646	2,249	0,646	1,200	2,399	887,729	1H:5V	600	44,399	167,792	115,510	491,987
1	PRFV	260,000	2,126	19,354	1,200	2,276	963,181	1H:5V	600	47,970	181,287	124,800	535,611
1	PRFV	280,000	2,034	20,000	1,200	2,184	1.036,601	1H:5V	600	51,660	195,232	134,400	576,141
1	PRFV	300,000	1,892	20,000	1,200	2,042	1.105,193	1H:5V	600	55,350	209,177	144,000	611,843
1	PRFV	320,000	1,749	20,000	1,200	1,899	1.168,037	1H:5V	600	59,040	223,122	153,600	641,797
1	PRFV	340,000	2,126	20,000	1,200	2,276	1.235,709	1H:5V	600	62,730	237,067	163,200	676,579
1	PRFV	360,000	2,276	20,000	1,200	2,426	1.314,265	1H:5V	600	66,420	251,012	172,800	722,245
1	PRFV	380,000	2,212	20,000	1,200	2,362	1.394,650	1H:5V	600	70,110	264,958	182,400	769,740
1	PRFV	400,000	2,135	20,000	1,200	2,285	1.472,014	1H:5V	600	73,800	278,903	192,000	814,214
1	PRFV	420,000	2,037	20,000	1,200	2,187	1.545,687	1H:5V	600	77,490	292,848	201,600	854,997
1	PRFV	440,000	1,894	20,000	1,200	2,044	1.614,380	1H:5V	600	81,180	306,793	211,200	890,800
1	PRFV	460,000	1,751	20,000	1,200	1,901	1.677,304	1H:5V	600	84,870	320,738	220,800	920,834
1	PRFV	480,000	1,609	20,000	1,200	1,759	1.734,640	1H:5V	600	88,560	334,683	230,400	945,280
1	PRFV	493,739	2,054	13,739	1,200	2,204	1.778,233	1H:5V	600	91,095	344,263	236,995	966,279
1	PRFV	500,000	2,263	6,261	1,200	2,413	1.802,264	1H:5V	600	92,250	348,628	240,000	980,014
1	PRFV	520,000	2,192	20,000	1,200	2,342	1.881,939	1H:5V	600	95,940	362,573	249,600	1.026,799
1	PRFV	540,000	2,179	20,000	1,200	2,329	1.959,810	1H:5V	600	99,630	376,519	259,200	1.071,780
1	PRFV	560,000	2,226	20,000	1,200	2,376	2.038,409	1H:5V	600	103,320	390,464	268,800	1.117,489
1	PRFV	580,000	2,209	20,000	1,200	2,359	2.117,649	1H:5V	600	107,010	404,409	278,400	1.163,839
1	PRFV	600,000	2,242	20,000	1,200	2,392	2.197,234	1H:5V	600	110,700	418,354	288,000	1.210,534
1	PRFV	620,000	2,320	20,000	1,200	2,470	2.279,224	1H:5V	600	114,390	432,299	297,600	1.259,634
1	PRFV	640,000	2,489	20,000	1,200	2,639	2.366,662	1H:5V	600	118,080	446,244	307,200	1.314,182
1	PRFV	660,000	2,648	20,000	1,200	2,798	2.461,492	1H:5V	600	121,770	460,189	316,800	1.376,122
1	PRFV	680,000	2,544	20,000	1,200	2,694	2.557,569	1H:5V	600	125,460	474,135	326,400	1.439,309
1	PRFV	693,000	2,562	13,000	1,200	2,712	2.618,732	1H:5V	600	127,859	483,199	332,640	1.479,094
1	PRFV	700,000	2,560	7,000	1,200	2,710	2.651,794	1H:5V	600	129,150	488,080	336,000	1.500,644
1	PRFV	720,000	2,557	20,000	1,200	2,707	2.746,142	1H:5V	600	132,840	502,025	345,600	1.562,102
1	PRFV	740,000	2,551	20,000	1,200	2,701	2.840,284	1H:5V	600	136,530	515,970	355,200	1.623,354
1	PRFV	760,000	2,471	20,000	1,200	2,621	2.932,479	1H:5V	600	140,220	529,915	364,800	1.682,659
1	PRFV	780,000	2,405	20,000	1,200	2,555	3.021,386	1H:5V	600	143,910	543,860	374,400	1.738,676
1	PRFV	800,000	2,336	20,000	1,200	2,486	3.107,294	1H:5V	600	147,600	557,805	384,000	1.791,694
1	PRFV	820,000	2,184	20,000	1,200	2,334	3.188,390	1H:5V	600	151,290	571,750	393,600	1.839,900
1	PRFV	840,000	2,000	20,000	1,200	2,150	3.262,338	1H:5V	600	154,980	585,696	403,200	1.880,958

R-2-3-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	860,000	1,803	20,000	1,200	1,953	3.328,447	1H:5V	600	158,670	599,641	412,800	1.914,177
1	PRFV	880,000	1,644	20,000	1,200	1,794	3.387,477	1H:5V	600	162,360	613,586	422,400	1.940,317
1	PRFV	892,000	1,601	12,000	1,200	1,751	3.420,542	1H:5V	600	164,574	621,953	428,160	1.953,648
1	PRFV	900,000	1,633	8,000	1,200	1,783	3.442,501	1H:5V	600	166,050	627,531	432,000	1.962,451
1	PRFV	920,000	1,713	20,000	1,200	1,863	3.499,553	1H:5V	600	169,740	641,476	441,600	1.986,613
1	PRFV	940,000	1,793	20,000	1,200	1,943	3.559,717	1H:5V	600	173,430	655,421	451,200	2.013,887
1	PRFV	960,000	1,873	20,000	1,200	2,023	3.623,045	1H:5V	600	177,120	669,366	460,800	2.044,325
1	PRFV	980,000	1,953	20,000	1,200	2,103	3.689,587	1H:5V	600	180,810	683,312	470,400	2.077,977
1	PRFV	1.000,000	1,829	20,000	1,200	1,979	3.755,249	1H:5V	600	184,500	697,257	480,000	2.110,749
1	PRFV	1.020,000	1,683	20,000	1,200	1,833	3.815,546	1H:5V	600	188,190	711,202	489,600	2.138,156
1	PRFV	1.039,937	1,609	19,937	1,200	1,759	3.871,381	1H:5V	600	191,868	725,103	499,170	2.161,205
1	PRFV	1.040,000	1,609	0,063	1,200	1,759	3.871,553	1H:5V	600	191,880	725,147	499,200	2.161,273
1	PRFV	1.041,332	1,602	1,332	1,200	1,752	3.875,180	1H:5V	600	192,126	726,076	499,839	2.162,710
1	PRFV	1.042,727	1,600	1,395	1,200	1,750	3.878,967	1H:5V	600	192,383	727,048	500,509	2.164,202
1	PRFV	1.060,000	1,605	17,273	1,200	1,755	3.925,902	1H:5V	600	195,570	739,092	508,800	2.182,732
1	PRFV	1.080,000	1,623	20,000	1,200	1,773	3.980,685	1H:5V	600	199,260	753,037	518,400	2.204,625
1	PRFV	1.085,133	1,679	5,133	1,200	1,829	3.995,109	1H:5V	600	200,207	756,616	520,864	2.210,608
1	PRFV	1.086,528	1,692	1,395	1,200	1,842	3.999,122	1H:5V	600	200,464	757,589	521,533	2.212,326
1	PRFV	1.087,923	1,700	1,395	1,200	1,850	4.003,163	1H:5V	600	200,722	758,562	522,203	2.214,073
1	PRFV	1.100,000	1,748	12,077	1,200	1,898	4.038,805	1H:5V	600	202,950	766,982	528,000	2.229,855
1	PRFV	1.107,050	1,776	7,050	1,200	1,926	4.060,136	1H:5V	600	204,251	771,898	531,384	2.239,592
1	PRFV	1.120,000	1,828	12,950	1,200	1,978	4.100,340	1H:5V	600	206,640	780,927	537,600	2.258,500
1	PRFV	1.124,006	1,809	4,006	1,200	1,959	4.112,908	1H:5V	600	207,379	783,721	539,523	2.264,480
1	PRFV	1.140,000	1,698	15,994	1,200	1,848	4.161,041	1H:5V	600	210,330	794,873	547,200	2.286,311
1	PRFV	1.160,000	1,650	20,000	1,200	1,800	4.218,128	1H:5V	600	214,020	808,818	556,800	2.310,508
1	PRFV	1.180,000	1,804	20,000	1,200	1,954	4.277,292	1H:5V	600	217,710	822,763	566,400	2.336,782
1	PRFV	1.200,000	1,949	20,000	1,200	2,099	4.342,376	1H:5V	600	221,400	836,708	576,000	2.368,976
1	PRFV	1.220,000	2,228	20,000	1,200	2,378	4.416,221	1H:5V	600	225,090	850,653	585,600	2.409,931
1	PRFV	1.240,000	2,308	20,000	1,200	2,458	4.497,646	1H:5V	600	228,780	864,598	595,200	2.458,466
1	PRFV	1.260,000	2,388	20,000	1,200	2,538	4.582,565	1H:5V	600	232,470	878,543	604,800	2.510,495
1	PRFV	1.280,000	2,468	20,000	1,200	2,618	4.671,028	1H:5V	600	236,160	892,489	614,400	2.566,068
1	PRFV	1.300,000	2,548	20,000	1,200	2,698	4.763,086	1H:5V	600	239,850	906,434	624,000	2.625,236
1	PRFV	1.320,000	2,628	20,000	1,200	2,778	4.858,791	1H:5V	600	243,540	920,379	633,600	2.688,051
1	PRFV	1.340,000	2,708	20,000	1,200	2,858	4.958,194	1H:5V	600	247,230	934,324	643,200	2.754,564
1	PRFV	1.360,000	2,788	20,000	1,200	2,938	5.061,346	1H:5V	600	250,920	948,269	652,800	2.824,826
1	PRFV	1.380,000	2,562	20,000	1,200	2,712	5.161,119	1H:5V	600	254,610	962,214	662,400	2.891,709

R-2-3-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	1.397,776	2,148	17,776	1,200	2,298	5.237,015	1H:5V	600	257,890	974,609	670,932	2.938,373
1	PRFV	1.400,000	2,096	2,224	1,200	2,246	5.245,375	1H:5V	600	258,300	976,159	672,000	2.943,075
1	PRFV	1.402,224	2,057	2,224	1,200	2,207	5.253,522	1H:5V	600	258,710	977,710	673,068	2.947,565
1	PRFV	1.420,000	2,251	17,776	1,200	2,401	5.321,575	1H:5V	600	261,990	990,104	681,600	2.986,385
1	PRFV	1.440,000	1,971	20,000	1,200	2,121	5.396,366	1H:5V	600	265,680	1.004,050	691,200	3.028,286
1	PRFV	1.460,000	2,523	20,000	1,200	2,673	5.477,181	1H:5V	600	269,370	1.017,995	700,800	3.076,211
1	PRFV	1.461,552	2,583	1,552	1,200	2,733	5.484,484	1H:5V	600	269,656	1.019,077	701,545	3.080,961
1	PRFV	1.480,000	2,760	18,448	1,200	2,910	5.576,346	1H:5V	600	273,060	1.031,940	710,400	3.142,486
1	PRFV	1.500,000	2,631	20,000	1,200	2,781	5.677,042	1H:5V	600	276,750	1.045,885	720,000	3.210,292
1	PRFV	1.520,000	2,502	20,000	1,200	2,652	5.771,772	1H:5V	600	280,440	1.059,830	729,600	3.272,132
1	PRFV	1.540,000	2,011	20,000	1,200	2,161	5.852,934	1H:5V	600	284,130	1.073,775	739,200	3.320,404
1	PRFV	1.560,000	1,743	20,000	1,200	1,893	5.918,089	1H:5V	600	287,820	1.087,720	748,800	3.352,669
1	PRFV	1.579,731	1,631	19,731	1,200	1,781	5.974,913	1H:5V	600	291,460	1.101,478	758,271	3.377,046
1	PRFV	1.580,000	1,635	0,269	1,100	1,785	5.975,636	1H:5V	500	291,508	1.101,649	758,394	3.377,374
1	PRFV	1.600,000	1,671	20,000	1,100	1,821	6.028,306	1H:5V	500	294,898	1.113,082	767,154	3.402,534
1	PRFV	1.620,000	1,634	20,000	1,100	1,784	6.080,959	1H:5V	500	298,288	1.124,515	775,914	3.427,677
1	PRFV	1.640,000	1,585	20,000	1,100	1,735	6.132,054	1H:5V	500	301,678	1.135,948	784,674	3.451,261
1	PRFV	1.660,000	1,668	20,000	1,100	1,818	6.183,767	1H:5V	500	305,068	1.147,381	793,434	3.475,465
1	PRFV	1.680,000	1,752	20,000	1,100	1,902	6.238,533	1H:5V	500	308,458	1.158,814	802,194	3.502,721
1	PRFV	1.700,000	1,994	20,000	1,100	2,144	6.299,467	1H:5V	500	311,848	1.170,247	810,954	3.536,145
1	PRFV	1.710,053	2,197	10,053	1,100	2,347	6.334,458	1H:5V	500	313,552	1.175,993	815,358	3.557,307
1	PRFV	1.720,000	2,338	9,947	1,100	2,488	6.372,546	1H:5V	500	315,238	1.181,680	819,714	3.581,713
1	PRFV	1.740,000	2,281	20,000	1,100	2,431	6.450,854	1H:5V	500	318,628	1.193,113	828,474	3.632,512
1	PRFV	1.760,000	2,055	20,000	1,100	2,205	6.523,394	1H:5V	500	322,018	1.204,546	837,234	3.677,542
1	PRFV	1.780,000	2,119	20,000	1,100	2,269	6.592,629	1H:5V	500	325,408	1.215,979	845,994	3.719,267
1	PRFV	1.800,000	2,067	20,000	1,100	2,217	6.662,102	1H:5V	500	328,798	1.227,412	854,754	3.761,229
1	PRFV	1.820,000	1,565	20,000	1,100	1,715	6.721,066	1H:5V	500	332,188	1.238,845	863,514	3.792,684
1	PRFV	1.821,758	1,500	1,758	1,100	1,650	6.725,316	1H:5V	500	332,486	1.239,850	864,284	3.794,515
1	PRFV	1.840,000	1,944	18,242	1,100	2,094	6.775,845	1H:5V	500	335,578	1.250,278	872,274	3.819,953
1	PRFV	1.860,000	1,781	20,000	1,100	1,931	6.836,347	1H:5V	500	338,968	1.261,711	881,034	3.852,945
1	PRFV	1.879,180	2,519	19,180	1,100	2,669	6.905,687	1H:5V	500	342,219	1.272,675	889,435	3.895,903
1	PRFV	1.880,000	2,515	0,820	1,100	2,665	6.909,259	1H:5V	500	342,358	1.273,144	889,794	3.898,347
1	PRFV	1.900,000	2,411	20,000	1,100	2,561	6.994,067	1H:5V	500	345,748	1.284,577	898,554	3.955,645
1	PRFV	1.920,000	2,308	20,000	1,100	2,458	7.074,477	1H:5V	500	349,138	1.296,010	907,314	4.008,545
1	PRFV	1.940,000	2,205	20,000	1,100	2,355	7.150,596	1H:5V	500	352,528	1.307,443	916,074	4.057,153
1	PRFV	1.960,000	2,101	20,000	1,100	2,251	7.222,488	1H:5V	500	355,918	1.318,876	924,834	4.101,536

R-2-3-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	1.980,000	1,998	20,000	1,100	2,148	7.290,239	1H:5V	500	359,308	1.330,309	933,594	4.141,776
1	PRFV	2.000,000	1,895	20,000	1,100	2,045	7.353,953	1H:5V	500	362,698	1.341,742	942,354	4.177,981
1	PRFV	2.020,000	1,791	20,000	1,100	1,941	7.413,698	1H:5V	500	366,088	1.353,175	951,114	4.210,216
1	PRFV	2.040,000	1,688	20,000	1,100	1,838	7.469,559	1H:5V	500	369,478	1.364,608	959,874	4.238,567
1	PRFV	2.060,000	1,591	20,000	1,100	1,741	7.521,747	1H:5V	500	372,868	1.376,041	968,634	4.263,244
1	PRFV	2.080,000	1,697	20,000	1,100	1,847	7.574,099	1H:5V	500	376,258	1.387,474	977,394	4.288,087
1	PRFV	2.100,000	2,378	20,000	1,100	2,528	7.641,829	1H:5V	500	379,648	1.398,907	986,154	4.328,307
1	PRFV	2.120,000	2,274	20,000	1,100	2,424	7.720,834	1H:5V	500	383,038	1.410,340	994,914	4.379,802
1	PRFV	2.140,000	2,171	20,000	1,100	2,321	7.795,555	1H:5V	500	386,428	1.421,773	1.003,674	4.427,012
1	PRFV	2.160,000	2,068	20,000	1,100	2,218	7.866,097	1H:5V	500	389,818	1.433,206	1.012,434	4.470,045
1	PRFV	2.180,000	1,964	20,000	1,100	2,114	7.932,526	1H:5V	500	393,208	1.444,639	1.021,194	4.508,964
1	PRFV	2.186,797	1,929	6,797	1,100	2,079	7.954,176	1H:5V	500	394,360	1.448,524	1.024,171	4.521,265
1	PRFV	2.187,431	1,927	0,634	1,100	2,077	7.956,173	1H:5V	500	394,468	1.448,887	1.024,449	4.522,389
1	PRFV	2.188,065	1,925	0,634	1,100	2,075	7.958,167	1H:5V	500	394,575	1.449,249	1.024,727	4.523,512
1	PRFV	2.200,000	1,925	11,935	1,100	2,075	7.995,686	1H:5V	500	396,598	1.456,072	1.029,954	4.544,614
1	PRFV	2.220,000	1,898	20,000	1,100	2,048	8.058,039	1H:5V	500	399,988	1.467,505	1.038,714	4.579,457
1	PRFV	2.240,000	1,871	20,000	1,100	2,021	8.119,356	1H:5V	500	403,378	1.478,938	1.047,474	4.613,263
1	PRFV	2.260,000	1,844	20,000	1,100	1,994	8.179,642	1H:5V	500	406,768	1.490,371	1.056,234	4.646,039
1	PRFV	2.280,000	1,817	20,000	1,100	1,967	8.238,903	1H:5V	500	410,158	1.501,804	1.064,994	4.677,791
1	PRFV	2.300,000	1,701	20,000	1,100	1,851	8.295,491	1H:5V	500	413,548	1.513,237	1.073,754	4.706,869
1	PRFV	2.320,000	1,638	20,000	1,100	1,788	8.348,767	1H:5V	500	416,938	1.524,670	1.082,514	4.732,635
1	PRFV	2.340,000	1,595	20,000	1,100	1,745	8.400,114	1H:5V	500	420,328	1.536,103	1.091,274	4.756,471
1	PRFV	2.348,604	1,604	8,604	1,100	1,754	8.421,939	1H:5V	500	421,786	1.541,021	1.095,043	4.766,462
1	PRFV	2.360,000	1,581	11,396	1,100	1,731	8.450,703	1H:5V	500	423,718	1.547,536	1.100,034	4.779,550
1	PRFV	2.380,000	1,541	20,000	1,100	1,691	8.500,056	1H:5V	500	427,108	1.558,969	1.108,794	4.801,394
1	PRFV	2.400,000	1,506	20,000	1,100	1,656	8.548,077	1H:5V	500	430,498	1.570,402	1.117,554	4.821,905
1	PRFV	2.411,590	1,623	11,590	1,100	1,773	8.576,757	1H:5V	500	432,462	1.577,027	1.122,631	4.834,642
1	PRFV	2.413,778	1,616	2,188	1,100	1,766	8.582,386	1H:5V	500	432,833	1.578,278	1.123,589	4.837,262
1	PRFV	2.415,966	1,679	2,188	1,100	1,829	8.588,126	1H:5V	500	433,204	1.579,529	1.124,547	4.839,993
1	PRFV	2.420,000	1,659	4,034	1,100	1,809	8.598,868	1H:5V	500	433,888	1.581,835	1.126,314	4.845,185
1	PRFV	2.440,000	2,134	20,000	1,100	2,284	8.660,869	1H:5V	500	437,278	1.593,268	1.135,074	4.879,677
1	PRFV	2.460,000	1,875	20,000	1,100	2,025	8.726,902	1H:5V	500	440,668	1.604,701	1.143,834	4.918,200
1	PRFV	2.480,000	1,670	20,000	1,100	1,820	8.784,023	1H:5V	500	444,058	1.616,134	1.152,594	4.947,811
1	PRFV	2.500,000	2,158	20,000	1,100	2,308	8.846,710	1H:5V	500	447,448	1.627,567	1.161,354	4.982,988
1	PRFV	2.520,000	2,099	20,000	1,100	2,249	8.917,607	1H:5V	500	450,838	1.639,000	1.170,114	5.026,374
1	PRFV	2.540,000	1,840	20,000	1,100	1,990	8.982,272	1H:5V	500	454,228	1.650,433	1.178,874	5.063,530

R-2-3-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	2.560,000	1,597	20,000	1,100	1,747	9.037,403	1H:5V	500	457,618	1.661,866	1.187,634	5.091,151
1	PRFV	2.580,000	1,565	20,000	1,100	1,715	9.087,472	1H:5V	500	461,008	1.673,299	1.196,394	5.113,709
1	PRFV	2.600,000	2,003	20,000	1,100	2,153	9.145,173	1H:5V	500	464,398	1.684,732	1.205,154	5.143,901
1	PRFV	2.620,000	1,805	20,000	1,100	1,955	9.207,276	1H:5V	500	467,788	1.696,165	1.213,914	5.178,493
1	PRFV	2.620,986	1,792	0,986	1,100	1,942	9.210,138	1H:5V	500	467,955	1.696,729	1.214,346	5.179,999
1	PRFV	2.640,000	1,754	19,014	1,100	1,904	9.264,422	1H:5V	500	471,178	1.707,598	1.222,674	5.208,130
1	PRFV	2.643,798	1,747	3,798	1,100	1,897	9.275,105	1H:5V	500	471,822	1.709,769	1.224,338	5.213,589
1	PRFV	2.660,000	1,701	16,202	1,100	1,851	9.319,886	1H:5V	500	474,568	1.719,031	1.231,434	5.236,084
1	PRFV	2.680,000	1,640	20,000	1,100	1,790	9.373,197	1H:5V	500	477,958	1.730,464	1.240,194	5.261,885
1	PRFV	2.700,000	1,579	20,000	1,100	1,729	9.424,293	1H:5V	500	481,348	1.741,897	1.248,954	5.285,471
1	PRFV	2.720,000	1,518	20,000	1,100	1,668	9.473,204	1H:5V	500	484,738	1.753,330	1.257,714	5.306,872
1	PRFV	2.727,075	1,526	7,075	1,100	1,676	9.490,172	1H:5V	500	485,937	1.757,375	1.260,813	5.314,108
1	PRFV	2.740,000	1,554	12,925	1,100	1,704	9.521,583	1H:5V	500	488,128	1.764,763	1.266,474	5.327,741
1	PRFV	2.746,634	1,541	6,634	1,100	1,691	9.537,794	1H:5V	500	489,252	1.768,555	1.269,380	5.334,826
1	PRFV	2.750,299	1,511	3,665	1,100	1,661	9.546,610	1H:5V	500	489,874	1.770,651	1.270,985	5.338,601
1	PRFV	2.753,964	1,624	3,665	1,100	1,774	9.555,698	1H:5V	500	490,495	1.772,746	1.272,591	5.342,649
1	PRFV	2.760,000	1,797	6,036	1,100	1,947	9.572,239	1H:5V	500	491,518	1.776,196	1.275,234	5.350,887
1	PRFV	2.774,595	1,791	14,595	1,100	1,941	9.614,480	1H:5V	500	493,992	1.784,539	1.281,627	5.373,053
1	PRFV	2.778,260	1,711	3,665	1,100	1,861	9.624,794	1H:5V	500	494,613	1.786,635	1.283,232	5.378,325
1	PRFV	2.780,000	1,688	1,740	1,100	1,838	9.629,525	1H:5V	500	494,908	1.787,629	1.283,994	5.380,662
1	PRFV	2.781,925	1,675	1,925	1,100	1,825	9.634,694	1H:5V	500	495,234	1.788,730	1.284,838	5.383,184
1	PRFV	2.800,000	1,612	18,075	1,100	1,762	9.681,985	1H:5V	500	498,298	1.799,062	1.292,754	5.405,613
1	PRFV	2.820,000	1,568	20,000	1,100	1,718	9.732,378	1H:5V	500	501,688	1.810,495	1.301,514	5.428,495
1	PRFV	2.840,000	1,631	20,000	1,100	1,781	9.783,113	1H:5V	500	505,078	1.821,928	1.310,274	5.451,721
1	PRFV	2.860,000	1,653	20,000	1,100	1,803	9.835,383	1H:5V	500	508,468	1.833,361	1.319,034	5.476,481
1	PRFV	2.880,000	1,653	20,000	1,100	1,803	9.888,052	1H:5V	500	511,858	1.844,794	1.327,794	5.501,640
1	PRFV	2.900,000	1,596	20,000	1,100	1,746	9.939,690	1H:5V	500	515,248	1.856,227	1.336,554	5.525,768
1	PRFV	2.911,771	1,557	11,771	1,100	1,707	9.969,063	1H:5V	500	517,243	1.862,956	1.341,710	5.538,950
1	PRFV	2.920,000	1,521	8,229	1,100	1,671	9.989,047	1H:5V	500	518,638	1.867,660	1.345,314	5.547,615
1	PRFV	2.940,000	1,557	20,000	1,100	1,707	10.037,617	1H:5V	500	522,028	1.879,093	1.354,074	5.568,675
1	PRFV	2.946,546	1,661	6,546	1,100	1,811	10.054,338	1H:5V	500	523,138	1.882,835	1.356,941	5.576,391
1	PRFV	2.960,000	1,848	13,454	1,100	1,998	10.092,306	1H:5V	500	525,418	1.890,526	1.362,834	5.595,854
1	PRFV	2.963,013	1,884	3,013	1,100	2,034	10.101,437	1H:5V	500	525,929	1.892,249	1.364,154	5.600,841
1	PRFV	2.980,000	2,282	16,987	1,100	2,432	10.160,238	1H:5V	500	528,808	1.901,959	1.371,594	5.636,275
1	PRFV	3.000,000	2,300	20,000	1,100	2,450	10.237,774	1H:5V	500	532,198	1.913,392	1.380,354	5.686,302
1	PRFV	3.020,000	2,233	20,000	1,100	2,383	10.314,299	1H:5V	500	535,588	1.924,825	1.389,114	5.735,317

R-2-3-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	3.040,000	2,166	20,000	1,100	2,316	10.388,073	1H:5V	500	538,978	1.936,258	1.397,874	5.781,581
1	PRFV	3.060,000	2,098	20,000	1,100	2,248	10.459,112	1H:5V	500	542,368	1.947,691	1.406,634	5.825,110
1	PRFV	3.080,000	2,235	20,000	1,100	2,385	10.531,558	1H:5V	500	545,758	1.959,124	1.415,394	5.870,046
1	PRFV	3.100,000	2,277	20,000	1,100	2,427	10.607,648	1H:5V	500	549,148	1.970,557	1.424,154	5.918,625
1	PRFV	3.120,000	2,236	20,000	1,100	2,386	10.683,757	1H:5V	500	552,538	1.981,990	1.432,914	5.967,225
1	PRFV	3.140,000	2,151	20,000	1,100	2,301	10.757,289	1H:5V	500	555,928	1.993,423	1.441,674	6.013,247
1	PRFV	3.160,000	2,093	20,000	1,100	2,243	10.827,925	1H:5V	500	559,318	2.004,856	1.450,434	6.056,372
1	PRFV	3.180,000	2,010	20,000	1,100	2,160	10.895,751	1H:5V	500	562,708	2.016,289	1.459,194	6.096,689
1	PRFV	3.200,000	1,951	20,000	1,100	2,101	10.960,782	1H:5V	500	566,098	2.027,722	1.467,954	6.134,209
1	PRFV	3.220,000	1,872	20,000	1,100	2,022	11.023,140	1H:5V	500	569,488	2.039,155	1.476,714	6.169,058
1	PRFV	3.240,000	1,811	20,000	1,100	1,961	11.082,821	1H:5V	500	572,878	2.050,588	1.485,474	6.201,229
1	PRFV	3.260,000	1,819	20,000	1,100	1,969	11.141,496	1H:5V	500	576,268	2.062,021	1.494,234	6.232,394
1	PRFV	3.280,000	1,593	20,000	1,100	1,743	11.196,158	1H:5V	500	579,658	2.073,454	1.502,994	6.259,546
1	PRFV	3.282,290	1,567	2,290	1,100	1,717	11.201,887	1H:5V	500	580,046	2.074,763	1.503,997	6.262,125
1	PRFV	3.299,744	1,589	17,454	1,100	1,739	11.245,487	1H:5V	500	583,005	2.084,741	1.511,642	6.281,717
1	PRFV	3.300,000	1,590	0,256	1,100	1,740	11.246,132	1H:5V	500	583,048	2.084,887	1.511,754	6.282,010
1	PRFV	3.320,000	1,501	20,000	1,100	1,651	11.294,940	1H:5V	500	586,438	2.096,320	1.520,514	6.303,307
1	PRFV	3.340,000	1,579	20,000	1,100	1,729	11.343,550	1H:5V	500	589,828	2.107,753	1.529,274	6.324,408
1	PRFV	3.360,000	1,659	20,000	1,100	1,809	11.394,992	1H:5V	500	593,218	2.119,186	1.538,034	6.348,340
1	PRFV	3.380,000	1,723	20,000	1,100	1,873	11.449,055	1H:5V	500	596,608	2.130,619	1.546,794	6.374,893
1	PRFV	3.400,000	1,678	20,000	1,100	1,828	11.503,466	1H:5V	500	599,998	2.142,052	1.555,554	6.401,793
1	PRFV	3.420,000	1,739	20,000	1,100	1,889	11.558,172	1H:5V	500	603,388	2.153,485	1.564,314	6.428,990
1	PRFV	3.440,000	1,731	20,000	1,100	1,881	11.613,855	1H:5V	500	606,778	2.164,918	1.573,074	6.457,163
1	PRFV	3.460,000	1,653	20,000	1,100	1,803	11.667,957	1H:5V	500	610,168	2.176,351	1.581,834	6.483,755
1	PRFV	3.480,000	1,734	20,000	1,100	1,884	11.722,115	1H:5V	500	613,558	2.187,785	1.590,594	6.510,403
1	PRFV	3.500,000	1,845	20,000	1,100	1,995	11.779,843	1H:5V	500	616,948	2.199,218	1.599,354	6.540,621
1	PRFV	3.520,000	2,078	20,000	1,100	2,228	11.844,184	1H:5V	500	620,338	2.210,651	1.608,114	6.577,452
1	PRFV	3.540,000	2,379	20,000	1,100	2,529	11.919,231	1H:5V	500	623,728	2.222,084	1.616,874	6.624,988
1	PRFV	3.554,239	2,436	14,239	1,100	2,586	11.977,918	1H:5V	500	626,141	2.230,223	1.623,111	6.664,090
1	PRFV	3.558,025	2,475	3,786	1,100	2,625	11.993,909	1H:5V	500	626,783	2.232,388	1.624,769	6.674,874
1	PRFV	3.560,000	2,515	1,975	1,100	2,665	12.002,419	1H:5V	500	627,118	2.233,517	1.625,634	6.680,667
1	PRFV	3.569,127	2,791	9,127	1,100	2,941	12.044,937	1H:5V	500	628,665	2.238,734	1.629,632	6.710,630
1	PRFV	3.580,000	2,267	10,873	1,100	2,417	12.092,735	1H:5V	500	630,508	2.244,950	1.634,394	6.743,473
1	PRFV	3.583,263	2,313	3,263	1,100	2,463	12.105,379	1H:5V	500	631,061	2.246,815	1.635,824	6.751,628
1	PRFV	3.584,015	2,329	0,752	1,100	2,479	12.108,341	1H:5V	500	631,189	2.247,245	1.636,153	6.753,556
1	PRFV	3.590,434	2,025	6,419	1,100	2,175	12.131,753	1H:5V	500	632,277	2.250,914	1.638,964	6.768,139

R-2-3-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	3.600,000	1,975	9,566	1,100	2,125	12.163,221	1H:5V	500	633,898	2.256,383	1.643,154	6.786,449
1	PRFV	3.603,144	1,979	3,144	1,100	2,129	12.173,422	1H:5V	500	634,431	2.258,180	1.644,531	6.792,325
1	PRFV	3.615,854	1,832	12,710	1,100	1,982	12.212,914	1H:5V	500	636,585	2.265,446	1.650,098	6.814,335
1	PRFV	3.620,000	1,724	4,146	1,100	1,874	12.224,792	1H:5V	500	637,288	2.267,816	1.651,914	6.820,509
1	PRFV	3.640,000	1,691	20,000	1,100	1,841	12.279,459	1H:5V	500	640,678	2.279,249	1.660,674	6.847,667
1	PRFV	3.660,000	1,625	20,000	1,100	1,775	12.332,315	1H:5V	500	644,068	2.290,682	1.669,434	6.873,013
1	PRFV	3.671,349	1,500	11,349	1,100	1,650	12.360,359	1H:5V	500	645,992	2.297,169	1.674,405	6.885,446
1	PEAD	3.680,000	1,416	8,651	0,755	1,566	12.377,801	1H:5V	355	647,234	2.300,081	1.678,348	6.893,935
1	PEAD	3.700,000	1,570	20,000	0,755	1,720	12.413,431	1H:5V	355	649,589	2.302,110	1.687,819	6.913,731
1	PEAD	3.720,000	1,627	20,000	0,755	1,777	12.452,066	1H:5V	355	651,944	2.304,140	1.697,289	6.936,531
1	PEAD	3.733,495	1,628	13,495	0,755	1,778	12.478,704	1H:5V	355	653,533	2.305,509	1.703,679	6.952,484
1	PEAD	3.735,310	1,620	1,815	0,755	1,770	12.482,277	1H:5V	355	653,747	2.305,693	1.704,539	6.954,621
1	PEAD	3.737,125	1,605	1,815	0,755	1,755	12.485,820	1H:5V	355	653,961	2.305,878	1.705,398	6.956,727
1	PEAD	3.740,000	1,570	2,875	0,755	1,720	12.491,328	1H:5V	355	654,299	2.306,169	1.706,760	6.959,958
1	PEAD	3.760,000	1,554	20,000	0,755	1,704	12.528,903	1H:5V	355	656,654	2.308,199	1.716,230	6.981,699
1	PEAD	3.764,284	1,348	4,284	0,755	1,498	12.536,286	1H:5V	355	657,159	2.308,633	1.718,259	6.985,690
1	PEAD	3.780,000	1,538	15,716	0,715	1,688	12.562,662	1H:5V	315	658,962	2.310,123	1.725,420	7.000,387
1	PEAD	3.800,000	1,714	20,000	0,715	1,864	12.600,707	1H:5V	315	661,197	2.311,884	1.734,177	7.024,120
1	PEAD	3.820,000	1,813	20,000	0,715	1,963	12.642,726	1H:5V	315	663,432	2.313,645	1.742,933	7.051,828
1	PEAD	3.840,000	1,969	20,000	0,715	2,119	12.688,599	1H:5V	315	665,667	2.315,406	1.751,690	7.083,390
1	PEAD	3.860,000	1,985	20,000	0,715	2,135	12.737,112	1H:5V	315	667,902	2.317,167	1.760,447	7.117,591
1	PEAD	3.863,640	1,992	3,640	0,715	2,142	12.746,007	1H:5V	315	668,309	2.317,488	1.762,040	7.123,882
1	PEAD	3.865,979	2,022	2,339	0,715	2,172	12.751,791	1H:5V	315	668,570	2.317,694	1.763,064	7.127,992
1	PEAD	3.868,318	2,105	2,339	0,715	2,255	12.757,785	1H:5V	315	668,832	2.317,900	1.764,088	7.132,313
1	PEAD	3.875,371	1,654	7,053	0,715	1,804	12.773,902	1H:5V	315	669,620	2.318,521	1.767,177	7.143,382
1	PEAD	3.880,000	1,506	4,629	0,715	1,656	12.782,404	1H:5V	315	670,137	2.318,929	1.769,203	7.148,572
1	PEAD	3.883,109	1,371	3,109	0,715	1,521	12.787,507	1H:5V	315	670,484	2.319,202	1.770,564	7.151,450
1	PEAD	3.885,163	1,314	2,054	0,715	1,464	12.790,614	1H:5V	315	670,714	2.319,383	1.771,464	7.153,087
1	PEAD	3.887,217	1,537	2,054	0,715	1,687	12.793,952	1H:5V	315	670,943	2.319,564	1.772,363	7.154,956
1	PEAD	3.900,000	1,978	12,783	0,715	2,128	12.820,813	1H:5V	315	672,372	2.320,690	1.777,960	7.172,670
1	PEAD	3.903,869	2,015	3,869	0,715	2,165	12.830,317	1H:5V	315	672,804	2.321,030	1.779,654	7.179,405
1	PEAD	3.920,000	1,481	16,131	0,715	1,631	12.864,060	1H:5V	315	674,607	2.322,451	1.786,716	7.201,605
1	PEAD	3.926,101	1,349	6,101	0,715	1,499	12.873,880	1H:5V	315	675,289	2.322,988	1.789,388	7.207,060
1	PEAD	3.927,526	1,516	1,425	0,715	1,666	12.876,209	1H:5V	315	675,448	2.323,114	1.790,012	7.208,368
1	PEAD	3.928,951	1,686	1,425	0,715	1,836	12.878,868	1H:5V	315	675,607	2.323,239	1.790,635	7.210,009
1	PEAD	3.940,000	2,278	11,049	0,715	2,428	12.905,949	1H:5V	315	676,842	2.324,212	1.795,473	7.229,183

R-2-3-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	3.960,000	1,767	20,000	0,715	1,917	12.956,156	1H:5V	315	679,077	2.325,973	1.804,230	7.265,079
1	PEAD	3.980,000	1,573	20,000	0,715	1,723	12.995,470	1H:5V	315	681,312	2.327,734	1.812,986	7.290,081
1	PEAD	4.000,000	1,653	20,000	0,715	1,803	13.033,120	1H:5V	315	683,547	2.329,496	1.821,743	7.313,419
1	PEAD	4.017,560	1,723	17,560	0,715	1,873	13.068,065	1H:5V	315	685,509	2.331,042	1.829,431	7.335,799
1	PEAD	4.020,000	1,703	2,440	0,715	1,853	13.073,009	1H:5V	315	685,782	2.331,257	1.830,500	7.338,997
1	PEAD	4.020,564	1,690	0,564	0,715	1,840	13.074,138	1H:5V	315	685,845	2.331,306	1.830,746	7.339,723
1	PEAD	4.023,568	1,657	3,004	0,715	1,807	13.080,053	1H:5V	315	686,181	2.331,571	1.832,062	7.343,488
1	PEAD	4.040,000	1,770	16,432	0,715	1,920	13.113,370	1H:5V	315	688,017	2.333,018	1.839,256	7.365,047
1	PEAD	4.060,000	1,976	20,000	0,715	2,126	13.158,711	1H:5V	315	690,252	2.334,779	1.848,013	7.396,077
1	PEAD	4.072,905	1,315	12,905	0,715	1,465	13.183,881	1H:5V	315	691,694	2.335,915	1.853,663	7.412,012

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R-2-3-10													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,292	0,000	0,625	2,442	0,000	1H:5V	225	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,354	20,000	0,625	2,504	55,379	1H:5V	225	1,965	1,194	7,211	44,214
1	PEAD	40,000	2,422	20,000	0,625	2,572	112,875	1H:5V	225	3,930	2,389	14,421	90,545
1	PEAD	60,000	2,479	20,000	0,625	2,629	172,435	1H:5V	225	5,895	3,583	21,632	138,940
1	PEAD	80,000	2,450	20,000	0,625	2,600	232,459	1H:5V	225	7,860	4,777	28,842	187,799
1	PEAD	100,000	2,240	20,000	0,625	2,390	288,591	1H:5V	225	9,825	5,971	36,053	232,766
1	PEAD	120,000	2,738	20,000	0,625	2,888	349,684	1H:5V	225	11,790	7,166	43,263	282,694
1	PEAD	128,983	2,537	8,983	0,625	2,687	379,312	1H:5V	225	12,673	7,702	46,502	307,307
1	PEAD	140,000	2,220	11,017	0,625	2,370	410,864	1H:5V	225	13,755	8,360	50,474	332,709
1	PEAD	160,000	2,312	20,000	0,625	2,462	464,421	1H:5V	225	15,720	9,554	57,684	375,101
1	PEAD	180,000	2,012	20,000	0,625	2,162	514,792	1H:5V	225	17,685	10,748	64,895	414,307
1	PEAD	200,000	2,092	20,000	0,625	2,242	561,719	1H:5V	225	19,650	11,943	72,105	450,069
1	PEAD	220,000	2,172	20,000	0,625	2,322	611,081	1H:5V	225	21,615	13,137	79,316	488,266
1	PEAD	240,000	2,201	20,000	0,625	2,351	662,125	1H:5V	225	23,580	14,331	86,526	528,145
1	PEAD	260,000	1,683	20,000	0,625	1,833	706,049	1H:5V	225	25,545	15,525	93,737	560,904
1	PEAD	280,000	1,412	20,000	0,625	1,562	738,867	1H:5V	225	27,510	16,720	100,947	582,557
1	PEAD	300,000	1,492	20,000	0,625	1,642	769,164	1H:5V	225	29,475	17,914	108,158	601,689
1	PEAD	320,000	1,572	20,000	0,625	1,722	801,512	1H:5V	225	31,440	19,108	115,368	622,872
1	PEAD	340,000	1,652	20,000	0,625	1,802	835,962	1H:5V	225	33,405	20,303	122,579	646,157

R-2-3-10													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	360,000	1,699	20,000	0,625	1,849	872,113	1H:5V	225	35,370	21,497	129,789	671,143
1	PEAD	380,000	1,700	20,000	0,625	1,850	908,914	1H:5V	225	37,335	22,691	137,000	696,779
1	PEAD	400,000	1,709	20,000	0,625	1,859	945,852	1H:5V	225	39,300	23,885	144,210	722,552
1	PEAD	420,000	1,777	20,000	0,625	1,927	983,853	1H:5V	225	41,265	25,080	151,421	749,388
1	PEAD	440,000	1,843	20,000	0,625	1,993	1.023,724	1H:5V	225	43,230	26,274	158,631	778,094
1	PEAD	460,000	1,857	20,000	0,625	2,007	1.064,724	1H:5V	225	45,195	27,468	165,842	807,929
1	PEAD	480,000	1,833	20,000	0,625	1,983	1.105,582	1H:5V	225	47,160	28,662	173,052	837,622
1	PEAD	500,000	1,425	20,000	0,625	1,575	1.140,645	1H:5V	225	49,125	29,857	180,263	861,520
1	PEAD	520,000	1,372	20,000	0,625	1,522	1.169,596	1H:5V	225	51,090	31,051	187,473	879,306
1	PEAD	535,566	1,434	15,566	0,625	1,584	1.192,216	1H:5V	225	52,619	31,980	193,085	893,236
1	PEAD	540,000	1,452	4,434	0,560	1,602	1.198,650	1H:5V	160	53,033	32,203	194,566	897,464
1	PEAD	560,000	1,532	20,000	0,560	1,682	1.227,832	1H:5V	160	54,803	33,020	200,712	917,511
1	PEAD	580,000	1,612	20,000	0,560	1,762	1.258,986	1H:5V	160	56,573	33,836	206,857	939,530
1	PEAD	600,000	1,692	20,000	0,560	1,842	1.292,163	1H:5V	160	58,343	34,653	213,003	963,574
1	PEAD	620,000	1,772	20,000	0,560	1,922	1.327,416	1H:5V	160	60,113	35,469	219,149	989,692
1	PEAD	640,000	1,852	20,000	0,560	2,002	1.364,794	1H:5V	160	61,883	36,286	225,295	1.017,936
1	PEAD	660,000	1,932	20,000	0,560	2,082	1.404,350	1H:5V	160	63,653	37,103	231,440	1.048,357
1	PEAD	680,000	1,969	20,000	0,560	2,119	1.445,525	1H:5V	160	65,423	37,919	237,586	1.080,398
1	PEAD	700,000	1,705	20,000	0,560	1,855	1.483,642	1H:5V	160	67,193	38,736	243,732	1.109,381
1	PEAD	720,000	1,207	20,000	0,560	1,357	1.512,194	1H:5V	160	68,963	39,552	249,878	1.128,798
1	PEAD	740,000	1,252	20,000	0,560	1,402	1.535,259	1H:5V	160	70,733	40,369	256,023	1.142,729
1	PEAD	760,000	1,332	20,000	0,560	1,482	1.559,733	1H:5V	160	72,503	41,185	262,169	1.158,068
1	PEAD	780,000	1,412	20,000	0,560	1,562	1.586,052	1H:5V	160	74,273	42,002	268,315	1.175,253
1	PEAD	800,000	1,492	20,000	0,560	1,642	1.614,266	1H:5V	160	76,043	42,818	274,461	1.194,333
1	PEAD	820,000	1,572	20,000	0,560	1,722	1.644,428	1H:5V	160	77,813	43,635	280,606	1.215,360
1	PEAD	840,000	1,652	20,000	0,560	1,802	1.676,587	1H:5V	160	79,583	44,451	286,752	1.238,385
1	PEAD	860,000	1,732	20,000	0,560	1,882	1.710,796	1H:5V	160	81,353	45,268	292,898	1.263,459
1	PEAD	880,000	1,774	20,000	0,560	1,924	1.746,597	1H:5V	160	83,123	46,084	299,043	1.290,126
1	PEAD	900,000	1,760	20,000	0,560	1,910	1.782,767	1H:5V	160	84,893	46,901	305,189	1.317,161
1	PEAD	918,439	1,345	18,439	0,560	1,495	1.811,194	1H:5V	160	86,525	47,654	310,855	1.337,167
1	PEAD	920,000	1,307	1,561	0,560	1,457	1.813,165	1H:5V	160	86,663	47,718	311,335	1.338,425
1	PEAD	921,561	1,294	1,561	0,560	1,444	1.815,090	1H:5V	160	86,802	47,781	311,815	1.339,637
1	PEAD	940,000	1,677	18,439	0,560	1,827	1.841,977	1H:5V	160	88,433	48,534	317,481	1.358,103
1	PEAD	952,339	2,111	12,339	0,560	2,261	1.866,528	1H:5V	160	89,525	49,038	321,272	1.377,018
1	PEAD	954,200	2,159	1,861	0,560	2,309	1.870,852	1H:5V	160	89,690	49,114	321,844	1.380,493
1	PEAD	956,061	2,173	1,861	0,560	2,323	1.875,263	1H:5V	160	89,855	49,190	322,416	1.384,053

R-2-3-10													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	960,000	1,423	3,939	0,560	1,573	1.882,660	1H:5V	160	90,203	49,351	323,626	1.389,651
1	PEAD	962,946	1,214	2,946	0,560	1,364	1.886,359	1H:5V	160	90,464	49,471	324,532	1.392,005
1	PEAD	965,849	2,057	2,903	0,560	2,207	1.891,216	1H:5V	160	90,721	49,589	325,424	1.395,536
1	PEAD	968,752	2,569	2,903	0,560	2,719	1.898,780	1H:5V	160	90,978	49,708	326,316	1.401,774
1	PEAD	975,935	2,354	7,183	0,560	2,504	1.919,099	1H:5V	160	91,614	50,001	328,523	1.418,813
1	PEAD	979,138	2,002	3,203	0,560	2,152	1.926,767	1H:5V	160	91,897	50,132	329,507	1.425,017
1	PEAD	980,000	1,925	0,862	0,560	2,075	1.928,557	1H:5V	160	91,973	50,167	329,772	1.426,414
1	PEAD	982,341	1,754	2,341	0,560	1,904	1.933,022	1H:5V	160	92,181	50,263	330,492	1.429,810
1	PEAD	1.000,000	1,439	17,659	0,560	1,589	1.961,154	1H:5V	160	93,743	50,984	335,918	1.449,876
1	PEAD	1.020,000	1,519	20,000	0,560	1,669	1.990,019	1H:5V	160	95,513	51,800	342,064	1.469,607
1	PEAD	1.040,000	1,599	20,000	0,560	1,749	2.020,849	1H:5V	160	97,283	52,617	348,209	1.491,303
1	PEAD	1.060,000	1,679	20,000	0,560	1,829	2.053,695	1H:5V	160	99,053	53,433	354,355	1.515,014
1	PEAD	1.080,000	1,759	20,000	0,560	1,909	2.088,606	1H:5V	160	100,823	54,250	360,501	1.540,791
1	PEAD	1.100,000	1,839	20,000	0,560	1,989	2.125,636	1H:5V	160	102,593	55,066	366,647	1.568,687
1	PEAD	1.120,000	2,737	20,000	0,560	2,887	2.177,523	1H:5V	160	104,363	55,883	372,792	1.611,440
1	PEAD	1.140,000	1,474	20,000	0,560	1,624	2.224,729	1H:5V	160	106,133	56,699	378,938	1.649,511
1	PEAD	1.160,000	1,356	20,000	0,560	1,506	2.252,068	1H:5V	160	107,903	57,516	385,084	1.667,715
1	PEAD	1.180,000	1,393	20,000	0,560	1,543	2.278,440	1H:5V	160	109,673	58,333	391,230	1.684,953
1	PEAD	1.200,000	1,664	20,000	0,560	1,814	2.308,582	1H:5V	160	111,443	59,149	397,375	1.705,961
1	PEAD	1.220,000	2,319	20,000	0,560	2,469	2.351,340	1H:5V	160	113,213	59,966	403,521	1.739,584
1	PEAD	1.227,097	1,910	7,097	0,560	2,060	2.367,678	1H:5V	160	113,841	60,255	405,702	1.752,681
1	PEAD	1.240,000	2,252	12,903	0,510	2,402	2.395,944	1H:5V	110	114,935	60,694	409,412	1.775,581
1	PEAD	1.260,000	2,381	20,000	0,510	2,531	2.445,453	1H:5V	110	116,555	61,238	414,768	1.817,380
1	PEAD	1.280,000	2,338	20,000	0,510	2,488	2.496,242	1H:5V	110	118,175	61,782	420,125	1.860,459
1	PEAD	1.300,000	1,973	20,000	0,510	2,123	2.541,153	1H:5V	110	119,795	62,326	425,481	1.897,659
1	PEAD	1.320,000	1,719	20,000	0,510	1,869	2.577,513	1H:5V	110	121,415	62,871	430,837	1.926,309
1	PEAD	1.339,385	1,576	19,385	0,510	1,726	2.607,830	1H:5V	110	122,985	63,398	436,029	1.949,153
1	PEAD	1.340,000	1,578	0,615	0,510	1,728	2.608,739	1H:5V	110	123,035	63,415	436,193	1.949,824
1	PEAD	1.340,615	1,583	0,615	0,510	1,733	2.609,650	1H:5V	110	123,085	63,431	436,358	1.950,498
1	PEAD	1.360,000	1,376	19,385	0,510	1,526	2.636,095	1H:5V	110	124,655	63,959	441,550	1.969,470
1	PEAD	1.380,000	1,451	20,000	0,510	1,601	2.661,827	1H:5V	110	126,275	64,503	446,906	1.987,492
1	PEAD	1.392,726	1,658	12,726	0,510	1,808	2.680,311	1H:5V	110	127,306	64,849	450,314	2.001,070

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,890	0,000	0,625	2,040	0,000	1H:5V	225	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,707	20,000	0,625	1,857	39,576	1H:5V	225	1,965	1,194	7,211	28,411
1	PEAD	40,000	1,489	20,000	0,625	1,639	73,696	1H:5V	225	3,930	2,389	14,421	51,366
1	PEAD	60,000	1,271	20,000	0,625	1,421	102,232	1H:5V	225	5,895	3,583	21,632	68,737
1	PEAD	62,151	1,248	2,151	0,625	1,398	104,982	1H:5V	225	6,106	3,711	22,407	70,286
1	PEAD	64,120	1,270	1,969	0,625	1,420	107,497	1H:5V	225	6,300	3,829	23,117	71,702
1	PEAD	66,089	1,354	1,969	0,625	1,504	110,139	1H:5V	225	6,493	3,946	23,827	73,245
1	PEAD	80,000	1,334	13,911	0,625	1,484	129,339	1H:5V	225	7,860	4,777	28,842	84,679
1	PEAD	93,253	1,299	13,253	0,625	1,449	147,187	1H:5V	225	9,162	5,568	33,620	95,129
1	PEAD	94,486	1,296	1,233	0,625	1,446	148,819	1H:5V	225	9,283	5,642	34,065	96,072
1	PEAD	95,719	1,308	1,233	0,625	1,458	150,458	1H:5V	225	9,404	5,716	34,509	97,023
1	PEAD	100,000	1,375	4,281	0,625	1,525	156,355	1H:5V	225	9,825	5,971	36,053	100,530
1	PEAD	120,000	1,366	20,000	0,625	1,516	184,609	1H:5V	225	11,790	7,166	43,263	117,619
1	PEAD	140,000	1,326	20,000	0,625	1,476	212,262	1H:5V	225	13,755	8,360	50,474	134,107
1	PEAD	160,000	1,286	20,000	0,625	1,436	238,944	1H:5V	225	15,720	9,554	57,684	149,624
1	PEAD	180,000	1,246	20,000	0,625	1,396	264,665	1H:5V	225	17,685	10,748	64,895	164,180
1	PEAD	192,823	1,258	12,823	0,625	1,408	280,943	1H:5V	225	18,945	11,514	69,518	173,299
1	PEAD	194,087	1,273	1,264	0,625	1,423	282,567	1H:5V	225	19,069	11,590	69,973	174,218
1	PEAD	195,351	1,282	1,264	0,625	1,432	284,210	1H:5V	225	19,193	11,665	70,429	175,156
1	PEAD	200,000	1,304	4,649	0,625	1,454	290,339	1H:5V	225	19,650	11,943	72,105	178,689
1	PEAD	220,000	1,397	20,000	0,625	1,547	318,110	1H:5V	225	21,615	13,137	79,316	195,295
1	PEAD	240,000	1,491	20,000	0,625	1,641	348,207	1H:5V	225	23,580	14,331	86,526	214,227
1	PEAD	260,000	1,420	20,000	0,625	1,570	378,592	1H:5V	225	25,545	15,525	93,737	233,447
1	PEAD	280,000	1,308	20,000	0,625	1,458	406,698	1H:5V	225	27,510	16,720	100,947	250,388
1	PEAD	300,000	1,389	20,000	0,625	1,539	434,418	1H:5V	225	29,475	17,914	108,158	266,943
1	PEAD	320,000	1,425	20,000	0,625	1,575	463,579	1H:5V	225	31,440	19,108	115,368	284,939
1	PEAD	340,000	1,443	20,000	0,625	1,593	493,415	1H:5V	225	33,405	20,303	122,579	303,610
1	PEAD	354,174	1,279	14,174	0,625	1,429	513,292	1H:5V	225	34,798	21,149	127,689	315,574
1	PEAD	354,680	1,274	0,506	0,625	1,424	513,949	1H:5V	225	34,847	21,179	127,871	315,949
1	PEAD	355,186	1,272	0,506	0,625	1,422	514,604	1H:5V	225	34,897	21,209	128,054	316,321
1	PEAD	360,000	1,262	4,814	0,625	1,412	520,801	1H:5V	225	35,370	21,497	129,789	319,831
1	PEAD	379,191	1,234	19,191	0,625	1,384	545,071	1H:5V	225	37,256	22,643	136,708	333,387
1	PEAD	380,000	1,244	0,809	0,625	1,394	546,085	1H:5V	225	37,335	22,691	137,000	333,950
1	PEAD	380,809	1,247	0,809	0,625	1,397	547,106	1H:5V	225	37,414	22,739	137,291	334,519

R-2-3-1-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	400,000	1,251	19,191	0,625	1,401	571,398	1H:5V	225	39,300	23,885	144,210	348,098
1	PEAD	418,864	1,254	18,864	0,625	1,404	595,355	1H:5V	225	41,153	25,012	151,011	361,524
1	PEAD	419,662	1,258	0,798	0,625	1,408	596,372	1H:5V	225	41,232	25,059	151,299	362,095
1	PEAD	419,673	1,258	0,011	0,625	1,408	596,386	1H:5V	225	41,233	25,060	151,303	362,103
1	PEAD	420,000	1,259	0,327	0,625	1,409	596,803	1H:5V	225	41,265	25,080	151,421	362,338
1	PEAD	420,482	1,263	0,482	0,625	1,413	597,420	1H:5V	225	41,312	25,108	151,595	362,686
1	PEAD	440,000	1,315	19,518	0,625	1,465	623,060	1H:5V	225	43,230	26,274	158,631	377,430
1	PEAD	460,000	1,288	20,000	0,625	1,438	649,632	1H:5V	225	45,195	27,468	165,842	392,837
1	PEAD	480,000	1,274	20,000	0,625	1,424	675,711	1H:5V	225	47,160	28,662	173,052	407,751
1	PEAD	500,000	1,230	20,000	0,625	1,380	701,100	1H:5V	225	49,125	29,857	180,263	421,975
1	PEAD	520,000	1,301	20,000	0,625	1,451	726,814	1H:5V	225	51,090	31,051	187,473	436,524
1	PEAD	524,869	1,291	4,869	0,625	1,441	733,250	1H:5V	225	51,568	31,342	189,229	440,242
1	PEAD	540,000	1,458	15,131	0,540	1,608	753,687	1H:5V	140	52,959	32,060	194,161	453,406
1	PEAD	540,931	1,478	0,931	0,540	1,628	754,988	1H:5V	140	53,038	32,093	194,432	454,309
1	PEAD	543,315	1,500	2,384	0,540	1,650	758,379	1H:5V	140	53,242	32,177	195,126	456,680
1	PEAD	545,699	1,466	2,384	0,540	1,616	761,753	1H:5V	140	53,446	32,261	195,821	459,035
1	PEAD	559,311	1,315	13,612	0,540	1,465	779,553	1H:5V	140	54,610	32,742	199,787	471,015
1	PEAD	560,000	1,334	0,689	0,540	1,484	780,401	1H:5V	140	54,669	32,766	199,987	471,569
1	PEAD	561,695	1,369	1,695	0,540	1,519	782,539	1H:5V	140	54,813	32,826	200,481	472,983
1	PEAD	564,079	1,336	2,384	0,540	1,486	785,550	1H:5V	140	55,017	32,910	201,176	474,974
1	PEAD	580,000	1,304	15,921	0,540	1,454	805,070	1H:5V	140	56,379	33,472	205,814	487,687
1	PEAD	600,000	1,264	20,000	0,540	1,414	828,784	1H:5V	140	58,089	34,177	211,641	502,851
1	PEAD	620,000	1,224	20,000	0,540	1,374	851,614	1H:5V	140	59,799	34,883	217,468	517,131
1	PEAD	640,000	1,184	20,000	0,540	1,334	873,572	1H:5V	140	61,509	35,589	223,295	530,538
1	PEAD	660,000	1,144	20,000	0,540	1,294	894,671	1H:5V	140	63,219	36,294	229,122	543,087
1	PEAD	662,045	1,140	2,045	0,540	1,290	896,781	1H:5V	140	63,393	36,367	229,718	544,322

3.39 RAMAL R-2-3-1-1-2

R-2-3-1-1-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,291	0,000	0,580	1,441	0,000	1H:5V	180	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,371	20,000	0,580	1,521	25,959	1H:5V	180	1,830	0,930	6,469	16,222
1	PEAD	40,000	1,451	20,000	0,580	1,601	53,820	1H:5V	180	3,660	1,860	12,937	34,345

R-2-3-1-1-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	60,000	1,531	20,000	0,580	1,681	83,634	1H:5V	180	5,490	2,790	19,406	54,421
1	PEAD	62,482	1,541	2,482	0,580	1,691	87,472	1H:5V	180	5,717	2,905	20,209	57,051

3.40 RAMAL R-2-3-12

R-2-3-12													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,500	0,000	0,560	1,650	0,000	1H:5V	160	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,342	20,000	0,560	1,492	27,492	1H:5V	160	1,770	0,817	6,146	18,358
1	PEAD	40,000	1,262	20,000	0,560	1,412	52,194	1H:5V	160	3,540	1,633	12,291	33,926
1	PEAD	60,000	1,429	20,000	0,560	1,579	77,918	1H:5V	160	5,310	2,450	18,437	50,515
1	PEAD	80,000	1,425	20,000	0,560	1,575	105,528	1H:5V	160	7,080	3,266	24,583	68,990
1	PEAD	100,000	1,402	20,000	0,560	1,552	132,818	1H:5V	160	8,850	4,083	30,729	87,146
1	PEAD	120,000	1,372	20,000	0,560	1,522	159,483	1H:5V	160	10,620	4,899	36,874	104,676
1	PEAD	140,000	1,215	20,000	0,560	1,365	184,009	1H:5V	160	12,390	5,716	43,020	120,068
1	PEAD	160,000	1,260	20,000	0,560	1,410	207,252	1H:5V	160	14,160	6,532	49,166	134,177
1	PEAD	175,002	1,384	15,002	0,560	1,534	226,131	1H:5V	160	15,488	7,145	53,776	146,204
1	PEAD	180,000	1,426	4,998	0,510	1,576	232,704	1H:5V	110	15,911	7,315	55,213	150,699
1	PEAD	200,000	1,509	20,000	0,510	1,659	259,675	1H:5V	110	17,531	7,859	60,569	169,959
1	PEAD	220,000	1,409	20,000	0,510	1,559	286,452	1H:5V	110	19,151	8,403	65,926	189,026
1	PEAD	240,000	1,310	20,000	0,510	1,460	310,973	1H:5V	110	20,771	8,947	71,282	205,837
1	PEAD	251,594	1,253	11,594	0,510	1,403	324,191	1H:5V	110	21,710	9,262	74,387	214,585
1	PEAD	253,749	1,243	2,155	0,510	1,393	326,570	1H:5V	110	21,885	9,321	74,964	216,133
1	PEAD	255,904	1,229	2,155	0,510	1,379	328,921	1H:5V	110	22,059	9,380	75,541	217,653
1	PEAD	260,000	1,199	4,096	0,510	1,349	333,295	1H:5V	110	22,391	9,491	76,638	220,448
1	PEAD	280,000	1,144	20,000	0,510	1,294	353,762	1H:5V	110	24,011	10,035	81,994	233,205
1	PEAD	299,998	1,224	19,998	0,510	1,374	374,492	1H:5V	110	25,631	10,579	87,350	246,225
1	PEAD	300,000	1,224	0,002	0,510	1,374	374,494	1H:5V	110	25,631	10,579	87,351	246,226
1	PEAD	320,000	1,228	20,000	0,510	1,378	396,103	1H:5V	110	27,251	11,123	92,707	260,125
1	PEAD	340,000	1,165	20,000	0,510	1,315	417,093	1H:5V	110	28,871	11,667	98,063	273,405
1	PEAD	360,000	1,133	20,000	0,510	1,283	437,094	1H:5V	110	30,491	12,211	103,419	285,695
1	PEAD	380,000	1,172	20,000	0,510	1,322	457,167	1H:5V	110	32,111	12,755	108,776	298,057
1	PEAD	400,000	1,205	20,000	0,510	1,355	477,987	1H:5V	110	33,731	13,300	114,132	311,167
1	PEAD	420,000	1,212	20,000	0,510	1,362	499,226	1H:5V	110	35,351	13,844	119,488	324,696

R-2-3-12													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	440,000	1,189	20,000	0,510	1,339	520,297	1H:5V	110	36,971	14,388	124,844	338,056
1	PEAD	450,424	1,209	10,424	0,510	1,359	531,262	1H:5V	110	37,816	14,671	127,636	345,003

3.41 RAMAL R-2-3-1-2

R-2-3-1-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,631	0,000	0,580	1,781	0,000	1H:5V	180	0,000	0,000	0,000	0,000
1	PEAD	18,774	1,278	18,774	0,580	1,428	27,255	1H:5V	180	1,718	0,873	6,072	18,114
1	PEAD	20,000	1,262	1,226	0,540	1,412	28,724	1H:5V	140	1,826	0,923	6,449	19,029
1	PEAD	40,000	1,276	20,000	0,540	1,426	52,104	1H:5V	140	3,536	1,629	12,276	33,858
1	PEAD	60,000	1,356	20,000	0,540	1,506	76,540	1H:5V	140	5,246	2,334	18,103	49,744
1	PEAD	70,844	1,188	10,844	0,540	1,338	89,267	1H:5V	140	6,173	2,717	21,262	57,836
1	PEAD	72,689	1,178	1,845	0,540	1,328	91,251	1H:5V	140	6,331	2,782	21,800	59,030
1	PEAD	74,534	1,153	1,845	0,540	1,303	93,200	1H:5V	140	6,489	2,847	22,337	60,191
1	PEAD	80,000	1,153	5,466	0,540	1,303	98,902	1H:5V	140	6,956	3,040	23,930	63,556
1	PEAD	89,018	1,154	9,018	0,540	1,304	108,315	1H:5V	140	7,727	3,358	26,557	69,113
1	PEAD	90,863	1,133	1,845	0,540	1,283	110,221	1H:5V	140	7,885	3,423	27,095	70,230
1	PEAD	92,708	1,157	1,845	0,540	1,307	112,130	1H:5V	140	8,043	3,488	27,632	71,351
1	PEAD	95,782	1,170	3,074	0,540	1,320	115,371	1H:5V	140	8,306	3,597	28,528	73,278
1	PEAD	100,000	1,187	4,218	0,540	1,337	119,886	1H:5V	140	8,666	3,746	29,757	75,989
1	PEAD	120,000	1,267	20,000	0,540	1,417	142,348	1H:5V	140	10,376	4,451	35,583	89,901
1	PEAD	124,212	1,283	4,212	0,540	1,433	147,300	1H:5V	140	10,736	4,600	36,811	93,052
1	PEAD	128,019	1,221	3,807	0,540	1,371	151,680	1H:5V	140	11,062	4,734	37,920	95,804
1	PEAD	131,826	1,146	3,807	0,540	1,296	155,776	1H:5V	140	11,387	4,869	39,029	98,273
1	PEAD	136,725	1,146	4,899	0,540	1,296	160,850	1H:5V	140	11,806	5,041	40,456	101,253
1	PEAD	138,619	1,148	1,894	0,540	1,298	162,814	1H:5V	140	11,968	5,108	41,008	102,407

3.42 RAMAL R-2-3-1-3

R-2-3-1-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,519	0,000	0,525	2,669	0,000	1H:5V	125	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,076	20,000	0,525	2,226	49,856	1H:5V	125	1,665	0,624	5,590	41,731
1	PEAD	40,000	1,600	20,000	0,525	1,750	86,765	1H:5V	125	3,330	1,248	11,181	70,515
1	PEAD	57,042	1,195	17,042	0,525	1,345	108,913	1H:5V	125	4,749	1,780	15,944	85,739
1	PEAD	58,234	1,174	1,192	0,525	1,324	110,173	1H:5V	125	4,848	1,817	16,278	86,515
1	PEAD	59,426	1,167	1,192	0,525	1,317	111,415	1H:5V	125	4,947	1,855	16,611	87,273
1	PEAD	60,000	1,167	0,574	0,525	1,317	112,011	1H:5V	125	4,995	1,872	16,771	87,636
1	PEAD	80,000	1,152	20,000	0,525	1,302	132,620	1H:5V	125	6,660	2,497	22,362	100,120
1	PEAD	100,000	1,201	20,000	0,525	1,351	153,589	1H:5V	125	8,325	3,121	27,952	112,964
1	PEAD	120,000	1,248	20,000	0,525	1,398	175,580	1H:5V	125	9,990	3,745	33,542	126,830
1	PEAD	130,843	1,211	10,843	0,525	1,361	187,561	1H:5V	125	10,893	4,083	36,573	134,406
1	PEAD	139,457	1,125	8,614	0,525	1,275	196,517	1H:5V	125	11,610	4,352	38,981	139,863

3.43 RAMAL R-2-3-1-4

R-2-3-1-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,604	0,000	0,525	1,754	0,000	1H:5V	125	0,000	0,000	0,000	0,000
1	PEAD	9,189	1,277	9,189	0,525	1,427	12,371	1H:5V	125	0,765	0,287	2,569	8,638
1	PEAD	11,405	1,130	2,216	0,525	1,280	14,760	1H:5V	125	0,949	0,356	3,188	10,127
1	PEAD	13,621	1,164	2,216	0,525	1,314	17,015	1H:5V	125	1,134	0,425	3,807	11,481
1	PEAD	20,000	1,189	6,379	0,525	1,339	23,702	1H:5V	125	1,665	0,624	5,590	15,577
1	PEAD	40,000	1,269	20,000	0,525	1,419	45,795	1H:5V	125	3,330	1,248	11,181	29,545
1	PEAD	60,000	1,349	20,000	0,525	1,499	69,635	1H:5V	125	4,995	1,872	16,771	45,260
1	PEAD	80,000	1,429	20,000	0,525	1,579	95,275	1H:5V	125	6,660	2,497	22,362	62,775
1	PEAD	100,000	1,509	20,000	0,525	1,659	122,766	1H:5V	125	8,325	3,121	27,952	82,141
1	PEAD	120,000	1,589	20,000	0,525	1,739	152,158	1H:5V	125	9,990	3,745	33,542	103,408
1	PEAD	140,000	1,669	20,000	0,525	1,819	183,503	1H:5V	125	11,655	4,369	39,133	126,628
1	PEAD	157,889	1,450	17,889	0,525	1,600	210,057	1H:5V	125	13,144	4,927	44,133	145,915

3.44 RAMAL R-2-3-1-5

R-2-3-1-5													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,792	0,000	0,580	1,942	0,000	1H:5V	180	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,447	20,000	0,580	1,597	33,170	1H:5V	180	1,830	0,930	6,469	23,432
1	PEAD	32,707	1,228	12,707	0,580	1,378	49,786	1H:5V	180	2,993	1,521	10,579	33,862
1	PEAD	40,000	1,244	7,293	0,560	1,394	58,350	1H:5V	160	3,649	1,839	12,879	39,004
1	PEAD	60,000	1,626	20,000	0,560	1,776	86,296	1H:5V	160	5,419	2,656	19,024	57,816
1	PEAD	80,000	1,413	20,000	0,560	1,563	116,189	1H:5V	160	7,189	3,472	25,170	78,574
1	PEAD	91,299	1,219	11,299	0,560	1,369	130,343	1H:5V	160	8,189	3,934	28,642	87,568
1	PEAD	92,061	1,209	0,762	0,560	1,359	131,209	1H:5V	160	8,256	3,965	28,876	88,086
1	PEAD	92,823	1,204	0,762	0,560	1,354	132,068	1H:5V	160	8,324	3,996	29,110	88,597
1	PEAD	100,000	1,190	7,177	0,560	1,340	140,086	1H:5V	160	8,959	4,289	31,316	93,337
1	PEAD	120,000	1,201	20,000	0,560	1,351	162,397	1H:5V	160	10,729	5,105	37,462	106,514
1	PEAD	124,731	1,237	4,731	0,560	1,387	167,798	1H:5V	160	11,148	5,298	38,915	109,754
1	PEAD	126,165	1,242	1,434	0,560	1,392	169,467	1H:5V	160	11,275	5,357	39,356	110,768
1	PEAD	127,599	1,234	1,434	0,560	1,384	171,135	1H:5V	160	11,402	5,416	39,797	111,781
1	PEAD	140,000	1,167	12,401	0,560	1,317	185,040	1H:5V	160	12,499	5,922	43,607	120,022
1	PEAD	153,209	1,162	13,209	0,560	1,312	199,328	1H:5V	160	13,668	6,461	47,666	128,277
1	PEAD	154,643	1,172	1,434	0,560	1,322	200,883	1H:5V	160	13,795	6,520	48,107	129,177
1	PEAD	156,077	1,202	1,434	0,560	1,352	202,469	1H:5V	160	13,922	6,578	48,548	130,109
1	PEAD	160,000	1,253	3,923	0,560	1,403	206,985	1H:5V	160	14,269	6,738	49,753	132,833
1	PEAD	180,000	1,213	20,000	0,560	1,363	230,127	1H:5V	160	16,039	7,555	55,899	146,840
1	PEAD	200,000	1,173	20,000	0,560	1,323	252,384	1H:5V	160	17,809	8,371	62,044	159,964
1	PEAD	213,095	1,213	13,095	0,560	1,363	266,958	1H:5V	160	18,968	8,906	66,068	168,556
1	PEAD	214,304	1,215	1,209	0,560	1,365	268,331	1H:5V	160	19,075	8,955	66,440	169,377
1	PEAD	215,513	1,202	1,209	0,560	1,352	269,697	1H:5V	160	19,182	9,005	66,811	170,191
1	PEAD	220,000	1,169	4,487	0,560	1,319	274,654	1H:5V	160	19,579	9,188	68,190	173,098
1	PEAD	240,000	1,163	20,000	0,560	1,313	296,320	1H:5V	160	21,349	10,005	74,336	185,631
1	PEAD	248,448	1,160	8,448	0,560	1,310	305,431	1H:5V	160	22,097	10,349	76,932	190,883
1	PEAD	249,657	1,167	1,209	0,560	1,317	306,738	1H:5V	160	22,204	10,399	77,303	191,637
1	PEAD	250,866	1,189	1,209	0,560	1,339	308,063	1H:5V	160	22,311	10,448	77,675	192,411
1	PEAD	260,000	1,198	9,134	0,560	1,348	318,233	1H:5V	160	23,119	10,821	80,482	198,408
1	PEAD	279,149	1,160	19,149	0,560	1,310	339,250	1H:5V	160	24,814	11,603	86,366	210,680

3.45 RAMAL R-2-3-1-6

R-2-3-1-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,567	0,000	0,600	1,717	0,000	1H:5V	200	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,523	20,000	0,600	1,673	31,834	1H:5V	200	1,890	1,046	6,796	21,474
1	PEAD	40,000	1,697	20,000	0,600	1,847	65,375	1H:5V	200	3,780	2,092	13,592	44,655
1	PEAD	60,000	1,592	20,000	0,600	1,742	99,801	1H:5V	200	5,670	3,138	20,388	68,721
1	PEAD	80,000	1,331	20,000	0,600	1,481	129,595	1H:5V	200	7,560	4,183	27,183	88,155
1	PEAD	100,000	1,222	20,000	0,600	1,372	154,864	1H:5V	200	9,450	5,229	33,979	103,064
1	PEAD	120,000	1,396	20,000	0,600	1,546	180,917	1H:5V	200	11,340	6,275	40,775	118,757
1	PEAD	140,000	1,571	20,000	0,600	1,721	211,223	1H:5V	200	13,230	7,321	47,571	138,703
1	PEAD	154,430	1,494	14,430	0,600	1,644	233,964	1H:5V	200	14,594	8,075	52,474	153,969
1	PEAD	155,133	1,481	0,703	0,600	1,631	235,032	1H:5V	200	14,660	8,112	52,713	154,673
1	PEAD	155,836	1,469	0,703	0,600	1,619	236,088	1H:5V	200	14,727	8,149	52,952	155,365
1	PEAD	160,000	1,406	4,164	0,600	1,556	242,154	1H:5V	200	15,120	8,367	54,367	159,274
1	PEAD	180,000	1,210	20,000	0,600	1,360	268,192	1H:5V	200	17,010	9,413	61,163	174,952
1	PEAD	189,893	1,210	9,893	0,600	1,360	279,924	1H:5V	200	17,945	9,930	64,524	181,559
1	PEAD	190,411	1,209	0,518	0,600	1,359	280,538	1H:5V	200	17,994	9,957	64,700	181,905
1	PEAD	190,929	1,212	0,518	0,600	1,362	281,153	1H:5V	200	18,043	9,984	64,876	182,251
1	PEAD	200,000	1,248	9,071	0,600	1,398	292,119	1H:5V	200	18,900	10,458	67,958	188,519
1	PEAD	220,000	1,328	20,000	0,600	1,478	317,653	1H:5V	200	20,790	11,504	74,754	203,693
1	PEAD	240,000	1,408	20,000	0,600	1,558	345,092	1H:5V	200	22,680	12,550	81,550	220,772
1	PEAD	252,070	1,457	12,070	0,600	1,607	362,600	1H:5V	200	23,821	13,181	85,651	232,027
1	PEAD	253,880	1,410	1,810	0,600	1,560	365,227	1H:5V	200	23,992	13,276	86,266	233,717
1	PEAD	255,690	1,351	1,810	0,600	1,501	367,738	1H:5V	200	24,163	13,371	86,881	235,290
1	PEAD	260,000	1,250	4,310	0,600	1,400	373,305	1H:5V	200	24,570	13,596	88,346	238,625
1	PEAD	268,411	1,265	8,411	0,600	1,415	383,740	1H:5V	200	25,365	14,036	91,204	244,703
1	PEAD	270,221	1,305	1,810	0,600	1,455	386,044	1H:5V	200	25,536	14,130	91,819	246,070
1	PEAD	272,031	1,326	1,810	0,600	1,476	388,413	1H:5V	200	25,707	14,225	92,434	247,501
1	PEAD	280,000	1,348	7,969	0,600	1,498	399,048	1H:5V	200	26,460	14,642	95,142	254,008
1	PEAD	293,825	1,215	13,825	0,600	1,365	416,600	1H:5V	200	27,766	15,365	99,839	264,399
1	PEAD	300,000	1,240	6,175	0,510	1,390	423,661	1H:5V	110	28,308	15,610	101,715	268,738
1	PEAD	307,199	1,269	7,199	0,510	1,419	431,658	1H:5V	110	28,891	15,806	103,643	273,960
1	PEAD	320,000	1,320	12,801	0,510	1,470	446,432	1H:5V	110	29,928	16,154	107,072	283,799
1	PEAD	326,714	1,347	6,714	0,510	1,497	454,467	1H:5V	110	30,472	16,337	108,870	289,245

3.46 RAMAL R-2-3-2

R-2-3-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,777	0,000	0,540	2,927	0,000	1H:5V	140	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,510	20,000	0,540	2,660	61,456	1H:5V	140	1,710	0,706	5,827	52,905
1	PEAD	40,000	2,438	20,000	0,540	2,588	117,342	1H:5V	140	3,420	1,411	11,654	100,241
1	PEAD	60,000	2,391	20,000	0,540	2,541	171,347	1H:5V	140	5,130	2,117	17,481	145,696
1	PEAD	80,000	2,325	20,000	0,540	2,475	223,598	1H:5V	140	6,840	2,823	23,307	189,396
1	PEAD	100,000	2,372	20,000	0,540	2,522	275,554	1H:5V	140	8,550	3,528	29,134	232,802
1	PEAD	120,000	2,149	20,000	0,540	2,299	324,879	1H:5V	140	10,260	4,234	34,961	273,577
1	PEAD	140,000	3,137	20,000	0,540	3,287	398,703	1H:5V	140	11,970	4,940	40,788	338,850
1	PEAD	160,000	2,230	20,000	0,540	2,380	473,722	1H:5V	140	13,680	5,645	46,615	405,319
1	PEAD	180,000	2,212	20,000	0,540	2,362	521,816	1H:5V	140	15,390	6,351	52,442	444,863
1	PEAD	200,000	1,474	20,000	0,540	1,624	559,773	1H:5V	140	17,100	7,057	58,269	474,269
1	PEAD	220,000	1,400	20,000	0,540	1,550	586,993	1H:5V	140	18,810	7,762	64,095	492,938
1	PEAD	240,000	1,408	20,000	0,540	1,558	613,436	1H:5V	140	20,520	8,468	69,922	510,831
1	PEAD	249,282	1,246	9,282	0,540	1,396	624,901	1H:5V	140	21,314	8,795	72,627	518,328
1	PEAD	250,000	1,235	0,718	0,540	1,385	625,718	1H:5V	140	21,375	8,821	72,836	518,838
1	PEAD	250,718	1,228	0,718	0,540	1,378	626,527	1H:5V	140	21,436	8,846	73,045	519,340
1	PEAD	256,619	1,164	5,901	0,540	1,314	632,956	1H:5V	140	21,941	9,054	74,764	523,246
1	PEAD	257,455	1,162	0,836	0,540	1,312	633,837	1H:5V	140	22,012	9,084	75,008	523,770
1	PEAD	258,291	1,167	0,836	0,540	1,317	634,719	1H:5V	140	22,084	9,113	75,251	524,294
1	PEAD	260,000	1,174	1,709	0,540	1,324	636,534	1H:5V	140	22,230	9,174	75,749	525,379
1	PEAD	280,000	1,210	20,000	0,540	1,360	658,232	1H:5V	140	23,940	9,879	81,576	538,527
1	PEAD	300,000	1,301	20,000	0,540	1,451	681,322	1H:5V	140	25,650	10,585	87,403	553,066
1	PEAD	320,000	1,412	20,000	0,540	1,562	706,683	1H:5V	140	27,360	11,291	93,230	569,876
1	PEAD	320,057	1,413	0,057	0,540	1,563	706,758	1H:5V	140	27,365	11,293	93,246	569,928

3.47 RAMAL R-2-3-3

R-2-3-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,500	0,000	0,715	1,650	0,000	1H:5V	315	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,576	20,000	0,715	1,726	35,542	1H:5V	315	2,235	1,761	8,757	21,230
1	PEAD	40,000	1,635	20,000	0,715	1,785	72,976	1H:5V	315	4,470	3,522	17,513	44,353

R-2-3-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	60,000	1,711	20,000	0,715	1,861	112,344	1H:5V	315	6,705	5,283	26,270	69,410
1	PEAD	80,000	1,770	20,000	0,715	1,920	153,677	1H:5V	315	8,940	7,045	35,026	96,432
1	PEAD	98,310	1,874	18,310	0,715	2,024	193,745	1H:5V	315	10,986	8,657	43,043	123,397
1	PEAD	100,000	1,881	1,690	0,715	2,031	197,584	1H:5V	315	11,175	8,806	43,783	126,027
1	PEAD	101,690	1,883	1,690	0,715	2,033	201,435	1H:5V	315	11,364	8,955	44,523	128,669
1	PEAD	120,000	1,871	18,310	0,715	2,021	243,018	1H:5V	315	13,410	10,567	52,540	157,150
1	PEAD	140,000	1,840	20,000	0,715	1,990	287,786	1H:5V	315	15,645	12,328	61,296	187,606
1	PEAD	160,000	1,807	20,000	0,715	1,957	331,587	1H:5V	315	17,880	14,089	70,053	217,096
1	PEAD	180,000	1,782	20,000	0,715	1,932	374,518	1H:5V	315	20,115	15,850	78,810	245,716
1	PEAD	200,000	1,757	20,000	0,715	1,907	416,706	1H:5V	315	22,350	17,612	87,566	273,592
1	PEAD	220,000	1,723	20,000	0,715	1,873	458,022	1H:5V	315	24,585	19,373	96,323	300,597
1	PEAD	240,000	1,752	20,000	0,715	1,902	499,265	1H:5V	315	26,820	21,134	105,079	327,528
1	PEAD	260,000	1,781	20,000	0,715	1,931	541,363	1H:5V	315	29,055	22,895	113,836	355,315
1	PEAD	280,000	1,810	20,000	0,715	1,960	584,325	1H:5V	315	31,290	24,656	122,593	383,965
1	PEAD	300,000	1,718	20,000	0,715	1,868	626,357	1H:5V	315	33,525	26,417	131,349	411,686
1	PEAD	320,000	1,513	20,000	0,715	1,663	664,114	1H:5V	315	35,760	28,179	140,106	435,131
1	PEAD	340,000	1,319	20,000	0,715	1,469	696,355	1H:5V	315	37,995	29,940	148,862	453,061
1	PEAD	360,000	1,452	20,000	0,715	1,602	727,761	1H:5V	315	40,230	31,701	157,619	470,156
1	PEAD	375,666	1,315	15,666	0,715	1,465	752,321	1H:5V	315	41,981	33,080	164,478	483,505
1	PEAD	380,000	1,582	4,334	0,715	1,732	759,505	1H:5V	315	42,465	33,462	166,376	487,588
1	PEAD	384,793	1,652	4,793	0,715	1,802	768,554	1H:5V	315	43,001	33,884	168,474	493,208
1	PEAD	400,000	2,323	15,207	0,715	2,473	806,034	1H:5V	315	44,700	35,223	175,132	519,806
1	PEAD	406,597	1,373	6,597	0,715	1,523	821,023	1H:5V	315	45,437	35,804	178,021	530,074
1	PEAD	410,834	1,410	4,237	0,715	1,560	827,706	1H:5V	315	45,911	36,177	179,876	533,726
1	PEAD	418,341	1,996	7,507	0,715	2,146	842,936	1H:5V	315	46,750	36,838	183,163	543,584
1	PEAD	420,000	2,068	1,659	0,715	2,218	847,105	1H:5V	315	46,935	36,984	183,889	546,565
1	PEAD	425,848	1,717	5,848	0,715	1,867	860,561	1H:5V	315	47,589	37,499	186,449	555,837
1	PEAD	435,500	1,315	9,652	0,715	1,465	877,494	1H:5V	315	48,667	38,349	190,675	565,863

3.48 RAMAL R-2-3-4

R-2-3-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,181	0,000	0,715	2,331	0,000	1H:5V	315	0,000	0,000	0,000	0,000

R-2-3-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	20,000	2,076	20,000	0,715	2,226	53,360	1H:5V	315	2,235	1,761	8,757	39,048
1	PEAD	31,896	2,080	11,896	0,715	2,230	84,121	1H:5V	315	3,564	2,809	13,965	61,297
1	PEAD	40,000	2,112	8,104	0,650	2,262	104,716	1H:5V	250	4,430	3,438	17,285	76,678
1	PEAD	60,000	2,192	20,000	0,650	2,342	155,845	1H:5V	250	6,470	4,785	24,917	115,807
1	PEAD	80,000	2,272	20,000	0,650	2,422	209,513	1H:5V	250	8,510	6,132	32,549	157,475
1	PEAD	100,000	1,975	20,000	0,650	2,125	259,832	1H:5V	250	10,550	7,478	40,180	195,794
1	PEAD	120,000	1,519	20,000	0,650	1,669	299,095	1H:5V	250	12,590	8,825	47,812	223,058
1	PEAD	140,000	1,512	20,000	0,650	1,662	331,842	1H:5V	250	14,630	10,171	55,443	243,805
1	PEAD	160,000	1,592	20,000	0,650	1,742	365,562	1H:5V	250	16,670	11,518	63,075	265,524
1	PEAD	179,545	1,670	19,545	0,650	1,820	400,593	1H:5V	250	18,664	12,834	70,533	288,829
1	PEAD	180,000	1,673	0,455	0,650	1,823	401,434	1H:5V	250	18,710	12,865	70,707	289,396
1	PEAD	180,455	1,678	0,455	0,650	1,828	402,277	1H:5V	250	18,757	12,895	70,880	289,967
1	PEAD	200,000	1,391	19,545	0,650	1,541	434,850	1H:5V	250	20,750	14,211	78,338	310,812
1	PEAD	207,777	1,363	7,777	0,650	1,513	446,196	1H:5V	250	21,544	14,735	81,306	317,492
1	PEAD	208,232	1,353	0,455	0,650	1,503	446,849	1H:5V	250	21,590	14,766	81,479	317,872
1	PEAD	208,687	1,340	0,455	0,650	1,490	447,495	1H:5V	250	21,637	14,796	81,653	318,246
1	PEAD	220,000	1,356	11,313	0,650	1,506	463,588	1H:5V	250	22,790	15,558	85,970	327,551
1	PEAD	240,000	1,354	20,000	0,650	1,504	492,213	1H:5V	250	24,830	16,905	93,602	344,176
1	PEAD	260,000	1,252	20,000	0,650	1,402	519,558	1H:5V	250	26,870	18,251	101,233	359,520
1	PEAD	280,000	1,329	20,000	0,650	1,479	546,590	1H:5V	250	28,910	19,598	108,865	374,553
1	PEAD	298,997	1,405	18,997	0,650	1,555	574,071	1H:5V	250	30,848	20,877	116,114	390,635
1	PEAD	300,000	1,414	1,003	0,650	1,564	575,576	1H:5V	250	30,950	20,944	116,496	391,538
1	PEAD	301,003	1,433	1,003	0,650	1,583	577,098	1H:5V	250	31,053	21,012	116,879	392,459
1	PEAD	320,000	1,283	18,997	0,650	1,433	604,381	1H:5V	250	32,990	22,291	124,128	408,343
1	PEAD	330,767	1,462	10,767	0,650	1,612	620,045	1H:5V	250	34,089	23,016	128,237	417,547
1	PEAD	331,770	1,453	1,003	0,650	1,603	621,611	1H:5V	250	34,191	23,084	128,619	418,511
1	PEAD	332,773	1,436	1,003	0,650	1,586	623,161	1H:5V	250	34,293	23,151	129,002	419,459
1	PEAD	340,000	1,362	7,227	0,650	1,512	633,907	1H:5V	250	35,030	23,638	131,760	425,870
1	PEAD	360,000	1,286	20,000	0,650	1,436	661,766	1H:5V	250	37,070	24,984	139,391	441,728
1	PEAD	380,000	1,366	20,000	0,650	1,516	689,674	1H:5V	250	39,110	26,331	147,023	457,637
1	PEAD	400,000	1,446	20,000	0,650	1,596	719,593	1H:5V	250	41,150	27,678	154,655	475,556
1	PEAD	411,384	1,366	11,384	0,650	1,516	736,623	1H:5V	250	42,312	28,444	158,998	485,755
1	PEAD	412,512	1,359	1,128	0,650	1,509	738,248	1H:5V	250	42,427	28,520	159,429	486,703
1	PEAD	413,640	1,366	1,128	0,650	1,516	739,873	1H:5V	250	42,542	28,596	159,859	487,652
1	PEAD	420,000	1,390	6,360	0,650	1,540	749,160	1H:5V	250	43,190	29,024	162,286	493,123
1	PEAD	440,000	1,268	20,000	0,650	1,418	777,152	1H:5V	250	45,230	30,371	169,918	509,114

R-2-3-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	440,150	1,267	0,150	0,650	1,417	777,350	1H:5V	250	45,246	30,381	169,975	509,223
1	PEAD	441,278	1,254	1,128	0,650	1,404	778,833	1H:5V	250	45,361	30,457	170,405	510,029
1	PEAD	442,406	1,265	1,128	0,650	1,415	780,315	1H:5V	250	45,476	30,533	170,836	510,834
1	PEAD	460,000	1,335	17,594	0,650	1,485	804,300	1H:5V	250	47,270	31,717	177,549	524,262
1	PEAD	480,000	1,415	20,000	0,650	1,565	833,434	1H:5V	250	49,310	33,064	185,181	541,396
1	PEAD	496,630	1,481	16,630	0,650	1,631	859,204	1H:5V	250	51,007	34,184	191,527	557,189
1	PEAD	500,000	1,552	3,370	0,650	1,702	864,727	1H:5V	250	51,350	34,411	192,813	560,690
1	PEAD	501,430	1,616	1,430	0,650	1,766	867,199	1H:5V	250	51,496	34,507	193,358	562,304
1	PEAD	506,230	1,420	4,800	0,650	1,570	875,084	1H:5V	250	51,986	34,830	195,190	567,308
1	PEAD	511,371	1,338	5,141	0,650	1,488	882,599	1H:5V	250	52,510	35,176	197,152	571,738
1	PEAD	516,157	1,362	4,786	0,650	1,512	889,419	1H:5V	250	52,999	35,499	198,978	575,687
1	PEAD	520,000	1,354	3,843	0,650	1,504	894,934	1H:5V	250	53,390	35,757	200,444	578,896
1	PEAD	520,943	1,332	0,943	0,650	1,482	896,269	1H:5V	250	53,487	35,821	200,804	579,666
1	PEAD	522,766	1,352	1,823	0,650	1,502	898,849	1H:5V	250	53,673	35,944	201,500	581,152
1	PEAD	540,000	1,298	17,234	0,650	1,448	922,873	1H:5V	250	55,430	37,104	208,076	594,836
1	PEAD	546,787	1,358	6,787	0,650	1,508	932,360	1H:5V	250	56,123	37,561	210,666	600,250
1	PEAD	551,357	1,396	4,570	0,650	1,546	939,027	1H:5V	250	56,589	37,869	212,410	604,176
1	PEAD	560,000	1,466	8,643	0,650	1,616	952,232	1H:5V	250	57,470	38,451	215,708	612,195
1	PEAD	580,000	1,560	20,000	0,650	1,710	984,922	1H:5V	250	59,510	39,797	223,339	632,885
1	PEAD	600,000	1,575	20,000	0,650	1,725	1.019,049	1H:5V	250	61,550	41,144	230,971	655,012
1	PEAD	609,979	1,528	9,979	0,650	1,678	1.035,865	1H:5V	250	62,568	41,816	234,779	665,840
1	PEAD	612,641	1,516	2,662	0,650	1,666	1.040,247	1H:5V	250	62,840	41,995	235,794	668,624
1	PEAD	620,000	1,544	7,359	0,600	1,694	1.052,125	1H:5V	200	63,563	42,435	238,449	676,454
1	PEAD	640,000	1,624	20,000	0,600	1,774	1.084,967	1H:5V	200	65,453	43,481	245,245	698,936
1	PEAD	660,000	1,711	20,000	0,600	1,861	1.119,997	1H:5V	200	67,343	44,527	252,040	723,607
1	PEAD	680,000	1,769	20,000	0,600	1,919	1.156,969	1H:5V	200	69,233	45,573	258,836	750,218
1	PEAD	700,000	1,761	20,000	0,600	1,911	1.194,618	1H:5V	200	71,123	46,619	265,632	777,507
1	PEAD	720,000	1,847	20,000	0,600	1,997	1.233,346	1H:5V	200	73,013	47,664	272,428	805,875
1	PEAD	740,000	1,932	20,000	0,600	2,082	1.274,465	1H:5V	200	74,903	48,710	279,224	836,635
1	PEAD	760,000	2,014	20,000	0,600	2,164	1.317,977	1H:5V	200	76,793	49,756	286,020	869,786
1	PEAD	780,000	1,271	20,000	0,600	1,421	1.352,891	1H:5V	200	78,683	50,802	292,815	894,340
1	PEAD	800,000	1,348	20,000	0,600	1,498	1.378,931	1H:5V	200	80,573	51,848	299,611	910,021
1	PEAD	820,000	1,327	20,000	0,600	1,477	1.405,633	1H:5V	200	82,463	52,894	306,407	926,362
1	PEAD	840,000	1,361	20,000	0,600	1,511	1.432,490	1H:5V	200	84,353	53,939	313,203	942,859
1	PEAD	860,000	1,447	20,000	0,600	1,597	1.460,805	1H:5V	200	86,243	54,985	319,999	960,814
1	PEAD	880,000	1,532	20,000	0,600	1,682	1.491,238	1H:5V	200	88,133	56,031	326,795	980,887

R-2-3-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	883,522	1,547	3,522	0,600	1,697	1.496,819	1H:5V	200	88,466	56,215	327,991	984,644
1	PEAD	884,532	1,557	1,010	0,600	1,707	1.498,435	1H:5V	200	88,561	56,268	328,335	985,737
1	PEAD	885,542	1,576	1,010	0,600	1,726	1.500,071	1H:5V	200	88,657	56,321	328,678	986,849
1	PEAD	900,000	1,241	14,458	0,600	1,391	1.520,695	1H:5V	200	90,023	57,077	333,590	999,984
1	PEAD	910,276	1,235	10,276	0,600	1,385	1.533,212	1H:5V	200	90,994	57,614	337,082	1.007,179

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R-2-3-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,666	0,000	0,715	2,816	0,000	1H:5V	315	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,742	20,000	0,715	2,892	73,399	1H:5V	315	2,235	1,761	8,757	59,088
1	PEAD	23,602	2,760	3,602	0,715	2,910	86,933	1H:5V	315	2,638	2,078	10,334	70,044
1	PEAD	40,000	2,826	16,398	0,715	2,976	149,848	1H:5V	315	4,470	3,522	17,513	121,225
1	PEAD	60,000	2,507	20,000	0,715	2,657	221,956	1H:5V	315	6,705	5,283	26,270	179,022
1	PEAD	80,000	1,986	20,000	0,715	2,136	279,470	1H:5V	315	8,940	7,045	35,026	222,225
1	PEAD	100,000	2,066	20,000	0,715	2,216	329,534	1H:5V	315	11,175	8,806	43,783	257,977
1	PEAD	120,000	2,146	20,000	0,715	2,296	382,159	1H:5V	315	13,410	10,567	52,540	296,290
1	PEAD	140,000	2,178	20,000	0,715	2,328	436,603	1H:5V	315	15,645	12,328	61,296	336,423
1	PEAD	160,000	1,801	20,000	0,715	1,951	485,650	1H:5V	315	17,880	14,089	70,053	371,158
1	PEAD	180,000	1,637	20,000	0,715	1,787	526,376	1H:5V	315	20,115	15,850	78,810	397,573
1	PEAD	200,000	1,561	20,000	0,715	1,711	563,628	1H:5V	315	22,350	17,612	87,566	420,514
1	PEAD	220,000	1,546	20,000	0,715	1,696	599,596	1H:5V	315	24,585	19,373	96,323	442,171
1	PEAD	240,000	1,626	20,000	0,715	1,776	636,482	1H:5V	315	26,820	21,134	105,079	464,746
1	PEAD	260,000	1,471	20,000	0,715	1,621	672,334	1H:5V	315	29,055	22,895	113,836	486,286
1	PEAD	270,097	1,346	10,097	0,715	1,496	688,499	1H:5V	315	30,183	23,784	118,257	495,225
1	PEAD	271,764	1,327	1,667	0,715	1,477	691,007	1H:5V	315	30,370	23,931	118,987	496,541
1	PEAD	273,431	1,320	1,667	0,715	1,470	693,487	1H:5V	315	30,556	24,078	119,716	497,828
1	PEAD	280,000	1,318	6,569	0,715	1,468	703,222	1H:5V	315	31,290	24,656	122,593	502,863
1	PEAD	300,000	1,321	20,000	0,715	1,471	732,874	1H:5V	315	33,525	26,417	131,349	518,203
1	PEAD	303,982	1,319	3,982	0,715	1,469	738,780	1H:5V	315	33,970	26,768	133,093	521,260
1	PEAD	304,535	1,320	0,553	0,715	1,470	739,600	1H:5V	315	34,032	26,817	133,335	521,684
1	PEAD	305,088	1,325	0,553	0,715	1,475	740,422	1H:5V	315	34,094	26,865	133,577	522,110
1	PEAD	320,000	1,418	14,912	0,715	1,568	763,555	1H:5V	315	35,760	28,179	140,106	534,572

R-2-3-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	340,000	1,544	20,000	0,715	1,694	797,535	1H:5V	315	37,995	29,940	148,862	554,241
1	PEAD	360,000	1,670	20,000	0,715	1,820	835,024	1H:5V	315	40,230	31,701	157,619	577,419
1	PEAD	380,000	1,795	20,000	0,715	1,945	876,134	1H:5V	315	42,465	33,462	166,376	604,218
1	PEAD	400,000	1,457	20,000	0,715	1,607	914,262	1H:5V	315	44,700	35,223	175,132	628,034
1	PEAD	420,000	1,356	20,000	0,715	1,506	946,221	1H:5V	315	46,935	36,984	183,889	645,682
1	PEAD	425,822	1,358	5,822	0,715	1,508	955,139	1H:5V	315	47,586	37,497	186,438	650,433
1	PEAD	440,000	1,364	14,178	0,715	1,514	976,930	1H:5V	315	49,170	38,746	192,646	662,079
1	PEAD	460,000	1,336	20,000	0,715	1,486	1.007,381	1H:5V	315	51,405	40,507	201,402	678,219
1	PEAD	463,160	1,328	3,160	0,715	1,478	1.012,117	1H:5V	315	51,758	40,785	202,786	680,694
1	PEAD	464,301	1,324	1,141	0,715	1,474	1.013,819	1H:5V	315	51,886	40,886	203,285	681,579
1	PEAD	465,442	1,330	1,141	0,715	1,480	1.015,522	1H:5V	315	52,013	40,986	203,785	682,465
1	PEAD	480,000	1,388	14,558	0,715	1,538	1.037,861	1H:5V	315	53,640	42,268	210,159	694,387
1	PEAD	500,000	1,468	20,000	0,715	1,618	1.070,393	1H:5V	315	55,875	44,029	218,915	712,608
1	PEAD	506,563	1,494	6,563	0,715	1,644	1.081,539	1H:5V	315	56,608	44,607	221,789	719,057

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R-2-3-8													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,908	0,000	0,755	2,058	0,000	1H:5V	355	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,558	20,000	0,755	1,708	42,739	1H:5V	355	2,355	2,029	9,471	26,904
1	PEAD	40,000	1,690	20,000	0,755	1,840	82,132	1H:5V	355	4,710	4,059	18,941	50,462
1	PEAD	60,000	1,970	20,000	0,755	2,120	127,790	1H:5V	355	7,065	6,088	28,412	80,286
1	PEAD	79,461	1,433	19,461	0,755	1,583	168,617	1H:5V	355	9,357	8,063	37,627	105,705
1	PEAD	80,000	1,416	0,539	0,755	1,566	169,525	1H:5V	355	9,420	8,118	37,882	106,187
1	PEAD	80,709	1,392	0,709	0,755	1,542	170,699	1H:5V	355	9,503	8,190	38,218	106,800
1	PEAD	81,957	1,383	1,248	0,755	1,533	172,738	1H:5V	355	9,650	8,316	38,809	107,850
1	PEAD	100,000	1,438	18,043	0,755	1,588	202,786	1H:5V	355	11,775	10,147	47,353	123,613
1	PEAD	118,953	1,413	18,953	0,755	1,563	234,741	1H:5V	355	14,007	12,071	56,327	140,562
1	PEAD	120,000	1,417	1,047	0,755	1,567	236,490	1H:5V	355	14,130	12,177	56,823	141,483
1	PEAD	123,978	1,433	3,978	0,755	1,583	243,194	1H:5V	355	14,598	12,581	58,707	145,037
1	PEAD	140,000	1,497	16,022	0,755	1,647	271,092	1H:5V	355	16,485	14,206	66,294	160,249
1	PEAD	153,686	1,552	13,686	0,755	1,702	296,071	1H:5V	355	18,097	15,595	72,774	174,393
1	PEAD	156,805	1,511	3,119	0,755	1,661	301,795	1H:5V	355	18,464	15,912	74,251	177,648

R-2-3-8													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	159,924	1,427	3,119	0,755	1,577	307,243	1H:5V	355	18,831	16,228	75,728	180,627
1	PEAD	160,000	1,426	0,076	0,755	1,576	307,372	1H:5V	355	18,840	16,236	75,764	180,695
1	PEAD	162,815	1,398	2,815	0,755	1,548	312,065	1H:5V	355	19,171	16,521	77,097	183,160
1	PEAD	165,934	1,445	3,119	0,755	1,595	317,307	1H:5V	355	19,539	16,838	78,574	185,932
1	PEAD	169,053	1,504	3,119	0,755	1,654	322,779	1H:5V	355	19,906	17,154	80,051	188,935
1	PEAD	180,000	1,408	10,947	0,755	1,558	341,705	1H:5V	355	21,195	18,265	85,235	199,193
1	PEAD	186,836	1,395	6,836	0,755	1,545	353,003	1H:5V	355	22,000	18,959	88,472	205,080
1	PEAD	200,000	1,367	13,164	0,755	1,517	374,391	1H:5V	355	23,550	20,295	94,705	216,045
1	PEAD	203,126	1,384	3,126	0,755	1,534	379,447	1H:5V	355	23,918	20,612	96,186	218,626
1	PEAD	220,000	1,441	16,874	0,755	1,591	407,595	1H:5V	355	25,905	22,324	104,176	233,414
1	PEAD	240,000	1,606	20,000	0,755	1,756	444,094	1H:5V	355	28,260	24,354	113,646	254,079
1	PEAD	260,000	1,703	20,000	0,755	1,853	484,376	1H:5V	355	30,615	26,383	123,117	278,527
1	PEAD	280,000	1,728	20,000	0,755	1,878	526,466	1H:5V	355	32,970	28,413	132,587	304,782
1	PEAD	299,362	1,704	19,362	0,755	1,854	567,228	1H:5V	355	35,250	30,377	141,756	330,214
1	PEAD	300,000	1,708	0,638	0,755	1,858	568,562	1H:5V	355	35,325	30,442	142,058	331,043
1	PEAD	300,638	1,717	0,638	0,755	1,867	569,902	1H:5V	355	35,400	30,507	142,360	331,877
1	PEAD	320,000	2,042	19,362	0,755	2,192	615,622	1H:5V	355	37,680	32,472	151,528	362,268
1	PEAD	324,089	2,110	4,089	0,755	2,260	626,547	1H:5V	355	38,161	32,887	153,465	369,956
1	PEAD	325,676	2,132	1,587	0,755	2,282	630,905	1H:5V	355	38,348	33,048	154,216	373,058
1	PEAD	327,263	2,090	1,587	0,755	2,240	635,237	1H:5V	355	38,535	33,209	154,968	376,133
1	PEAD	340,000	1,593	12,737	0,755	1,743	664,648	1H:5V	355	40,035	34,501	160,999	395,460
1	PEAD	360,000	2,276	20,000	0,755	2,426	713,971	1H:5V	355	42,390	36,531	170,469	428,949
1	PEAD	380,000	1,359	20,000	0,755	1,509	760,006	1H:5V	355	44,745	38,560	179,940	459,148
1	PEAD	390,047	1,398	10,047	0,755	1,548	776,296	1H:5V	355	45,928	39,580	184,698	467,484
1	PEAD	400,000	1,439	9,953	0,755	1,589	792,980	1H:5V	355	47,100	40,590	189,411	476,288
1	PEAD	420,000	1,520	20,000	0,755	1,670	828,213	1H:5V	355	49,455	42,619	198,881	495,687
1	PEAD	440,000	1,601	20,000	0,755	1,751	865,752	1H:5V	355	51,810	44,648	208,352	517,390
1	PEAD	455,449	1,664	15,449	0,755	1,814	896,363	1H:5V	355	53,629	46,216	215,667	535,770
1	PEAD	458,902	1,737	3,453	0,755	1,887	903,553	1H:5V	355	54,036	46,567	217,302	540,227
1	PEAD	460,000	1,786	1,098	0,755	1,936	905,940	1H:5V	355	54,165	46,678	217,822	541,744
1	PEAD	462,355	1,900	2,355	0,755	2,050	911,356	1H:5V	355	54,442	46,917	218,937	545,296
1	PEAD	465,664	1,747	3,309	0,755	1,897	918,868	1H:5V	355	54,832	47,253	220,504	550,188
1	PEAD	469,120	1,366	3,456	0,755	1,516	925,359	1H:5V	355	55,239	47,603	222,141	553,942
1	PEAD	472,576	1,439	3,456	0,755	1,589	931,076	1H:5V	355	55,646	47,954	223,777	556,924
1	PEAD	480,000	1,469	7,424	0,755	1,619	943,888	1H:5V	355	56,520	48,707	227,293	563,857
1	PEAD	500,000	1,549	20,000	0,755	1,699	979,954	1H:5V	355	58,875	50,737	236,763	584,089

R-2-3-8													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	507,881	1,490	7,881	0,755	1,640	994,282	1H:5V	355	59,803	51,537	240,495	592,178
1	PEAD	509,657	1,437	1,776	0,755	1,587	997,371	1H:5V	355	60,012	51,717	241,336	593,860
1	PEAD	511,433	1,415	1,776	0,755	1,565	1.000,366	1H:5V	355	60,221	51,897	242,177	595,449
1	PEAD	520,000	1,388	8,567	0,755	1,538	1.014,526	1H:5V	355	61,230	52,766	246,234	602,827
1	PEAD	526,986	1,365	6,986	0,755	1,515	1.025,834	1H:5V	355	62,053	53,475	249,542	608,603
1	PEAD	528,548	1,389	1,562	0,755	1,539	1.028,363	1H:5V	355	62,237	53,634	250,281	609,896
1	PEAD	530,110	1,394	1,562	0,755	1,544	1.030,923	1H:5V	355	62,420	53,792	251,021	611,219
1	PEAD	540,000	1,428	9,890	0,755	1,578	1.047,399	1H:5V	355	63,585	54,796	255,704	619,865
1	PEAD	560,000	1,594	20,000	0,755	1,744	1.083,544	1H:5V	355	65,940	56,825	265,175	640,175
1	PEAD	580,000	1,759	20,000	0,755	1,909	1.124,496	1H:5V	355	68,295	58,855	274,645	665,292
1	PEAD	582,333	1,779	2,333	0,755	1,929	1.129,594	1H:5V	355	68,570	59,092	275,750	668,544
1	PEAD	600,000	1,925	17,667	0,755	2,075	1.170,479	1H:5V	355	70,650	60,884	284,116	695,441
1	PEAD	603,463	1,954	3,463	0,755	2,104	1.178,966	1H:5V	355	71,058	61,236	285,756	701,186
1	PEAD	620,000	1,933	16,537	0,755	2,083	1.219,600	1H:5V	355	73,005	62,914	293,586	728,727
1	PEAD	640,000	1,419	20,000	0,755	1,569	1.260,774	1H:5V	355	75,360	64,943	303,057	754,067
1	PEAD	660,000	1,528	20,000	0,755	1,678	1.295,844	1H:5V	355	77,715	66,973	312,527	773,302
1	PEAD	680,000	1,587	20,000	0,755	1,737	1.333,293	1H:5V	355	80,070	69,002	321,998	794,916
1	PEAD	698,393	1,739	18,393	0,755	1,889	1.370,582	1H:5V	355	82,236	70,869	330,707	817,643
1	PEAD	700,000	1,753	1,607	0,755	1,903	1.374,038	1H:5V	355	82,425	71,032	331,468	819,827
1	PEAD	704,460	1,790	4,460	0,755	1,940	1.383,802	1H:5V	355	82,950	71,484	333,580	826,059
1	PEAD	720,000	1,918	15,540	0,755	2,068	1.419,808	1H:5V	355	84,780	73,061	340,939	849,763
1	PEAD	740,000	2,084	20,000	0,755	2,234	1.470,823	1H:5V	355	87,135	75,091	350,409	884,943
1	PEAD	760,000	2,249	20,000	0,755	2,399	1.527,294	1H:5V	355	89,490	77,120	359,880	925,580
1	PEAD	767,188	2,060	7,188	0,755	2,210	1.547,448	1H:5V	355	90,336	77,850	363,284	940,042
1	PEAD	780,000	1,625	12,812	0,755	1,775	1.577,016	1H:5V	355	91,845	79,150	369,351	959,467
1	PEAD	782,454	1,624	2,454	0,755	1,774	1.581,849	1H:5V	355	92,134	79,399	370,513	962,357
1	PEAD	800,000	1,614	17,546	0,755	1,764	1.616,265	1H:5V	355	94,200	81,179	378,821	982,881
1	PEAD	820,000	1,746	20,000	0,755	1,896	1.657,311	1H:5V	355	96,555	83,209	388,292	1.008,093
1	PEAD	840,000	1,911	20,000	0,755	2,061	1.702,872	1H:5V	355	98,910	85,238	397,762	1.037,818
1	PEAD	860,000	1,400	20,000	0,755	1,550	1.743,435	1H:5V	355	101,265	87,268	407,233	1.062,547
1	PEAD	880,000	1,385	20,000	0,755	1,535	1.776,244	1H:5V	355	103,620	89,297	416,703	1.079,522
1	PEAD	892,684	1,376	12,684	0,755	1,526	1.796,843	1H:5V	355	105,114	90,584	422,709	1.090,079
1	PEAD	894,822	1,363	2,138	0,755	1,513	1.800,283	1H:5V	355	105,365	90,801	423,722	1.091,826
1	PEAD	896,960	1,374	2,138	0,755	1,524	1.803,720	1H:5V	355	105,617	91,018	424,734	1.093,570
1	PEAD	900,000	1,386	3,040	0,755	1,536	1.808,655	1H:5V	355	105,975	91,326	426,174	1.096,098
1	PEAD	920,000	1,466	20,000	0,755	1,616	1.842,395	1H:5V	355	108,330	93,356	435,644	1.114,003

R-2-3-8													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	931,171	1,510	11,171	0,755	1,660	1.862,205	1H:5V	355	109,645	94,490	440,934	1.124,969
1	PEAD	940,000	1,546	8,829	0,755	1,696	1.878,363	1H:5V	355	110,685	95,385	445,115	1.134,137
1	PEAD	956,935	1,381	16,935	0,755	1,531	1.907,834	1H:5V	355	112,679	97,104	453,134	1.150,200
1	PEAD	958,293	1,364	1,358	0,755	1,514	1.910,024	1H:5V	355	112,839	97,242	453,777	1.151,315
1	PEAD	959,651	1,365	1,358	0,755	1,515	1.912,200	1H:5V	355	112,999	97,379	454,420	1.152,416
1	PEAD	960,000	1,368	0,349	0,755	1,518	1.912,760	1H:5V	355	113,040	97,415	454,585	1.152,699
1	PEAD	963,728	1,396	3,728	0,755	1,546	1.918,822	1H:5V	355	113,479	97,793	456,351	1.155,810
1	PEAD	980,000	1,439	16,272	0,755	1,589	1.946,077	1H:5V	355	115,395	99,444	464,056	1.170,182
1	PEAD	981,223	1,399	1,223	0,755	1,549	1.948,128	1H:5V	355	115,539	99,568	464,635	1.171,265
1	PEAD	982,245	1,360	1,022	0,755	1,510	1.949,787	1H:5V	355	115,659	99,672	465,119	1.172,114
1	PEAD	983,267	1,376	1,022	0,755	1,526	1.951,429	1H:5V	355	115,780	99,776	465,603	1.172,947
1	PEAD	1.000,000	1,555	16,733	0,755	1,705	1.980,599	1H:5V	355	117,750	101,474	473,526	1.188,869
1	PEAD	1.020,000	1,770	20,000	0,755	1,920	2.021,155	1H:5V	355	120,105	103,503	482,997	1.213,590
1	PEAD	1.040,000	1,750	20,000	0,755	1,900	2.064,589	1H:5V	355	122,460	105,533	492,467	1.241,190
1	PEAD	1.060,000	1,444	20,000	0,755	1,594	2.103,270	1H:5V	355	124,815	107,562	501,938	1.264,036
1	PEAD	1.069,214	1,530	9,214	0,755	1,680	2.119,600	1H:5V	355	125,900	108,497	506,301	1.273,071
1	PEAD	1.069,852	1,533	0,638	0,755	1,683	2.120,770	1H:5V	355	125,975	108,562	506,603	1.273,737
1	PEAD	1.070,248	1,533	0,396	0,755	1,683	2.121,498	1H:5V	355	126,022	108,602	506,791	1.274,151
1	PEAD	1.070,490	1,529	0,242	0,650	1,679	2.121,921	1H:5V	250	126,048	108,623	506,894	1.274,411
1	PEAD	1.080,000	1,357	9,510	0,650	1,507	2.136,608	1H:5V	250	127,018	109,263	510,523	1.283,393
1	PEAD	1.088,933	1,341	8,933	0,650	1,491	2.149,327	1H:5V	250	127,929	109,864	513,932	1.290,751
1	PEAD	1.100,000	1,613	11,067	0,650	1,763	2.166,931	1H:5V	250	129,058	110,610	518,155	1.301,715
1	PEAD	1.106,013	1,250	6,013	0,650	1,400	2.176,160	1H:5V	250	129,672	111,014	520,449	1.307,336

3.51 RAMAL R-2-4

R-2-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,920	0,000	0,490	3,070	0,000	1H:5V	90	0,000	0,000	0,000	0,000
1	PEAD	18,482	1,009	18,482	0,490	1,159	41,639	1H:5V	90	1,442	0,406	4,665	35,009
1	PEAD	20,000	1,032	1,518	0,490	1,182	42,925	1H:5V	90	1,560	0,439	5,048	35,751
1	PEAD	40,000	1,272	20,000	0,490	1,422	62,523	1H:5V	90	3,120	0,879	10,095	48,174
1	PEAD	60,000	1,141	20,000	0,490	1,291	83,194	1H:5V	90	4,680	1,318	15,143	61,671
1	PEAD	80,000	1,088	20,000	0,490	1,238	101,985	1H:5V	90	6,240	1,758	20,191	73,288

R-2-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	88,953	1,059	8,953	0,490	1,209	110,033	1H:5V	90	6,938	1,955	22,450	78,124

3.52 RAMAL R-2-5

R-2-5													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,344	0,000	0,580	2,494	0,000	1H:5V	180	0,000	0,000	0,000	0,000
1	PEAD	11,992	1,914	11,992	0,580	2,064	28,419	1H:5V	180	1,097	0,558	3,879	22,580
1	PEAD	16,892	1,597	4,900	0,580	1,747	37,417	1H:5V	180	1,546	0,785	5,463	29,193
1	PEAD	20,000	1,487	3,108	0,580	1,637	42,249	1H:5V	180	1,830	0,930	6,469	32,511
1	PEAD	21,792	1,467	1,792	0,580	1,617	44,889	1H:5V	180	1,994	1,013	7,048	34,279
1	PEAD	40,000	1,431	18,208	0,580	1,581	71,087	1H:5V	180	3,660	1,860	12,937	51,612
1	PEAD	60,000	1,391	20,000	0,580	1,541	98,943	1H:5V	180	5,490	2,790	19,406	69,730
1	PEAD	80,000	1,351	20,000	0,580	1,501	125,842	1H:5V	180	7,320	3,720	25,875	86,892
1	PEAD	100,000	1,311	20,000	0,580	1,461	151,797	1H:5V	180	9,150	4,650	32,344	103,109
1	PEAD	111,343	1,288	11,343	0,580	1,438	166,100	1H:5V	180	10,188	5,177	36,012	111,889
1	PEAD	115,086	1,210	3,743	0,580	1,360	170,603	1H:5V	180	10,530	5,351	37,223	114,570
1	PEAD	118,829	1,377	3,743	0,580	1,527	175,302	1H:5V	180	10,873	5,525	38,434	117,447
1	PEAD	120,000	1,398	1,171	0,580	1,548	176,900	1H:5V	180	10,980	5,580	38,812	118,474
1	PEAD	129,404	1,180	9,404	0,580	1,330	188,666	1H:5V	180	11,840	6,017	41,854	125,661
1	PEAD	140,000	1,356	10,596	0,580	1,506	201,658	1H:5V	180	12,810	6,510	45,281	133,495
1	PEAD	160,000	1,206	20,000	0,580	1,356	226,471	1H:5V	180	14,640	7,439	51,750	148,570
1	PEAD	180,000	1,278	20,000	0,580	1,428	250,374	1H:5V	180	16,470	8,369	58,219	162,736
1	PEAD	200,000	1,183	20,000	0,580	1,333	274,020	1H:5V	180	18,300	9,299	64,687	176,644
1	PEAD	220,000	1,592	20,000	0,580	1,742	301,478	1H:5V	180	20,130	10,229	71,156	194,364
1	PEAD	222,582	1,615	2,582	0,580	1,765	305,692	1H:5V	180	20,366	10,349	71,991	197,321
1	PEAD	240,000	1,761	17,418	0,525	1,911	335,132	1H:5V	125	21,888	11,026	77,242	219,097
1	PEAD	260,000	1,796	20,000	0,525	1,946	370,259	1H:5V	125	23,553	11,650	82,833	246,099
1	PEAD	280,000	1,388	20,000	0,525	1,538	400,854	1H:5V	125	25,218	12,274	88,423	268,570
1	PEAD	295,381	1,817	15,381	0,525	1,967	424,595	1H:5V	125	26,499	12,754	92,722	286,062
1	PEAD	298,374	1,883	2,993	0,525	2,033	430,133	1H:5V	125	26,748	12,848	93,559	290,384
1	PEAD	300,000	1,879	1,626	0,525	2,029	433,208	1H:5V	125	26,883	12,898	94,014	292,799
1	PEAD	301,367	1,865	1,367	0,525	2,015	435,777	1H:5V	125	26,997	12,941	94,396	294,812
1	PEAD	320,000	1,628	18,633	0,525	1,778	467,785	1H:5V	125	28,548	13,523	99,604	319,251

R-2-5													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	333,227	1,459	13,227	0,525	1,609	487,151	1H:5V	125	29,649	13,935	103,301	333,243
1	PEAD	340,000	1,349	6,773	0,525	1,499	495,952	1H:5V	125	30,213	14,147	105,194	339,292
1	PEAD	349,192	1,203	9,192	0,525	1,353	506,581	1H:5V	125	30,978	14,434	107,764	346,188
1	PEAD	360,000	1,148	10,808	0,525	1,298	517,902	1H:5V	125	31,878	14,771	110,785	353,118
1	PEAD	380,000	1,228	20,000	0,525	1,378	539,118	1H:5V	125	33,543	15,395	116,375	366,209
1	PEAD	400,000	1,308	20,000	0,525	1,458	562,057	1H:5V	125	35,208	16,019	121,966	381,023
1	PEAD	420,000	1,388	20,000	0,525	1,538	586,768	1H:5V	125	36,873	16,643	127,556	397,609
1	PEAD	440,000	1,468	20,000	0,525	1,618	613,304	1H:5V	125	38,538	17,268	133,146	416,020
1	PEAD	460,000	1,548	20,000	0,525	1,698	641,715	1H:5V	125	40,203	17,892	138,737	436,306
1	PEAD	480,000	1,628	20,000	0,525	1,778	672,053	1H:5V	125	41,868	18,516	144,327	458,519
1	PEAD	485,852	1,651	5,852	0,525	1,801	681,299	1H:5V	125	42,355	18,699	145,963	465,388

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R-2-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,581	0,000	0,715	1,731	0,000	1H:5V	315	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,694	20,000	0,715	1,844	38,355	1H:5V	315	2,235	1,761	8,757	24,043
1	PEAD	32,933	2,410	12,933	0,715	2,560	71,590	1H:5V	315	3,680	2,900	14,419	48,024
1	PEAD	33,975	2,417	1,042	0,715	2,567	74,870	1H:5V	315	3,797	2,992	14,875	50,558
1	PEAD	35,017	2,413	1,042	0,625	2,563	78,032	1H:5V	225	3,906	3,069	15,291	53,076
1	PEAD	40,000	2,367	4,983	0,625	2,517	92,372	1H:5V	225	4,396	3,366	17,088	64,635
1	PEAD	54,926	1,231	14,926	0,625	1,381	122,857	1H:5V	225	5,862	4,258	22,469	86,787
1	PEAD	55,582	1,227	0,656	0,625	1,377	123,672	1H:5V	225	5,927	4,297	22,705	87,236
1	PEAD	56,238	1,228	0,656	0,580	1,378	124,465	1H:5V	180	5,989	4,332	22,930	87,691
1	PEAD	60,000	1,243	3,762	0,580	1,393	128,932	1H:5V	180	6,333	4,507	24,147	90,327
1	PEAD	80,000	1,631	20,000	0,580	1,781	157,566	1H:5V	180	8,163	5,436	30,615	109,223
1	PEAD	100,000	1,572	20,000	0,580	1,722	190,158	1H:5V	180	9,993	6,366	37,084	132,078
1	PEAD	120,000	1,580	20,000	0,580	1,730	222,096	1H:5V	180	11,823	7,296	43,553	154,278
1	PEAD	140,000	1,663	20,000	0,580	1,813	255,205	1H:5V	180	13,653	8,226	50,021	177,650
1	PEAD	160,000	1,738	20,000	0,580	1,888	290,374	1H:5V	180	15,483	9,156	56,490	203,081
1	PEAD	180,000	1,816	20,000	0,580	1,966	327,587	1H:5V	180	17,313	10,086	62,959	230,556
1	PEAD	200,000	1,893	20,000	0,580	2,043	366,917	1H:5V	180	19,143	11,016	69,428	260,148
1	PEAD	220,000	1,883	20,000	0,580	2,033	407,172	1H:5V	180	20,973	11,946	75,896	290,665

R-2-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	234,234	1,940	14,234	0,580	2,090	436,291	1H:5V	180	22,275	12,608	80,500	312,855
1	PEAD	240,000	1,963	5,766	0,580	2,113	448,412	1H:5V	180	22,803	12,876	82,365	322,169
1	PEAD	254,147	1,940	14,147	0,580	2,090	478,152	1H:5V	180	24,098	13,534	86,941	345,020
1	PEAD	254,795	1,894	0,648	0,580	2,044	479,482	1H:5V	180	24,157	13,564	87,150	346,035
1	PEAD	260,000	1,673	5,205	0,560	1,823	489,129	1H:5V	160	24,625	13,791	88,792	353,240
1	PEAD	280,000	1,356	20,000	0,560	1,506	518,954	1H:5V	160	26,395	14,608	94,938	373,931
1	PEAD	300,000	2,181	20,000	0,560	2,331	555,844	1H:5V	160	28,165	15,424	101,083	401,687
1	PEAD	301,583	2,109	1,583	0,560	2,259	559,547	1H:5V	160	28,305	15,489	101,570	404,666
1	PEAD	320,000	1,283	18,417	0,560	1,433	591,766	1H:5V	160	29,935	16,241	107,229	428,474
1	PEAD	320,768	1,286	0,768	0,560	1,436	592,699	1H:5V	160	30,003	16,272	107,465	429,056
1	PEAD	321,978	1,291	1,210	0,560	1,441	594,174	1H:5V	160	30,110	16,321	107,837	429,979
1	PEAD	334,591	1,341	12,613	0,560	1,491	609,952	1H:5V	160	31,227	16,836	111,713	439,996
1	PEAD	340,000	1,465	5,409	0,560	1,615	617,270	1H:5V	160	31,705	17,057	113,375	444,843
1	PEAD	345,409	1,438	5,409	0,560	1,588	624,895	1H:5V	160	32,184	17,278	115,037	449,998
1	PEAD	351,898	1,243	6,489	0,560	1,393	633,207	1H:5V	160	32,758	17,543	117,031	455,346
1	PEAD	354,091	1,220	2,193	0,560	1,370	635,741	1H:5V	160	32,952	17,633	117,705	456,879

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R-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	0,000	1,581	0,000	1,400	1,731	0,000	1H:5V	800	0,000	0,000	0,000	0,000
1	PRFV	20,000	1,718	20,000	1,400	1,868	63,358	1H:5V	800	4,290	19,467	11,280	18,268
1	PRFV	40,000	1,879	20,000	1,400	2,029	133,128	1H:5V	800	8,580	38,934	22,560	42,948
1	PRFV	60,000	2,072	20,000	1,400	2,222	210,750	1H:5V	800	12,870	58,401	33,840	75,480
1	PRFV	79,373	2,179	19,373	1,400	2,329	292,540	1H:5V	800	17,026	77,257	44,766	113,594
1	PRFV	80,000	2,183	0,627	1,400	2,333	295,268	1H:5V	800	17,160	77,868	45,120	114,908
1	PRFV	100,000	2,329	20,000	1,400	2,479	385,812	1H:5V	800	21,450	97,335	56,400	160,362
1	PRFV	120,000	2,475	20,000	1,400	2,625	483,341	1H:5V	800	25,740	116,801	67,680	212,801
1	PRFV	140,000	2,621	20,000	1,400	2,771	588,023	1H:5V	800	30,030	136,268	78,960	272,393
1	PRFV	155,095	2,731	15,095	1,400	2,881	671,864	1H:5V	800	33,268	150,961	87,474	322,203
1	PRFV	156,733	2,746	1,638	1,400	2,896	681,222	1H:5V	800	33,619	152,555	88,397	327,867
1	PRFV	158,371	2,768	1,638	1,400	2,918	690,656	1H:5V	800	33,971	154,150	89,321	333,609
1	PRFV	160,000	2,793	1,629	1,400	2,943	700,138	1H:5V	800	34,320	155,735	90,240	339,418

R-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	180,000	2,103	20,000	1,400	2,253	800,356	1H:5V	800	38,610	175,202	101,520	394,546
1	PRFV	200,000	2,370	20,000	1,400	2,520	890,031	1H:5V	800	42,900	194,669	112,800	439,131
1	PRFV	220,000	2,091	20,000	1,400	2,241	979,430	1H:5V	800	47,190	214,136	124,080	483,440
1	PRFV	230,503	1,916	10,503	1,400	2,066	1.020,853	1H:5V	800	49,443	224,359	130,004	501,184
1	PRFV	231,502	1,899	0,999	1,400	2,049	1.024,577	1H:5V	800	49,657	225,331	130,567	502,655
1	PRFV	232,501	1,910	0,999	1,400	2,060	1.028,293	1H:5V	800	49,871	226,304	131,131	504,120
1	PRFV	234,476	1,931	1,975	1,400	2,081	1.035,712	1H:5V	800	50,295	228,226	132,244	507,086
1	PRFV	240,000	1,989	5,524	1,400	2,139	1.056,949	1H:5V	800	51,480	233,603	135,360	515,869
1	PRFV	260,000	2,199	20,000	1,400	2,349	1.139,967	1H:5V	800	55,770	253,070	146,640	553,797
1	PRFV	280,000	2,409	20,000	1,400	2,559	1.232,812	1H:5V	800	60,060	272,537	157,920	601,552
1	PRFV	300,000	2,481	20,000	1,400	2,631	1.332,413	1H:5V	800	64,350	292,004	169,200	656,063
1	PRFV	320,000	2,346	20,000	1,400	2,496	1.430,496	1H:5V	800	68,640	311,470	180,480	709,056
1	PRFV	340,000	2,054	20,000	1,400	2,204	1.518,471	1H:5V	800	72,930	330,937	191,760	751,941
1	PRFV	360,000	2,247	20,000	1,400	2,397	1.604,091	1H:5V	800	77,220	350,404	203,040	792,471
1	PRFV	380,000	2,413	20,000	1,400	2,563	1.698,161	1H:5V	800	81,510	369,871	214,320	841,451
1	PRFV	400,000	2,085	20,000	1,400	2,235	1.788,461	1H:5V	800	85,800	389,338	225,600	886,661
1	PRFV	420,000	2,016	20,000	1,400	2,166	1.869,448	1H:5V	800	90,090	408,805	236,880	922,558
1	PRFV	440,000	2,229	20,000	1,400	2,379	1.953,781	1H:5V	800	94,380	428,272	248,160	961,801
1	PRFV	449,814	2,334	9,814	1,400	2,484	1.998,799	1H:5V	800	96,485	437,824	253,695	984,693
1	PRFV	451,111	2,346	1,297	1,400	2,496	2.004,928	1H:5V	800	96,763	439,087	254,427	987,898
1	PRFV	452,408	2,353	1,297	1,400	2,503	2.011,087	1H:5V	800	97,042	440,349	255,158	991,134
1	PRFV	460,000	2,384	7,592	1,400	2,534	2.047,487	1H:5V	800	98,670	447,739	259,440	1.010,417
1	PRFV	461,817	2,392	1,817	1,400	2,542	2.056,284	1H:5V	800	99,060	449,507	260,465	1.015,118
1	PRFV	480,000	2,318	18,183	1,400	2,468	2.142,877	1H:5V	800	102,960	467,206	270,720	1.060,717
1	PRFV	500,000	2,398	20,000	1,400	2,548	2.238,268	1H:5V	800	107,250	486,673	282,000	1.111,018
1	PRFV	505,973	2,335	5,973	1,400	2,485	2.266,877	1H:5V	800	108,531	492,486	285,369	1.126,161
1	PRFV	520,000	3,110	14,027	1,200	3,260	2.349,577	1H:5V	600	111,330	504,203	292,691	1.183,058
1	PRFV	540,000	4,090	20,000	1,200	4,240	2.556,788	1H:5V	600	115,020	518,148	302,291	1.357,378
1	PRFV	550,605	2,001	10,605	1,200	2,151	2.647,726	1H:5V	600	116,976	525,543	307,381	1.430,877
1	PRFV	558,186	3,000	7,581	1,200	3,150	2.685,142	1H:5V	600	118,375	530,829	311,020	1.455,826
1	PRFV	560,000	3,647	1,814	1,200	3,797	2.700,554	1H:5V	600	118,710	532,093	311,891	1.468,255
1	PRFV	579,710	1,803	19,710	1,200	1,953	2.835,906	1H:5V	600	122,346	545,836	321,352	1.571,193
1	PRFV	580,000	1,803	0,290	1,200	1,953	2.836,807	1H:5V	600	122,400	546,039	321,491	1.571,617
1	PRFV	600,000	1,763	20,000	1,200	1,913	2.898,146	1H:5V	600	126,090	559,984	331,091	1.600,067
1	PRFV	620,000	1,723	20,000	1,200	1,873	2.957,914	1H:5V	600	129,780	573,929	340,691	1.626,944
1	PRFV	640,000	1,683	20,000	1,200	1,833	3.016,122	1H:5V	600	133,470	587,874	350,291	1.652,262

R-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	660,000	1,643	20,000	1,200	1,793	3.072,783	1H:5V	600	137,160	601,819	359,891	1.676,034
1	PRFV	680,000	1,603	20,000	1,200	1,753	3.127,911	1H:5V	600	140,850	615,764	369,491	1.698,271
1	PRFV	700,000	1,726	20,000	1,200	1,876	3.184,644	1H:5V	600	144,540	629,709	379,091	1.722,114
1	PRFV	720,000	1,897	20,000	1,200	2,047	3.247,139	1H:5V	600	148,230	643,654	388,691	1.751,719
1	PRFV	740,000	2,069	20,000	1,200	2,219	3.316,559	1H:5V	600	151,920	657,600	398,291	1.788,250
1	PRFV	760,000	2,240	20,000	1,200	2,390	3.393,139	1H:5V	600	155,610	671,545	407,891	1.831,940
1	PRFV	780,000	2,403	20,000	1,200	2,553	3.476,915	1H:5V	600	159,300	685,490	417,491	1.882,826
1	PRFV	800,000	2,363	20,000	1,200	2,513	3.563,373	1H:5V	600	162,990	699,435	427,091	1.936,394
1	PRFV	820,000	2,323	20,000	1,200	2,473	3.648,067	1H:5V	600	166,680	713,380	436,691	1.988,197
1	PRFV	840,000	2,283	20,000	1,200	2,433	3.731,009	1H:5V	600	170,370	727,325	446,291	2.038,250
1	PRFV	860,000	2,249	20,000	1,200	2,399	3.812,343	1H:5V	600	174,060	741,270	455,891	2.086,693
1	PRFV	880,000	2,256	20,000	1,200	2,406	3.893,091	1H:5V	600	177,750	755,216	465,491	2.134,551
1	PRFV	900,000	2,263	20,000	1,200	2,413	3.974,142	1H:5V	600	181,440	769,161	475,091	2.182,712
1	PRFV	920,000	2,271	20,000	1,200	2,421	4.055,517	1H:5V	600	185,130	783,106	484,691	2.231,198
1	PRFV	940,000	2,212	20,000	1,200	2,362	4.135,794	1H:5V	600	188,820	797,051	494,291	2.278,584
1	PRFV	949,224	2,107	9,224	1,200	2,257	4.171,202	1H:5V	600	190,521	803,482	498,718	2.298,824
1	PRFV	960,000	2,077	10,776	1,200	2,227	4.211,028	1H:5V	600	192,510	810,996	503,891	2.320,928
1	PRFV	980,000	1,832	20,000	1,200	1,982	4.279,311	1H:5V	600	196,200	824,941	513,491	2.356,322
1	PRFV	994,922	3,204	14,922	1,200	3,354	4.360,298	1H:5V	600	198,953	835,346	520,653	2.412,770
1	PRFV	1.000,000	3,125	5,078	1,200	3,275	4.398,043	1H:5V	600	199,890	838,886	523,091	2.442,163
1	PRFV	1.020,000	2,814	20,000	1,200	2,964	4.522,932	1H:5V	600	203,580	852,831	532,691	2.534,163
1	PRFV	1.040,000	2,503	20,000	1,200	2,653	4.621,984	1H:5V	600	207,270	866,777	542,291	2.600,324
1	PRFV	1.060,000	2,191	20,000	1,200	2,341	4.706,949	1H:5V	600	210,960	880,722	551,891	2.652,400
1	PRFV	1.080,000	1,880	20,000	1,200	2,030	4.778,604	1H:5V	600	214,650	894,667	561,491	2.691,164
1	PRFV	1.096,497	1,756	16,497	1,200	1,906	4.830,354	1H:5V	600	217,693	906,170	569,409	2.715,785
1	PRFV	1.100,000	1,801	3,503	1,200	1,951	4.841,067	1H:5V	600	218,340	908,612	571,091	2.720,737
1	PRFV	1.120,000	2,014	20,000	1,200	2,164	4.907,425	1H:5V	600	222,030	922,557	580,691	2.754,206
1	PRFV	1.140,000	1,732	20,000	1,200	1,882	4.972,427	1H:5V	600	225,720	936,502	590,291	2.786,318
1	PRFV	1.150,402	1,600	10,402	1,200	1,750	5.001,965	1H:5V	600	227,639	943,755	595,284	2.798,750
1	PEAD	1.160,000	1,606	9,598	0,715	1,756	5.023,967	1H:5V	315	229,060	947,524	599,688	2.810,409
1	PEAD	1.180,000	1,630	20,000	0,715	1,780	5.061,753	1H:5V	315	231,295	949,285	608,445	2.833,884
1	PEAD	1.190,052	1,606	10,052	0,715	1,756	5.080,745	1H:5V	315	232,419	950,170	612,846	2.845,682
1	PEAD	1.200,000	1,579	9,948	0,715	1,729	5.099,180	1H:5V	315	233,530	951,046	617,202	2.856,999
1	PEAD	1.203,829	1,566	3,829	0,715	1,716	5.106,168	1H:5V	315	233,958	951,383	618,878	2.861,247
1	PEAD	1.220,000	1,525	16,171	0,715	1,675	5.135,071	1H:5V	315	235,765	952,807	625,958	2.878,578
1	PEAD	1.240,000	1,463	20,000	0,715	1,613	5.169,395	1H:5V	315	238,000	954,569	634,715	2.898,591

R-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	1.260,000	1,456	20,000	0,715	1,606	5.202,773	1H:5V	315	240,235	956,330	643,472	2.917,657
1	PEAD	1.280,000	1,397	20,000	0,715	1,547	5.235,262	1H:5V	315	242,470	958,091	652,228	2.935,835
1	PEAD	1.300,000	1,337	20,000	0,715	1,487	5.266,163	1H:5V	315	244,705	959,852	660,985	2.952,425
1	PEAD	1.304,170	1,324	4,170	0,715	1,474	5.272,406	1H:5V	315	245,171	960,219	662,811	2.955,683
1	PEAD	1.320,000	1,382	15,830	0,715	1,532	5.296,572	1H:5V	315	246,940	961,613	669,741	2.968,522
1	PEAD	1.323,709	1,371	3,709	0,715	1,521	5.302,349	1H:5V	315	247,355	961,940	671,365	2.971,645
1	PEAD	1.340,000	1,395	16,291	0,715	1,545	5.327,863	1H:5V	315	249,175	963,374	678,498	2.985,502
1	PEAD	1.342,407	1,418	2,407	0,715	1,568	5.331,708	1H:5V	315	249,444	963,586	679,552	2.987,624
1	PEAD	1.351,890	1,517	9,483	0,715	1,667	5.347,642	1H:5V	315	250,504	964,421	683,704	2.996,772
1	PEAD	1.360,000	1,588	8,110	0,715	1,738	5.362,217	1H:5V	315	251,410	965,136	687,255	3.005,545
1	PEAD	1.380,000	1,764	20,000	0,715	1,914	5.401,697	1H:5V	315	253,645	966,897	696,011	3.030,713
1	PEAD	1.390,555	1,805	10,555	0,715	1,955	5.424,197	1H:5V	315	254,825	967,826	700,633	3.045,661
1	PEAD	1.400,000	1,828	9,445	0,715	1,978	5.444,783	1H:5V	315	255,880	968,658	704,768	3.059,487
1	PEAD	1.400,453	1,827	0,453	0,715	1,977	5.445,778	1H:5V	315	255,931	968,698	704,966	3.060,158
1	PEAD	1.420,000	1,821	19,547	0,715	1,971	5.488,600	1H:5V	315	258,115	970,419	713,524	3.088,993
1	PEAD	1.440,000	1,778	20,000	0,715	1,928	5.531,682	1H:5V	315	260,350	972,180	722,281	3.117,764
1	PEAD	1.456,910	1,773	16,910	0,715	1,923	5.567,502	1H:5V	315	262,240	973,669	729,685	3.141,483
1	PEAD	1.459,419	1,770	2,509	0,715	1,920	5.572,801	1H:5V	315	262,521	973,890	730,783	3.144,987
1	PEAD	1.460,000	1,768	0,581	0,715	1,918	5.574,026	1H:5V	315	262,585	973,941	731,038	3.145,797
1	PEAD	1.480,000	1,704	20,000	0,715	1,854	5.615,228	1H:5V	315	264,820	975,702	739,794	3.172,687
1	PEAD	1.500,000	1,638	20,000	0,715	1,788	5.654,537	1H:5V	315	267,055	977,464	748,551	3.197,685
1	PEAD	1.501,615	1,634	1,615	0,715	1,784	5.657,630	1H:5V	315	267,236	977,606	749,258	3.199,622
1	PEAD	1.520,000	1,616	18,385	0,715	1,766	5.692,548	1H:5V	315	269,290	979,225	757,308	3.221,384
1	PEAD	1.540,000	1,556	20,000	0,715	1,706	5.729,431	1H:5V	315	271,525	980,986	766,064	3.243,956
1	PEAD	1.560,000	1,497	20,000	0,715	1,647	5.764,651	1H:5V	315	273,760	982,747	774,821	3.264,864
1	PEAD	1.580,000	1,452	20,000	0,715	1,602	5.798,439	1H:5V	315	275,995	984,508	783,577	3.284,341
1	PEAD	1.600,000	1,440	20,000	0,715	1,590	5.831,451	1H:5V	315	278,230	986,269	792,334	3.303,042
1	PEAD	1.620,000	1,380	20,000	0,715	1,530	5.863,497	1H:5V	315	280,465	988,031	801,091	3.320,776
1	PEAD	1.627,474	1,358	7,474	0,715	1,508	5.875,064	1H:5V	315	281,301	988,689	804,363	3.326,995
1	PEAD	1.627,891	1,357	0,417	0,715	1,507	5.875,703	1H:5V	315	281,347	988,725	804,546	3.327,335
1	PEAD	1.628,308	1,359	0,417	0,715	1,509	5.876,342	1H:5V	315	281,394	988,762	804,728	3.327,676
1	PEAD	1.640,000	1,421	11,692	0,715	1,571	5.894,764	1H:5V	315	282,700	989,792	809,847	3.337,732
1	PEAD	1.660,000	1,528	20,000	0,715	1,678	5.928,562	1H:5V	315	284,935	991,553	818,604	3.357,218
1	PEAD	1.680,000	1,635	20,000	0,715	1,785	5.965,326	1H:5V	315	287,170	993,314	827,360	3.379,671
1	PEAD	1.700,000	1,742	20,000	0,715	1,892	6.005,149	1H:5V	315	289,405	995,075	836,117	3.405,182
1	PEAD	1.720,000	1,850	20,000	0,715	2,000	6.048,136	1H:5V	315	291,640	996,836	844,874	3.433,858

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	1.740,000	2,206	20,000	0,715	2,356	6.098,383	1H:5V	315	293,875	998,598	853,630	3.469,793
1	PEAD	1.760,000	2,221	20,000	0,715	2,371	6.154,525	1H:5V	315	296,110	1.000,359	862,387	3.511,625
1	PEAD	1.780,000	2,044	20,000	0,715	2,194	6.208,036	1H:5V	315	298,345	1.002,120	871,144	3.550,824
1	PEAD	1.800,000	1,415	20,000	0,715	1,565	6.249,438	1H:5V	315	300,580	1.003,881	879,900	3.577,915
1	PEAD	1.800,085	1,413	0,085	0,715	1,563	6.249,575	1H:5V	315	300,590	1.003,889	879,937	3.577,991
1	PEAD	1.820,000	1,385	19,915	0,715	1,535	6.281,189	1H:5V	315	302,815	1.005,642	888,657	3.595,354
1	PEAD	1.840,000	1,492	20,000	0,715	1,642	6.314,009	1H:5V	315	305,050	1.007,403	897,413	3.613,863
1	PEAD	1.860,000	1,599	20,000	0,715	1,749	6.349,765	1H:5V	315	307,285	1.009,165	906,170	3.635,308
1	PEAD	1.880,000	1,706	20,000	0,715	1,856	6.388,549	1H:5V	315	309,520	1.010,926	914,927	3.659,780
1	PEAD	1.900,000	1,813	20,000	0,715	1,963	6.430,451	1H:5V	315	311,755	1.012,687	923,683	3.687,370
1	PEAD	1.920,000	1,920	20,000	0,715	2,070	6.475,563	1H:5V	315	313,990	1.014,448	932,440	3.718,171
1	PEAD	1.940,000	1,816	20,000	0,715	1,966	6.520,721	1H:5V	315	316,225	1.016,209	941,196	3.749,017
1	PEAD	1.958,757	1,572	18,757	0,715	1,722	6.558,263	1H:5V	315	318,322	1.017,861	949,409	3.773,138
1	PEAD	1.959,284	1,566	0,527	0,715	1,716	6.559,222	1H:5V	315	318,380	1.017,907	949,640	3.773,720
1	PEAD	1.959,811	1,554	0,527	0,715	1,704	6.560,175	1H:5V	315	318,439	1.017,954	949,870	3.774,295
1	PEAD	1.960,000	1,549	0,189	0,715	1,699	6.560,514	1H:5V	315	318,460	1.017,970	949,953	3.774,499
1	PEAD	1.980,000	1,888	20,000	0,715	2,038	6.601,314	1H:5V	315	320,695	1.019,732	958,710	3.800,988
1	PEAD	2.000,000	1,920	20,000	0,715	2,070	6.647,562	1H:5V	315	322,930	1.021,493	967,466	3.832,925
1	PEAD	2.020,000	1,816	20,000	0,715	1,966	6.692,720	1H:5V	315	325,165	1.023,254	976,223	3.863,771
1	PEAD	2.040,000	1,712	20,000	0,715	1,862	6.734,755	1H:5V	315	327,400	1.025,015	984,979	3.891,494
1	PEAD	2.060,000	1,609	20,000	0,715	1,759	6.773,767	1H:5V	315	329,635	1.026,776	993,736	3.916,195
1	PEAD	2.080,000	1,505	20,000	0,715	1,655	6.809,843	1H:5V	315	331,870	1.028,537	1.002,493	3.937,960
1	PEAD	2.100,000	1,401	20,000	0,715	1,551	6.843,055	1H:5V	315	334,105	1.030,299	1.011,249	3.956,861
1	PEAD	2.120,000	1,594	20,000	0,715	1,744	6.877,509	1H:5V	315	336,340	1.032,060	1.020,006	3.977,003
1	PEAD	2.140,000	2,194	20,000	0,715	2,344	6.923,810	1H:5V	315	338,575	1.033,821	1.028,763	4.008,993
1	PEAD	2.160,000	2,091	20,000	0,715	2,241	6.977,625	1H:5V	315	340,810	1.035,582	1.037,519	4.048,497
1	PEAD	2.180,000	1,987	20,000	0,715	2,137	7.028,106	1H:5V	315	343,045	1.037,343	1.046,276	4.084,666
1	PEAD	2.198,710	1,890	18,710	0,715	2,040	7.072,376	1H:5V	315	345,136	1.038,991	1.054,468	4.115,548
1	PEAD	2.200,000	1,883	1,290	0,650	2,033	7.075,239	1H:5V	250	345,274	1.039,091	1.054,996	4.117,581
1	PEAD	2.220,000	1,917	20,000	0,650	2,067	7.118,700	1H:5V	250	347,314	1.040,438	1.062,628	4.149,042
1	PEAD	2.240,000	1,851	20,000	0,650	2,001	7.161,695	1H:5V	250	349,354	1.041,784	1.070,259	4.180,037
1	PEAD	2.260,000	1,572	20,000	0,650	1,722	7.199,833	1H:5V	250	351,394	1.043,131	1.077,891	4.206,175
1	PEAD	2.261,546	1,564	1,546	0,650	1,714	7.202,472	1H:5V	250	351,552	1.043,235	1.078,481	4.207,886
1	PEAD	2.263,537	1,552	1,991	0,650	1,702	7.205,844	1H:5V	250	351,755	1.043,369	1.079,241	4.210,064
1	PEAD	2.265,528	1,536	1,991	0,650	1,686	7.209,179	1H:5V	250	351,958	1.043,503	1.080,000	4.212,204
1	PEAD	2.280,000	1,403	14,472	0,650	1,553	7.232,018	1H:5V	250	353,434	1.044,478	1.085,523	4.226,360

R-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	2.300,000	1,288	20,000	0,650	1,438	7.260,419	1H:5V	250	355,474	1.045,824	1.093,154	4.242,760
1	PEAD	2.305,080	1,347	5,080	0,650	1,497	7.267,453	1H:5V	250	355,992	1.046,166	1.095,093	4.246,747
1	PEAD	2.319,088	1,550	14,008	0,650	1,700	7.289,195	1H:5V	250	357,421	1.047,109	1.100,438	4.260,084
1	PEAD	2.320,000	1,566	0,912	0,650	1,716	7.290,740	1H:5V	250	357,514	1.047,171	1.100,786	4.261,082
1	PEAD	2.340,000	1,853	20,000	0,650	2,003	7.328,827	1H:5V	250	359,554	1.048,517	1.108,418	4.287,169
1	PEAD	2.360,000	1,670	20,000	0,650	1,820	7.368,325	1H:5V	250	361,594	1.049,864	1.116,049	4.314,667
1	PEAD	2.380,000	1,487	20,000	0,650	1,637	7.402,780	1H:5V	250	363,634	1.051,211	1.123,681	4.337,122
1	PEAD	2.400,000	1,303	20,000	0,650	1,453	7.432,447	1H:5V	250	365,674	1.052,557	1.131,312	4.354,789
1	PEAD	2.405,029	1,257	5,029	0,650	1,407	7.439,179	1H:5V	250	366,187	1.052,896	1.133,231	4.358,503
1	PEAD	2.405,827	1,253	0,798	0,650	1,403	7.440,223	1H:5V	250	366,269	1.052,950	1.133,536	4.359,068
1	PEAD	2.406,625	1,255	0,798	0,560	1,405	7.441,215	1H:5V	160	366,345	1.052,993	1.133,811	4.359,650
1	PEAD	2.420,000	1,346	13,375	0,560	1,496	7.457,713	1H:5V	160	367,528	1.053,539	1.137,921	4.370,040
1	PEAD	2.440,000	1,400	20,000	0,560	1,550	7.484,051	1H:5V	160	369,298	1.054,355	1.144,066	4.387,244
1	PEAD	2.460,000	1,535	20,000	0,560	1,685	7.512,651	1H:5V	160	371,068	1.055,172	1.150,212	4.406,709
1	PEAD	2.480,000	1,578	20,000	0,560	1,728	7.543,414	1H:5V	160	372,838	1.055,988	1.156,358	4.428,338
1	PEAD	2.500,000	1,605	20,000	0,560	1,755	7.575,051	1H:5V	160	374,608	1.056,805	1.162,504	4.450,840
1	PEAD	2.520,000	1,620	20,000	0,560	1,770	7.607,217	1H:5V	160	376,378	1.057,622	1.168,649	4.473,872
1	PEAD	2.540,000	1,620	20,000	0,560	1,770	7.639,572	1H:5V	160	378,148	1.058,438	1.174,795	4.497,093
1	PEAD	2.557,121	1,717	17,121	0,560	1,867	7.668,339	1H:5V	160	379,663	1.059,137	1.180,056	4.518,040
1	PEAD	2.560,000	1,701	2,879	0,525	1,851	7.673,233	1H:5V	125	379,911	1.059,241	1.180,901	4.521,703
1	PEAD	2.580,000	1,594	20,000	0,525	1,744	7.705,042	1H:5V	125	381,576	1.059,865	1.186,491	4.545,387
1	PEAD	2.583,548	1,575	3,548	0,525	1,725	7.710,408	1H:5V	125	381,871	1.059,976	1.187,483	4.549,312
1	PEAD	2.592,853	1,527	9,305	0,525	1,677	7.724,103	1H:5V	125	382,646	1.060,266	1.190,084	4.559,227
1	PEAD	2.600,000	1,570	7,147	0,525	1,720	7.734,601	1H:5V	125	383,241	1.060,489	1.192,082	4.566,821
1	PEAD	2.620,000	1,551	20,000	0,525	1,701	7.764,265	1H:5V	125	384,906	1.061,113	1.197,672	4.588,360
1	PEAD	2.640,000	1,461	20,000	0,525	1,611	7.792,630	1H:5V	125	386,571	1.061,737	1.203,263	4.608,600
1	PEAD	2.660,000	1,343	20,000	0,525	1,493	7.818,575	1H:5V	125	388,236	1.062,362	1.208,853	4.626,420
1	PEAD	2.675,131	1,228	15,131	0,525	1,378	7.836,224	1H:5V	125	389,495	1.062,834	1.213,082	4.637,922
1	PEAD	2.676,529	1,217	1,398	0,525	1,367	7.837,758	1H:5V	125	389,612	1.062,877	1.213,473	4.638,888
1	PEAD	2.677,927	1,203	1,398	0,525	1,353	7.839,274	1H:5V	125	389,728	1.062,921	1.213,864	4.639,836
1	PEAD	2.680,000	1,182	2,073	0,525	1,332	7.841,482	1H:5V	125	389,901	1.062,986	1.214,443	4.641,202
1	PEAD	2.700,000	1,184	20,000	0,525	1,334	7.862,586	1H:5V	125	391,566	1.063,610	1.220,034	4.654,181
1	PEAD	2.701,875	1,191	1,875	0,525	1,341	7.864,573	1H:5V	125	391,722	1.063,668	1.220,558	4.655,407

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R-3-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,413	0,000	0,650	1,563	0,000	1H:5V	250	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,601	20,000	0,650	1,751	32,559	1H:5V	250	2,040	1,347	7,632	20,559
1	PEAD	28,384	1,680	8,384	0,650	1,830	47,695	1H:5V	250	2,895	1,911	10,831	30,664
1	PEAD	35,443	1,652	7,059	0,650	1,802	60,683	1H:5V	250	3,615	2,386	13,524	39,418
1	PEAD	40,000	1,571	4,557	0,650	1,721	68,730	1H:5V	250	4,080	2,693	15,263	44,730
1	PEAD	55,898	1,290	15,898	0,650	1,440	93,068	1H:5V	250	5,702	3,764	21,330	59,529
1	PEAD	58,157	1,276	2,259	0,650	1,426	96,100	1H:5V	250	5,932	3,916	22,192	61,206
1	PEAD	60,000	1,301	1,843	0,650	1,451	98,586	1H:5V	250	6,120	4,040	22,895	62,586
1	PEAD	60,416	1,302	0,416	0,650	1,452	99,154	1H:5V	250	6,162	4,068	23,054	62,904
1	PEAD	67,525	1,302	7,109	0,650	1,452	108,861	1H:5V	250	6,888	4,547	25,766	68,346
1	PEAD	70,567	1,296	3,042	0,650	1,446	113,004	1H:5V	250	7,198	4,751	26,927	70,663
1	PEAD	73,609	1,303	3,042	0,650	1,453	117,148	1H:5V	250	7,508	4,956	28,088	72,983
1	PEAD	80,000	1,398	6,391	0,650	1,548	126,262	1H:5V	250	8,160	5,387	30,527	78,262
1	PEAD	100,000	1,412	20,000	0,650	1,562	156,149	1H:5V	250	10,200	6,733	38,158	96,149
1	PEAD	120,000	1,372	20,000	0,650	1,522	185,708	1H:5V	250	12,240	8,080	45,790	113,708
1	PEAD	140,000	1,332	20,000	0,650	1,482	214,260	1H:5V	250	14,280	9,426	53,421	130,260
1	PEAD	160,000	1,292	20,000	0,650	1,442	241,817	1H:5V	250	16,320	10,773	61,053	145,817
1	PEAD	180,000	1,252	20,000	0,650	1,402	268,393	1H:5V	250	18,360	12,120	68,685	160,393
1	PEAD	181,326	1,262	1,326	0,650	1,412	270,131	1H:5V	250	18,495	12,209	69,191	161,335
1	PEAD	181,989	1,274	0,663	0,650	1,424	271,008	1H:5V	250	18,563	12,254	69,444	161,815
1	PEAD	182,652	1,282	0,663	0,650	1,432	271,894	1H:5V	250	18,631	12,298	69,697	162,303
1	PEAD	200,000	1,467	17,348	0,650	1,617	297,178	1H:5V	250	20,400	13,466	76,316	177,178
1	PEAD	220,000	1,493	20,000	0,650	1,643	328,996	1H:5V	250	22,440	14,813	83,948	196,996
1	PEAD	228,929	1,479	8,929	0,650	1,629	343,271	1H:5V	250	23,351	15,414	87,355	205,914
1	PEAD	240,000	1,363	11,071	0,600	1,513	359,630	1H:5V	200	24,438	16,076	91,348	216,181
1	PEAD	251,353	1,268	11,353	0,600	1,418	374,494	1H:5V	200	25,511	16,670	95,206	225,165
1	PEAD	260,000	1,268	8,647	0,560	1,418	385,083	1H:5V	160	26,303	17,073	98,003	231,589
1	PEAD	280,000	1,267	20,000	0,560	1,417	408,996	1H:5V	160	28,073	17,889	104,149	246,367
1	PEAD	300,000	1,210	20,000	0,560	1,360	432,262	1H:5V	160	29,843	18,706	110,295	260,499
1	PEAD	315,674	1,170	15,674	0,560	1,320	449,654	1H:5V	160	31,230	19,346	115,111	270,733
1	PEAD	316,337	1,171	0,663	0,560	1,321	450,376	1H:5V	160	31,288	19,373	115,315	271,151
1	PEAD	317,000	1,176	0,663	0,560	1,326	451,100	1H:5V	160	31,347	19,400	115,519	271,572
1	PEAD	320,000	1,191	3,000	0,560	1,341	454,407	1H:5V	160	31,613	19,522	116,441	273,509
1	PEAD	335,473	1,160	15,473	0,560	1,310	471,330	1H:5V	160	32,982	20,154	121,195	283,365

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R-3-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,980	0,000	0,715	2,130	0,000	1H:5V	315	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,705	20,000	0,715	1,855	44,449	1H:5V	315	2,235	1,761	8,757	30,137
1	PEAD	40,000	1,504	20,000	0,715	1,654	81,891	1H:5V	315	4,470	3,522	17,513	53,269
1	PEAD	60,000	1,327	20,000	0,715	1,477	114,113	1H:5V	315	6,705	5,283	26,270	71,178
1	PEAD	80,000	1,391	20,000	0,715	1,541	144,804	1H:5V	315	8,940	7,045	35,026	87,558
1	PEAD	97,992	1,424	17,992	0,715	1,574	173,570	1H:5V	315	10,951	8,629	42,904	103,450
1	PEAD	100,000	1,393	2,008	0,715	1,543	176,783	1H:5V	315	11,175	8,806	43,783	105,226
1	PEAD	100,254	1,391	0,254	0,715	1,541	177,184	1H:5V	315	11,203	8,828	43,894	105,445
1	PEAD	102,516	1,376	2,262	0,715	1,526	180,728	1H:5V	315	11,456	9,027	44,885	107,370
1	PEAD	120,000	1,325	17,484	0,715	1,475	207,361	1H:5V	315	13,410	10,567	52,540	121,493
1	PEAD	140,000	1,373	20,000	0,715	1,523	237,787	1H:5V	315	15,645	12,328	61,296	137,607
1	PEAD	160,000	1,336	20,000	0,715	1,486	268,357	1H:5V	315	17,880	14,089	70,053	153,866
1	PEAD	165,187	1,323	5,187	0,715	1,473	276,115	1H:5V	315	18,460	14,546	72,324	157,912
1	PEAD	165,869	1,330	0,682	0,715	1,480	277,132	1H:5V	315	18,536	14,606	72,623	158,441
1	PEAD	166,551	1,334	0,682	0,715	1,484	278,154	1H:5V	315	18,612	14,666	72,921	158,975
1	PEAD	180,000	1,388	13,449	0,715	1,538	298,827	1H:5V	315	20,115	15,850	78,810	170,025
1	PEAD	200,000	1,468	20,000	0,715	1,618	331,359	1H:5V	315	22,350	17,612	87,566	188,245
1	PEAD	220,000	1,548	20,000	0,715	1,698	366,071	1H:5V	315	24,585	19,373	96,323	208,646
1	PEAD	228,337	1,581	8,337	0,715	1,731	381,193	1H:5V	315	25,517	20,107	99,973	217,802
1	PEAD	228,745	1,584	0,408	0,715	1,734	381,943	1H:5V	315	25,562	20,143	100,152	218,260
1	PEAD	229,153	1,588	0,408	0,715	1,738	382,696	1H:5V	315	25,608	20,179	100,330	218,720
1	PEAD	240,000	1,652	10,847	0,715	1,802	403,222	1H:5V	315	26,820	21,134	105,079	231,485
1	PEAD	259,299	1,562	19,299	0,715	1,712	439,389	1H:5V	315	28,977	22,833	113,529	253,843
1	PEAD	260,000	1,555	0,701	0,715	1,705	440,655	1H:5V	315	29,055	22,895	113,836	254,607
1	PEAD	280,000	1,382	20,000	0,715	1,532	474,308	1H:5V	315	31,290	24,656	122,593	273,948
1	PEAD	300,000	1,450	20,000	0,715	1,600	506,515	1H:5V	315	33,525	26,417	131,349	291,844
1	PEAD	308,945	1,559	8,945	0,715	1,709	522,000	1H:5V	315	34,525	27,205	135,266	300,928
1	PEAD	320,000	1,693	11,055	0,715	1,843	543,021	1H:5V	315	35,760	28,179	140,106	314,039
1	PEAD	340,000	1,391	20,000	0,715	1,541	578,760	1H:5V	315	37,995	29,940	148,862	335,466
1	PEAD	360,000	1,518	20,000	0,715	1,668	612,018	1H:5V	315	40,230	31,701	157,619	354,413
1	PEAD	380,000	1,423	20,000	0,715	1,573	645,704	1H:5V	315	42,465	33,462	166,376	373,787
1	PEAD	400,000	1,666	20,000	0,715	1,816	681,480	1H:5V	315	44,700	35,223	175,132	395,252
1	PEAD	409,406	1,781	9,406	0,715	1,931	700,689	1H:5V	315	45,751	36,052	179,251	407,730
1	PEAD	410,389	1,798	0,983	0,715	1,948	702,792	1H:5V	315	45,861	36,138	179,681	409,130

R-3-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	411,372	1,824	0,983	0,715	1,974	704,926	1H:5V	315	45,971	36,225	180,111	410,560
1	PEAD	419,867	1,568	8,495	0,715	1,718	721,956	1H:5V	315	46,920	36,973	183,831	421,512
1	PEAD	420,000	1,561	0,133	0,715	1,711	722,197	1H:5V	315	46,935	36,984	183,889	421,658
1	PEAD	421,258	1,479	1,258	0,715	1,629	724,401	1H:5V	315	47,076	37,095	184,440	422,962
1	PEAD	422,649	1,380	1,391	0,715	1,530	726,667	1H:5V	315	47,231	37,218	185,049	424,232
1	PEAD	440,000	2,088	17,351	0,715	2,238	762,792	1H:5V	315	49,170	38,746	192,646	447,941
1	PEAD	460,000	2,294	20,000	0,715	2,444	818,232	1H:5V	315	51,405	40,507	201,402	489,070
1	PEAD	465,007	2,314	5,007	0,715	2,464	833,048	1H:5V	315	51,965	40,948	203,594	500,303
1	PEAD	469,807	2,185	4,800	0,715	2,335	846,814	1H:5V	315	52,501	41,370	205,696	510,635
1	PEAD	474,607	2,281	4,800	0,715	2,431	860,447	1H:5V	315	53,037	41,793	207,798	520,832
1	PEAD	480,000	2,603	5,393	0,715	2,753	877,716	1H:5V	315	53,640	42,268	210,159	534,242
1	PEAD	480,258	2,623	0,258	0,715	2,773	878,619	1H:5V	315	53,669	42,291	210,272	534,961

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R-3-4														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	0,000	1,600	0,000	1,200	1,750	0,000	1H:5V	600		0,000	0,000	0,000	0,000
1	PRFV	17,107	1,626	17,107	1,200	1,776	46,826	1H:5V	600		3,156	11,928	8,211	18,694
1	PRFV	20,000	1,632	2,893	1,200	1,782	54,834	1H:5V	600		3,690	13,945	9,600	21,944
1	PRFV	36,549	1,660	16,549	1,200	1,810	101,177	1H:5V	600		6,743	25,484	17,544	41,072
1	PRFV	40,000	1,689	3,451	1,200	1,839	111,030	1H:5V	600		7,380	27,890	19,200	45,250
1	PRFV	41,797	1,698	1,797	1,200	1,848	116,227	1H:5V	600		7,712	29,143	20,063	47,492
1	PRFV	43,474	1,704	1,677	1,200	1,854	121,101	1H:5V	600		8,021	30,313	20,868	49,608
1	PRFV	45,151	1,702	1,677	1,200	1,852	125,982	1H:5V	600		8,330	31,482	21,672	51,731
1	PRFV	60,000	1,788	14,849	1,200	1,938	170,418	1H:5V	600		11,070	41,835	28,800	71,748
1	PRFV	80,000	2,001	20,000	1,200	2,151	236,252	1H:5V	600		14,760	55,781	38,400	104,692
1	PRFV	82,659	2,010	2,659	1,200	2,160	245,600	1H:5V	600		15,251	57,635	39,676	109,667
1	PRFV	100,000	1,897	17,341	1,200	2,047	304,729	1H:5V	600		18,450	69,726	48,000	140,279
1	PRFV	120,000	1,733	20,000	1,200	1,883	367,361	1H:5V	600		22,140	83,671	57,600	170,021
1	PRFV	140,000	1,641	20,000	1,200	1,791	424,956	1H:5V	600		25,830	97,616	67,200	194,726
1	PRFV	160,000	1,854	20,000	1,200	2,004	484,943	1H:5V	600		29,520	111,561	76,800	221,823
1	PRFV	180,000	1,881	20,000	1,200	2,031	549,645	1H:5V	600		33,210	125,506	86,400	253,635
1	PRFV	193,927	1,815	13,927	1,200	1,965	594,159	1H:5V	600		35,780	135,217	93,085	275,246

R-3-4														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	200,000	1,785	6,073	1,200	1,935	612,988	1H:5V	600		36,900	139,451	96,000	284,088
1	PRFV	220,000	1,689	20,000	1,200	1,839	672,529	1H:5V	600		40,590	153,396	105,600	310,739
1	PRFV	240,000	1,707	20,000	1,200	1,857	730,541	1H:5V	600		44,280	167,342	115,200	335,861
1	PRFV	252,500	1,840	12,500	1,200	1,990	768,655	1H:5V	600		46,586	176,057	121,200	353,418
1	PRFV	260,000	1,920	7,500	1,200	2,070	793,108	1H:5V	600		47,970	181,287	124,800	365,538
1	PRFV	280,000	2,072	20,000	1,200	2,222	863,057	1H:5V	600		51,660	195,232	134,400	402,597
1	PRFV	288,946	1,926	8,946	1,200	2,076	894,399	1H:5V	600		53,311	201,470	138,694	419,227
1	PRFV	300,000	1,747	11,054	1,200	1,897	929,492	1H:5V	600		55,350	209,177	144,000	436,142
1	PRFV	320,000	1,681	20,000	1,200	1,831	988,130	1H:5V	600		59,040	223,122	153,600	461,890
1	PRFV	340,000	1,772	20,000	1,200	1,922	1.047,259	1H:5V	600		62,730	237,067	163,200	488,129
1	PRFV	360,000	1,986	20,000	1,200	2,136	1.112,468	1H:5V	600		66,420	251,012	172,800	520,448
1	PRFV	380,000	2,199	20,000	1,200	2,349	1.186,449	1H:5V	600		70,110	264,958	182,400	561,539
1	PRFV	388,551	2,232	8,551	1,200	2,382	1.220,292	1H:5V	600		71,688	270,920	186,504	581,320
1	PRFV	389,883	2,234	1,332	1,200	2,384	1.225,614	1H:5V	600		71,933	271,849	187,144	584,451
1	PRFV	391,215	2,237	1,332	1,200	2,387	1.230,943	1H:5V	600		72,179	272,777	187,783	587,590
1	PRFV	400,000	2,242	8,785	1,200	2,392	1.266,165	1H:5V	600		73,800	278,903	192,000	608,365
1	PRFV	420,000	2,066	20,000	1,200	2,216	1.342,725	1H:5V	600		77,490	292,848	201,600	652,035
1	PRFV	440,000	1,853	20,000	1,200	2,003	1.411,199	1H:5V	600		81,180	306,793	211,200	687,619
1	PRFV	449,111	1,756	9,111	1,200	1,906	1.439,533	1H:5V	600		82,861	313,146	215,573	700,970
1	PRFV	460,000	1,641	10,889	1,200	1,791	1.471,135	1H:5V	600		84,870	320,738	220,800	714,665
1	PRFV	480,000	1,665	20,000	1,200	1,815	1.527,411	1H:5V	600		88,560	334,683	230,400	738,051
1	PRFV	500,000	1,745	20,000	1,200	1,895	1.585,702	1H:5V	600		92,250	348,628	240,000	763,452
1	PRFV	520,000	1,825	20,000	1,200	1,975	1.647,125	1H:5V	600		95,940	362,573	249,600	791,985
1	PRFV	537,485	1,895	17,485	1,200	2,045	1.703,431	1H:5V	600		99,166	374,765	257,993	819,537
1	PRFV	540,000	1,913	2,515	1,200	2,063	1.711,753	1H:5V	600		99,630	376,519	259,200	823,723
1	PRFV	543,639	1,967	3,639	1,980	2,117	1.727,063	1H:5V	600	180	100,514	380,003	261,372	831,371
1	PRFV	547,740	2,067	4,101	1,980	2,217	1.748,513	1H:5V	600	180	101,751	384,997	264,301	842,397
1	PRFV	557,995	2,153	10,255	1,980	2,303	1.804,881	1H:5V	600	180	104,843	397,486	271,623	872,703
1	PRFV	560,000	1,885	2,005	1,980	2,035	1.815,386	1H:5V	600	180	105,447	399,928	273,054	878,112
1	PRFV	564,083	1,839	4,083	1,980	1,989	1.834,958	1H:5V	600	180	106,678	404,900	275,969	887,307

3.58 RAMAL R-3-6

R-3-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,357	0,000	0,510	1,507	0,000	1H:5V	110	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,459	20,000	0,510	1,609	25,611	1H:5V	110	1,620	0,544	5,356	17,901
1	PEAD	40,000	1,405	20,000	0,510	1,555	51,762	1H:5V	110	3,240	1,088	10,713	36,341
1	PEAD	60,000	1,160	20,000	0,510	1,310	74,641	1H:5V	110	4,860	1,632	16,069	51,510
1	PEAD	63,885	1,110	3,885	0,510	1,260	78,471	1H:5V	110	5,175	1,738	17,109	53,842

3.59 RAMAL R-4

R-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	0,000	2,084	0,000	1,600	2,284	0,000	1H:5V	1000	0,000	0,000	0,000	0,000
1	HPCC	10,250	2,698	10,250	1,600	2,898	56,448	1H:5V	1000	3,362	1,834	15,966	27,235
1	HPCC	20,000	2,520	9,750	1,600	2,720	115,670	1H:5V	1000	6,560	3,579	31,153	58,670
1	HPCC	40,000	2,128	20,000	1,600	2,328	222,074	1H:5V	1000	13,120	7,159	62,305	108,074
1	HPCC	59,988	2,067	19,988	1,600	2,267	316,655	1H:5V	1000	19,676	10,736	93,439	145,689
1	HPCC	60,000	2,068	0,012	1,600	2,268	316,711	1H:5V	1000	19,680	10,738	93,458	145,711
1	HPCC	76,028	2,018	16,028	1,600	2,218	390,362	1H:5V	1000	24,937	13,607	118,424	173,682
1	HPCC	80,000	2,248	3,972	1,600	2,448	409,523	1H:5V	1000	26,240	14,318	124,611	181,523
1	HPCC	100,000	2,299	20,000	1,600	2,499	513,150	1H:5V	1000	32,800	17,897	155,763	228,150
1	HPCC	120,000	2,172	20,000	1,600	2,372	614,829	1H:5V	1000	39,360	21,476	186,916	272,829
1	HPCC	140,000	2,299	20,000	1,600	2,499	716,508	1H:5V	1000	45,920	25,056	218,068	317,508
1	HPCC	160,000	2,700	20,000	1,600	2,900	832,202	1H:5V	1000	52,480	28,635	249,221	376,202
1	HPCC	180,000	3,101	20,000	1,600	3,301	982,071	1H:5V	1000	59,040	32,215	280,374	469,071
1	HPCC	199,988	2,501	19,988	1,600	2,701	1.126,440	1H:5V	1000	65,596	35,792	311,508	556,474
1	HPCC	200,000	2,501	0,012	1,600	2,701	1.126,510	1H:5V	1000	65,600	35,794	311,526	556,510
1	HPCC	220,000	2,432	20,000	1,600	2,632	1.240,283	1H:5V	1000	72,160	39,373	342,679	613,283
1	HPCC	240,000	2,500	20,000	1,600	2,700	1.354,030	1H:5V	1000	78,720	42,953	373,832	670,030
1	HPCC	260,000	2,401	20,000	1,600	2,601	1.466,957	1H:5V	1000	85,280	46,532	404,984	725,957
1	HPCC	280,000	2,291	20,000	1,600	2,491	1.574,369	1H:5V	1000	91,840	50,112	436,137	776,369
1	HPCC	300,000	2,176	20,000	1,600	2,376	1.675,942	1H:5V	1000	98,400	53,691	467,290	820,942
1	HPCC	320,000	2,087	20,000	1,600	2,287	1.772,301	1H:5V	1000	104,960	57,270	498,442	860,301
1	HPCC	340,000	3,018	20,000	1,600	3,218	1.900,273	1H:5V	1000	111,520	60,850	529,595	931,273

R-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	360,000	2,949	20,000	1,600	3,149	2.057,369	1H:5V	1000	118,080	64,429	560,747	1.031,369
1	HPCC	380,000	2,880	20,000	1,600	3,080	2.204,998	1H:5V	1000	124,640	68,009	591,900	1.121,998
1	HPCC	400,000	2,811	20,000	1,600	3,011	2.343,199	1H:5V	1000	131,200	71,588	623,053	1.203,199
1	HPCC	420,000	2,742	20,000	1,600	2,942	2.474,330	1H:5V	1000	137,760	75,167	654,205	1.277,330
1	HPCC	440,000	2,673	20,000	1,600	2,873	2.601,189	1H:5V	1000	144,320	78,747	685,358	1.347,189
1	HPCC	460,000	2,652	20,000	1,600	2,852	2.725,565	1H:5V	1000	150,880	82,326	716,511	1.414,565
1	HPCC	480,000	2,662	20,000	1,600	2,862	2.849,639	1H:5V	1000	157,440	85,906	747,663	1.481,639
1	HPCC	500,000	2,598	20,000	1,600	2,798	2.972,239	1H:5V	1000	164,000	89,485	778,816	1.547,239
1	HPCC	520,000	2,410	20,000	1,600	2,610	3.088,048	1H:5V	1000	170,560	93,064	809,969	1.606,048
1	HPCC	540,000	2,328	20,000	1,600	2,528	3.196,662	1H:5V	1000	177,120	96,644	841,121	1.657,662
1	HPCC	560,000	2,259	20,000	1,600	2,459	3.301,329	1H:5V	1000	183,680	100,223	872,274	1.705,329
1	HPCC	580,000	2,190	20,000	1,600	2,390	3.402,431	1H:5V	1000	190,240	103,803	903,426	1.749,431
1	HPCC	600,000	2,121	20,000	1,600	2,321	3.500,005	1H:5V	1000	196,800	107,382	934,579	1.790,005
1	HPCC	620,000	2,052	20,000	1,600	2,252	3.594,090	1H:5V	1000	203,360	110,961	965,732	1.827,090
1	HPCC	635,041	2,000	15,041	1,600	2,200	3.662,568	1H:5V	1000	208,293	113,653	989,160	1.852,701
1	HPCC	640,000	3,056	4,959	1,600	3,256	3.694,409	1H:5V	1000	209,920	114,541	996,884	1.870,409
1	HPCC	649,175	2,183	9,175	1,600	2,383	3.755,434	1H:5V	1000	212,929	116,183	1.011,176	1.905,286
1	HPCC	653,611	2,000	4,436	1,600	2,200	3.776,365	1H:5V	1000	214,384	116,977	1.018,085	1.913,573
1	HPCC	660,000	4,337	6,389	1,600	4,537	3.846,682	1H:5V	1000	216,480	118,120	1.028,037	1.965,682
1	HPCC	673,488	3,157	13,488	1,600	3,357	4.025,919	1H:5V	1000	220,904	120,534	1.049,046	2.106,478
1	HPCC	680,000	2,328	6,512	1,600	2,528	4.072,727	1H:5V	1000	223,040	121,700	1.059,190	2.134,727
1	HPCC	700,000	2,058	20,000	1,600	2,258	4.172,282	1H:5V	1000	229,600	125,279	1.090,342	2.177,282
1	HPCC	720,000	2,000	20,000	1,600	2,200	4.263,487	1H:5V	1000	236,160	128,858	1.121,495	2.211,487
1	HPCC	740,000	2,174	20,000	1,600	2,374	4.357,623	1H:5V	1000	242,720	132,438	1.152,647	2.248,623
1	HPCC	760,000	2,343	20,000	1,600	2,543	4.460,500	1H:5V	1000	249,280	136,017	1.183,800	2.294,500
1	HPCC	780,000	2,519	20,000	1,600	2,719	4.572,412	1H:5V	1000	255,840	139,597	1.214,953	2.349,412
1	HPCC	800,000	2,689	20,000	1,600	2,889	4.693,618	1H:5V	1000	262,400	143,176	1.246,105	2.413,618
1	HPCC	820,000	2,863	20,000	1,600	3,063	4.826,827	1H:5V	1000	268,960	146,755	1.277,258	2.489,827
1	HPCC	840,000	3,032	20,000	1,600	3,232	4.979,002	1H:5V	1000	275,520	150,335	1.308,411	2.585,002
1	HPCC	860,000	3,108	20,000	1,600	3,308	5.148,020	1H:5V	1000	282,080	153,914	1.339,563	2.697,020
1	HPCC	880,000	3,148	20,000	1,600	3,348	5.325,060	1H:5V	1000	288,640	157,494	1.370,716	2.817,060
1	HPCC	900,000	3,188	20,000	1,600	3,388	5.507,651	1H:5V	1000	295,200	161,073	1.401,869	2.942,651
1	HPCC	920,000	3,236	20,000	1,600	3,436	5.696,364	1H:5V	1000	301,760	164,652	1.433,021	3.074,364
1	HPCC	940,000	3,161	20,000	1,600	3,361	5.883,201	1H:5V	1000	308,320	168,232	1.464,174	3.204,201
1	HPCC	960,000	3,042	20,000	1,600	3,242	6.056,583	1H:5V	1000	314,880	171,811	1.495,326	3.320,583
1	HPCC	980,000	2,943	20,000	1,600	3,143	6.214,921	1H:5V	1000	321,440	175,391	1.526,479	3.421,921

R-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	1.000,000	3,151	20,000	1,600	3,351	6.380,800	1H:5V	1000	328,000	178,970	1.557,632	3.530,800
1	HPCC	1.020,000	3,160	20,000	1,600	3,360	6.561,654	1H:5V	1000	334,560	182,549	1.588,784	3.654,654
1	HPCC	1.040,000	3,162	20,000	1,600	3,362	6.743,271	1H:5V	1000	341,120	186,129	1.619,937	3.779,271
1	HPCC	1.060,000	3,183	20,000	1,600	3,383	6.926,487	1H:5V	1000	347,680	189,708	1.651,090	3.905,487
1	HPCC	1.080,000	3,152	20,000	1,600	3,352	7.109,008	1H:5V	1000	354,240	193,288	1.682,242	4.031,008
1	HPCC	1.100,000	3,194	20,000	1,600	3,394	7.292,294	1H:5V	1000	360,800	196,867	1.713,395	4.157,294
1	HPCC	1.120,000	3,245	20,000	1,600	3,445	7.482,053	1H:5V	1000	367,360	200,446	1.744,548	4.290,053
1	HPCC	1.140,000	3,298	20,000	1,600	3,498	7.679,069	1H:5V	1000	373,920	204,026	1.775,700	4.430,069
1	HPCC	1.160,000	3,345	20,000	1,600	3,545	7.883,083	1H:5V	1000	380,480	207,605	1.806,853	4.577,083
1	HPCC	1.180,000	3,431	20,000	1,600	3,631	8.096,441	1H:5V	1000	387,040	211,185	1.838,005	4.733,441
1	HPCC	1.200,000	3,526	20,000	1,600	3,726	8.322,568	1H:5V	1000	393,600	214,764	1.869,158	4.902,568
1	HPCC	1.220,000	3,645	20,000	1,600	3,845	8.563,878	1H:5V	1000	400,160	218,344	1.900,311	5.086,878
1	HPCC	1.234,729	3,704	14,729	1,600	3,904	8.750,932	1H:5V	1000	404,991	220,980	1.923,253	5.231,954
1	HPCC	1.234,741	3,704	0,012	1,600	3,904	8.751,087	1H:5V	1000	404,995	220,982	1.923,272	5.232,075
1	HPCC	1.240,000	3,556	5,259	1,600	3,756	8.816,208	1H:5V	1000	406,720	221,923	1.931,463	5.282,208
1	HPCC	1.260,000	2,995	20,000	1,600	3,195	9.014,096	1H:5V	1000	413,280	225,502	1.962,616	5.423,096
1	HPCC	1.276,682	2,482	16,682	1,600	2,682	9.128,062	1H:5V	1000	418,752	228,488	1.988,600	5.489,519
1	HPCC	1.280,000	2,462	3,318	1,600	2,662	9.146,985	1H:5V	1000	419,840	229,082	1.993,769	5.498,985
1	HPCC	1.300,000	2,344	20,000	1,600	2,544	9.257,398	1H:5V	1000	426,400	232,661	2.024,921	5.552,398
1	HPCC	1.320,000	2,257	20,000	1,600	2,457	9.362,431	1H:5V	1000	432,960	236,241	2.056,074	5.600,431
1	HPCC	1.340,000	2,171	20,000	1,600	2,371	9.462,996	1H:5V	1000	439,520	239,820	2.087,227	5.643,996
1	HPCC	1.360,000	2,146	20,000	1,600	2,346	9.560,719	1H:5V	1000	446,080	243,399	2.118,379	5.684,719
1	HPCC	1.380,000	2,215	20,000	1,600	2,415	9.659,567	1H:5V	1000	452,640	246,979	2.149,532	5.726,567
1	HPCC	1.400,000	2,229	20,000	1,600	2,429	9.760,535	1H:5V	1000	459,200	250,558	2.180,684	5.770,535
1	HPCC	1.420,000	2,188	20,000	1,600	2,388	9.860,812	1H:5V	1000	465,760	254,138	2.211,837	5.813,812
1	HPCC	1.440,000	2,206	20,000	1,600	2,406	9.960,499	1H:5V	1000	472,320	257,717	2.242,990	5.856,499
1	HPCC	1.460,000	2,284	20,000	1,600	2,484	10.062,657	1H:5V	1000	478,880	261,296	2.274,142	5.901,657
1	HPCC	1.480,000	2,375	20,000	1,600	2,575	10.169,203	1H:5V	1000	485,440	264,876	2.305,295	5.951,203
1	HPCC	1.500,000	2,420	20,000	1,600	2,620	10.279,313	1H:5V	1000	492,000	268,455	2.336,448	6.004,313
1	HPCC	1.506,214	2,445	6,214	1,600	2,645	10.314,099	1H:5V	1000	494,038	269,567	2.346,127	6.021,390
1	HPCC	1.506,226	2,445	0,012	1,600	2,645	10.314,167	1H:5V	1000	494,042	269,569	2.346,145	6.021,423
1	HPCC	1.520,000	2,289	13,774	1,600	2,489	10.388,909	1H:5V	1000	498,560	272,035	2.367,600	6.056,909
1	HPCC	1.540,000	2,268	20,000	1,600	2,468	10.492,793	1H:5V	1000	505,120	275,614	2.398,753	6.103,793
1	HPCC	1.560,000	2,457	20,000	1,600	2,657	10.601,095	1H:5V	1000	511,680	279,193	2.429,906	6.155,095
1	HPCC	1.580,000	2,609	20,000	1,600	2,809	10.718,451	1H:5V	1000	518,240	282,773	2.461,058	6.215,451
1	HPCC	1.599,416	2,434	19,416	1,600	2,634	10.831,787	1H:5V	1000	524,608	286,248	2.491,301	6.273,451

R-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	1.600,000	2,434	0,584	1,600	2,634	10.835,058	1H:5V	1000	524,800	286,352	2.492,211	6.275,058
1	HPCC	1.620,000	2,344	20,000	1,600	2,544	10.944,726	1H:5V	1000	531,360	289,932	2.523,363	6.327,726
1	HPCC	1.620,782	2,340	0,782	1,600	2,540	10.948,917	1H:5V	1000	531,616	290,071	2.524,582	6.329,689
1	HPCC	1.640,000	2,328	19,218	1,600	2,528	11.051,515	1H:5V	1000	537,920	293,511	2.554,516	6.377,515
1	HPCC	1.660,000	2,521	20,000	1,600	2,721	11.163,089	1H:5V	1000	544,480	297,090	2.585,669	6.432,089
1	HPCC	1.680,000	2,476	20,000	1,600	2,676	11.278,570	1H:5V	1000	551,040	300,670	2.616,821	6.490,570
1	HPCC	1.700,000	2,315	20,000	1,600	2,515	11.388,599	1H:5V	1000	557,600	304,249	2.647,974	6.543,599
1	HPCC	1.720,000	2,301	20,000	1,600	2,501	11.494,015	1H:5V	1000	564,160	307,829	2.679,127	6.592,015
1	HPCC	1.740,000	2,317	20,000	1,600	2,517	11.599,484	1H:5V	1000	570,720	311,408	2.710,279	6.640,484
1	HPCC	1.760,000	2,375	20,000	1,600	2,575	11.706,887	1H:5V	1000	577,280	314,987	2.741,432	6.690,887
1	HPCC	1.780,000	2,342	20,000	1,600	2,542	11.814,944	1H:5V	1000	583,840	318,567	2.772,585	6.741,944
1	HPCC	1.800,000	2,116	20,000	1,600	2,316	11.916,324	1H:5V	1000	590,400	322,146	2.803,737	6.786,324
1	HPCC	1.820,000	2,182	20,000	1,600	2,382	12.013,567	1H:5V	1000	596,960	325,726	2.834,890	6.826,567
1	HPCC	1.840,000	2,663	20,000	1,600	2,863	12.125,228	1H:5V	1000	603,520	329,305	2.866,042	6.881,228
1	HPCC	1.860,000	2,436	20,000	1,600	2,636	12.243,503	1H:5V	1000	610,080	332,884	2.897,195	6.942,503
1	HPCC	1.874,141	2,276	14,141	1,600	2,476	12.319,829	1H:5V	1000	614,718	335,415	2.919,222	6.978,527
1	HPCC	1.880,000	2,607	5,859	1,600	2,807	12.352,800	1H:5V	1000	616,640	336,464	2.928,348	6.994,800
1	HPCC	1.886,946	2,002	6,946	1,600	2,202	12.389,475	1H:5V	1000	618,918	337,707	2.939,167	7.011,679
1	HPCC	1.899,988	3,186	13,042	1,600	3,386	12.479,123	1H:5V	1000	623,196	340,041	2.959,482	7.064,157
1	HPCC	1.900,000	3,186	0,012	1,600	3,386	12.479,234	1H:5V	1000	623,200	340,043	2.959,500	7.064,234
1	HPCC	1.920,000	3,230	20,000	1,600	3,430	12.667,390	1H:5V	1000	629,760	343,623	2.990,653	7.195,390
1	HPCC	1.940,000	3,031	20,000	1,600	3,231	12.844,814	1H:5V	1000	636,320	347,202	3.021,806	7.315,814
1	HPCC	1.960,000	2,610	20,000	1,600	2,810	12.987,381	1H:5V	1000	642,880	350,781	3.052,958	7.401,381
1	HPCC	1.980,000	2,326	20,000	1,600	2,526	13.101,311	1H:5V	1000	649,440	354,361	3.084,111	7.458,311
1	HPCC	1.998,320	2,077	18,320	1,600	2,277	13.192,891	1H:5V	1000	655,449	357,639	3.112,647	7.497,679
1	HPCC	1.998,329	2,078	0,009	1,600	2,278	13.192,933	1H:5V	1000	655,452	357,641	3.112,661	7.497,696
1	HPCC	2.000,000	2,122	1,671	1,600	2,322	13.200,851	1H:5V	1000	656,000	357,940	3.115,264	7.500,851
1	HPCC	2.020,000	2,155	20,000	1,500	2,355	13.295,203	1H:5V	900	662,360	361,269	3.144,779	7.543,275
1	HPCC	2.035,014	2,536	15,014	1,500	2,736	13.372,096	1H:5V	900	666,984	363,580	3.165,707	7.582,753
1	HPCC	2.035,023	2,536	0,009	1,500	2,736	13.372,147	1H:5V	900	666,987	363,582	3.165,719	7.582,781
1	HPCC	2.040,000	2,482	4,977	1,500	2,682	13.399,676	1H:5V	900	668,520	364,348	3.172,657	7.597,908
1	HPCC	2.060,000	2,287	20,000	1,500	2,487	13.503,968	1H:5V	900	674,680	367,426	3.200,535	7.652,360
1	HPCC	2.080,000	2,090	20,000	1,500	2,290	13.598,481	1H:5V	900	680,840	370,505	3.228,413	7.697,034
1	HPCC	2.099,892	1,990	19,892	1,500	2,190	13.685,290	1H:5V	900	686,967	373,567	3.256,140	7.734,272
1	HPCC	2.100,000	1,989	0,108	1,500	2,189	13.685,749	1H:5V	900	687,000	373,583	3.256,291	7.734,461
1	HPCC	2.101,657	1,977	1,657	1,500	2,177	13.692,754	1H:5V	900	687,510	373,838	3.258,600	7.737,337

R-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	2.101,663	1,977	0,006	1,500	2,177	13.692,779	1H:5V	900	687,512	373,839	3.258,609	7.737,347
1	HPCC	2.103,434	1,970	1,771	1,500	2,170	13.700,226	1H:5V	900	688,058	374,112	3.261,077	7.740,381
1	HPCC	2.120,000	2,321	16,566	1,500	2,521	13.776,839	1H:5V	900	693,160	376,662	3.284,169	7.775,711
1	HPCC	2.140,000	1,969	20,000	1,500	2,169	13.869,309	1H:5V	900	699,320	379,741	3.312,047	7.818,341
1	HPCC	2.160,000	1,958	20,000	1,500	2,158	13.952,937	1H:5V	900	705,480	382,819	3.339,925	7.852,129
1	HPCC	2.180,000	1,940	20,000	1,500	2,140	14.035,880	1H:5V	900	711,640	385,898	3.367,803	7.885,232
1	HPCC	2.199,988	1,900	19,988	1,500	2,100	14.117,410	1H:5V	900	717,796	388,974	3.395,664	7.916,952
1	HPCC	2.200,000	1,900	0,012	1,500	2,100	14.117,459	1H:5V	900	717,800	388,976	3.395,681	7.916,971
1	HPCC	2.220,000	2,031	20,000	1,500	2,231	14.201,198	1H:5V	900	723,960	392,055	3.423,559	7.950,871
1	HPCC	2.240,000	2,110	20,000	1,500	2,310	14.289,940	1H:5V	900	730,120	395,133	3.451,437	7.989,773
1	HPCC	2.260,000	2,195	20,000	1,500	2,395	14.382,659	1H:5V	900	736,280	398,212	3.479,315	8.032,652
1	HPCC	2.280,000	2,285	20,000	1,500	2,485	14.479,682	1H:5V	900	742,440	401,291	3.507,193	8.079,834
1	HPCC	2.300,000	2,394	20,000	1,500	2,594	14.581,675	1H:5V	900	748,600	404,369	3.535,071	8.131,987
1	HPCC	2.320,000	2,529	20,000	1,500	2,729	14.689,873	1H:5V	900	754,760	407,448	3.562,949	8.190,345
1	HPCC	2.340,000	2,609	20,000	1,500	2,809	14.803,619	1H:5V	900	760,920	410,526	3.590,827	8.254,251
1	HPCC	2.360,000	2,683	20,000	1,500	2,883	14.921,403	1H:5V	900	767,080	413,605	3.618,705	8.322,195
1	HPCC	2.380,000	2,707	20,000	1,500	2,907	15.041,778	1H:5V	900	773,240	416,683	3.646,583	8.392,730
1	HPCC	2.400,000	2,725	20,000	1,500	2,925	15.163,270	1H:5V	900	779,400	419,762	3.674,461	8.464,382
1	HPCC	2.420,000	2,805	20,000	1,500	3,005	15.287,591	1H:5V	900	785,560	422,840	3.702,338	8.538,864
1	HPCC	2.440,000	2,895	20,000	1,500	3,095	15.420,309	1H:5V	900	791,720	425,919	3.730,216	8.621,742
1	HPCC	2.460,000	2,994	20,000	1,500	3,194	15.565,766	1H:5V	900	797,880	428,998	3.758,094	8.717,358
1	HPCC	2.480,000	3,092	20,000	1,500	3,292	15.724,574	1H:5V	900	804,040	432,076	3.785,972	8.826,326
1	HPCC	2.481,988	3,109	1,988	1,500	3,309	15.741,136	1H:5V	900	804,652	432,382	3.788,744	8.837,935
1	HPCC	2.500,000	2,883	18,012	1,500	3,083	15.878,450	1H:5V	900	810,200	435,155	3.813,850	8.930,362
1	HPCC	2.520,000	2,857	20,000	1,500	3,057	16.013,850	1H:5V	900	816,360	438,233	3.841,728	9.015,922
1	HPCC	2.525,411	2,589	5,411	1,500	2,789	16.047,457	1H:5V	900	818,027	439,066	3.849,271	9.036,045
1	HPCC	2.525,420	2,589	0,009	1,500	2,789	16.047,509	1H:5V	900	818,029	439,068	3.849,283	9.036,074
1	HPCC	2.540,000	2,322	14,580	1,500	2,522	16.126,199	1H:5V	900	822,520	441,312	3.869,606	9.078,432
1	HPCC	2.560,000	1,977	20,000	1,500	2,177	16.218,884	1H:5V	900	828,680	444,390	3.897,484	9.121,276
1	HPCC	2.580,000	1,934	20,000	1,500	2,134	16.302,135	1H:5V	900	834,840	447,469	3.925,362	9.154,688
1	HPCC	2.600,000	3,006	20,000	1,500	3,206	16.420,140	1H:5V	900	841,000	450,548	3.953,240	9.222,852
1	HPCC	2.613,022	3,058	13,022	1,500	3,258	16.522,562	1H:5V	900	845,011	452,552	3.971,392	9.292,824
1	HPCC	2.620,000	3,086	6,978	1,500	3,286	16.579,344	1H:5V	900	847,160	453,626	3.981,118	9.332,216
1	HPCC	2.640,000	3,166	20,000	1,500	3,366	16.749,459	1H:5V	900	853,320	456,705	4.008,996	9.452,492
1	HPCC	2.660,000	2,595	20,000	1,500	2,795	16.894,798	1H:5V	900	859,480	459,783	4.036,874	9.547,991
1	HPCC	2.680,000	2,405	20,000	1,500	2,605	17.004,994	1H:5V	900	865,640	462,862	4.064,752	9.608,347

R-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	2.700,000	2,520	20,000	1,500	2,720	17.113,238	1H:5V	900	871,800	465,940	4.092,630	9.666,750
1	HPCC	2.720,000	2,486	20,000	1,500	2,686	17.223,554	1H:5V	900	877,960	469,019	4.120,508	9.727,226
1	HPCC	2.740,000	2,566	20,000	1,500	2,766	17.335,065	1H:5V	900	884,120	472,098	4.148,386	9.788,897
1	HPCC	2.760,000	2,646	20,000	1,500	2,846	17.450,746	1H:5V	900	890,280	475,176	4.176,264	9.854,738
1	HPCC	2.780,000	2,726	20,000	1,500	2,926	17.570,648	1H:5V	900	896,440	478,255	4.204,142	9.924,801
1	HPCC	2.782,535	2,746	2,535	1,500	2,946	17.586,183	1H:5V	900	897,221	478,645	4.207,676	9.934,018
1	HPCC	2.782,544	2,746	0,009	1,500	2,946	17.586,238	1H:5V	900	897,224	478,646	4.207,688	9.934,051
1	HPCC	2.800,000	2,881	17,456	1,500	3,081	17.699,692	1H:5V	900	902,600	481,333	4.232,020	10.004,004
1	HPCC	2.820,000	2,872	20,000	1,500	3,072	17.835,966	1H:5V	900	908,760	484,412	4.259,898	10.090,438
1	HPCC	2.840,000	2,797	20,000	1,500	2,997	17.966,720	1H:5V	900	914,920	487,490	4.287,776	10.171,352
1	HPCC	2.860,000	2,719	20,000	1,500	2,919	18.090,465	1H:5V	900	921,080	490,569	4.315,654	10.245,257
1	HPCC	2.880,000	2,676	20,000	1,500	2,876	18.210,974	1H:5V	900	927,240	493,647	4.343,532	10.315,926
1	HPCC	2.900,000	2,650	20,000	1,500	2,850	18.329,651	1H:5V	900	933,400	496,726	4.371,410	10.384,764
1	HPCC	2.920,000	2,620	20,000	1,500	2,820	18.446,851	1H:5V	900	939,560	499,805	4.399,288	10.452,123
1	HPCC	2.926,922	2,604	6,922	1,500	2,804	18.486,995	1H:5V	900	941,692	500,870	4.408,937	10.475,018
1	HPCC	2.940,000	2,604	13,078	1,500	2,804	18.562,566	1H:5V	900	945,720	502,883	4.427,166	10.517,998
1	HPCC	2.960,000	2,565	20,000	1,500	2,765	18.677,116	1H:5V	900	951,880	505,962	4.455,044	10.582,709
1	HPCC	2.977,118	2,535	17,118	1,500	2,735	18.773,620	1H:5V	900	957,152	508,597	4.478,905	10.636,554
1	HPCC	2.980,000	2,547	2,882	1,500	2,747	18.789,800	1H:5V	900	958,040	509,040	4.482,922	10.645,552
1	HPCC	3.000,000	2,628	20,000	1,500	2,828	18.904,512	1H:5V	900	964,200	512,119	4.510,800	10.710,424
1	HPCC	3.020,000	2,603	20,000	1,500	2,803	19.020,686	1H:5V	900	970,360	515,197	4.538,678	10.776,758
1	HPCC	3.040,000	2,570	20,000	1,500	2,770	19.135,340	1H:5V	900	976,520	518,276	4.566,556	10.841,572
1	HPCC	3.060,000	2,601	20,000	1,500	2,801	19.249,942	1H:5V	900	982,680	521,355	4.594,434	10.906,334
1	HPCC	3.080,000	2,583	20,000	1,500	2,783	19.364,884	1H:5V	900	988,840	524,433	4.622,312	10.971,436
1	HPCC	3.100,000	2,510	20,000	1,500	2,710	19.477,457	1H:5V	900	995,000	527,512	4.650,190	11.034,169
1	HPCC	3.120,000	2,484	20,000	1,500	2,684	19.587,463	1H:5V	900	1.001,160	530,590	4.678,068	11.094,335
1	HPCC	3.140,000	2,372	20,000	1,500	2,572	19.693,941	1H:5V	900	1.007,320	533,669	4.705,946	11.150,973
1	HPCC	3.160,000	2,319	20,000	1,500	2,519	19.796,227	1H:5V	900	1.013,480	536,747	4.733,824	11.203,419
1	HPCC	3.180,000	2,373	20,000	1,500	2,573	19.898,538	1H:5V	900	1.019,640	539,826	4.761,702	11.255,891
1	HPCC	3.200,000	2,346	20,000	1,500	2,546	20.001,528	1H:5V	900	1.025,800	542,905	4.789,580	11.309,041
1	HPCC	3.220,000	2,171	20,000	1,500	2,371	20.099,491	1H:5V	900	1.031,960	545,983	4.817,458	11.357,163
1	HPCC	3.240,000	2,093	20,000	1,500	2,293	20.191,210	1H:5V	900	1.038,120	549,062	4.845,336	11.399,042
1	HPCC	3.260,000	2,025	20,000	1,500	2,225	20.279,397	1H:5V	900	1.044,280	552,140	4.873,214	11.437,389
1	HPCC	3.280,000	1,950	20,000	1,500	2,150	20.364,168	1H:5V	900	1.050,440	555,219	4.901,092	11.472,320
1	HPCC	3.289,440	1,930	9,440	1,500	2,130	20.403,117	1H:5V	900	1.053,348	556,672	4.914,250	11.487,745
1	HPCC	3.300,000	1,974	10,560	1,500	2,174	20.446,987	1H:5V	900	1.056,600	558,297	4.928,970	11.505,299

R-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	HPCC	3.320,000	2,060	20,000	1,500	2,260	20.533,164	1H:5V	900	1.062,760	561,376	4.956,848	11.541,637
1	HPCC	3.340,000	2,096	20,000	1,500	2,296	20.622,263	1H:5V	900	1.068,920	564,455	4.984,726	11.580,895
1	HPCC	3.360,000	2,163	20,000	1,500	2,363	20.713,858	1H:5V	900	1.075,080	567,533	5.012,604	11.622,651
1	HPCC	3.380,000	2,254	20,000	1,500	2,454	20.809,325	1H:5V	900	1.081,240	570,612	5.040,482	11.668,277
1	HPCC	3.400,000	2,342	20,000	1,500	2,542	20.909,233	1H:5V	900	1.087,400	573,690	5.068,360	11.718,345
1	HPCC	3.419,260	2,426	19,260	1,500	2,626	21.009,612	1H:5V	900	1.093,332	576,655	5.095,206	11.770,728
1	HPCC	3.419,265	2,426	0,005	1,500	2,626	21.009,638	1H:5V	900	1.093,334	576,656	5.095,213	11.770,742
1	HPCC	3.420,000	2,425	0,735	1,500	2,625	21.013,546	1H:5V	900	1.093,560	576,769	5.096,238	11.772,818
1	HPCC	3.440,000	2,388	20,000	1,500	2,588	21.118,918	1H:5V	900	1.099,720	579,847	5.124,116	11.828,350
1	HPCC	3.460,000	2,343	20,000	1,500	2,543	21.222,212	1H:5V	900	1.105,880	582,926	5.151,994	11.881,804
1	HPCC	3.480,000	2,309	20,000	1,500	2,509	21.323,516	1H:5V	900	1.112,040	586,004	5.179,872	11.933,268
1	HPCC	3.500,000	2,310	20,000	1,500	2,510	21.423,991	1H:5V	900	1.118,200	589,083	5.207,750	11.983,903
1	HPCC	3.520,000	2,262	20,000	1,500	2,462	21.523,294	1H:5V	900	1.124,360	592,162	5.235,628	12.033,367
1	HPCC	3.540,000	2,234	20,000	1,500	2,434	21.620,706	1H:5V	900	1.130,520	595,240	5.263,506	12.080,938
1	HPCC	3.560,000	2,190	20,000	1,500	2,390	21.716,339	1H:5V	900	1.136,680	598,319	5.291,384	12.126,731
1	HPCC	3.580,000	2,144	20,000	1,500	2,344	21.809,762	1H:5V	900	1.142,840	601,397	5.319,262	12.170,314
1	HPCC	3.600,000	2,102	20,000	1,500	2,302	21.901,039	1H:5V	900	1.149,000	604,476	5.347,140	12.211,751
1	HPCC	3.620,000	2,069	20,000	1,500	2,269	21.990,499	1H:5V	900	1.155,160	607,554	5.375,018	12.251,371
1	HPCC	3.640,000	2,025	20,000	1,500	2,225	22.078,107	1H:5V	900	1.161,320	610,633	5.402,895	12.289,139
1	HPCC	3.660,000	1,985	20,000	1,500	2,185	22.163,707	1H:5V	900	1.167,480	613,712	5.430,773	12.324,899
1	HPCC	3.680,000	1,948	20,000	1,500	2,148	22.247,478	1H:5V	900	1.173,640	616,790	5.458,651	12.358,830
1	HPCC	3.700,000	1,910	20,000	1,500	2,110	22.329,480	1H:5V	900	1.179,800	619,869	5.486,529	12.390,992
1	HPCC	3.720,000	2,507	20,000	1,500	2,707	22.425,295	1H:5V	900	1.185,960	622,947	5.514,407	12.436,967
1	HPCC	3.740,000	2,672	20,000	1,500	2,872	22.540,132	1H:5V	900	1.192,120	626,026	5.542,285	12.501,964
1	HPCC	3.760,000	2,632	20,000	1,500	2,832	22.658,229	1H:5V	900	1.198,280	629,104	5.570,163	12.570,222
1	HPCC	3.768,160	2,616	8,160	1,500	2,816	22.705,810	1H:5V	900	1.200,793	630,360	5.581,538	12.597,468
1	PRFV	3.780,000	2,353	11,840	1,200	2,503	22.765,405	1H:5V	600	1.203,709	635,399	5.592,631	12.634,666
1	PRFV	3.800,000	1,793	20,000	1,200	1,943	22.838,837	1H:5V	600	1.207,399	649,345	5.602,231	12.675,209
1	PRFV	3.820,000	1,751	20,000	1,200	1,901	22.899,743	1H:5V	600	1.211,089	663,290	5.611,831	12.703,225
1	PRFV	3.840,000	2,087	20,000	1,200	2,237	22.966,635	1H:5V	600	1.214,779	677,235	5.621,431	12.737,227
1	PRFV	3.860,000	2,432	20,000	1,200	2,582	23.047,805	1H:5V	600	1.218,469	691,180	5.631,031	12.785,507
1	PRFV	3.880,000	2,392	20,000	1,200	2,542	23.135,550	1H:5V	600	1.222,159	705,125	5.640,631	12.840,362
1	PRFV	3.900,000	2,352	20,000	1,200	2,502	23.221,521	1H:5V	600	1.225,849	719,070	5.650,231	12.893,443
1	PRFV	3.920,000	2,312	20,000	1,200	2,462	23.305,732	1H:5V	600	1.229,539	733,015	5.659,831	12.944,764
1	PRFV	3.940,000	2,272	20,000	1,200	2,422	23.388,195	1H:5V	600	1.233,229	746,961	5.669,431	12.994,337
1	PRFV	3.960,000	2,232	20,000	1,200	2,382	23.468,923	1H:5V	600	1.236,919	760,906	5.679,031	13.042,175

R-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	3.980,000	2,192	20,000	1,200	2,342	23.547,929	1H:5V	600	1.240,609	774,851	5.688,631	13.088,291
1	PRFV	4.000,000	2,152	20,000	1,200	2,302	23.625,225	1H:5V	600	1.244,299	788,796	5.698,231	13.132,697
1	PRFV	4.020,000	2,112	20,000	1,200	2,262	23.700,825	1H:5V	600	1.247,989	802,741	5.707,831	13.175,407
1	PRFV	4.040,000	2,072	20,000	1,200	2,222	23.774,741	1H:5V	600	1.251,679	816,686	5.717,431	13.216,433
1	PRFV	4.060,000	2,032	20,000	1,200	2,182	23.846,986	1H:5V	600	1.255,369	830,631	5.727,031	13.255,788
1	PRFV	4.080,000	1,992	20,000	1,200	2,142	23.917,572	1H:5V	600	1.259,059	844,576	5.736,631	13.293,484
1	PRFV	4.100,000	1,952	20,000	1,200	2,102	23.986,514	1H:5V	600	1.262,749	858,522	5.746,231	13.329,535
1	PRFV	4.120,000	1,912	20,000	1,200	2,062	24.053,822	1H:5V	600	1.266,439	872,467	5.755,831	13.363,954
1	PRFV	4.140,000	1,872	20,000	1,200	2,022	24.119,511	1H:5V	600	1.270,129	886,412	5.765,431	13.396,752
1	PRFV	4.160,000	1,832	20,000	1,200	1,982	24.183,592	1H:5V	600	1.273,819	900,357	5.775,031	13.427,944
1	PRFV	4.164,450	1,823	4,450	1,200	1,973	24.197,633	1H:5V	600	1.274,640	903,460	5.777,167	13.434,666
1	PRFV	4.164,459	1,823	0,009	1,200	1,973	24.197,661	1H:5V	600	1.274,642	903,466	5.777,171	13.434,680
1	PRFV	4.177,017	1,877	12,558	1,200	2,027	24.237,848	1H:5V	600	1.276,959	912,222	5.783,199	13.454,216
1	PRFV	4.180,000	1,890	2,983	1,200	2,040	24.247,594	1H:5V	600	1.277,509	914,302	5.784,631	13.459,056
1	PRFV	4.200,000	1,976	20,000	1,200	2,126	24.314,949	1H:5V	600	1.281,199	928,247	5.794,231	13.493,521
1	PRFV	4.220,000	2,061	20,000	1,200	2,211	24.385,810	1H:5V	600	1.284,889	942,192	5.803,831	13.531,492
1	PRFV	4.240,000	2,147	20,000	1,200	2,297	24.460,236	1H:5V	600	1.288,579	956,138	5.813,431	13.573,027
1	PRFV	4.249,993	2,190	9,993	1,200	2,340	24.498,782	1H:5V	600	1.290,423	963,105	5.818,228	13.595,141
1	PRFV	4.260,000	1,962	10,007	1,200	2,112	24.535,456	1H:5V	600	1.292,269	970,083	5.823,031	13.615,358
1	PRFV	4.280,000	1,839	20,000	1,200	1,989	24.601,502	1H:5V	600	1.295,959	984,028	5.832,631	13.648,513
1	PRFV	4.295,955	2,021	15,955	1,200	2,171	24.655,157	1H:5V	600	1.298,903	995,153	5.840,289	13.675,931
1	PRFV	4.300,000	2,006	4,045	1,200	2,156	24.669,446	1H:5V	600	1.299,649	997,973	5.842,231	13.683,567
1	PRFV	4.320,000	2,045	20,000	1,200	2,195	24.740,590	1H:5V	600	1.303,339	1.011,918	5.851,831	13.721,822
1	PRFV	4.340,000	2,222	20,000	1,200	2,372	24.816,283	1H:5V	600	1.307,029	1.025,863	5.861,431	13.764,625
1	PRFV	4.360,000	2,288	20,000	1,200	2,438	24.897,144	1H:5V	600	1.310,719	1.039,808	5.871,031	13.812,595
1	PRFV	4.380,000	2,412	20,000	1,200	2,562	24.982,159	1H:5V	600	1.314,409	1.053,753	5.880,631	13.864,721
1	PRFV	4.400,000	2,243	20,000	1,200	2,393	25.066,200	1H:5V	600	1.318,099	1.067,699	5.890,231	13.915,871
1	PRFV	4.420,000	2,469	20,000	1,200	2,619	25.151,515	1H:5V	600	1.321,789	1.081,644	5.899,831	13.968,297
1	PRFV	4.434,129	2,128	14,129	1,200	2,278	25.210,052	1H:5V	600	1.324,396	1.091,495	5.906,613	14.003,599
1	PRFV	4.434,137	2,128	0,008	1,200	2,278	25.210,082	1H:5V	600	1.324,397	1.091,501	5.906,617	14.003,616
1	PRFV	4.440,000	2,069	5,863	1,200	2,219	25.231,831	1H:5V	600	1.325,479	1.095,589	5.909,431	14.015,723
1	PRFV	4.460,000	1,871	20,000	1,200	2,021	25.300,728	1H:5V	600	1.329,169	1.109,534	5.919,031	14.051,730
1	PRFV	4.480,000	1,782	20,000	1,200	1,932	25.363,798	1H:5V	600	1.332,859	1.123,479	5.928,631	14.081,910
1	PRFV	4.500,000	1,808	20,000	1,200	1,958	25.425,611	1H:5V	600	1.336,549	1.137,424	5.938,231	14.110,832
1	PRFV	4.520,000	1,864	20,000	1,200	2,014	25.489,055	1H:5V	600	1.340,239	1.151,369	5.947,831	14.141,386
1	PRFV	4.540,000	1,920	20,000	1,200	2,070	25.554,745	1H:5V	600	1.343,929	1.165,315	5.957,431	14.174,187

R-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	4.543,960	1,934	3,960	1,200	2,084	25.568,031	1H:5V	600	1.344,660	1.168,076	5.959,332	14.180,961
1	PRFV	4.560,000	1,757	16,040	1,200	1,907	25.619,240	1H:5V	600	1.347,619	1.179,260	5.967,031	14.205,792
1	PRFV	4.580,000	1,880	20,000	1,200	2,030	25.681,999	1H:5V	600	1.351,309	1.193,205	5.976,631	14.235,661
1	PRFV	4.600,000	1,949	20,000	1,200	2,099	25.748,601	1H:5V	600	1.354,999	1.207,150	5.986,231	14.269,372
1	PRFV	4.601,011	1,950	1,011	1,200	2,100	25.752,039	1H:5V	600	1.355,185	1.207,855	5.986,716	14.271,148
1	PRFV	4.620,000	1,920	18,989	1,200	2,070	25.816,060	1H:5V	600	1.358,689	1.221,095	5.995,831	14.303,942
1	PRFV	4.629,673	1,785	9,673	1,200	1,935	25.847,071	1H:5V	600	1.360,474	1.227,840	6.000,474	14.319,046
1	PRFV	4.640,000	1,641	10,327	1,200	1,791	25.877,337	1H:5V	600	1.362,379	1.235,040	6.005,431	14.332,329
1	PRFV	4.660,000	1,766	20,000	1,200	1,916	25.935,579	1H:5V	600	1.366,069	1.248,985	6.015,031	14.357,681
1	PRFV	4.680,000	1,967	20,000	1,200	2,117	26.000,280	1H:5V	600	1.369,759	1.262,930	6.024,631	14.389,492
1	PRFV	4.700,000	1,805	20,000	1,200	1,955	26.065,752	1H:5V	600	1.373,449	1.276,876	6.034,231	14.422,074
1	PRFV	4.703,019	1,763	3,019	1,200	1,913	26.075,017	1H:5V	600	1.374,006	1.278,981	6.035,680	14.426,374
1	PRFV	4.704,746	1,737	1,727	1,200	1,887	26.080,202	1H:5V	600	1.374,325	1.280,185	6.036,509	14.428,718
1	PRFV	4.706,473	1,708	1,727	1,200	1,858	26.085,293	1H:5V	600	1.374,643	1.281,389	6.037,338	14.430,970
1	PRFV	4.720,000	1,745	13,527	1,200	1,895	26.125,281	1H:5V	600	1.377,139	1.290,821	6.043,831	14.448,712
1	PRFV	4.740,000	1,895	20,000	1,200	2,045	26.188,107	1H:5V	600	1.380,829	1.304,766	6.053,431	14.478,648
1	PRFV	4.760,000	1,777	20,000	1,200	1,927	26.251,561	1H:5V	600	1.384,519	1.318,711	6.063,031	14.509,213
1	PRFV	4.780,000	1,896	20,000	1,200	2,046	26.315,036	1H:5V	600	1.388,209	1.332,656	6.072,631	14.539,798
1	PRFV	4.800,000	2,081	20,000	1,200	2,231	26.384,687	1H:5V	600	1.391,899	1.346,601	6.082,231	14.576,559
1	PRFV	4.820,000	1,733	20,000	1,200	1,883	26.451,101	1H:5V	600	1.395,589	1.360,546	6.091,831	14.610,083
1	PRFV	4.840,000	2,223	20,000	1,200	2,373	26.520,527	1H:5V	600	1.399,279	1.374,492	6.101,431	14.646,619
1	PRFV	4.860,000	2,037	20,000	1,200	2,187	26.596,075	1H:5V	600	1.402,969	1.388,437	6.111,031	14.689,277
1	PRFV	4.880,000	1,864	20,000	1,200	2,014	26.664,166	1H:5V	600	1.406,659	1.402,382	6.120,631	14.724,477
1	PRFV	4.900,000	2,230	20,000	1,200	2,380	26.736,335	1H:5V	600	1.410,349	1.416,327	6.130,231	14.763,756
1	PRFV	4.920,000	1,993	20,000	1,200	2,143	26.811,124	1H:5V	600	1.414,039	1.430,272	6.139,831	14.805,656
1	PRFV	4.940,000	1,961	20,000	1,200	2,111	26.880,270	1H:5V	600	1.417,729	1.444,217	6.149,431	14.841,912
1	PRFV	4.960,000	2,297	20,000	1,200	2,447	26.955,854	1H:5V	600	1.421,419	1.458,162	6.159,031	14.884,606
1	PRFV	4.980,000	1,949	20,000	1,200	2,099	27.031,193	1H:5V	600	1.425,109	1.472,107	6.168,631	14.927,055
1	PRFV	5.000,000	2,116	20,000	1,200	2,266	27.102,655	1H:5V	600	1.428,799	1.486,053	6.178,231	14.965,626
1	PRFV	5.020,000	2,253	20,000	1,200	2,403	27.180,501	1H:5V	600	1.432,489	1.499,998	6.187,831	15.010,583
1	PRFV	5.040,000	1,904	20,000	1,200	2,054	27.253,972	1H:5V	600	1.436,179	1.513,943	6.197,431	15.051,163
1	PRFV	5.060,000	1,770	20,000	1,200	1,920	27.317,470	1H:5V	600	1.439,869	1.527,888	6.207,031	15.081,772
1	PRFV	5.080,000	2,208	20,000	1,200	2,358	27.387,299	1H:5V	600	1.443,559	1.541,833	6.216,631	15.118,711
1	PRFV	5.092,745	1,987	12,745	1,200	2,137	27.434,579	1H:5V	600	1.445,910	1.550,720	6.222,749	15.145,032
1	PRFV	5.100,000	2,720	7,255	1,200	2,870	27.465,664	1H:5V	600	1.447,249	1.555,778	6.226,231	15.164,186
1	PRFV	5.107,800	1,600	7,800	1,200	1,750	27.496,099	1H:5V	600	1.448,688	1.561,217	6.229,975	15.181,794

R-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	5.107,809	1,600	0,009	1,200	1,750	27.496,123	1H:5V	600	1.448,690	1.561,223	6.229,979	15.181,803
1	PRFV	5.120,000	1,688	12,191	1,200	1,838	27.530,220	1H:5V	600	1.450,939	1.569,723	6.235,831	15.195,852
1	PRFV	5.140,000	1,884	20,000	1,200	2,034	27.591,715	1H:5V	600	1.454,629	1.583,669	6.245,431	15.224,457
1	PRFV	5.160,000	1,895	20,000	1,200	2,045	27.657,301	1H:5V	600	1.458,319	1.597,614	6.255,031	15.257,153
1	PRFV	5.180,000	1,756	20,000	1,200	1,906	27.720,343	1H:5V	600	1.462,009	1.611,559	6.264,631	15.287,305
1	PRFV	5.182,090	1,741	2,090	1,200	1,891	27.726,611	1H:5V	600	1.462,394	1.613,016	6.265,634	15.290,136
1	PRFV	5.200,000	1,617	17,910	1,200	1,767	27.777,916	1H:5V	600	1.465,699	1.625,504	6.274,231	15.311,988
1	PRFV	5.219,524	1,610	19,524	1,200	1,760	27.831,377	1H:5V	600	1.469,301	1.639,117	6.283,603	15.333,341
1	PRFV	5.220,000	1,634	0,476	1,200	1,784	27.832,688	1H:5V	600	1.469,389	1.639,449	6.283,831	15.333,870
1	PRFV	5.223,653	1,794	3,653	1,200	1,944	27.843,402	1H:5V	600	1.470,063	1.641,996	6.285,585	15.338,576
1	PRFV	5.227,782	1,936	4,129	1,200	2,086	27.856,743	1H:5V	600	1.470,825	1.644,875	6.287,566	15.345,127
1	PRFV	5.240,000	2,001	12,218	1,200	2,151	27.898,773	1H:5V	600	1.473,079	1.653,394	6.293,431	15.367,065
1	PRFV	5.252,348	1,929	12,348	1,200	2,079	27.941,163	1H:5V	600	1.475,357	1.662,004	6.299,358	15.389,148
1	PRFV	5.260,000	2,115	7,652	1,200	2,265	27.968,340	1H:5V	600	1.476,769	1.667,339	6.303,031	15.403,742
1	PRFV	5.264,316	2,220	4,316	1,200	2,370	27.984,981	1H:5V	600	1.477,565	1.670,349	6.305,103	15.413,285
1	PRFV	5.280,000	1,898	15,684	1,200	2,048	28.041,944	1H:5V	600	1.480,459	1.681,284	6.312,631	15.444,456
1	PRFV	5.300,000	1,722	20,000	1,200	1,872	28.104,382	1H:5V	600	1.484,149	1.695,230	6.322,231	15.474,003
1	PRFV	5.320,000	1,794	20,000	1,200	1,944	28.164,741	1H:5V	600	1.487,839	1.709,175	6.331,831	15.501,472
1	PRFV	5.329,953	2,062	9,953	1,200	2,212	28.198,191	1H:5V	600	1.489,675	1.716,115	6.336,609	15.518,555
1	PRFV	5.329,962	2,064	0,009	1,200	2,214	28.198,223	1H:5V	600	1.489,677	1.716,121	6.336,613	15.518,573
1	PRFV	5.340,000	3,180	10,038	1,200	3,330	28.254,290	1H:5V	600	1.491,529	1.723,120	6.341,431	15.558,132
1	PRFV	5.348,980	1,989	8,980	1,200	2,139	28.303,751	1H:5V	600	1.493,186	1.729,381	6.345,741	15.592,825
1	PRFV	5.348,989	1,988	0,009	1,200	2,138	28.303,782	1H:5V	600	1.493,187	1.729,387	6.345,746	15.592,841
1	PRFV	5.360,000	1,791	11,011	1,200	1,941	28.339,912	1H:5V	600	1.495,219	1.737,065	6.351,031	15.610,864
1	PRFV	5.380,000	1,523	20,000	1,200	1,673	28.396,413	1H:5V	600	1.498,909	1.751,010	6.360,631	15.634,474
1	PRFV	5.382,185	1,507	2,185	1,200	1,657	28.401,990	1H:5V	600	1.499,312	1.752,534	6.361,680	15.636,458
1	PRFV	5.384,758	1,543	2,573	1,200	1,693	28.408,605	1H:5V	600	1.499,787	1.754,328	6.362,915	15.638,843
1	PRFV	5.399,988	2,402	15,230	1,200	2,552	28.461,680	1H:5V	600	1.502,597	1.764,947	6.370,225	15.666,872
1	PRFV	5.400,000	2,402	0,012	1,200	2,552	28.461,733	1H:5V	600	1.502,599	1.764,955	6.370,231	15.666,905
1	PRFV	5.417,791	1,604	17,791	1,200	1,754	28.524,758	1H:5V	600	1.505,881	1.777,360	6.378,771	15.700,672
1	PRFV	5.420,000	1,585	2,209	1,200	1,735	28.530,727	1H:5V	600	1.506,289	1.778,900	6.379,831	15.703,008
1	PRFV	5.440,000	1,673	20,000	1,200	1,823	28.586,090	1H:5V	600	1.509,979	1.792,846	6.389,431	15.725,482
1	PRFV	5.443,644	1,816	3,644	1,200	1,966	28.596,994	1H:5V	600	1.510,651	1.795,386	6.391,180	15.730,393
1	PRFV	5.460,000	2,462	16,356	1,200	2,612	28.659,401	1H:5V	600	1.513,669	1.806,791	6.399,031	15.765,903
1	PRFV	5.480,000	2,357	20,000	1,200	2,507	28.747,044	1H:5V	600	1.517,359	1.820,736	6.408,631	15.820,656
1	PRFV	5.499,539	2,543	19,539	1,200	2,693	28.834,456	1H:5V	600	1.520,964	1.834,359	6.418,010	15.875,936

R-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	5.499,548	2,543	0,009	1,100	2,693	28.834,497	1H:5V	500	1.520,965	1.834,365	6.418,014	15.875,964
1	PRFV	5.500,000	2,526	0,452	1,100	2,676	28.836,484	1H:5V	500	1.521,042	1.834,624	6.418,212	15.877,328
1	PRFV	5.520,000	2,002	20,000	1,100	2,152	28.913,176	1H:5V	500	1.524,432	1.846,057	6.426,972	15.926,511
1	PRFV	5.540,000	1,986	20,000	1,100	2,136	28.978,731	1H:5V	500	1.527,822	1.857,490	6.435,732	15.964,556
1	PRFV	5.560,000	2,000	20,000	1,100	2,150	29.044,247	1H:5V	500	1.531,212	1.868,923	6.444,492	16.002,562
1	PRFV	5.570,314	1,654	10,314	1,100	1,804	29.074,801	1H:5V	500	1.532,960	1.874,819	6.449,009	16.018,929
1	PRFV	5.570,323	1,654	0,009	1,100	1,804	29.074,825	1H:5V	500	1.532,962	1.874,824	6.449,013	16.018,940
1	PRFV	5.575,626	1,782	5,303	1,100	1,932	29.089,427	1H:5V	500	1.533,861	1.877,855	6.451,336	16.026,248
1	PRFV	5.580,000	1,732	4,374	1,100	1,882	29.101,784	1H:5V	500	1.534,602	1.880,356	6.453,252	16.032,589
1	PRFV	5.600,000	1,557	20,000	1,100	1,707	29.154,174	1H:5V	500	1.537,992	1.891,789	6.462,012	16.057,469
1	PRFV	5.620,000	1,848	20,000	1,100	1,998	29.208,741	1H:5V	500	1.541,382	1.903,222	6.470,772	16.084,526
1	PRFV	5.633,258	2,167	13,258	1,100	2,317	29.252,616	1H:5V	500	1.543,629	1.910,801	6.476,579	16.110,164
1	PRFV	5.636,185	2,227	2,927	1,100	2,377	29.263,398	1H:5V	500	1.544,125	1.912,474	6.477,861	16.116,920
1	PRFV	5.639,112	2,265	2,927	1,100	2,415	29.274,473	1H:5V	500	1.544,622	1.914,147	6.479,143	16.123,969
1	PRFV	5.640,000	2,273	0,888	1,100	2,423	29.277,875	1H:5V	500	1.544,772	1.914,655	6.479,532	16.126,150
1	PRFV	5.660,000	1,651	20,000	1,100	1,801	29.342,568	1H:5V	500	1.548,162	1.926,088	6.488,292	16.163,333
1	PRFV	5.680,000	1,818	20,000	1,100	1,968	29.398,260	1H:5V	500	1.551,552	1.937,521	6.497,052	16.191,515
1	PRFV	5.700,000	2,082	20,000	1,100	2,232	29.462,170	1H:5V	500	1.554,942	1.948,954	6.505,812	16.227,915
1	PRFV	5.713,309	2,368	13,309	1,100	2,518	29.512,008	1H:5V	500	1.557,198	1.956,562	6.511,641	16.259,447
1	PRFV	5.720,000	2,710	6,691	1,100	2,860	29.541,515	1H:5V	500	1.558,332	1.960,387	6.514,572	16.279,750
1	PRFV	5.728,695	3,107	8,695	1,100	3,257	29.591,573	1H:5V	500	1.559,806	1.965,357	6.518,380	16.317,848
1	PRFV	5.728,703	3,107	0,008	1,100	3,257	29.591,627	1H:5V	500	1.559,807	1.965,362	6.518,384	16.317,891
1	PRFV	5.740,000	1,896	11,297	1,100	2,046	29.647,096	1H:5V	500	1.561,722	1.971,820	6.523,332	16.357,821
1	PRFV	5.760,000	3,091	20,000	1,100	3,241	29.744,273	1H:5V	500	1.565,112	1.983,253	6.532,092	16.427,488
1	PRFV	5.764,488	3,137	4,488	1,100	3,287	29.774,690	1H:5V	500	1.565,873	1.985,818	6.534,058	16.451,731
1	PRFV	5.770,807	3,130	6,319	1,100	3,280	29.818,304	1H:5V	500	1.566,944	1.989,431	6.536,825	16.486,654
1	PRFV	5.774,097	3,077	3,290	1,100	3,227	29.840,380	1H:5V	500	1.567,501	1.991,311	6.538,266	16.504,205
1	PEAD	5.777,126	3,006	3,029	0,800	3,156	29.858,071	1H:5V	400	1.567,947	1.992,354	6.539,709	16.518,584
1	PEAD	5.780,000	2,802	2,874	0,800	2,952	29.871,357	1H:5V	400	1.568,305	1.992,691	6.541,188	16.529,335
1	PEAD	5.800,000	2,233	20,000	0,800	2,383	29.942,823	1H:5V	400	1.570,795	1.995,035	6.551,482	16.583,161
1	PEAD	5.820,000	1,880	20,000	0,800	2,030	29.997,726	1H:5V	400	1.573,285	1.997,378	6.561,775	16.620,424
1	PEAD	5.840,000	1,462	20,000	0,800	1,612	30.040,301	1H:5V	400	1.575,775	1.999,721	6.572,068	16.645,359
1	PEAD	5.842,043	1,412	2,043	0,800	1,562	30.043,924	1H:5V	400	1.576,029	1.999,961	6.573,120	16.647,180
1	PEAD	5.843,185	1,407	1,142	0,800	1,557	30.045,904	1H:5V	400	1.576,171	2.000,094	6.573,708	16.648,153
1	PEAD	5.844,327	1,414	1,142	0,800	1,564	30.047,886	1H:5V	400	1.576,313	2.000,228	6.574,295	16.649,128
1	PEAD	5.860,000	1,465	15,673	0,800	1,615	30.075,738	1H:5V	400	1.578,265	2.002,065	6.582,362	16.663,155

R-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	5.880,000	1,434	20,000	0,800	1,584	30.111,564	1H:5V	400	1.580,755	2.004,408	6.592,655	16.681,342
1	PEAD	5.900,000	1,647	20,000	0,800	1,797	30.150,089	1H:5V	400	1.583,245	2.006,751	6.602,949	16.702,227
1	PEAD	5.920,000	2,120	20,000	0,800	2,270	30.199,389	1H:5V	400	1.585,735	2.009,095	6.613,242	16.733,887
1	PEAD	5.940,000	1,675	20,000	0,800	1,825	30.249,116	1H:5V	400	1.588,225	2.011,438	6.623,535	16.765,974
1	PEAD	5.943,044	1,529	3,044	0,800	1,679	30.255,254	1H:5V	400	1.588,604	2.011,795	6.625,102	16.769,427
1	PEAD	5.945,239	1,447	2,195	0,800	1,597	30.259,309	1H:5V	400	1.588,877	2.012,052	6.626,232	16.771,546
1	PEAD	5.947,434	1,414	2,195	0,800	1,564	30.263,182	1H:5V	400	1.589,150	2.012,309	6.627,361	16.773,482
1	PEAD	5.960,000	1,477	12,566	0,800	1,627	30.285,621	1H:5V	400	1.590,715	2.013,781	6.633,829	16.784,839
1	PEAD	5.980,000	1,558	20,000	0,800	1,708	30.323,430	1H:5V	400	1.593,205	2.016,125	6.644,122	16.805,007
1	PEAD	6.000,000	1,605	20,000	0,800	1,755	30.363,128	1H:5V	400	1.595,695	2.018,468	6.654,415	16.827,066
1	PEAD	6.020,000	1,602	20,000	0,800	1,752	30.403,483	1H:5V	400	1.598,185	2.020,812	6.664,709	16.849,781
1	PEAD	6.040,000	1,416	20,000	0,800	1,566	30.441,071	1H:5V	400	1.600,675	2.023,155	6.675,002	16.869,729
1	PEAD	6.060,000	1,492	20,000	0,800	1,642	30.477,032	1H:5V	400	1.603,165	2.025,498	6.685,295	16.888,050
1	PEAD	6.070,054	1,805	10,054	0,800	1,955	30.498,051	1H:5V	400	1.604,416	2.026,676	6.690,470	16.900,201
1	PEAD	6.075,898	1,867	5,844	0,800	2,017	30.511,947	1H:5V	400	1.605,144	2.027,361	6.693,478	16.908,943
1	PEAD	6.080,000	1,817	4,102	0,800	1,967	30.521,740	1H:5V	400	1.605,655	2.027,842	6.695,589	16.915,118
1	PEAD	6.081,742	1,791	1,742	0,800	1,941	30.525,793	1H:5V	400	1.605,871	2.028,046	6.696,485	16.917,635
1	PEAD	6.100,000	1,577	18,258	0,800	1,727	30.564,906	1H:5V	400	1.608,145	2.030,185	6.705,882	16.940,643
1	PEAD	6.120,000	1,403	20,000	0,800	1,553	30.601,934	1H:5V	400	1.610,635	2.032,528	6.716,176	16.960,032
1	PEAD	6.140,000	1,748	20,000	0,800	1,898	30.641,571	1H:5V	400	1.613,125	2.034,872	6.726,469	16.982,029
1	PEAD	6.160,000	1,553	20,000	0,800	1,703	30.683,384	1H:5V	400	1.615,615	2.037,215	6.736,762	17.006,202
1	PEAD	6.180,000	1,891	20,000	0,800	2,041	30.727,468	1H:5V	400	1.618,105	2.039,558	6.747,056	17.032,646
1	PEAD	6.196,085	1,777	16,085	0,800	1,927	30.765,671	1H:5V	400	1.620,107	2.041,443	6.755,334	17.056,662
1	PEAD	6.200,000	1,517	3,915	0,800	1,667	30.773,841	1H:5V	400	1.620,595	2.041,902	6.757,349	17.061,379
1	PEAD	6.200,084	1,513	0,084	0,800	1,663	30.774,000	1H:5V	400	1.620,605	2.041,912	6.757,392	17.061,463
1	PEAD	6.204,083	1,409	3,999	0,800	1,559	30.781,232	1H:5V	400	1.621,103	2.042,380	6.759,450	17.065,168
1	PEAD	6.218,279	2,153	14,196	0,800	2,303	30.814,141	1H:5V	400	1.622,870	2.044,044	6.766,757	17.085,557
1	PEAD	6.220,000	2,241	1,721	0,800	2,391	30.819,269	1H:5V	400	1.623,085	2.044,245	6.767,642	17.089,167
1	PEAD	6.224,509	2,208	4,509	0,800	2,358	30.832,919	1H:5V	400	1.623,646	2.044,774	6.769,963	17.098,840
1	PEAD	6.231,201	1,984	6,692	0,800	2,134	30.851,712	1H:5V	400	1.624,479	2.045,558	6.773,407	17.111,730
1	PEAD	6.237,893	1,545	6,692	0,800	1,695	30.866,931	1H:5V	400	1.625,312	2.046,342	6.776,851	17.121,048
1	PEAD	6.240,000	1,549	2,107	0,800	1,699	30.871,005	1H:5V	400	1.625,575	2.046,589	6.777,936	17.123,263
1	PEAD	6.257,512	2,454	17,512	0,800	2,604	30.918,077	1H:5V	400	1.627,755	2.048,640	6.786,949	17.154,889
1	PEAD	6.260,000	2,254	2,488	0,800	2,404	30.926,186	1H:5V	400	1.628,065	2.048,932	6.788,229	17.160,803
1	PEAD	6.280,000	2,279	20,000	0,800	2,429	30.988,208	1H:5V	400	1.630,555	2.051,275	6.798,522	17.205,186
1	PEAD	6.289,125	2,816	9,125	0,800	2,966	31.021,311	1H:5V	400	1.631,691	2.052,344	6.803,219	17.230,240

R-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	6.297,868	1,712	8,743	0,800	1,862	31.048,918	1H:5V	400	1.632,779	2.053,369	6.807,719	17.250,136
1	PEAD	6.300,000	2,755	2,132	0,800	2,905	31.055,522	1H:5V	400	1.633,045	2.053,619	6.808,816	17.254,859
1	PEAD	6.304,247	2,772	4,247	0,800	2,922	31.072,631	1H:5V	400	1.633,573	2.054,116	6.811,002	17.268,223
1	PEAD	6.313,109	1,747	8,862	0,800	1,897	31.100,469	1H:5V	400	1.634,677	2.055,155	6.815,563	17.288,244
1	PEAD	6.320,000	2,028	6,891	0,800	2,178	31.117,450	1H:5V	400	1.635,535	2.055,962	6.819,109	17.299,147
1	PEAD	6.321,971	2,021	1,971	0,800	2,171	31.122,742	1H:5V	400	1.635,780	2.056,193	6.820,124	17.302,702
1	PEAD	6.340,000	1,769	18,029	0,800	1,919	31.167,375	1H:5V	400	1.638,025	2.058,305	6.829,403	17.331,432
1	PEAD	6.360,000	1,486	20,000	0,800	1,636	31.208,533	1H:5V	400	1.640,515	2.060,649	6.839,696	17.354,951
1	PEAD	6.380,000	1,602	20,000	0,800	1,752	31.247,129	1H:5V	400	1.643,005	2.062,992	6.849,989	17.375,907
1	PEAD	6.400,000	1,719	20,000	0,800	1,869	31.289,222	1H:5V	400	1.645,495	2.065,335	6.860,283	17.400,360
1	PEAD	6.420,000	1,577	20,000	0,800	1,727	31.330,942	1H:5V	400	1.647,985	2.067,679	6.870,576	17.424,439
1	PEAD	6.440,000	1,495	20,000	0,800	1,645	31.369,295	1H:5V	400	1.650,475	2.070,022	6.880,869	17.445,152
1	PEAD	6.449,150	1,543	9,150	0,800	1,693	31.386,610	1H:5V	400	1.651,614	2.071,094	6.885,579	17.454,398
1	PEAD	6.449,812	1,528	0,662	0,800	1,678	31.387,879	1H:5V	400	1.651,696	2.071,172	6.885,919	17.455,083
1	PEAD	6.453,106	1,472	3,294	0,650	1,622	31.393,621	1H:5V	250	1.652,069	2.071,476	6.887,395	17.458,509
1	PEAD	6.457,062	1,504	3,956	0,650	1,654	31.399,956	1H:5V	250	1.652,473	2.071,742	6.888,905	17.462,471
1	PEAD	6.460,000	1,379	2,938	0,650	1,529	31.404,485	1H:5V	250	1.652,772	2.071,940	6.890,026	17.465,238
1	PEAD	6.466,560	1,904	6,560	0,650	2,054	31.416,426	1H:5V	250	1.653,441	2.072,382	6.892,529	17.473,242
1	PEAD	6.469,988	1,852	3,428	0,650	2,002	31.423,765	1H:5V	250	1.653,791	2.072,612	6.893,837	17.478,524
1	PEAD	6.473,416	1,777	3,428	0,650	1,927	31.430,789	1H:5V	250	1.654,141	2.072,843	6.895,145	17.483,492
1	PEAD	6.480,000	1,746	6,584	0,650	1,896	31.443,781	1H:5V	250	1.654,812	2.073,287	6.897,658	17.492,533
1	PEAD	6.500,000	1,652	20,000	0,650	1,802	31.481,502	1H:5V	250	1.656,852	2.074,633	6.905,289	17.518,254
1	PEAD	6.517,776	1,569	17,776	0,650	1,719	31.512,868	1H:5V	250	1.658,666	2.075,830	6.912,072	17.538,955
1	PEAD	6.520,000	1,558	2,224	0,650	1,708	31.516,652	1H:5V	250	1.658,892	2.075,980	6.912,921	17.541,404
1	PEAD	6.536,685	1,479	16,685	0,650	1,629	31.544,042	1H:5V	250	1.660,594	2.077,103	6.919,288	17.558,783
1	PEAD	6.540,000	1,464	3,315	0,650	1,614	31.549,279	1H:5V	250	1.660,932	2.077,326	6.920,553	17.562,031
1	PEAD	6.560,000	1,370	20,000	0,650	1,520	31.579,481	1H:5V	250	1.662,972	2.078,673	6.928,184	17.580,233
1	PEAD	6.579,348	1,279	19,348	0,650	1,429	31.606,446	1H:5V	250	1.664,946	2.079,976	6.935,567	17.595,589
1	PEAD	6.580,000	1,278	0,652	0,650	1,428	31.607,317	1H:5V	250	1.665,012	2.080,020	6.935,816	17.596,069
1	PEAD	6.581,020	1,285	1,020	0,650	1,435	31.608,684	1H:5V	250	1.665,116	2.080,088	6.936,205	17.596,825
1	PEAD	6.582,692	1,319	1,672	0,650	1,469	31.610,967	1H:5V	250	1.665,287	2.080,201	6.936,843	17.598,105
1	PEAD	6.600,000	1,392	17,308	0,650	1,542	31.635,755	1H:5V	250	1.667,052	2.081,366	6.943,447	17.612,507
1	PEAD	6.620,000	1,318	20,000	0,650	1,468	31.664,385	1H:5V	250	1.669,092	2.082,713	6.951,079	17.629,138
1	PEAD	6.625,743	1,415	5,743	0,650	1,565	31.672,691	1H:5V	250	1.669,678	2.083,100	6.953,270	17.633,997
1	PEAD	6.626,979	1,415	1,236	0,650	1,565	31.674,553	1H:5V	250	1.669,804	2.083,183	6.953,742	17.635,118
1	PEAD	6.628,215	1,404	1,236	0,650	1,554	31.676,408	1H:5V	250	1.669,930	2.083,266	6.954,214	17.636,231

R-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	6.640,000	1,302	11,785	0,650	1,452	31.693,252	1H:5V	250	1.671,132	2.084,060	6.958,711	17.646,004
1	PEAD	6.660,000	1,410	20,000	0,650	1,560	31.721,913	1H:5V	250	1.673,172	2.085,406	6.966,342	17.662,666
1	PEAD	6.680,000	1,598	20,000	0,650	1,748	31.754,394	1H:5V	250	1.675,212	2.086,753	6.973,974	17.683,146
1	PEAD	6.700,000	1,607	20,000	0,650	1,757	31.789,461	1H:5V	250	1.677,252	2.088,099	6.981,606	17.706,214
1	PEAD	6.720,000	1,962	20,000	0,650	2,112	31.829,705	1H:5V	250	1.679,292	2.089,446	6.989,237	17.734,457
1	PEAD	6.740,000	2,042	20,000	0,650	2,192	31.876,212	1H:5V	250	1.681,332	2.090,793	6.996,869	17.768,964
1	PEAD	6.750,521	2,084	10,521	0,650	2,234	31.901,652	1H:5V	250	1.682,406	2.091,501	7.000,883	17.788,091

3.60 RAMAL R-4-1

R-4-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,536	0,000	0,525	2,686	0,000	1H:5V	125	0,000	0,000	0,000	0,000
1	PEAD	7,979	2,382	7,979	0,525	2,532	21,801	1H:5V	125	0,664	0,249	2,230	18,559
1	PEAD	15,379	1,546	7,400	0,525	1,696	36,887	1H:5V	125	1,280	0,480	4,299	30,639
1	PEAD	20,000	1,301	4,621	0,525	1,451	43,006	1H:5V	125	1,665	0,624	5,590	34,881
1	PEAD	22,779	1,257	2,779	0,525	1,407	46,226	1H:5V	125	1,896	0,711	6,367	36,972
1	PEAD	40,000	1,223	17,221	0,525	1,373	65,449	1H:5V	125	3,330	1,248	11,181	49,199
1	PEAD	60,000	1,183	20,000	0,525	1,333	86,979	1H:5V	125	4,995	1,872	16,771	62,604
1	PEAD	80,000	1,143	20,000	0,525	1,293	107,663	1H:5V	125	6,660	2,497	22,362	75,163
1	PEAD	88,919	1,125	8,919	0,525	1,275	116,616	1H:5V	125	7,403	2,775	24,855	80,493

3.61 RAMAL R-4-10

R-4-10													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,128	0,000	0,490	2,278	0,000	1H:5V	90	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,782	20,000	0,490	1,932	38,473	1H:5V	90	1,560	0,439	5,048	31,298
1	PEAD	32,720	1,738	12,720	0,490	1,888	59,659	1H:5V	90	2,552	0,719	8,258	47,922
1	PEAD	40,000	1,725	7,280	0,490	1,875	71,526	1H:5V	90	3,120	0,879	10,095	57,177
1	PEAD	60,000	1,674	20,000	0,490	1,824	103,336	1H:5V	90	4,680	1,318	15,143	81,813
1	PEAD	80,000	1,676	20,000	0,490	1,826	134,543	1H:5V	90	6,240	1,758	20,191	105,846

R-4-10													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	84,579	1,703	4,579	0,490	1,853	141,770	1H:5V	90	6,597	1,859	21,346	111,429
1	PEAD	97,687	1,697	13,108	0,490	1,847	162,624	1H:5V	90	7,620	2,147	24,655	127,582
1	PEAD	100,000	1,694	2,313	0,490	1,844	166,292	1H:5V	90	7,800	2,197	25,238	130,420
1	PEAD	120,000	1,662	20,000	0,490	1,812	197,573	1H:5V	90	9,360	2,637	30,286	154,527
1	PEAD	140,000	1,439	20,000	0,490	1,589	225,855	1H:5V	90	10,920	3,076	35,334	175,634
1	PEAD	147,663	1,337	7,663	0,490	1,487	235,259	1H:5V	90	11,518	3,245	37,268	182,289
1	PEAD	160,000	1,181	12,337	0,490	1,331	248,690	1H:5V	90	12,480	3,516	40,381	191,295
1	PEAD	180,000	1,140	20,000	0,490	1,290	268,404	1H:5V	90	14,040	3,955	45,429	203,835
1	PEAD	200,000	1,099	20,000	0,490	1,249	287,294	1H:5V	90	15,600	4,395	50,477	215,550
1	PEAD	204,135	1,090	4,135	0,490	1,240	291,096	1H:5V	90	15,923	4,486	51,520	217,869

3.62 RAMAL R-4-12

R-4-12													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,600	0,000	0,755	1,750	0,000	1H:5V	355	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,489	20,000	0,755	1,639	37,085	1H:5V	355	2,355	2,029	9,471	21,250
1	PEAD	40,000	1,470	20,000	0,755	1,620	72,311	1H:5V	355	4,710	4,059	18,941	40,642
1	PEAD	43,727	1,483	3,727	0,755	1,633	78,860	1H:5V	355	5,149	4,437	20,706	44,240
1	PEAD	56,892	1,540	13,165	0,755	1,690	102,646	1H:5V	355	6,699	5,773	26,940	57,603
1	PEAD	60,000	1,557	3,108	0,755	1,707	108,425	1H:5V	355	7,065	6,088	28,412	60,921
1	PEAD	80,000	1,665	20,000	0,755	1,815	147,432	1H:5V	355	9,420	8,118	37,882	84,093
1	PEAD	100,000	1,765	20,000	0,755	1,915	189,516	1H:5V	355	11,775	10,147	47,353	110,343
1	PEAD	120,000	1,864	20,000	0,755	2,014	234,627	1H:5V	355	14,130	12,177	56,823	139,619
1	PEAD	140,000	1,971	20,000	0,755	2,121	282,956	1H:5V	355	16,485	14,206	66,294	172,114
1	PEAD	160,000	2,063	20,000	0,755	2,213	334,470	1H:5V	355	18,840	16,236	75,764	207,793
1	PEAD	180,000	2,346	20,000	0,755	2,496	392,277	1H:5V	355	21,195	18,265	85,235	249,766
1	PEAD	199,115	3,054	19,115	0,755	3,204	472,738	1H:5V	355	23,446	20,205	94,286	315,093
1	PEAD	200,000	3,054	0,885	0,755	3,204	477,418	1H:5V	355	23,550	20,295	94,705	319,072
1	PEAD	200,885	3,046	0,885	0,755	3,196	482,077	1H:5V	355	23,654	20,385	95,124	323,030
1	PEAD	220,000	2,956	19,115	0,755	3,106	577,063	1H:5V	355	25,905	22,324	104,176	402,882
1	PEAD	240,000	2,676	20,000	0,755	2,826	661,356	1H:5V	355	28,260	24,354	113,646	471,341
1	PEAD	260,000	2,350	20,000	0,755	2,500	730,040	1H:5V	355	30,615	26,383	123,117	524,190
1	PEAD	280,000	2,068	20,000	0,755	2,218	788,000	1H:5V	355	32,970	28,413	132,587	566,316

R-4-12													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	300,000	1,786	20,000	0,755	1,936	836,698	1H:5V	355	35,325	30,442	142,058	599,179
1	PEAD	320,000	1,552	20,000	0,755	1,702	877,455	1H:5V	355	37,680	32,472	151,528	624,101
1	PEAD	340,000	1,393	20,000	0,755	1,543	912,510	1H:5V	355	40,035	34,501	160,999	643,322
1	PEAD	346,779	1,374	6,779	0,755	1,524	923,547	1H:5V	355	40,833	35,189	164,209	648,992
1	PEAD	348,257	1,365	1,478	0,755	1,515	925,925	1H:5V	355	41,007	35,339	164,909	650,200
1	PEAD	349,084	1,367	0,827	0,600	1,517	927,154	1H:5V	200	41,095	35,403	165,245	650,915
1	PEAD	351,389	1,438	2,305	0,600	1,588	930,413	1H:5V	200	41,313	35,523	166,028	652,980
1	PEAD	360,000	1,789	8,611	0,600	1,939	944,934	1H:5V	200	42,127	35,973	168,954	663,040
1	PEAD	373,859	1,937	13,859	0,600	2,087	972,919	1H:5V	200	43,436	36,698	173,664	683,847
1	PEAD	380,000	1,859	6,141	0,600	2,009	985,619	1H:5V	200	44,017	37,019	175,750	693,365
1	PEAD	385,482	1,465	5,482	0,600	1,615	995,221	1H:5V	200	44,535	37,306	177,613	700,128
1	PEAD	389,273	1,272	3,791	0,600	1,422	1.000,431	1H:5V	200	44,893	37,504	178,901	703,374
1	PEAD	393,064	1,211	3,791	0,600	1,361	1.005,064	1H:5V	200	45,251	37,702	180,189	706,044
1	PEAD	393,968	1,213	0,904	0,600	1,363	1.006,139	1H:5V	200	45,337	37,750	180,496	706,650
1	PEAD	400,000	1,229	6,032	0,600	1,379	1.013,368	1H:5V	200	45,907	38,065	182,546	710,755
1	PEAD	420,000	1,390	20,000	0,600	1,540	1.039,429	1H:5V	200	47,797	39,111	189,342	726,455
1	PEAD	424,151	1,498	4,151	0,600	1,648	1.045,511	1H:5V	200	48,189	39,328	190,752	730,387
1	PEAD	427,311	1,535	3,160	0,600	1,685	1.050,426	1H:5V	200	48,487	39,493	191,826	733,665
1	PEAD	430,471	1,506	3,160	0,600	1,656	1.055,357	1H:5V	200	48,786	39,658	192,900	736,959
1	PEAD	440,000	1,393	9,529	0,600	1,543	1.069,384	1H:5V	200	49,687	40,157	196,138	746,050
1	PEAD	460,000	1,250	20,000	0,600	1,400	1.095,723	1H:5V	200	51,577	41,203	202,934	762,030
1	PEAD	480,000	1,234	20,000	0,600	1,384	1.120,178	1H:5V	200	53,467	42,248	209,729	776,125
1	PEAD	500,000	1,400	20,000	0,600	1,550	1.146,418	1H:5V	200	55,357	43,294	216,525	792,004
1	PEAD	507,474	1,486	7,474	0,600	1,636	1.157,358	1H:5V	200	56,063	43,685	219,065	799,073
1	PEAD	509,526	1,510	2,052	0,600	1,660	1.160,501	1H:5V	200	56,257	43,792	219,762	801,153
1	PEAD	511,578	1,484	2,052	0,600	1,634	1.163,643	1H:5V	200	56,451	43,900	220,459	803,232
1	PEAD	520,000	1,304	8,422	0,600	1,454	1.175,474	1H:5V	200	57,247	44,340	223,321	810,700
1	PEAD	540,000	1,261	20,000	0,600	1,411	1.200,874	1H:5V	200	59,137	45,386	230,117	825,740
1	PEAD	560,000	1,322	20,000	0,600	1,472	1.226,487	1H:5V	200	61,027	46,432	236,913	840,994
1	PEAD	580,000	1,372	20,000	0,600	1,522	1.253,418	1H:5V	200	62,917	47,478	243,709	857,564
1	PEAD	600,000	1,423	20,000	0,600	1,573	1.281,570	1H:5V	200	64,807	48,523	250,504	875,356
1	PEAD	620,000	1,474	20,000	0,600	1,624	1.310,975	1H:5V	200	66,697	49,569	257,300	894,401
1	PEAD	639,965	1,524	19,965	0,600	1,674	1.341,589	1H:5V	200	68,583	50,613	264,084	914,673
1	PEAD	640,000	1,525	0,035	0,600	1,675	1.341,643	1H:5V	200	68,587	50,615	264,096	914,710
1	PEAD	660,000	1,653	20,000	0,600	1,803	1.374,624	1H:5V	200	70,477	51,661	270,892	937,331
1	PEAD	680,000	1,815	20,000	0,600	1,965	1.411,456	1H:5V	200	72,367	52,707	277,688	963,803

R-4-12													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	682,006	1,829	2,006	0,600	1,979	1.415,390	1H:5V	200	72,556	52,812	278,369	966,697
1	PEAD	696,642	2,009	14,636	0,600	2,159	1.446,113	1H:5V	200	73,939	53,577	283,343	989,839
1	PEAD	700,000	1,974	3,358	0,580	2,124	1.453,437	1H:5V	180	74,252	53,743	284,456	995,486
1	PEAD	720,000	1,981	20,000	0,580	2,131	1.496,221	1H:5V	180	76,082	54,673	290,925	1.028,532
1	PEAD	740,000	2,061	20,000	0,580	2,211	1.540,264	1H:5V	180	77,912	55,603	297,394	1.062,837
1	PEAD	760,000	2,141	20,000	0,580	2,291	1.586,650	1H:5V	180	79,742	56,533	303,862	1.099,486
1	PEAD	780,000	2,221	20,000	0,580	2,371	1.635,430	1H:5V	180	81,572	57,463	310,331	1.138,529
1	PEAD	800,000	2,301	20,000	0,580	2,451	1.686,656	1H:5V	180	83,402	58,393	316,800	1.180,017
1	PEAD	820,000	2,381	20,000	0,580	2,531	1.740,378	1H:5V	180	85,232	59,323	323,269	1.224,001
1	PEAD	840,000	2,461	20,000	0,580	2,611	1.796,648	1H:5V	180	87,062	60,252	329,737	1.270,534
1	PEAD	843,068	2,473	3,068	0,580	2,623	1.805,508	1H:5V	180	87,342	60,395	330,730	1.277,899
1	PEAD	860,000	2,471	16,932	0,580	2,621	1.854,538	1H:5V	180	88,892	61,182	336,206	1.318,686
1	PEAD	871,063	2,410	11,063	0,580	2,560	1.886,010	1H:5V	180	89,904	61,697	339,784	1.344,772
1	PEAD	880,000	2,269	8,937	0,580	2,419	1.910,001	1H:5V	180	90,722	62,112	342,675	1.364,411
1	PEAD	900,000	1,926	20,000	0,580	2,076	1.956,395	1H:5V	180	92,552	63,042	349,143	1.401,067
1	PEAD	920,000	1,781	20,000	0,580	1,931	1.995,713	1H:5V	180	94,382	63,972	355,612	1.430,648
1	PEAD	940,000	1,814	20,000	0,580	1,964	2.033,476	1H:5V	180	96,212	64,902	362,081	1.458,673
1	PEAD	960,000	1,461	20,000	0,580	1,611	2.067,116	1H:5V	180	98,042	65,832	368,550	1.482,576
1	PEAD	972,443	1,250	12,443	0,580	1,400	2.083,649	1H:5V	180	99,180	66,411	372,574	1.493,051
1	PEAD	973,008	1,242	0,565	0,580	1,392	2.084,327	1H:5V	180	99,232	66,437	372,757	1.493,453
1	PEAD	973,573	1,238	0,565	0,580	1,388	2.085,001	1H:5V	180	99,283	66,463	372,940	1.493,852
1	PEAD	980,000	1,204	6,427	0,580	1,354	2.092,528	1H:5V	180	99,872	66,762	375,018	1.498,250
1	PEAD	983,368	1,180	3,368	0,580	1,330	2.096,362	1H:5V	180	100,180	66,919	376,108	1.500,445
1	PEAD	1.000,000	1,347	16,632	0,510	1,497	2.115,796	1H:5V	110	101,614	67,531	381,025	1.512,756
1	PEAD	1.020,000	1,231	20,000	0,510	1,381	2.138,770	1H:5V	110	103,234	68,076	386,381	1.528,020
1	PEAD	1.038,881	1,118	18,881	0,510	1,268	2.158,161	1H:5V	110	104,764	68,589	391,437	1.540,131
1	PEAD	1.040,000	1,128	1,119	0,510	1,278	2.159,250	1H:5V	110	104,854	68,620	391,737	1.540,789
1	PEAD	1.040,292	1,130	0,292	0,510	1,280	2.159,536	1H:5V	110	104,878	68,628	391,815	1.540,962
1	PEAD	1.041,703	1,135	1,411	0,510	1,285	2.160,923	1H:5V	110	104,992	68,666	392,193	1.541,806
1	PEAD	1.060,000	1,139	18,297	0,510	1,289	2.178,994	1H:5V	110	106,474	69,164	397,093	1.552,823
1	PEAD	1.080,000	1,222	20,000	0,510	1,372	2.199,653	1H:5V	110	108,094	69,708	402,450	1.565,771
1	PEAD	1.100,000	1,283	20,000	0,510	1,433	2.221,830	1H:5V	110	109,714	70,252	407,806	1.580,238
1	PEAD	1.120,000	1,362	20,000	0,510	1,512	2.245,529	1H:5V	110	111,334	70,796	413,162	1.596,226
1	PEAD	1.140,000	1,420	20,000	0,510	1,570	2.270,749	1H:5V	110	112,954	71,340	418,518	1.613,736
1	PEAD	1.152,235	1,467	12,235	0,510	1,617	2.286,907	1H:5V	110	113,945	71,673	421,795	1.625,178
1	PEAD	1.157,623	1,636	5,388	0,510	1,786	2.294,710	1H:5V	110	114,382	71,819	423,238	1.630,903

R-4-12													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	1.160,000	1,802	2,377	0,510	1,952	2.298,640	1H:5V	110	114,574	71,884	423,875	1.633,917
1	PEAD	1.163,011	2,093	3,011	0,510	2,243	2.304,523	1H:5V	110	114,818	71,966	424,681	1.638,639
1	PEAD	1.172,177	1,117	9,166	0,510	1,267	2.318,810	1H:5V	110	115,561	72,215	427,136	1.649,392
1	PEAD	1.175,861	1,110	3,684	0,510	1,260	2.322,360	1H:5V	110	115,859	72,315	428,122	1.651,522
1	PEAD	1.180,000	1,941	4,139	0,510	2,091	2.328,363	1H:5V	110	116,194	72,428	429,231	1.655,930
1	PEAD	1.185,962	1,110	5,962	0,510	1,260	2.337,011	1H:5V	110	116,677	72,590	430,828	1.662,279
1	PEAD	1.200,000	1,365	14,038	0,510	1,515	2.352,396	1H:5V	110	117,814	72,972	434,587	1.672,252
1	PEAD	1.220,000	1,389	20,000	0,510	1,539	2.377,298	1H:5V	110	119,434	73,516	439,944	1.689,444
1	PEAD	1.233,499	1,210	13,499	0,510	1,360	2.392,972	1H:5V	110	120,528	73,883	443,559	1.699,913
1	PEAD	1.240,000	1,336	6,501	0,510	1,486	2.400,328	1H:5V	110	121,054	74,060	445,300	1.704,763
1	PEAD	1.245,119	1,859	5,119	0,510	2,009	2.408,086	1H:5V	110	121,469	74,200	446,671	1.710,548
1	PEAD	1.256,739	2,997	11,620	0,510	3,147	2.442,978	1H:5V	110	122,410	74,516	449,783	1.740,960
1	PEAD	1.260,000	2,957	3,261	0,510	3,107	2.456,213	1H:5V	110	122,674	74,604	450,656	1.752,938
1	PEAD	1.280,000	2,172	20,000	0,510	2,322	2.518,271	1H:5V	110	124,294	75,148	456,012	1.807,285
1	PEAD	1.288,103	1,308	8,103	0,510	1,458	2.532,173	1H:5V	110	124,951	75,369	458,182	1.818,063
1	PEAD	1.295,077	1,597	6,974	0,510	1,747	2.541,483	1H:5V	110	125,515	75,559	460,050	1.824,686
1	PEAD	1.300,000	1,858	4,923	0,510	2,008	2.549,685	1H:5V	110	125,914	75,692	461,369	1.830,989
1	PEAD	1.302,051	1,995	2,051	0,510	2,145	2.553,628	1H:5V	110	126,080	75,748	461,918	1.834,141
1	PEAD	1.320,000	1,787	17,949	0,510	1,937	2.587,304	1H:5V	110	127,534	76,237	466,725	1.860,897
1	PEAD	1.340,000	1,319	20,000	0,510	1,469	2.616,494	1H:5V	110	129,154	76,781	472,081	1.882,377
1	PEAD	1.350,481	1,556	10,481	0,510	1,706	2.630,292	1H:5V	110	130,003	77,066	474,888	1.892,135
1	PEAD	1.355,834	1,873	5,353	0,510	2,023	2.639,131	1H:5V	110	130,437	77,211	476,322	1.898,910
1	PEAD	1.360,000	1,948	4,166	0,510	2,098	2.647,047	1H:5V	110	130,774	77,325	477,437	1.905,220
1	PEAD	1.361,187	1,964	1,187	0,510	2,114	2.649,375	1H:5V	110	130,870	77,357	477,755	1.907,090
1	PEAD	1.380,000	1,545	18,813	0,510	1,695	2.681,461	1H:5V	110	132,394	77,869	482,794	1.931,923
1	PEAD	1.400,000	1,625	20,000	0,510	1,775	2.711,205	1H:5V	110	134,014	78,413	488,150	1.953,957
1	PEAD	1.420,000	1,705	20,000	0,510	1,855	2.742,901	1H:5V	110	135,634	78,957	493,506	1.977,943
1	PEAD	1.420,609	1,708	0,609	0,510	1,858	2.743,898	1H:5V	110	135,684	78,973	493,669	1.978,705
1	PEAD	1.432,681	1,461	12,072	0,510	1,611	2.761,877	1H:5V	110	136,661	79,302	496,902	1.992,030
1	PEAD	1.440,000	1,447	7,319	0,510	1,597	2.771,630	1H:5V	110	137,254	79,501	498,862	1.998,962
1	PEAD	1.460,000	1,408	20,000	0,510	1,558	2.797,676	1H:5V	110	138,874	80,045	504,219	2.017,297
1	PEAD	1.480,000	1,338	20,000	0,510	1,488	2.822,494	1H:5V	110	140,494	80,589	509,575	2.034,405
1	PEAD	1.500,000	1,208	20,000	0,510	1,358	2.845,125	1H:5V	110	142,114	81,133	514,931	2.049,325
1	PEAD	1.520,000	1,115	20,000	0,510	1,265	2.865,391	1H:5V	110	143,734	81,677	520,288	2.061,881
1	PEAD	1.533,449	1,159	13,449	0,510	1,309	2.878,675	1H:5V	110	144,824	82,043	523,889	2.069,980

3.63 RAMAL R-4-12-1

R-4-12-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,365	0,000	0,600	1,515	0,000	1H:5V	200	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,492	20,000	0,600	1,642	28,925	1H:5V	200	1,890	1,046	6,796	18,565
1	PEAD	40,000	1,629	20,000	0,600	1,779	61,173	1H:5V	200	3,780	2,092	13,592	40,453
1	PEAD	60,000	1,362	20,000	0,600	1,512	91,821	1H:5V	200	5,670	3,138	20,388	60,741
1	PEAD	72,313	1,832	12,313	0,600	1,982	112,379	1H:5V	200	6,834	3,781	24,571	74,921
1	PEAD	74,891	1,946	2,578	0,600	2,096	117,678	1H:5V	200	7,077	3,916	25,447	78,885
1	PEAD	77,642	1,831	2,751	0,600	1,981	123,331	1H:5V	200	7,337	4,060	26,382	83,113
1	PEAD	80,000	1,673	2,358	0,600	1,823	127,731	1H:5V	200	7,560	4,183	27,183	86,291
1	PEAD	80,393	1,641	0,393	0,600	1,791	128,414	1H:5V	200	7,597	4,204	27,317	86,770
1	PEAD	85,419	1,264	5,026	0,600	1,414	135,864	1H:5V	200	8,072	4,467	29,025	91,616
1	PEAD	96,459	1,200	11,040	0,600	1,350	149,237	1H:5V	200	9,115	5,044	32,776	99,272

3.64 RAMAL R-4-12-2

R-4-12-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,180	0,000	0,580	1,330	0,000	1H:5V	180	0,000	0,000	0,000	0,000
1	PEAD	16,727	1,861	16,727	0,580	2,011	25,930	1H:5V	180	1,531	0,778	5,410	17,786
1	PEAD	20,000	1,961	3,273	0,580	2,111	32,625	1H:5V	180	1,830	0,930	6,469	22,887
1	PEAD	21,533	1,951	1,533	0,580	2,101	35,857	1H:5V	180	1,970	1,001	6,965	25,373
1	PEAD	26,339	1,837	4,806	0,580	1,987	45,574	1H:5V	180	2,410	1,225	8,519	32,750
1	PEAD	40,000	1,368	13,661	0,580	1,518	68,001	1H:5V	180	3,660	1,860	12,937	48,526
1	PEAD	60,000	1,219	20,000	0,580	1,369	93,103	1H:5V	180	5,490	2,790	19,406	63,890
1	PEAD	78,315	1,209	18,315	0,580	1,359	114,407	1H:5V	180	7,166	3,641	25,330	76,277
1	PEAD	80,000	1,194	1,685	0,580	1,344	116,343	1H:5V	180	7,320	3,720	25,875	77,393
1	PEAD	81,064	1,196	1,064	0,580	1,346	117,558	1H:5V	180	7,417	3,769	26,219	78,090
1	PEAD	83,813	1,216	2,749	0,580	1,366	120,731	1H:5V	180	7,669	3,897	27,108	79,924
1	PEAD	96,451	1,205	12,638	0,580	1,355	135,382	1H:5V	180	8,825	4,485	31,196	88,422
1	PEAD	100,000	1,212	3,549	0,580	1,362	139,489	1H:5V	180	9,150	4,650	32,344	90,801
1	PEAD	105,439	1,210	5,439	0,580	1,360	145,797	1H:5V	180	9,648	4,903	34,103	94,461
1	PEAD	111,642	1,221	6,203	0,580	1,371	153,023	1H:5V	180	10,215	5,191	36,109	98,667
1	PEAD	113,629	1,234	1,987	0,580	1,384	155,365	1H:5V	180	10,397	5,283	36,752	100,041

R-4-12-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	115,616	1,242	1,987	0,580	1,392	157,730	1H:5V	180	10,579	5,376	37,394	101,439
1	PEAD	120,000	1,237	4,384	0,580	1,387	162,956	1H:5V	180	10,980	5,580	38,812	104,530
1	PEAD	140,000	1,373	20,000	0,580	1,523	188,321	1H:5V	180	12,810	6,510	45,281	120,157
1	PEAD	144,573	1,387	4,573	0,580	1,537	194,520	1H:5V	180	13,228	6,722	46,760	124,130
1	PEAD	158,634	1,366	14,061	0,580	1,516	213,522	1H:5V	180	14,515	7,376	51,308	136,286
1	PEAD	160,000	1,363	1,366	0,580	1,513	215,349	1H:5V	180	14,640	7,439	51,750	137,448
1	PEAD	180,000	1,244	20,000	0,580	1,394	240,674	1H:5V	180	16,470	8,369	58,219	153,036
1	PEAD	200,000	1,195	20,000	0,580	1,345	264,065	1H:5V	180	18,300	9,299	64,687	166,689
1	PEAD	201,520	1,195	1,520	0,580	1,345	265,800	1H:5V	180	18,439	9,370	65,179	167,684
1	PEAD	205,189	1,265	3,669	0,580	1,415	270,136	1H:5V	180	18,775	9,541	66,366	170,233
1	PEAD	208,858	1,469	3,669	0,580	1,619	275,060	1H:5V	180	19,111	9,711	67,552	173,371
1	PEAD	218,313	2,170	9,455	0,580	2,320	293,428	1H:5V	180	19,976	10,151	70,610	187,136
1	PEAD	220,000	1,520	1,687	0,580	1,670	296,758	1H:5V	180	20,130	10,229	71,156	189,645
1	PEAD	226,633	2,203	6,633	0,580	2,353	310,019	1H:5V	180	20,737	10,538	73,301	199,676

3.65 RAMAL R-4-12-3

R-4-12-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,009	0,000	0,525	2,159	0,000	1H:5V	125	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,937	20,000	0,525	2,087	40,325	1H:5V	125	1,665	0,624	5,590	32,200
1	PEAD	40,000	1,683	20,000	0,525	1,833	76,336	1H:5V	125	3,330	1,248	11,181	60,086
1	PEAD	60,000	1,504	20,000	0,525	1,654	106,834	1H:5V	125	4,995	1,872	16,771	82,459
1	PEAD	80,000	1,245	20,000	0,525	1,395	132,205	1H:5V	125	6,660	2,497	22,362	99,705
1	PEAD	91,107	1,125	11,107	0,525	1,275	143,956	1H:5V	125	7,585	2,843	25,466	106,944

3.66 RAMAL R-4-14

R-4-14													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	3,077	0,000	0,625	3,227	0,000	1H:5V	225	0,000	0,000	0,000	0,000
1	PEAD	18,251	2,804	18,251	0,625	2,954	78,471	1H:5V	225	1,793	1,090	6,580	68,282

R-4-14													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	20,000	2,687	1,749	0,600	2,837	84,508	1H:5V	200	1,962	1,188	7,192	73,385
1	PEAD	21,797	2,652	1,797	0,600	2,802	90,405	1H:5V	200	2,132	1,282	7,803	78,352
1	PEAD	40,000	2,503	18,203	0,600	2,653	147,298	1H:5V	200	3,852	2,234	13,988	125,815
1	PEAD	60,000	2,759	20,000	0,600	2,909	211,671	1H:5V	200	5,742	3,279	20,784	179,829
1	PEAD	63,621	2,765	3,621	0,600	2,915	224,139	1H:5V	200	6,084	3,469	22,014	190,420
1	PEAD	80,000	2,645	16,379	0,600	2,795	278,909	1H:5V	200	7,632	4,325	27,580	236,706
1	PEAD	100,000	2,617	20,000	0,600	2,767	343,217	1H:5V	200	9,522	5,371	34,376	290,655
1	PEAD	120,000	1,686	20,000	0,600	1,836	392,890	1H:5V	200	11,412	6,417	41,172	329,967
1	PEAD	128,388	1,467	8,388	0,600	1,617	406,600	1H:5V	200	12,204	6,856	44,022	339,332
1	PEAD	129,536	1,466	1,148	0,600	1,616	408,313	1H:5V	200	12,313	6,916	44,412	340,451
1	PEAD	130,684	1,467	1,148	0,600	1,617	410,026	1H:5V	200	12,421	6,976	44,802	341,570
1	PEAD	140,000	1,425	9,316	0,600	1,575	423,694	1H:5V	200	13,302	7,463	47,967	350,412
1	PEAD	150,552	1,307	10,552	0,600	1,457	438,150	1H:5V	200	14,299	8,015	51,553	359,401
1	PEAD	160,000	1,284	9,448	0,540	1,434	449,886	1H:5V	140	15,149	8,428	54,534	366,747
1	PEAD	180,000	1,334	20,000	0,540	1,484	474,161	1H:5V	140	16,859	9,134	60,361	382,471
1	PEAD	200,000	1,405	20,000	0,540	1,555	499,812	1H:5V	140	18,569	9,840	66,188	399,572
1	PEAD	220,000	1,237	20,000	0,540	1,387	524,382	1H:5V	140	20,279	10,545	72,015	415,592
1	PEAD	240,000	1,233	20,000	0,540	1,383	547,013	1H:5V	140	21,989	11,251	77,842	429,672
1	PEAD	260,000	1,266	20,000	0,540	1,416	569,963	1H:5V	140	23,699	11,957	83,669	444,072
1	PEAD	277,238	1,333	17,238	0,540	1,483	590,703	1H:5V	140	25,173	12,565	88,691	457,442
1	PEAD	280,000	1,347	2,762	0,540	1,497	594,152	1H:5V	140	25,409	12,662	89,496	459,710
1	PEAD	280,025	1,348	0,025	0,540	1,498	594,184	1H:5V	140	25,411	12,663	89,503	459,731
1	PEAD	282,812	1,346	2,787	0,540	1,496	597,686	1H:5V	140	25,650	12,761	90,315	462,042
1	PEAD	300,000	1,186	17,188	0,540	1,336	617,743	1H:5V	140	27,119	13,368	95,322	474,751
1	PEAD	320,000	1,174	20,000	0,540	1,324	639,183	1H:5V	140	28,829	14,074	101,149	487,640
1	PEAD	340,000	1,251	20,000	0,540	1,401	661,329	1H:5V	140	30,539	14,779	106,976	501,236
1	PEAD	360,000	1,141	20,000	0,540	1,291	683,125	1H:5V	140	32,249	15,485	112,803	514,481
1	PEAD	376,446	1,153	16,446	0,540	1,303	700,177	1H:5V	140	33,655	16,065	117,594	524,502
1	PEAD	377,529	1,146	1,083	0,540	1,296	701,302	1H:5V	140	33,748	16,103	117,910	525,165
1	PEAD	378,612	1,145	1,083	0,540	1,295	702,423	1H:5V	140	33,841	16,142	118,225	525,823
1	PEAD	380,000	1,151	1,388	0,540	1,301	703,864	1H:5V	140	33,959	16,191	118,630	526,670
1	PEAD	400,000	1,213	20,000	0,540	1,363	725,350	1H:5V	140	35,669	16,896	124,457	539,606
1	PEAD	420,000	1,374	20,000	0,540	1,524	749,301	1H:5V	140	37,379	17,602	130,284	555,006
1	PEAD	440,000	1,150	20,000	0,540	1,300	772,576	1H:5V	140	39,089	18,308	136,110	569,731
1	PEAD	446,626	1,363	6,626	0,540	1,513	780,245	1H:5V	140	39,656	18,541	138,041	574,567
1	PEAD	447,397	1,384	0,771	0,540	1,534	781,237	1H:5V	140	39,722	18,569	138,266	575,230

R-4-14													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	448,168	1,410	0,771	0,540	1,560	782,250	1H:5V	140	39,788	18,596	138,490	575,913
1	PEAD	460,000	1,647	11,832	0,540	1,797	799,675	1H:5V	140	40,799	19,013	141,937	588,279
1	PEAD	480,000	1,484	20,000	0,540	1,634	830,000	1H:5V	140	42,509	19,719	147,764	610,055
1	PEAD	500,000	1,937	20,000	0,540	2,087	864,145	1H:5V	140	44,219	20,425	153,591	635,649
1	PEAD	520,000	2,158	20,000	0,540	2,308	907,243	1H:5V	140	45,929	21,130	159,418	670,196
1	PEAD	535,596	1,182	15,596	0,540	1,332	933,645	1H:5V	140	47,263	21,681	163,962	689,931
1	PEAD	540,000	1,284	4,404	0,540	1,434	938,621	1H:5V	140	47,639	21,836	165,245	693,024
1	PEAD	560,000	1,471	20,000	0,540	1,621	964,486	1H:5V	140	49,349	22,542	171,072	710,339
1	PEAD	580,000	1,845	20,000	0,540	1,995	997,228	1H:5V	140	51,059	23,247	176,898	734,530
1	PEAD	584,497	1,929	4,497	0,540	2,079	1.005,908	1H:5V	140	51,444	23,406	178,209	741,288
1	PEAD	589,229	1,909	4,732	0,540	2,059	1.015,247	1H:5V	140	51,848	23,573	179,587	748,603
1	PEAD	593,961	1,750	4,732	0,540	1,900	1.024,019	1H:5V	140	52,253	23,740	180,966	755,353
1	PEAD	600,000	1,527	6,039	0,540	1,677	1.033,730	1H:5V	140	52,769	23,953	182,725	762,482
1	PEAD	620,000	1,179	20,000	0,540	1,329	1.059,119	1H:5V	140	54,479	24,659	188,552	779,321
1	PEAD	640,000	1,507	20,000	0,540	1,657	1.084,268	1H:5V	140	56,189	25,364	194,379	795,919
1	PEAD	649,109	2,055	9,109	0,540	2,205	1.100,696	1H:5V	140	56,968	25,686	197,033	808,453

3.67 RAMAL R-4-16

R-4-16													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,528	0,000	0,510	1,678	0,000	1H:5V	110	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,285	20,000	0,510	1,435	25,626	1H:5V	110	1,620	0,544	5,356	17,916
1	PEAD	40,000	1,395	20,000	0,510	1,545	49,717	1H:5V	110	3,240	1,088	10,713	34,296
1	PEAD	60,000	1,469	20,000	0,510	1,619	75,869	1H:5V	110	4,860	1,632	16,069	52,738
1	PEAD	80,000	1,521	20,000	0,510	1,671	103,475	1H:5V	110	6,480	2,176	21,425	72,634
1	PEAD	100,000	1,462	20,000	0,510	1,612	131,000	1H:5V	110	8,100	2,720	26,781	92,448
1	PEAD	120,000	1,424	20,000	0,510	1,574	157,401	1H:5V	110	9,720	3,264	32,138	111,138
1	PEAD	126,245	1,347	6,245	0,510	1,497	165,238	1H:5V	110	10,226	3,434	33,810	116,568

3.68 RAMAL R-4-2

R-4-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,589	0,000	0,625	2,739	0,000	1H:5V	225	0,000	0,000	0,000	0,000
1	PEAD	18,299	3,035	18,299	0,625	3,185	72,938	1H:5V	225	1,798	1,093	6,597	62,722
1	PEAD	20,000	2,651	1,701	0,625	2,801	79,809	1H:5V	225	1,965	1,194	7,211	68,644
1	PEAD	21,581	2,062	1,581	0,625	2,212	84,300	1H:5V	225	2,120	1,289	7,781	72,252
1	PEAD	24,863	1,273	3,282	0,625	1,423	90,298	1H:5V	225	2,443	1,485	8,964	76,419
1	PEAD	40,000	3,285	15,137	0,625	3,435	147,373	1H:5V	225	3,930	2,389	14,421	125,043
1	PEAD	40,902	3,288	0,902	0,625	3,438	153,016	1H:5V	225	4,019	2,442	14,746	130,182
1	PEAD	48,674	3,318	7,772	0,625	3,468	202,405	1H:5V	225	4,782	2,906	17,548	175,233
1	PEAD	60,000	3,205	11,326	0,625	3,355	271,567	1H:5V	225	5,895	3,583	21,632	238,072
1	PEAD	80,000	3,103	20,000	0,625	3,253	380,863	1H:5V	225	7,860	4,777	28,842	336,203
1	PEAD	100,000	2,623	20,000	0,625	2,773	465,189	1H:5V	225	9,825	5,971	36,053	409,364
1	PEAD	120,000	2,605	20,000	0,625	2,755	530,298	1H:5V	225	11,790	7,166	43,263	463,308
1	PEAD	140,000	2,624	20,000	0,625	2,774	595,425	1H:5V	225	13,755	8,360	50,474	517,270
1	PEAD	160,000	2,548	20,000	0,625	2,698	659,573	1H:5V	225	15,720	9,554	57,684	570,253
1	PEAD	180,000	1,845	20,000	0,625	1,995	711,423	1H:5V	225	17,685	10,748	64,895	610,938
1	PEAD	200,000	1,925	20,000	0,625	2,075	753,432	1H:5V	225	19,650	11,943	72,105	641,782
1	PEAD	220,000	1,993	20,000	0,625	2,143	797,590	1H:5V	225	21,615	13,137	79,316	674,775
1	PEAD	240,000	1,997	20,000	0,625	2,147	842,807	1H:5V	225	23,580	14,331	86,526	708,827
1	PEAD	260,000	1,984	20,000	0,625	2,134	887,890	1H:5V	225	25,545	15,525	93,737	742,745
1	PEAD	280,000	1,829	20,000	0,625	1,979	930,537	1H:5V	225	27,510	16,720	100,947	774,227
1	PEAD	291,424	1,799	11,424	0,625	1,949	953,374	1H:5V	225	28,632	17,402	105,066	790,687
1	PEAD	300,000	1,614	8,576	0,625	1,764	969,251	1H:5V	225	29,475	17,914	108,158	801,776
1	PEAD	314,380	1,382	14,380	0,625	1,532	991,912	1H:5V	225	30,888	18,773	113,342	816,410
1	PEAD	320,000	1,405	5,620	0,625	1,555	1.000,012	1H:5V	225	31,440	19,108	115,368	821,372
1	PEAD	331,725	1,451	11,725	0,625	1,601	1.017,416	1H:5V	225	32,592	19,808	119,595	832,230
1	PEAD	332,713	1,447	0,988	0,625	1,597	1.018,909	1H:5V	225	32,689	19,867	119,952	833,172
1	PEAD	333,701	1,447	0,988	0,625	1,597	1.020,399	1H:5V	225	32,786	19,926	120,308	834,110
1	PEAD	334,393	1,448	0,692	0,625	1,598	1.021,443	1H:5V	225	32,854	19,968	120,557	834,768
1	PEAD	340,000	1,453	5,607	0,625	1,603	1.029,924	1H:5V	225	33,405	20,303	122,579	840,119
1	PEAD	360,000	1,474	20,000	0,625	1,624	1.060,507	1H:5V	225	35,370	21,497	129,789	859,537
1	PEAD	380,000	1,342	20,000	0,625	1,492	1.089,709	1H:5V	225	37,335	22,691	137,000	877,574
1	PEAD	400,000	1,257	20,000	0,625	1,407	1.116,239	1H:5V	225	39,300	23,885	144,210	892,939
1	PEAD	420,000	1,495	20,000	0,625	1,645	1.144,685	1H:5V	225	41,265	25,080	151,421	910,220
1	PEAD	440,000	1,602	20,000	0,625	1,752	1.177,468	1H:5V	225	43,230	26,274	158,631	931,838

R-4-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	460,000	1,419	20,000	0,625	1,569	1.209,286	1H:5V	225	45,195	27,468	165,842	952,491
1	PEAD	480,000	1,251	20,000	0,625	1,401	1.236,698	1H:5V	225	47,160	28,662	173,052	968,738
1	PEAD	500,000	1,447	20,000	0,625	1,597	1.264,462	1H:5V	225	49,125	29,857	180,263	985,337
1	PEAD	520,000	1,643	20,000	0,625	1,793	1.297,180	1H:5V	225	51,090	31,051	187,473	1.006,890
1	PEAD	540,000	1,629	20,000	0,625	1,779	1.332,264	1H:5V	225	53,055	32,245	194,684	1.030,809
1	PEAD	560,000	1,240	20,000	0,625	1,390	1.362,264	1H:5V	225	55,020	33,439	201,894	1.049,644
1	PEAD	561,309	1,226	1,309	0,625	1,376	1.363,897	1H:5V	225	55,149	33,518	202,366	1.050,546
1	PEAD	561,545	1,225	0,236	0,625	1,375	1.364,189	1H:5V	225	55,172	33,532	202,451	1.050,706
1	PEAD	562,297	1,187	0,752	0,580	1,337	1.365,080	1H:5V	180	55,243	33,572	202,709	1.051,210
1	PEAD	563,285	1,193	0,988	0,580	1,343	1.366,203	1H:5V	180	55,334	33,618	203,028	1.051,852
1	PEAD	580,000	1,260	16,715	0,580	1,410	1.385,885	1H:5V	180	56,863	34,395	208,434	1.063,396
1	PEAD	600,000	1,331	20,000	0,580	1,481	1.411,016	1H:5V	180	58,693	35,325	214,903	1.078,789
1	PEAD	620,000	1,360	20,000	0,580	1,510	1.437,311	1H:5V	180	60,523	36,255	221,372	1.095,346
1	PEAD	640,000	1,443	20,000	0,580	1,593	1.464,944	1H:5V	180	62,353	37,185	227,841	1.113,242
1	PEAD	660,000	1,457	20,000	0,580	1,607	1.493,744	1H:5V	180	64,183	38,115	234,309	1.132,304
1	PEAD	680,000	1,561	20,000	0,580	1,711	1.524,008	1H:5V	180	66,013	39,044	240,778	1.152,831
1	PEAD	700,000	1,397	20,000	0,580	1,547	1.553,546	1H:5V	180	67,843	39,974	247,247	1.172,631
1	PEAD	704,528	1,392	4,528	0,580	1,542	1.559,763	1H:5V	180	68,257	40,185	248,711	1.176,643
1	PEAD	713,497	1,239	8,969	0,525	1,389	1.570,907	1H:5V	125	69,041	40,533	251,415	1.183,841
1	PEAD	714,248	1,229	0,751	0,525	1,379	1.571,740	1H:5V	125	69,103	40,557	251,625	1.184,369
1	PEAD	714,999	1,225	0,751	0,525	1,375	1.572,568	1H:5V	125	69,166	40,580	251,835	1.184,892
1	PEAD	720,000	1,215	5,001	0,525	1,365	1.578,042	1H:5V	125	69,582	40,736	253,233	1.188,335
1	PEAD	728,790	1,197	8,790	0,525	1,347	1.587,532	1H:5V	125	70,314	41,011	255,690	1.194,254
1	PEAD	730,667	1,186	1,877	0,525	1,336	1.589,530	1H:5V	125	70,470	41,069	256,215	1.195,489
1	PEAD	732,544	1,161	1,877	0,525	1,311	1.591,492	1H:5V	125	70,627	41,128	256,739	1.196,688
1	PEAD	740,000	1,146	7,456	0,525	1,296	1.599,128	1H:5V	125	71,247	41,360	258,823	1.201,295
1	PEAD	760,000	1,226	20,000	0,525	1,376	1.620,302	1H:5V	125	72,912	41,985	264,414	1.214,344
1	PEAD	779,845	1,254	19,845	0,525	1,404	1.642,453	1H:5V	125	74,564	42,604	269,961	1.228,434

3.69 RAMAL R-4-4

R-4-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,535	0,000	0,755	2,685	0,000	1H:5V	355	0,000	0,000	0,000	0,000

R-4-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	20,000	2,427	20,000	0,755	2,577	67,428	1H:5V	355	2,355	2,029	9,471	51,594
1	PEAD	39,056	1,898	19,056	0,755	2,048	121,347	1H:5V	355	4,599	3,963	18,494	90,425
1	PEAD	39,506	1,863	0,450	0,755	2,013	122,408	1H:5V	355	4,652	4,009	18,707	91,129
1	PEAD	40,000	1,900	0,494	0,540	2,050	123,464	1H:5V	140	4,702	4,043	18,896	91,906
1	PEAD	42,475	2,009	2,475	0,540	2,159	128,471	1H:5V	140	4,914	4,130	19,617	95,854
1	PEAD	45,894	1,631	3,419	0,540	1,781	134,786	1H:5V	140	5,206	4,251	20,613	100,708
1	PEAD	60,000	1,388	14,106	0,540	1,538	155,238	1H:5V	140	6,412	4,748	24,723	115,129
1	PEAD	63,859	1,140	3,859	0,540	1,290	159,739	1H:5V	140	6,742	4,884	25,847	117,981

3.70 RAMAL R-4-6

R-4-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,616	0,000	0,540	2,766	0,000	1H:5V	140	0,000	0,000	0,000	0,000
1	PEAD	14,198	1,968	14,198	0,540	2,118	35,954	1H:5V	140	1,214	0,501	4,136	29,884
1	PEAD	15,708	1,142	1,510	0,540	1,292	38,274	1H:5V	140	1,343	0,554	4,576	31,558
1	PEAD	17,218	1,159	1,510	0,540	1,309	39,845	1H:5V	140	1,472	0,608	5,016	32,484
1	PEAD	20,000	1,230	2,782	0,540	1,380	42,871	1H:5V	140	1,710	0,706	5,827	34,321
1	PEAD	40,000	1,784	20,000	0,540	1,934	72,057	1H:5V	140	3,420	1,411	11,654	54,956
1	PEAD	60,000	1,354	20,000	0,540	1,504	102,627	1H:5V	140	5,130	2,117	17,481	76,975
1	PEAD	80,000	1,443	20,000	0,540	1,593	128,950	1H:5V	140	6,840	2,823	23,307	94,748
1	PEAD	100,000	1,490	20,000	0,540	1,640	156,862	1H:5V	140	8,550	3,528	29,134	114,110
1	PEAD	120,000	1,570	20,000	0,540	1,720	186,302	1H:5V	140	10,260	4,234	34,961	135,000
1	PEAD	138,359	1,644	18,359	0,540	1,794	215,061	1H:5V	140	11,830	4,882	40,310	155,910

3.71 RAMAL R-4-8

R-4-8													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,844	0,000	0,800	1,994	0,000	1H:5V	400	0,000	0,000	0,000	0,000
1	PEAD	14,387	2,292	14,387	0,800	2,442	39,828	1H:5V	400	1,791	1,686	7,405	27,139
1	PEAD	17,892	2,236	3,505	0,800	2,386	50,683	1H:5V	400	2,228	2,096	9,208	34,902

R-4-8													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	20,000	2,014	2,108	0,800	2,164	56,706	1H:5V	400	2,490	2,343	10,293	39,066
1	PEAD	21,397	1,458	1,397	0,800	1,608	59,830	1H:5V	400	2,664	2,507	11,012	40,957
1	PEAD	40,000	1,990	18,603	0,800	2,140	101,049	1H:5V	400	4,980	4,687	20,587	65,769
1	PEAD	60,000	1,653	20,000	0,800	1,803	148,254	1H:5V	400	7,470	7,030	30,880	95,334
1	PEAD	80,000	1,419	20,000	0,800	1,569	186,655	1H:5V	400	9,960	9,373	41,173	116,095
1	PEAD	86,947	1,446	6,947	0,800	1,596	198,929	1H:5V	400	10,825	10,187	44,749	122,242
1	PEAD	100,000	1,499	13,053	0,755	1,649	222,262	1H:5V	355	12,406	11,614	51,198	134,825
1	PEAD	109,417	1,536	9,417	0,755	1,686	239,355	1H:5V	355	13,515	12,570	55,658	144,463
1	PEAD	120,000	1,579	10,583	0,755	1,729	259,170	1H:5V	355	14,761	13,644	60,669	155,899
1	PEAD	140,000	1,659	20,000	0,755	1,809	298,406	1H:5V	355	17,116	15,673	70,139	179,300
1	PEAD	160,000	1,739	20,000	0,755	1,889	340,008	1H:5V	355	19,471	17,703	79,610	205,067
1	PEAD	180,000	1,561	20,000	0,755	1,711	380,179	1H:5V	355	21,826	19,732	89,080	229,404
1	PEAD	200,000	1,558	20,000	0,755	1,708	417,682	1H:5V	355	24,181	21,762	98,551	251,073
1	PEAD	220,000	1,542	20,000	0,755	1,692	454,913	1H:5V	355	26,536	23,791	108,021	272,468
1	PEAD	240,000	1,466	20,000	0,755	1,616	490,837	1H:5V	355	28,891	25,821	117,492	292,558
1	PEAD	260,000	1,525	20,000	0,755	1,675	526,518	1H:5V	355	31,246	27,850	126,963	312,404
1	PEAD	280,000	1,649	20,000	0,755	1,799	564,831	1H:5V	355	33,601	29,880	136,433	334,883
1	PEAD	300,000	1,605	20,000	0,755	1,755	604,296	1H:5V	355	35,956	31,909	145,904	358,514
1	PEAD	320,000	1,546	20,000	0,755	1,696	642,264	1H:5V	355	38,311	33,939	155,374	380,647
1	PEAD	340,000	1,583	20,000	0,755	1,733	679,913	1H:5V	355	40,666	35,968	164,845	402,461
1	PEAD	360,000	1,610	20,000	0,755	1,760	718,486	1H:5V	355	43,021	37,998	174,315	425,200
1	PEAD	380,000	1,660	20,000	0,755	1,810	758,187	1H:5V	355	45,376	40,027	183,786	449,066
1	PEAD	400,000	1,728	20,000	0,755	1,878	799,638	1H:5V	355	47,731	42,057	193,256	474,682
1	PEAD	402,321	1,737	2,321	0,755	1,887	804,582	1H:5V	355	48,004	42,292	194,355	477,788
1	PEAD	402,830	1,738	0,509	0,755	1,888	805,670	1H:5V	355	48,064	42,344	194,596	478,473
1	PEAD	403,339	1,736	0,509	0,755	1,886	806,757	1H:5V	355	48,124	42,395	194,837	479,158
1	PEAD	420,000	1,638	16,661	0,755	1,788	841,118	1H:5V	355	50,086	44,086	202,727	500,327
1	PEAD	440,000	1,514	20,000	0,755	1,664	879,112	1H:5V	355	52,441	46,115	212,197	522,487
1	PEAD	460,000	1,422	20,000	0,755	1,572	914,024	1H:5V	355	54,796	48,145	221,668	541,564
1	PEAD	480,000	1,420	20,000	0,755	1,570	947,618	1H:5V	355	57,151	50,174	231,138	559,324
1	PEAD	488,143	1,548	8,143	0,755	1,698	962,019	1H:5V	355	58,110	51,001	234,994	567,278
1	PEAD	489,468	1,599	1,325	0,755	1,749	964,530	1H:5V	355	58,266	51,135	235,622	568,740
1	PEAD	490,793	1,648	1,325	0,755	1,798	967,138	1H:5V	355	58,422	51,270	236,249	570,299
1	PEAD	500,000	1,864	9,207	0,755	2,014	987,098	1H:5V	355	59,506	52,204	240,609	582,970
1	PEAD	520,000	1,849	20,000	0,755	1,999	1.033,501	1H:5V	355	61,861	54,233	250,079	613,538
1	PEAD	527,253	1,878	7,253	0,755	2,028	1.050,408	1H:5V	355	62,715	54,969	253,514	624,703

R-4-8													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	540,000	1,901	12,747	0,755	2,051	1.080,641	1H:5V	355	64,216	56,263	259,550	644,843
1	PEAD	560,000	1,519	20,000	0,755	1,669	1.122,711	1H:5V	355	66,571	58,292	269,020	671,079
1	PEAD	568,961	1,366	8,961	0,755	1,516	1.138,041	1H:5V	355	67,626	59,202	273,264	679,314
1	PEAD	570,000	1,360	1,039	0,755	1,510	1.139,704	1H:5V	355	67,748	59,307	273,756	680,154
1	PEAD	571,039	1,365	1,039	0,755	1,515	1.141,366	1H:5V	355	67,871	59,413	274,248	680,993
1	PEAD	580,000	1,411	8,961	0,755	1,561	1.156,011	1H:5V	355	68,926	60,322	278,491	688,544
1	PEAD	600,000	1,533	20,000	0,755	1,683	1.191,042	1H:5V	355	71,281	62,351	287,961	707,740
1	PEAD	620,000	1,647	20,000	0,755	1,797	1.229,439	1H:5V	355	73,636	64,381	297,432	730,303
1	PEAD	640,000	1,750	20,000	0,755	1,900	1.271,030	1H:5V	355	75,991	66,410	306,903	756,059
1	PEAD	660,000	1,906	20,000	0,755	2,056	1.316,572	1H:5V	355	78,346	68,440	316,373	785,767
1	PEAD	680,000	2,263	20,000	0,755	2,413	1.370,412	1H:5V	355	80,701	70,469	325,844	823,772
1	PEAD	700,000	2,325	20,000	0,755	2,475	1.431,213	1H:5V	355	83,056	72,499	335,314	868,739
1	PEAD	720,000	2,054	20,000	0,755	2,204	1.488,506	1H:5V	355	85,411	74,528	344,785	910,197
1	PEAD	740,000	2,066	20,000	0,755	2,216	1.541,414	1H:5V	355	87,766	76,558	354,255	947,270
1	PEAD	760,000	2,101	20,000	0,755	2,251	1.595,095	1H:5V	355	90,121	78,587	363,726	985,116
1	PEAD	780,000	2,039	20,000	0,755	2,189	1.648,334	1H:5V	355	92,476	80,617	373,196	1.022,521
1	PEAD	800,000	1,880	20,000	0,755	2,030	1.698,013	1H:5V	355	94,831	82,646	382,667	1.056,365
1	PEAD	820,000	2,171	20,000	0,755	2,321	1.749,879	1H:5V	355	97,186	84,676	392,137	1.092,397
1	PEAD	838,998	1,899	18,998	0,755	2,049	1.799,430	1H:5V	355	99,423	86,603	401,133	1.126,906
1	PEAD	840,000	1,914	1,002	0,715	2,064	1.801,792	1H:5V	315	99,538	86,698	401,590	1.128,524
1	PEAD	860,000	2,230	20,000	0,715	2,380	1.853,415	1H:5V	315	101,773	88,459	410,347	1.165,836
1	PEAD	880,000	2,310	20,000	0,715	2,460	1.911,453	1H:5V	315	104,008	90,221	419,103	1.209,562
1	PEAD	900,000	2,143	20,000	0,715	2,293	1.968,056	1H:5V	315	106,243	91,982	427,860	1.251,854
1	PEAD	920,000	2,223	20,000	0,715	2,373	2.023,196	1H:5V	315	108,478	93,743	436,616	1.292,682
1	PEAD	937,021	2,291	17,021	0,715	2,441	2.072,216	1H:5V	315	110,380	95,242	444,069	1.329,523
1	PEAD	940,000	2,303	2,979	0,510	2,453	2.080,247	1H:5V	110	110,667	95,413	445,120	1.336,015
1	PEAD	960,000	2,358	20,000	0,510	2,508	2.130,162	1H:5V	110	112,287	95,958	450,476	1.378,220
1	PEAD	980,000	1,870	20,000	0,510	2,020	2.173,996	1H:5V	110	113,907	96,502	455,832	1.414,344
1	PEAD	1.000,000	1,543	20,000	0,510	1,693	2.206,826	1H:5V	110	115,527	97,046	461,189	1.439,463
1	PEAD	1.020,000	1,623	20,000	0,510	1,773	2.236,522	1H:5V	110	117,147	97,590	466,545	1.461,449
1	PEAD	1.040,000	1,703	20,000	0,510	1,853	2.268,169	1H:5V	110	118,767	98,134	471,901	1.485,385
1	PEAD	1.060,000	1,596	20,000	0,510	1,746	2.299,488	1H:5V	110	120,387	98,678	477,257	1.508,994
1	PEAD	1.079,906	1,346	19,906	0,510	1,496	2.326,468	1H:5V	110	122,000	99,219	482,588	1.528,299
1	PEAD	1.080,000	1,345	0,094	0,510	1,495	2.326,581	1H:5V	110	122,007	99,222	482,614	1.528,377
1	PEAD	1.080,329	1,341	0,329	0,510	1,491	2.326,979	1H:5V	110	122,034	99,231	482,702	1.528,647
1	PEAD	1.080,752	1,337	0,423	0,510	1,487	2.327,487	1H:5V	110	122,068	99,242	482,815	1.528,993

R-4-8													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	1.100,000	1,208	19,248	0,510	1,358	2.349,257	1H:5V	110	123,627	99,766	487,970	1.543,342
1	PEAD	1.120,000	1,358	20,000	0,510	1,508	2.372,110	1H:5V	110	125,247	100,310	493,326	1.558,485
1	PEAD	1.140,000	1,426	20,000	0,510	1,576	2.397,354	1H:5V	110	126,867	100,854	498,682	1.576,019
1	PEAD	1.160,000	1,313	20,000	0,510	1,463	2.422,101	1H:5V	110	128,487	101,398	504,039	1.593,055
1	PEAD	1.179,577	1,134	19,577	0,510	1,284	2.443,233	1H:5V	110	130,073	101,931	509,282	1.606,639
1	PEAD	1.180,000	1,129	0,423	0,510	1,279	2.443,648	1H:5V	110	130,107	101,942	509,395	1.606,891
1	PEAD	1.180,423	1,123	0,423	0,510	1,273	2.444,061	1H:5V	110	130,141	101,954	509,508	1.607,141
1	PEAD	1.200,000	1,185	19,577	0,510	1,335	2.463,742	1H:5V	110	131,727	102,486	514,751	1.619,275
1	PEAD	1.220,000	1,265	20,000	0,510	1,415	2.485,336	1H:5V	110	133,347	103,030	520,107	1.633,159
1	PEAD	1.235,871	1,329	15,871	0,510	1,479	2.503,698	1H:5V	110	134,633	103,462	524,358	1.645,402

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R-4-8-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,291	0,000	0,715	2,441	0,000	1H:5V	315	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,188	20,000	0,715	2,338	57,019	1H:5V	315	2,235	1,761	8,757	42,708
1	PEAD	29,531	2,287	9,531	0,715	2,437	84,160	1H:5V	315	3,300	2,600	12,930	63,028
1	PEAD	40,000	2,463	10,469	0,715	2,613	116,426	1H:5V	315	4,470	3,522	17,513	87,803
1	PEAD	60,000	2,541	20,000	0,715	2,691	182,488	1H:5V	315	6,705	5,283	26,270	139,553
1	PEAD	80,000	2,706	20,000	0,715	2,856	252,945	1H:5V	315	8,940	7,045	35,026	195,700
1	PEAD	100,000	2,676	20,000	0,715	2,826	325,857	1H:5V	315	11,175	8,806	43,783	254,300
1	PEAD	120,000	2,554	20,000	0,715	2,704	395,993	1H:5V	315	13,410	10,567	52,540	310,124
1	PEAD	140,000	2,427	20,000	0,715	2,577	461,657	1H:5V	315	15,645	12,328	61,296	361,477
1	PEAD	158,431	2,183	18,431	0,715	2,333	516,281	1H:5V	315	17,705	13,951	69,366	402,913
1	PEAD	160,000	2,138	1,569	0,715	2,288	520,548	1H:5V	315	17,880	14,089	70,053	406,057
1	PEAD	161,569	2,095	1,569	0,715	2,245	524,703	1H:5V	315	18,055	14,227	70,740	409,089
1	PEAD	180,000	1,600	18,431	0,715	1,750	565,960	1H:5V	315	20,115	15,850	78,810	437,158
1	PEAD	200,000	1,389	20,000	0,715	1,539	600,339	1H:5V	315	22,350	17,612	87,566	457,225
1	PEAD	220,000	1,349	20,000	0,715	1,499	631,292	1H:5V	315	24,585	19,373	96,323	473,866
1	PEAD	237,566	1,344	17,566	0,715	1,494	657,955	1H:5V	315	26,548	20,920	104,014	487,960
1	PEAD	238,585	1,390	1,019	0,715	1,540	659,529	1H:5V	315	26,662	21,009	104,460	488,805
1	PEAD	239,604	1,431	1,019	0,715	1,581	661,163	1H:5V	315	26,776	21,099	104,906	489,709
1	PEAD	240,000	1,446	0,396	0,715	1,596	661,812	1H:5V	315	26,820	21,134	105,079	490,075

R-4-8-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	260,000	1,372	20,000	0,715	1,522	693,833	1H:5V	315	29,055	22,895	113,836	507,785
1	PEAD	280,000	1,415	20,000	0,715	1,565	725,437	1H:5V	315	31,290	24,656	122,593	525,077
1	PEAD	286,025	1,315	6,025	0,715	1,465	734,732	1H:5V	315	31,963	25,187	125,231	530,061

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R-4-8-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,899	0,000	0,510	2,049	0,000	1H:5V	110	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,939	20,000	0,510	2,089	38,228	1H:5V	110	1,620	0,544	5,356	30,518
1	PEAD	40,000	1,677	20,000	0,510	1,827	73,604	1H:5V	110	3,240	1,088	10,713	58,183
1	PEAD	60,000	1,386	20,000	0,510	1,536	102,149	1H:5V	110	4,860	1,632	16,069	79,018
1	PEAD	71,727	1,207	11,727	0,510	1,357	115,727	1H:5V	110	5,810	1,951	19,209	88,075
1	PEAD	72,917	1,184	1,190	0,510	1,334	116,974	1H:5V	110	5,906	1,984	19,528	88,863
1	PEAD	74,107	1,166	1,190	0,510	1,316	118,196	1H:5V	110	6,003	2,016	19,847	89,627
1	PEAD	80,000	1,126	5,893	0,510	1,276	124,071	1H:5V	110	6,480	2,176	21,425	93,230
1	PEAD	100,000	1,268	20,000	0,510	1,418	145,089	1H:5V	110	8,100	2,720	26,781	106,537
1	PEAD	120,000	1,175	20,000	0,510	1,325	166,611	1H:5V	110	9,720	3,264	32,138	120,348
1	PEAD	133,528	1,110	13,528	0,510	1,260	180,051	1H:5V	110	10,816	3,632	35,761	128,573

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R-5													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	0,000	2,601	0,000	1,100	2,751	0,000	1H:5V	500	0,000	0,000	0,000	0,000
1	PRFV	20,000	2,933	20,000	1,100	3,083	101,640	1H:5V	500	3,390	11,433	8,760	74,130
1	PRFV	40,000	3,095	20,000	1,100	3,245	224,438	1H:5V	500	6,780	22,866	17,520	169,418
1	PRFV	60,000	3,224	20,000	1,100	3,374	365,834	1H:5V	500	10,170	34,299	26,280	283,304
1	PRFV	76,376	2,955	16,376	1,100	3,105	474,308	1H:5V	500	12,946	43,660	33,453	369,253
1	PRFV	80,000	2,646	3,624	1,100	2,796	493,158	1H:5V	500	13,560	45,732	35,040	383,118
1	PRFV	95,576	2,358	15,576	1,100	2,508	560,570	1H:5V	500	16,200	54,636	41,862	429,106
1	PRFV	100,000	2,416	4,424	1,100	2,566	578,612	1H:5V	500	16,950	57,165	43,800	441,062

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	114,776	1,867	14,776	1,100	2,017	631,598	1H:5V	500	19,455	65,612	50,272	473,723
1	PRFV	115,649	1,696	0,873	1,100	1,846	634,105	1H:5V	500	19,603	66,111	50,654	475,030
1	PRFV	120,000	1,523	4,351	1,100	1,673	645,227	1H:5V	500	20,340	68,598	52,560	480,167
1	PRFV	140,000	2,539	20,000	1,100	2,689	713,268	1H:5V	500	23,730	80,031	61,320	520,698
1	PRFV	160,000	2,443	20,000	1,100	2,593	799,279	1H:5V	500	27,120	91,464	70,080	579,199
1	PRFV	164,280	2,434	4,280	1,100	2,584	817,201	1H:5V	500	27,845	93,911	71,955	591,234
1	PRFV	165,915	2,428	1,635	1,100	2,578	824,021	1H:5V	500	28,123	94,845	72,671	595,805
1	PRFV	167,550	2,415	1,635	1,100	2,565	830,808	1H:5V	500	28,400	95,780	73,387	600,343
1	PRFV	180,000	2,288	12,450	1,100	2,438	880,658	1H:5V	500	30,510	102,897	78,840	633,068
1	PRFV	189,890	2,284	9,890	1,100	2,434	918,897	1H:5V	500	32,186	108,551	83,172	657,703
1	PRFV	200,000	2,405	10,110	1,100	2,555	959,227	1H:5V	500	33,900	114,330	87,600	684,127
1	PRFV	220,000	2,375	20,000	1,100	2,525	1.040,915	1H:5V	500	37,290	125,763	96,360	738,305
1	PRFV	237,953	2,181	17,953	1,100	2,331	1.110,064	1H:5V	500	40,333	136,026	104,223	782,760
1	PRFV	240,000	2,151	2,047	1,100	2,301	1.117,475	1H:5V	500	40,680	137,196	105,120	787,355
1	PRFV	240,994	2,136	0,994	1,100	2,286	1.121,029	1H:5V	500	40,848	137,764	105,555	789,542
1	PRFV	259,129	3,532	18,135	1,100	3,682	1.239,354	1H:5V	500	43,922	148,131	113,499	882,922
1	PRFV	260,000	3,285	0,871	1,100	3,435	1.246,918	1H:5V	500	44,070	148,629	113,880	889,288
1	PRFV	270,417	2,952	10,417	1,100	3,102	1.317,873	1H:5V	500	45,836	154,584	118,443	945,915
1	PRFV	280,000	2,560	9,583	1,100	2,710	1.366,720	1H:5V	500	47,460	160,062	122,640	981,580
1	PRFV	280,609	2,530	0,609	1,100	2,680	1.369,410	1H:5V	500	47,563	160,410	122,907	983,433
1	PRFV	295,579	1,864	14,970	1,100	2,014	1.424,883	1H:5V	500	50,101	168,968	129,464	1.018,314
1	PRFV	300,000	1,642	4,421	1,100	1,792	1.437,350	1H:5V	500	50,850	171,495	131,400	1.024,700
1	PRFV	310,549	1,635	10,549	1,100	1,785	1.464,852	1H:5V	500	52,638	177,525	136,020	1.037,692
1	PRFV	320,000	1,706	9,451	1,100	1,856	1.490,045	1H:5V	500	54,240	182,928	140,160	1.049,885
1	PRFV	328,773	1,664	8,773	1,100	1,814	1.513,663	1H:5V	500	55,727	187,943	144,003	1.061,435
1	PRFV	334,601	1,560	5,828	1,100	1,710	1.528,580	1H:5V	500	56,715	191,275	146,555	1.068,337
1	PRFV	340,000	1,513	5,399	1,100	1,663	1.541,668	1H:5V	500	57,630	194,361	148,920	1.073,998
1	PRFV	340,429	1,514	0,429	1,100	1,664	1.542,691	1H:5V	500	57,703	194,606	149,108	1.074,430
1	PRFV	351,655	1,541	11,226	1,100	1,691	1.569,724	1H:5V	500	59,606	201,024	154,025	1.086,022
1	PRFV	357,883	1,683	6,228	1,100	1,833	1.585,668	1H:5V	500	60,661	204,584	156,753	1.093,400
1	PRFV	360,000	1,816	2,117	1,100	1,966	1.591,621	1H:5V	500	61,020	205,794	157,680	1.096,441
1	PRFV	364,111	2,109	4,111	1,100	2,259	1.604,861	1H:5V	500	61,717	208,144	159,481	1.104,026
1	PRFV	380,000	2,255	15,889	1,100	2,405	1.662,918	1H:5V	500	64,410	217,227	166,440	1.140,228
1	PRFV	398,660	1,500	18,660	1,100	1,650	1.720,408	1H:5V	500	67,573	227,894	174,613	1.172,051

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	0,000	2,207	0,000	2,600	2,357	0,000	1H:5V	800	600	0,000	0,000	0,000	0,000
1	PRFV	20,000	2,610	20,000	2,600	2,760	159,388	1H:5V	800	600	7,890	35,412	18,480	81,898
1	PRFV	40,000	2,790	20,000	2,600	2,940	340,110	1H:5V	800	600	15,780	70,824	36,960	185,130
1	PRFV	60,000	2,230	20,000	2,600	2,380	507,046	1H:5V	800	600	23,670	106,236	55,440	274,576
1	PRFV	74,907	1,897	14,907	2,600	2,047	607,528	1H:5V	800	600	29,551	132,630	69,214	317,301
1	PRFV	80,000	1,828	5,093	2,600	1,978	638,304	1H:5V	800	600	31,560	141,648	73,920	328,344
1	PRFV	80,060	1,828	0,060	2,600	1,978	638,659	1H:5V	800	600	31,584	141,754	73,975	328,467
1	PRFV	85,213	1,848	5,153	2,600	1,998	669,367	1H:5V	800	600	33,617	150,878	78,737	339,210
1	PRFV	100,000	1,950	14,787	2,600	2,100	760,568	1H:5V	800	600	39,450	177,060	92,400	373,118
1	PRFV	120,000	2,246	20,000	2,600	2,396	897,765	1H:5V	800	600	47,340	212,472	110,880	432,825
1	PRFV	140,000	2,252	20,000	2,600	2,402	1.045,534	1H:5V	800	600	55,230	247,884	129,360	503,104
1	PRFV	160,000	2,031	20,000	2,600	2,181	1.185,745	1H:5V	800	600	63,120	283,296	147,840	565,825
1	PRFV	166,404	2,029	6,404	2,600	2,179	1.228,130	1H:5V	800	600	65,646	294,635	153,757	583,397
1	PRFV	179,369	2,126	12,965	2,600	2,276	1.316,088	1H:5V	800	600	70,761	317,591	165,737	621,123
1	PRFV	180,000	2,134	0,631	2,600	2,284	1.320,485	1H:5V	800	600	71,010	318,708	166,320	623,075
1	PRFV	192,334	1,854	12,334	2,600	2,004	1.400,627	1H:5V	800	600	75,876	340,547	177,717	655,429
1	PRFV	193,419	1,858	1,085	2,600	2,008	1.407,159	1H:5V	800	600	76,304	342,468	178,719	657,757
1	PRFV	200,000	1,828	6,581	2,600	1,978	1.446,489	1H:5V	800	600	78,900	354,120	184,800	671,589
1	PRFV	203,505	1,840	3,505	2,600	1,990	1.467,329	1H:5V	800	600	80,283	360,326	188,039	678,848
1	PRFV	213,591	2,937	10,086	2,600	3,087	1.549,258	1H:5V	800	600	84,262	378,185	197,358	721,700
1	PRFV	220,000	3,155	6,409	2,600	3,305	1.620,647	1H:5V	800	600	86,790	389,532	203,280	768,257
1	PRFV	240,000	3,163	20,000	2,600	3,313	1.861,233	1H:5V	800	600	94,680	424,944	221,760	931,353
1	PRFV	241,464	3,170	1,464	2,600	3,320	1.878,931	1H:5V	800	600	95,258	427,537	223,113	943,378
1	PRFV	260,000	2,697	18,536	2,600	2,847	2.074,854	1H:5V	800	600	102,570	460,356	240,240	1.067,484
1	PRFV	280,000	2,036	20,000	2,600	2,186	2.231,480	1H:5V	800	600	110,460	495,769	258,720	1.146,620
1	PRFV	286,900	1,873	6,900	2,600	2,023	2.275,356	1H:5V	800	600	113,182	507,986	265,096	1.163,762
1	PRFV	300,000	2,487	13,100	2,600	2,637	2.369,186	1H:5V	800	600	118,350	531,181	277,200	1.206,836
1	PRFV	320,000	2,424	20,000	2,600	2,574	2.531,831	1H:5V	800	600	126,240	566,593	295,680	1.291,991
1	PRFV	340,000	2,417	20,000	2,600	2,567	2.691,927	1H:5V	800	600	134,130	602,005	314,160	1.374,597
1	PRFV	360,000	2,188	20,000	2,600	2,338	2.843,568	1H:5V	800	600	142,020	637,417	332,640	1.448,748
1	PRFV	380,000	2,234	20,000	2,600	2,384	2.988,640	1H:5V	800	600	149,910	672,829	351,120	1.516,330
1	PRFV	400,000	2,973	20,000	2,600	3,123	3.167,615	1H:5V	800	600	157,800	708,241	369,600	1.617,815
1	PRFV	420,000	2,915	20,000	2,600	3,065	3.374,317	1H:5V	800	600	165,690	743,653	388,080	1.747,027
1	PRFV	437,028	2,642	17,028	2,600	2,792	3.535,454	1H:5V	800	600	172,408	773,803	403,814	1.842,189

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	440,000	2,656	2,972	2,600	2,806	3.561,739	1H:5V	800	600	173,580	779,065	406,560	1.856,959
1	PRFV	460,000	2,621	20,000	2,600	2,771	3.737,846	1H:5V	800	600	181,470	814,477	425,040	1.955,576
1	PRFV	480,000	2,369	20,000	2,600	2,519	3.903,433	1H:5V	800	600	189,360	849,889	443,520	2.043,673
1	PRFV	489,046	2,483	9,046	2,600	2,633	3.976,031	1H:5V	800	600	192,929	865,906	451,879	2.081,222
1	PRFV	497,614	2,652	8,568	2,600	2,802	4.049,235	1H:5V	800	600	196,309	881,076	459,795	2.121,230
1	PRFV	500,000	2,705	2,386	2,600	2,855	4.070,600	1H:5V	800	600	197,250	885,301	462,000	2.133,350
1	PRFV	506,182	2,362	6,182	2,600	2,512	4.122,672	1H:5V	800	600	199,689	896,247	467,712	2.161,470
1	PRFV	520,000	1,864	13,818	2,600	2,014	4.218,299	1H:5V	800	600	205,140	920,713	480,480	2.203,559
1	PRFV	540,000	1,847	20,000	2,600	1,997	4.338,673	1H:5V	800	600	213,030	956,125	498,960	2.246,443
1	PRFV	558,585	2,131	18,585	2,600	2,281	4.459,113	1H:5V	800	600	220,362	989,032	516,133	2.294,876
1	PRFV	560,000	2,253	1,415	2,600	2,403	4.469,283	1H:5V	800	600	220,920	991,537	517,440	2.299,563
1	PRFV	580,000	3,126	20,000	2,600	3,276	4.660,990	1H:5V	800	600	228,810	1.026,949	535,920	2.413,780
1	PRFV	600,000	3,596	20,000	2,600	3,746	4.933,972	1H:5V	800	600	236,700	1.062,361	554,400	2.609,272
1	PRFV	620,000	3,463	20,000	2,600	3,613	5.233,838	1H:5V	800	600	244,590	1.097,773	572,880	2.831,648
1	PRFV	640,000	4,384	20,000	2,600	4,534	5.598,762	1H:5V	800	600	252,480	1.133,185	591,360	3.119,082
1	PRFV	652,592	4,222	12,592	2,600	4,372	5.867,689	1H:5V	800	600	257,448	1.155,481	602,995	3.339,221
1	PRFV	660,000	4,222	7,408	2,600	4,372	6.020,872	1H:5V	800	600	260,370	1.168,597	609,840	3.463,702
1	PRFV	680,000	3,700	20,000	2,600	3,850	6.391,398	1H:5V	800	600	268,260	1.204,009	628,320	3.756,738
1	PRFV	695,620	3,578	15,620	2,600	3,728	6.639,435	1H:5V	800	600	274,422	1.231,666	642,753	3.944,255
1	PRFV	700,000	3,375	4,380	2,600	3,525	6.703,239	1H:5V	800	600	276,150	1.239,421	646,800	3.991,089
1	PRFV	704,148	2,982	4,148	2,600	3,132	6.753,810	1H:5V	800	600	277,786	1.246,766	650,633	4.025,589
1	PRFV	706,067	2,869	1,919	2,600	3,019	6.773,366	1H:5V	800	600	278,543	1.250,164	652,406	4.037,709
1	PRFV	716,514	2,165	10,447	2,600	2,315	6.861,325	1H:5V	800	600	282,665	1.268,661	662,059	4.085,192
1	PRFV	720,000	2,361	3,486	2,600	2,511	6.887,262	1H:5V	800	600	284,040	1.274,833	665,280	4.097,622
1	PRFV	740,000	2,225	20,000	2,600	2,375	7.038,189	1H:5V	800	600	291,930	1.310,245	683,760	4.171,059
1	PRFV	760,000	2,537	20,000	2,600	2,687	7.195,522	1H:5V	800	600	299,820	1.345,657	702,240	4.250,902
1	PRFV	780,000	2,684	20,000	2,600	2,834	7.369,571	1H:5V	800	600	307,710	1.381,069	720,720	4.347,461
1	PRFV	800,000	2,731	20,000	2,600	2,881	7.550,825	1H:5V	800	600	315,600	1.416,481	739,200	4.451,225
1	PRFV	820,000	2,299	20,000	2,600	2,449	7.718,000	1H:5V	800	600	323,490	1.451,894	757,680	4.540,910
1	PRFV	827,912	2,214	7,912	2,600	2,364	7.776,672	1H:5V	800	600	326,611	1.465,903	764,991	4.568,927
1	PRFV	840,000	2,727	12,088	2,600	2,877	7.875,792	1H:5V	800	600	331,380	1.487,306	776,160	4.621,212
1	PRFV	860,000	2,585	20,000	2,600	2,735	8.053,219	1H:5V	800	600	339,270	1.522,718	794,640	4.721,149
1	PRFV	880,000	2,797	20,000	2,600	2,947	8.233,281	1H:5V	800	600	347,160	1.558,130	813,120	4.823,721
1	PRFV	884,413	2,389	4,413	2,600	2,539	8.271,431	1H:5V	800	600	348,901	1.565,943	817,198	4.844,773
1	PRFV	900,000	2,313	15,587	2,600	2,463	8.392,291	1H:5V	800	600	355,050	1.593,542	831,600	4.905,241
1	PRFV	920,000	2,825	20,000	2,600	2,975	8.563,513	1H:5V	800	600	362,940	1.628,954	850,080	4.998,973

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	940,000	2,456	20,000	2,600	2,606	8.739,902	1H:5V	800	600	370,830	1.664,366	868,560	5.097,872
1	PRFV	949,154	2,519	9,154	2,600	2,669	8.815,413	1H:5V	800	600	374,441	1.680,574	877,018	5.137,916
1	PRFV	960,000	2,379	10,846	2,500	2,529	8.901,996	1H:5V	800	500	378,639	1.699,758	886,877	5.183,677
1	PRFV	980,000	2,092	20,000	2,500	2,242	9.044,116	1H:5V	800	500	386,229	1.735,098	904,757	5.251,006
1	PRFV	985,968	2,219	5,968	2,500	2,369	9.084,863	1H:5V	800	500	388,494	1.745,644	910,093	5.269,436
1	PRFV	990,046	2,059	4,078	2,500	2,209	9.112,478	1H:5V	800	500	390,041	1.752,849	913,738	5.281,801
1	PRFV	994,124	2,041	4,078	2,500	2,191	9.138,854	1H:5V	800	500	391,589	1.760,055	917,384	5.292,928
1	PRFV	1.000,000	2,248	5,876	2,500	2,398	9.178,760	1H:5V	800	500	393,819	1.770,438	922,637	5.310,861
1	PRFV	1.020,000	2,429	20,000	2,500	2,579	9.327,989	1H:5V	800	500	401,409	1.805,778	940,517	5.385,299
1	PRFV	1.040,000	2,742	20,000	2,500	2,892	9.494,793	1H:5V	800	500	408,999	1.841,118	958,397	5.477,314
1	PRFV	1.046,350	2,862	6,350	2,500	3,012	9.552,881	1H:5V	800	500	411,408	1.852,338	964,074	5.511,655
1	PRFV	1.060,000	1,929	13,650	2,400	2,079	9.656,938	1H:5V	700	500	416,486	1.874,737	975,991	5.568,387
1	PRFV	1.080,000	1,794	20,000	2,400	1,944	9.769,693	1H:5V	700	500	423,776	1.905,033	993,031	5.614,892
1	PRFV	1.085,410	1,783	5,410	2,400	1,933	9.798,928	1H:5V	700	500	425,748	1.913,228	997,640	5.626,206
1	PRFV	1.096,447	1,914	11,037	2,400	2,064	9.860,692	1H:5V	700	500	429,771	1.929,947	1.007,044	5.651,410
1	PRFV	1.100,000	1,983	3,553	2,400	2,133	9.881,716	1H:5V	700	500	431,066	1.935,329	1.010,071	5.660,665
1	PRFV	1.107,484	2,028	7,484	2,400	2,178	9.927,388	1H:5V	700	500	433,794	1.946,666	1.016,447	5.681,546
1	PRFV	1.120,000	2,163	12,516	2,400	2,313	10.007,472	1H:5V	700	500	438,356	1.965,625	1.027,111	5.720,171
1	PRFV	1.140,000	2,219	20,000	2,400	2,369	10.141,764	1H:5V	700	500	445,646	1.995,921	1.044,151	5.788,213
1	PRFV	1.156,902	1,753	16,902	2,400	1,903	10.244,017	1H:5V	700	500	451,807	2.021,524	1.058,551	5.834,478
1	PRFV	1.160,000	1,778	3,098	2,400	1,928	10.260,533	1H:5V	700	500	452,936	2.026,217	1.061,191	5.840,732
1	PRFV	1.167,939	2,021	7,939	2,400	2,171	10.306,276	1H:5V	700	500	455,830	2.038,243	1.067,955	5.860,177
1	PRFV	1.178,976	2,612	11,037	2,400	2,762	10.385,232	1H:5V	700	500	459,853	2.054,962	1.077,358	5.902,573
1	PRFV	1.180,000	2,620	1,024	2,400	2,770	10.393,597	1H:5V	700	500	460,226	2.056,513	1.078,231	5.907,546
1	PRFV	1.200,000	2,641	20,000	2,400	2,791	10.557,986	1H:5V	700	500	467,516	2.086,809	1.095,271	6.005,685
1	PRFV	1.220,000	2,797	20,000	2,400	2,947	10.728,647	1H:5V	700	500	474,806	2.117,105	1.112,311	6.110,096
1	PRFV	1.240,000	2,806	20,000	2,400	2,956	10.905,165	1H:5V	700	500	482,096	2.147,402	1.129,351	6.220,364
1	PRFV	1.260,000	2,571	20,000	2,400	2,721	11.073,696	1H:5V	700	500	489,386	2.177,698	1.146,391	6.322,645
1	PRFV	1.280,000	2,054	20,000	2,400	2,204	11.216,419	1H:5V	700	500	496,676	2.207,994	1.163,431	6.399,118
1	PRFV	1.300,000	1,700	20,000	2,400	1,850	11.330,275	1H:5V	700	500	503,966	2.238,290	1.180,471	6.446,724
1	PRFV	1.320,000	2,059	20,000	2,400	2,209	11.444,296	1H:5V	700	500	511,256	2.268,586	1.197,511	6.494,495
1	PRFV	1.327,472	2,266	7,472	2,400	2,416	11.493,773	1H:5V	700	500	513,980	2.279,905	1.203,877	6.519,221
1	PRFV	1.340,000	1,778	12,528	2,400	1,928	11.571,048	1H:5V	700	500	518,546	2.298,882	1.214,551	6.554,997
1	PRFV	1.360,000	2,224	20,000	2,400	2,374	11.693,003	1H:5V	700	500	525,836	2.329,178	1.231,591	6.610,701
1	PRFV	1.380,000	1,961	20,000	2,400	2,111	11.820,827	1H:5V	700	500	533,126	2.359,474	1.248,631	6.672,276
1	PRFV	1.394,770	2,367	14,770	2,400	2,517	11.918,793	1H:5V	700	500	538,510	2.381,848	1.261,215	6.721,316

R-6														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	1.400,000	2,496	5,230	2,400	2,646	11.958,171	1H:5V	700	500	540,416	2.389,770	1.265,671	6.743,370
1	PRFV	1.400,212	2,500	0,212	2,400	2,650	11.959,815	1H:5V	700	500	540,494	2.390,092	1.265,851	6.744,312
1	PRFV	1.405,654	2,559	5,442	2,400	2,709	12.002,627	1H:5V	700	500	542,477	2.398,335	1.270,488	6.769,097
1	PRFV	1.420,000	2,531	14,346	2,400	2,681	12.116,257	1H:5V	700	500	547,706	2.420,067	1.282,711	6.835,206
1	PRFV	1.435,380	2,117	15,380	2,400	2,267	12.226,536	1H:5V	700	500	553,312	2.443,364	1.295,814	6.894,539
1	PRFV	1.440,000	1,801	4,620	2,400	1,951	12.254,054	1H:5V	700	500	554,996	2.450,363	1.299,751	6.906,753
1	PRFV	1.441,003	1,740	1,003	2,400	1,890	12.259,417	1H:5V	700	500	555,362	2.451,882	1.300,605	6.908,793
1	PRFV	1.446,626	1,881	5,623	2,400	2,031	12.290,202	1H:5V	700	500	557,411	2.460,400	1.305,396	6.920,952
1	PRFV	1.460,000	2,219	13,374	2,400	2,369	12.373,839	1H:5V	700	500	562,286	2.480,659	1.316,791	6.960,288
1	PRFV	1.477,881	2,356	17,881	2,400	2,506	12.499,708	1H:5V	700	500	568,804	2.507,745	1.332,025	7.026,926
1	PRFV	1.480,000	2,290	2,119	2,400	2,440	12.514,877	1H:5V	700	500	569,576	2.510,955	1.333,831	7.035,075
1	PRFV	1.500,000	2,442	20,000	2,400	2,592	12.660,989	1H:5V	700	500	576,866	2.541,251	1.350,871	7.114,938
1	PRFV	1.520,000	2,237	20,000	2,400	2,387	12.805,317	1H:5V	700	500	584,156	2.571,547	1.367,911	7.193,016
1	PRFV	1.536,515	2,526	16,515	2,400	2,676	12.926,892	1H:5V	700	500	590,176	2.596,564	1.381,981	7.259,885
1	PRFV	1.540,000	2,422	3,485	2,400	2,572	12.953,640	1H:5V	700	500	591,446	2.601,843	1.384,951	7.275,089
1	PRFV	1.560,000	2,315	20,000	2,400	2,465	13.099,911	1H:5V	700	500	598,736	2.632,139	1.401,991	7.355,110
1	PRFV	1.580,000	1,838	20,000	2,400	1,988	13.226,840	1H:5V	700	500	606,026	2.662,435	1.419,031	7.415,788
1	PRFV	1.599,409	1,700	19,409	2,400	1,850	13.330,543	1H:5V	700	500	613,101	2.691,836	1.435,567	7.455,200
1	PRFV	1.600,000	1,769	0,591	2,400	1,919	13.333,636	1H:5V	700	500	613,316	2.692,731	1.436,071	7.456,335
1	PRFV	1.616,364	2,187	16,364	2,400	2,337	13.432,174	1H:5V	700	500	619,281	2.717,520	1.450,013	7.500,667
1	PRFV	1.620,000	1,705	3,636	2,400	1,855	13.453,701	1H:5V	700	500	620,606	2.723,028	1.453,111	7.510,150
1	PRFV	1.629,471	2,162	9,471	2,400	2,312	13.509,382	1H:5V	700	500	624,058	2.737,374	1.461,180	7.534,458
1	PRFV	1.640,000	1,909	10,529	2,400	2,059	13.574,700	1H:5V	700	500	627,896	2.753,324	1.470,151	7.564,899
1	PRFV	1.660,000	1,900	20,000	2,400	2,050	13.690,200	1H:5V	700	500	635,186	2.783,620	1.487,191	7.614,149
1	PRFV	1.680,000	2,183	20,000	2,400	2,333	13.814,683	1H:5V	700	500	642,476	2.813,916	1.504,231	7.672,382
1	PRFV	1.681,818	2,174	1,818	2,400	2,324	13.826,814	1H:5V	700	500	643,139	2.816,670	1.505,780	7.678,491
1	PRFV	1.691,006	2,236	9,188	2,400	2,386	13.888,938	1H:5V	700	500	646,488	2.830,588	1.513,608	7.710,179
1	PRFV	1.700,000	2,513	8,994	2,400	2,663	13.954,929	1H:5V	700	500	649,766	2.844,212	1.521,271	7.746,378
1	PRFV	1.700,194	2,521	0,194	2,400	2,671	13.956,447	1H:5V	700	500	649,837	2.844,506	1.521,436	7.747,253
1	PRFV	1.720,000	2,942	19,806	2,400	3,092	14.130,127	1H:5V	700	500	657,056	2.874,508	1.538,311	7.855,326
1	PRFV	1.727,930	1,700	7,930	2,400	1,850	14.188,910	1H:5V	700	500	659,947	2.886,521	1.545,067	7.887,840
1	PRFV	1.740,000	2,597	12,070	2,400	2,747	14.268,732	1H:5V	700	500	664,346	2.904,804	1.555,351	7.927,680
1	PRFV	1.740,641	2,671	0,641	2,400	2,821	14.274,008	1H:5V	700	500	664,580	2.905,775	1.555,897	7.930,834
1	PRFV	1.760,000	2,016	19,359	2,400	2,166	14.414,349	1H:5V	700	500	671,636	2.935,100	1.572,391	8.007,048
1	PRFV	1.764,352	1,703	4,352	2,400	1,853	14.438,873	1H:5V	700	500	673,223	2.941,693	1.576,099	8.017,156
1	PRFV	1.780,000	1,862	15,648	2,400	2,012	14.523,156	1H:5V	700	500	678,926	2.965,396	1.589,431	8.049,605

R-6														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	1.800,000	1,998	20,000	2,400	2,148	14.640,320	1H:5V	700	500	686,216	2.995,693	1.606,471	8.100,519
1	PRFV	1.820,000	1,872	20,000	2,400	2,022	14.757,805	1H:5V	700	500	693,506	3.025,989	1.623,511	8.151,754
1	PRFV	1.840,000	1,864	20,000	2,400	2,014	14.870,959	1H:5V	700	500	700,796	3.056,285	1.640,551	8.198,658
1	PRFV	1.842,157	1,802	2,157	2,400	1,952	14.882,921	1H:5V	700	500	701,583	3.059,552	1.642,388	8.203,475
1	PRFV	1.845,491	1,724	3,334	2,400	1,874	14.900,669	1H:5V	700	500	702,798	3.064,603	1.645,229	8.210,179
1	PRFV	1.847,253	1,716	1,762	2,400	1,866	14.909,809	1H:5V	700	500	703,440	3.067,272	1.646,730	8.213,483
1	PRFV	1.849,015	1,734	1,762	2,400	1,884	14.918,977	1H:5V	700	500	704,082	3.069,941	1.648,231	8.216,814
1	PRFV	1.860,000	1,870	10,985	2,400	2,020	14.978,821	1H:5V	700	500	708,086	3.086,581	1.657,591	8.240,270
1	PRFV	1.880,000	2,751	20,000	2,400	2,901	15.121,918	1H:5V	700	500	715,376	3.116,877	1.674,631	8.317,117
1	PRFV	1.900,000	3,007	20,000	2,400	3,157	15.310,355	1H:5V	700	500	722,666	3.147,173	1.691,671	8.439,304
1	PRFV	1.920,000	2,915	20,000	2,400	3,065	15.507,284	1H:5V	700	500	729,956	3.177,469	1.708,711	8.569,983
1	PRFV	1.940,000	2,354	20,000	2,400	2,504	15.674,869	1H:5V	700	500	737,246	3.207,765	1.725,751	8.671,318
1	PRFV	1.960,000	2,206	20,000	2,400	2,356	15.815,150	1H:5V	700	500	744,536	3.238,061	1.742,791	8.745,349
1	PRFV	1.961,460	2,212	1,460	2,400	2,362	15.825,041	1H:5V	700	500	745,068	3.240,273	1.744,035	8.750,404
1	PRFV	1.962,017	2,214	0,557	2,400	2,364	15.828,822	1H:5V	700	500	745,271	3.241,117	1.744,509	8.752,340
1	PRFV	1.962,963	2,221	0,946	2,400	2,371	15.835,258	1H:5V	700	500	745,616	3.242,550	1.745,315	8.755,642
1	PRFV	1.964,466	2,235	1,503	2,400	2,385	15.845,536	1H:5V	700	500	746,164	3.244,827	1.746,596	8.760,941
1	PRFV	1.980,000	2,414	15,534	2,400	2,564	15.956,837	1H:5V	700	500	751,826	3.268,358	1.759,831	8.820,786
1	PRFV	2.000,000	2,123	20,000	2,400	2,273	16.096,406	1H:5V	700	500	759,116	3.298,654	1.776,871	8.894,105
1	PRFV	2.005,077	1,812	5,077	2,400	1,962	16.126,785	1H:5V	700	500	760,967	3.306,344	1.781,196	8.907,667
1	PRFV	2.006,580	1,717	1,503	2,400	1,867	16.134,794	1H:5V	700	500	761,515	3.308,621	1.782,477	8.910,696
1	PRFV	2.008,083	1,726	1,503	2,400	1,876	16.142,597	1H:5V	700	500	762,063	3.310,898	1.783,757	8.913,521
1	PRFV	2.020,000	1,774	11,917	2,400	1,924	16.205,544	1H:5V	700	500	766,406	3.328,950	1.793,911	8.936,993
1	PRFV	2.040,000	1,854	20,000	2,400	2,004	16.315,252	1H:5V	700	500	773,696	3.359,246	1.810,951	8.980,451
1	PRFV	2.060,000	1,934	20,000	2,400	2,084	16.430,082	1H:5V	700	500	780,986	3.389,542	1.827,991	9.029,031
1	PRFV	2.080,000	2,014	20,000	2,400	2,164	16.550,086	1H:5V	700	500	788,276	3.419,838	1.845,031	9.082,785
1	PRFV	2.097,997	2,086	17,997	2,400	2,236	16.662,536	1H:5V	700	500	794,836	3.447,100	1.860,364	9.135,620
1	PRFV	2.100,000	2,128	2,003	2,400	2,278	16.675,427	1H:5V	700	500	795,566	3.450,134	1.862,071	9.141,875
1	PRFV	2.120,000	1,902	20,000	2,400	2,052	16.798,147	1H:5V	700	500	802,856	3.480,430	1.879,111	9.198,345
1	PRFV	2.135,797	2,887	15,797	2,400	3,037	16.917,006	1H:5V	700	500	808,614	3.504,360	1.892,570	9.264,878
1	PRFV	2.140,000	2,842	4,203	2,400	2,992	16.955,364	1H:5V	700	500	810,146	3.510,726	1.896,151	9.289,313
1	PRFV	2.160,000	2,630	20,000	2,400	2,780	17.127,253	1H:5V	700	500	817,436	3.541,022	1.913,191	9.394,952
1	PRFV	2.180,000	2,418	20,000	2,400	2,568	17.284,251	1H:5V	700	500	824,726	3.571,319	1.930,231	9.485,700
1	PRFV	2.200,000	2,206	20,000	2,400	2,356	17.426,718	1H:5V	700	500	832,016	3.601,615	1.947,271	9.561,917
1	PRFV	2.220,000	1,993	20,000	2,400	2,143	17.554,981	1H:5V	700	500	839,306	3.631,911	1.964,311	9.623,929
1	PRFV	2.222,129	1,971	2,129	2,400	2,121	17.567,810	1H:5V	700	500	840,082	3.635,136	1.966,125	9.629,706

R-6														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	2.223,852	1,956	1,723	2,400	2,106	17.578,089	1H:5V	700	500	840,710	3.637,746	1.967,593	9.634,278
1	PRFV	2.225,575	2,110	1,723	2,400	2,260	17.588,760	1H:5V	700	500	841,338	3.640,356	1.969,061	9.639,242
1	PRFV	2.240,000	2,082	14,425	2,400	2,232	17.681,071	1H:5V	700	500	846,596	3.662,207	1.981,351	9.683,770
1	PRFV	2.260,000	1,880	20,000	2,400	2,030	17.801,564	1H:5V	700	500	853,886	3.692,503	1.998,391	9.738,013
1	PRFV	2.280,000	1,840	20,000	2,400	1,990	17.914,206	1H:5V	700	500	861,176	3.722,799	2.015,431	9.784,405
1	PRFV	2.300,000	1,800	20,000	2,400	1,950	18.024,291	1H:5V	700	500	868,466	3.753,095	2.032,471	9.828,240
1	PRFV	2.320,000	1,760	20,000	2,400	1,910	18.131,832	1H:5V	700	500	875,756	3.783,391	2.049,511	9.869,531
1	PRFV	2.340,000	1,720	20,000	2,400	1,870	18.236,842	1H:5V	700	500	883,046	3.813,687	2.066,551	9.908,291
1	PRFV	2.350,000	1,700	10,000	2,400	1,850	18.288,402	1H:5V	700	500	886,691	3.828,835	2.075,071	9.926,726
1	PRFV	2.360,000	1,851	10,000	2,400	2,001	18.342,040	1H:5V	700	500	890,336	3.843,984	2.083,591	9.947,239
1	PRFV	2.380,000	2,205	20,000	2,400	2,355	18.465,684	1H:5V	700	500	897,626	3.874,280	2.100,631	10.004,633
1	PRFV	2.400,000	3,457	20,000	2,400	3,607	18.670,165	1H:5V	700	500	904,916	3.904,576	2.117,671	10.142,864
1	PRFV	2.420,000	3,101	20,000	2,400	3,251	18.916,236	1H:5V	700	500	912,206	3.934,872	2.134,711	10.322,685
1	PRFV	2.440,000	2,434	20,000	2,400	2,584	19.100,808	1H:5V	700	500	919,496	3.965,168	2.151,751	10.441,007
1	PRFV	2.452,790	1,977	12,790	2,400	2,127	19.187,439	1H:5V	700	500	924,158	3.984,542	2.162,648	10.485,271
1	PRFV	2.460,000	1,765	7,210	2,400	1,915	19.228,316	1H:5V	700	500	926,786	3.995,464	2.168,791	10.502,265
1	PRFV	2.467,210	1,721	7,210	2,400	1,871	19.266,241	1H:5V	700	500	929,414	4.006,386	2.174,934	10.516,307
1	PRFV	2.480,000	1,732	12,790	2,400	1,882	19.332,849	1H:5V	700	500	934,076	4.025,760	2.185,831	10.540,548
1	PRFV	2.500,000	1,742	20,000	2,400	1,892	19.437,669	1H:5V	700	500	941,366	4.056,056	2.202,871	10.579,118
1	PRFV	2.520,000	1,763	20,000	2,400	1,913	19.543,467	1H:5V	700	500	948,656	4.086,352	2.219,911	10.618,666
1	PRFV	2.540,000	1,756	20,000	2,400	1,906	19.649,708	1H:5V	700	500	955,946	4.116,649	2.236,951	10.658,657
1	PRFV	2.560,000	1,775	20,000	2,400	1,925	19.756,329	1H:5V	700	500	963,236	4.146,945	2.253,991	10.699,028
1	PRFV	2.575,000	1,700	15,000	2,400	1,850	19.834,971	1H:5V	700	500	968,704	4.169,667	2.266,771	10.727,982
1	PRFV	2.580,000	1,785	5,000	2,400	1,935	19.861,264	1H:5V	700	500	970,526	4.177,241	2.271,031	10.737,713
1	PRFV	2.581,925	1,758	1,925	2,400	1,908	19.871,563	1H:5V	700	500	971,228	4.180,157	2.272,671	10.741,636
1	PRFV	2.600,000	1,768	18,075	2,400	1,918	19.967,779	1H:5V	700	500	977,816	4.207,537	2.288,071	10.777,978
1	PRFV	2.620,000	1,824	20,000	2,400	1,974	20.076,337	1H:5V	700	500	985,106	4.237,833	2.305,111	10.820,286
1	PRFV	2.635,849	1,843	15,849	2,400	1,993	20.164,256	1H:5V	700	500	990,883	4.261,841	2.318,614	10.855,705
1	PRFV	2.639,914	1,862	4,065	2,400	2,012	20.187,053	1H:5V	700	500	992,365	4.267,999	2.322,077	10.865,037
1	PRFV	2.640,000	1,863	0,086	2,400	2,013	20.187,538	1H:5V	700	500	992,396	4.268,129	2.322,151	10.865,237
1	PRFV	2.643,979	1,926	3,979	2,400	2,076	20.210,389	1H:5V	700	500	993,847	4.274,156	2.325,541	10.874,908
1	PRFV	2.660,000	2,327	16,021	2,400	2,477	20.314,656	1H:5V	700	500	999,686	4.298,425	2.339,191	10.926,105
1	PRFV	2.675,932	1,866	15,932	2,400	2,016	20.416,805	1H:5V	700	500	1.005,493	4.322,559	2.352,765	10.975,479
1	PRFV	2.680,000	1,986	4,068	2,400	2,136	20.440,583	1H:5V	700	500	1.006,976	4.328,721	2.356,231	10.985,782
1	PRFV	2.681,429	2,038	1,429	2,400	2,188	20.449,334	1H:5V	700	500	1.007,497	4.330,886	2.357,448	10.989,799
1	PRFV	2.686,926	2,285	5,497	2,400	2,435	20.485,720	1H:5V	700	500	1.009,501	4.339,213	2.362,132	11.007,976

R-6														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	2.694,524	2,678	7,598	2,400	2,828	20.544,287	1H:5V	700	500	1.012,270	4.350,722	2.368,605	11.041,376
1	PRFV	2.700,000	2,604	5,476	2,400	2,754	20.589,501	1H:5V	700	500	1.014,266	4.359,017	2.373,271	11.068,450
1	PRFV	2.701,967	2,560	1,967	2,400	2,710	20.605,334	1H:5V	700	500	1.014,983	4.361,997	2.374,947	11.077,768
1	PRFV	2.709,410	2,299	7,443	2,400	2,449	20.661,343	1H:5V	700	500	1.017,696	4.373,272	2.381,288	11.109,121
1	PRFV	2.720,000	2,327	10,590	2,400	2,477	20.736,791	1H:5V	700	500	1.021,556	4.389,313	2.390,311	11.149,490
1	PRFV	2.740,000	2,619	20,000	2,400	2,769	20.890,301	1H:5V	700	500	1.028,846	4.419,610	2.407,351	11.236,750
1	PRFV	2.760,000	2,911	20,000	2,400	3,061	21.066,735	1H:5V	700	500	1.036,136	4.449,906	2.424,391	11.346,934
1	PRFV	2.780,000	2,919	20,000	2,400	3,069	21.256,632	1H:5V	700	500	1.043,426	4.480,202	2.441,431	11.470,581
1	PRFV	2.800,000	2,978	20,000	2,400	3,128	21.451,646	1H:5V	700	500	1.050,716	4.510,498	2.458,471	11.599,345
1	PRFV	2.820,000	2,893	20,000	2,400	3,043	21.644,679	1H:5V	700	500	1.058,006	4.540,794	2.475,511	11.726,128
1	PRFV	2.840,000	2,796	20,000	2,400	2,946	21.826,012	1H:5V	700	500	1.065,296	4.571,090	2.492,551	11.841,211
1	PRFV	2.860,000	2,322	20,000	2,400	2,472	21.985,624	1H:5V	700	500	1.072,586	4.601,386	2.509,591	11.934,573
1	PRFV	2.880,000	2,143	20,000	2,400	2,293	22.122,721	1H:5V	700	500	1.079,876	4.631,682	2.526,631	12.005,420
1	PRFV	2.900,000	2,294	20,000	2,400	2,444	22.258,871	1H:5V	700	500	1.087,166	4.661,978	2.543,671	12.075,320
1	PRFV	2.920,000	1,898	20,000	2,400	2,048	22.387,014	1H:5V	700	500	1.094,456	4.692,275	2.560,711	12.137,213
1	PRFV	2.940,000	1,774	20,000	2,400	1,924	22.498,134	1H:5V	700	500	1.101,746	4.722,571	2.577,751	12.182,083
1	PRFV	2.960,000	2,025	20,000	2,400	2,175	22.613,375	1H:5V	700	500	1.109,036	4.752,867	2.594,791	12.231,074
1	PRFV	2.980,000	1,963	20,000	2,400	2,113	22.734,678	1H:5V	700	500	1.116,326	4.783,163	2.611,831	12.286,127
1	PRFV	3.000,000	1,990	20,000	2,400	2,140	22.854,838	1H:5V	700	500	1.123,616	4.813,459	2.628,871	12.340,037
1	PRFV	3.000,470	2,000	0,470	2,400	2,150	22.857,691	1H:5V	700	500	1.123,788	4.814,171	2.629,271	12.341,333
1	PRFV	3.005,833	2,032	5,363	2,400	2,182	22.890,602	1H:5V	700	500	1.125,742	4.822,295	2.633,840	12.356,479
1	PRFV	3.011,196	1,964	5,363	2,400	2,114	22.923,199	1H:5V	700	500	1.127,697	4.830,419	2.638,410	12.371,312
1	PRFV	3.020,000	1,854	8,804	2,400	2,004	22.974,175	1H:5V	700	500	1.130,906	4.843,755	2.645,911	12.393,124
1	PRFV	3.040,000	1,748	20,000	2,400	1,898	23.083,060	1H:5V	700	500	1.138,196	4.874,051	2.662,951	12.435,759
1	PRFV	3.060,000	1,944	20,000	2,400	2,094	23.194,843	1H:5V	700	500	1.145,486	4.904,347	2.679,991	12.481,292
1	PRFV	3.080,000	2,212	20,000	2,400	2,362	23.321,715	1H:5V	700	500	1.152,776	4.934,643	2.697,031	12.541,913
1	PRFV	3.100,000	2,006	20,000	2,400	2,156	23.450,601	1H:5V	700	500	1.160,066	4.964,940	2.714,071	12.604,550
1	PRFV	3.120,000	1,732	20,000	2,400	1,882	23.563,894	1H:5V	700	500	1.167,356	4.995,236	2.731,111	12.651,593
1	PRFV	3.140,000	1,923	20,000	2,400	2,073	23.674,492	1H:5V	700	500	1.174,646	5.025,532	2.748,151	12.695,941
1	PRFV	3.160,000	2,423	20,000	2,400	2,573	23.807,832	1H:5V	700	500	1.181,936	5.055,828	2.765,191	12.763,031
1	PRFV	3.180,000	2,525	20,000	2,400	2,675	23.961,336	1H:5V	700	500	1.189,226	5.086,124	2.782,231	12.850,284
1	PRFV	3.200,000	2,206	20,000	2,400	2,356	24.107,492	1H:5V	700	500	1.196,516	5.116,420	2.799,271	12.930,191
1	PRFV	3.220,000	2,179	20,000	2,400	2,329	24.241,882	1H:5V	700	500	1.203,806	5.146,716	2.816,311	12.998,331
1	PRFV	3.240,000	1,780	20,000	2,400	1,930	24.362,397	1H:5V	700	500	1.211,096	5.177,012	2.833,351	13.052,595
1	PRFV	3.252,122	1,766	12,122	2,400	1,916	24.427,307	1H:5V	700	500	1.215,515	5.195,375	2.843,679	13.077,352
1	PRFV	3.257,485	1,978	5,363	2,400	2,128	24.457,730	1H:5V	700	500	1.217,470	5.203,499	2.848,248	13.090,010

R-6														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	3.260,000	1,887	2,515	2,400	2,037	24.472,483	1H:5V	700	500	1.218,386	5.207,308	2.850,391	13.096,432
1	PRFV	3.262,848	1,862	2,848	2,400	2,012	24.488,655	1H:5V	700	500	1.219,424	5.211,623	2.852,817	13.103,170
1	PRFV	3.280,000	1,761	17,152	2,400	1,911	24.582,607	1H:5V	700	500	1.225,676	5.237,604	2.867,431	13.140,306
1	PRFV	3.281,904	1,728	1,904	2,400	1,878	24.592,631	1H:5V	700	500	1.226,370	5.240,489	2.869,053	13.144,023
1	PRFV	3.300,000	1,702	18,096	2,400	1,852	24.686,218	1H:5V	700	500	1.232,966	5.267,901	2.884,471	13.177,667
1	PRFV	3.320,000	1,826	20,000	2,400	1,976	24.792,759	1H:5V	700	500	1.240,256	5.298,197	2.901,511	13.217,958
1	PRFV	3.340,000	1,878	20,000	2,400	2,028	24.904,889	1H:5V	700	500	1.247,546	5.328,493	2.918,551	13.263,838
1	PRFV	3.360,000	1,948	20,000	2,400	2,098	25.020,942	1H:5V	700	500	1.254,836	5.358,789	2.935,591	13.313,641
1	PRFV	3.380,000	2,170	20,000	2,400	2,320	25.146,542	1H:5V	700	500	1.262,126	5.389,085	2.952,631	13.372,991
1	PRFV	3.393,803	2,290	13,803	2,400	2,440	25.241,032	1H:5V	700	500	1.267,157	5.409,994	2.964,391	13.421,759
1	PRFV	3.400,000	2,188	6,197	2,400	2,338	25.283,640	1H:5V	700	500	1.269,416	5.419,381	2.969,671	13.443,839
1	PRFV	3.400,314	2,170	0,314	2,400	2,320	25.285,736	1H:5V	700	500	1.269,531	5.419,857	2.969,938	13.444,895
1	PRFV	3.406,825	1,838	6,511	2,400	1,988	25.325,473	1H:5V	700	500	1.271,904	5.429,720	2.975,486	13.463,064
1	PRFV	3.420,000	2,240	13,175	2,400	2,390	25.407,422	1H:5V	700	500	1.276,706	5.449,677	2.986,711	13.501,371
1	PRFV	3.436,647	2,567	16,647	2,400	2,717	25.531,239	1H:5V	700	500	1.282,774	5.474,894	3.000,894	13.570,045
1	PRFV	3.440,000	2,532	3,353	2,400	2,682	25.557,849	1H:5V	700	500	1.283,996	5.479,973	3.003,751	13.585,548
1	PRFV	3.443,158	2,608	3,158	2,400	2,758	25.583,139	1H:5V	700	500	1.285,147	5.484,757	3.006,441	13.600,377
1	PRFV	3.449,669	2,838	6,511	2,400	2,988	25.638,799	1H:5V	700	500	1.287,521	5.494,620	3.011,989	13.634,469
1	PRFV	3.460,000	3,192	10,331	2,400	3,342	25.745,102	1H:5V	700	500	1.291,286	5.510,269	3.020,791	13.706,551
1	PRFV	3.480,000	2,839	20,000	2,400	2,989	25.950,932	1H:5V	700	500	1.298,576	5.540,566	3.037,831	13.846,131
1	PRFV	3.500,000	2,954	20,000	2,400	3,104	26.138,462	1H:5V	700	500	1.305,866	5.570,862	3.054,871	13.967,411
1	PRFV	3.520,000	2,473	20,000	2,400	2,623	26.313,100	1H:5V	700	500	1.313,156	5.601,158	3.071,911	14.075,799
1	PRFV	3.530,000	1,700	10,000	2,400	1,850	26.377,079	1H:5V	700	500	1.316,801	5.616,306	3.080,431	14.106,653
1	PRFV	3.539,738	1,750	9,738	2,400	1,900	26.427,748	1H:5V	700	500	1.320,351	5.631,057	3.088,727	14.125,065
1	PRFV	3.540,000	1,751	0,262	2,400	1,901	26.429,132	1H:5V	700	500	1.320,446	5.631,454	3.088,951	14.125,581
1	PRFV	3.560,000	2,962	20,000	2,400	3,112	26.580,521	1H:5V	700	500	1.327,736	5.661,750	3.105,991	14.210,720
1	PRFV	3.580,000	2,484	20,000	2,400	2,634	26.756,150	1H:5V	700	500	1.335,026	5.692,046	3.123,031	14.320,099
1	PRFV	3.600,000	1,773	20,000	2,400	1,923	26.886,790	1H:5V	700	500	1.342,316	5.722,342	3.140,071	14.384,489
1	PRFV	3.602,066	1,700	2,066	2,400	1,850	26.897,615	1H:5V	700	500	1.343,069	5.725,472	3.141,831	14.388,470
1	PRFV	3.620,000	1,739	17,934	2,300	1,889	26.988,924	1H:5V	600	500	1.349,472	5.750,451	3.156,734	14.424,903
1	PRFV	3.640,000	1,986	20,000	2,300	2,136	27.097,761	1H:5V	600	500	1.356,462	5.775,869	3.172,934	14.475,549
1	PRFV	3.660,000	2,140	20,000	2,300	2,290	27.219,172	1H:5V	600	500	1.363,452	5.801,288	3.189,134	14.538,770
1	PRFV	3.680,000	2,118	20,000	2,300	2,268	27.344,782	1H:5V	600	500	1.370,442	5.826,706	3.205,334	14.606,190
1	PRFV	3.700,000	1,905	20,000	2,300	2,055	27.462,945	1H:5V	600	500	1.377,432	5.852,124	3.221,534	14.666,163
1	PRFV	3.720,000	1,785	20,000	2,300	1,935	27.570,649	1H:5V	600	500	1.384,422	5.877,542	3.237,734	14.715,678
1	PRFV	3.737,093	1,637	17,093	2,300	1,787	27.655,671	1H:5V	600	500	1.390,396	5.899,266	3.251,579	14.750,967

R-6														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	3.739,268	1,645	2,175	2,300	1,795	27.666,026	1H:5V	600	500	1.391,156	5.902,030	3.253,341	14.754,994
1	PRFV	3.740,000	1,650	0,732	2,300	1,800	27.669,525	1H:5V	600	500	1.391,412	5.902,960	3.253,934	14.756,363
1	PRFV	3.741,443	1,638	1,443	2,300	1,788	27.676,408	1H:5V	600	500	1.391,916	5.904,794	3.255,103	14.759,048
1	PRFV	3.760,000	1,660	18,557	2,300	1,810	27.765,203	1H:5V	600	500	1.398,402	5.928,378	3.270,134	14.793,852
1	PRFV	3.780,000	1,693	20,000	2,300	1,843	27.862,568	1H:5V	600	500	1.405,392	5.953,796	3.286,334	14.833,026
1	PRFV	3.800,000	1,655	20,000	2,300	1,805	27.959,781	1H:5V	600	500	1.412,382	5.979,215	3.302,534	14.872,049
1	PRFV	3.810,761	1,624	10,761	2,300	1,774	28.010,964	1H:5V	600	500	1.416,143	5.992,891	3.311,250	14.891,923
1	PRFV	3.812,936	1,620	2,175	2,300	1,770	28.021,195	1H:5V	600	500	1.416,903	5.995,655	3.313,012	14.895,826
1	PRFV	3.815,111	1,631	2,175	2,300	1,781	28.031,448	1H:5V	600	500	1.417,663	5.998,419	3.314,774	14.899,751
1	PRFV	3.820,000	1,657	4,889	2,300	1,807	28.054,768	1H:5V	600	500	1.419,372	6.004,633	3.318,734	14.908,846
1	PRFV	3.840,000	1,919	20,000	2,300	2,069	28.159,008	1H:5V	600	500	1.426,362	6.030,051	3.334,934	14.954,896
1	PRFV	3.860,000	2,450	20,000	2,300	2,600	28.288,477	1H:5V	600	500	1.433,352	6.055,469	3.351,134	15.026,175
1	PRFV	3.870,000	3,419	10,000	2,300	3,569	28.390,298	1H:5V	600	500	1.436,847	6.068,178	3.359,234	15.098,901
1	PRFV	3.880,000	3,744	10,000	2,300	3,894	28.533,283	1H:5V	600	500	1.440,342	6.080,887	3.367,334	15.212,792
1	PRFV	3.888,574	1,742	8,574	2,300	1,892	28.621,734	1H:5V	600	500	1.443,338	6.091,784	3.374,279	15.276,297
1	PRFV	3.900,000	1,693	11,426	2,300	1,843	28.678,783	1H:5V	600	500	1.447,332	6.106,305	3.383,534	15.300,101
1	PRFV	3.908,687	1,653	8,687	2,300	1,803	28.720,981	1H:5V	600	500	1.450,368	6.117,346	3.390,571	15.317,025
1	PRFV	3.920,000	1,616	11,313	2,300	1,766	28.774,620	1H:5V	600	500	1.454,322	6.131,723	3.399,734	15.337,748
1	PRFV	3.922,870	1,898	2,870	2,300	2,048	28.789,307	1H:5V	600	500	1.455,325	6.135,371	3.402,059	15.344,085
1	PRFV	3.940,000	2,255	17,130	2,300	2,405	28.894,122	1H:5V	600	500	1.461,312	6.157,142	3.415,934	15.399,060
1	PRFV	3.960,000	1,667	20,000	2,300	1,817	29.009,399	1H:5V	600	500	1.468,302	6.182,560	3.432,134	15.456,147
1	PRFV	3.963,175	1,600	3,175	2,300	1,750	29.024,443	1H:5V	600	500	1.469,411	6.186,595	3.434,706	15.461,954
1	PRFV	3.980,000	1,864	16,825	2,300	2,014	29.109,249	1H:5V	600	500	1.475,292	6.207,978	3.448,334	15.497,807
1	PRFV	4.000,000	1,720	20,000	2,300	1,870	29.213,687	1H:5V	600	500	1.482,282	6.233,396	3.464,534	15.544,055
1	PRFV	4.020,000	1,610	20,000	2,300	1,760	29.310,366	1H:5V	600	500	1.489,272	6.258,814	3.480,734	15.582,544
1	PRFV	4.040,000	1,715	20,000	2,300	1,865	29.406,893	1H:5V	600	500	1.496,262	6.284,232	3.496,934	15.620,881
1	PRFV	4.060,000	1,980	20,000	2,300	2,130	29.514,808	1H:5V	600	500	1.503,252	6.309,650	3.513,134	15.670,606
1	PRFV	4.080,000	2,008	20,000	2,300	2,158	29.631,820	1H:5V	600	500	1.510,242	6.335,069	3.529,334	15.729,428
1	PRFV	4.100,000	1,973	20,000	2,300	2,123	29.748,611	1H:5V	600	500	1.517,232	6.360,487	3.545,534	15.788,029
1	PRFV	4.120,000	1,818	20,000	2,300	1,968	29.859,464	1H:5V	600	500	1.524,222	6.385,905	3.561,734	15.840,693
1	PRFV	4.140,000	1,946	20,000	2,300	2,096	29.969,469	1H:5V	600	500	1.531,212	6.411,323	3.577,934	15.892,507
1	PRFV	4.156,127	2,237	16,127	2,300	2,387	30.068,885	1H:5V	600	500	1.536,848	6.431,819	3.590,997	15.945,001
1	PRFV	4.160,000	2,275	3,873	2,300	2,425	30.094,801	1H:5V	600	500	1.538,202	6.436,741	3.594,134	15.959,649
1	PRFV	4.160,242	2,276	0,242	2,300	2,426	30.096,436	1H:5V	600	500	1.538,286	6.437,049	3.594,330	15.960,580
1	PRFV	4.164,357	2,272	4,115	2,300	2,422	30.124,214	1H:5V	600	500	1.539,725	6.442,278	3.597,663	15.976,385
1	PRFV	4.180,000	2,178	15,643	2,300	2,328	30.227,318	1H:5V	600	500	1.545,192	6.462,159	3.610,334	16.033,976

R-6														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	4.200,000	1,602	20,000	2,300	1,752	30.338,136	1H:5V	600	500	1.552,182	6.487,577	3.626,534	16.086,604
1	PRFV	4.220,000	1,682	20,000	2,300	1,832	30.433,419	1H:5V	600	500	1.559,172	6.512,996	3.642,734	16.123,698
1	PRFV	4.220,166	1,683	0,166	2,300	1,833	30.434,231	1H:5V	600	500	1.559,230	6.513,206	3.642,869	16.124,026
1	PRFV	4.240,000	2,640	19,834	1,900	2,790	30.550,713	1H:5V	500	200	1.565,567	6.535,928	3.657,625	16.192,176
1	PRFV	4.260,000	2,008	20,000	1,900	2,158	30.669,607	1H:5V	500	200	1.571,357	6.556,332	3.671,185	16.266,760
1	PRFV	4.277,468	2,912	17,468	1,900	3,062	30.782,909	1H:5V	500	200	1.576,414	6.574,154	3.683,028	16.341,362
1	PRFV	4.280,000	2,922	2,532	1,900	3,072	30.803,106	1H:5V	500	200	1.577,147	6.576,737	3.684,745	16.355,949
1	PRFV	4.296,147	2,987	16,147	1,900	3,137	30.936,227	1H:5V	500	200	1.581,821	6.593,211	3.695,693	16.453,297
1	PRFV	4.300,000	3,021	3,853	1,900	3,171	30.969,356	1H:5V	500	200	1.582,937	6.597,142	3.698,305	16.477,889
1	PRFV	4.308,455	1,779	8,455	1,900	1,929	31.024,860	1H:5V	500	200	1.585,384	6.605,768	3.704,037	16.514,661
1	PRFV	4.320,000	1,934	11,545	1,900	2,084	31.078,184	1H:5V	500	200	1.588,727	6.617,547	3.711,865	16.542,407
1	PRFV	4.320,763	1,944	0,763	1,900	2,094	31.081,878	1H:5V	500	200	1.588,948	6.618,325	3.712,382	16.544,411
1	PRFV	4.326,174	2,253	5,411	1,900	2,403	31.110,492	1H:5V	500	200	1.590,514	6.623,845	3.716,051	16.561,036
1	PRFV	4.340,000	2,439	13,826	1,900	2,589	31.193,311	1H:5V	500	200	1.594,517	6.637,951	3.725,425	16.613,224
1	PRFV	4.360,000	1,646	20,000	1,900	1,796	31.296,483	1H:5V	500	200	1.600,307	6.658,356	3.738,985	16.672,086
1	PRFV	4.362,516	1,668	2,516	1,900	1,818	31.306,765	1H:5V	500	200	1.601,035	6.660,923	3.740,691	16.676,794
1	PRFV	4.369,024	1,684	6,508	1,900	1,834	31.333,684	1H:5V	500	200	1.602,919	6.667,562	3.745,103	16.689,294
1	PRFV	4.370,213	1,674	1,189	1,900	1,824	31.338,611	1H:5V	500	200	1.603,263	6.668,776	3.745,909	16.691,587
1	PRFV	4.377,910	1,578	7,697	1,900	1,728	31.369,443	1H:5V	500	200	1.605,492	6.676,628	3.751,128	16.705,366
1	PRFV	4.380,000	1,584	2,090	1,900	1,734	31.377,569	1H:5V	500	200	1.606,097	6.678,761	3.752,545	16.708,862
1	PRFV	4.400,000	1,617	20,000	1,900	1,767	31.456,346	1H:5V	500	200	1.611,887	6.699,165	3.766,105	16.743,329
1	PRFV	4.405,608	1,629	5,608	1,900	1,779	31.478,764	1H:5V	500	200	1.613,510	6.704,887	3.769,907	16.753,322
1	PRFV	4.420,000	1,792	14,392	1,900	1,942	31.539,621	1H:5V	500	200	1.617,677	6.719,570	3.779,665	16.782,294
1	PRFV	4.440,000	1,574	20,000	1,900	1,724	31.622,762	1H:5V	500	200	1.623,467	6.739,975	3.793,225	16.821,125
1	PRFV	4.460,000	1,525	20,000	1,900	1,675	31.698,899	1H:5V	500	200	1.629,257	6.760,379	3.806,785	16.852,952
1	PRFV	4.469,754	1,500	9,754	1,900	1,650	31.735,102	1H:5V	500	200	1.632,081	6.770,331	3.813,398	16.867,545
1	PRFV	4.469,860	1,521	0,106	1,900	1,671	31.735,494	1H:5V	500	200	1.632,111	6.770,439	3.813,470	16.867,703
1	PRFV	4.480,000	3,238	10,140	1,900	3,388	31.806,567	1H:5V	500	200	1.635,047	6.780,784	3.820,345	16.916,310
1	PRFV	4.490,000	2,416	10,000	1,900	2,566	31.888,953	1H:5V	500	200	1.637,942	6.790,986	3.827,125	16.976,541
1	PRFV	4.500,000	1,504	10,000	1,900	1,654	31.938,363	1H:5V	500	200	1.640,837	6.801,189	3.833,905	17.003,796
1	PRFV	4.503,428	1,736	3,428	1,900	1,886	31.952,049	1H:5V	500	200	1.641,829	6.804,686	3.836,229	17.009,887
1	PRFV	4.518,554	3,279	15,126	1,900	3,429	32.064,567	1H:5V	500	200	1.646,208	6.820,118	3.846,485	17.088,894
1	PRFV	4.520,000	3,162	1,446	1,900	3,312	32.079,257	1H:5V	500	200	1.646,627	6.821,593	3.847,465	17.100,380
1	PRFV	4.539,820	1,566	19,820	1,900	1,716	32.213,874	1H:5V	500	200	1.652,365	6.841,814	3.860,903	17.191,086
1	PRFV	4.540,000	1,566	0,180	1,840	1,716	32.214,558	1H:5V	500	140	1.652,416	6.841,996	3.861,023	17.191,378
1	PRFV	4.560,000	1,526	20,000	1,840	1,676	32.288,478	1H:5V	500	140	1.658,026	6.862,001	3.874,223	17.222,248

R-6														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	4.580,000	2,106	20,000	1,840	2,256	32.376,623	1H:5V	500	140	1.663,636	6.882,007	3.887,423	17.267,344
1	PRFV	4.600,000	2,442	20,000	1,840	2,592	32.489,443	1H:5V	500	140	1.669,246	6.902,012	3.900,623	17.337,113
1	PRFV	4.607,900	2,714	7,900	1,840	2,864	32.540,884	1H:5V	500	140	1.671,462	6.909,914	3.905,837	17.371,550
1	PRFV	4.620,000	2,542	12,100	1,100	2,692	32.609,375	1H:5V	500		1.674,184	6.919,424	3.912,480	17.418,790
1	PRFV	4.640,000	1,744	20,000	1,100	1,894	32.681,490	1H:5V	500		1.677,574	6.930,857	3.921,240	17.463,394
1	PRFV	4.655,638	2,703	15,638	1,100	2,853	32.740,657	1H:5V	500		1.680,225	6.939,796	3.928,090	17.501,051
1	PRFV	4.660,000	2,123	4,362	1,100	2,273	32.758,759	1H:5V	500		1.680,964	6.942,290	3.930,000	17.513,153
1	PRFV	4.663,217	1,620	3,217	1,100	1,770	32.768,582	1H:5V	500		1.681,510	6.944,129	3.931,409	17.518,551
1	PRFV	4.670,796	1,509	7,579	1,100	1,659	32.787,336	1H:5V	500		1.682,794	6.948,461	3.934,729	17.526,880
1	PRFV	4.680,000	1,565	9,204	1,100	1,715	32.809,656	1H:5V	500		1.684,354	6.953,723	3.938,760	17.536,540
1	PRFV	4.700,000	1,627	20,000	1,100	1,777	32.860,266	1H:5V	500		1.687,744	6.965,156	3.947,520	17.559,640
1	PRFV	4.710,000	1,579	10,000	1,100	1,729	32.885,696	1H:5V	500		1.689,439	6.970,872	3.951,900	17.571,315
1	PRFV	4.720,000	1,611	10,000	1,100	1,761	32.910,982	1H:5V	500		1.691,134	6.976,589	3.956,280	17.582,846
1	PRFV	4.740,000	1,683	20,000	1,100	1,833	32.963,438	1H:5V	500		1.694,524	6.988,022	3.965,040	17.607,792
1	PRFV	4.760,000	1,749	20,000	1,100	1,899	33.018,422	1H:5V	500		1.697,914	6.999,455	3.973,800	17.635,266
1	PRFV	4.780,000	1,811	20,000	1,100	1,961	33.075,785	1H:5V	500		1.701,304	7.010,888	3.982,560	17.665,119
1	PRFV	4.800,000	1,919	20,000	1,100	2,069	33.136,368	1H:5V	500		1.704,694	7.022,321	3.991,320	17.698,192
1	PRFV	4.820,000	1,796	20,000	1,100	1,946	33.196,668	1H:5V	500		1.708,084	7.033,754	4.000,080	17.730,982
1	PRFV	4.840,000	1,561	20,000	1,100	1,711	33.250,324	1H:5V	500		1.711,474	7.045,187	4.008,840	17.757,128
1	PRFV	4.860,000	1,685	20,000	1,100	1,835	33.301,920	1H:5V	500		1.714,864	7.056,620	4.017,600	17.781,214
1	PRFV	4.880,000	1,639	20,000	1,100	1,789	33.354,919	1H:5V	500		1.718,254	7.068,053	4.026,360	17.806,703
1	PRFV	4.900,000	1,554	20,000	1,100	1,704	33.405,550	1H:5V	500		1.721,644	7.079,486	4.035,120	17.829,825
1	PRFV	4.920,000	1,571	20,000	1,100	1,721	33.454,956	1H:5V	500		1.725,034	7.090,919	4.043,880	17.851,720
1	PRFV	4.940,000	1,679	20,000	1,100	1,829	33.506,621	1H:5V	500		1.728,424	7.102,352	4.052,640	17.875,875
1	PRFV	4.960,000	1,585	20,000	1,100	1,735	33.558,535	1H:5V	500		1.731,814	7.113,785	4.061,400	17.900,280
1	PRFV	4.980,000	1,668	20,000	1,100	1,818	33.610,249	1H:5V	500		1.735,204	7.125,218	4.070,160	17.924,483
1	PRFV	5.000,000	1,840	20,000	1,100	1,990	33.666,668	1H:5V	500		1.738,594	7.136,651	4.078,920	17.953,392
1	PRFV	5.020,000	2,012	20,000	1,100	2,162	33.729,608	1H:5V	500		1.741,984	7.148,084	4.087,680	17.988,822
1	PRFV	5.034,755	1,909	14,755	1,100	2,059	33.777,015	1H:5V	500		1.744,485	7.156,519	4.094,143	18.015,934
1	PRFV	5.040,000	1,884	5,245	1,100	2,034	33.793,216	1H:5V	500		1.745,374	7.159,517	4.096,440	18.024,920
1	PRFV	5.060,000	1,717	20,000	1,100	1,867	33.851,372	1H:5V	500		1.748,764	7.170,950	4.105,200	18.055,567
1	PRFV	5.080,000	1,664	20,000	1,100	1,814	33.905,416	1H:5V	500		1.752,154	7.182,383	4.113,960	18.082,100
1	PRFV	5.097,810	2,003	17,810	1,100	2,153	33.958,391	1H:5V	500		1.755,173	7.192,564	4.121,761	18.110,577
1	PEAD	5.100,000	2,015	2,190	0,755	2,165	33.964,816	1H:5V	355		1.755,488	7.193,301	4.122,759	18.114,736
1	PEAD	5.120,000	2,115	20,000	0,755	2,265	34.017,897	1H:5V	355		1.757,843	7.195,331	4.132,230	18.151,983
1	PEAD	5.140,000	2,421	20,000	0,755	2,571	34.077,890	1H:5V	355		1.760,198	7.197,360	4.141,700	18.196,140

R-6														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	5.141,552	2,363	1,552	0,755	2,513	34.082,874	1H:5V	355		1.760,380	7.197,518	4.142,435	18.199,896
1	PEAD	5.143,327	2,312	1,775	0,755	2,462	34.088,405	1H:5V	355		1.760,589	7.197,698	4.143,276	18.204,021
1	PEAD	5.145,102	2,293	1,775	0,755	2,443	34.093,826	1H:5V	355		1.760,798	7.197,878	4.144,116	18.208,038
1	PEAD	5.160,000	2,263	14,898	0,755	2,413	34.138,703	1H:5V	355		1.762,553	7.199,390	4.151,171	18.241,119
1	PEAD	5.180,000	2,223	20,000	0,755	2,373	34.197,744	1H:5V	355		1.764,908	7.201,419	4.160,641	18.284,326
1	PEAD	5.200,000	2,183	20,000	0,755	2,333	34.255,423	1H:5V	355		1.767,263	7.203,449	4.170,112	18.326,170
1	PEAD	5.220,000	1,583	20,000	0,755	1,733	34.303,013	1H:5V	355		1.769,618	7.205,478	4.179,582	18.357,926
1	PEAD	5.237,990	1,386	17,990	0,755	1,536	34.334,861	1H:5V	355		1.771,736	7.207,304	4.188,101	18.375,530
1	PEAD	5.240,000	1,382	2,010	0,755	1,532	34.338,135	1H:5V	355		1.771,973	7.207,507	4.189,053	18.377,213
1	PEAD	5.242,010	1,396	2,010	0,755	1,546	34.341,423	1H:5V	355		1.772,209	7.207,711	4.190,005	18.378,909
1	PEAD	5.260,000	1,496	17,990	0,755	1,646	34.372,274	1H:5V	355		1.774,328	7.209,537	4.198,523	18.395,517
1	PEAD	5.280,000	1,528	20,000	0,755	1,678	34.408,420	1H:5V	355		1.776,683	7.211,566	4.207,994	18.415,829
1	PEAD	5.289,491	1,496	9,491	0,755	1,646	34.425,573	1H:5V	355		1.777,800	7.212,530	4.212,488	18.425,468
1	PEAD	5.291,501	1,505	2,010	0,755	1,655	34.429,173	1H:5V	355		1.778,037	7.212,733	4.213,440	18.427,476
1	PEAD	5.293,511	1,539	2,010	0,755	1,689	34.432,835	1H:5V	355		1.778,274	7.212,937	4.214,392	18.429,546
1	PEAD	5.300,000	1,674	6,489	0,755	1,824	34.445,450	1H:5V	355		1.779,038	7.213,596	4.217,464	18.437,024
1	PEAD	5.320,000	2,115	20,000	0,755	2,265	34.493,236	1H:5V	355		1.781,393	7.215,625	4.226,935	18.468,976
1	PEAD	5.340,000	2,147	20,000	0,755	2,297	34.548,492	1H:5V	355		1.783,748	7.217,655	4.236,406	18.508,397
1	PEAD	5.360,000	2,221	20,000	0,755	2,371	34.605,531	1H:5V	355		1.786,103	7.219,684	4.245,876	18.549,602
1	PEAD	5.380,000	2,245	20,000	0,755	2,395	34.664,230	1H:5V	355		1.788,458	7.221,714	4.255,347	18.592,466
1	PEAD	5.400,000	2,190	20,000	0,755	2,340	34.722,403	1H:5V	355		1.790,813	7.223,743	4.264,817	18.634,804
1	PEAD	5.420,000	2,127	20,000	0,755	2,277	34.778,582	1H:5V	355		1.793,168	7.225,773	4.274,288	18.675,148
1	PEAD	5.440,000	2,055	20,000	0,755	2,205	34.832,514	1H:5V	355		1.795,523	7.227,802	4.283,758	18.713,246
1	PEAD	5.460,000	1,970	20,000	0,755	2,120	34.883,881	1H:5V	355		1.797,878	7.229,832	4.293,229	18.748,778
1	PEAD	5.461,371	1,974	1,371	0,755	2,124	34.887,312	1H:5V	355		1.798,039	7.229,971	4.293,878	18.751,124
1	PEAD	5.480,000	2,022	18,629	0,755	2,172	34.934,716	1H:5V	355		1.800,233	7.231,861	4.302,699	18.783,779
1	PEAD	5.500,000	1,879	20,000	0,755	2,029	34.984,102	1H:5V	355		1.802,588	7.233,891	4.312,170	18.817,330
1	PEAD	5.520,000	1,715	20,000	0,755	1,865	35.028,692	1H:5V	355		1.804,943	7.235,920	4.321,640	18.846,086
1	PEAD	5.540,000	1,675	20,000	0,755	1,825	35.070,169	1H:5V	355		1.807,298	7.237,950	4.331,111	18.871,728
1	PEAD	5.560,000	1,635	20,000	0,755	1,785	35.110,459	1H:5V	355		1.809,653	7.239,979	4.340,581	18.896,183
1	PEAD	5.580,000	1,595	20,000	0,755	1,745	35.149,573	1H:5V	355		1.812,008	7.242,009	4.350,052	18.919,462
1	PEAD	5.600,000	1,555	20,000	0,755	1,705	35.187,524	1H:5V	355		1.814,363	7.244,038	4.359,522	18.941,579
1	PEAD	5.620,000	1,515	20,000	0,755	1,665	35.224,326	1H:5V	355		1.816,718	7.246,068	4.368,993	18.962,547
1	PEAD	5.640,000	1,475	20,000	0,755	1,625	35.259,991	1H:5V	355		1.819,073	7.248,097	4.378,463	18.982,377
1	PEAD	5.660,000	1,435	20,000	0,755	1,585	35.294,533	1H:5V	355		1.821,428	7.250,127	4.387,934	19.001,084
1	PEAD	5.680,000	1,395	20,000	0,755	1,545	35.327,963	1H:5V	355		1.823,783	7.252,156	4.397,404	19.018,679

R-6														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	5.680,066	1,395	0,066	0,755	1,545	35.328,071	1H:5V	355		1.823,791	7.252,163	4.397,436	19.018,735
1	PEAD	5.695,080	1,365	15,014	0,755	1,515	35.352,444	1H:5V	355		1.825,558	7.253,686	4.404,545	19.031,222
1	PEAD	5.700,000	1,355	4,920	0,755	1,505	35.360,297	1H:5V	355		1.826,138	7.254,185	4.406,875	19.035,179
1	PEAD	5.720,000	1,530	20,000	0,755	1,680	35.394,519	1H:5V	355		1.828,493	7.256,215	4.416,346	19.053,566
1	PEAD	5.740,000	1,632	20,000	0,755	1,782	35.432,653	1H:5V	355		1.830,848	7.258,244	4.425,816	19.075,865
1	PEAD	5.760,000	1,581	20,000	0,755	1,731	35.471,520	1H:5V	355		1.833,203	7.260,274	4.435,287	19.098,898
1	PEAD	5.780,000	1,461	20,000	0,755	1,611	35.507,935	1H:5V	355		1.835,558	7.262,303	4.444,757	19.119,479
1	PEAD	5.800,000	1,510	20,000	0,755	1,660	35.543,333	1H:5V	355		1.837,913	7.264,333	4.454,228	19.139,042
1	PEAD	5.803,398	1,497	3,398	0,755	1,647	35.549,433	1H:5V	355		1.838,313	7.264,678	4.455,837	19.142,452
1	PEAD	5.805,566	1,481	2,168	0,755	1,631	35.553,281	1H:5V	355		1.838,568	7.264,898	4.456,863	19.144,583
1	PEAD	5.805,894	1,487	0,328	0,650	1,637	35.553,832	1H:5V	250		1.838,604	7.264,925	4.457,004	19.144,914
1	PEAD	5.808,390	1,523	2,496	0,650	1,673	35.557,885	1H:5V	250		1.838,859	7.265,093	4.457,956	19.147,469
1	PEAD	5.820,000	1,655	11,610	0,650	1,805	35.578,040	1H:5V	250		1.840,043	7.265,875	4.462,386	19.160,659
1	PEAD	5.840,000	1,734	20,000	0,650	1,884	35.615,634	1H:5V	250		1.842,083	7.267,222	4.470,018	19.186,252
1	PEAD	5.860,000	1,495	20,000	0,650	1,645	35.651,083	1H:5V	250		1.844,123	7.268,568	4.477,649	19.209,702
1	PEAD	5.880,000	1,279	20,000	0,650	1,429	35.680,560	1H:5V	250		1.846,163	7.269,915	4.485,281	19.227,179
1	PEAD	5.900,000	1,503	20,000	0,650	1,653	35.710,142	1H:5V	250		1.848,203	7.271,262	4.492,913	19.244,761
1	PEAD	5.905,177	1,547	5,177	0,650	1,697	35.718,684	1H:5V	250		1.848,731	7.271,610	4.494,888	19.250,197
1	PEAD	5.920,000	1,711	14,823	0,650	1,861	35.745,227	1H:5V	250		1.850,243	7.272,608	4.500,544	19.267,846
1	PEAD	5.940,000	1,536	20,000	0,650	1,686	35.780,895	1H:5V	250		1.852,283	7.273,955	4.508,176	19.291,513
1	PEAD	5.960,000	1,339	20,000	0,650	1,489	35.811,652	1H:5V	250		1.854,323	7.275,301	4.515,807	19.310,270
1	PEAD	5.980,000	2,057	20,000	0,650	2,207	35.849,851	1H:5V	250		1.856,363	7.276,648	4.523,439	19.336,470
1	PEAD	6.000,000	1,817	20,000	0,650	1,967	35.894,462	1H:5V	250		1.858,403	7.277,995	4.531,071	19.369,081
1	PEAD	6.020,000	1,577	20,000	0,650	1,727	35.932,177	1H:5V	250		1.860,443	7.279,341	4.538,702	19.394,795
1	PEAD	6.035,627	1,451	15,627	0,650	1,601	35.957,745	1H:5V	250		1.862,037	7.280,394	4.544,665	19.410,987
1	PEAD	6.040,000	1,559	4,373	0,600	1,709	35.964,661	1H:5V	200		1.862,467	7.280,655	4.546,243	19.415,497
1	PEAD	6.060,000	2,045	20,000	0,600	2,195	36.003,562	1H:5V	200		1.864,357	7.281,701	4.553,038	19.444,038
1	PEAD	6.074,914	1,919	14,914	0,600	2,069	36.036,210	1H:5V	200		1.865,766	7.282,481	4.558,106	19.468,961
1	PEAD	6.075,713	1,913	0,799	0,600	2,063	36.037,882	1H:5V	200		1.865,841	7.282,523	4.558,378	19.470,220
1	PEAD	6.075,996	1,912	0,283	0,600	2,062	36.038,473	1H:5V	200		1.865,868	7.282,537	4.558,474	19.470,664
1	PEAD	6.076,512	1,913	0,516	0,600	2,063	36.039,551	1H:5V	200		1.865,917	7.282,564	4.558,649	19.471,474
1	PEAD	6.080,000	1,927	3,488	0,600	2,077	36.046,872	1H:5V	200		1.866,247	7.282,747	4.559,834	19.476,989
1	PEAD	6.100,000	1,700	20,000	0,600	1,850	36.085,907	1H:5V	200		1.868,137	7.283,793	4.566,630	19.505,664
1	PEAD	6.120,000	1,557	20,000	0,600	1,707	36.119,922	1H:5V	200		1.870,027	7.284,838	4.573,426	19.529,318
1	PEAD	6.140,000	1,534	20,000	0,600	1,684	36.151,767	1H:5V	200		1.871,917	7.285,884	4.580,222	19.550,804
1	PEAD	6.160,000	1,555	20,000	0,600	1,705	36.183,587	1H:5V	200		1.873,807	7.286,930	4.587,018	19.572,263

R-6														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	6.180,000	1,380	20,000	0,600	1,530	36.213,493	1H:5V	200		1.875,697	7.287,976	4.593,813	19.591,809
1	PEAD	6.200,000	1,407	20,000	0,600	1,557	36.241,545	1H:5V	200		1.877,587	7.289,022	4.600,609	19.609,502
1	PEAD	6.220,000	1,487	20,000	0,600	1,637	36.270,917	1H:5V	200		1.879,477	7.290,068	4.607,405	19.628,514
1	PEAD	6.240,000	1,567	20,000	0,600	1,717	36.302,297	1H:5V	200		1.881,367	7.291,114	4.614,201	19.649,533
1	PEAD	6.260,000	1,647	20,000	0,600	1,797	36.335,735	1H:5V	200		1.883,257	7.292,159	4.620,997	19.672,612
1	PEAD	6.280,000	1,727	20,000	0,600	1,877	36.371,284	1H:5V	200		1.885,147	7.293,205	4.627,793	19.697,801
1	PEAD	6.300,000	1,807	20,000	0,600	1,957	36.408,994	1H:5V	200		1.887,037	7.294,251	4.634,589	19.725,151
1	PEAD	6.320,000	1,887	20,000	0,600	2,037	36.448,917	1H:5V	200		1.888,927	7.295,297	4.641,384	19.754,713
1	PEAD	6.340,000	1,967	20,000	0,600	2,117	36.491,103	1H:5V	200		1.890,817	7.296,343	4.648,180	19.786,539
1	PEAD	6.360,000	2,028	20,000	0,600	2,178	36.535,323	1H:5V	200		1.892,707	7.297,389	4.654,976	19.820,400
1	PEAD	6.380,000	1,877	20,000	0,600	2,027	36.578,258	1H:5V	200		1.894,597	7.298,434	4.661,772	19.852,975
1	PEAD	6.400,000	1,716	20,000	0,600	1,866	36.616,798	1H:5V	200		1.896,487	7.299,480	4.668,568	19.881,154
1	PEAD	6.420,000	1,551	20,000	0,600	1,701	36.650,950	1H:5V	200		1.898,377	7.300,526	4.675,364	19.904,947
1	PEAD	6.440,000	1,367	20,000	0,600	1,517	36.680,648	1H:5V	200		1.900,267	7.301,572	4.682,159	19.924,284
1	PEAD	6.456,437	1,481	16,437	0,600	1,631	36.704,326	1H:5V	200		1.901,820	7.302,431	4.687,745	19.939,448

3.76 RAMAL R-6-1

R-6-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,519	0,000	0,525	2,669	0,000	1H:5V	125	0,000	0,000	0,000	0,000
1	PEAD	19,808	2,288	19,808	0,525	2,438	52,438	1H:5V	125	1,649	0,618	5,537	44,391
1	PEAD	20,000	2,283	0,192	0,525	2,433	52,912	1H:5V	125	1,665	0,624	5,590	44,787
1	PEAD	40,000	1,858	20,000	0,525	2,008	96,130	1H:5V	125	3,330	1,248	11,181	79,880
1	PEAD	43,029	1,829	3,029	0,525	1,979	101,708	1H:5V	125	3,582	1,343	12,027	84,227
1	PEAD	60,000	1,533	16,971	0,525	1,683	129,475	1H:5V	125	4,995	1,872	16,771	105,100
1	PEAD	80,000	1,288	20,000	0,525	1,438	155,661	1H:5V	125	6,660	2,497	22,362	123,161
1	PEAD	81,632	1,286	1,632	0,525	1,436	157,566	1H:5V	125	6,796	2,548	22,818	124,403
1	PEAD	97,885	1,159	16,253	0,525	1,309	175,414	1H:5V	125	8,149	3,055	27,361	135,648
1	PEAD	99,200	1,139	1,315	0,525	1,289	176,755	1H:5V	125	8,258	3,096	27,728	136,455
1	PEAD	100,000	1,198	0,800	0,525	1,348	177,587	1H:5V	125	8,325	3,121	27,952	136,962
1	PEAD	100,515	1,246	0,515	0,525	1,396	178,151	1H:5V	125	8,368	3,137	28,096	137,317
1	PEAD	112,007	1,306	11,492	0,525	1,456	191,431	1H:5V	125	9,325	3,495	31,308	145,928
1	PEAD	120,000	1,301	7,993	0,525	1,451	200,907	1H:5V	125	9,990	3,745	33,542	152,157

R-6-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	139,385	1,139	19,385	0,525	1,289	222,152	1H:5V	125	11,604	4,350	38,961	165,527
1	PEAD	140,000	1,135	0,615	0,525	1,285	222,772	1H:5V	125	11,655	4,369	39,133	165,897
1	PEAD	140,910	1,137	0,910	0,525	1,287	223,687	1H:5V	125	11,731	4,397	39,387	166,442
1	PEAD	142,435	1,182	1,525	0,525	1,332	225,259	1H:5V	125	11,858	4,445	39,813	167,394
1	PEAD	160,000	1,467	17,565	0,525	1,617	246,565	1H:5V	125	13,320	4,993	44,723	181,565
1	PEAD	180,000	1,723	20,000	0,525	1,873	277,133	1H:5V	125	14,985	5,617	50,314	204,008
1	PEAD	200,000	1,599	20,000	0,525	1,749	309,283	1H:5V	125	16,650	6,242	55,904	228,033
1	PEAD	220,000	1,192	20,000	0,525	1,342	335,231	1H:5V	125	18,315	6,866	61,494	245,856
1	PEAD	240,000	1,351	20,000	0,525	1,501	358,264	1H:5V	125	19,980	7,490	67,085	260,764
1	PEAD	246,077	1,516	6,077	0,525	1,666	366,372	1H:5V	125	20,486	7,680	68,784	266,403
1	PEAD	250,000	1,629	3,923	0,525	1,779	372,250	1H:5V	125	20,813	7,802	69,880	270,688
1	PEAD	253,923	1,565	3,923	0,525	1,715	378,244	1H:5V	125	21,139	7,924	70,977	275,087
1	PEAD	260,000	1,422	6,077	0,525	1,572	386,776	1H:5V	125	21,645	8,114	72,675	281,151
1	PEAD	280,000	1,338	20,000	0,525	1,488	412,212	1H:5V	125	23,310	8,738	78,266	298,462
1	PEAD	290,768	1,139	10,768	0,525	1,289	424,235	1H:5V	125	24,206	9,074	81,276	306,110
1	PEAD	293,118	1,226	2,350	0,525	1,376	426,714	1H:5V	125	24,402	9,148	81,932	307,635
1	PEAD	295,160	1,359	2,042	0,525	1,509	429,112	1H:5V	125	24,572	9,211	82,503	309,203
1	PEAD	295,468	1,360	0,308	0,525	1,510	429,496	1H:5V	125	24,598	9,221	82,589	309,463
1	PEAD	300,000	1,378	4,532	0,525	1,528	435,202	1H:5V	125	24,975	9,362	83,856	313,327
1	PEAD	320,000	1,458	20,000	0,525	1,608	461,507	1H:5V	125	26,640	9,987	89,447	331,507
1	PEAD	340,000	1,537	20,000	0,525	1,687	489,669	1H:5V	125	28,305	10,611	95,037	351,544
1	PEAD	358,027	1,213	18,027	0,525	1,363	512,581	1H:5V	125	29,806	11,173	100,076	367,133
1	PEAD	360,000	1,192	1,973	0,525	1,342	514,704	1H:5V	125	29,970	11,235	100,627	368,454
1	PEAD	361,973	1,209	1,973	0,525	1,359	516,823	1H:5V	125	30,134	11,296	101,179	369,771
1	PEAD	380,000	1,333	18,027	0,525	1,483	537,565	1H:5V	125	31,635	11,859	106,218	383,190
1	PEAD	384,534	1,256	4,534	0,525	1,406	542,897	1H:5V	125	32,012	12,000	107,485	386,680
1	PEAD	388,351	1,280	3,817	0,525	1,430	547,274	1H:5V	125	32,330	12,120	108,552	389,506
1	PEAD	392,168	1,449	3,817	0,525	1,599	552,065	1H:5V	125	32,648	12,239	109,619	392,747
1	PEAD	400,000	1,156	7,832	0,525	1,306	561,376	1H:5V	125	33,300	12,483	111,808	398,876
1	PEAD	420,000	1,207	20,000	0,525	1,357	582,451	1H:5V	125	34,965	13,107	117,399	411,826
1	PEAD	423,663	1,250	3,663	0,525	1,400	586,494	1H:5V	125	35,270	13,222	118,422	414,381
1	PEAD	425,279	1,283	1,616	0,525	1,433	588,345	1H:5V	125	35,404	13,272	118,874	415,575
1	PEAD	426,895	1,404	1,616	0,525	1,554	590,334	1H:5V	125	35,539	13,322	119,326	416,908
1	PEAD	440,000	1,466	13,105	0,525	1,616	607,826	1H:5V	125	36,630	13,731	122,989	429,076
1	PEAD	447,269	1,221	7,269	0,525	1,371	616,790	1H:5V	125	37,235	13,958	125,021	435,087
1	PEAD	448,135	1,241	0,866	0,525	1,391	617,748	1H:5V	125	37,307	13,985	125,263	435,693

R-6-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	449,001	1,253	0,866	0,525	1,403	618,721	1H:5V	125	37,379	14,012	125,505	436,315
1	PEAD	460,000	1,745	10,999	0,525	1,895	634,358	1H:5V	125	38,295	14,356	128,579	447,483
1	PEAD	467,730	2,000	7,730	0,525	2,150	648,915	1H:5V	125	38,939	14,597	130,740	458,900
1	PEAD	475,000	1,971	7,270	0,525	2,121	663,697	1H:5V	125	39,544	14,824	132,772	470,728
1	PEAD	480,000	1,295	5,000	0,525	1,445	671,671	1H:5V	125	39,960	14,980	134,170	476,671
1	PEAD	500,000	2,013	20,000	0,525	2,163	704,146	1H:5V	125	41,625	15,604	139,760	501,021
1	PEAD	520,000	1,560	20,000	0,525	1,710	739,684	1H:5V	125	43,290	16,228	145,351	528,434
1	PEAD	539,397	1,247	19,397	0,525	1,397	764,962	1H:5V	125	44,905	16,833	150,772	545,832
1	PEAD	540,000	1,263	0,603	0,525	1,413	765,645	1H:5V	125	44,955	16,852	150,941	546,270
1	PEAD	542,350	1,300	2,350	0,525	1,450	768,374	1H:5V	125	45,151	16,926	151,598	548,044
1	PEAD	545,303	1,340	2,953	0,525	1,490	771,930	1H:5V	125	45,396	17,018	152,423	550,400
1	PEAD	551,090	1,168	5,787	0,525	1,318	778,485	1H:5V	125	45,878	17,198	154,041	554,605
1	PEAD	560,000	1,584	8,910	0,525	1,734	789,850	1H:5V	125	46,620	17,476	156,531	562,350
1	PEAD	580,000	1,580	20,000	0,525	1,730	820,036	1H:5V	125	48,285	18,101	162,122	584,411
1	PEAD	600,000	1,669	20,000	0,525	1,819	851,271	1H:5V	125	49,950	18,725	167,712	607,521
1	PEAD	601,145	1,628	1,145	0,525	1,778	853,093	1H:5V	125	50,045	18,760	168,032	608,878
1	PEAD	602,312	1,593	1,167	0,525	1,743	854,895	1H:5V	125	50,142	18,797	168,358	610,206
1	PEAD	603,479	1,572	1,167	0,525	1,722	856,657	1H:5V	125	50,240	18,833	168,685	611,494
1	PEAD	608,617	1,509	5,138	0,525	1,659	864,155	1H:5V	125	50,667	18,994	170,121	616,904
1	PEAD	620,000	1,134	11,383	0,525	1,284	877,958	1H:5V	125	51,615	19,349	173,303	626,083
1	PEAD	629,033	1,194	9,033	0,525	1,344	887,311	1H:5V	125	52,367	19,631	175,828	631,766
1	PEAD	640,000	1,264	10,967	0,525	1,414	899,424	1H:5V	125	53,280	19,973	178,893	639,424
1	PEAD	660,000	1,186	20,000	0,525	1,336	921,430	1H:5V	125	54,945	20,597	184,483	653,305
1	PEAD	660,213	1,185	0,213	0,525	1,335	921,656	1H:5V	125	54,963	20,604	184,543	653,444
1	PEAD	661,827	1,174	1,614	0,525	1,324	923,353	1H:5V	125	55,097	20,654	184,994	654,485
1	PEAD	663,441	1,152	1,614	0,525	1,302	925,022	1H:5V	125	55,231	20,705	185,445	655,499
1	PEAD	680,000	1,205	16,559	0,525	1,355	942,418	1H:5V	125	56,610	21,221	190,074	666,168
1	PEAD	700,000	1,594	20,000	0,525	1,744	968,443	1H:5V	125	58,275	21,845	195,664	684,068
1	PEAD	709,077	1,520	9,077	0,525	1,670	981,870	1H:5V	125	59,031	22,129	198,201	693,808
1	PEAD	710,084	1,524	1,007	0,525	1,674	983,317	1H:5V	125	59,114	22,160	198,483	694,846
1	PEAD	711,091	1,539	1,007	0,525	1,689	984,776	1H:5V	125	59,198	22,192	198,764	695,895
1	PEAD	720,000	1,593	8,909	0,525	1,743	998,050	1H:5V	125	59,940	22,470	201,255	705,550
1	PEAD	740,000	1,602	20,000	0,525	1,752	1.028,614	1H:5V	125	61,605	23,094	206,845	727,989
1	PEAD	760,000	1,262	20,000	0,525	1,412	1.055,351	1H:5V	125	63,270	23,718	212,435	746,601
1	PEAD	768,590	1,129	8,590	0,525	1,279	1.064,537	1H:5V	125	63,985	23,986	214,837	752,297
1	PEAD	780,000	1,379	11,410	0,525	1,529	1.077,481	1H:5V	125	64,935	24,342	218,026	760,606

R-6-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	789,691	1,125	9,691	0,525	1,275	1.088,455	1H:5V	125	65,742	24,645	220,735	767,643

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R-6-10													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	3,279	0,000	0,525	3,429	0,000	1H:5V	125	0,000	0,000	0,000	0,000
1	PEAD	15,026	1,776	15,026	0,525	1,926	57,256	1H:5V	125	1,251	0,469	4,200	51,151
1	PEAD	19,926	1,406	4,900	0,525	1,556	64,738	1H:5V	125	1,659	0,622	5,570	56,643
1	PEAD	20,000	1,403	0,074	0,525	1,553	64,835	1H:5V	125	1,665	0,624	5,590	56,710
1	PEAD	24,826	1,277	4,826	0,525	1,427	70,756	1H:5V	125	2,067	0,775	6,939	60,671
1	PEAD	40,000	1,246	15,174	0,525	1,396	88,048	1H:5V	125	3,330	1,248	11,181	71,798
1	PEAD	60,000	1,206	20,000	0,525	1,356	110,071	1H:5V	125	4,995	1,872	16,771	85,696
1	PEAD	65,256	1,196	5,256	0,525	1,346	115,718	1H:5V	125	5,433	2,036	18,240	89,207
1	PEAD	72,604	1,181	7,348	0,525	1,331	123,514	1H:5V	125	6,044	2,266	20,294	94,019
1	PEAD	75,813	1,140	3,209	0,525	1,290	126,824	1H:5V	125	6,311	2,366	21,191	96,025
1	PEAD	79,022	1,269	3,209	0,525	1,419	130,287	1H:5V	125	6,579	2,466	22,088	98,184
1	PEAD	80,000	1,291	0,978	0,525	1,441	131,421	1H:5V	125	6,660	2,497	22,362	98,921
1	PEAD	86,338	1,478	6,338	0,525	1,628	139,523	1H:5V	125	7,188	2,694	24,133	104,448
1	PEAD	100,000	1,250	13,662	0,525	1,400	156,681	1H:5V	125	8,325	3,121	27,952	116,056
1	PEAD	100,004	1,250	0,004	0,525	1,400	156,685	1H:5V	125	8,325	3,121	27,953	116,059
1	PEAD	103,213	1,201	3,209	0,525	1,351	160,217	1H:5V	125	8,592	3,221	28,850	118,287
1	PEAD	106,422	1,176	3,209	0,525	1,326	163,622	1H:5V	125	8,860	3,321	29,747	120,388
1	PEAD	120,000	1,165	13,578	0,525	1,315	177,771	1H:5V	125	9,990	3,745	33,542	129,021
1	PEAD	140,000	1,162	20,000	0,525	1,312	198,463	1H:5V	125	11,655	4,369	39,133	141,588
1	PEAD	160,000	1,163	20,000	0,525	1,313	219,135	1H:5V	125	13,320	4,993	44,723	154,135
1	PEAD	167,562	1,164	7,562	0,525	1,314	226,959	1H:5V	125	13,950	5,229	46,837	158,887
1	PEAD	177,691	1,212	10,129	0,525	1,362	237,702	1H:5V	125	14,793	5,545	49,668	165,515
1	PEAD	180,000	1,208	2,309	0,525	1,358	240,205	1H:5V	125	14,985	5,617	50,314	167,080
1	PEAD	200,000	1,168	20,000	0,525	1,318	261,417	1H:5V	125	16,650	6,242	55,904	180,167
1	PEAD	220,000	1,128	20,000	0,525	1,278	281,786	1H:5V	125	18,315	6,866	61,494	192,411
1	PEAD	227,541	1,393	7,541	0,525	1,543	290,398	1H:5V	125	18,943	7,101	63,602	197,959

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R-6-11													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,481	0,000	0,625	1,631	0,000	1H:5V	225	0,000	0,000	0,000	0,000
1	PEAD	17,249	1,564	17,249	0,625	1,714	27,687	1H:5V	225	1,695	1,030	6,219	18,057
1	PEAD	20,000	1,523	2,751	0,580	1,673	32,073	1H:5V	180	1,956	1,176	7,160	21,026
1	PEAD	34,029	1,362	14,029	0,580	1,512	52,165	1H:5V	180	3,239	1,828	11,697	34,287
1	PEAD	40,000	1,309	5,971	0,510	1,459	59,640	1H:5V	110	3,754	2,048	13,462	39,206
1	PEAD	60,000	1,379	20,000	0,510	1,529	83,812	1H:5V	110	5,374	2,592	18,818	55,667
1	PEAD	73,407	1,141	13,407	0,510	1,291	98,822	1H:5V	110	6,460	2,957	22,409	65,508
1	PEAD	74,763	1,119	1,356	0,510	1,269	100,152	1H:5V	110	6,570	2,994	22,772	66,315
1	PEAD	76,119	1,114	1,356	0,510	1,264	101,462	1H:5V	110	6,680	3,031	23,135	67,103
1	PEAD	80,000	1,121	3,881	0,510	1,271	105,218	1H:5V	110	6,994	3,137	24,175	69,363
1	PEAD	92,432	1,149	12,432	0,510	1,299	117,472	1H:5V	110	8,001	3,475	27,504	76,824
1	PEAD	93,405	1,147	0,973	0,510	1,297	118,444	1H:5V	110	8,080	3,501	27,765	77,420
1	PEAD	94,378	1,137	0,973	0,510	1,287	119,410	1H:5V	110	8,159	3,528	28,025	78,011
1	PEAD	100,000	1,119	5,622	0,510	1,269	124,910	1H:5V	110	8,614	3,681	29,531	81,345
1	PEAD	118,137	1,307	18,137	0,510	1,457	144,289	1H:5V	110	10,083	4,174	34,388	93,731
1	PEAD	120,000	1,328	1,863	0,510	1,478	146,486	1H:5V	110	10,234	4,225	34,887	95,210
1	PEAD	132,371	1,464	12,371	0,510	1,614	162,165	1H:5V	110	11,236	4,561	38,200	106,119
1	PEAD	140,000	1,410	7,629	0,510	1,560	172,183	1H:5V	110	11,854	4,769	40,244	113,197
1	PEAD	160,000	1,273	20,000	0,510	1,423	196,314	1H:5V	110	13,474	5,313	45,600	129,617
1	PEAD	180,000	1,137	20,000	0,510	1,287	217,497	1H:5V	110	15,094	5,857	50,956	143,090
1	PEAD	186,970	1,122	6,970	0,510	1,272	224,328	1H:5V	110	15,659	6,046	52,823	147,233
1	PEAD	187,888	1,121	0,918	0,510	1,271	225,220	1H:5V	110	15,733	6,071	53,069	147,772
1	PEAD	188,806	1,134	0,918	0,510	1,284	226,118	1H:5V	110	15,808	6,096	53,314	148,316
1	PEAD	200,000	1,306	11,194	0,510	1,456	238,158	1H:5V	110	16,714	6,401	56,312	156,040
1	PEAD	220,000	1,329	20,000	0,510	1,479	261,741	1H:5V	110	18,334	6,945	61,669	171,913
1	PEAD	240,000	1,204	20,000	0,510	1,354	284,231	1H:5V	110	19,954	7,489	67,025	186,692
1	PEAD	248,371	1,162	8,371	0,510	1,312	292,897	1H:5V	110	20,632	7,717	69,267	192,131
1	PEAD	251,204	1,153	2,833	0,510	1,303	295,755	1H:5V	110	20,862	7,794	70,025	193,897
1	PEAD	254,037	1,131	2,833	0,510	1,281	298,567	1H:5V	110	21,091	7,871	70,784	195,617
1	PEAD	260,000	1,126	5,963	0,510	1,276	304,405	1H:5V	110	21,574	8,033	72,381	199,156
1	PEAD	280,000	1,206	20,000	0,510	1,356	324,762	1H:5V	110	23,194	8,577	77,737	211,803
1	PEAD	281,377	1,212	1,377	0,510	1,362	326,225	1H:5V	110	23,306	8,615	78,106	212,735

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R-6-12													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,714	0,000	0,715	2,864	0,000	1H:5V	315	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,926	20,000	0,715	2,076	60,346	1H:5V	315	2,235	1,761	8,757	46,034
1	PEAD	36,163	1,379	16,163	0,715	1,529	91,921	1H:5V	315	4,041	3,184	15,833	66,044
1	PEAD	40,000	1,363	3,837	0,715	1,513	97,869	1H:5V	315	4,470	3,522	17,513	69,246
1	PEAD	60,000	1,687	20,000	0,715	1,837	133,149	1H:5V	315	6,705	5,283	26,270	90,215
1	PEAD	80,000	1,479	20,000	0,715	1,629	169,987	1H:5V	315	8,940	7,045	35,026	112,742
1	PEAD	100,000	1,772	20,000	0,715	1,922	208,072	1H:5V	315	11,175	8,806	43,783	136,515
1	PEAD	120,000	1,509	20,000	0,715	1,659	246,569	1H:5V	315	13,410	10,567	52,540	160,701
1	PEAD	140,000	2,270	20,000	0,715	2,420	292,951	1H:5V	315	15,645	12,328	61,296	192,772
1	PEAD	160,000	1,782	20,000	0,715	1,932	343,246	1H:5V	315	17,880	14,089	70,053	228,755
1	PEAD	169,782	1,498	9,782	0,715	1,648	362,074	1H:5V	315	18,973	14,951	74,336	240,583
1	PEAD	175,043	1,667	5,261	0,715	1,817	371,756	1H:5V	315	19,561	15,414	76,639	246,501
1	PEAD	175,800	1,677	0,757	0,715	1,827	373,245	1H:5V	315	19,646	15,481	76,971	247,448
1	PEAD	176,557	1,692	0,757	0,715	1,842	374,748	1H:5V	315	19,730	15,547	77,302	248,409
1	PEAD	180,000	1,773	3,443	0,715	1,923	381,823	1H:5V	315	20,115	15,850	78,810	253,021
1	PEAD	186,455	1,692	6,455	0,715	1,842	395,089	1H:5V	315	20,836	16,419	81,636	261,667
1	PEAD	200,000	1,355	13,545	0,715	1,505	418,960	1H:5V	315	22,350	17,612	87,566	275,846
1	PEAD	220,000	1,350	20,000	0,715	1,500	449,476	1H:5V	315	24,585	19,373	96,323	292,050
1	PEAD	240,000	1,330	20,000	0,715	1,480	479,663	1H:5V	315	26,820	21,134	105,079	307,927
1	PEAD	241,110	1,329	1,110	0,715	1,479	481,324	1H:5V	315	26,944	21,232	105,565	308,793
1	PEAD	241,706	1,331	0,596	0,715	1,481	482,215	1H:5V	315	27,011	21,284	105,826	309,258
1	PEAD	242,302	1,336	0,596	0,715	1,486	483,110	1H:5V	315	27,077	21,337	106,087	309,726
1	PEAD	242,654	1,340	0,352	0,715	1,490	483,640	1H:5V	315	27,117	21,368	106,241	310,004
1	PEAD	260,000	1,369	17,346	0,715	1,519	510,153	1H:5V	315	29,055	22,895	113,836	324,105
1	PEAD	260,049	1,369	0,049	0,715	1,519	510,229	1H:5V	315	29,060	22,899	113,857	324,146
1	PEAD	280,000	1,329	19,951	0,715	1,479	540,580	1H:5V	315	31,290	24,656	122,593	340,220
1	PEAD	300,000	1,377	20,000	0,715	1,527	571,111	1H:5V	315	33,525	26,417	131,349	356,440
1	PEAD	320,000	1,343	20,000	0,715	1,493	601,825	1H:5V	315	35,760	28,179	140,106	372,843
1	PEAD	340,000	1,340	20,000	0,715	1,490	632,052	1H:5V	315	37,995	29,940	148,862	388,758
1	PEAD	360,000	1,329	20,000	0,715	1,479	662,096	1H:5V	315	40,230	31,701	157,619	404,490
1	PEAD	361,085	1,331	1,085	0,715	1,481	663,719	1H:5V	315	40,351	31,796	158,094	405,337
1	PEAD	362,178	1,350	1,093	0,715	1,500	665,370	1H:5V	315	40,473	31,893	158,573	406,206
1	PEAD	363,271	1,367	1,093	0,715	1,517	667,046	1H:5V	315	40,596	31,989	159,051	407,100
1	PEAD	380,000	1,722	16,729	0,715	1,872	697,027	1H:5V	315	42,465	33,462	166,376	425,110

R-6-12													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	391,064	1,980	11,064	0,715	2,130	721,753	1H:5V	315	43,701	34,436	171,220	441,919
1	PEAD	400,000	1,923	8,936	0,715	2,073	743,074	1H:5V	315	44,700	35,223	175,132	456,846
1	PEAD	420,000	1,852	20,000	0,715	2,002	788,821	1H:5V	315	46,935	36,984	183,889	488,282
1	PEAD	440,000	1,732	20,000	0,715	1,882	831,691	1H:5V	315	49,170	38,746	192,646	516,841
1	PEAD	460,000	1,607	20,000	0,715	1,757	870,968	1H:5V	315	51,405	40,507	201,402	541,806
1	PEAD	480,000	1,486	20,000	0,715	1,636	906,755	1H:5V	315	53,640	42,268	210,159	563,282
1	PEAD	500,000	1,387	20,000	0,715	1,537	939,520	1H:5V	315	55,875	44,029	218,915	581,735
1	PEAD	520,000	1,586	20,000	0,715	1,736	973,674	1H:5V	315	58,110	45,790	227,672	601,578
1	PEAD	532,995	2,076	12,995	0,715	2,226	1.002,436	1H:5V	315	59,562	46,935	233,362	621,041
1	PEAD	540,000	2,031	7,005	0,560	2,181	1.019,091	1H:5V	160	60,264	47,386	235,971	633,793
1	PEAD	551,332	1,899	11,332	0,560	2,049	1.042,661	1H:5V	160	61,266	47,849	239,454	652,187
1	PEAD	553,157	1,871	1,825	0,560	2,021	1.046,252	1H:5V	160	61,428	47,923	240,014	654,945
1	PEAD	556,013	1,768	2,856	0,560	1,918	1.051,619	1H:5V	160	61,681	48,040	240,892	659,007
1	PEAD	560,000	1,498	3,987	0,560	1,648	1.058,150	1H:5V	160	62,034	48,203	242,117	663,717
1	PEAD	560,694	1,437	0,694	0,560	1,587	1.059,142	1H:5V	160	62,095	48,231	242,330	664,392
1	PEAD	580,000	1,676	19,306	0,560	1,826	1.088,891	1H:5V	160	63,804	49,019	248,263	685,323
1	PEAD	584,606	1,463	4,606	0,560	1,613	1.096,060	1H:5V	160	64,211	49,207	249,678	690,389
1	PEAD	588,891	1,366	4,285	0,560	1,516	1.101,914	1H:5V	160	64,590	49,382	250,995	694,286
1	PEAD	593,176	1,432	4,285	0,560	1,582	1.107,688	1H:5V	160	64,970	49,557	252,312	698,103
1	PEAD	595,443	1,502	2,267	0,560	1,652	1.110,927	1H:5V	160	65,170	49,650	253,008	700,307
1	PEAD	600,000	1,482	4,557	0,560	1,632	1.117,575	1H:5V	160	65,574	49,836	254,409	704,873
1	PEAD	608,103	1,519	8,103	0,560	1,669	1.129,479	1H:5V	160	66,291	50,166	256,898	713,077
1	PEAD	620,000	1,808	11,897	0,560	1,958	1.149,437	1H:5V	160	67,344	50,652	260,554	727,600
1	PEAD	640,000	1,835	20,000	0,560	1,985	1.187,065	1H:5V	160	69,114	51,469	266,700	756,095
1	PEAD	641,687	1,813	1,687	0,560	1,963	1.190,245	1H:5V	160	69,263	51,538	267,218	758,504
1	PEAD	660,000	1,574	18,313	0,560	1,724	1.221,650	1H:5V	160	70,884	52,285	272,846	781,545
1	PEAD	674,079	1,422	14,079	0,560	1,572	1.242,307	1H:5V	160	72,130	52,860	277,172	795,772
1	PEAD	680,000	1,338	5,921	0,560	1,488	1.250,154	1H:5V	160	72,654	53,102	278,992	800,915
1	PEAD	700,000	2,052	20,000	0,560	2,202	1.284,944	1H:5V	160	74,424	53,918	285,137	826,571
1	PEAD	720,000	1,765	20,000	0,560	1,915	1.325,032	1H:5V	160	76,194	54,735	291,283	857,523
1	PEAD	736,612	1,528	16,612	0,560	1,678	1.352,513	1H:5V	160	77,664	55,413	296,388	877,418
1	PEAD	737,857	1,510	1,245	0,560	1,660	1.354,371	1H:5V	160	77,774	55,464	296,770	878,707
1	PEAD	738,813	1,492	0,956	0,560	1,642	1.355,776	1H:5V	160	77,859	55,503	297,064	879,675
1	PEAD	739,769	1,464	0,956	0,560	1,614	1.357,154	1H:5V	160	77,943	55,542	297,358	880,617
1	PEAD	740,000	1,456	0,231	0,560	1,606	1.357,482	1H:5V	160	77,964	55,551	297,429	880,839
1	PEAD	760,000	1,334	20,000	0,560	1,484	1.384,349	1H:5V	160	79,734	56,368	303,574	898,572

R-6-12													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	774,745	1,206	14,745	0,560	1,356	1.402,033	1H:5V	160	81,038	56,970	308,105	909,521
1	PEAD	776,317	1,176	1,572	0,560	1,326	1.403,779	1H:5V	160	81,178	57,034	308,588	910,549
1	PEAD	777,889	1,231	1,572	0,560	1,381	1.405,546	1H:5V	160	81,317	57,098	309,072	911,599
1	PEAD	780,000	1,235	2,111	0,560	1,385	1.407,989	1H:5V	160	81,504	57,184	309,720	913,077
1	PEAD	800,000	1,195	20,000	0,560	1,345	1.430,731	1H:5V	160	83,274	58,001	315,866	926,686
1	PEAD	817,427	1,160	17,427	0,560	1,310	1.449,830	1H:5V	160	84,816	58,712	321,221	937,825
1	PEAD	820,000	1,696	2,573	0,510	1,846	1.453,303	1H:5V	110	85,034	58,800	321,961	940,228
1	PEAD	826,822	2,536	6,822	0,510	2,686	1.468,434	1H:5V	110	85,587	58,986	323,788	952,729
1	PEAD	840,000	1,254	13,178	0,510	1,404	1.494,283	1H:5V	110	86,654	59,344	327,317	973,497
1	PEAD	846,156	1,391	6,156	0,510	1,541	1.501,581	1H:5V	110	87,153	59,512	328,966	978,422
1	PEAD	846,829	1,419	0,673	0,510	1,569	1.502,440	1H:5V	110	87,207	59,530	329,146	979,022
1	PEAD	847,502	1,443	0,673	0,510	1,593	1.503,319	1H:5V	110	87,262	59,548	329,326	979,642
1	PEAD	859,176	1,685	11,674	0,510	1,835	1.520,417	1H:5V	110	88,207	59,866	332,453	992,239
1	PEAD	860,000	1,699	0,824	0,510	1,849	1.521,751	1H:5V	110	88,274	59,888	332,673	993,255
1	PEAD	878,479	1,472	18,479	0,510	1,622	1.549,286	1H:5V	110	89,771	60,391	337,622	1.013,666
1	PEAD	879,152	1,472	0,673	0,510	1,622	1.550,197	1H:5V	110	89,825	60,409	337,803	1.014,317
1	PEAD	879,825	1,476	0,673	0,510	1,626	1.551,109	1H:5V	110	89,880	60,427	337,983	1.014,970
1	PEAD	880,000	1,478	0,175	0,510	1,628	1.551,347	1H:5V	110	89,894	60,432	338,030	1.015,141
1	PEAD	900,000	1,462	20,000	0,510	1,612	1.578,369	1H:5V	110	91,514	60,976	343,386	1.034,452
1	PEAD	909,012	1,514	9,012	0,510	1,664	1.590,734	1H:5V	110	92,244	61,221	345,799	1.043,343
1	PEAD	919,295	1,521	10,283	0,510	1,671	1.605,198	1H:5V	110	93,077	61,501	348,553	1.053,842
1	PEAD	920,000	1,520	0,705	0,510	1,670	1.606,192	1H:5V	110	93,134	61,520	348,742	1.054,565
1	PEAD	940,000	1,480	20,000	0,510	1,630	1.633,913	1H:5V	110	94,754	62,064	354,098	1.074,576
1	PEAD	960,000	1,429	20,000	0,510	1,579	1.660,580	1H:5V	110	96,374	62,608	359,455	1.093,532
1	PEAD	980,000	1,314	20,000	0,510	1,464	1.685,372	1H:5V	110	97,994	63,153	364,811	1.110,614
1	PEAD	1.000,000	1,229	20,000	0,510	1,379	1.707,961	1H:5V	110	99,614	63,697	370,167	1.125,493
1	PEAD	1.013,370	1,110	13,370	0,510	1,260	1.721,624	1H:5V	110	100,697	64,060	373,748	1.134,001

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R-6-12-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,160	0,000	0,510	1,310	0,000	1H:5V	110	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,446	20,000	0,510	1,596	23,347	1H:5V	110	1,620	0,544	5,356	15,637

R-6-12-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	35,324	1,665	15,324	0,510	1,815	45,628	1H:5V	110	2,861	0,961	9,460	32,009
1	PEAD	40,000	1,732	4,676	0,510	1,882	53,232	1H:5V	110	3,240	1,088	10,713	37,812
1	PEAD	48,322	1,535	8,322	0,510	1,685	66,112	1H:5V	110	3,914	1,315	12,941	47,483
1	PEAD	60,000	1,235	11,678	0,510	1,385	80,810	1H:5V	110	4,860	1,632	16,069	57,679
1	PEAD	61,384	1,200	1,384	0,510	1,350	82,293	1H:5V	110	4,972	1,670	16,439	58,628
1	PEAD	62,670	1,164	1,286	0,510	1,314	83,623	1H:5V	110	5,076	1,705	16,784	59,463
1	PEAD	63,956	1,159	1,286	0,510	1,309	84,926	1H:5V	110	5,180	1,740	17,128	60,269
1	PEAD	72,049	1,110	8,093	0,510	1,260	92,899	1H:5V	110	5,836	1,960	19,296	65,123
1	PEAD	80,000	1,144	7,951	0,510	1,294	100,671	1H:5V	110	6,480	2,176	21,425	69,829
1	PEAD	91,367	1,181	11,367	0,510	1,331	112,197	1H:5V	110	7,401	2,485	24,469	76,973
1	PEAD	97,507	1,390	6,140	0,510	1,540	119,236	1H:5V	110	7,898	2,653	26,114	81,645
1	PEAD	100,000	1,577	2,493	0,510	1,727	122,647	1H:5V	110	8,100	2,720	26,781	84,095
1	PEAD	103,647	1,915	3,647	0,510	2,065	128,817	1H:5V	110	8,395	2,820	27,758	88,859
1	PEAD	107,207	2,415	3,560	0,510	2,565	136,880	1H:5V	110	8,684	2,916	28,711	95,550
1	PEAD	107,960	2,517	0,753	0,510	2,667	138,916	1H:5V	110	8,745	2,937	28,913	97,295
1	PEAD	113,347	1,029	5,387	0,510	1,179	148,780	1H:5V	110	9,181	3,083	30,356	105,082
1	PEAD	119,487	1,228	6,140	0,510	1,378	154,802	1H:5V	110	9,678	3,250	32,000	108,738
1	PEAD	120,000	1,268	0,513	0,510	1,418	155,369	1H:5V	110	9,720	3,264	32,138	109,106
1	PEAD	133,766	1,110	13,766	0,510	1,260	169,723	1H:5V	110	10,835	3,639	35,824	118,153

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R-6-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,671	0,000	0,580	2,821	0,000	1H:5V	180	0,000	0,000	0,000	0,000
1	PEAD	18,579	1,550	18,579	0,580	1,700	44,513	1H:5V	180	1,700	0,864	6,009	35,468
1	PEAD	20,000	1,614	1,421	0,580	1,764	46,794	1H:5V	180	1,830	0,930	6,469	37,056
1	PEAD	21,711	1,431	1,711	0,580	1,581	49,413	1H:5V	180	1,987	1,009	7,022	38,843
1	PEAD	24,843	1,326	3,132	0,580	1,476	53,655	1H:5V	180	2,273	1,155	8,035	41,560
1	PEAD	40,000	1,235	15,157	0,580	1,385	72,440	1H:5V	180	3,660	1,860	12,937	52,965
1	PEAD	60,000	1,487	20,000	0,580	1,637	99,164	1H:5V	180	5,490	2,790	19,406	69,951
1	PEAD	73,439	1,986	13,439	0,580	2,136	123,601	1H:5V	180	6,720	3,415	23,753	87,845
1	PEAD	74,816	1,934	1,377	0,580	2,084	126,513	1H:5V	180	6,846	3,479	24,198	90,086
1	PEAD	76,193	1,867	1,377	0,580	2,017	129,309	1H:5V	180	6,972	3,543	24,644	92,212

R-6-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	80,000	1,482	3,807	0,580	1,632	135,900	1H:5V	180	7,320	3,720	25,875	96,950
1	PEAD	96,619	1,716	16,619	0,580	1,866	162,972	1H:5V	180	8,841	4,492	31,250	115,930
1	PEAD	100,000	1,834	3,381	0,580	1,984	169,255	1H:5V	180	9,150	4,650	32,344	120,567
1	PEAD	120,000	1,356	20,000	0,580	1,506	201,905	1H:5V	180	10,980	5,580	38,812	143,480
1	PEAD	140,000	1,506	20,000	0,580	1,656	230,266	1H:5V	180	12,810	6,510	45,281	162,103
1	PEAD	148,393	1,730	8,393	0,580	1,880	244,140	1H:5V	180	13,578	6,900	47,996	171,891
1	PEAD	157,014	1,417	8,621	0,580	1,567	257,922	1H:5V	180	14,367	7,301	50,784	181,475
1	PEAD	160,000	1,199	2,986	0,580	1,349	261,724	1H:5V	180	14,640	7,439	51,750	183,823
1	PEAD	161,389	1,305	1,389	0,580	1,455	263,400	1H:5V	180	14,767	7,504	52,199	184,823
1	PEAD	165,635	1,427	4,246	0,580	1,577	269,088	1H:5V	180	15,156	7,701	53,572	188,444
1	PEAD	167,528	1,313	1,893	0,580	1,463	271,633	1H:5V	180	15,329	7,789	54,185	190,067
1	PEAD	177,804	2,152	10,276	0,580	2,302	290,498	1H:5V	180	16,269	8,267	57,508	203,929
1	PEAD	180,000	1,946	2,196	0,580	2,096	295,427	1H:5V	180	16,470	8,369	58,219	207,789
1	PEAD	188,080	1,391	8,080	0,580	1,541	309,418	1H:5V	180	17,209	8,745	60,832	217,845
1	PEAD	190,236	1,180	2,156	0,580	1,330	312,106	1H:5V	180	17,407	8,845	61,529	219,484
1	PEAD	192,481	1,337	2,245	0,510	1,487	314,717	1H:5V	110	17,600	8,928	62,193	221,133
1	PEAD	199,449	1,280	6,968	0,510	1,430	322,866	1H:5V	110	18,165	9,118	64,059	226,596
1	PEAD	200,000	1,242	0,551	0,510	1,392	323,482	1H:5V	110	18,209	9,133	64,207	226,999
1	PEAD	206,417	1,239	6,417	0,510	1,389	330,514	1H:5V	110	18,729	9,307	65,925	231,558
1	PEAD	220,000	2,394	13,583	0,510	2,544	355,548	1H:5V	110	19,829	9,677	69,563	251,355
1	PEAD	224,294	2,468	4,294	0,510	2,618	366,922	1H:5V	110	20,177	9,793	70,713	261,074

3.82 RAMAL R-6-3

R-6-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,862	0,000	0,715	3,012	0,000	1H:5V	315	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,074	20,000	0,715	2,224	65,954	1H:5V	315	2,235	1,761	8,757	51,643
1	PEAD	40,000	1,612	20,000	0,715	1,762	110,556	1H:5V	315	4,470	3,522	17,513	81,933
1	PEAD	53,071	1,341	13,071	0,715	1,491	132,720	1H:5V	315	5,931	4,673	23,236	94,744
1	PEAD	54,821	1,330	1,750	0,715	1,480	135,351	1H:5V	315	6,126	4,827	24,002	96,123
1	PEAD	56,571	1,355	1,750	0,715	1,505	137,999	1H:5V	315	6,322	4,982	24,769	97,518
1	PEAD	60,000	1,421	3,429	0,715	1,571	143,392	1H:5V	315	6,705	5,283	26,270	100,458
1	PEAD	80,000	1,515	20,000	0,715	1,665	177,010	1H:5V	315	8,940	7,045	35,026	119,765

R-6-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	100,000	1,518	20,000	0,715	1,668	211,950	1H:5V	315	11,175	8,806	43,783	140,393
1	PEAD	120,000	1,694	20,000	0,715	1,844	249,426	1H:5V	315	13,410	10,567	52,540	163,558
1	PEAD	140,000	1,403	20,000	0,715	1,553	285,339	1H:5V	315	15,645	12,328	61,296	185,159
1	PEAD	160,000	1,508	20,000	0,715	1,658	318,619	1H:5V	315	17,880	14,089	70,053	204,128
1	PEAD	180,000	1,414	20,000	0,715	1,564	352,047	1H:5V	315	20,115	15,850	78,810	223,244
1	PEAD	189,205	1,322	9,205	0,715	1,472	366,283	1H:5V	315	21,144	16,661	82,840	230,894
1	PEAD	190,185	1,357	0,980	0,715	1,507	367,762	1H:5V	315	21,253	16,747	83,269	231,671
1	PEAD	191,165	1,388	0,980	0,715	1,538	369,283	1H:5V	315	21,363	16,834	83,698	232,491
1	PEAD	200,000	1,435	8,835	0,715	1,585	383,457	1H:5V	315	22,350	17,612	87,566	240,343
1	PEAD	220,000	1,461	20,000	0,715	1,611	416,523	1H:5V	315	24,585	19,373	96,323	259,098
1	PEAD	240,000	1,691	20,000	0,715	1,841	453,174	1H:5V	315	26,820	21,134	105,079	281,437
1	PEAD	260,000	1,706	20,000	0,715	1,856	493,276	1H:5V	315	29,055	22,895	113,836	307,228
1	PEAD	280,000	1,843	20,000	0,715	1,993	535,630	1H:5V	315	31,290	24,656	122,593	335,270
1	PEAD	290,662	1,774	10,662	0,715	1,924	558,742	1H:5V	315	32,481	25,595	127,261	350,753
1	PEAD	300,000	1,573	9,338	0,715	1,723	577,146	1H:5V	315	33,525	26,417	131,349	362,475
1	PEAD	316,833	1,333	16,833	0,715	1,483	605,138	1H:5V	315	35,406	27,900	138,719	378,422
1	PEAD	317,590	1,344	0,757	0,715	1,494	606,279	1H:5V	315	35,491	27,966	139,051	379,021
1	PEAD	318,347	1,352	0,757	0,715	1,502	607,430	1H:5V	315	35,575	28,033	139,382	379,630
1	PEAD	319,482	1,379	1,135	0,715	1,529	609,181	1H:5V	315	35,702	28,133	139,879	380,569
1	PEAD	320,000	1,393	0,518	0,715	1,543	609,994	1H:5V	315	35,760	28,179	140,106	381,012
1	PEAD	340,000	1,569	20,000	0,715	1,719	643,989	1H:5V	315	37,995	29,940	148,862	400,695
1	PEAD	360,000	1,371	20,000	0,715	1,521	677,692	1H:5V	315	40,230	31,701	157,619	420,087
1	PEAD	380,000	1,628	20,000	0,715	1,778	712,229	1H:5V	315	42,465	33,462	166,376	440,313
1	PEAD	400,000	1,968	20,000	0,715	2,118	755,380	1H:5V	315	44,700	35,223	175,132	469,152
1	PEAD	412,691	1,491	12,691	0,715	1,641	781,545	1H:5V	315	46,118	36,341	180,689	486,236
1	PEAD	415,083	1,324	2,392	0,715	1,474	785,373	1H:5V	315	46,386	36,551	181,736	488,352
1	PEAD	417,475	1,345	2,392	0,715	1,495	788,966	1H:5V	315	46,653	36,762	182,783	490,234
1	PEAD	420,000	1,355	2,525	0,715	1,505	792,811	1H:5V	315	46,935	36,984	183,889	492,271
1	PEAD	440,000	1,435	20,000	0,715	1,585	824,459	1H:5V	315	49,170	38,746	192,646	509,608
1	PEAD	447,627	1,355	7,627	0,715	1,505	836,528	1H:5V	315	50,022	39,417	195,985	516,219
1	PEAD	449,061	1,325	1,434	0,715	1,475	838,692	1H:5V	315	50,183	39,543	196,613	517,358
1	PEAD	450,495	1,316	1,434	0,715	1,466	840,820	1H:5V	315	50,343	39,670	197,241	518,459
1	PEAD	460,000	1,322	9,505	0,715	1,472	854,906	1H:5V	315	51,405	40,507	201,402	525,744
1	PEAD	480,000	1,481	20,000	0,715	1,631	886,746	1H:5V	315	53,640	42,268	210,159	543,272
1	PEAD	500,000	1,770	20,000	0,715	1,920	924,829	1H:5V	315	55,875	44,029	218,915	567,044
1	PEAD	502,295	1,797	2,295	0,715	1,947	929,718	1H:5V	315	56,131	44,231	219,920	570,290

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	503,729	1,801	1,434	0,715	1,951	932,805	1H:5V	315	56,292	44,357	220,548	572,352
1	PEAD	505,163	1,785	1,434	0,715	1,935	935,880	1H:5V	315	56,452	44,484	221,176	574,401
1	PEAD	520,000	1,597	14,837	0,715	1,747	965,494	1H:5V	315	58,110	45,790	227,672	593,398
1	PEAD	529,700	1,481	9,700	0,715	1,631	982,749	1H:5V	315	59,194	46,644	231,919	603,711
1	PEAD	530,000	1,475	0,300	0,715	1,625	983,257	1H:5V	315	59,228	46,671	232,050	604,005
1	PEAD	530,300	1,468	0,300	0,715	1,618	983,763	1H:5V	315	59,261	46,697	232,182	604,296
1	PEAD	540,000	1,343	9,700	0,715	1,493	999,252	1H:5V	315	60,345	47,551	236,429	612,845
1	PEAD	560,000	1,496	20,000	0,715	1,646	1.031,573	1H:5V	315	62,580	49,313	245,185	630,854
1	PEAD	560,721	1,517	0,721	0,715	1,667	1.032,823	1H:5V	315	62,661	49,376	245,501	631,588
1	PEAD	562,598	1,565	1,877	0,715	1,715	1.036,166	1H:5V	315	62,870	49,541	246,323	633,587
1	PEAD	564,475	1,598	1,877	0,715	1,748	1.039,615	1H:5V	315	63,080	49,707	247,144	635,694
1	PEAD	575,772	1,661	11,297	0,715	1,811	1.061,146	1H:5V	315	64,343	50,701	252,091	649,140
1	PEAD	580,000	1,743	4,228	0,600	1,893	1.069,186	1H:5V	200	64,779	50,998	253,735	654,671
1	PEAD	600,000	1,661	20,000	0,600	1,811	1.105,136	1H:5V	200	66,669	52,044	260,530	680,262
1	PEAD	620,000	1,321	20,000	0,600	1,471	1.135,715	1H:5V	200	68,559	53,090	267,326	700,481
1	PEAD	640,000	1,460	20,000	0,600	1,610	1.163,713	1H:5V	200	70,449	54,136	274,122	718,119
1	PEAD	660,000	1,597	20,000	0,600	1,747	1.195,143	1H:5V	200	72,339	55,181	280,918	739,189
1	PEAD	674,170	1,343	14,170	0,600	1,493	1.216,400	1H:5V	200	73,678	55,922	285,733	753,105
1	PEAD	675,221	1,329	1,051	0,600	1,479	1.217,801	1H:5V	200	73,777	55,977	286,090	753,962
1	PEAD	676,272	1,328	1,051	0,600	1,478	1.219,193	1H:5V	200	73,876	56,032	286,447	754,809
1	PEAD	680,000	1,341	3,728	0,600	1,491	1.224,157	1H:5V	200	74,229	56,227	287,714	757,842
1	PEAD	683,957	1,350	3,957	0,600	1,500	1.229,477	1H:5V	200	74,602	56,434	289,058	761,113
1	PEAD	700,000	1,367	16,043	0,600	1,517	1.251,299	1H:5V	200	76,119	57,273	294,510	774,625
1	PEAD	720,000	1,561	20,000	0,600	1,711	1.281,125	1H:5V	200	78,009	58,319	301,305	794,090
1	PEAD	732,196	1,609	12,196	0,600	1,759	1.301,165	1H:5V	200	79,161	58,957	305,450	807,813
1	PEAD	740,000	1,641	7,804	0,600	1,791	1.314,394	1H:5V	200	79,899	59,365	308,101	817,000
1	PEAD	760,000	1,311	20,000	0,600	1,461	1.344,591	1H:5V	200	81,789	60,411	314,897	836,836
1	PEAD	760,699	1,309	0,699	0,600	1,459	1.345,501	1H:5V	200	81,855	60,447	315,135	837,384
1	PEAD	761,910	1,310	1,211	0,600	1,460	1.347,077	1H:5V	200	81,969	60,511	315,546	838,333
1	PEAD	763,121	1,316	1,211	0,600	1,466	1.348,659	1H:5V	200	82,083	60,574	315,958	839,287
1	PEAD	780,000	1,320	16,879	0,600	1,470	1.370,801	1H:5V	200	83,679	61,457	321,693	852,686
1	PEAD	794,117	1,256	14,117	0,600	1,406	1.388,822	1H:5V	200	85,013	62,195	326,490	863,395
1	PEAD	795,328	1,248	1,211	0,600	1,398	1.390,317	1H:5V	200	85,127	62,258	326,901	864,262
1	PEAD	796,539	1,234	1,211	0,600	1,384	1.391,796	1H:5V	200	85,241	62,321	327,313	865,114
1	PEAD	800,000	1,204	3,461	0,600	1,354	1.395,936	1H:5V	200	85,569	62,502	328,489	867,462
1	PEAD	814,217	1,261	14,217	0,600	1,411	1.413,166	1H:5V	200	86,912	63,246	333,320	877,327

R-6-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	820,000	1,233	5,783	0,600	1,383	1.420,271	1H:5V	200	87,459	63,548	335,285	881,437
1	PEAD	834,988	1,344	14,988	0,600	1,494	1.439,419	1H:5V	200	88,875	64,332	340,377	892,821
1	PEAD	837,420	1,324	2,432	0,600	1,474	1.442,656	1H:5V	200	89,105	64,459	341,204	894,798
1	PEAD	839,852	1,556	2,432	0,600	1,706	1.446,212	1H:5V	200	89,335	64,586	342,030	897,095
1	PEAD	840,000	1,587	0,148	0,600	1,737	1.446,453	1H:5V	200	89,349	64,594	342,080	897,258
1	PEAD	846,038	1,969	6,038	0,600	2,119	1.457,971	1H:5V	200	89,919	64,910	344,132	905,648
1	PEAD	858,540	1,411	12,502	0,600	1,561	1.480,433	1H:5V	200	91,101	65,564	348,380	921,635
1	PEAD	860,000	1,357	1,460	0,600	1,507	1.482,464	1H:5V	200	91,239	65,640	348,876	922,909
1	PEAD	860,672	1,339	0,672	0,600	1,489	1.483,370	1H:5V	200	91,302	65,675	349,105	923,467
1	PEAD	862,804	1,312	2,132	0,600	1,462	1.486,185	1H:5V	200	91,504	65,787	349,829	925,178
1	PEAD	880,000	1,277	17,196	0,600	1,427	1.508,266	1H:5V	200	93,129	66,686	355,672	938,352
1	PEAD	900,000	1,237	20,000	0,600	1,387	1.533,071	1H:5V	200	95,019	67,732	362,468	952,796
1	PEAD	920,000	1,240	20,000	0,600	1,390	1.557,444	1H:5V	200	96,909	68,777	369,264	966,810
1	PEAD	935,500	1,684	15,500	0,600	1,834	1.580,644	1H:5V	200	98,373	69,588	374,531	981,981
1	PEAD	935,800	1,693	0,300	0,600	1,843	1.581,178	1H:5V	200	98,402	69,604	374,633	982,359
1	PEAD	936,100	1,703	0,300	0,600	1,853	1.581,716	1H:5V	200	98,430	69,619	374,734	982,741
1	PEAD	940,000	1,819	3,900	0,600	1,969	1.589,038	1H:5V	200	98,799	69,823	376,060	988,044
1	PEAD	960,000	1,403	20,000	0,600	1,553	1.622,748	1H:5V	200	100,689	70,869	382,856	1.011,393
1	PEAD	969,392	1,223	9,392	0,600	1,373	1.635,028	1H:5V	200	101,576	71,360	386,047	1.018,808
1	PEAD	970,634	1,208	1,242	0,600	1,358	1.636,509	1H:5V	200	101,693	71,425	386,469	1.019,646
1	PEAD	971,876	1,208	1,242	0,600	1,358	1.637,979	1H:5V	200	101,811	71,490	386,891	1.020,472
1	PEAD	980,000	1,263	8,124	0,600	1,413	1.647,852	1H:5V	200	102,579	71,915	389,651	1.026,138
1	PEAD	1.000,000	1,590	20,000	0,600	1,740	1.676,819	1H:5V	200	104,469	72,961	396,447	1.044,744
1	PEAD	1.020,000	1,902	20,000	0,600	2,052	1.714,047	1H:5V	200	106,359	74,007	403,243	1.071,613
1	PEAD	1.023,439	1,961	3,439	0,600	2,111	1.721,323	1H:5V	200	106,684	74,186	404,412	1.077,107
1	PEAD	1.040,000	1,306	16,561	0,600	1,456	1.749,936	1H:5V	200	108,249	75,052	410,039	1.097,141
1	PEAD	1.043,311	1,401	3,311	0,600	1,551	1.754,421	1H:5V	200	108,561	75,226	411,164	1.099,911
1	PEAD	1.046,416	1,471	3,105	0,600	1,621	1.758,939	1H:5V	200	108,855	75,388	412,219	1.102,821
1	PEAD	1.049,521	1,503	3,105	0,600	1,653	1.763,653	1H:5V	200	109,148	75,550	413,274	1.105,926
1	PEAD	1.059,539	1,218	10,018	0,600	1,368	1.777,344	1H:5V	200	110,095	76,074	416,678	1.114,428
1	PEAD	1.060,000	1,221	0,461	0,600	1,371	1.777,896	1H:5V	200	110,139	76,098	416,835	1.114,741
1	PEAD	1.060,461	1,223	0,461	0,600	1,373	1.778,449	1H:5V	200	110,182	76,122	416,991	1.115,055
1	PEAD	1.080,000	1,449	19,539	0,600	1,599	1.804,549	1H:5V	200	112,029	77,144	423,631	1.131,034
1	PEAD	1.080,775	1,452	0,775	0,600	1,602	1.805,690	1H:5V	200	112,102	77,185	423,894	1.131,774
1	PEAD	1.100,000	1,527	19,225	0,600	1,677	1.834,942	1H:5V	200	113,919	78,190	430,426	1.151,068
1	PEAD	1.120,000	1,562	20,000	0,600	1,712	1.866,763	1H:5V	200	115,809	79,236	437,222	1.172,528

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	1.140,000	1,592	20,000	0,600	1,742	1.899,418	1H:5V	200	117,699	80,282	444,018	1.194,823
1	PEAD	1.160,000	1,326	20,000	0,600	1,476	1.929,152	1H:5V	200	119,589	81,328	450,814	1.214,198
1	PEAD	1.167,948	1,200	7,948	0,600	1,350	1.939,071	1H:5V	200	120,340	81,743	453,515	1.219,999
1	PEAD	1.175,166	1,266	7,218	0,580	1,416	1.947,721	1H:5V	180	121,011	82,100	455,908	1.225,044
1	PEAD	1.177,239	1,288	2,073	0,580	1,438	1.950,281	1H:5V	180	121,201	82,196	456,579	1.226,595
1	PEAD	1.179,312	1,293	2,073	0,580	1,443	1.952,873	1H:5V	180	121,390	82,292	457,249	1.228,178
1	PEAD	1.180,000	1,291	0,688	0,580	1,441	1.953,735	1H:5V	180	121,453	82,324	457,472	1.228,704
1	PEAD	1.185,587	1,282	5,587	0,580	1,432	1.960,695	1H:5V	180	121,964	82,584	459,279	1.232,945
1	PEAD	1.200,000	1,267	14,413	0,580	1,417	1.978,453	1H:5V	180	123,283	83,254	463,940	1.243,685
1	PEAD	1.220,000	1,328	20,000	0,580	1,478	2.003,629	1H:5V	180	125,113	84,184	470,409	1.259,123
1	PEAD	1.240,000	1,565	20,000	0,580	1,715	2.032,400	1H:5V	180	126,943	85,114	476,878	1.278,156
1	PEAD	1.260,000	1,220	20,000	0,580	1,370	2.059,929	1H:5V	180	128,773	86,044	483,347	1.295,948
1	PEAD	1.270,145	1,413	10,145	0,580	1,563	2.072,940	1H:5V	180	129,701	86,516	486,628	1.304,020
1	PEAD	1.273,738	1,456	3,593	0,580	1,606	2.078,047	1H:5V	180	130,030	86,683	487,790	1.307,377
1	PEAD	1.277,331	1,441	3,593	0,580	1,591	2.083,214	1H:5V	180	130,359	86,850	488,952	1.310,795
1	PEAD	1.280,000	1,406	2,669	0,580	1,556	2.086,972	1H:5V	180	130,603	86,974	489,815	1.313,254
1	PEAD	1.300,000	1,719	20,000	0,580	1,869	2.118,665	1H:5V	180	132,433	87,904	496,284	1.335,210
1	PEAD	1.317,036	1,312	17,036	0,580	1,462	2.144,714	1H:5V	180	133,992	88,696	501,794	1.352,964
1	PEAD	1.319,071	1,201	2,035	0,580	1,351	2.147,181	1H:5V	180	134,178	88,791	502,452	1.354,440
1	PEAD	1.320,000	1,226	0,929	0,580	1,376	2.148,261	1H:5V	180	134,263	88,834	502,753	1.355,067
1	PEAD	1.321,106	1,426	1,106	0,580	1,576	2.149,692	1H:5V	180	134,364	88,885	503,111	1.355,960
1	PEAD	1.338,055	1,351	16,949	0,580	1,501	2.172,844	1H:5V	180	135,915	89,673	508,592	1.370,860
1	PEAD	1.340,000	1,313	1,945	0,580	1,463	2.175,371	1H:5V	180	136,093	89,764	509,222	1.372,440
1	PEAD	1.343,223	1,214	3,223	0,580	1,364	2.179,302	1H:5V	180	136,388	89,914	510,264	1.374,802
1	PEAD	1.348,391	1,399	5,168	0,580	1,549	2.185,870	1H:5V	180	136,861	90,154	511,935	1.378,853
1	PEAD	1.351,538	1,180	3,147	0,580	1,330	2.189,809	1H:5V	180	137,149	90,300	512,953	1.381,260

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R-6-3-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,661	0,000	0,625	1,811	0,000	1H:5V	225	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,748	20,000	0,625	1,898	36,946	1H:5V	225	1,965	1,194	7,211	25,781
1	PEAD	40,000	1,645	20,000	0,625	1,795	73,676	1H:5V	225	3,930	2,389	14,421	51,346

R-6-3-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	52,869	1,418	12,869	0,625	1,568	94,511	1H:5V	225	5,194	3,157	19,061	64,996
1	PEAD	55,957	1,345	3,088	0,625	1,495	98,916	1H:5V	225	5,498	3,341	20,174	67,678
1	PEAD	59,045	1,500	3,088	0,625	1,650	103,482	1H:5V	225	5,801	3,526	21,287	70,520
1	PEAD	60,000	1,563	0,955	0,625	1,713	105,025	1H:5V	225	5,895	3,583	21,632	71,530
1	PEAD	80,000	1,584	20,000	0,625	1,734	138,451	1H:5V	225	7,860	4,777	28,842	93,791
1	PEAD	95,179	1,402	15,179	0,625	1,552	162,258	1H:5V	225	9,351	5,683	34,314	109,125
1	PEAD	98,036	1,308	2,857	0,625	1,458	166,241	1H:5V	225	9,632	5,854	35,345	111,513
1	PEAD	100,000	1,249	1,964	0,625	1,399	168,797	1H:5V	225	9,825	5,971	36,053	112,972
1	PEAD	101,124	1,237	1,124	0,625	1,387	170,212	1H:5V	225	9,935	6,038	36,458	113,759
1	PEAD	104,212	1,368	3,088	0,625	1,518	174,320	1H:5V	225	10,239	6,223	37,571	116,144
1	PEAD	105,741	1,418	1,529	0,625	1,568	176,523	1H:5V	225	10,389	6,314	38,122	117,493
1	PEAD	120,000	1,343	14,259	0,625	1,493	196,847	1H:5V	225	11,790	7,166	43,263	129,857
1	PEAD	140,000	1,423	20,000	0,625	1,573	225,416	1H:5V	225	13,755	8,360	50,474	147,261
1	PEAD	155,982	1,486	15,982	0,625	1,636	249,675	1H:5V	225	15,325	9,314	56,236	162,598
1	PEAD	158,108	1,518	2,126	0,625	1,668	253,031	1H:5V	225	15,534	9,441	57,002	164,767
1	PEAD	160,000	1,583	1,892	0,580	1,733	256,063	1H:5V	180	15,714	9,542	57,649	166,824
1	PEAD	160,234	1,594	0,234	0,580	1,744	256,440	1H:5V	180	15,735	9,553	57,725	167,087
1	PEAD	171,108	1,719	10,874	0,580	1,869	274,939	1H:5V	180	16,730	10,058	61,242	180,292
1	PEAD	173,234	1,249	2,126	0,580	1,399	278,113	1H:5V	180	16,925	10,157	61,929	182,431
1	PEAD	175,360	1,207	2,126	0,580	1,357	280,620	1H:5V	180	17,119	10,256	62,617	183,902
1	PEAD	180,000	1,226	4,640	0,580	1,376	286,030	1H:5V	180	17,544	10,472	64,118	187,054
1	PEAD	191,456	1,272	11,456	0,580	1,422	299,811	1H:5V	180	18,592	11,004	67,823	195,257
1	PEAD	200,000	1,306	8,544	0,580	1,456	310,481	1H:5V	180	19,374	11,401	70,587	201,767
1	PEAD	210,785	1,349	10,785	0,580	1,499	324,433	1H:5V	180	20,360	11,903	74,075	210,468
1	PEAD	211,697	1,357	0,912	0,580	1,507	325,640	1H:5V	180	20,444	11,945	74,370	211,231
1	PEAD	212,609	1,373	0,912	0,580	1,523	326,860	1H:5V	180	20,527	11,988	74,665	212,007
1	PEAD	220,000	1,537	7,391	0,580	1,687	337,558	1H:5V	180	21,204	12,331	77,055	219,107
1	PEAD	240,000	1,221	20,000	0,580	1,371	364,746	1H:5V	180	23,034	13,261	83,524	236,557
1	PEAD	252,771	1,293	12,771	0,580	1,443	380,228	1H:5V	180	24,202	13,855	87,655	245,820
1	PEAD	260,000	1,427	7,229	0,580	1,577	389,862	1H:5V	180	24,864	14,191	89,993	251,935
1	PEAD	280,000	1,289	20,000	0,580	1,439	416,470	1H:5V	180	26,694	15,121	96,461	268,805
1	PEAD	290,375	1,390	10,375	0,580	1,540	430,042	1H:5V	180	27,643	15,604	99,817	277,326
1	PEAD	291,287	1,389	0,912	0,580	1,539	431,289	1H:5V	180	27,726	15,646	100,112	278,129
1	PEAD	292,199	1,379	0,912	0,580	1,529	432,529	1H:5V	180	27,810	15,688	100,407	278,925
1	PEAD	300,000	1,262	7,801	0,580	1,412	442,562	1H:5V	180	28,524	16,051	102,930	285,160
1	PEAD	320,000	1,238	20,000	0,580	1,388	466,642	1H:5V	180	30,354	16,981	109,399	299,503

R-6-3-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	340,000	1,318	20,000	0,580	1,468	491,370	1H:5V	180	32,184	17,911	115,868	314,493
1	PEAD	360,000	1,398	20,000	0,580	1,548	517,966	1H:5V	180	34,014	18,841	122,336	331,351
1	PEAD	374,350	1,455	14,350	0,580	1,605	538,222	1H:5V	180	35,327	19,508	126,978	344,621
1	PEAD	380,000	1,478	5,650	0,580	1,628	546,472	1H:5V	180	35,844	19,771	128,805	350,120
1	PEAD	400,000	1,499	20,000	0,580	1,649	576,218	1H:5V	180	37,674	20,701	135,274	370,128
1	PEAD	404,686	1,416	4,686	0,580	1,566	583,011	1H:5V	180	38,102	20,919	136,789	374,639
1	PEAD	405,494	1,404	0,808	0,580	1,554	584,135	1H:5V	180	38,176	20,956	137,051	375,370
1	PEAD	406,302	1,397	0,808	0,580	1,547	585,250	1H:5V	180	38,250	20,994	137,312	376,092
1	PEAD	420,000	1,395	13,698	0,580	1,545	604,081	1H:5V	180	39,504	21,631	141,743	388,253
1	PEAD	435,644	1,221	15,644	0,580	1,371	623,985	1H:5V	180	40,935	22,358	146,802	400,540
1	PEAD	436,260	1,198	0,616	0,580	1,348	624,698	1H:5V	180	40,991	22,387	147,002	400,954
1	PEAD	436,876	1,205	0,616	0,580	1,355	625,406	1H:5V	180	41,048	22,415	147,201	401,362
1	PEAD	440,000	1,229	3,124	0,580	1,379	629,051	1H:5V	180	41,334	22,561	148,211	403,485
1	PEAD	460,000	1,386	20,000	0,580	1,536	654,479	1H:5V	180	43,164	23,491	154,680	419,176
1	PEAD	480,000	1,542	20,000	0,580	1,692	683,646	1H:5V	180	44,994	24,421	161,149	438,606
1	PEAD	500,000	1,699	20,000	0,580	1,849	716,747	1H:5V	180	46,824	25,350	167,617	461,969
1	PEAD	512,609	1,785	12,609	0,580	1,935	739,616	1H:5V	180	47,977	25,937	171,696	478,699
1	PEAD	520,000	1,697	7,391	0,580	1,847	753,011	1H:5V	180	48,654	26,280	174,086	488,495
1	PEAD	540,000	1,554	20,000	0,580	1,704	786,237	1H:5V	180	50,484	27,210	180,555	511,983
1	PEAD	560,000	1,336	20,000	0,580	1,486	814,962	1H:5V	180	52,314	28,140	187,024	530,971
1	PEAD	562,189	1,334	2,189	0,580	1,484	817,813	1H:5V	180	52,514	28,242	187,732	532,756
1	PEAD	564,100	1,198	1,911	0,580	1,348	820,151	1H:5V	180	52,689	28,331	188,350	534,163
1	PEAD	566,011	1,208	1,911	0,580	1,358	822,350	1H:5V	180	52,864	28,420	188,968	535,432
1	PEAD	571,565	1,230	5,554	0,580	1,380	828,842	1H:5V	180	53,372	28,678	190,764	539,220
1	PEAD	580,000	1,264	8,435	0,580	1,414	838,969	1H:5V	180	54,144	29,070	193,492	545,241
1	PEAD	600,000	1,344	20,000	0,580	1,494	864,299	1H:5V	180	55,974	30,000	199,961	560,832
1	PEAD	620,000	1,424	20,000	0,580	1,574	891,512	1H:5V	180	57,804	30,930	206,430	578,308
1	PEAD	627,255	1,453	7,255	0,580	1,603	901,858	1H:5V	180	58,467	31,267	208,776	585,122
1	PEAD	640,000	1,504	12,745	0,580	1,654	920,658	1H:5V	180	59,634	31,860	212,899	597,716
1	PEAD	646,639	1,530	6,639	0,580	1,680	930,767	1H:5V	180	60,241	32,169	215,046	604,593
1	PEAD	660,000	1,584	13,361	0,580	1,734	951,783	1H:5V	180	61,464	32,790	219,367	619,104
1	PEAD	661,962	1,460	1,962	0,580	1,610	954,784	1H:5V	180	61,643	32,881	220,002	621,150
1	PEAD	662,446	1,427	0,484	0,580	1,577	955,477	1H:5V	180	61,687	32,904	220,158	621,608
1	PEAD	662,930	1,461	0,484	0,540	1,611	956,155	1H:5V	140	61,730	32,923	220,307	622,067
1	PEAD	680,000	1,494	17,070	0,540	1,644	980,201	1H:5V	140	63,190	33,526	225,280	638,815
1	PEAD	700,000	1,380	20,000	0,540	1,530	1.007,428	1H:5V	140	64,900	34,231	231,107	657,491

R-6-3-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	720,000	1,266	20,000	0,540	1,416	1.032,028	1H:5V	140	66,610	34,937	236,934	673,541
1	PEAD	724,187	1,243	4,187	0,540	1,393	1.036,856	1H:5V	140	66,968	35,085	238,154	676,578
1	PEAD	724,687	1,252	0,500	0,540	1,402	1.037,428	1H:5V	140	67,010	35,102	238,300	676,937
1	PEAD	725,187	1,361	0,500	0,540	1,511	1.038,034	1H:5V	140	67,053	35,120	238,445	677,329
1	PEAD	733,825	2,096	8,638	0,540	2,246	1.053,126	1H:5V	140	67,792	35,425	240,962	688,728
1	PEAD	740,000	1,809	6,175	0,540	1,959	1.065,622	1H:5V	140	68,320	35,643	242,761	698,584
1	PEAD	746,987	1,632	6,987	0,540	1,782	1.077,579	1H:5V	140	68,917	35,889	244,797	707,554
1	PEAD	760,000	1,661	13,013	0,540	1,811	1.098,603	1H:5V	140	70,030	36,348	248,588	723,015
1	PEAD	760,149	1,646	0,149	0,540	1,796	1.098,845	1H:5V	140	70,042	36,354	248,631	723,194
1	PEAD	770,776	1,655	10,627	0,540	1,805	1.116,068	1H:5V	140	70,951	36,729	251,727	735,873

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R-6-3-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,282	0,000	0,490	1,432	0,000	1H:5V	90	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,117	20,000	0,490	1,267	20,537	1H:5V	90	1,560	0,439	5,048	13,363
1	PEAD	38,202	1,119	18,202	0,490	1,269	37,699	1H:5V	90	2,980	0,839	9,642	23,995
1	PEAD	39,498	1,113	1,296	0,490	1,263	38,919	1H:5V	90	3,081	0,868	9,969	24,750
1	PEAD	40,000	1,107	0,502	0,490	1,257	39,388	1H:5V	90	3,120	0,879	10,095	25,039
1	PEAD	40,794	1,110	0,794	0,490	1,260	40,129	1H:5V	90	3,182	0,896	10,296	25,496
1	PEAD	54,646	1,110	13,852	0,490	1,260	53,080	1H:5V	90	4,262	1,201	13,792	33,477
1	PEAD	55,942	1,118	1,296	0,490	1,268	54,297	1H:5V	90	4,363	1,229	14,119	34,229
1	PEAD	57,238	1,158	1,296	0,490	1,308	55,545	1H:5V	90	4,465	1,258	14,446	35,012
1	PEAD	60,000	1,206	2,762	0,490	1,356	58,328	1H:5V	90	4,680	1,318	15,143	36,804
1	PEAD	80,000	1,166	20,000	0,490	1,316	78,562	1H:5V	90	6,240	1,758	20,191	49,864
1	PEAD	100,000	1,126	20,000	0,490	1,276	97,983	1H:5V	90	7,800	2,197	25,238	62,111
1	PEAD	112,968	1,100	12,968	0,490	1,250	110,146	1H:5V	90	8,812	2,482	28,511	69,622

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R-6-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,887	0,000	0,580	3,037	0,000	1H:5V	180	0,000	0,000	0,000	0,000
1	PEAD	20,000	2,688	20,000	0,580	2,838	70,110	1H:5V	180	1,830	0,930	6,469	60,373
1	PEAD	40,000	1,489	20,000	0,580	1,639	117,558	1H:5V	180	3,660	1,860	12,937	98,083
1	PEAD	43,344	1,289	3,344	0,580	1,439	122,134	1H:5V	180	3,966	2,015	14,019	101,030
1	PEAD	45,163	1,197	1,819	0,580	1,347	124,310	1H:5V	180	4,132	2,100	14,607	102,321
1	PEAD	46,982	1,256	1,819	0,580	1,406	126,452	1H:5V	180	4,299	2,185	15,196	103,577
1	PEAD	60,000	1,542	13,018	0,580	1,692	144,448	1H:5V	180	5,490	2,790	19,406	115,235
1	PEAD	80,000	1,356	20,000	0,580	1,506	173,258	1H:5V	180	7,320	3,720	25,875	134,308
1	PEAD	100,000	1,294	20,000	0,580	1,444	199,074	1H:5V	180	9,150	4,650	32,344	150,386
1	PEAD	120,000	1,417	20,000	0,580	1,567	225,619	1H:5V	180	10,980	5,580	38,812	167,194
1	PEAD	127,042	1,251	7,042	0,580	1,401	234,792	1H:5V	180	11,624	5,907	41,090	172,938
1	PEAD	128,120	1,231	1,078	0,580	1,381	236,079	1H:5V	180	11,723	5,957	41,439	173,700
1	PEAD	129,198	1,223	1,078	0,580	1,373	237,349	1H:5V	180	11,822	6,007	41,787	174,445
1	PEAD	140,000	1,202	10,802	0,580	1,352	249,896	1H:5V	180	12,810	6,510	45,281	181,732
1	PEAD	151,255	1,196	11,255	0,580	1,346	262,798	1H:5V	180	13,840	7,033	48,921	189,155
1	PEAD	153,937	1,238	2,682	0,580	1,388	265,927	1H:5V	180	14,085	7,158	49,789	190,978
1	PEAD	156,619	1,320	2,682	0,580	1,470	269,246	1H:5V	180	14,331	7,282	50,656	192,992
1	PEAD	160,000	1,466	3,381	0,580	1,616	273,886	1H:5V	180	14,640	7,439	51,750	195,985
1	PEAD	180,000	1,724	20,000	0,580	1,874	306,374	1H:5V	180	16,470	8,369	58,219	218,736
1	PEAD	182,894	1,562	2,894	0,580	1,712	311,249	1H:5V	180	16,735	8,504	59,155	222,201
1	PEAD	184,677	1,479	1,783	0,580	1,629	313,972	1H:5V	180	16,898	8,587	59,731	224,056
1	PEAD	186,460	1,428	1,783	0,580	1,578	316,547	1H:5V	180	17,061	8,670	60,308	225,764
1	PEAD	200,000	1,267	13,540	0,580	1,417	334,398	1H:5V	180	18,300	9,299	64,687	237,022
1	PEAD	215,568	1,846	15,568	0,580	1,996	359,135	1H:5V	180	19,724	10,023	69,723	254,179
1	PEAD	216,570	1,821	1,002	0,580	1,971	361,076	1H:5V	180	19,816	10,070	70,047	255,632
1	PEAD	217,572	1,786	1,002	0,580	1,936	362,976	1H:5V	180	19,908	10,116	70,371	257,044
1	PEAD	220,000	1,689	2,428	0,580	1,839	367,365	1H:5V	180	20,130	10,229	71,156	260,251
1	PEAD	240,000	1,639	20,000	0,580	1,789	401,572	1H:5V	180	21,960	11,159	77,625	284,721
1	PEAD	260,000	1,398	20,000	0,580	1,548	432,121	1H:5V	180	23,790	12,089	84,094	305,532
1	PEAD	270,909	1,192	10,909	0,580	1,342	445,842	1H:5V	180	24,788	12,596	87,622	313,942
1	PEAD	271,923	1,188	1,014	0,580	1,338	446,994	1H:5V	180	24,881	12,643	87,950	314,601
1	PEAD	272,000	1,188	0,077	0,580	1,338	447,082	1H:5V	180	24,888	12,647	87,975	314,650
1	PEAD	273,091	1,204	1,091	0,580	1,354	448,329	1H:5V	180	24,988	12,698	88,328	315,366
1	PEAD	280,000	1,264	6,909	0,580	1,414	456,523	1H:5V	180	25,620	13,019	90,562	320,196

R-6-4													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	285,829	1,306	5,829	0,580	1,456	463,775	1H:5V	180	26,153	13,290	92,448	324,611
1	PEAD	300,000	1,814	14,171	0,580	1,964	486,301	1H:5V	180	27,450	13,949	97,031	340,237
1	PEAD	320,000	1,490	20,000	0,580	1,640	520,298	1H:5V	180	29,280	14,879	103,500	364,496
1	PEAD	340,000	1,293	20,000	0,580	1,443	547,723	1H:5V	180	31,110	15,809	109,968	382,184
1	PEAD	360,000	1,495	20,000	0,580	1,645	575,210	1H:5V	180	32,940	16,739	116,437	399,933
1	PEAD	370,256	1,711	10,256	0,580	1,861	591,965	1H:5V	180	33,878	17,216	119,754	411,694
1	PEAD	380,000	1,344	9,744	0,580	1,494	606,995	1H:5V	180	34,770	17,669	122,906	421,980
1	PEAD	381,697	1,261	1,697	0,580	1,411	609,141	1H:5V	180	34,925	17,748	123,455	423,300
1	PEAD	383,480	1,205	1,783	0,580	1,355	611,253	1H:5V	180	35,088	17,830	124,031	424,545
1	PEAD	385,480	1,480	2,000	0,580	1,630	613,883	1H:5V	180	35,271	17,923	124,678	426,201
1	PEAD	387,480	1,735	2,000	0,580	1,885	617,164	1H:5V	180	35,454	18,016	125,325	428,508
1	PEAD	400,000	1,553	12,520	0,580	1,703	638,271	1H:5V	180	36,600	18,599	129,375	443,519
1	PEAD	420,000	1,224	20,000	0,580	1,374	665,694	1H:5V	180	38,430	19,529	135,843	461,204
1	PEAD	423,498	1,190	3,498	0,580	1,340	669,735	1H:5V	180	38,750	19,691	136,975	463,543
1	PEAD	426,835	1,255	3,337	0,580	1,405	673,650	1H:5V	180	39,055	19,846	138,054	465,832
1	PEAD	430,172	1,227	3,337	0,580	1,377	677,633	1H:5V	180	39,361	20,002	139,133	468,191
1	PEAD	440,000	1,207	9,828	0,580	1,357	689,099	1H:5V	180	40,260	20,458	142,312	474,872
1	PEAD	458,009	1,222	18,009	0,580	1,372	710,058	1H:5V	180	41,908	21,296	148,137	487,062
1	PEAD	460,000	1,200	1,991	0,580	1,350	712,367	1H:5V	180	42,090	21,388	148,781	488,402
1	PEAD	461,356	1,253	1,356	0,580	1,403	713,964	1H:5V	180	42,214	21,451	149,219	489,339
1	PEAD	464,703	1,627	3,347	0,580	1,777	718,766	1H:5V	180	42,520	21,607	150,302	492,511
1	PEAD	480,000	1,833	15,297	0,580	1,983	746,291	1H:5V	180	43,920	22,318	155,250	512,589
1	PEAD	497,694	1,306	17,694	0,580	1,456	774,647	1H:5V	180	45,539	23,141	160,972	532,329
1	PEAD	499,244	1,332	1,550	0,580	1,482	776,636	1H:5V	180	45,681	23,213	161,474	533,564
1	PEAD	500,000	1,360	0,756	0,580	1,510	777,631	1H:5V	180	45,750	23,248	161,718	534,191
1	PEAD	500,794	1,396	0,794	0,580	1,546	778,705	1H:5V	180	45,823	23,285	161,975	534,879
1	PEAD	520,000	1,323	19,206	0,580	1,473	804,278	1H:5V	180	47,580	24,178	168,187	551,100
1	PEAD	529,398	1,409	9,398	0,580	1,559	816,865	1H:5V	180	48,440	24,615	171,227	559,111
1	PEAD	540,000	1,272	10,602	0,525	1,422	830,336	1H:5V	125	49,366	25,027	174,423	567,918
1	PEAD	554,258	1,454	14,258	0,525	1,604	848,213	1H:5V	125	50,553	25,472	178,408	580,003

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R-6-5													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,700	0,000	0,525	1,850	0,000	1H:5V	125	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,559	20,000	0,525	1,709	31,371	1H:5V	125	1,665	0,624	5,590	23,246
1	PEAD	40,000	1,542	20,000	0,525	1,692	60,793	1H:5V	125	3,330	1,248	11,181	44,543
1	PEAD	60,000	1,555	20,000	0,525	1,705	90,167	1H:5V	125	4,995	1,872	16,771	65,792
1	PEAD	80,000	1,530	20,000	0,525	1,680	119,398	1H:5V	125	6,660	2,497	22,362	86,898
1	PEAD	100,000	1,520	20,000	0,525	1,670	148,208	1H:5V	125	8,325	3,121	27,952	107,583
1	PEAD	113,968	1,446	13,968	0,525	1,596	167,636	1H:5V	125	9,488	3,557	31,856	121,337
1	PEAD	120,000	1,609	6,032	0,525	1,759	176,351	1H:5V	125	9,990	3,745	33,542	127,601
1	PEAD	140,000	1,550	20,000	0,525	1,700	206,479	1H:5V	125	11,655	4,369	39,133	149,604
1	PEAD	160,000	1,520	20,000	0,525	1,670	235,530	1H:5V	125	13,320	4,993	44,723	170,530
1	PEAD	180,000	1,489	20,000	0,525	1,639	263,852	1H:5V	125	14,985	5,617	50,314	190,727
1	PEAD	182,955	1,392	2,955	0,525	1,542	267,816	1H:5V	125	15,231	5,710	51,140	193,491
1	PEAD	187,981	1,251	5,026	0,525	1,401	273,881	1H:5V	125	15,649	5,866	52,545	197,513
1	PEAD	193,007	1,672	5,026	0,525	1,822	280,788	1H:5V	125	16,068	6,023	53,949	202,379
1	PEAD	200,000	1,413	6,993	0,525	1,563	291,031	1H:5V	125	16,650	6,242	55,904	209,781
1	PEAD	215,850	1,655	15,850	0,525	1,805	314,080	1H:5V	125	17,970	6,736	60,334	226,391
1	PEAD	220,000	1,736	4,150	0,525	1,886	320,929	1H:5V	125	18,315	6,866	61,494	231,554
1	PEAD	220,351	1,747	0,351	0,525	1,897	321,529	1H:5V	125	18,344	6,877	61,593	232,012
1	PEAD	224,852	1,815	4,501	0,525	1,965	329,450	1H:5V	125	18,719	7,017	62,851	238,104
1	PEAD	240,000	1,307	15,148	0,525	1,457	352,122	1H:5V	125	19,980	7,490	67,085	254,622
1	PEAD	260,000	1,182	20,000	0,525	1,332	374,558	1H:5V	125	21,645	8,114	72,675	268,933
1	PEAD	260,763	1,164	0,763	0,525	1,314	375,355	1H:5V	125	21,709	8,138	72,889	269,420
1	PEAD	262,101	1,126	1,338	0,525	1,276	376,714	1H:5V	125	21,820	8,180	73,263	270,235
1	PEAD	263,439	1,149	1,338	0,525	1,299	378,062	1H:5V	125	21,931	8,221	73,637	271,040
1	PEAD	280,000	1,327	16,561	0,525	1,477	396,537	1H:5V	125	23,310	8,738	78,266	282,787
1	PEAD	300,000	1,265	20,000	0,525	1,415	420,087	1H:5V	125	24,975	9,362	83,856	298,212
1	PEAD	304,616	1,125	4,616	0,525	1,275	425,022	1H:5V	125	25,359	9,506	85,146	301,271

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R-6-6													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,728	0,000	0,755	1,878	0,000	1H:5V	355	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,732	20,000	0,755	1,882	42,526	1H:5V	355	2,355	2,029	9,471	26,691
1	PEAD	38,979	1,406	18,979	0,755	1,556	78,475	1H:5V	355	4,590	3,955	18,458	47,614
1	PEAD	40,000	1,415	1,021	0,755	1,565	80,175	1H:5V	355	4,710	4,059	18,941	48,506
1	PEAD	40,234	1,416	0,234	0,755	1,566	80,566	1H:5V	355	4,738	4,083	19,052	48,712
1	PEAD	41,489	1,410	1,255	0,755	1,560	82,660	1H:5V	355	4,885	4,210	19,646	49,812
1	PEAD	60,000	1,829	18,511	0,755	1,979	119,145	1H:5V	355	7,065	6,088	28,412	71,641
1	PEAD	62,783	1,736	2,783	0,755	1,886	125,285	1H:5V	355	7,393	6,371	29,729	75,578
1	PEAD	68,440	1,515	5,657	0,755	1,665	136,449	1H:5V	355	8,059	6,945	32,408	82,263
1	PEAD	68,443	1,515	0,003	0,755	1,665	136,455	1H:5V	355	8,059	6,945	32,410	82,266
1	PEAD	74,103	1,450	5,660	0,755	1,600	146,449	1H:5V	355	8,726	7,520	35,090	87,779
1	PEAD	80,000	1,476	5,897	0,755	1,626	156,699	1H:5V	355	9,420	8,118	37,882	93,361
1	PEAD	98,679	1,735	18,679	0,755	1,885	193,032	1H:5V	355	11,619	10,013	46,727	114,905
1	PEAD	100,000	1,711	1,321	0,755	1,861	195,827	1H:5V	355	11,775	10,147	47,353	116,654
1	PEAD	100,588	1,696	0,588	0,755	1,846	197,053	1H:5V	355	11,844	10,207	47,631	117,415
1	PEAD	102,497	1,640	1,909	0,755	1,790	200,936	1H:5V	355	12,069	10,401	48,535	119,786
1	PEAD	118,558	1,373	16,061	0,755	1,523	229,894	1H:5V	355	13,960	12,031	56,140	136,028
1	PEAD	120,000	1,368	1,442	0,755	1,518	232,216	1H:5V	355	14,130	12,177	56,823	137,209
1	PEAD	140,000	1,577	20,000	0,755	1,727	267,290	1H:5V	355	16,485	14,206	66,294	156,448
1	PEAD	158,878	1,630	18,878	0,755	1,780	303,894	1H:5V	355	18,708	16,122	75,233	178,106
1	PEAD	160,000	1,639	1,122	0,755	1,789	306,120	1H:5V	355	18,840	16,236	75,764	179,443
1	PEAD	161,064	1,636	1,064	0,755	1,786	308,236	1H:5V	355	18,965	16,344	76,268	180,717
1	PEAD	163,250	1,602	2,186	0,755	1,752	312,524	1H:5V	355	19,223	16,566	77,303	183,274
1	PEAD	164,488	1,574	1,238	0,755	1,724	314,896	1H:5V	355	19,368	16,691	77,889	184,666
1	PEAD	180,000	1,376	15,512	0,755	1,526	342,150	1H:5V	355	21,195	18,265	85,235	199,639
1	PEAD	186,143	1,355	6,143	0,755	1,505	352,001	1H:5V	355	21,918	18,889	88,144	204,626
1	PEAD	189,064	1,401	2,921	0,755	1,551	356,735	1H:5V	355	22,262	19,185	89,527	207,048

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R-6-7													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,653	0,000	0,510	1,803	0,000	1H:5V	110	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,784	20,000	0,510	1,934	33,041	1H:5V	110	1,620	0,544	5,356	25,331
1	PEAD	40,000	1,795	20,000	0,510	1,945	67,871	1H:5V	110	3,240	1,088	10,713	52,450
1	PEAD	59,205	1,512	19,205	0,510	1,662	98,105	1H:5V	110	4,796	1,611	15,856	75,281
1	PEAD	60,000	1,497	0,795	0,510	1,647	99,211	1H:5V	110	4,860	1,632	16,069	76,080
1	PEAD	66,915	1,640	6,915	0,510	1,790	109,363	1H:5V	110	5,420	1,820	17,921	83,566
1	PEAD	74,625	2,158	7,710	0,510	2,308	123,998	1H:5V	110	6,045	2,030	19,986	95,228
1	PEAD	80,000	1,928	5,375	0,510	2,078	135,193	1H:5V	110	6,480	2,176	21,425	104,352
1	PEAD	80,706	1,816	0,706	0,510	1,966	136,499	1H:5V	110	6,537	2,195	21,614	105,385
1	PEAD	85,224	1,198	4,518	0,510	1,348	142,884	1H:5V	110	6,903	2,318	22,824	110,029
1	PEAD	89,742	1,344	4,518	0,510	1,494	147,988	1H:5V	110	7,269	2,441	24,034	113,391
1	PEAD	100,000	1,691	10,258	0,510	1,841	162,478	1H:5V	110	8,100	2,720	26,781	123,926
1	PEAD	120,000	1,363	20,000	0,510	1,513	190,940	1H:5V	110	9,720	3,264	32,138	144,678
1	PEAD	140,000	1,756	20,000	0,510	1,906	220,221	1H:5V	110	11,340	3,808	37,494	166,248
1	PEAD	160,000	1,153	20,000	0,510	1,303	247,248	1H:5V	110	12,960	4,353	42,850	185,565
1	PEAD	180,000	1,649	20,000	0,510	1,799	272,937	1H:5V	110	14,580	4,897	48,206	203,543
1	PEAD	182,104	1,684	2,104	0,510	1,834	276,275	1H:5V	110	14,750	4,954	48,770	206,070
1	PEAD	184,912	1,766	2,808	0,510	1,916	280,935	1H:5V	110	14,978	5,030	49,522	209,648
1	PEAD	187,720	1,806	2,808	0,510	1,956	285,813	1H:5V	110	15,205	5,107	50,274	213,443
1	PEAD	200,000	1,807	12,280	0,510	1,957	307,467	1H:5V	110	16,200	5,441	53,563	230,363
1	PEAD	220,000	1,488	20,000	0,510	1,638	338,828	1H:5V	110	17,820	5,985	58,919	254,013
1	PEAD	226,590	1,787	6,590	0,510	1,937	349,076	1H:5V	110	18,354	6,164	60,684	261,721

3.89 RAMAL R-6-8

R-6-8														
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,700	0,000	1,105	1,850	0,000	1H:5V	180	125	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,689	20,000	1,105	1,839	54,372	1H:5V	180	125	3,405	1,629	11,089	37,495
1	PEAD	40,000	1,474	20,000	1,105	1,624	104,677	1H:5V	180	125	6,810	3,259	22,177	70,922
1	PEAD	47,912	1,277	7,912	1,105	1,427	121,712	1H:5V	180	125	8,157	3,904	26,564	81,280
1	PEAD	50,234	1,471	2,322	1,105	1,621	126,705	1H:5V	180	125	8,552	4,093	27,852	84,314

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	52,556	1,640	2,322	1,105	1,790	132,435	1H:5V	180	125	8,948	4,282	29,139	88,084
1	PEAD	60,000	1,416	7,444	1,105	1,566	150,449	1H:5V	180	125	10,215	4,888	33,266	99,816
1	PEAD	80,000	1,704	20,000	1,105	1,854	200,019	1H:5V	180	125	13,620	6,518	44,355	132,509
1	PEAD	85,430	1,900	5,430	1,105	2,050	215,880	1H:5V	180	125	14,544	6,960	47,366	143,787
1	PEAD	89,195	1,687	3,765	1,105	1,837	226,818	1H:5V	180	125	15,185	7,267	49,453	151,548
1	PEAD	89,372	1,671	0,177	0,580	1,821	227,210	1H:5V	180		15,209	7,278	49,531	151,823
1	PEAD	93,314	1,255	3,942	0,580	1,405	232,983	1H:5V	180		15,569	7,462	50,806	155,677
1	PEAD	100,000	1,342	6,686	0,580	1,492	241,408	1H:5V	180		16,181	7,773	52,968	160,847
1	PEAD	102,766	1,510	2,766	0,580	1,660	245,314	1H:5V	180		16,434	7,901	53,863	163,407
1	PEAD	113,796	1,898	11,030	0,580	2,048	264,841	1H:5V	180		17,443	8,414	57,430	177,563
1	PEAD	120,000	1,662	6,204	0,580	1,812	276,425	1H:5V	180		18,011	8,703	59,437	186,126
1	PEAD	122,311	1,600	2,311	0,580	1,750	280,279	1H:5V	180		18,223	8,810	60,184	188,855
1	PEAD	123,489	1,497	1,178	0,580	1,647	282,119	1H:5V	180		18,330	8,865	60,565	190,122
1	PEAD	130,826	1,349	7,337	0,580	1,499	292,452	1H:5V	180		19,002	9,206	62,938	196,882
1	PEAD	140,000	1,575	9,174	0,580	1,725	305,821	1H:5V	180		19,841	9,632	65,906	205,784
1	PEAD	147,387	1,487	7,387	0,580	1,637	317,200	1H:5V	180		20,517	9,976	68,295	213,567
1	PEAD	156,682	1,365	9,295	0,580	1,515	330,321	1H:5V	180		21,367	10,408	71,301	222,163
1	PEAD	160,000	1,952	3,318	0,580	2,102	336,029	1H:5V	180		21,671	10,562	72,374	226,255
1	PEAD	160,847	2,063	0,847	0,580	2,213	337,878	1H:5V	180		21,749	10,602	72,648	227,692
1	PEAD	167,055	1,312	6,208	0,580	1,462	348,861	1H:5V	180		22,317	10,890	74,656	235,652
1	PEAD	176,790	1,364	9,735	0,580	1,514	361,575	1H:5V	180		23,207	11,343	77,805	243,627
1	PEAD	180,000	1,345	3,210	0,580	1,495	365,830	1H:5V	180		23,501	11,492	78,843	246,318
1	PEAD	181,687	1,263	1,687	0,580	1,413	367,966	1H:5V	180		23,655	11,571	79,389	247,633
1	PEAD	186,342	1,288	4,655	0,580	1,438	373,707	1H:5V	180		24,081	11,787	80,894	251,107
1	PEAD	190,997	1,349	4,655	0,580	1,499	379,680	1H:5V	180		24,507	12,004	82,400	254,814
1	PEAD	200,000	1,437	9,003	0,580	1,587	392,028	1H:5V	180		25,331	12,422	85,312	262,779
1	PEAD	211,391	1,700	11,391	0,580	1,850	410,149	1H:5V	180		26,373	12,952	88,996	275,354
1	PEAD	212,313	1,660	0,922	0,580	1,810	411,745	1H:5V	180		26,458	12,995	89,294	276,501
1	PEAD	213,477	1,616	1,164	0,580	1,766	413,697	1H:5V	180		26,564	13,049	89,671	277,886
1	PEAD	214,641	1,582	1,164	0,580	1,732	415,590	1H:5V	180		26,671	13,103	90,047	279,212
1	PEAD	220,000	1,674	5,359	0,580	1,824	424,507	1H:5V	180		27,161	13,352	91,781	285,520
1	PEAD	240,000	1,452	20,000	0,580	1,602	456,164	1H:5V	180		28,991	14,282	98,249	307,440
1	PEAD	260,000	1,307	20,000	0,580	1,457	483,285	1H:5V	180		30,821	15,212	104,718	324,823
1	PEAD	279,654	1,333	19,654	0,580	1,483	508,537	1H:5V	180		32,619	16,126	111,075	340,506
1	PEAD	280,000	1,357	0,346	0,580	1,507	508,991	1H:5V	180		32,651	16,142	111,187	340,792
1	PEAD	282,537	1,328	2,537	0,580	1,478	512,318	1H:5V	180		32,883	16,260	112,007	342,883

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	285,420	1,356	2,883	0,560	1,506	516,053	1H:5V	160		33,143	16,386	112,916	345,266
1	PEAD	300,000	1,706	14,580	0,560	1,856	538,107	1H:5V	160		34,433	16,981	117,397	360,661
1	PEAD	320,000	1,187	20,000	0,560	1,337	566,453	1H:5V	160		36,203	17,798	123,542	379,872
1	PEAD	340,000	1,696	20,000	0,560	1,846	594,668	1H:5V	160		37,973	18,614	129,688	398,953
1	PEAD	352,642	1,797	12,642	0,560	1,947	617,195	1H:5V	160		39,092	19,130	133,573	415,706
1	PEAD	353,644	1,800	1,002	0,560	1,950	619,049	1H:5V	160		39,181	19,171	133,881	417,102
1	PEAD	354,646	1,805	1,002	0,560	1,955	620,908	1H:5V	160		39,269	19,212	134,189	418,504
1	PEAD	360,000	1,741	5,354	0,560	1,891	630,635	1H:5V	160		39,743	19,431	135,834	425,785
1	PEAD	380,000	1,248	20,000	0,560	1,398	660,114	1H:5V	160		41,513	20,247	141,980	446,130
1	PEAD	400,000	1,180	20,000	0,560	1,330	682,837	1H:5V	160		43,283	21,064	148,125	459,719
1	PEAD	419,263	1,258	19,263	0,560	1,408	704,831	1H:5V	160		44,988	21,850	154,045	472,915
1	PEAD	420,000	1,258	0,737	0,560	1,408	705,705	1H:5V	160		45,053	21,880	154,271	473,452
1	PEAD	420,737	1,253	0,737	0,560	1,403	706,576	1H:5V	160		45,118	21,910	154,498	473,987
1	PEAD	440,000	1,474	19,263	0,560	1,624	731,774	1H:5V	160		46,823	22,697	160,417	490,387
1	PEAD	460,000	1,673	20,000	0,560	1,823	762,999	1H:5V	160		48,593	23,513	166,563	512,478
1	PEAD	480,000	1,573	20,000	0,560	1,723	795,441	1H:5V	160		50,363	24,330	172,708	535,785
1	PEAD	497,689	1,426	17,689	0,560	1,576	821,425	1H:5V	160		51,928	25,052	178,144	553,691
1	PEAD	498,891	1,410	1,202	0,560	1,560	823,072	1H:5V	160		52,035	25,101	178,513	554,788
1	PEAD	500,000	1,390	1,109	0,560	1,540	824,567	1H:5V	160		52,133	25,146	178,854	555,777
1	PEAD	500,093	1,389	0,093	0,560	1,539	824,692	1H:5V	160		52,141	25,150	178,883	555,859
1	PEAD	520,000	1,522	19,907	0,560	1,672	852,870	1H:5V	160		53,903	25,963	185,000	574,945
1	PEAD	530,103	1,695	10,103	0,560	1,845	869,082	1H:5V	160		54,797	26,375	188,104	586,544
1	PEAD	539,110	1,572	9,007	0,560	1,722	883,815	1H:5V	160		55,594	26,743	190,872	597,163
1	PEAD	540,000	1,558	0,890	0,560	1,708	885,193	1H:5V	160		55,673	26,780	191,146	598,134
1	PEAD	542,122	1,524	2,122	0,560	1,674	888,416	1H:5V	160		55,861	26,866	191,798	600,388
1	PEAD	543,040	1,514	0,918	0,560	1,664	889,786	1H:5V	160		55,942	26,904	192,080	601,338
1	PEAD	543,958	1,512	0,918	0,560	1,662	891,149	1H:5V	160		56,023	26,941	192,362	602,282
1	PEAD	560,000	1,592	16,042	0,560	1,742	915,738	1H:5V	160		57,443	27,596	197,291	619,544
1	PEAD	580,000	1,956	20,000	0,560	2,106	952,226	1H:5V	160		59,213	28,413	203,437	646,898
1	PEAD	600,000	2,244	20,000	0,560	2,394	997,759	1H:5V	160		60,983	29,229	209,583	683,297
1	PEAD	619,882	1,360	19,882	0,560	1,510	1.035,421	1H:5V	160		62,743	30,041	215,692	711,878
1	PEAD	620,000	1,360	0,118	0,560	1,510	1.035,574	1H:5V	160		62,753	30,046	215,729	711,978
1	PEAD	623,187	1,408	3,187	0,560	1,558	1.039,812	1H:5V	160		63,035	30,176	216,708	714,760
1	PEAD	626,492	1,431	3,305	0,560	1,581	1.044,345	1H:5V	160		63,328	30,311	217,723	717,784
1	PEAD	640,000	1,361	13,508	0,560	1,511	1.062,501	1H:5V	160		64,523	30,862	221,874	729,770
1	PEAD	648,575	1,706	8,575	0,560	1,856	1.075,496	1H:5V	160		65,282	31,212	224,509	738,849

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	Ø MENOR TUBERIA 2	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	651,104	1,420	2,529	0,560	1,570	1.079,417	1H:5V	160		65,506	31,316	225,286	741,615
1	PEAD	653,633	1,433	2,529	0,560	1,583	1.082,907	1H:5V	160		65,730	31,419	226,064	743,949
1	PEAD	654,132	1,490	0,499	0,560	1,640	1.083,616	1H:5V	160		65,774	31,439	226,217	744,431
1	PEAD	655,271	1,621	1,139	0,560	1,771	1.085,368	1H:5V	160		65,874	31,486	226,567	745,662
1	PEAD	660,000	1,572	4,729	0,560	1,722	1.092,878	1H:5V	160		66,293	31,679	228,020	751,013
1	PEAD	660,804	1,413	0,804	0,560	1,563	1.094,053	1H:5V	160		66,364	31,712	228,267	751,820
1	PEAD	666,337	1,326	5,533	0,560	1,476	1.101,318	1H:5V	160		66,854	31,938	229,967	756,558
1	PEAD	680,000	2,332	13,663	0,560	2,482	1.127,853	1H:5V	160		68,063	32,495	234,166	776,854
1	PEAD	700,000	1,852	20,000	0,560	2,002	1.173,300	1H:5V	160		69,833	33,312	240,311	813,166
1	PEAD	718,443	1,397	18,443	0,560	1,547	1.203,433	1H:5V	160		71,465	34,065	245,979	834,876
1	PEAD	720,000	1,373	1,557	0,560	1,523	1.205,506	1H:5V	160		71,603	34,128	246,457	836,237
1	PEAD	721,557	1,374	1,557	0,560	1,524	1.207,557	1H:5V	160		71,741	34,192	246,936	837,577
1	PEAD	738,443	1,281	16,886	0,560	1,431	1.228,908	1H:5V	160		73,235	34,881	252,125	851,216
1	PEAD	740,000	1,235	1,557	0,560	1,385	1.230,753	1H:5V	160		73,373	34,945	252,603	852,350
1	PEAD	741,557	1,201	1,557	0,560	1,351	1.232,529	1H:5V	160		73,511	35,009	253,081	853,415
1	PEAD	752,750	1,246	11,193	0,560	1,396	1.245,362	1H:5V	160		74,501	35,465	256,521	861,136
1	PEAD	760,000	1,537	7,250	0,560	1,687	1.255,097	1H:5V	160		75,143	35,761	258,749	867,559
1	PEAD	767,250	2,355	7,250	0,560	2,505	1.270,219	1H:5V	160		75,785	36,057	260,977	879,371
1	PEAD	780,000	1,255	12,750	0,560	1,405	1.294,696	1H:5V	160		76,913	36,578	264,894	898,024
1	PEAD	793,093	2,061	13,093	0,560	2,211	1.316,937	1H:5V	160		78,072	37,113	268,918	914,285
1	PEAD	800,000	1,341	6,907	0,560	1,491	1.329,009	1H:5V	160		78,683	37,395	271,040	923,202
1	PEAD	816,530	1,279	16,530	0,560	1,429	1.349,574	1H:5V	160		80,146	38,069	276,120	936,218
1	PEAD	820,000	1,828	3,470	0,560	1,978	1.354,950	1H:5V	160		80,453	38,211	277,186	940,010
1	PEAD	822,080	2,217	2,080	0,560	2,367	1.359,460	1H:5V	160		80,637	38,296	277,825	943,569
1	PEAD	827,630	2,745	5,550	0,560	2,895	1.375,398	1H:5V	160		81,128	38,523	279,531	956,973
1	PEAD	840,000	3,360	12,370	0,560	3,510	1.435,807	1H:5V	160		82,223	39,028	283,332	1.011,732
1	PEAD	858,567	2,025	18,567	0,560	2,175	1.515,958	1H:5V	160		83,866	39,786	289,037	1.083,404
1	PEAD	860,000	1,873	1,433	0,560	2,023	1.518,907	1H:5V	160		83,993	39,844	289,477	1.085,698
1	PEAD	864,117	1,481	4,117	0,560	1,631	1.525,899	1H:5V	160		84,357	40,012	290,742	1.090,810
1	PEAD	869,667	1,387	5,550	0,560	1,537	1.533,610	1H:5V	160		84,849	40,239	292,448	1.095,986
1	PEAD	880,000	1,366	10,333	0,560	1,516	1.547,259	1H:5V	160		85,763	40,661	295,623	1.104,915
1	PEAD	884,399	1,357	4,399	0,560	1,507	1.552,992	1H:5V	160		86,152	40,840	296,975	1.108,640
1	PEAD	892,226	1,300	7,827	0,560	1,450	1.562,896	1H:5V	160		86,845	41,160	299,380	1.114,968
1	PEAD	900,000	1,250	7,774	0,560	1,400	1.572,258	1H:5V	160		87,533	41,477	301,769	1.120,780
1	PEAD	900,053	1,249	0,053	0,560	1,399	1.572,320	1H:5V	160		87,538	41,479	301,785	1.120,818
1	PEAD	905,986	1,160	5,933	0,560	1,310	1.579,000	1H:5V	160		88,063	41,722	303,608	1.124,788

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	0,000	1,683	0,000	1,200	1,833	0,000	1H:5V	600	0,000	0,000	0,000	0,000
1	PRFV	20,000	1,639	20,000	1,200	1,789	56,585	1H:5V	600	3,690	13,945	9,600	23,695
1	PRFV	26,825	1,915	6,825	1,200	2,065	77,462	1H:5V	600	4,949	18,704	12,876	33,348
1	PRFV	40,000	1,781	13,175	1,200	1,931	119,581	1H:5V	600	7,380	27,890	19,200	53,801
1	PRFV	59,054	1,607	19,054	1,200	1,757	174,730	1H:5V	600	10,895	41,176	28,346	77,616
1	PRFV	60,000	1,834	0,946	1,200	1,984	177,518	1H:5V	600	11,070	41,835	28,800	78,848
1	PRFV	80,000	1,726	20,000	1,200	1,876	238,749	1H:5V	600	14,760	55,781	38,400	107,189
1	PRFV	81,623	1,712	1,623	1,200	1,862	243,523	1H:5V	600	15,059	56,912	39,179	109,294
1	PRFV	100,000	2,776	18,377	1,200	2,926	318,422	1H:5V	600	18,450	69,726	48,000	153,972
1	PRFV	120,000	1,630	20,000	1,200	1,780	398,353	1H:5V	600	22,140	83,671	57,600	201,013
1	PRFV	125,469	1,600	5,469	1,200	1,750	413,344	1H:5V	600	23,149	87,484	60,225	207,011
1	PRFV	140,000	1,673	14,531	1,200	1,823	453,775	1H:5V	600	25,830	97,616	67,200	223,545
1	PRFV	150,302	1,735	10,302	1,200	1,885	483,779	1H:5V	600	27,731	104,799	72,145	236,608
1	PRFV	160,000	2,152	9,698	1,200	2,302	516,728	1H:5V	600	29,520	111,561	76,800	253,608
1	PRFV	173,021	2,788	13,021	1,200	2,938	575,805	1H:5V	600	31,922	120,640	83,050	291,272
1	PRFV	180,000	2,800	6,979	1,200	2,950	612,558	1H:5V	600	33,210	125,506	86,400	316,548
1	PRFV	186,979	2,696	6,979	1,200	2,846	648,555	1H:5V	600	34,498	130,372	89,750	341,068
1	PRFV	200,000	2,406	13,021	1,200	2,556	709,812	1H:5V	600	36,900	139,451	96,000	380,912
1	PRFV	220,000	1,983	20,000	1,200	2,133	788,246	1H:5V	600	40,590	153,396	105,600	426,456
1	PRFV	240,000	2,056	20,000	1,200	2,206	859,146	1H:5V	600	44,280	167,342	115,200	464,466
1	PRFV	260,000	1,932	20,000	1,200	2,082	929,004	1H:5V	600	47,970	181,287	124,800	501,434
1	PRFV	279,292	1,671	19,292	1,200	1,821	988,942	1H:5V	600	51,529	194,738	134,060	529,646
1	PRFV	280,000	1,728	0,708	1,200	1,878	990,998	1H:5V	600	51,660	195,232	134,400	530,538
1	PRFV	300,000	1,842	20,000	1,200	1,992	1.052,428	1H:5V	600	55,350	209,177	144,000	559,078
1	PRFV	320,000	2,115	20,000	1,200	2,265	1.121,708	1H:5V	600	59,040	223,122	153,600	595,468
1	PRFV	340,000	2,116	20,000	1,200	2,266	1.196,610	1H:5V	600	62,730	237,067	163,200	637,480
1	PRFV	360,000	2,268	20,000	1,200	2,418	1.274,781	1H:5V	600	66,420	251,012	172,800	682,761
1	PRFV	380,000	2,401	20,000	1,200	2,551	1.359,118	1H:5V	600	70,110	264,958	182,400	734,208
1	PRFV	400,000	2,483	20,000	1,200	2,633	1.448,206	1H:5V	600	73,800	278,903	192,000	790,406
1	PRFV	420,000	2,533	20,000	1,200	2,683	1.540,261	1H:5V	600	77,490	292,848	201,600	849,571
1	PRFV	440,000	2,349	20,000	1,200	2,499	1.629,332	1H:5V	600	81,180	306,793	211,200	905,752
1	PRFV	453,744	1,863	13,744	1,200	2,013	1.680,692	1H:5V	600	83,716	316,376	217,797	934,510
1	PRFV	460,000	1,888	6,256	1,100	2,038	1.700,394	1H:5V	500	84,823	320,345	220,669	945,035
1	PRFV	480,000	1,968	20,000	1,100	2,118	1.763,388	1H:5V	500	88,213	331,778	229,429	980,520

R-6-9													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	500,000	1,969	20,000	1,100	2,119	1.827,948	1H:5V	500	91,603	343,211	238,189	1.017,569
1	PRFV	520,000	2,050	20,000	1,100	2,200	1.894,117	1H:5V	500	94,993	354,644	246,949	1.056,229
1	PRFV	540,000	2,172	20,000	1,100	2,322	1.964,322	1H:5V	500	98,383	366,077	255,709	1.098,924
1	PRFV	560,000	2,288	20,000	1,100	2,438	2.039,353	1H:5V	500	101,773	377,510	264,469	1.146,445
1	PRFV	561,382	2,294	1,382	1,100	2,444	2.044,711	1H:5V	500	102,007	378,300	265,074	1.149,902
1	PRFV	580,000	2,352	18,618	1,100	2,502	2.118,133	1H:5V	500	105,163	388,943	273,229	1.197,715
1	PRFV	600,000	2,416	20,000	1,100	2,566	2.199,570	1H:5V	500	108,553	400,376	281,989	1.251,642
1	PRFV	610,371	2,450	10,371	1,100	2,600	2.242,877	1H:5V	500	110,311	406,305	286,531	1.280,683
1	PRFV	620,000	2,460	9,629	1,100	2,610	2.283,537	1H:5V	500	111,943	411,809	290,749	1.308,099
1	PRFV	640,000	2,501	20,000	1,100	2,651	2.369,088	1H:5V	500	115,333	423,242	299,509	1.366,140
1	PRFV	660,000	2,522	20,000	1,100	2,672	2.455,976	1H:5V	500	118,723	434,675	308,269	1.425,517
1	PRFV	680,000	2,582	20,000	1,100	2,732	2.544,626	1H:5V	500	122,113	446,108	317,029	1.486,658
1	PRFV	700,000	2,634	20,000	1,100	2,784	2.635,731	1H:5V	500	125,503	457,541	325,789	1.550,253
1	PRFV	720,000	2,704	20,000	1,100	2,854	2.729,541	1H:5V	500	128,893	468,974	334,549	1.616,553
1	PRFV	734,628	2,755	14,628	1,100	2,905	2.800,134	1H:5V	500	131,373	477,336	340,956	1.667,025
1	PRFV	738,725	2,705	4,097	1,100	2,855	2.819,911	1H:5V	500	132,067	479,678	342,750	1.681,166
1	PRFV	740,000	2,687	1,275	1,100	2,837	2.825,968	1H:5V	500	132,283	480,407	343,309	1.685,469
1	PRFV	742,822	2,663	2,822	1,100	2,813	2.839,241	1H:5V	500	132,761	482,020	344,545	1.694,861
1	PRFV	758,123	1,885	15,301	1,100	2,035	2.898,484	1H:5V	500	135,355	490,767	351,246	1.733,058
1	PEAD	760,000	1,717	1,877	0,800	1,867	2.903,418	1H:5V	400	135,631	491,414	352,141	1.735,939
1	PEAD	780,000	2,014	20,000	0,800	2,164	2.952,003	1H:5V	400	138,121	493,757	362,434	1.766,885
1	PEAD	800,000	2,404	20,000	0,800	2,554	3.012,159	1H:5V	400	140,611	496,100	372,727	1.809,400
1	PEAD	815,748	2,115	15,748	0,800	2,265	3.060,866	1H:5V	400	142,571	497,946	380,832	1.844,218
1	PEAD	820,000	1,993	4,252	0,800	2,143	3.072,497	1H:5V	400	143,101	498,444	383,021	1.852,099
1	PEAD	829,394	2,223	9,394	0,800	2,373	3.099,071	1H:5V	400	144,270	499,545	387,855	1.870,386
1	PEAD	840,000	2,116	10,606	0,800	2,266	3.130,170	1H:5V	400	145,591	500,787	393,314	1.892,131
1	PEAD	860,000	1,912	20,000	0,800	2,062	3.183,567	1H:5V	400	148,081	503,131	403,607	1.927,888
1	PEAD	880,000	1,877	20,000	0,800	2,027	3.233,000	1H:5V	400	150,571	505,474	413,901	1.959,681
1	PEAD	900,000	1,829	20,000	0,800	1,979	3.281,098	1H:5V	400	153,061	507,817	424,194	1.990,139
1	PEAD	920,000	1,442	20,000	0,800	1,592	3.322,568	1H:5V	400	155,551	510,161	434,487	2.013,969
1	PEAD	940,000	1,827	20,000	0,800	1,977	3.364,006	1H:5V	400	158,041	512,504	444,781	2.037,767
1	PEAD	960,000	1,949	20,000	0,800	2,099	3.413,243	1H:5V	400	160,531	514,847	455,074	2.069,364
1	PEAD	976,939	1,948	16,939	0,800	2,098	3.456,599	1H:5V	400	162,640	516,832	463,792	2.097,780
1	PEAD	980,000	1,949	3,061	0,755	2,099	3.464,289	1H:5V	355	163,011	517,167	465,305	2.102,949
1	PEAD	988,429	2,117	8,429	0,755	2,267	3.486,227	1H:5V	355	164,003	518,022	469,296	2.118,214
1	PEAD	991,064	2,133	2,635	0,755	2,283	3.493,480	1H:5V	355	164,313	518,289	470,544	2.123,381

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TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	993,699	2,106	2,635	0,755	2,256	3.500,710	1H:5V	355	164,624	518,557	471,791	2.128,524
1	PEAD	1.000,000	2,022	6,301	0,755	2,172	3.517,422	1H:5V	355	165,366	519,196	474,775	2.140,247
1	PEAD	1.009,474	1,895	9,474	0,755	2,045	3.540,935	1H:5V	355	166,481	520,158	479,261	2.156,260
1	PEAD	1.020,000	1,763	10,526	0,755	1,913	3.564,917	1H:5V	355	167,721	521,226	484,246	2.171,908
1	PEAD	1.040,000	1,735	20,000	0,755	1,885	3.608,017	1H:5V	355	170,076	523,255	493,716	2.199,173
1	PEAD	1.060,000	1,961	20,000	0,755	2,111	3.654,206	1H:5V	355	172,431	525,285	503,187	2.229,528
1	PEAD	1.080,000	2,188	20,000	0,755	2,338	3.707,641	1H:5V	355	174,786	527,314	512,657	2.267,128
1	PEAD	1.100,000	2,414	20,000	0,755	2,564	3.768,732	1H:5V	355	177,141	529,344	522,128	2.312,384
1	PEAD	1.120,000	2,155	20,000	0,755	2,305	3.829,267	1H:5V	355	179,496	531,373	531,598	2.357,085
1	PEAD	1.140,000	1,866	20,000	0,755	2,016	3.880,645	1H:5V	355	181,851	533,403	541,069	2.392,629
1	PEAD	1.160,000	1,825	20,000	0,755	1,975	3.926,707	1H:5V	355	184,206	535,432	550,539	2.422,856
1	PEAD	1.180,000	1,571	20,000	0,755	1,721	3.968,337	1H:5V	355	186,561	537,462	560,010	2.448,651
1	PEAD	1.196,226	1,502	16,226	0,755	1,652	3.998,232	1H:5V	355	188,471	539,108	567,693	2.465,699
1	PEAD	1.200,000	1,545	3,774	0,715	1,695	4.004,986	1H:5V	315	188,904	539,466	569,413	2.469,649
1	PEAD	1.220,000	1,771	20,000	0,715	1,921	4.043,967	1H:5V	315	191,139	541,227	578,170	2.494,319
1	PEAD	1.240,000	1,877	20,000	0,715	2,027	4.087,793	1H:5V	315	193,374	542,988	586,926	2.523,834
1	PEAD	1.260,000	1,580	20,000	0,715	1,730	4.128,859	1H:5V	315	195,609	544,749	595,683	2.550,588
1	PEAD	1.280,000	1,450	20,000	0,715	1,600	4.163,774	1H:5V	315	197,844	546,510	604,439	2.571,192
1	PEAD	1.300,000	1,676	20,000	0,715	1,826	4.200,059	1H:5V	315	200,079	548,271	613,196	2.593,165
1	PEAD	1.320,000	1,902	20,000	0,715	2,052	4.242,877	1H:5V	315	202,314	550,033	621,953	2.621,671
1	PEAD	1.340,000	1,978	20,000	0,715	2,128	4.290,242	1H:5V	315	204,549	551,794	630,709	2.654,725
1	PEAD	1.360,000	1,761	20,000	0,715	1,911	4.335,481	1H:5V	315	206,784	553,555	639,466	2.685,653
1	PEAD	1.380,000	1,581	20,000	0,715	1,731	4.374,818	1H:5V	315	209,019	555,316	648,223	2.710,678
1	PEAD	1.386,371	1,653	6,371	0,715	1,803	4.386,847	1H:5V	315	209,731	555,877	651,012	2.718,149
1	PEAD	1.400,000	2,003	13,629	0,715	2,153	4.416,871	1H:5V	315	211,254	557,077	656,979	2.738,419
1	PEAD	1.417,656	2,275	17,656	0,715	2,425	4.464,334	1H:5V	315	213,227	558,632	664,710	2.773,249
1	PEAD	1.420,000	2,316	2,344	0,715	2,466	4.471,236	1H:5V	315	213,489	558,838	665,736	2.778,474
1	PEAD	1.435,721	2,282	15,721	0,715	2,432	4.517,623	1H:5V	315	215,246	560,223	672,619	2.813,611
1	PEAD	1.440,000	2,351	4,279	0,715	2,501	4.530,377	1H:5V	315	215,724	560,600	674,492	2.823,303
1	PEAD	1.442,058	2,484	2,058	0,715	2,634	4.536,870	1H:5V	315	215,954	560,781	675,393	2.828,323
1	PEAD	1.448,395	1,680	6,337	0,715	1,830	4.553,502	1H:5V	315	216,662	561,339	678,168	2.840,421
1	PEAD	1.451,721	1,449	3,326	0,715	1,599	4.559,543	1H:5V	315	217,034	561,632	679,624	2.844,082
1	PEAD	1.458,208	1,326	6,487	0,715	1,476	4.569,746	1H:5V	315	217,759	562,203	682,464	2.849,643
1	PEAD	1.460,000	1,417	1,792	0,715	1,567	4.572,526	1H:5V	315	217,959	562,361	683,249	2.851,141
1	PEAD	1.464,695	1,567	4,695	0,715	1,717	4.580,575	1H:5V	315	218,484	562,774	685,305	2.855,830
1	PEAD	1.480,000	1,694	15,305	0,715	1,844	4.609,776	1H:5V	315	220,194	564,122	692,006	2.874,079

R-6-9													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	1.500,000	1,860	20,000	0,715	2,010	4.652,212	1H:5V	315	222,429	565,883	700,762	2.902,204
1	PEAD	1.520,000	2,026	20,000	0,715	2,176	4.699,693	1H:5V	315	224,664	567,644	709,519	2.935,373
1	PEAD	1.540,000	2,192	20,000	0,715	2,342	4.752,436	1H:5V	315	226,899	569,405	718,275	2.973,805
1	PEAD	1.560,000	1,359	20,000	0,715	1,509	4.795,495	1H:5V	315	229,134	571,167	727,032	3.002,553
1	PEAD	1.568,455	2,550	8,455	0,715	2,700	4.816,306	1H:5V	315	230,079	571,911	730,734	3.017,314
1	PEAD	1.577,279	2,939	8,824	0,715	3,089	4.850,991	1H:5V	315	231,065	572,688	734,597	3.045,685
1	PEAD	1.579,547	3,006	2,268	0,715	3,156	4.861,589	1H:5V	315	231,319	572,888	735,590	3.054,660
1	PEAD	1.580,000	3,015	0,453	0,715	3,165	4.863,809	1H:5V	315	231,369	572,928	735,789	3.056,555
1	PEAD	1.580,076	3,016	0,076	0,715	3,166	4.864,183	1H:5V	315	231,378	572,934	735,822	3.056,875
1	PEAD	1.582,873	3,006	2,797	0,715	3,156	4.877,896	1H:5V	315	231,690	573,181	737,047	3.068,586
1	PEAD	1.592,494	2,570	9,621	0,715	2,720	4.917,809	1H:5V	315	232,765	574,028	741,259	3.101,615
1	PEAD	1.594,776	2,490	2,282	0,715	2,640	4.925,460	1H:5V	315	233,020	574,229	742,258	3.107,633
1	PEAD	1.597,058	2,462	2,282	0,715	2,612	4.932,892	1H:5V	315	233,275	574,430	743,257	3.113,433
1	PEAD	1.600,000	2,459	2,942	0,715	2,609	4.942,393	1H:5V	315	233,604	574,689	744,545	3.120,828
1	PEAD	1.620,000	2,446	20,000	0,715	2,596	5.006,701	1H:5V	315	235,839	576,450	753,302	3.170,825
1	PEAD	1.640,000	2,466	20,000	0,715	2,616	5.071,132	1H:5V	315	238,074	578,211	762,059	3.220,945
1	PEAD	1.660,000	2,350	20,000	0,715	2,500	5.133,899	1H:5V	315	240,309	579,972	770,815	3.269,400
1	PEAD	1.680,000	2,323	20,000	0,715	2,473	5.194,187	1H:5V	315	242,544	581,734	779,572	3.315,377
1	PEAD	1.700,000	2,107	20,000	0,715	2,257	5.250,426	1H:5V	315	244,779	583,495	788,328	3.357,304
1	PEAD	1.720,000	2,030	20,000	0,715	2,180	5.301,844	1H:5V	315	247,014	585,256	797,085	3.394,410
1	PEAD	1.735,984	2,021	15,984	0,715	2,171	5.341,836	1H:5V	315	248,800	586,663	804,083	3.422,965
1	PEAD	1.740,000	2,116	4,016	0,650	2,266	5.351,866	1H:5V	250	249,230	586,975	805,729	3.430,411
1	PEAD	1.760,000	2,168	20,000	0,650	2,318	5.402,678	1H:5V	250	251,270	588,322	813,360	3.469,223
1	PEAD	1.765,104	2,155	5,104	0,650	2,305	5.415,800	1H:5V	250	251,790	588,666	815,308	3.479,283
1	PEAD	1.775,287	2,126	10,183	0,650	2,276	5.441,646	1H:5V	250	252,829	589,351	819,194	3.499,019
1	PEAD	1.780,000	2,022	4,713	0,650	2,172	5.453,124	1H:5V	250	253,310	589,669	820,992	3.507,669
1	PEAD	1.798,257	1,562	18,257	0,650	1,712	5.490,134	1H:5V	250	255,172	590,898	827,958	3.533,725
1	PEAD	1.800,000	1,572	1,743	0,650	1,722	5.493,107	1H:5V	250	255,350	591,015	828,624	3.535,652
1	PEAD	1.820,000	1,375	20,000	0,650	1,525	5.524,794	1H:5V	250	257,390	592,362	836,255	3.555,340
1	PEAD	1.828,376	1,358	8,376	0,650	1,508	5.536,903	1H:5V	250	258,244	592,926	839,451	3.562,423
1	PEAD	1.829,689	1,347	1,313	0,650	1,497	5.538,779	1H:5V	250	258,378	593,014	839,952	3.563,510
1	PEAD	1.834,010	1,574	4,321	0,650	1,724	5.545,555	1H:5V	250	258,819	593,305	841,601	3.567,694
1	PEAD	1.839,644	3,185	5,634	0,650	3,335	5.566,533	1H:5V	250	259,393	593,685	843,751	3.585,292
1	PEAD	1.840,000	3,296	0,356	0,650	3,446	5.568,693	1H:5V	250	259,430	593,709	843,887	3.587,238
1	PEAD	1.840,830	3,553	0,830	0,650	3,703	5.574,652	1H:5V	250	259,514	593,764	844,204	3.592,699
1	PEAD	1.858,211	1,956	17,381	0,650	2,106	5.663,446	1H:5V	250	261,287	594,935	850,836	3.671,065

R-6-9													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	1.860,000	1,840	1,789	0,650	1,990	5.667,329	1H:5V	250	261,470	595,055	851,518	3.673,875
1	PEAD	1.862,896	1,691	2,896	0,650	1,841	5.673,064	1H:5V	250	261,765	595,250	852,623	3.677,871
1	PEAD	1.867,581	1,554	4,685	0,650	1,704	5.681,410	1H:5V	250	262,243	595,566	854,411	3.683,406
1	PEAD	1.870,787	1,536	3,206	0,650	1,686	5.686,784	1H:5V	250	262,570	595,782	855,635	3.686,857
1	PEAD	1.880,000	1,555	9,213	0,650	1,705	5.702,235	1H:5V	250	263,510	596,402	859,150	3.696,780
1	PEAD	1.900,000	1,255	20,000	0,650	1,405	5.732,212	1H:5V	250	265,550	597,748	866,782	3.714,757
1	PEAD	1.900,865	1,432	0,865	0,650	1,582	5.733,439	1H:5V	250	265,638	597,807	867,112	3.715,465
1	PEAD	1.904,150	2,292	3,285	0,650	2,442	5.740,516	1H:5V	250	265,973	598,028	868,365	3.720,571
1	PEAD	1.907,435	2,250	3,285	0,650	2,400	5.749,536	1H:5V	250	266,308	598,249	869,619	3.727,621
1	PEAD	1.920,000	2,287	12,565	0,650	2,437	5.783,989	1H:5V	250	267,590	599,095	874,413	3.754,534
1	PEAD	1.920,728	2,290	0,728	0,650	2,440	5.786,008	1H:5V	250	267,664	599,144	874,691	3.756,117
1	PEAD	1.940,000	1,827	19,272	0,650	1,977	5.832,680	1H:5V	250	269,630	600,442	882,045	3.791,225
1	PEAD	1.960,000	2,082	20,000	0,650	2,232	5.877,819	1H:5V	250	271,670	601,788	889,677	3.824,364
1	PEAD	1.980,000	1,659	20,000	0,650	1,809	5.920,594	1H:5V	250	273,710	603,135	897,308	3.855,140
1	PEAD	2.000,000	1,582	20,000	0,650	1,732	5.956,155	1H:5V	250	275,750	604,482	904,940	3.878,701
1	PEAD	2.008,645	1,274	8,645	0,650	1,424	5.969,369	1H:5V	250	276,631	605,064	908,239	3.886,727
1	PEAD	2.010,715	1,273	2,070	0,650	1,423	5.972,123	1H:5V	250	276,843	605,203	909,028	3.888,239
1	PEAD	2.012,399	1,293	1,684	0,650	1,443	5.974,383	1H:5V	250	277,014	605,316	909,671	3.889,489
1	PEAD	2.012,785	1,305	0,386	0,600	1,455	5.974,895	1H:5V	200	277,052	605,340	909,810	3.889,788
1	PEAD	2.020,000	1,561	7,215	0,600	1,711	5.985,387	1H:5V	200	277,734	605,717	912,262	3.896,544
1	PEAD	2.040,000	1,787	20,000	0,600	1,937	6.020,634	1H:5V	200	279,624	606,763	919,058	3.921,431
1	PEAD	2.060,000	2,049	20,000	0,600	2,199	6.062,626	1H:5V	200	281,514	607,809	925,854	3.953,062
1	PEAD	2.080,000	2,330	20,000	0,600	2,480	6.112,672	1H:5V	200	283,404	608,854	932,649	3.992,748
1	PEAD	2.100,000	2,171	20,000	0,600	2,321	6.164,553	1H:5V	200	285,294	609,900	939,445	4.034,269
1	PEAD	2.120,000	2,060	20,000	0,600	2,210	6.212,281	1H:5V	200	287,184	610,946	946,241	4.071,637
1	PEAD	2.140,000	2,120	20,000	0,600	2,270	6.259,235	1H:5V	200	289,074	611,992	953,037	4.108,231
1	PEAD	2.160,000	2,057	20,000	0,600	2,207	6.306,144	1H:5V	200	290,964	613,038	959,833	4.144,780
1	PEAD	2.180,000	1,832	20,000	0,600	1,982	6.348,877	1H:5V	200	292,854	614,084	966,629	4.177,153
1	PEAD	2.200,000	1,446	20,000	0,600	1,596	6.383,296	1H:5V	200	294,744	615,129	973,424	4.201,212
1	PEAD	2.220,000	1,488	20,000	0,600	1,638	6.413,160	1H:5V	200	296,634	616,175	980,220	4.220,716
1	PEAD	2.224,932	1,640	4,932	0,600	1,790	6.421,136	1H:5V	200	297,100	616,433	981,896	4.226,137
1	PEAD	2.225,434	1,654	0,502	0,600	1,804	6.422,001	1H:5V	200	297,148	616,459	982,067	4.226,743
1	PEAD	2.225,794	1,659	0,360	0,580	1,809	6.422,620	1H:5V	180	297,181	616,477	982,186	4.227,181
1	PEAD	2.226,656	1,668	0,862	0,580	1,818	6.424,094	1H:5V	180	297,260	616,517	982,465	4.228,235
1	PEAD	2.240,000	1,711	13,344	0,580	1,861	6.447,362	1H:5V	180	298,481	617,138	986,781	4.245,007
1	PEAD	2.260,000	1,530	20,000	0,580	1,680	6.480,472	1H:5V	180	300,311	618,068	993,250	4.268,379

R-6-9													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	2.280,000	1,414	20,000	0,580	1,564	6.509,824	1H:5V	180	302,141	618,998	999,718	4.287,993
1	PEAD	2.300,000	1,345	20,000	0,580	1,495	6.536,928	1H:5V	180	303,971	619,927	1.006,187	4.305,360
1	PEAD	2.320,000	1,296	20,000	0,580	1,446	6.562,638	1H:5V	180	305,801	620,857	1.012,656	4.321,332
1	PEAD	2.340,000	1,309	20,000	0,580	1,459	6.587,926	1H:5V	180	307,631	621,787	1.019,124	4.336,883
1	PEAD	2.360,000	1,261	20,000	0,580	1,411	6.612,811	1H:5V	180	309,461	622,717	1.025,593	4.352,030
1	PEAD	2.362,358	1,180	2,358	0,580	1,330	6.615,572	1H:5V	180	309,677	622,827	1.026,356	4.353,643

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R-6-9-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,885	0,000	0,625	2,035	0,000	1H:5V	225	0,000	0,000	0,000	0,000
1	PEAD	19,820	1,892	19,820	0,625	2,042	41,724	1H:5V	225	1,947	1,184	7,146	30,660
1	PEAD	20,000	1,874	0,180	0,625	2,024	42,102	1H:5V	225	1,965	1,194	7,211	30,937
1	PEAD	40,000	1,638	20,000	0,625	1,788	80,514	1H:5V	225	3,930	2,389	14,421	58,184
1	PEAD	41,304	1,625	1,304	0,625	1,775	82,793	1H:5V	225	4,058	2,466	14,891	59,736
1	PEAD	60,000	1,610	18,696	0,625	1,760	115,128	1H:5V	225	5,895	3,583	21,632	81,633
1	PEAD	80,000	1,756	20,000	0,625	1,906	151,502	1H:5V	225	7,860	4,777	28,842	106,842
1	PEAD	81,665	1,769	1,665	0,625	1,919	154,710	1H:5V	225	8,024	4,876	29,442	109,121
1	PEAD	88,529	1,832	6,864	0,625	1,982	168,302	1H:5V	225	8,698	5,286	31,917	118,880
1	PEAD	100,000	1,878	11,471	0,625	2,028	191,900	1H:5V	225	9,825	5,971	36,053	136,075
1	PEAD	120,000	1,958	20,000	0,625	2,108	234,863	1H:5V	225	11,790	7,166	43,263	167,873
1	PEAD	140,000	2,038	20,000	0,625	2,188	280,175	1H:5V	225	13,755	8,360	50,474	202,020
1	PEAD	160,000	2,118	20,000	0,625	2,268	327,888	1H:5V	225	15,720	9,554	57,684	238,568
1	PEAD	166,354	2,143	6,354	0,625	2,293	343,553	1H:5V	225	16,344	9,934	59,975	250,686
1	PEAD	180,000	1,930	13,646	0,625	2,080	375,280	1H:5V	225	17,685	10,748	64,895	274,795
1	PEAD	200,000	1,574	20,000	0,625	1,724	413,652	1H:5V	225	19,650	11,943	72,105	302,002
1	PEAD	220,000	1,545	20,000	0,625	1,695	446,711	1H:5V	225	21,615	13,137	79,316	323,896
1	PEAD	235,618	1,434	15,618	0,625	1,584	471,121	1H:5V	225	23,149	14,070	84,946	339,587
1	PEAD	237,529	1,263	1,911	0,625	1,413	473,771	1H:5V	225	23,337	14,184	85,635	341,171
1	PEAD	239,440	1,264	1,911	0,625	1,414	476,223	1H:5V	225	23,525	14,298	86,324	342,556
1	PEAD	240,000	1,276	0,560	0,625	1,426	476,946	1H:5V	225	23,580	14,331	86,526	342,966
1	PEAD	241,902	1,304	1,902	0,625	1,454	479,447	1H:5V	225	23,767	14,445	87,212	344,405
1	PEAD	245,914	1,318	4,012	0,625	1,468	484,823	1H:5V	225	24,161	14,684	88,658	347,542

R-6-9-1													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	260,000	1,512	14,086	0,625	1,662	505,527	1H:5V	225	25,545	15,525	93,737	360,382
1	PEAD	280,000	1,498	20,000	0,625	1,648	537,171	1H:5V	225	27,510	16,720	100,947	380,861
1	PEAD	293,389	1,407	13,389	0,625	1,557	557,463	1H:5V	225	28,825	17,519	105,774	393,679
1	PEAD	300,000	1,350	6,611	0,625	1,500	566,869	1H:5V	225	29,475	17,914	108,158	399,394
1	PEAD	318,659	1,335	18,659	0,625	1,485	592,587	1H:5V	225	31,308	19,028	114,885	414,696
1	PEAD	320,000	1,321	1,341	0,625	1,471	594,412	1H:5V	225	31,440	19,108	115,368	415,772
1	PEAD	340,000	1,407	20,000	0,625	1,557	622,513	1H:5V	225	33,405	20,303	122,579	432,708
1	PEAD	349,921	1,366	9,921	0,625	1,516	636,726	1H:5V	225	34,380	20,895	126,156	441,382
1	PEAD	350,398	1,363	0,477	0,625	1,513	637,396	1H:5V	225	34,427	20,923	126,328	441,786
1	PEAD	350,875	1,357	0,477	0,625	1,507	638,064	1H:5V	225	34,473	20,952	126,500	442,188
1	PEAD	360,000	1,303	9,125	0,625	1,453	650,503	1H:5V	225	35,370	21,497	129,789	449,533
1	PEAD	369,030	1,243	9,030	0,625	1,393	662,193	1H:5V	225	36,257	22,036	133,045	456,182
1	PEAD	380,000	1,196	10,970	0,560	1,346	675,219	1H:5V	160	37,282	22,587	136,708	463,748
1	PEAD	400,000	1,200	20,000	0,560	1,350	697,585	1H:5V	160	39,052	23,404	142,854	476,980
1	PEAD	420,000	1,365	20,000	0,560	1,515	721,864	1H:5V	160	40,822	24,221	148,999	492,125
1	PEAD	440,000	1,432	20,000	0,560	1,582	748,803	1H:5V	160	42,592	25,037	155,145	509,930
1	PEAD	460,000	1,702	20,000	0,560	1,852	779,899	1H:5V	160	44,362	25,854	161,291	531,891
1	PEAD	467,373	1,627	7,373	0,560	1,777	792,248	1H:5V	160	45,014	26,155	163,556	540,872
1	PEAD	471,113	1,585	3,740	0,560	1,735	798,232	1H:5V	160	45,345	26,307	164,706	545,149
1	PEAD	471,844	1,580	0,731	0,560	1,730	799,380	1H:5V	160	45,410	26,337	164,930	545,963
1	PEAD	472,575	1,580	0,731	0,560	1,730	800,526	1H:5V	160	45,474	26,367	165,155	546,775
1	PEAD	480,000	1,610	7,425	0,560	1,760	812,304	1H:5V	160	46,132	26,670	167,437	555,162
1	PEAD	492,659	1,609	12,659	0,560	1,759	832,615	1H:5V	160	47,252	27,187	171,326	569,691
1	PEAD	500,000	1,636	7,341	0,560	1,786	844,515	1H:5V	160	47,902	27,487	173,582	578,238
1	PEAD	514,051	1,160	14,051	0,560	1,310	863,589	1H:5V	160	49,145	28,060	177,900	590,895

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R-6-9-1-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	2,143	0,000	0,490	2,293	0,000	1H:5V	90	0,000	0,000	0,000	0,000
1	PEAD	16,035	1,947	16,035	0,490	2,097	32,729	1H:5V	90	1,251	0,352	4,047	26,977
1	PEAD	19,233	2,009	3,198	0,490	2,159	38,960	1H:5V	90	1,500	0,423	4,854	32,061
1	PEAD	20,000	2,032	0,767	0,490	2,182	40,499	1H:5V	90	1,560	0,439	5,048	33,324

R-6-9-1-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	22,431	2,123	2,431	0,490	2,273	45,565	1H:5V	90	1,750	0,493	5,661	37,519
1	PEAD	40,000	2,448	17,569	0,490	2,598	87,468	1H:5V	90	3,120	0,879	10,095	73,119
1	PEAD	60,000	1,596	20,000	0,490	1,746	128,350	1H:5V	90	4,680	1,318	15,143	106,826
1	PEAD	80,000	1,856	20,000	0,490	2,006	160,879	1H:5V	90	6,240	1,758	20,191	132,182
1	PEAD	100,000	1,580	20,000	0,490	1,730	193,220	1H:5V	90	7,800	2,197	25,238	157,348
1	PEAD	120,000	1,318	20,000	0,490	1,468	219,186	1H:5V	90	9,360	2,637	30,286	176,139
1	PEAD	140,000	1,225	20,000	0,490	1,375	241,208	1H:5V	90	10,920	3,076	35,334	190,987
1	PEAD	148,937	1,100	8,937	0,490	1,250	250,041	1H:5V	90	11,617	3,273	37,589	196,615

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R-6-9-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	0,000	1,671	0,000	1,100	1,821	0,000	1H:5V	500	0,000	0,000	0,000	0,000
1	PRFV	20,000	1,905	20,000	1,100	2,055	57,714	1H:5V	500	3,390	11,433	8,760	30,204
1	PRFV	23,258	2,214	3,258	1,100	2,364	68,829	1H:5V	500	3,942	13,295	10,187	36,838
1	PRFV	32,145	2,307	8,887	1,100	2,457	102,725	1H:5V	500	5,449	18,376	14,080	58,509
1	PRFV	40,000	1,749	7,855	1,100	1,899	129,119	1H:5V	500	6,780	22,866	17,520	74,099
1	PRFV	41,032	1,720	1,032	1,100	1,870	131,991	1H:5V	500	6,955	23,456	17,972	75,551
1	PRFV	60,000	2,041	18,968	1,100	2,191	190,095	1H:5V	500	10,170	34,299	26,280	107,565
1	PRFV	80,000	2,270	20,000	1,100	2,420	262,130	1H:5V	500	13,560	45,732	35,040	152,090
1	PRFV	100,000	2,370	20,000	1,100	2,520	340,884	1H:5V	500	16,950	57,165	43,800	203,334
1	PRFV	100,498	2,376	0,498	1,100	2,526	342,900	1H:5V	500	17,034	57,450	44,018	204,665
1	PRFV	107,131	2,448	6,633	1,100	2,598	370,302	1H:5V	500	18,159	61,241	46,923	222,944
1	PRFV	113,764	1,946	6,633	1,100	2,096	394,818	1H:5V	500	19,283	65,033	49,829	238,335
1	PRFV	115,301	1,820	1,537	1,100	1,970	399,527	1H:5V	500	19,544	65,912	50,502	240,930
1	PRFV	120,000	1,698	4,699	1,100	1,848	412,822	1H:5V	500	20,340	68,598	52,560	247,762
1	PRFV	122,060	1,547	2,060	1,100	1,697	418,136	1H:5V	500	20,689	69,776	53,462	250,242
1	PRFV	128,819	1,582	6,759	1,100	1,732	434,857	1H:5V	500	21,835	73,639	56,423	257,666
1	PRFV	136,345	1,536	7,526	1,100	1,686	453,402	1H:5V	500	23,110	77,942	59,719	265,859
1	PRFV	140,000	2,288	3,655	1,100	2,438	464,904	1H:5V	500	23,730	80,031	61,320	272,334
1	PRFV	144,926	1,993	4,926	1,100	2,143	482,505	1H:5V	500	24,565	82,847	63,478	283,159
1	PRFV	148,822	1,825	3,896	1,100	1,975	494,638	1H:5V	500	25,225	85,074	65,184	289,933
1	PRFV	160,000	2,794	11,178	1,100	2,944	538,928	1H:5V	500	27,120	91,464	70,080	318,848

R-6-9-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PRFV	177,160	1,942	17,160	1,100	2,092	608,840	1H:5V	500	30,029	101,274	77,596	365,157
1	PEAD	180,000	1,936	2,840	0,800	2,086	616,957	1H:5V	400	30,446	102,252	78,949	370,168
1	PEAD	200,000	1,924	20,000	0,800	2,074	667,542	1H:5V	400	32,936	104,595	89,242	403,113
1	PEAD	220,000	1,888	20,000	0,800	2,038	717,348	1H:5V	400	35,426	106,938	99,536	435,279
1	PEAD	240,000	1,850	20,000	0,800	2,000	765,959	1H:5V	400	37,916	109,282	109,829	466,250
1	PEAD	260,000	1,811	20,000	0,800	1,961	813,338	1H:5V	400	40,406	111,625	120,122	495,989
1	PEAD	280,000	1,768	20,000	0,800	1,918	859,419	1H:5V	400	42,896	113,969	130,416	524,430
1	PEAD	300,000	1,728	20,000	0,800	1,878	904,198	1H:5V	400	45,386	116,312	140,709	551,569
1	PEAD	320,000	1,689	20,000	0,800	1,839	947,751	1H:5V	400	47,876	118,655	151,002	577,483
1	PEAD	340,000	1,653	20,000	0,800	1,803	990,153	1H:5V	400	50,366	120,999	161,296	602,244
1	PEAD	360,000	1,615	20,000	0,800	1,765	1.031,429	1H:5V	400	52,856	123,342	171,589	625,880
1	PEAD	380,000	1,575	20,000	0,800	1,725	1.071,531	1H:5V	400	55,346	125,685	181,882	648,342
1	PEAD	400,000	1,541	20,000	0,800	1,691	1.110,529	1H:5V	400	57,836	128,029	192,176	669,700
1	PEAD	420,000	1,503	20,000	0,800	1,653	1.148,465	1H:5V	400	60,326	130,372	202,469	689,996
1	PEAD	440,000	1,534	20,000	0,800	1,684	1.186,297	1H:5V	400	62,816	132,715	212,763	710,188
1	PEAD	460,000	1,482	20,000	0,800	1,632	1.223,824	1H:5V	400	65,306	135,059	223,056	730,075
1	PEAD	480,000	1,433	20,000	0,800	1,583	1.259,882	1H:5V	400	67,796	137,402	233,349	748,493
1	PEAD	500,000	1,444	20,000	0,800	1,594	1.295,392	1H:5V	400	70,286	139,746	243,643	766,363
1	PEAD	504,703	1,434	4,703	0,800	1,584	1.303,745	1H:5V	400	70,872	140,297	246,063	770,568
1	PEAD	507,331	1,419	2,628	0,800	1,569	1.308,366	1H:5V	400	71,199	140,604	247,416	772,871
1	PEAD	509,959	1,440	2,628	0,800	1,590	1.312,998	1H:5V	400	71,526	140,912	248,768	775,185
1	PEAD	520,000	1,573	10,041	0,800	1,723	1.331,824	1H:5V	400	72,776	142,089	253,936	785,155
1	PEAD	540,000	1,908	20,000	0,800	2,058	1.376,480	1H:5V	400	75,266	144,432	264,229	812,171
1	PEAD	560,000	1,801	20,000	0,800	1,951	1.424,635	1H:5V	400	77,756	146,776	274,523	842,687
1	PEAD	580,000	1,688	20,000	0,800	1,838	1.469,317	1H:5V	400	80,246	149,119	284,816	869,728
1	PEAD	587,981	1,639	7,981	0,800	1,789	1.486,146	1H:5V	400	81,240	150,054	288,924	879,518
1	PEAD	600,000	1,473	12,019	0,800	1,623	1.509,562	1H:5V	400	82,736	151,462	295,109	892,333
1	PEAD	603,714	1,400	3,714	0,800	1,550	1.516,147	1H:5V	400	83,198	151,898	297,021	895,642

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R-6-9-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,502	0,000	0,715	1,652	0,000	1H:5V	315	0,000	0,000	0,000	0,000

R-6-9-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,981	1,506	0,981	0,715	1,656	1,697	1H:5V	315	0,110	0,086	0,430	0,995
1	PEAD	20,000	1,705	19,019	0,715	1,855	37,329	1H:5V	315	2,235	1,761	8,757	23,018
1	PEAD	26,932	1,825	6,932	0,715	1,975	51,910	1H:5V	315	3,010	2,372	11,792	32,638
1	PEAD	40,000	2,050	13,068	0,715	2,200	82,837	1H:5V	315	4,470	3,522	17,513	54,214
1	PEAD	60,000	2,324	20,000	0,715	2,474	138,178	1H:5V	315	6,705	5,283	26,270	95,243
1	PEAD	65,855	2,351	5,855	0,715	2,501	155,837	1H:5V	315	7,359	5,799	28,833	108,713
1	PEAD	80,000	2,391	14,145	0,715	2,541	199,314	1H:5V	315	8,940	7,045	35,026	142,069
1	PEAD	100,000	1,902	20,000	0,715	2,052	253,489	1H:5V	315	11,175	8,806	43,783	181,932
1	PEAD	120,000	1,982	20,000	0,715	2,132	300,917	1H:5V	315	13,410	10,567	52,540	215,048
1	PEAD	127,041	2,010	7,041	0,715	2,160	318,206	1H:5V	315	14,197	11,187	55,622	227,299
1	PEAD	140,000	2,062	12,959	0,715	2,212	350,848	1H:5V	315	15,645	12,328	61,296	250,668
1	PEAD	160,000	1,996	20,000	0,715	2,146	401,004	1H:5V	315	17,880	14,089	70,053	286,513
1	PEAD	180,000	1,895	20,000	0,715	2,045	448,544	1H:5V	315	20,115	15,850	78,810	319,742
1	PEAD	191,074	1,794	11,074	0,715	1,944	473,153	1H:5V	315	21,353	16,826	83,658	336,426
1	PEAD	200,000	1,621	8,926	0,715	1,771	491,180	1H:5V	315	22,350	17,612	87,566	348,066
1	PEAD	212,470	1,378	12,470	0,715	1,528	512,710	1H:5V	315	23,744	18,710	93,026	360,673
1	PEAD	213,594	1,359	1,124	0,715	1,509	514,449	1H:5V	315	23,869	18,809	93,518	361,607
1	PEAD	214,718	1,371	1,124	0,715	1,521	516,182	1H:5V	315	23,995	18,908	94,010	362,536
1	PEAD	220,000	1,440	5,282	0,715	1,590	524,614	1H:5V	315	24,585	19,373	96,323	367,189
1	PEAD	240,000	1,592	20,000	0,715	1,742	559,563	1H:5V	315	26,820	21,134	105,079	387,826
1	PEAD	260,000	1,544	20,000	0,715	1,694	595,939	1H:5V	315	29,055	22,895	113,836	409,891
1	PEAD	280,000	1,408	20,000	0,715	1,558	629,785	1H:5V	315	31,290	24,656	122,593	429,425
1	PEAD	299,874	1,478	19,874	0,715	1,628	662,513	1H:5V	315	33,511	26,406	131,294	447,932
1	PEAD	300,000	1,479	0,126	0,715	1,629	662,726	1H:5V	315	33,525	26,417	131,349	448,055
1	PEAD	301,121	1,486	1,121	0,715	1,636	664,632	1H:5V	315	33,650	26,516	131,840	449,159
1	PEAD	301,625	1,485	0,504	0,650	1,635	665,464	1H:5V	250	33,704	26,555	132,047	449,667
1	PEAD	303,376	1,474	1,751	0,650	1,624	668,249	1H:5V	250	33,883	26,673	132,715	451,401
1	PEAD	320,000	1,927	16,624	0,650	2,077	699,800	1H:5V	250	35,578	27,793	139,058	472,978
1	PEAD	340,000	1,655	20,000	0,650	1,805	740,177	1H:5V	250	37,618	29,139	146,690	501,355
1	PEAD	360,000	1,595	20,000	0,650	1,745	775,858	1H:5V	250	39,658	30,486	154,321	525,036
1	PEAD	380,000	1,535	20,000	0,650	1,685	809,922	1H:5V	250	41,698	31,832	161,953	547,100
1	PEAD	400,000	1,334	20,000	0,650	1,484	840,603	1H:5V	250	43,738	33,179	169,585	565,781
1	PEAD	420,000	1,331	20,000	0,650	1,481	868,667	1H:5V	250	45,778	34,526	177,216	581,845
1	PEAD	437,413	1,324	17,413	0,650	1,474	892,993	1H:5V	250	47,555	35,698	183,861	595,723
1	PEAD	440,000	1,312	2,587	0,650	1,462	896,576	1H:5V	250	47,818	35,872	184,848	597,754
1	PEAD	446,249	1,284	6,249	0,650	1,434	905,079	1H:5V	250	48,456	36,293	187,232	602,507

R-6-9-3													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	447,250	1,284	1,001	0,650	1,434	906,423	1H:5V	250	48,558	36,360	187,614	603,251
1	PEAD	448,251	1,291	1,001	0,650	1,441	907,772	1H:5V	250	48,660	36,428	187,996	603,999
1	PEAD	460,000	1,268	11,749	0,650	1,418	923,491	1H:5V	250	49,858	37,219	192,479	612,669
1	PEAD	460,882	1,266	0,882	0,650	1,416	924,658	1H:5V	250	49,948	37,278	192,816	613,306
1	PEAD	469,627	1,261	8,745	0,650	1,411	936,187	1H:5V	250	50,840	37,867	196,153	619,588
1	PEAD	470,342	1,269	0,715	0,650	1,419	937,131	1H:5V	250	50,913	37,915	196,426	620,103
1	PEAD	471,057	1,272	0,715	0,650	1,422	938,080	1H:5V	250	50,986	37,963	196,699	620,623
1	PEAD	480,000	1,276	8,943	0,650	1,426	949,984	1H:5V	250	51,898	38,566	200,111	627,162
1	PEAD	500,000	1,443	20,000	0,650	1,593	978,750	1H:5V	250	53,938	39,912	207,743	643,927
1	PEAD	520,000	1,437	20,000	0,650	1,587	1.009,532	1H:5V	250	55,978	41,259	215,374	662,710
1	PEAD	528,039	1,306	8,039	0,650	1,456	1.021,212	1H:5V	250	56,798	41,800	218,442	669,566
1	PEAD	532,814	1,345	4,775	0,650	1,495	1.027,871	1H:5V	250	57,285	42,122	220,264	673,360
1	PEAD	533,938	1,425	1,124	0,650	1,575	1.029,522	1H:5V	250	57,400	42,197	220,693	674,337
1	PEAD	535,062	1,502	1,124	0,650	1,652	1.031,287	1H:5V	250	57,515	42,273	221,122	675,427
1	PEAD	540,000	1,834	4,938	0,650	1,984	1.040,413	1H:5V	250	58,018	42,605	223,006	681,591
1	PEAD	560,000	1,677	20,000	0,650	1,827	1.079,733	1H:5V	250	60,058	43,952	230,638	708,911
1	PEAD	580,000	1,533	20,000	0,650	1,683	1.114,889	1H:5V	250	62,098	45,299	238,269	732,066
1	PEAD	600,000	1,350	20,000	0,650	1,500	1.145,743	1H:5V	250	64,138	46,645	245,901	750,921
1	PEAD	608,264	1,443	8,264	0,650	1,593	1.158,007	1H:5V	250	64,981	47,202	249,054	758,226
1	PEAD	617,704	1,467	9,440	0,650	1,617	1.172,719	1H:5V	250	65,944	47,837	252,656	767,274
1	PEAD	620,000	1,419	2,296	0,650	1,569	1.176,262	1H:5V	250	66,178	47,992	253,532	769,440
1	PEAD	640,000	1,333	20,000	0,650	1,483	1.205,422	1H:5V	250	68,218	49,339	261,164	786,600
1	PEAD	660,000	1,376	20,000	0,650	1,526	1.234,037	1H:5V	250	70,258	50,685	268,796	803,214
1	PEAD	662,633	1,402	2,633	0,650	1,552	1.237,918	1H:5V	250	70,527	50,862	269,800	805,516
1	PEAD	680,000	1,402	17,367	0,650	1,552	1.263,804	1H:5V	250	72,298	52,032	276,427	820,982
1	PEAD	682,709	1,410	2,709	0,650	1,560	1.267,856	1H:5V	250	72,575	52,214	277,461	823,408
1	PEAD	700,000	1,455	17,291	0,650	1,605	1.294,304	1H:5V	250	74,338	53,378	284,059	839,481
1	PEAD	700,784	1,457	0,784	0,650	1,607	1.295,527	1H:5V	250	74,418	53,431	284,358	840,234
1	PEAD	712,254	1,193	11,470	0,560	1,343	1.310,861	1H:5V	160	75,511	54,052	288,309	849,674

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R-6-9-3-2													
TIPOLOGÍA TALUD	MATERIAL	PK	COTA ROJA (m)	DISTANCIA PARCIAL (m)	SOLERA ZANJA (m)	ALTURA ZANJA (m)	EXCAVACIÓN ACUMULADA (m3)	TALUD	Ø MAYOR TUBERIA 1	VOL. ACUMULADOS CAMA GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO GRAVA 6/12 (m3)	VOL. ACUMULADOS RELLENO SELECCIONADO (m3)	VOL. ACUMULADOS RELLENO ORDINARIO (m3)
1	PEAD	0,000	1,486	0,000	0,510	1,636	0,000	1H:5V	110	0,000	0,000	0,000	0,000
1	PEAD	20,000	1,566	20,000	0,510	1,716	28,338	1H:5V	110	1,620	0,544	5,356	20,627
1	PEAD	40,000	1,514	20,000	0,510	1,664	57,003	1H:5V	110	3,240	1,088	10,713	41,582
1	PEAD	50,759	1,197	10,759	0,510	1,347	70,195	1H:5V	110	4,111	1,381	13,594	50,626
1	PEAD	53,683	1,153	2,924	0,510	1,303	73,197	1H:5V	110	4,348	1,460	14,377	52,502
1	PEAD	55,276	1,167	1,593	0,510	1,317	74,809	1H:5V	110	4,477	1,504	14,804	53,499
1	PEAD	56,607	1,238	1,331	0,510	1,388	76,214	1H:5V	110	4,585	1,540	15,160	54,391
1	PEAD	60,000	1,337	3,393	0,510	1,487	80,105	1H:5V	110	4,860	1,632	16,069	56,974
1	PEAD	65,214	1,485	5,214	0,510	1,635	86,803	1H:5V	110	5,282	1,774	17,465	61,662
1	PEAD	68,138	1,561	2,924	0,510	1,711	90,935	1H:5V	110	5,519	1,854	18,248	64,667
1	PEAD	71,062	1,166	2,924	0,510	1,316	94,555	1H:5V	110	5,756	1,933	19,031	67,159
1	PEAD	75,056	1,632	3,994	0,510	1,782	99,670	1H:5V	110	6,080	2,042	20,101	70,734

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
CAPÍTULO 01 OBRA DE TOMA Y LLENADO Balsa Pie Canal								R01RE010	m³ Relleno Ordinario de Tierras Compactado 85% PN							
SUBCAPÍTULO 01.01 MOVIMIENTO DE TIERRAS																
DEML_ACE	m³ Demolición, picado y cargado de acequias								RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							
	DEMOLICIÓN, PICADO Y CARGADO DE CANALES, ACEQUIAS Y ELEMENTOS DE HORMIGÓN, INCLUIDO SU POSTERIOR TRANSPORTE A VERTEDERO O PLANTA DE TRATAMIENTO AUTORIZADO PARA SU POSTERIOR REUTILIZACIÓN, INCLUIDO TASAS DEL MISMO.															
	Nueva toma	1	7,000	10,000	0,300	21,000	21,00		Mediciones auxiliares	1	6,094,620			6,094,620		
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vacíados							R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación						6,094,62	
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.								MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.							
	Mediciones auxiliares	1	7,608,140			7,608,140	7,608,14		En trasdos cajero	1	7,000	10,000	4,500	315,000		
									Bajo limpiarrejas	1	10,000	10,000	4,000	400,000		
R01RE400	m³ Asiento y Relleno Material Granular 6/12 MM							MVTRE023	m³ Terraplén seleccionado mat granular Z30 S/PG3						715,00	
	CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.								MATERIAL GRANULAR TIPO ZA30 S/PG3 PUESTO EN OBRA, EXTENDIDO, HUMEDECIDO Y COMPACTADO AL 98% DEL PM EN CAPAS DE 10 CM DE ESPESOR EN BASES DE OBRAS SINGULARES EN VIALES							
	Mediciones auxiliares								En reposición camino servicio canal	1	20,000	5,000	0,200	20,000		
	cama	1	126,860			126,860			Ex planada Limpiarrejas	1	150,000		0,200	30,000		
	relleno	1	101,940			101,940									50,00	
R01RE030	m³ Relleno Seleccionado Compactado 95% PN														228,80	
	RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.															
	Mediciones auxiliares	1	736,700			736,700	736,70									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
SUBCAPÍTULO 01.02 TUBERÍAS								SUBCAPÍTULO 01.03 OBRA CIVIL							
GFG2A126	m Tubería hormigón post camisa chapa acer, DN 1200, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1200MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO V42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P. DE MACIZOS DE ANCLAJE Y CONTRARRRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.							R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO						
	Tramo 1. Entre toma y limpiarrejas	2	6,000				12,000		Zona Canal	1	6,300	6,000	0,100		3,780
									Aqueta limpiarrejas	1	5,800	4,800	0,100		2,784
										1	3,210	4,800	0,100		1,541
									Arqueta caudalímetro	1	3,800	3,800	0,100		1,444
															9,55
GFG2A166	m Tubería hormigón post camisa chapa acer, DN 1600, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1600MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO V42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P. DE MACIZOS DE ANCLAJE Y CONTRARRRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.							R07HO025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO						
	Tramo 2. Entre limpiarrejas y entrada balsa	1	302,739				302,739		Zona Canal	1	6,300	6,000	0,350		13,230
	A deducir tramo inicial	-1	42,268				-42,268			1	5,600	0,350	4,000		7,840
	A deducir tramo acero	-1	10,000				-10,000			1	4,700	0,350	5,000		8,225
	A deducir tramo Paso dique	-1	12,739				-12,739		Aqueta limpiarrejas	1	4,600	5,600	4,000		103,040
										-1	4,000	5,000	3,700		-74,000
										1	3,200	4,600	0,300		4,416
									Arqueta caudalímetro	1	3,600	3,600	3,900		50,544
										-1	3,000	3,000	3,500		-31,500
															81,80
R02TB064	m TUBERÍA DE ACERO HELICOIDAL ø1620 mm e=12,7 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1620 MM DE DIÁMETRO Y 12,7 MM DE ESPESOR PN MÁX 10 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:2006, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.							R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.						
	Tramo 3. Caudalímetro y paso dique	1	10,00				10,00		Arqueta (75 kg/m3)	1	81,800	75,000			6.135,000
															6.135,00
							237,73	R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS						
									Zona Canal	1	24,500		0,350		8,575
										2	5,600		4,000		44,800
										1	4,700		5,000		23,500
										1	4,000		4,550		18,200
									Aqueta limpiarrejas	2	4,600		4,000		36,800
										2	5,600		4,000		44,800
										2	4,000		3,700		29,600
										2	5,000		3,700		37,000
										1	11,400		0,300		3,420
									Arqueta caudalímetro	4	3,600		3,900		56,160
										4	3,000		3,500		42,000
															344,86

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
G04JU2345	m Junta Hidroexpansiva JUNTA HIDROEXPANSIVA TIPO MASTERFLEX 610 20*5, INCLUSO PREPARACIÓN DE SUPERFICIES, TOTALMENTE COLOCADA.							SUBCAPÍTULO 01.04 ELEMENTOS ELECTROMECÁNICOS							
	Zona Canal	1	24,500			24,500		COMP-MUR14X14	ud COMPUERTA MURAL 1400x1400 estanca a 4 juntas y un sentido						
		2	4,700			9,400			COMPUERTA METÁLICA TIPO MURAL MOTORIZADA CON PERFILES DE REFUERZO, PARA SECCIÓN DE CANAL DE ENTRADA DE DIMENSIONES DE HOJA DE 1,40 X 1,40 M. MATERIALES: CUERPO: ACERO S275 CON TRATAMIENTO ANTICORROSIVO CONFORMADO POR TRES CAPAS DE PINTURA; TAJADERA: ACERO S275 CON TRATAMIENTO ANTICORROSIVO CONFORMADO POR TRES CAPAS DE PINTURA; CIERRE: EPDM. MECANISMO MEDIANTE HUSILLO NO ASCENDENTE. GUÍA DE POLIETILENO CON JUNTA EPDM DE ESTANQUEIDAD EN UN SENTIDO, CON CIERRE HERMÉTICO DE 4 JUNTAS. TRATAMIENTO EPOXI DE 200 MICRAS. INCLUSO PLATAFORMA PARA ACCIONAMIENTO, ELEMENTOS DE ANCLAJE Y P.P. DE OBRA CIVIL Y DE ACONDICIONAMIENTO DE BANDA NECESARIA PARA TRÁNSITO DE MAQUINARIA EN EJECUCIÓN DE LOS TRABAJOS.						
	Aqueta limpiarrejas	2	4,600			9,200			SUMINISTRO E INSTALACION DE ACTUADOR ELCTRICO CON MOTOR DE 320VAC, REDUCTOR CONICO 1:3.5. CON DETECCION DE INTRUSION. ACOPLADO SOBRE BRIDA NORMALIZADA F14 Y MECANIZADO DE TUERCA DE ARRASTRE PARA ADAPTACION A EJE O HUSILLO, AJUSTE Y PUESTA EN MARCHA. CON CONEXIONES ELECTRICAS DE FUERZA Y AUTOMATISMO CON PRENSAESTOPAS. INSTALACION DE TUBO RIGIDO ELECTRICO DE ACERO GALVANIZADO ENCHUFABLE DE DIAMETRO 32MM CON CODOS Y EMPALMES NECESARIOS SUJETO MEDIANTE GRAPAS ATORNILLADAS.						
		2	5,600			11,200			COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA.						
							54,30								
PATES	Ud Pate de polipropileno colocado PATE DE POLIPROPILENO DE 30 CM * 25 CM COLOCADO.														
	Arqueta limpiarrejas	1	14,000			14,000									
	Arqueta caudalímetro	1	11,000			11,000									
							25,00								
CHA1	m² Tapa de chapa acero galvanizado 2 mm TAPA DE CHAPA ACERO GALVANIZADO 2 MM DE ESPESOR SOPORTADA POR PERFILES HUECOS # 40.2 FORMANDO CUADROS DE 50 CM DE LADO, PARA UNA RESISTENCIA DE 200 KG/M2, COLOCADA, Y PUERTA DE HOMBRE DE ACCESO DE 1M. * 1 M. PROVISTA DE BISAGRAS Y CANDADO														
	Arqueta caualímetro	1	3,800	3,800		14,440				2				2,00	
							14,44								2,00
UNIDAD2A	Kg Barras Postinstaladas De Anclaje ø12 BARRAS POSTINSTALADAS DE ANCLAJE, FORMADAS POR BARRAS DE Ø12 MM HIT RE 500 Ó SIMILAR, CON TALADROS DE 150 MM DE LONGITUD EN HORMIGÓN EXISTENTE, INCLUIDO CEPILLADO DEL HORMIGÓN PARA MEJORAR LAS ADHERENCIA MEDIANTE CEPILLADO DE LA JUNTA HASTA ALCANZAR UNA RUGOSIDAD TIPO B SEGÚN NORMA ACI, SUMINISTRO DE LAS BARRAS, EJECUCIÓN DEL TALADRO, LIMPIEZA DEL MISMO CON AIRE, COLOCACIÓN DE LAS BARRAS Y RELLENO CON RESINA DE TENSIÓN DE ROTURA MEDIA DE ADHERENCIA DE 16,6 N/MM².														
	Conexión cajero canal	50				50,000		MOTCOMP	ud MOTORIZACIÓN DE COMPUERTA 250NM						
							50,00		SUMINISTRO E INSTALACION DE ACTUADOR ELECTRICO CON MOTOR DE 320VAC O 24 VDC, REDUCTOR CONICO 1:3.5. CON DETECCION DE INTRUSION. ACOPLADO SOBRE BRIDA NORMALIZADA F14 Y MECANIZADO DE TUERCA DE ARRASTRE PARA ADAPTACION A EJE O HUSILLO, AJUSTE Y PUESTA EN MARCHA. CON CONEXIONES ELECTRICAS DE FUERZA Y AUTOMATISMO CON PRENSAESTOPAS. INSTALACION DE TUBO RIGIDO ELECTRICO DE ACERO GALVANIZADO ENCHUFABLE DE DIAMETRO 32MM CON CODOS Y EMPALMES NECESARIOS SUJETO MEDIANTE GRAPAS ATORNILLADAS.						
									COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA.						
									En compuertas toma canal	2				2,00	
															2,00
R04EM010	m Cerramiento Valla Galvanizada h=2 m CERRAMIENTO DE VALLA GALVANIZADA DE 2,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMIENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECCIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.														
	Vallado limpiarrejas	1	45,000			45,000		OT01	ud Máquina limpiarrejas automática, 4CV						
							45,00		MÁQUINA LIMPIA REJAS DE UN BRAZO ACCIONADA POR SISTEMA OLEOHIDRÁULICO, ACCIONADA POR TEMPORIZADOR, CON CAPACIDA DE CARGA EN REJA DE 3.400 KG. ACABADO CON 2 CAPAS DE PINTURA (IMPRIMACIÓN Y ACABADO). INCLUIDO ARMARIO DE CONTROL CON GRUPO OLEOHIDRÁULICO Y CUADRO ELÉCTRICO (POTENCIA 4 CV CON NEUTRO (220/380 V TRIFÁSICO). TOTALMENTE TERMINADA Y PROBADA.						
										1				1,00	
															1,00
								OT02	ud Sistema expulsión máquina limpiarrejas						
									SISTEMA DE EVACUACIÓN DE RESIDUOS FILTRADOS MEDIANTE PALA ACCIONADA POR CADENA, DE 8 M DE CARRERA Y 2 TOLVAS DE ALMACENAJE. TOTALMENTE TERMINADA Y PROBADA.						
										1				1,00	
															1,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD				
OT03	ud Reja de finos, paso 20 mm, ancho 4000 y pasamanos 4000 mm REJA DE FINOS DE 4000 X 4000 MM, Y 20 MM DE LUZ ENTRE BARROTES, DE LAS SIGUIENTES CARACTERÍSTICAS: - PASAMANO DE 60X6 MM. - LONGITUD DEL PASAMANO DE 4000 MM - EXISTIRÁN 3 ZONAS DE APOYO DE LA REJA: - INFERIOR: PERFIL UPN EN LA QUE SE AJUSTARÁ LA REJA DE FINOS. - MEDIO: BIGA IPE FJADA A LAS PAREDES DEL CANAL. - SUPERIOR: DE OBRA SOBRE LA CUAL SE APOYARÁ LA REJA. TOTALMENTE TERMINADA Y PROBADA.	1				1,00	1,00	R04AR010	m³ Excavación en Desmonte Todo Tipo de Terreno, Tte D=10 Km EXCAVACIÓN EN DESMONTE CON MEDIOS MECÁNICOS DE TERRENOS DE CUALQUIER NATURALEZA O CONSISTENCIA, INCLUIDAS LAS CAPAS DE ROCA RIPABLES CON POTENCIAS IGUALES A D10 O SIMILAR (447/538 KW), INCLUIDO EL USO DE MARTILLO ROMPEDOR PARA FACILITAR EL RIPADO O ARRANQUE, CON PRESENCIA POR LA TOTALIDAD DE LA ZONA DE EXCAVACIÓN, ADICIONALMENTE ROCA DE MAYOR DUREZA HASTA UN PORCENTAJE MÁXIMO DE UN 10% SOBRE EL VOLUMEN TOTAL EXCAVADO MEDIDO SOBRE TERRENO INALTERADO EN BASE A PERFILES DE TALUDES Y FONDO DE Balsa, INCLUSO TERRENOS DE CONSISTENCIA BLANDA. INCLUIDA LA EXCAVACIÓN SELECTIVA DE LOS MATERIALES PARA EL TERRAPLENADO (SEGÚN ESTUDIO GEOTÉCNICO), CON LA PREPARACIÓN DEL FONDO DE LA EXCAVACIÓN SEGÚN LAS ESPECIFICACIONES RECOGIDAS POR EL ESTUDIO GEOTÉCNICO RECOGIDO EN EL ANEJO 6 DEL PROYECTO, LABRADO O RIPADO DEL FONDO DE EXCAVACIÓN, CON POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA DEL TERRENO UNA VEZ ALCANZADA LA COTA DE FONDO, EN TODA LA ZONA DE ACTUACIÓN. INCLUSO RIPADO PREVIO SEGÚN CARACTERÍSTICAS INDICADAS, CARGA Y TRANSPORTE A TERRAPLÉN, CABALLEO A LUGAR DE EMPLEO O VERTEDERO AUTORIZADO (INCLUIDO CÁNON Y/O TASAS), A DISTANCIA INFERIOR A 10 KM. INCLUIDO EL EXTENDIDO Y PERFILADO DE TALUDES, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN A ZONAS DE UTILIZACIÓN CON SEPARACIÓN DE ELEMENTOS GRUESOS, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.										
OPA030	m Barandilla Tubo 40x60/20x20 BARANDILLA DE 90 CM. DE ALTURA, CONSTRUIDA CON PERFILES DE TUBO HUECO DE ACERO LAMINADO EN FRÍO, CON PASAMANOS DE 60X40X1,5 MM. Y BARROTES VERTICALES DE 20X20X1,5 MM. CON PROLONGACIÓN PARA ANCLAJE A LA LOSA, SEPARADOS 10 CM., ELABORADA EN TALLER Y MONTAJE EN OBRA . En protección arqueta limpiarrejas	1	9,500			9,500	9,50		Fondo 1 523.864,935 523.864,935 Dique 1 127.749,917 127.749,917 Saneamiento mejora apoyo cimentación 1 980,000 32,000 1,000 31.360,000 1 300,000 32,000 1,000 9.600,000										
R05EM03	Ud Medidor ultrasónico DN200 - DN4000 PN-10/16 EQUIPO DE MEDIDA DE CAUDAL POR ULTRASONIDOS, PARA DIÁMETRO ENTRE 200 Y 4000 MM, FORMADO POR DOS SONDAS Y CAUDALÍMETRO ULTRASONICO MONTADO A LA TUBERÍA, ELECTRÓNICA DE TRATAMIENTO DE SEÑAL 4-20 MA, CONVERTIDOR DE SEÑALES, SENSORES, Y PROTECCIONES SOBRETENSIONES, CABLE TRIAXIAL, INCLUIDO SUMINISTRO, INSTALACIÓN Y PRUEBAS DE FUNCIONAMIENTO.	1				1,00	1,00	R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES. EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.										
CAPÍTULO 02 Balsa PIE DE CANAL (BPC)																			
SUBCAPÍTULO 02.01 MOVIMIENTOS DE TIERRAS																			
DEMCOMP1	Ud Demolición completa instalaciones y construcciones zona granja DEMOLICIÓN COMPLETA DE GRANJA E INSTALACIONES EXISTENTES EN ZONA DE INFLUENCIA DEL VASO DE LA Balsa DE PIE DE CANAL. REALIZADA MEDIANTE PALA GIRATORIA SOBRE CADENAS CON CIZALLA Y COMPRESOR NEUMÁTICO JUNTO CON LABORES DE DEMOLICIÓN ELEMENTO A ELEMENTO CON MEDIOS MANUALES Y MECÁNICOS DE EDIFICIO DE APROXIMADAMENTE 1100 M² DE SUPERFICIE TOTAL, JUNTO CON LAS INSTALACIONES INTERIORES Y EXTERIORES ASOCIADAS (SILO METALICO, TUBERIAS, LONAS BALSAS,...). CARGA MECÁNICA SOBRE CAMIÓN O CONTENEDOR, AISLADO. EL EDIFICIO PRESENTA UNA ESTRUCTURA DE HORMIGÓN Y ELEMENTOS METÁLICOS. TAMBIÉN INCLUYE, LA DEMOLICIÓN DE LAS LÁMINAS DE LAS DOS BALSAS DE ADYACENTES, Y LA VALLA METÁLICA PERIMETRAL QUE EXISTEN ALREDEDOR DEL EDIFICIO. SE INCLUYE LA SEPARACIÓN DE RESIDUOS Y SU POSTERIOR TRATAMIENTO, CARGA Y TRANSPORTE A VERTEDERO O PLANTA DE TRATAMIENTO AUTORIZADO, INCLUIDOS CÁNONES Y TASAS.	1				1,00	1,00		Dique 1 46.549,458 46.549,458 Saneamiento mejora apoyo cimentación 1 980,000 32,000 1,000 31.360,000 1 300,000 32,000 1,000 9.600,000										
R01DM040	m² Desbroce Y Limpieza Todo Tipo De Terreno Con Transporte DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 30 CM, INCLUIDO LA EXCAVACIÓN, INCLUSO DEFORESTACIÓN Y TALA DE ARBUSTOS Y DE ÁRBOLES DE CUALQUIER TIPO Y DIMENSIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CÁNON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.	1	142.447,000			142.447,000	142.447,00	TEX005	m² Refino De Taludes REFINO Y PERFILADO DE TALUDES INTERIORES Y EXTERIORES DE TERRAPLÉN SEGÚN PLANOS, INCLUSO CON LA UTILIZACIÓN DE MEDIOS MANUALES SI SON PRECISOS, ASEGURANDO LA ELIMINACIÓN TOTAL DE ELEMENTOS GRUESOS VISTOS EN SUPERFICIE CON UN TAMAÑO MAYOR A 2 CM O DE FORMA ANGULOSA. EN EL CASO DE NO PODER REALIZAR ESTA ELIMINACIÓN SE INCLUYE ADEMÁS LA EXTENSIÓN, COLOCACIÓN Y COMPACTACIÓN DE UNA CAPA DE 15 CM DE MATERIAL FINO SELECCIONADO Y CRIBADO OBTENIDO DEL MOVIMIENTO DE TIERRAS DE LOS TALUDES Y ACOPIADO DURANTE SU EJECUCIÓN PREVIA PARA TAL FIN. MEDIDA LA SUPERFICIE FINALIZADA Y EJECUTADA FINAL.										
	Desbroce balsa	1	142.447,000			142.447,000	142.447,00		Fondo 1 88.979,000 88.979,000 Talud interior 1 2.063,500 16,700 34.460,450 Talud exterior 0,5 2.143,500 11,000 11.789,250						135.228,70				

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
SUBCAPÍTULO 02.02 TOMA DE FONDO (EB)								APARTADO 02.02.02 TUBERÍAS Y VALVULERÍA							
APARTADO 02.02.01 MOVIMIENTO DE TIERRAS															
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciadados							R02TB082	m TUBERÍA DE ACERO HELICOIDAL ø1820 mm e=12,7 mm						
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES. SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.							TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1820 MM DE DIÁMETRO Y 12,7 MM DE ESPESOR PN MÁX 10 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:2006, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUIDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.							
	Dado	1	4,000	3,500	3,500		49,000	Viga de fondo	1	57,40				57,40	
	Viga fondo	1	57,400		61,800		3.547,320								57,40
	Arqueta v alv ulas	1	18,400	19,200	6,200		2.190,336								
							5.786,66	R02TB120	m TUBERÍA DE ACERO HELICOIDAL ø1219 mm e=10,3 mm						
								TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1219 MM DE DIÁMETRO Y 10,3 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUIDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.							
	Dado	1	4,000	3,500	3,500		49,000	Desagüe fondo dique	1	57,400				57,400	
	Viga fondo	1	57,400		61,800		3.547,320								57,40
	Arqueta v alv ulas	1	18,400	19,200	6,200		2.190,336								
							5.786,66								
R04AR030	m ³ Formación Terraplén Compactado Mat. Procedente de Excavación							R05TM1805	Ud Carrete desmontaje PN-10 DN 1800						
	MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.							CARRETE TELESCÓPICO DE DESMONTAJE DE 1800 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 O SUPERIOR PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							
	Dado	1	4,000	3,500	3,500		49,000	Toma de fondo	1					1,000	
	Viga fondo	1	57,000		61,800		3.522,600								1,00
	-1	-1	30,000	4,600	2,400		-331,200								
	-1	-1	30,000	1,250	0,750		-28,125								
	Arqueta v alv ulas	1	18,400	19,200	6,200		2.190,336								
	-1	-1	11,000	10,200	6,200		-695,640								
							4.657,97	R05TM125	Ud Carrete desmontaje PN-10/16 DN-1200						
								CARRETE TELESCÓPICO DE DESMONTAJE DE 1200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							
	Dado	1	4,000	3,500	3,500		49,000	Desagüe fondo dique	2					2,000	
	Viga fondo	1	57,000		61,800		3.522,600								2,00
	-1	-1	30,000	4,600	2,400		-331,200								
	-1	-1	30,000	1,250	0,750		-28,125								
	Arqueta v alv ulas	1	18,400	19,200	6,200		2.190,336								
	-1	-1	11,000	10,200	6,200		-695,640								
							4.657,97								

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R05TM111-1	Ud Carrete desmontaje PN-10/16 DN-200 CARRETE TELESCÓPICO DE DESMONTAJE DE 200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. By-pass	1				1,000	1,00	R05VC124	Ud Válvula compuerta ø200 mm PN-16 VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 250 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. By-pass	1				1,000	1,00
R03VE006	Ud Ventosa trifuncional ø150 PN-16 VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. Toma de fondo En desagüe	4 1				4,000 1,000	5,00	JTOMA1800	Ud Jaula de desbaste para Toma de Fondo DN1800 JAULA DE DESBASTE PARA TOMA DE FONDO EN DIÁMETRO 1800 MM. EN ACERO INOXIDABLE AISI-316, CON LUZ DE PASO DE 30 MM ENTRE BARRAS VERTICALES Y ALTURA MÍNIMA DE 1,2 M. INCLUYE PLETINAS, TORNILLERÍA Y PP. DE PEQUEÑO MATERIAL PARA ANCLAJE A HORMIGÓN Y CON LÁMINA PLÁSTICA. MEDIDA LA UNIDAD TOTALMENTE MONTADA Y PROBADA. Toma de fondo	1				1,000	1,00
R05VMM1810	Ud Válvula mariposa embridada DN-1800 PN-10 Motorizada VÁLVULA DE MARIPOSA EMBRIDADA, DE 1800 MM DE DIÁMETRO NOMINAL, Y 10 ATM DE PRESIÓN NOMINAL. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, EJE DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI431 Y ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO. EQUIPADA DE ACTUADOR ELÉCTRICO CON MOTOR DE 320VCA CON REDUCTOR PARA ENTREGAR, ACOPLADO SOBRE BRIDA NORMALIZADA A VÁLVULA. INCLUYE PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. AJUSTE Y PUESTA EN MACHA DE MOTORIZACIÓN. TOTALMENTE INSTALADA Y PROBADA. Toma de fondo	1				1,000	1,00	APARTADO 02.02.03 CALDERERÍA Y PROTECCIÓN CATÓDICA							
R05VM012	Ud Valvula mariposa embridada DN 1200 PN-10 VÁLVULA DE MARIPOSA EMBRIDADA 1200 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. Desagüe fondo dique	4				4,000	4,00	MAACD	Kg Acero En Calderería ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM: 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM: 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO. toma de fondo arqueta Por apoyos y demás +10%	1 0,1	12.173,000 12.173,000			12.173,000 1.217,300	13.390,30
								MAPCCII	Ud Anodos protección catódica SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS: - TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2. - ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA. - CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD. - CABLE DE CU RV 0,6/1KV 1*6 MM2. - ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.	10				10,000	10,00

MEDICIONES
PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
APARTADO 02.02.04 OBRA CIVIL								PATES	Ud Pate de polipropileno colocado PATE DE POLIPROPILENO DE 30 CM * 25 CM COLOCADO.							
R07HO020A	m ³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO							Arqueta valvulas	3	19,000				57,000		
	Viga fondo	1	30,000	4,000	0,100	12,000		CHA1	m² Tapa de chapa acero galvanizado 2 mm TAPA DE CHAPA ACERO GALVANIZADO 2 MM DE ESPESOR SOPORTADA POR PERFILES HUECOS # 40.2 FORMANDO CUADROS DE 50 CM DE LADO, PARA UNA RESISTENCIA DE 200 KG/M2, COLOCADA, Y PUERTA DE HOMBRE DE ACCESO DE 1M. * 1 M. PROVISTA DE BISA-GRAS Y CANDADO						57,00	
	drenajes	1	30,000	1,100	0,100	3,300		Arqueta valvulas	1	11,200	10,400			116,480		
	Dado	1	4,200	3,500	0,100	1,470									116,48	
	Arqueta valvulas	1	11,200	10,400	0,100	11,648	28,42	R07EM020	Kg Acero S275 JR Para Estructuras ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA.							
R07HO025A	m ³ Hormigón HA-25/B/20/XC2+XA3+SR en obra HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO							Refuerzo estructura tapa	11	9,800		30,700		3.309,460		
	Viga fondo	1	30,000	4,600	2,400	331,200		anclajes, refuerzos,...	0,1	3.309,460				330,946		
		1	30,000	1,250	0,750	28,125									3.640,41	
		-1	30,000	2,540		-76,200		R07BE06	Ud Anillado metálico pletina acero ANILLADO METÁLICO PARA ESCALERAS DE MANO O PATES REALIZADO MEDIANTE PLETINA DE ACERO CON ANILLO CADA 70 CM DE ALTURA. UNIDAD TOTALMENTE ACABADA.							
		-1	30,000	1,130		-33,900		Arqueta toma	3	3,700				11,100		
		-6	30,000	0,020		-3,600									11,10	
	Dado	1	4,000	3,500	3,300	46,200		ACEQUIA2	Ud Cruce acequia CHE. Con o sin reposición CRUCE Y REPOSICIÓN DE ACEQUIA CHE EXISTENTE O EQUIVALENTE MEDIANTE PASO INFERIOR SIN ALTERAR EL CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGÓN DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA, SUJECCIÓN DEL CAJERO Y RELLENO DE HM-20 HASTA LA BASE DEL CAJERO. O CRUCE MEDIANTE CORTE DE CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGÓN DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA Y HM-20 HASTA LA BASE Y REPOSICIÓN DEL CAJERO, DEBIDAMENTE SELLADO. INCLUIDO TODOS LOS COSTES DE GESTIÓN DE RESIDUOS, EXCAVACIONES, CARGAS Y TRANSPORTES NECESARIOS.COM-PLETAMENET EJECUTADO							
		-1	4,000	2,540		-10,160		Cruce acequia	1	1,000				1,000		
		-1	4,000	1,130		-4,520										
	Arqueta valvulas	1	11,000	10,200	6,100	684,420	416,17									
		-1	10,200	9,400	5,700	-546,516										
	drenajes	1	2,800	0,200	2,000	1,120										
R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.															
	Viga de fondo (50 kg/m3)	1	277,145	50,000		13.857,250										
	Arqueta (75 kg/m3)	1	139,024	75,000		10.426,800	24.284,05									
R07EN020	m ² Encofrado/Desencofrado metálico para hormigón visto ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS															
	Viga fondo	2	4,600		2,400	22,080										
		2	0,750		0,750	1,125										
	Dado	1	4,000		3,300	13,200										
		2	3,500		3,300	23,100										
	Arqueta valvulas	2	11,000		6,100	134,200										
		2	10,200		6,100	124,440										
		2	10,200		5,700	116,280										
		2	9,400		5,700	107,160										
	Drenes	2	2,700		2,000	10,800										
		2	2,500		2,000	10,000	562,39									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
SUBCAPÍTULO 02.03 TOMA DE FONDO (RED PN)								APARTADO 02.03.02 TUBERÍAS Y VALVULERÍA								
APARTADO 02.03.01 MOVIMIENTO DE TIERRAS																
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciadados							R02TB120	m TUBERÍA DE ACERO HELICOIDAL ø1219 mm e=10,3 mm							
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES. SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.							TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1219 MM DE DIÁMETRO Y 10,3 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUIDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.								
	Arqueta toma fondo en vaso	1	7,050	4,320	2,000		60,912		Viga de fondo	1	49,000			49,000		
	Viga fondo	1	27,000		65,000		1.755,000								49,00	
	Arqueta valvulas	1	16,000	15,100	7,500		1.812,000									
							3.627,91									
R04AR030	m ³ Formación Terraplén Compactado Mat. Procedente de Excavación							R05TM125	Ud Carrete desmontaje PN-10/16 DN-1200							
	MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.							CARRETE TELESCÓPICO DE DESMONTAJE DE 1200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.								
	Viga fondo	1	27,000		65,000		1.755,000		Toma de fondo	1				1,000		
		-1	27,000	1,800	1,800		-87,480								1,00	
		-1	27,000	1,400	0,750		-28,350									
	Arqueta valvulas	1	16,000	15,100	7,500		1.812,000									
		-1	6,300	5,600	7,500		-264,600									
							3.186,57									
							3.627,91		R05TM111	Ud Carrete desmontaje PN-10/16 DN-150						
									CARRETE TELESCÓPICO DE DESMONTAJE DE 150 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							
									By-pass	1				1,000		
															1,00	
									R03VE006	Ud Ventosa trifuncional ø150 PN-16						
									VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							
									Toma de fondo	1				1,000		
															1,00	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.							R07EM020	Kg Acero S275 JR Para Estructuras ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA.							
	Viga de fondo (50 kg/m3)	1	113,798	50,000		5.689,900		Refuerzo estructura tapa	5	5,200		30,700		798,200		
	Arqueta (75 kg/m3)	1	107,490	75,000		8.061,750		anclajes, refuerzos,...	0,1	798,200				79,820		
							13.751,65	En toma fondo para desbaste								
								Soportes IPE120	6	2,900		10,400		180,960		
								Apoyo perimetral L40x 4	1	7,050		2,420		17,061		
									1	3,890		2,420		9,414		
									2	3,200		2,420		15,488		
														1.100,94		
R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS							TRAMEX	m² Rejilla Tipo TrameX De 30x30 mm Colocada CELOSÍA METÁLICA "TRAMEX", FORMADA POR MALLA DE ACERO 30X30 MM. Y PLETINA 40.3, Y BASTIDOR CON UNIONES ELECTROSOLDADAS, SOLDADURA Y AJUSTE A OTROS ELEMENTOS, ESTRUCTURA AUXILIAR DE APOYO Y ANCLAJE.							
	Viga fondo	2	2,160		1,800		7,776		En toma fondo para desbaste	1	5,470	2,900			15,863	
	drenajes	2	1,550		0,750		2,325								15,86	
	Arqueta toma fondo en vaso	2	7,050		1,800		25,380									
		1	7,050		0,300		2,115									
		2	1,650		0,300		0,990									
	Arqueta v alv ulas	2	6,300		7,400		93,240		ARCAUTO1	Ud Arqueta para automata, caseta Hormigón Pref. 2x1x2,1 ARQUETA PARA ALOJAMIENTO DE AUTOMATA TELECONTROL Y BATERIAS DEL SECCIONAMIENTO, CONSISTENTE EN CASETA PREFABRICADA DE HORMIGÓN CON BASE INTEGRADA O PRESOLERA DE HORMIGÓN HM-20, CON UNAS DIMENSIONES INTERIORES ÚTILES DE 2,00X1,00X2,10, CON APERTURA EN EJE VERTICAL DE DOBLE HOJA, PUERTAS EN GALVANIZADO 1,5 MM, NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA EN PUERTAS, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE. INCLUIDO SOPORTES, Y CANDADO, INCLUIDOS TODOS LOS MEDIOS AUXILIARES PARA SU COLOCACIÓN Y CIMENTACIÓN PARA MASTIL CONSISTENTE EN HORMIGÓN EN MASA DE 0,8X0,8X1,2M Y 4 PERNOS DE 16 MM DE DIAMETRO DE ACERO B-500S. INCLUIDOS TUBO DE PE CORRUGADO CON GUÍA PARA CABLEADO A LOS ELEMENTOS (VALVULAS Y CAUDALIMETROS, DOS TUBOS POR ELEMNTO), Y EL DESBROCE O PREPARACIÓN DE TERRENO PARA LA PRESOLERA. TOTALMENTE COLOCADA						
		2	5,600		7,400		82,880		Automatización Salida BPC PN	1					1,000	
		2	4,800		7,000		67,200								1,00	
		2	5,500		7,000		77,000									
	Arqueta drenes	1	2,900		2,500		7,250									
		1	2,500		2,500		6,250									
	Apoyos-macizos	2	1,000		0,600		1,200									
		2	0,400		0,600		0,480									
	Arqueta caudalimetro	4	3,600		6,800		97,920									
		4	3,000		6,500		78,000									
							550,01									
PATES	Ud Pate de polipropileno colocado PATE DE POLIPROPILENO DE 30 CM * 25 CM COLOCADO.															
	Arqueta v alv ulas	2	23,000				46,000									
	Arqueta caudalimetro	1	21,000				21,000									
							67,00									
CHA1	m² Tapa de chapa acero galvanizado 2 mm TAPA DE CHAPA ACERO GALVANIZADO 2 MM DE ESPESOR SOPORTADA POR PERFILES HUECOS # 40.2 FORMANDO CUADROS DE 50 CM DE LADO, PARA UNA RESISTENCIA DE 200 KG/M2, COLOCADA, Y PUERTA DE HOMBRE DE ACCESO DE 1M. * 1 M. PROVISTA DE BISAGRAS Y CANDADO															
	Arqueta v alv ulas	1	6,500	5,800			37,700									
	Arqueta caudalimetro	1	3,800	3,800			14,440									
							52,14									
R07BE06	Ud Anillado metálico pletina acero ANILLADO METÁLICO PARA ESCALERAS DE MANO O PATES REALIZADO MEDIANTE PLETINA DE ACERO CON ANILLO CADA 70 CM DE ALTURA. UNIDAD TOTALMENTE ACABADA.															
	Arqueta v alv ulas	2	5,000				10,000									
	Arqueta caudalimetro	1	4,500				4,500									
							14,50									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
SUBCAPÍTULO 02.04 DESAGÜE DE FONDO								APARTADO 02.04.01 MOVIMIENTO DE TIERRAS								
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciadados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO. Mediciones auxiliares 1 3,043,100 3,043,100 En adecuación colector salida hasta desagüe natural 1 405,624 3,300 1,240 1,659,813	1	3,043,100				3,043,100									
							4,702,91									
R01RE400	m ³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. Mediciones auxiliares 1 139,460 139,460 1 88,610 88,610	1	139,460			139,460										
							228,07									
R01RE030	m ³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. Mediciones auxiliares 1 722,010 722,010	1	722,010			722,010										
							722,01									
R01RE010	m ³ Relleno Ordinario de Tierras Compactado 85% PN RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. Mediciones auxiliares 1 1,753,480 1,753,480	1	1,753,480			1,753,480									1,753,48	
APARTADO 02.04.02 TUBERÍAS Y VALVULERÍA								APARTADO 02.04.02 TUBERÍAS Y VALVULERÍA								
R07PC120-135	m Tubo Hormigón Armado Tipo C-135 DN 1200 TUBERÍA DE HORMIGÓN CLASE C-135 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1.200 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA. Desagüe fondo 1 382,270 382,270	1	382,270			382,270									382,27	
APARTADO 02.04.03 CALDERERÍA Y PROTECCIÓN CATÓDICA								APARTADO 02.04.03 CALDERERÍA Y PROTECCIÓN CATÓDICA								
MAACD	Kg Acero En Calderería ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM; 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO. Desagüe codo. Inicio y final 2 2,500 307,000 1.535,000	2	2,500			307,000	1.535,000								1.535,00	
MAPCCII	Ud Anodos protección catódica SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS: - TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2. - ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA. - CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD. - CABLE DE CU RV 0,6/1KV 1*6 MM2. - ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.	2													2,00	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
APARTADO 02.04.04 OBRA CIVIL								SUBCAPÍTULO 02.05 ALIVIADERO							
APARTADO 02.05.01 MOVIMIENTO DE TIERRAS															
R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO 1-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO Hormigón limpieza arqueta descarga	1	12,200	5,800	0,100	7,076	7,08	R01EX010	m³ Excavación a cielo abierto en Zanjas y Vacidados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO. Paso dique	1	12,739	2,700	2,500	85,988	85,99
R07HO025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO 1-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO arqueta descarga	1 2 1 1	12,000 15,000 2,500 12,000	5,600 0,200 0,850 5,600	0,200 2,240 0,200 0,300	13,440 13,440 0,425 20,160	47,47	R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES. EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO. Paso dique	1 -1	12,739 12,739	2,700 2,700	2,500 2,200	85,988 -75,670	10,32
R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO. Arqueta (75 kg/m3)	1	47,470	75,000		3,560,250	3,560,25								
R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS arqueta descarga	2 2 1	15,000 15,000 12,000		2,440 2,240 5,600	73,200 67,200 67,200	207,60								
R07EM020	Kg Acero S275 JR Para Estructuras ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA. Reja	150				150,000	150,00								
EXC03	m³ Construcción escollera, roca 30-60cm APORTE Y COLOCACIÓN DE PIEDRA O CANTOS RODADOS SELECCIONADOS DE PRESTAMOS DE 30 A 60 CM, A UNA DISTANCIA <25 KM. MEDIDA LA UNIDAD TOTALMENTE COLOCADA. arqueta descarga En colector desagüe fondo Curva Final y entronque	2 1 1	5,000 10,000 5,000	6,000 6,000 6,000	0,600 0,600 0,600	36,000 36,000 18,000	90,00								

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
APARTADO 02.05.02 TUBERÍAS							
R02TB064	m TUBERÍA DE ACERO HELICOIDAL ø1620 mm e=12,7 mm						
	TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1620 MM DE DIÁMETRO Y 12,7 MM DE ESPESOR PN MÁX 10 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:2006, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUIDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.						
	Tramo 4. paso dique	1	12,74				12,74
							12,74

APARTADO 02.05.03 CALDERERÍA Y PROTECCIÓN CATÓDICA

MAPCCII	Ud Anodos protección catódica						
	SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:						
	- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2.						
	- ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA.						
	- CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD.						
	- CABLE DE CU RV 0,6/1KV 1*6 MM2.						
	- ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.						
		4					4,00
							4,00

MAACD	Kg Acero En Calderería						
	ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM; 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.						
	Conexión con desagüe fondo Balsa BP1	1	250,000				250,000
							250,00

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
APARTADO 02.05.04 OBRA CIVIL							
R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra						
	HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO						
	Hormigón limpieza						
	Viga	1	12,739	2,200	0,100		2,803
	Aliviadero	1	15,400	1,400	0,100		2,156
	Conexión con desagüe fondo BP1	1	3,000	2,000	2,000		12,000
	Losa protección vertido	1	11,650	10,000	0,100		11,650
		1	4,400	10,000	0,100		4,400
							33,01

R07HO025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra						
	HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO						
	Viga dique	1	12,739	2,700	2,200		75,670
		-1	12,739	2,010			-25,605
	Aliviadero	1	15,400	1,400	0,200		4,312
		1	15,000	0,200	1,500		4,500
		1	15,000	0,200	2,060		6,180
		2	1,400	0,200	2,530		1,417
	Losa protección vertido	1	11,650	10,000	0,200		23,300
		1	4,400	10,000	0,200		8,800
							98,57

R07EM001	Kg Acero B-500-S						
	ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.						
	Viga y arqueta (50 kg/m3)	1	98,574	50,000			4.928,700
	Conexión con desagüe fondo	1	12,000	20,000			240,000
							5.168,70

R07EN020	m² Encofrado/Desenfrado metálico para hormigón visto						
	ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS						
	En viga paso dique	2	2,700		2,200		11,880
	Aliviadero	1	15,400		1,700		26,180
		1	15,400		2,260		34,804
		1	15,000		1,500		22,500
		1	15,000		2,060		30,900
		2	1,400		2,730		7,644
		2	1,000		2,530		5,060
	Losa protección vertido	2	11,650		0,200		4,660
		1	10,000		0,200		2,000
							145,63

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
G04JU2345	m Junta Hidroexpansiva JUNTA HIDROEXPANSIVA TIPO MASTERFLEX 610 20*5, INCLUSO PREPARACIÓN DE SUPERFICIES, TOTALMENTE COLOCADA. En aliviadero	2 2	15,200 1,200			30,400 2,400		IM002	m² Lámina Impermeabilizante PEAD 2,0 mm LÁMINA IMPERMEABILIZANTE EN POLIETILENO DE ALTA DENSIDAD, FABRICADA MEDIANTE CALANDRADO EN 7,5 M DE ANCHO SIN SOLDADURAS INTERMEDIAS DE 2,0 MM DE ESPESOR, TOTALMENTE INSTALADA Y PROBADA, INCLUSO SOLAPES Y ANCLAJES MECÁNICOS A OBRAS DE FABRICA. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC. Fondo Talud interior Anclaje lamina En anclaje pie de talud	1 1 1 1	88.979,000 2.063,500 2.112,000 2.015,000			88.979,000 34.460,450 4.540,800 2.418,000	
							32,80								
SUBCAPÍTULO 02.06 IMPERMEABILIZACIÓN															
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vaciados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTICULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO. anclaje lamina coronación	1	2.112,000	0,500	0,600	633,600		AFBPEADC2	m Anclaje de fondo balsa con lámina PEAD rellenos de grava 6/12 ANCLAJES DE FONDO A BASE DE FUELLES CONFORMADOS CON LÁMINA DE PEAD DE 2 MM DE ESPESOR Y SECCIÓN CON PERIMETRO 1,45 M. DE PESO NO INFERIOR A 175 KG/ML. RELLENOS CON ÁRIDO NATURAL LAVADO 6/12 MM. TOTALMENTE COLOCADO. INCLUIDA LA INSTALACIÓN SOBRE LAMINA DE PEAD DE FONDO DE Balsa Y MEDIOS AUXILIARES. En anclaje pie de talud	1	2.015,000	2,000		4.030,000	130.398,25
							633,60	ANCLAJE-COR2	m Anclaje Coronación; Bordillo Tipo T-2 ANCLAJE DE CORONACIÓN EN BALSAS, MEDIANTE LA INSTALACIÓN DE LÍNEA DE BORDILLO TIPO T-2, DE PIEZAS PREFABRICADAS DE HORMIGÓN RECTAS Y CURVAS, COLOCADAS CON MORTERO DE CEMENTO 1:4 ELABORADO EN LA OBRA CON HORMIGONERA DE 165 L. INCLUIDO TRANSPORTE Y PUESTA EN OBRA EN CORONACIÓN DE Balsa, EXCAVACIÓN, LA BASE DE HORMIGÓN HM-20 Y TODAS LAS FAENAS PERTINENTES. TOTALMENTE COLOCADO. Anclaje coronación	1	2.112,000			2.112,000	4.030,00
							633,60								
R01RE030	m³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAIDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. anclaje lamina coronación	1	2.112,000	0,500	0,600	633,600		SUBCAPÍTULO 02.07 DRENAJE APARTADO 02.07.01 MOVIMIENTO DE TIERRAS							
							633,60								
DR001	m² Lámina Geotextil 250 GR/M2; 2850 Ncbr GEOTEXTIL FABRICADO A BASE DE FIBRAS SINTÉTICAS DE POLIPROPILENO 100%, NO TEJIDO, DE FILAMENTOS CONTINUOS UNIDOS MECÁNICAMENTE POR UN PROCESO DE AGUJADO, DE RESISTENCIA A PERFORACIÓN CBR NO MENOR DE 2850 N (NORMA UNE-EN 12236), DE PERFORACIÓN A CAIDA LIBRE DE CONO NO MAYOR DE 20 MM (NORMA EN 918), Y PESO NO INFERIOR A 250 G/M² (NORMA UNE-EN 965), INCLUSO SOLAPES, TOTALMENTE COLOCADO. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC. Fondo Talud interior Anclaje lamina	1 1 1	88.979,000 2.063,500 2.112,000			88.979,000 34.460,450 4.540,800									
							127.980,25								

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vaciados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.							R01RE030	m³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. Tubería LISA: Salida EB: Perimetral norte 1 212,000 0,500 1,250 132,500 Perimetral sur 1 287,000 0,500 1,250 179,375 Salida PN: Perimetral norte 1 225,000 0,500 1,250 140,625 Perimetral sur 1 272,000 0,500 1,250 170,000 Mediciones auxiliares 1 23,360 23,360 Evacuación arqueta desagüe EB 1 30,000 0,800 0,550 13,200							659,06
	Salida EB: Perimetral norte 1 209,000 0,500 1,250 130,625 1 212,000 0,500 1,250 132,500 Perimetral sur 1 245,000 0,500 1,250 153,125 1 287,000 0,500 1,250 179,375 Central 2 423,000 0,500 1,250 528,750 Salida PN: Perimetral norte 1 251,000 0,500 1,250 156,875 1 225,000 0,500 1,250 140,625 Perimetral sur 1 281,000 0,500 1,250 175,625 1 272,000 0,500 1,250 170,000 Central 2 465,000 0,500 1,250 581,250 Tubería LISA: Salida EB: Perimetral norte 1 212,000 0,500 1,250 132,500 Perimetral sur 1 287,000 0,500 1,250 179,375 Salida PN: Perimetral norte 1 225,000 0,500 1,250 140,625 Perimetral sur 1 272,000 0,500 1,250 170,000 Mediciones auxiliares 1 432,790 432,790 Evacuación arqueta desagüe EB 1 30,000 3,000 90,000							R01RE010	m³ Relleno Ordinario de Tierras Compactado 85% PN RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. Mediciones auxiliares 1 396,580 396,580 Evacuación arqueta desagüe EB 1 30,000 3,000 90,000 A deducir Rell. Seleccionado -1 13,200 -13,200						473,38	
APARTADO 02.07.02 TUBERÍAS																
							3.494,04	PVC160-RAN	m Drenaje Tubería Ranurada PVC DN 160mm, Relleno Mat. Filtrante CONJUNTO ZANJA DRENAJE, MEDIANTE TUBO DRENANTE PERFORADO DE PVC DN 160 MM DE DOBLE PARED, COLOCADO EN ZANJA DE SECCIÓN 0,50 M. DE ANCHURA Y PROFUNDIDAD MEDIA INFERIOR A 1,0 M., ENVUELTA ÉSTA EN FILTRO DREN A BASE DE GETEXTIL DE 150 GR/M2 Y RELLENA LA ZANJA CON MATERIAL GRANULAR 6/12 MM HASTA 20 CM POR ENCIMA DEL DREN ENVUELTO EN GEOTEXTIL. INCLUIDA PP DE PEQUEÑO MATERIAL Y ELEMENTOS DE CONEXIÓN A COLECTORES. MEDIDA LA LONGITUD TOTAL FINALMENTE INSTALADA Y PROBADA. Salida EB: Perimetral norte 1 209,000 209,000 1 212,000 212,000 Perimetral sur 1 245,000 245,000 1 287,000 287,000 Central 2 423,000 846,000 Salida PN: Perimetral norte 1 251,000 251,000 1 225,000 225,000 Perimetral sur 1 281,000 281,000 1 272,000 272,000 Central 2 465,000 930,000							3.758,00
R01RE400	m³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. Mediciones auxiliares 1 6,240 6,240 1 4,120 4,120 Evacuación arqueta desagüe EB 1 30,000 0,600 0,100 1,800															12,16

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
PVC110-RAN	m Drenaje Tubería Ranurada PVC DN 110mm, Relleno Mat. Filtrante CONJUNTO ZANJA DRENAJE, MEDIANTE TUBO DRENANTE PERFORADO DE PVC DN 110 MM DE DOBLE PARED, COLOCADO EN ZANJA DE SECCIÓN 0,50 M. DE ANCHURA Y PROFUNDIDAD MEDIA INFERIOR A 1,0 M., ENVUELTA ÉSTA EN FILTRO DREN A BASE DE GETEXTIL DE 150 GR/M2 Y RELLENA LA ZANJA CON MATERIAL GRANULAR 6/12 MM HASTA 20 CM POR ENCIMA DEL DREN ENVUELTO EN GEOTEXTIL. INCLUIDA PP DE PEQUEÑO MATERIAL Y ELEMENTOS DE CONEXIÓN A COLECTORES. MEDIDA LA LONGITUD TOTAL FINALMENTE INSTALADA Y PROBADA. Salida EB: Auxiliares 1 82,000 82,000 Salida PN: Auxiliares 1 104,000 104,000 1 92,500 92,500							ACEQUIA2	Ud Cruce acequia CHE. Con o sin reposición CRUCE Y REPOSICIÓN DE ACEQUIA CHE EXISTENTE O EQUIVALENTE MEDIANTE PASO INFERIOR SIN ALTERAR EL CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGON DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA, SUJECCIÓN DEL CAJERO Y RELLENO DE HM-20 HASTA LA BASE DEL CAJERO. O CRUCE MEDIANTE CORTE DE CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGON DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA Y HM-20 HASTA LA BASE Y REPOSICIÓN DEL CAJERO, DEBIDAMENTE SELLADO. INLCUIDO TODOS LOS COSTES DE GESTIÓN DE RESIDUOS, EXCAVACIONES, CARGAS Y TRANSPORTES NECESARIOS.COM- PLETAMENET EJECUTADO Cruce acequia 1 1,000 1,000						1,00	
SUBCAPÍTULO 02.08 VIALES																
PVC160P10	m Tubería de PVC DN 160 mm, 10 BAR, Instalada en Zanja TUBO DE PVC NO PLASTIFICADO, DE ESPECIFICACIONES TÉCNICAS SEGÚN NORMA UNE 1452 DE DN. EXTERIOR 160 MM, Y 10 BAR DE PRESIÓN. UNIÓN TIPO FLEXIBLE MEDIANTE JUNTA ENCHUFE CON ANILLA ELASTOMÉRICA DE ESTANQUIDAD DE EPDM LUBRICADA SEGÚN NORMA UNE-EN 681. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA. Salida EB: Perimetral norte 1 212,000 212,000 Perimetral sur 1 287,000 287,000 Perimetral norte 1 70,000 70,000 1 70,000 70,000 Perimetral sur 1 70,000 70,000 1 70,000 70,000 Central 2 70,000 140,000 Salida PN: Perimetral norte 1 225,000 225,000 Perimetral sur 1 272,000 272,000 Perimetral norte 1 38,000 38,000 1 38,000 38,000 Perimetral sur 1 38,000 38,000 1 38,000 38,000 Central 2 38,000 76,000							278,50	MVTRE023	m³ Terraplén seleccionado mat granular Z30 S/PG3 MATERIAL GRANULAR TIPO ZA30 S/PG3 PUESTO EN OBRA, EXTENDIDO, HUMEDECIDO Y COMPACTADO AL 98% DEL PM EN CAPAS DE 10 CM DE ESPESOR EN BASES DE OBRAS SINGULARES EN VIALES Coronación 1 2.127,500 4,000 0,200 1.702,000						1.702,00
SUBCAPÍTULO 02.09 VARIOS																
								R04EM010	m Cerramiento Valla Galvanizada h=2 m CERRAMIENTO DE VALLA GALVANIZADA DE 2,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMIENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECCIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA. En coronación 1 2.143,500 2.143,500						2.143,50	
								VA001	Ud Elemento Seguridad Balsa ELEMENTO DE SEGURIDAD EN LA Balsa, FORMADO POR CABLE DE NYLON DE 12 MM. DE DIAMETRO CON FLOTADOR Y SUJETO A POSTE ANCLADO EN CORONACION DE Balsa, INCLUSO SUMINISTRO, COLOCACION Y SUJECIONES. En coronación 6 6,000						6,00	
								R04EM010-A	m Cerramiento Valla Galvanizada h=1 m CERRAMIENTO DE VALLA GALVANIZADA DE 1,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMIENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECCIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA. Arquetas 1 90,000 90,000						90,00	
PVC250P10	m Tubería de PVC DN 250 mm, 10 BAR, Instalada en Zanja TUBO DE PVC NO PLASTIFICADO, DE ESPECIFICACIONES TÉCNICAS SEGÚN NORMA UNE 1452 DE DN. EXTERIOR 250 MM, Y 10 BAR DE PRESIÓN. UNIÓN TIPO FLEXIBLE MEDIANTE JUNTA ENCHUFE CON ANILLA ELASTOMÉRICA DE ESTANQUIDAD DE EPDM LUBRICADA SEGÚN NORMA UNE-EN 681. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA. Evacuación arqueta desagüe PN 1 61,209 61,209 Evacuación arqueta desagüe EB 1 30,000 30,000						1.644,00								91,21	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
SUBCAPÍTULO 02.10 OBRA DE ENTRADA Balsa								APARTADO 02.05.02 TUBERÍAS							
APARTADO 02.05.01 MOVIMIENTO DE TIERRAS								APARTADO 02.05.03 CALDERERÍA Y PROTECCIÓN CATÓDICA							
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciados							R02TB064	m TUBERÍA DE ACERO HELICOIDAL ø1620 mm e=12,7 mm						
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES. SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.							TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1620 MM DE DIÁMETRO Y 12,7 MM DE ESPESOR PN MÁX 10 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:2006, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUIDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.							
	Paso dique	1	12,739	2,700	2,500	85,988		Tramo 4. paso dique	1	12,74				12,74	
							85,99								12,74
R04AR030	m ³ Formación Terraplén Compactado Mat. Procedente de Excavación							MAPCCII	Ud Anodos protección catódica						
	MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO. INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.							SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:							
	Paso dique	1	12,739	2,700	2,500	85,988		- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2.							
		-1	12,739	2,700	2,200	-75,670		- ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA.							
							10,32	- CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD.							
								- CABLE DE CU RV 0,6/1KV 1*6 MM2.							
								- ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.							
									4					4,000	
															4,00
								MAACD	Kg Acero En Calderería						
								ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM; 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.							
								Conexión con desagüe fondo Balsa BP1	1	250,000				250,000	
															250,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
APARTADO 02.05.04 OBRA CIVIL								G04JU2345	m	Junta Hidroexpansiva						
R07HO020A	m ³ Hormigón HM-20/B/20/X0 en obra	HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO							JUNTA HIDROEXPANSIVA TIPO MASTERFLEX 610 20*5, INCLUSO PREPARACIÓN DE SUPERFICIES, TOTALMENTE COLOCADA.							
	Hormigón limpieza							En aliviadero	2	15,200				30,400		
	Viga	1	12,739	2,200	0,100	2,803			2	1,200				2,400		
	Aliviadero	1	15,400	1,400	0,100	2,156										
	Conexión con desagüe fondo BP1	1	3,000	2,000	2,000	12,000										
	Losa protección vertido	1	11,650	10,000	0,100	11,650										
		1	4,400	10,000	0,100	4,400										
							33,01								32,80	
R07HO025A								SUBCAPÍTULO 02.11 REPOSICIÓN CAMINO								
R07HO025A	m ³ Hormigón HA-25/B/20/XC2+XA3+SR en obra	HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO							R01DM040	m ²	Desbroce Y Limpieza Todo Tipo De Terreno Con Transporte					
	Viga dique	1	12,739	2,700	2,200	75,670			DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 30 CM, INCLUIDO LA EXCAVACIÓN, INCLUSO DEFORESTACIÓN Y TALA DE ARBUSTOS Y DE ÁRBOLES DE CUALQUIER TIPO Y DIMENSIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.							
		-1	12,739	2,010		-25,605		Reposición camino	1	402,775	6,000			2.416,650		
	Aliviadero	1	15,400	1,400	0,200	4,312										
		1	15,000	0,200	1,500	4,500										
		1	15,000	0,200	2,060	6,180		R04AR010	m ³	Excavación en Desmonte Todo Tipo de Terreno, Tte D=10 Km						
		2	1,400	0,200	2,530	1,417			EXCAVACIÓN EN DESMONTE CON MEDIOS MECÁNICOS DE TERRENOS DE CUALQUIER NATURALEZA O CONSISTENCIA, INCLUIDAS LAS CAPAS DE ROCA RIPABLES CON POTENCIAS IGUALES A D10 O SIMILAR (447/538 KW), INCLUIDO EL USO DE MARTILLO ROMPEDOR PARA FACILITAR EL RIPADO O ARRANQUE, CON PRESENCIA POR LA TOTALIDAD DE LA ZONA DE EXCAVACIÓN, ADICIONALMENTE ROCA DE MAYOR DUREZA HASTA UN PORCENTAJE MÁXIMO DE UN 10% SOBRE EL VOLUMEN TOTAL EXCAVADO MEDIDO SOBRE TERRENO INALTERADO EN BASE A PERFILES DE TALUDES Y FONDO DE Balsa, INCLUSO TERRENOS DE CONSISTENCIA BLANDA. INCLUIDA LA EXCAVACIÓN SELECTIVA DE LOS MATERIALES PARA EL TERRAPLENADO (SEGÚN ESTUDIO GEOTÉCNICO), CON LA PREPARACIÓN DEL FONDO DE LA EXCAVACIÓN SEGÚN LAS ESPECIFICACIONES RECOGIDAS POR EL ESTUDIO GEOTÉCNICO RECOGIDO EN EL ANEJO 6 DEL PROYECTO, LABRADO O RIPADO DEL FONDO DE EXCAVACIÓN, CON POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA DEL TERRENO UNA VEZ ALCANZADA LA COTA DE FONDO, EN TODA LA ZONA DE ACTUACIÓN. INCLUSO RIPADO PREVIO SEGÚN CARACTERÍSTICAS INDICADAS, CARGA Y TRANSPORTE A TERRAPLÉN, CABALLEO A LUGAR DE EMPLEO O VERTEDERO AUTORIZADO (INCLUIDO CÁNON Y/O TASAS), A DISTANCIA INFERIOR A 10 KM. INCLUIDO EL EXTENDIDO Y PERFILEADO DE TALUDES, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN A ZONAS DE UTILIZACIÓN CON SEPARACIÓN DE ELEMENTOS GRUESOS, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTICULAS DE POLVO A LA ATMÓSFERA. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.							
	Losa protección vertido	1	11,650	10,000	0,200	23,300			Según Mediciones Aux.	1	5,883			5,883		
		1	4,400	10,000	0,200	8,800									2.416,65	
							98,57								5,88	
R07EM001	Kg Acero B-500-S	ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.							R04AR030	m ³	Formación Terraplén Compactado Mat. Procedente de Excavación					
	Viga y arqueta (50 kg/m3)	1	98,574	50,000		4.928,700			MEZCLA, EXTENDIDO, COMPACTADO Y PERFILEADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.							
	Conexión con desagüe fondo	1	12,000	20,000		240,000			Según Mediciones Aux.	1	1.668,068			1.668,068		
							5.168,70								1.668,07	
R07EN020	m ² Encofrado/Desencofrado metálico para hormigón visto	ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS														
	En viga paso dique	2	2,700		2,200	11,880										
	Aliviadero	1	15,400		1,700	26,180										
		1	15,400		2,260	34,804										
		1	15,000		1,500	22,500										
		1	15,000		2,060	30,900										
		2	1,400		2,730	7,644										
		2	1,000		2,530	5,060										
	Losa protección vertido	2	11,650		0,200	4,660										
		1	10,000		0,200	2,000										
							145,63									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R01FIR018	<p>m³ Construcción base material granular con zahorra natural ZN(40)</p> <p>CONSTRUCCIÓN DE SUB-BASES O BASES GRANULARES CON ZAHORRA NATURAL SELECCIONADA A HUSO ZN(40) SEGÚN PG3/ O.M 31-07-86. OBTENIDO EL MATERIAL MEDIANTE CRIBA DE ZAHORRA NATURAL , INCLUYENDO LEGALIZACIÓN DEL PRÉSTAMO, CANON, ARRANQUE, CRIBADO, CARGA, TRANSPORTE HASTA LA OBRA. O BIEN, TAMBIÉN INCLUIDO, LA ADQUISICIÓN DE LOS MATERIALES DE PLANTA Y SU TRASNPORTE DESDE PLANTA DE ÁRIDOS HASTA LA OBRA. INCLUIDA EN LA UNIDAD LA EXTENSIÓN DEL MATERIAL EN OBRA Y COMPACTACIÓN HASTA EL 98% PM CON APORTE EXTERNO DE AGUA HASTA LA HUMEDAD ÓPTIMA, TODO ELLO EN TONGADAS CON UN ESPESOR MÁXIMO DE 20 CM. MEDIDA LA UNIDAD REALMENTE EJECUTADA.</p>							R07EN020	<p>m² Encofrado/Desencofrado metálico para hormigón visto</p> <p>ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFADO Y REPASO DE PARAMENTOS</p>						
	Reposición camino	1	402,775	4,000	0,200	322,220	322,22	Badén en camino	2	10,000		0,200		4,000	
									2	5,000		0,200		2,000	6,00
CAPÍTULO 03 TUBERÍA ADMISIÓN BOMBEO															
SUBCAPÍTULO 03.01 MOVIMIENTO DE TIERRAS															
R01EXPLA01	<p>m² Rasanteo, refino y compactación plataforma caminos</p> <p>APERTURA DE CAMINO, REFINO Y MARCADO DE CUNETAS A AMBOS LADOS EN TERRENO DE TRÁNSITO, CON PENDIENTESEGÚN PROYECTO Y UNA PROFUNDIDAD MÁXIMA DE 30 CM. INLCUIDA EN LA UNIDAD EL PERFILEADO, RASANTEADO, EJECUCIÓN DEL BOMBEO DE LA PLATAFORMA DEL CAMINO, REGADO A HUMEDAD ÓPTIMA Y COMPACTADO HASTA EL 95 %PM HASTA ALCANZAR LAS DIMENSIONES NECESARIAS PARA LA EJECUCIÓN DE LA SECCIONES PREVISTAS EN EL CAMINO. MEDIDA LA UNIDAD POR SUPERFICIE FINALMENTE EJECUTADA.</p>							R01EX010	<p>m³ Excavación a cielo abierto en Zanjas y Vaciados</p> <p>EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILEADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.</p>						
	Reposición camino	1	402,78	6,00		2.416,68	2.416,68	Mediciones auxiliares	1	4.403,690				4.403,690	4.403,69
R04ARV10-2	<p>m Formación de cuneta no revestida de 1.2 m y 0.75 m de alto</p> <p>FORMACIÓN DE CUNETA EN LATERAL DE CAMINO CON UNA ANCHURA DE 1,2M Y CON UNA PROFUNDIDAD DE HASTA 0,75 M. PERFILEADO DE TALUDES, INTERIOR Y EXTERIOR Y ADECUACIÓN DE PENDIENTES SEGÚN EL TERRENO Y SEGÚN LOS PUNTOS DE EVACUACIÓN DE AGUA PROXIMOS. CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS E LA TIERRA EXTRAIDA DE LA FORMACIÓN DE CUNETA.</p>							R01RE400	<p>m³ Asiento y Relleno Material Granular 6/12 MM</p> <p>CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTICULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.</p>						
	Reposición camino	1,5	402,78			604,17	604,17	Mediciones auxiliares							
R07HO020A	<p>m³ Hormigón HM-20/B/20/X0 en obra</p> <p>HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO</p>							cama	1	137,760				137,760	
	Badén en camino	1	10,000	5,000	0,200	10,000	10,00	relleno	1	123,210				123,210	
R07EM001	<p>Kg Acero B-500-S</p> <p>ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.</p>							En zona explanada bombeo	1	25,000	4,590		114,750	375,72	
	Badén en camino	1	10,000	20,000		200,000	200,00								

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD		
R01RE030	m³ Relleno Seleccionado Compactado 95% PN							CAPÍTULO 04 Balsa Intermedia (BP1)									
	SUBCAPÍTULO 04.01 MOVIMIENTOS DE TIERRAS																
								R01DM040	m² Desbroce Y Limpieza Todo Tipo De Terreno Con Transporte								
	RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.								DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 30 CM, INCLUIDO LA EXCAVACIÓN, INCLUSO DEFORESTACIÓN Y TALA DE ARBUSTOS Y DE ÁRBOLES DE CUALQUIER TIPO Y DIMENSIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.								
	Mediciones auxiliares	1	877,620				877,620										
	En zona explanada bombeo	1	25,000	9,000			225,000										
		-1	25,000	4,590			-114,750			1	45.438,000			45.438,000			
														45.438,00			
							987,87										
R01RE010	m³ Relleno Ordinario de Tierras Compactado 85% PN							R04AR010	m³ Excavación en Desmonte Todo Tipo de Terreno, Tte D=10 Km								
	RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.								EXCAVACIÓN EN DESMONTE CON MEDIOS MECÁNICOS DE TERRENOS DE CUALQUIER NATURALEZA O CONSISTENCIA, INCLUIDAS LAS CAPAS DE ROCA RIPABLES CON POTENCIAS IGUALES A D10 O SIMILAR (447/538 KW), INCLUIDO EL USO DE MARTILLO ROMPEDOR PARA FACILITAR EL RIPADO O ARRANQUE, CON PRESENCIA POR LA TOTALIDAD DE LA ZONA DE EXCAVACIÓN, ADICIONALMENTE ROCA DE MAYOR DUREZA HASTA UN PORCENTAJE MÁXIMO DE UN 10% SOBRE EL VOLUMEN TOTAL EXCAVADO MEDIDO SOBRE TERRENO INALTERADO EN BASE A PERFILES DE TALUDES Y FONDO DE Balsa, INCLUSO TERRENOS DE CONSISTENCIA BLANDA. INCLUIDA LA EXCAVACIÓN SELECTIVA DE LOS MATERIALES PARA EL TERRAPLENADO (SEGÚN ESTUDIO GEOTÉCNICO), CON LA PREPARACIÓN DEL FONDO DE LA EXCAVACIÓN SEGÚN LAS ESPECIFICACIONES RECOGIDAS POR EL ESTUDIO GEOTÉCNICO RECOGIDO EN EL ANEJO 6 DEL PROYECTO, LABRADO O RIPADO DEL FONDO DE EXCAVACIÓN, CON POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA DEL TERRENO UNA VEZ ALCANZADA LA COTA DE FONDO, EN TODA LA ZONA DE ACTUACIÓN. INCLUSO RIPADO PREVIO SEGÚN CARACTERÍSTICAS INDICADAS, CARGA Y TRANSPORTE A TERRAPLEN, CABALLEO A LUGAR DE EMPLEO O VERTEDERO AUTORIZADO (INCLUIDO CÁNON Y/O TASAS), A DISTANCIA INFERIOR A 10 KM. INCLUIDO EL EXTENDIDO Y PERFILADO DE TALUDES, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN A ZONAS DE UTILIZACIÓN CON SEPARACIÓN DE ELEMENTOS GRUESOS, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTICULAS DE POLVO A LA ATMÓSFERA. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.								
	Mediciones auxiliares	1	2.561,460				2.561,460		Fondo	1	199.875,231			199.875,231			
							2.561,46		Dique	1	50.633,822			50.633,822			
									Saneo fondo zona gravas, mejora drenes	1	4.300,000	0,200		860,000			
														251.369,05			
GFG2A186	m Tubería hormigón post camisa chapa acer, DN 1800, PN 6, SR,							R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación								
	TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1800MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO /42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.								MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.								
	Tubería admisión bombeo	1	282,296				282,296		Dique	1	332,145			332,145			
	a deducir tramo acero en calderería EB (cuello cisne)	-1	7,296				-7,296		Saneo fondo zona gravas, mejroa drenes	1	4.300,000	0,200		860,000			
														1.192,15			
							275,00										

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
TEX005	m² Refino De Taludes							APARTADO 04.02.02 TUBERÍAS Y VALVULERÍA								
	REFINO Y PERFILADO DE TALUDES INTERIORES Y EXTERIORES DE TERRAPLÉN SEGÚN PLANOS, INCLUSO CON LA UTILIZACIÓN DE MEDIOS MANUALES SI SON PRECISOS, ASEGURANDO LA ELIMINACIÓN TOTAL DE ELEMENTOS GRUESOS VISTOS EN SUPERFICIE CON UN TAMAÑO MAYOR A 2 CM O DE FORMA ANGULOSA. EN EL CASO DE NO PODER REALIZAR ESTA ELIMINACIÓN SE INCLUYE ADEMÁS LA EXTENSIÓN, COLOCACIÓN Y COMPACTACIÓN DE UNA CAPA DE 15 CM DE MATERIAL FINO SELECCIONADO Y CRIBADO OBTENIDO DEL MOVIMIENTO DE TIERRAS DE LOS TALUDES Y ACOPIADO DURANTE SU EJECUCIÓN PREVIA PARA TAL FIN. MEDIDA LA SUPERFICIE FINALIZADA Y EJECUTADA FINAL.							R02TB120	m TUBERÍA DE ACERO HELICOIDAL ø1219 mm e=10,3 mm							
	Fondo	1	30.818,000				30.818,000		TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1219 MM DE DIÁMETRO Y 10,3 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUIDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.							
	Talud interior	1	771,000	13,460			10.377,660		Viga de fondo	1	48,000				48,000	
															48,00	
							41.195,66									
	SUBCAPÍTULO 04.02 TOMA DE FONDO								R02TB060	m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm						
	APARTADO 04.02.01 MOVIMIENTO DE TIERRAS									TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUIDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.						
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vaciadados								Viga-dique desagüe fondo	1	32,000				32,000	
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTICULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.															
	Dado	1	8,100	4,320	2,000		69,984		R05TM125	Ud Carrete desmontaje PN-10/16 DN-1200						
	Viga fondo	1	24,000		74,000		1.776,000		CARRETE TELESCÓPICO DE DESMONTAJE DE 1200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							
	Arqueta v alv ulas	1	17,000	17,500	7,500		2.231,250		Toma fondo	1					1,000	
															1,00	
							4.077,23									
R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación							R05TM117	Ud Carrete desmontaje PN-10/16 DN-600							
	MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.								CARRETE TELESCÓPICO DE DESMONTAJE DE 600 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							
	Viga fondo	1	24,000		74,000		1.776,000		By -pass	1					1,000	
		-1	24,000	3,260	1,800		-140,832		Desagüe fondo	1					1,000	
		-1	24,000	1,560	0,750		-28,080									
	Arqueta v alv ulas	1	17,000	17,500	7,500		2.231,250									
		-1	8,000	7,300	7,500		-438,000								2,00	
							3.400,34									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R05TM111	<p>Ud Carrete desmontaje PN-10/16 DN-150</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 150 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p>							R05VM106	<p>Ud Válvula mariposa embridada DN-600 PN-16</p> <p>VÁLVULA DE MARIPOSA EMBRIDADA 600 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p>						
	By-pass	1				1,000			By-pass	2				2,000	
							1,00		Desagüe fondo	2				2,000	
R03VE006	<p>Ud Ventosa trifuncional ø150 PN-16</p> <p>VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p>							R05VC123	<p>Ud Válvula compuerta ø150 mm PN-16</p> <p>VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 150 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p>						
	Toma fondo	1				1,000			By-pass	1				1,000	
							1,00								4,00
R03VE005	<p>Ud Ventosa trifuncional ø100 PN-16</p> <p>VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 100 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 100 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p>							R05EM03	<p>Ud Medidor ultrasónico DN200 - DN4000 PN-10/16</p> <p>EQUIPO DE MEDIDA DE CAUDAL POR ULTRASONIDOS, PARA DIÁMETRO ENTRE 200 Y 4000 MM, FORMADO POR DOS SONDAS Y CAUDALÍMETRO ULTRASÓNICO MONTADO A LA TUBERÍA, ELECTRÓNICA DE TRATAMIENTO DE SEÑAL 4-20 MA, CONVERTIDOR DE SEÑALES, SENSORES, Y PROTECCIONES SOBRETENSIONES, CABLE TRIAXIAL, INCLUIDO SUMINISTRO, INSTALACIÓN Y PRUEBAS DE FUNCIONAMIENTO.</p>						
	Desagüe fondo	1				1,000			Toma fondo	1				1,000	
							1,00								1,00
R05VMM012	<p>Ud Válvula mariposa embridada DN-1200 PN-10 Motorizada</p> <p>VÁLVULA DE MARIPOSA EMBRIDADA, DE 1200 MM DE DIÁMETRO NOMINAL, Y 10 ATM DE PRESIÓN NOMINAL. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, EJE DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI431 Y ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO. EQUIPADA DE ACTUADOR ELÉCTRICO CON MOTOR DE 24VDV CON REDUCTOR PARA ENTREGAR 100NM PAR MAX, ACOPLADO SOBRE BRIDA NORMALIZADA A VÁLVULA. INCLUYE PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. AJUSTE Y PUESTA EN MACHA DE MOTORIZACIÓN. TOTALMENTE INSTALADA Y PROBADA.</p>							MAACD	<p>Kg Acero En Calderería</p> <p>ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM: 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.</p>						
	Toma fondo	1				1,000			toma de fondo arqueta	1	4.111,300			4.111,300	
							1,00		Por apoyos y demás +10%	0,1	4.111,300			411,130	
															4.522,43

APARTADO 04.02.03 CALDERERÍA Y PROTECCIÓN CATÓDICA

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
MAPCCII	Ud Anodos protección catódica SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS: - TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2. - ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA. - CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD. - CABLE DE CU RV 0,6/1KV 1*6 MM2. - ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.							R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO. Viga de fondo (50 kg/m3) 1 145,545 50,000 7.277,250 Arqueta (75 kg/m3) 1 127,947 75,000 9.596,025							16.873,28
		8				8,000	8,00	R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS							
APARTADO 04.02.04 OBRA CIVIL																
R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO								Viga fondo 1 3,260 1,800 5,868 1 2,000 0,500 1,000 Arqueta valvulas 2 7,300 7,400 108,040 2 8,000 7,400 118,400 2 6,500 7,000 91,000 2 7,200 7,000 100,800 Arqueta drenes 1 2,900 2,220 6,438 1 2,500 2,220 5,550 Apoyos-macizos 4 1,000 0,600 2,400 4 0,400 0,600 0,960 Arqueta caudalímetro 4 3,600 4,800 69,120 4 3,000 4,500 54,000 Arqueta toma fondo en vaso 1 8,100 0,300 2,430 2 1,650 0,300 0,990 1 5,500 1,500 8,250 1 2,740 1,500 4,110							21,54
R07HO025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO								Viga fondo 1 24,000 3,260 140,832 drenajes 1 24,000 1,560 28,080 -1 24,000 1,130 -27,120 -1 24,000 0,283 -6,792 -6 24,000 0,020 -2,880 Arqueta toma fondo en vaso 1 8,100 1,650 4,010 1 8,100 0,300 3,645 1 6,520 0,300 5,359 0,5 2,740 0,200 1,500 0,411 Arqueta valvulas 1 7,300 8,000 432,160 -1 6,500 7,200 -327,600 Arqueta drenes 1 2,700 0,200 1,199 Apoyos-macizos 2 1,000 0,400 0,480 Arqueta caudalímetro 1 3,600 3,600 62,208 -1 3,000 3,000 -40,500							273,49
								PATES	Ud Pate de polipropileno colocado PATE DE POLIPROPILENO DE 30 CM * 25 CM COLOCADO. Arqueta valvulas 3 23,000 69,000 Arqueta caudalímetro 1 15,000 15,000						84,00	
								CHA1	m² Tapa de chapa acero galvanizado 2 mm TAPA DE CHAPA ACERO GALVANIZADO 2 MM DE ESPESOR SOPORTADA POR PERFILES HUECOS # 40.2 FORMANDO CUADROS DE 50 CM DE LADO, PARA UNA RESISTENCIA DE 200 KG/M2, COLOCADA, Y PUERTA DE HOMBRE DE ACCESO DE 1M. * 1 M. PROVISTA DE BISAGRAS Y CANDADO Arqueta valvulas 1 8,200 7,500 61,500 Arqueta caudalímetro 1 3,800 3,800 14,440						75,94	
								R07BE06	Ud Anillado metálico pletina acero ANILLADO METÁLICO PARA ESCALERAS DE MANO O PATES REALIZADO MEDIANTE PLETINA DE ACERO CON ANILLO CADA 70 CM DE ALTURA. UNIDAD TOTALMENTE ACABADA. Arqueta valvulas 3 5,000 15,000 Arqueta caudalímetro 1 2,500 2,500						17,50	

MEDICIONES**PROYECTO MODERNIZACIÓN C.R. LANAJA**

CÓDIGO		DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO		DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD				
R07EM020	Kg	Acero S275 JR Para Estructuras ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFIAS DE LAS SOLDADURAS, COLOCADO EN OBRA.																			
		Refuerzo estructura tapa	8	6,900		30,700	1,694,640														
		anclajes, refuerzos,...	0,1	1,694,640			169,464														
		En toma fondo para desbaste																			
		Soportes IPE120	4	2,900		10,400	120,640														
		Apoyo perimetral L40x 4	1	2,900		2,420	7,018														
			1	2,670		2,420	6,461														
			1	4,245		2,420	10,273														
			1	3,300		2,420	7,986														
								2,016,48													
TRAMEX	m ²	Rejilla Tipo TrameX De 30x30 mm Colocada CELOSÍA METÁLICA "TRAMEX", FORMADA POR MALLA DE ACERO 30X30 MM. Y PLETINA 40.3, Y BASTIDOR CON UNIONES ELECTROSOLDADAS, /SOLDADURA Y AJUSTE A OTROS ELEMENTOS, ESTRUCTURA AUXILIAR DE APOYO Y ANCLAJE.																			
		En toma fondo para desbaste	1	3,500	2,900		10,150														
								10,15													
ARQAUTO1	Ud	Arqueta para automata, caseta Hormigón Pref. 2x1x2,1 ARQUETA PARA ALOJAMIENTO DE AUTOMATA TELECONTROL Y BATERIAS DEL SECCIONAMIENTO, CONSISTENTE EN CASETA PREFABRICADA DE HORMIGÓN CON BASE INTEGRADA O PRESOLERA DE HORMIGÓN HM-20, CON UNAS DIMENSIONES INTERIORES ÚTILES DE 2,00X1,00X2,10, CON APERTURA EN EJE VERTICAL DE DOBLE HOJA, PUERTAS EN GALVANIZADO 1,5 MM, NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA EN PUERTAS, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE. INCLUIDO SOPORTES, Y CANDADO, INCLUIDOS TODOS LOS MEDIOS AUXILIARES PARA SU COLOCACIÓN Y CIMENTACIÓN PARA MASTIL CONSISTENTE EN HORMIGÓN EN MASA DE 0,8X0,8X1,2M Y 4 PERNOS DE 16 MM DE DIAMETRO DE ACERO B-500S. INCLUIDOS TUBO DE PE CORRUGADO CON GUÍA PARA CABLEADO A LOS ELEMENTOS (VALVULAS Y CAUDALIMETROS, DOS TUBOS POR ELEMNTO), Y EL DESBROCE O PREPARACIÓN DE TERRENO PARA LA PRESOLERA. TOTALMENTE COLOCADA																			
		Automatización Salida BP1	1				1,000														
								1,00													
G04JU2345	m	Junta Hidroexpansiva JUNTA HIDROEXPANSIVA TIPO MASTERFLEX 610 20*5, INCLUSO PREPARACIÓN DE SUPERFICIES, TOTALMENTE COLOCADA.																			
		En toma vaso	2	10,000			20,000														
								20,00													
									SUBCAPÍTULO 04.03 DESAGÜE DE FONDO												
									APARTADO 04.03.01 MOVIMIENTO DE TIERRAS												
									R01EX010	m ³	Excavación a cielo abierto en Zanjas y Vaciados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.										
									Mediciones auxiliares	1	1,847,750					1,847,750					
																	1,847,75				
									R01RE400	m ³	Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.										
									Mediciones auxiliares	1	105,950					105,950					
										1	38,770				38,770						
																	144,72				
									R01RE030	m ³	Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO.MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.										
									Mediciones auxiliares	1	402,470				402,470						
																	402,47				
									R01RE010	m ³	Relleno Ordinario de Tierras Compactado 85% PN RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.										
									Mediciones auxiliares	1	1,190,660				1,190,660						
																	1,190,66				

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
APARTADO 04.03.02 TUBERÍAS Y VALVULERÍA							
R02TB060	m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUIDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.						
	Desagüe fondo (tramo bajo FV)	1	125,000			125,000	
							125,00
R07PC060-90	m Tubo Hormigón Armado Tipo C-90 DN 600 TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.						
	Desagüe fondo	1	377,264			377,264	
	A deducir por Acero	-1	125,000			-125,000	
							252,26
APARTADO 04.03.03 CALDERERÍA Y PROTECCIÓN CATÓDICA							
MAACD	Kg Acero En Calderería ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM: 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.						
	Desagüe codo						
	600	1	2,500		77,580	193,950	
	Conexión con llenado	1	500,000			500,000	
							693,95
MAPCCII	Ud Anodos protección catódica SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS: - TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2. - ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA. - CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD. - CABLE DE CU RV 0,6/1KV 1*6 MM2. - ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.						
		4				4,000	
							4,00

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
APARTADO 04.03.04 OBRA CIVIL							
R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO						
	Hormigón macizo conexión	1	3,000	3,000	3,000	27,000	
							27,00
R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.						
	Hormigón macizo conexión (20 kg/m3)	1	27,000	20,000		540,000	
							540,00
R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS						
	Hormigón macizo conexión	1	4,000	3,000	3,000	36,000	
							36,00
SUBCAPÍTULO 04.04 ALIVIADERO							
APARTADO 04.04.01 MOVIMIENTO DE TIERRAS							
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vaciados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MARGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.						
	Viga	1	8,000	2,000		16,000	
	Mediciones auxiliares	1	166,410			166,410	
							182,41

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R01RE400	m³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.						
	Mediciones auxiliares	1	13,550			13,550	
		1	5,380			5,380	
							18,93
R01RE030	m³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.						
	Mediciones auxiliares	1	45,380			45,380	
							45,38
R01RE010	m³ Relleno Ordinario de Tierras Compactado 85% PN RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.						
	Mediciones auxiliares	1	86,390			86,390	
							86,39
APARTADO 04.04.02 TUBERÍAS							
R02TB060	m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.						
	Viga-dique	2	8,000			16,000	
							16,00
R07PC060-90	m Tubo Hormigón Armado Tipo C-90 DN 600 TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.						
	Aliviadero	2	29,000			58,000	
	Viga-dique	-2	8,000			-16,000	
							42,00

APARTADO 04.04.03 CALDERERÍA Y PROTECCIÓN CATÓDICA							
CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
MAPCCII	Ud Anodos protección catódica SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4.1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS: - TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2. - ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA. - CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD. - CABLE DE CU RV 0,6/1KV 1*6 MM2. - ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.						
		4				4,000	
							4,00

APARTADO 04.04.04 OBRA CIVIL							
CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO Hormigón limpieza Viga Aliviadero arqueta descarga						
		1	8,000	1,800	0,100	1,440	
		1	10,400	1,400	0,100	1,456	
		1	3,000	1,250	0,100	0,375	
							3,27
R07HO025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO Viga dique Aliviadero arqueta descarga						
		1	8,000	2,000	1,000	16,000	
		-2	8,000	0,280		-4,480	
		1	10,400	1,400	0,200	2,912	
		1	10,000	0,200	1,000	2,000	
		1	10,000	0,200	1,560	3,120	
		2	1,400	0,200	1,280	0,717	
		1	3,000	0,200	1,050	0,630	
		2	0,800	0,200	0,450	0,144	
		1	2,650	0,850	0,200	0,451	
							21,49
R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO. Viga y arqueta (50 kg/m3)						
		1	21,490	50,000		1.074,500	
							1.074,50

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS							SUBCAPÍTULO 04.05 IMPERMEABILIZACIÓN								
	En viga paso dique	2	2,000		1,000	4,000		R01EX010	m³ Excavación a cielo abierto en Zanjas y Vacidados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.							
	Aliviadero	1	10,400		1,760	18,304			anclaje lamina coronación	1	771,000	0,500	0,600	231,300		
		1	10,400		1,200	12,480										
		1	10,000		1,560	15,600										
		1	10,000		1,000	10,000										
		2	1,400		1,480	4,144										
		2	1,000		1,280	2,560										
	Arqueta descarga	1	2,600		1,250	3,250										
		1	2,200		1,050	2,310										
		2	0,800		0,700	1,120										
		2	0,800		0,500	0,800										
		1	2,300		0,200	0,460										
		1	3,300		0,200	0,660										
		2	1,050		0,200	0,420										
							76,11								231,30	
G04JU2345	m Junta Hidroexpansiva JUNTA HIDROEXPANSIVA TIPO MASTERFLEX 610 20*5, INCLUSO PREPARACIÓN DE SUPERFICIES, TOTALMENTE COLOCADA.							R01RE030	m³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO.MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							
	En aliviadero	2	10,200			20,400			anclaje lamina coronación	1	771,000	0,500	0,600	231,300		
		2	1,200			2,400										
							22,80								231,30	
R07EM020	Kg Acero S275 JR Para Estructuras ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA.							DR001	m² Lámina Geotextil 250 GR/M2; 2850 Ncbr GEOTEXTIL FABRICADO A BASE DE FIBRAS SINTÉTICAS DE POLIPROPILENO 100%, NO TEJIDO, DE FILAMENTOS CONTINUOS UNIDOS MECÁNICAMENTE POR UN PROCESO DE AGUJADO, DE RESISTENCIA A PERFORACIÓN CBR NO MENOR DE 2850 N (NORMA UNE-EN 12236), DE PERFORACIÓN A CAÍDA LIBRE DE CONO NO MAYOR DE 20 MM (NORMA EN 918), Y PESO NO INFERIOR A 250 G/M ² (NORMA UNE-EN 965), INCLUSO SOLAPES, TOTALMENTE COLOCADO. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.							
	Reja	100				100,000			Fondo	1	30.818,000			30.818,000		
							100,00		Talud interior	1	733,000	13,460		9.866,180		
EXC03	m³ Construcción escollera, roca 30-60cm APORTE Y COLOCACIÓN DE PIEDRA O CANTOS RODADOS SELECCIONADOS DE PRESTAMOS DE 30 A 60 CM, A UNA DISTANCIA <25 KM. MEDIDA LA UNIDAD TOTALMENTE COLOCADA.								Anclaje lamina	1	771,000	2,150		1.657,650		
	Descarga alivio	1	5,000	4,000	0,600	12,000				1	695,000	1,800		1.251,000		
							12,00		Saneamiento fondo zona gravas, mejora drenes	1	132,000	3,800		501,600		
															44.094,43	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
IM002	m² Lámina Impermeabilizante PEAD 2,0 mm LÁMINA IMPERMEABILIZANTE EN POLIETILENO DE ALTA DENSIDAD, FABRICADA MEDIANTE CALANDRADO EN 7,5 M DE ANCHO SIN SOLDADURAS INTERMEDIAS DE 2,0 MM DE ESPE-SOR, TOTALMENTE INSTALADA Y PROBADA, INCLUSO SOLAPES Y ANCLAJES MECÁNICOS A OBRAS DE FABRICA. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.							R01RE030	m³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXI-MO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO.MEDIDO EL VOLUMEN DE TIE-RRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							
	Fondo	1	30.818,000			30.818,000			Perimetral norte	1	171,000	0,500	1,250	106,875		
	Talud interior	1	733,000	13,460		9.866,180			Perimetral sur	1	187,000	0,500	1,250	116,875		
	Anclaje lámina	1	771,000	2,150		1.657,650										
	En anclaje pie de talud	1	695,000	1,200		834,000										
							43.175,83									
AFBPEADC2	m Anclaje de fondo balsa con lámina PEAD rellenos de grava 6/12 ANCLAJES DE FONDO A BASE DE FUELLES CONFORMADOS CON LÁMINA DE PEAD DE 2 MM DE ESPESOR Y SECCIÓN CON PERIMETRO 1,45 M. DE PESO NO INFERIOR A 175 KG/ML. RE-LLENOS CON ÁRIDO NATURAL LAVADO 6/12 MM. TOTALMENTE COLOCADO. INCLUIDA LA INSTALACIÓN SOBRE LAMINA DE PEAD DE FONDO DE Balsa Y MEDIOS AUXILIARES.							APARTADO 04.06.02 TUBERÍAS								
	En anclaje pie de talud	1	695,000	2,000		1.390,000		PVC160-RAN	m Drenaje Tubería Ranurada PVC DN 160mm, Relleno Mat. Filtrante CONJUNTO ZANJA DRENAJE, MEDIANTE TUBO DRENANTE PERFORADO DE PVC DN 160 MM DE DOBLE PARED, COLOCADO EN ZANJA DE SECCIÓN 0,50 M. DE ANCHURA Y PROFUNDI-DAD MEDIA INFERIOR A 1,0 M., ENVUELTA ÉSTA EN FILTRO DREN A BASE DE GETEXTIL DE 150 GR/M2 Y RELLENA LA ZANJA CON MATERIAL GRANULAR 6/12 MM HASTA 20 CM POR ENCIMA DEL DREN ENVUELTO EN GEOTEXTIL. INCLUIDA PP DE PEQUEÑO MATERIAL Y ELE-MENTOS DE CONEXIÓN A COLECTORES. MEDIDA LA LONGITUD TOTAL FINALMENTE INSTA-LADA Y PROBADA.							
							1.390,00		Perimetral norte	1	142,000			142,000		
										1	171,000			171,000		
									Perimetral sur	1	187,000			187,000		
										1	157,000			157,000		
									Central	2	227,000			454,000		
															1.111,00	
ANCLAJE-COR2	m Anclaje Coronación; Bordillo Tipo T-2 ANCLAJE DE CORONACIÓN EN BALSAS, MEDIANTE LA INSTALACIÓN DE LÍNEA DE BORDILLO TIPO T-2, DE PIEZAS PREFABRICADAS DE HORMIGÓN RECTAS Y CURVAS, COLOCADAS CON MORTERO DE CEMENTO 1:4 ELABORADO EN LA OBRA CON HORMIGONERA DE 165 L. IN-CLUIDO TRANSPORTE Y PUESTA EN OBRA EN CORONACIÓN DE Balsa, EXCAVACIÓN, LA BASE DE HORMIGÓN HM-20 Y TODAS LAS FAENAS PERTINENTES.TOTALMENTE COLOCADO.							PVC110-RAN	m Drenaje Tubería Ranurada PVC DN 110mm, Relleno Mat. Filtrante CONJUNTO ZANJA DRENAJE, MEDIANTE TUBO DRENANTE PERFORADO DE PVC DN 110 MM DE DOBLE PARED, COLOCADO EN ZANJA DE SECCIÓN 0,50 M. DE ANCHURA Y PROFUNDI-DAD MEDIA INFERIOR A 1,0 M., ENVUELTA ÉSTA EN FILTRO DREN A BASE DE GETEXTIL DE 150 GR/M2 Y RELLENA LA ZANJA CON MATERIAL GRANULAR 6/12 MM HASTA 20 CM POR ENCIMA DEL DREN ENVUELTO EN GEOTEXTIL. INCLUIDA PP DE PEQUEÑO MATERIAL Y ELE-MENTOS DE CONEXIÓN A COLECTORES. MEDIDA LA LONGITUD TOTAL FINALMENTE INSTA-LADA Y PROBADA.							
	Anclaje coronación	1	771,000			771,000			Centrales:							
							771,00		Auxiliares	1	111,000			111,000		
										1	105,000			105,000		
															216,00	
SUBCAPÍTULO 04.06 DRENAJE									PVC160P10	m Tubería de PVC DN 160 mm, 10 BAR, Instalada en Zanja TUBO DE PVC NO PLASTIFICADO, DE ESPECIFICACIONES TÉCNICAS SEGÚN NORMA UNE 1452 DE DN. EXTERIOR 160 MM, Y 10 BAR DE PRESIÓN. UNIÓN TIPO FLEXIBLE MEDIANTE JUNTA ENCHUFE CON ANILLA ELASTOMÉRICA DE ESTANQUIDAD DE EPDM LUBRICADA SE-GÚN NORMA UNE-EN 681. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDE-RERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONE-XIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.						
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vacíados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUN-DIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIE-RRRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INS-TALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALI-ZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉC-TRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXIS-TENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VO-LUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.								Perimetral norte	2	30,000			60,000		
										2	30,000			60,000		
									Perimetral sur	2	30,000			60,000		
									Central	2	30,000			60,000		
									Perimetral norte	1	171,000			171,000		
									Perimetral sur	1	187,000			187,000		
															538,13	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
PVC250P10	m Tubería de PVC DN 250 mm, 10 BAR, Instalada en Zanja TUBO DE PVC NO PLASTIFICADO, DE ESPECIFICACIONES TÉCNICAS SEGÚN NORMA UNE 1452 DE DN. EXTERIOR 250 MM, Y 10 BAR DE PRESIÓN. UNIÓN TIPO FLEXIBLE MEDIANTE JUNTA ENCHUFE CON ANILLA ELASTOMÉRICA DE ESTANQUIDAD DE EPDM LUBRICADA SEGÚN NORMA UNE-EN 681. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.						
	Evacuación arqueta desagüe	1	76,000			76,000	
							76,00
SUBCAPÍTULO 04.07 VIALES							
MVTRE023	m³ Terraplén seleccionado mat granular Z30 S/PG3 MATERIAL GRANULAR TIPO ZA30 S/PG3 PUESTO EN OBRA, EXTENDIDO, HUMEDECIDO Y COMPACTADO AL 98% DEL PM EN CAPAS DE 10 CM DE ESPESOR EN BASES DE OBRAS SINGULARES EN VIALES						
	Coronación	1	786,500	4,000	0,200	629,200	
							629,20
SUBCAPÍTULO 04.08 VARIOS							
R04EM010	m Cerramiento Valla Galvanizada h=2 m CERRAMIENTO DE VALLA GALVANIZADA DE 2,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMIENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECCIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.						
	En coronación	1	802,500			802,500	
							802,50
VA001	Ud Elemento Seguridad Balsa ELEMENTO DE SEGURIDAD EN LA Balsa, FORMADO POR CABLE DE NYLON DE 12 MM. DE DIAMETRO CON FLOTADOR Y SUJETO A POSTE ANCLADO EN CORONACION DE Balsa, INCLUSO SUMINISTRO, COLOCACION Y SUJECIONES.						
	En coronación	4				4,000	
							4,00
R04EM010-A	m Cerramiento Valla Galvanizada h=1 m CERRAMIENTO DE VALLA GALVANIZADA DE 1,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMIENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECCIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.						
	Arquetas	1	90,000			90,000	
							90,00

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
CAPÍTULO 05 Balsa ELEVADA (BP2)								
SUBCAPÍTULO 05.01 MOVIMIENTOS DE TIERRAS								
R01DM040	m² Desbroce Y Limpieza Todo Tipo De Terreno Con Transporte DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 30 CM, INCLUIDO LA EXCAVACIÓN, INCLUSO DEFORESTACIÓN Y TALA DE ARBUSTOS Y DE ÁRBOLES DE CUALQUIER TIPO Y DIMENSIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.							
	Desbroce balsa	1	32.977,000			32.977,000		
	Camino acceso dique	1	274,000	5,000		1.370,000		
							34.347,00	
R04AR010	m³ Excavación en Desmonte Todo Tipo de Terreno, Tte D=10 Km EXCAVACIÓN EN DESMONTE CON MEDIOS MECÁNICOS DE TERRENOS DE CUALQUIER NATURALEZA O CONSISTENCIA, INCLUIDAS LAS CAPAS DE ROCA RIPABLES CON POTENCIAS IGUALES A D10 O SIMILAR (447/538 KW), INCLUIDO EL USO DE MARTILLO ROMPEDOR PARA FACILITAR EL RIPADO O ARRANQUE, CON PRESENCIA POR LA TOTALIDAD DE LA ZONA DE EXCAVACIÓN, ADICIONALMENTE ROCA DE MAYOR DUREZA HASTA UN PORCENTAJE MÁXIMO DE UN 10% SOBRE EL VOLUMEN TOTAL EXCAVADO MEDIDO SOBRE TERRENO INALTERADO EN BASE A PERFILES DE TALUDES Y FONDO DE Balsa, INCLUSO TERRENOS DE CONSISTENCIA BLANDA. INCLUIDA LA EXCAVACIÓN SELECTIVA DE LOS MATERIALES PARA EL TERRAPLENADO (SEGÚN ESTUDIO GEOTÉCNICO), CON LA PREPARACIÓN DEL FONDO DE LA EXCAVACIÓN SEGÚN LAS ESPECIFICACIONES RECOGIDAS POR EL ESTUDIO GEOTÉCNICO RECOGIDO EN EL ANEJO 6 DEL PROYECTO, LABRADO O RIPADO DEL FONDO DE EXCAVACIÓN, CON POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA DEL TERRENO UNA VEZ ALCANZADA LA COTA DE FONDO, EN TODA LA ZONA DE ACTUACIÓN. INCLUSO RIPADO PREVIO SEGÚN CARACTERÍSTICAS INDICADAS, CARGA Y TRANSPORTE A TERRAPLÉN, CABALLEO A LUGAR DE EMPLEO O VERTEDERO AUTORIZADO (INCLUIDO CÁNON Y/O TASAS), A DISTANCIA INFERIOR A 10 KM. INCLUIDO EL EXTENDIDO Y PERFILEADO DE TALUDES, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN A ZONAS DE UTILIZACIÓN CON SEPARACIÓN DE ELEMENTOS GRUESOS, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTICULAS DE POLVO A LA ATMÓSFERA. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.							
	Fondo	1	37.746,019			37.746,019		
	Dique	1	28.744,881			28.744,881		
	Camino acceso dique	1	454,724			454,724		
	Saneamiento mejora apoyo cimentación	1	70,000	50,000	2,000	7.000,000		
							73.945,62	
R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación MEZCLA, EXTENDIDO, COMPACTADO Y PERFILEADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.							
	Dique	1	41.246,870			41.246,870		
	Camino acceso dique	1	346,830			346,830		
	Saneamiento mejora apoyo cimentación	1	70,000	50,000	2,000	7.000,000		
							48.593,70	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
TEX005	m ² Refino De Taludes REFINO Y PERFILADO DE TALUDES INTERIORES Y EXTERIORES DE TERRAPLÉN SEGÚN PLANOS, INCLUSO CON LA UTILIZACIÓN DE MEDIOS MANUALES SI SON PRECISOS, ASEGURANDO LA ELIMINACIÓN TOTAL DE ELEMENTOS GRUESOS VISTOS EN SUPERFICIE CON UN TAMAÑO MAYOR A 2 CM O DE FORMA ANGULOSA. EN EL CASO DE NO PODER REALIZAR ESTA ELIMINACIÓN SE INCLUYE ADEMÁS LA EXTENSIÓN, COLOCACIÓN Y COMPACTACIÓN DE UNA CAPA DE 15 CM DE MATERIAL FINO SELECCIONADO Y CRIBADO OBTENIDO DEL MOVIMIENTO DE TIERRAS DE LOS TALUDES Y ACOPIADO DURANTE SU EJECUCIÓN PREVIA PARA TAL FIN. MEDIDA LA SUPERFICIE FINALIZADA Y EJECUTADA FINAL.						
	Fondo	1	11.045,000				11.045,000
	Talud interior	1	639,075	24,230			15.484,787
	Talud exterior	0,5	739,000	20,130			7.438,035

33.967,82

SUBCAPÍTULO 05.02 TOMA DE FONDO

APARTADO 05.02.01 MOVIMIENTO DE TIERRAS

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.						
	Dado	1	3,500	2,800	2,100		20,580
	Viga fondo	1	52,000		10,510		546,520
	Arqueta valvulas	1	12,500	13,200	3,400		561,000
	Arqueta caudalímetro	1	9,000	9,000	3,400		275,400

1.403,50

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R04AR030	m ³ Formación Terraplén Compactado Mat. Procedente de Excavación MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.						
	Viga fondo	1	52,000		10,510		546,520
		-1	52,000		2,450		-127,400
	Arqueta valvulas	1	12,500	13,200	3,400		561,000
		-1	7,800	7,100	3,400		-188,292
	Arqueta caudalímetro	1	9,000	9,000	3,400		275,400
		-1	3,600	3,600	3,400		-44,064

1.023,16

APARTADO 05.02.02 TUBERÍAS Y VALVULERÍA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R02TB100	m TUBERÍA DE ACERO HELICOIDAL ø1016 mm e=10 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1016 MM DE DIÁMETRO Y 10,0 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUIDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.						
	Viga de fondo	1	74,000				74,000

74,00

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R02TB060	m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUIDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.						
	Viga-dique	1	60,000				60,000

60,00

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R05TM120	Ud Carrete desmontaje PN-10/16 DN-1000 CARRETE TELESCÓPICO DE DESMONTAJE DE 1000 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.						
	Toma de fondo	1					1,000

1,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R05TM117	Ud Carrete desmontaje PN-10/16 DN-600 CARRETE TELESCÓPICO DE DESMONTAJE DE 600 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							R05VM1085	Ud Válvula mariposa embridada DN-1000 PN-16 Motorizada VÁLVULA DE MARIPOSA EMBRIDADA, 1000 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL, CON REDUCTOR DESMULTIPLICADOR MOTORIZADO TIPO AUMA O SIMILAR PARA APERTURA Y CIERRE REGULABLE, TOTAL O PARCIAL (NO TODO O NADA), CON ACCIONAMIENTO MANUAL ADICIONAL, PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.						
	By-pass	1				1,000			Toma de fondo	1				1,000	
	Desagüe fondo	1				1,000	2,00								1,00
R05TM111	Ud Carrete desmontaje PN-10/16 DN-150 CARRETE TELESCÓPICO DE DESMONTAJE DE 150 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							R05VM106	Ud Válvula mariposa embridada DN-600 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 600 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.						
	By-pass	1				1,000	1,00		By-pass	2				2,000	
									Desagüe fondo	2				2,000	4,00
R03VE006	Ud Ventosa trifuncional ø150 PN-16 VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							R05VC123	Ud Válvula compuerta ø150 mm PN-16 VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 150 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.						
	Toma fondo	1				1,000	1,00		By-pass	1				1,000	1,00
R03VE005	Ud Ventosa trifuncional ø100 PN-16 VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 100 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 100 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							JTOMA1000	u Jaula de desbaste para Toma de Fondo DN1000 JAULA DE DESBASTE PARA TOMA DE FONDO EN DIÁMETRO 1000 MM. EN ACERO INOXIDABLE AISI-316, CON LUZ DE PASO DE 20 MM ENTRE BARRAS VERTICALES Y ALTURA MÍNIMA DE 1,2 M. INCLUYE PLETINAS, TORNILLERÍA Y PP. DE PEQUEÑO MATERIAL PARA ANCLAJE A HORMIGÓN Y CON LÁMINA PLÁSTICA. MEDIDA LA UNIDAD TOTALMENTE MONTADA Y PROBADA.						
	Desagüe fondo	1				1,000	1,00		Toma de fondo	1				1,000	1,00
								R05EM03	Ud Medidor ultrasónico DN200 - DN4000 PN-10/16 EQUIPO DE MEDIDA DE CAUDAL POR ULTRASONIDOS, PARA DIÁMETRO ENTRE 200 Y 4000 MM, FORMADO POR DOS SONDAS Y CAUDALÍMETRO ULTRASÓNICO MONTADO A LA TUBERÍA, ELECTRÓNICA DE TRATAMIENTO DE SEÑAL 4-20 MA, CONVERTIDOR DE SEÑALES, SENSORES, Y PROTECCIONES SOBRETENSIONES, CABLE TRIAXIAL, INCLUIDO SUMINISTRO, INSTALACIÓN Y PRUEBAS DE FUNCIONAMIENTO.						
									Toma fondo	1				1,000	1,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
APARTADO 05.02.03 CALDERERÍA Y PROTECCIÓN CATÓDICA								R07HO025A	m ³	Hormigón HA-25/B/20/XC2+XA3+SR en obra					
MAACD	Kg Acero En Calderería								HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO						
	ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM; 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.								Viga fondo	1	50,000	3,080	1,400		215,600
	toma de fondo arqueta	1	4.128,300			4.128,300			drenajes	1	50,000	1,550	1,400		108,500
	Por apoyos y demás +10%	0,1	4.128,300			412,830				-1	50,000	0,785			-39,250
							4.541,13			-5	50,000	0,020			-5,000
										-1	50,000	0,283			-14,150
									Dado	1	3,500	2,800	2,000		19,600
										-1	2,500	0,785			-1,963
										-1	2,500	0,283			-0,708
									Arqueta valvulas	1	7,800	7,100	3,300		182,754
										-1	7,200	6,500	3,000		-140,400
									Drenes	1	2,700	0,200	1,500		0,810
									Arqueta caudalímetro	1	3,600	3,600	3,300		42,768
										-1	3,000	3,000	3,000		-27,000
MAPCCII	Ud Anodos protección catódica														341,56
	SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:														
	- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2.								R07EM001	Kg Acero B-500-S					
	- ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA.									ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.					
	- CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD.									Viga de fondo (50 kg/m3)	1	282,629	50,000		14.131,450
	- CABLE DE CU RV 0,6/1KV 1*6 MM2.									Arqueta (75 kg/m3)	1	58,932	75,000		4.419,900
	- ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.														18.551,35
		8				8,000									
							8,00								
APARTADO 05.02.04 OBRA CIVIL								R07EN020	m ²	Encofrado/Desencofrado metálico para hormigón visto					
R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra								ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS						
	HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO									Viga fondo	1	3,080		1,400	4,312
	Viga fondo	1	50,000	2,800	0,100	14,000					1	1,550		0,750	1,163
	drenajes	1	50,000	1,400	0,100	7,000			Dado	1	2,800		2,000	5,600	
	Dado	1	3,500	2,800	0,100	0,980				2	3,800		2,000	15,200	
	Arqueta valvulas	1	8,000	8,000	0,100	6,400			Arqueta valvulas	2	7,800		3,300	51,480	
	Apoyos-macizos	2	1,000	0,400	0,600	0,480				2	7,100		3,300	46,860	
	Arqueta caudalímetro	1	3,800	3,800	0,100	1,444				2	7,200		3,000	43,200	
							30,30			2	6,500		3,000	39,000	
									Arqueta drenes	1	2,500		1,500	3,750	
										1	2,900		1,500	4,350	
									Apoyos-macizos	4	1,000		0,600	2,400	
										4	0,400		0,600	0,960	
									Arqueta caudalímetro	4	3,600		3,300	47,520	
										4	3,000		3,000	36,000	
															301,80
									PATES	Ud Pate de polipropileno colocado					
										PATE DE POLIPROPILENO DE 30 CM * 25 CM COLOCADO.					
										Arqueta valvulas	3	10,000			30,000
										Arqueta caudalímetro	1	10,000			10,000
															40,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
CHA1	m² Tapa de chapa acero galvanizado 2 mm TAPA DE CHAPA ACERO GALVANIZADO 2 MM DE ESPESOR SOPORTADA POR PERFILES HUECOS # 40.2 FORMANDO CUADROS DE 50 CM DE LADO, PARA UNA RESISTENCIA DE 200 KG/M2, COLOCADA, Y PUERTA DE HOMBRE DE ACCESO DE 1M. * 1 M. PROVISTA DE BISAGRAS Y CANDADO							R01RE400	m³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							
	Arqueta valvulas	1	7,300	8,000		58,400			Mediciones auxiliares	1	168,260			168,260		
	Arqueta caudalímetro	1	3,800	3,800		14,440				1	63,750			63,750		
							72,84									
R07EM020	Kg Acero S275 JR Para Estructuras ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA.							R01RE030	m³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAIDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO.MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							232,01
	Refuerzo estructura tapa	8	6,900		30,700	1,694,640										
	anclajes, refuerzos,...	0,1	1,694,640			169,464										
							1.864,10									
ARQAUTO1	Ud Arqueta para automata, caseta Hormigón Pref. 2x1x2,1 ARQUETA PARA ALOJAMIENTO DE AUTOMATA TELECONTROL Y BATERIAS DEL SECCIONAMIENTO, CONSISTENTE EN CASETA PREFABRICADA DE HORMIGÓN CON BASE INTEGRADA O PRESOLERA DE HORMIGÓN HM-20, CON UNAS DIMENSIONES INTERIORES ÚTILES DE 2,00X1,00X2,10, CON APERTURA EN EJE VERTICAL DE DOBLE HOJA, PUERTAS EN GALVANIZADO 1,5 MM, NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA EN PUERTAS, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE. INCLUIDO SOPORTES, Y CANDADO, INCLUIDOS TODOS LOS MEDIOS AUXILIARES PARA SU COLOCACIÓN Y CIMENTACIÓN PARA MASTIL CONSISTENTE EN HORMIGÓN EN MASA DE 0,8X0,8X1,2M Y 4 PERNOS DE 16 MM DE DIAMETRO DE ACERO B-500S. INCLUIDOS TUBO DE PE CORRUGADO CON GUÍA PARA CABLEADO A LOS ELEMENTOS (VALVULAS Y CAUDALIMETROS, DOS TUBOS POR ELEMNTO), Y EL DESBROCE O PREPARACIÓN DE TERRENO PARA LA PRESOLERA. TOTALMENTE COLOCADA							R01RE010	m³ Relleno Ordinario de Tierras Compactado 85% PN RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							
	Automatización Salida BP2	1				1,000			Mediciones auxiliares	1	638,350			638,350		
							1,00								638,35	
															1.307,66	
SUBCAPÍTULO 05.03 DESAGÜE DE FONDO																
APARTADO 05.03.01 MOVIMIENTO DE TIERRAS																
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vacidados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.								R07PC060-90	m Tubo Hormigón Armado Tipo C-90 DN 600 TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.						
									Desagüe fondo	1	493,376			493,376		
									A deducir por C135	-1	70,000			-70,000		
										-1	51,376			-51,376		
															372,00	
								R07PC060-135	m Tubo Hormigón Armado Tipo C-135 DN 600 TUBERÍA DE HORMIGÓN CLASE C-135 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.							
									Desagüe fondo	1	70,000			70,000		
										1	51,376			51,376		
															121,38	
	Mediciones auxiliares	1	2,300,560			2,300,560										
							2.300,56									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
APARTADO 05.03.03 CALDERERÍA Y PROTECCIÓN CATÓDICA								R07EM001	Kg Acero B-500-S							
MAACD	Kg Acero En Calderería								ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.							
	ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM; 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.							Viga y arqueta (50 kg/m3)	1	1,060	50,000			53,000		
	Desagüe codo	600	1	2,500	77,580	193,950	193,95	R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto						53,00	
									ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS							
MAPCCII	Ud Anodos protección catódica								Arqueta descarga	1	2,200		1,050	2,310		
	SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:									1	1,600		0,850	1,360		
	- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2.									2	0,800		0,700	1,120		
	- ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA.									2	0,800		0,500	0,800		
	- CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD.									1	2,300		0,200	0,460		
	- CABLE DE CU RV 0,6/1KV 1*6 MM2.									1	3,300		0,200	0,660		
	- ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.									2	1,050		0,200	0,420		
															7,13	
		4				4,000	4,00	R07EM020	Kg Acero S275 JR Para Estructuras							
									ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA.							
									Reja	100				100,000		
															100,00	
APARTADO 05.03.04 OBRA CIVIL								EXC03	m³ Construcción escollera, roca 30-60cm							
R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra								APORTE Y COLOCACIÓN DE PIEDRA O CANTOS RODADOS SELECCIONADOS DE PRESTAMOS DE 30 A 60 CM, A UNA DISTANCIA <25 KM. MEDIDA LA UNIDAD TOTALMENTE COLOCADA.							
	HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO								Descarga alivio	1	5,000	4,000	0,600	12,000		
	Hormigón limpieza														12,00	
	arqueta descarga	1	2,850	1,250	0,100	0,356	0,36									
R07HO025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra															
	HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO															
	arqueta descarga	1	2,200	0,200	1,050	0,462										
		2	0,800	0,200	0,450	0,144										
		1	2,650	0,850	0,200	0,451	1,06									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
SUBCAPÍTULO 05.04 ALIVIADERO								APARTADO 05.04.02 TUBERÍAS								
APARTADO 05.04.01 MOVIMIENTO DE TIERRAS																
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciadados							R02TB060	m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm							
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES. SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.							TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUIDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.								
	Viga	1	10,000	2,000	1,000		20,000	Viga-dique	2	10,000				20,000		
	Mediciones auxiliares	1	374,480				374,480								20,00	
							394,48									
R01RE400	m ³ Asiento y Relleno Material Granular 6/12 MM							R07PC060-90	m Tubo Hormigón Armado Tipo C-90 DN 600							
	CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.								
	Mediciones auxiliares	1	33,940				33,940	Aliviadero	2	70,745				141,490		
		1	13,480				13,480	Viga-dique	-2	10,000				-20,000		
							47,42								121,49	
R01RE030	m ³ Relleno Seleccionado Compactado 95% PN							APARTADO 05.04.03 CALDERERÍA Y PROTECCIÓN CATÓDICA								
	RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							MAPCCII	Ud Anodos protección catódica							
	Mediciones auxiliares	1	113,690				113,690		SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:							
							113,69		- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2.							
R01RE010	m ³ Relleno Ordinario de Tierras Compactado 85% PN								- ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA.							
	RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.								- CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD.							
	Mediciones auxiliares	1	174,050				174,050		- CABLE DE CU RV 0,6/1KV 1*6 MM2.							
							174,05		- ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.							

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
APARTADO 05.04.04 OBRA CIVIL								G04JU2345	m	Junta Hidroexpansiva					
R07HO020A	m³	Hormigón HM-20/B/20/X0 en obra							JUNTA HIDROEXPANSIVA TIPO MASTERFLEX 610 20*5, INCLUSO PREPARACIÓN DE SUPERFICIES, TOTALMENTE COLOCADA.						
		HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32.5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO							En aliviadero	2	9,200			18,400	
		Hormigón limpieza								2	1,200			2,400	
		Viga	1	10,000	1,800	0,100	1,800								20,80
		Aliviadero	1	9,400	1,400	0,100	1,316	R07EM020	Kg	Acero S275 JR Para Estructuras					
		arqueta descarga	1	3,000	1,250	0,100	0,375		ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA.						
							3,49		Reja	100				100,000	100,000
R07HO025A	m³	Hormigón HA-25/B/20/XC2+XA3+SR en obra						EXC03	m³	Construcción escollera, roca 30-60cm					
		HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32.5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO							APORTE Y COLOCACIÓN DE PIEDRA O CANTOS RODADOS SELECCIONADOS DE PRESTAMOS DE 30 A 60 CM, A UNA DISTANCIA <25 KM. MEDIDA LA UNIDAD TOTALMENTE COLOCADA.						
		Viga dique	1	10,000	2,000	1,200	24,000		Descarga alivio	1	5,000	4,000	0,600	12,000	12,000
			-2	10,000	0,280		-5,600								
		Aliviadero	1	9,400	1,400	0,200	2,632								
			1	9,000	0,200	1,000	1,800								
			1	9,000	0,200	1,560	2,808								
			2	1,400	0,200	1,280	0,717								
		arqueta descarga	1	3,000	0,200	1,050	0,630								
			2	0,800	0,200	0,450	0,144								
			1	2,650	0,850	0,200	0,451								
							27,58								
R07EM001	Kg	Acero B-500-S							SUBCAPÍTULO 05.05 IMPERMEABILIZACIÓN						
		ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.						R01EX010	m³	Excavación a cielo abierto en Zanjas y Vaciados					
		Viga y arqueta (50 kg/m3)	1	27,580	50,000		1,379,000		EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.						
							1,379,00		anclaje lamina coronación	1	707,550	0,500	0,600	212,265	212,27
R07EN020	m²	Encofrado/Desencofrado metálico para hormigón visto						R01RE030	m³	Relleno Seleccionado Compactado 95% PN					
		ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRAnte, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRAntO Y REPASO DE PARAMENTOS							RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAIDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.						
		En viga paso dique	2	2,000		1,000	4,000		anclaje lamina coronación	1	707,550	0,500	0,600	212,265	212,27
		Aliviadero	1	9,400		1,760	16,544								
			1	9,400		1,200	11,280								
			1	9,000		1,560	14,040								
			1	9,000		1,000	9,000								
			2	1,400		1,480	4,144								
			2	1,000		1,280	2,560								
		Arqueta descarga	1	2,600		1,250	3,250								
			1	2,200		1,050	2,310								
			2	0,800		0,700	1,120								
			2	0,800		0,500	0,800								
			1	2,300		0,200	0,460								
			1	3,300		0,200	0,660								
			2	1,050		0,200	0,420								
							70,59								

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
DR001	<p>m² Lámina Geotextil 250 GR/M2; 2850 Ncbr</p> <p>GEOTEXTIL FABRICADO A BASE DE FIBRAS SINTÉTICAS DE POLIPROPILENO 100%, NO TEJIDO, DE FILAMENTOS CONTINUOS UNIDOS MECÁNICAMENTE POR UN PROCESO DE AGUJADO, DE RESISTENCIA A PERFORACIÓN CBR NO MENOR DE 2850 N (NORMA UNE-EN 12236), DE PERFORACIÓN A CAIDA LIBRE DE CONO NO MAYOR DE 20 MM (NORMA EN 918), Y PESO NO INFERIOR A 250 G/M² (NORMA UNE-EN 965), INCLUSO SOLAPES, TOTALMENTE COLOCADO. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.</p>							<p>SUBCAPÍTULO 05.06 DRENAJE</p> <p>APARTADO 05.06.01 MOVIMIENTO DE TIERRAS</p>								
	Fondo	1	11.045,000			11.045,000		R01EX010	m³ Excavación a cielo abierto en Zanjas y Vacados							
	Talud interior	1	639,060	24,230		15.484,424			EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.							
	Anclaje lamina	1	707,550	2,150		1.521,233		Perimetral Norte	1	232,000	0,500	1,250		145,000		
		1	707,550	1,800		1.273,590		Perimetral Sur	1	193,000	0,500	1,250		120,625		
							29.324,25			1	129,000	0,500	1,250	80,625		
								Central	1	131,000	0,500	1,250		81,875		
									1	91,500	0,500	1,250		57,188		
									1	55,000	0,500	1,250		34,375		
								Auxiliares	1	52,000	0,500	0,500		13,000		
									1	32,000	0,500	0,500		8,000		
									1	21,500	0,500	0,500		5,375		
									1	34,000	0,500	0,500		8,500		
							29.077,74								554,56	
IM002	<p>m² Lámina Impermeabilizante PEAD 2,0 mm</p> <p>LÁMINA IMPERMEABILIZANTE EN POLIETILENO DE ALTA DENSIDAD, FABRICADA MEDIANTE CALANDRADO EN 7,5 M DE ANCHO SIN SOLDADURAS INTERMEDIAS DE 2,0 MM DE ESPESOR, TOTALMENTE INSTALADA Y PROBADA, INCLUSO SOLAPES Y ANCLAJES MECÁNICOS A OBRAS DE FABRICA. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.</p>							R01RE030	m³ Relleno Seleccionado Compactado 95% PN							
	Fondo	1	11.045,000			11.045,000			RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAIDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							
	Talud interior	1	639,060	24,230		15.484,424		Central	1	55,000	0,500	1,250		34,375		
	Anclaje lamina	1	707,550	2,150		1.521,233										
	En anclaje pie de talud	1	570,600	1,800		1.027,080										
							29.077,74									
AFBPEADC2	<p>m Anclaje de fondo balsa con lámina PEAD rellenos de grava 6/12</p> <p>ANCLAJES DE FONDO A BASE DE FUELLES CONFORMADOS CON LÁMINA DE PEAD DE 2 MM DE ESPESOR Y SECCIÓN CON PERIMETRO 1,45 M. DE PESO NO INFERIOR A 175 KG/ML. RELLENOS CON ÁRIDO NATURAL LAVADO 6/12 MM. TOTALMENTE COLOCADO. INCLUIDA LA INSTALACIÓN SOBRE LAMINA DE PEAD DE FONDO DE Balsa Y MEDIOS AUXILIARES.</p>															
	En anclaje pie de talud	1	570,600	3,000		1.711,800										
							1.711,80									
ANCLAJE-COR2	<p>m Anclaje Coronación; Bordillo Tipo T-2</p> <p>ANCLAJE DE CORONACIÓN EN BALSAS, MEDIANTE LA INSTALACIÓN DE LÍNEA DE BORDILLO TIPO T-2, DE PIEZAS PREFABRICADAS DE HORMIGÓN RECTAS Y CURVAS, COLOCADAS CON MORTERO DE CEMENTO 1:4 ELABORADO EN LA OBRA CON HORMIGONERA DE 165 L. INCLUIDO TRANSPORTE Y PUESTA EN OBRA EN CORONACIÓN DE Balsa, EXCAVACIÓN, LA BASE DE HORMIGÓN HM-20 Y TODAS LAS FAENAS PERTINENTES. TOTALMENTE COLOCADO.</p>															
	Anclaje coronación	1	707,550			707,550										
							707,55								34,38	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
APARTADO 05.06.02 TUBERÍAS								SUBCAPÍTULO 05.07 VIALES								
PVC160-RAN	m	Drenaje Tubería Ranurada PVC DN 160mm, Relleno Mat. Filtrante							MVTRE023	m ³	Terraplén seleccionado mat granular Z30 S/PG3					
		CONJUNTO ZANJA DRENAJE, MEDIANTE TUBO DRENANTE PERFORADO DE PVC DN 160 MM DE DOBLE PARED, COLOCADO EN ZANJA DE SECCIÓN 0,50 M. DE ANCHURA Y PROFUNDIDAD MEDIA INFERIOR A 1,0 M., ENVUELTA ÉSTA EN FILTRO DREN A BASE DE GETEXTIL DE 150 GR/M2 Y RELLENA LA ZANJA CON MATERIAL GRANULAR 6/12 MM HASTA 20 CM POR ENCIMA DEL DREN ENVUELTO EN GEOTEXTIL. INCLUIDA PP DE PEQUEÑO MATERIAL Y ELEMENTOS DE CONEXIÓN A COLECTORES. MEDIDA LA LONGITUD TOTAL FINALMENTE INSTALADA Y PROBADA.								MATERIAL GRANULAR TIPO ZA30 S/PG3 PUESTO EN OBRA, EXTENDIDO, HUMEDECIDO Y COMPACTADO AL 98% DEL PM EN CAPAS DE 10 CM DE ESPESOR EN BASES DE OBRAS SINGULARES EN VIALES						
										Coronación	1	723,260	4,000	0,200	578,608	
		Perimetral Norte	1	232,000			232,000			Camino acceso	1	274,000	4,000	0,200	219,200	
		Perimetral Sur	1	193,000			193,000									
			1	129,000			129,000									
		Central	1	131,000			131,000									
			1	91,500			91,500									
															797,81	
							776,50									
APARTADO 05.06.03 TUBERÍAS								SUBCAPÍTULO 05.08 VARIOS								
PVC110-RAN	m	Drenaje Tubería Ranurada PVC DN 110mm, Relleno Mat. Filtrante							R04EM010	m	Cerramiento Valla Galvanizada h=2 m					
		CONJUNTO ZANJA DRENAJE, MEDIANTE TUBO DRENANTE PERFORADO DE PVC DN 110 MM DE DOBLE PARED, COLOCADO EN ZANJA DE SECCIÓN 0,50 M. DE ANCHURA Y PROFUNDIDAD MEDIA INFERIOR A 1,0 M., ENVUELTA ÉSTA EN FILTRO DREN A BASE DE GETEXTIL DE 150 GR/M2 Y RELLENA LA ZANJA CON MATERIAL GRANULAR 6/12 MM HASTA 20 CM POR ENCIMA DEL DREN ENVUELTO EN GEOTEXTIL. INCLUIDA PP DE PEQUEÑO MATERIAL Y ELEMENTOS DE CONEXIÓN A COLECTORES. MEDIDA LA LONGITUD TOTAL FINALMENTE INSTALADA Y PROBADA.								CERRAMIENTO DE VALLA GALVANIZADA DE 2,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECCIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.						
										En coronación	1	739,000			739,000	
															739,00	
		Centrales:														
		Auxiliares	1	52,000			52,000									
			1	32,000			32,000									
			1	21,500			21,500									
			1	34,000			34,000									
															3,00	
							139,50									
PVC160P10	m	Tubería de PVC DN 160 mm, 10 BAR, Instalada en Zanja							R04EM010-A	m	Cerramiento Valla Galvanizada h=1 m					
		TUBO DE PVC NO PLASTIFICADO, DE ESPECIFICACIONES TÉCNICAS SEGÚN NORMA UNE 1452 DE DN. EXTERIOR 160 MM, Y 10 BAR DE PRESIÓN. UNIÓN TIPO FLEXIBLE MEDIANTE JUNTA ENCHUFE CON ANILLA ELASTOMÉRICA DE ESTANQUIDAD DE EPDM LUBRICADA SEGÚN NORMA UNE-EN 681. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.								CERRAMIENTO DE VALLA GALVANIZADA DE 1,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECCIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.						
										Arquetas	1	90,000			90,000	
		Perimetral Norte	1	60,000			60,000								90,00	
		Perimetral Sur	1	115,000			115,000									
			1	60,000			60,000									
		Central	1	60,000			60,000									
			1	60,000			60,000									
															355,00	
PVC250P10	m	Tubería de PVC DN 250 mm, 10 BAR, Instalada en Zanja														
		TUBO DE PVC NO PLASTIFICADO, DE ESPECIFICACIONES TÉCNICAS SEGÚN NORMA UNE 1452 DE DN. EXTERIOR 250 MM, Y 10 BAR DE PRESIÓN. UNIÓN TIPO FLEXIBLE MEDIANTE JUNTA ENCHUFE CON ANILLA ELASTOMÉRICA DE ESTANQUIDAD DE EPDM LUBRICADA SEGÚN NORMA UNE-EN 681. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.														
		Evacuación arqueta desagüe	1	270,000			270,000								270,00	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
CAPÍTULO 06 BALSA ELEVADA (BP3)								TEX005	m² Refino De Taludes						
SUBCAPÍTULO 06.01 MOVIMIENTOS DE TIERRAS								REFINO Y PERFILADO DE TALUDES INTERIORES Y EXTERIORES DE TERRAPLÉN SEGÚN PLANOS, INCLUSO CON LA UTILIZACIÓN DE MEDIOS MANUALES SI SON PRECISOS, ASEGURANDO LA ELIMINACIÓN TOTAL DE ELEMENTOS GRUESOS VISTOS EN SUPERFICIE CON UN TAMAÑO MAYOR A 2 CM O DE FORMA ANGULOSA. EN EL CASO DE NO PODER REALIZAR ESTA ELIMINACIÓN SE INCLUYE ADEMÁS LA EXTENSIÓN, COLOCACIÓN Y COMPACTACIÓN DE UNA CAPA DE 15 CM DE MATERIAL FINO SELECCIONADO Y CRIBADO OBTENIDO DEL MOVIMIENTO DE TIERRAS DE LOS TALUDES Y ACOPIADO DURANTE SU EJECUCIÓN PREVIA PARA TAL FIN. MEDIDA LA SUPERFICIE FINALIZADA Y EJECUTADA FINAL.							
R01DM040	m ² Desbroce Y Limpieza Todo Tipo De Terreno Con Transporte							Fondo	1	27.011,000					27.011,000
	DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 30 CM, INCLUIDO LA EXCAVACIÓN, INCLUSO DEFORESTACIÓN Y TALA DE ARBUSTOS Y DE ÁRBOLES DE CUALQUIER TIPO Y DIMENSIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.	1	43.306,000				43.306,000	Talud interior	1	702,750	13,500				9.487,125
	Desbroce balsa	1	43.306,000				43.306,000	Talud exterior	0,5	771,000	13,500				5.204,250
	Camino acceso dique	1	526,000	5,000			2.630,000								
															41.702,38
							45.936,00	SUBCAPÍTULO 06.02 TOMA DE FONDO							
								APARTADO 06.02.01 MOVIMIENTO DE TIERRAS							
R04AR010	m ³ Excavación en Desmorte Todo Tipo de Terreno, Tte D=10 Km							R01EX010	m³ Excavación a cielo abierto en Zanjas y Vacidados						
	EXCAVACIÓN EN DESMONTE CON MEDIOS MECÁNICOS DE TERRENOS DE CUALQUIER NATURALEZA O CONSISTENCIA, INCLUIDAS LAS CAPAS DE ROCA RIPABLES CON POTENCIAS IGUALES A D10 O SIMILAR (447/538 KW), INCLUIDO EL USO DE MARTILLO ROMPEDOR PARA FACILITAR EL RIPADO O ARRANQUE, CON PRESENCIA POR LA TOTALIDAD DE LA ZONA DE EXCAVACIÓN, ADICIONALMENTE ROCA DE MAYOR DUREZA HASTA UN PORCENTAJE MÁXIMO DE UN 10% SOBRE EL VOLUMEN TOTAL EXCAVADO MEDIDO SOBRE TERRENO INALTERADO EN BASE A PERFILES DE TALUDES Y FONDO DE BALSA, INCLUSO TERRENOS DE CONSISTENCIA BLANDA. INCLUIDA LA EXCAVACIÓN SELECTIVA DE LOS MATERIALES PARA EL TERRAPLENADO (SEGÚN ESTUDIO GEOTÉCNICO), CON LA PREPARACIÓN DEL FONDO DE LA EXCAVACIÓN SEGÚN LAS ESPECIFICACIONES RECOGIDAS POR EL ESTUDIO GEOTÉCNICO RECOGIDO EN EL ANEJO 6 DEL PROYECTO, LABRADO O RIPADO DEL FONDO DE EXCAVACIÓN, CON POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENÉRGICA DEL TERRENO UNA VEZ ALCANZADA LA COTA DE FONDO, EN TODA LA ZONA DE ACTUACIÓN. INCLUSO RIPADO PREVIO SEGÚN CARACTERÍSTICAS INDICADAS, CARGA Y TRANSPORTE A TERRAPLÉN, CABALLEO A LUGAR DE EMPLEO O VERTEDERO AUTORIZADO (INCLUIDO CÁNON Y/O TASAS), A DISTANCIA INFERIOR A 10 KM. INCLUIDO EL EXTENDIDO Y PERFILADO DE TALUDES, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN A ZONAS DE UTILIZACIÓN CON SEPARACIÓN DE ELEMENTOS GRUESOS, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.							EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.							
	Fondo	1	138.798,580				138.798,580	Dado	1	3,500	2,900	2,700			27,405
	Dique	1	30.816,620				30.816,620	Viga fondo	1	29,000		19,250			558,250
	Camino acceso dique	1	83,580				83,580	Arqueta v alv ulas	1	16,700	15,400	4,700			1.208,746
	Saneos mejora apoyo cimentación	1	100,000	45,000	2,000		9.000,000	Arqueta caudalímetro	1	9,000	9,000	4,000			324,000
							178.698,78								2.118,40
R04AR030	m ³ Formación Terraplén Compactado Mat. Procedente de Excavación														
	MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.														
	Fondo	1	10.850,280				10.850,280								
	Dique	1	30.878,600				30.878,600								
	Camino acceso dique	1	3.088,040				3.088,040								
	Saneos mejora apoyo cimentación	1	100,000	45,000	2,000		9.000,000								
							53.816,92								

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
R04AR030	<p>m³ Formación Terraplén Compactado Mat. Procedente de Excavación</p> <p>MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.</p>							R05TM117	<p>Ud Carrete desmontaje PN-10/16 DN-600</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 600 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p>							
										By-pass	1			1,000		
										Desagüe fondo	1			1,000		
															2,00	
	Viga fondo	1	29,000		19,250	558,250		R05TM111	<p>Ud Carrete desmontaje PN-10/16 DN-150</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 150 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p>							
		-1	29,000		9,200	-266,800										
	Arqueta valvulas	1	16,700	15,400	4,700	1.208,746										
		-1	7,300	8,700	4,700	-298,497										
	Arqueta caudalímetro	1	9,000	9,000	4,000	324,000										
		-1	3,600	3,600	4,000	-51,840										
							1.473,86									
APARTADO 06.02.02 TUBERÍAS Y VALVULERÍA																
R02TB120	<p>m TUBERÍA DE ACERO HELICOIDAL ø1219 mm e=10,3 mm</p> <p>TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1219 MM DE DIÁMETRO Y 10,3 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.</p>								R03VE006	<p>Ud Ventosa trifuncional ø150 PN-16</p> <p>VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p>						
										By-pass	1			1,000		
															1,00	
	Viga de fondo	1	55,000			55,000										
							55,00									
R02TB060	<p>m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm</p> <p>TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.</p>							R03VE005	<p>Ud Ventosa trifuncional ø100 PN-16</p> <p>VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 100 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 100 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p>							
										Viga de fondo	1			1,000		
															1,00	
	Viga-dique	1	35,000			35,000										
							35,00									
R05TM125	<p>Ud Carrete desmontaje PN-10/16 DN-1200</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 1200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p>															
										Desagüe fondo	1			1,000		
															1,00	
	Viga de fondo	1				1,000										
							1,00									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R05VMM012	<p>Ud Valvula mariposa embridada DN-1200 PN-10 Motorizada</p> <p>VÁLVULA DE MARIPOSA EMBRIDADA, DE 1200 MM DE DIÁMETRO NOMINAL, Y 10 ATM DE PRESIÓN NOMINAL. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, EJE DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI431 Y ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO. EQUIPADA DE ACTUADOR ELÉCTRICO CON MOTOR DE 24VDV CON REDUCTOR PARA ENTREGAR 100NM PAR MAX, ACOPLADO SOBRE BRIDA NORMALIZADA A VÁLVULA. INCLUYE PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. AJUSTE Y PUESTA EN MACHA DE MOTORIZACIÓN. TOTALMENTE INSTALADA Y PROBADA.</p>							APARTADO 06.02.03 CALDERERÍA Y PROTECCIÓN CATÓDICA							
	Viga de fondo	1				1,000		MAACD	Kg	Acero En Calderería					
							1,00			ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM; 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.					
R05VM106	<p>Ud Válvula mariposa embridada DN-600 PN-16</p> <p>VÁLVULA DE MARIPOSA EMBRIDADA 600 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p>														
	By-pass	2				2,000				toma de fondo arqueta	1	5.013,900			5.013,900
	Desagüe fondo	2				2,000				Por apoyos y demás +10%	0,1	5.013,900			501,390
							4,00								5.515,29
R05VC123	<p>Ud Válvula compuerta ø150 mm PN-16</p> <p>VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 150 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p>							MAPCCII	Ud	Anodos protección catódica					
	By-pass	1				1,000				SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:					
							1,00			- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2. - ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA. - CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD. - CABLE DE CU RV 0,6/1KV 1*6 MM2. - ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.					
JTOMA1200	<p>Ud Jaula de desbaste para Toma de Fondo DN1200</p> <p>JAULA DE DESBASTE PARA TOMA DE FONDO EN DIÁMETRO 1200 MM. EN ACERO INOXIDABLE AISI-316, CON LUZ DE PASO DE 30 MM ENTRE BARRAS VERTICALES Y ALTURA MÍNIMA DE 1,2 M. INCLUYE PLETINAS, TORNILLERÍA Y PP. DE PEQUEÑO MATERIAL PARA ANCLAJE A HORMIGÓN Y CON LÁMINA PLÁSTICA. MEDIDA LA UNIDAD TOTALMENTE MONTADA Y PROBADA.</p>									8				8,000	
	Toma de fondo	1				1,000									8,00
							1,00			APARTADO 06.02.04 OBRA CIVIL					
R05EM03	<p>Ud Medidor ultrasónico DN200 - DN4000 PN-10/16</p> <p>EQUIPO DE MEDIDA DE CAUDAL POR ULTRASONIDOS, PARA DIÁMETRO ENTRE 200 Y 4000 MM, FORMADO POR DOS SONDAS Y CAUDALÍMETRO ULTRASÓNICO MONTADO A LA TUBERÍA, ELECTRÓNICA DE TRATAMIENTO DE SEÑAL 4-20 MA, CONVERTIDOR DE SEÑALES, SENSORES, Y PROTECCIONES SOBRETENSIONES, CABLE TRIAXIAL, INCLUIDO SUMINISTRO, INSTALACIÓN Y PRUEBAS DE FUNCIONAMIENTO.</p>							R07HO020A	m ³	Hormigón HM-20/B/20/X0 en obra					
	Toma fondo	1				1,000				HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO					
							1,00			Viga fondo	1	29,000	2,900	0,100	8,410
										drenajes	1	29,000	1,900	0,100	5,510
										Dado	1	3,200	3,700	0,100	1,184
										Arqueta v alv ulas	1	7,500	8,900	0,100	6,675
										Arqueta drenes	1	2,200	1,000	1,500	3,300
										Apoyos-macizos	2	1,000	0,400	0,600	0,480
										Arquets caudalimetro	1	3,800	3,800	0,100	1,444
															27,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
R07HO025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra HORMIGÓN HA-25/B/20/XC2+XA3+SR. CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO							PATES	Ud Pate de polipropileno colocado PATE DE POLIPROPILENO DE 30 CM * 25 CM COLOCADO.							
	Viga fondo	1	29,000	3,260	1,800	170,172			Arqueta valvulas	3	13,000			39,000		
	drenajes	1	29,000	2,000	0,500	29,000			Caudalímetro	1	10,000			10,000		
		-1	29,000	1,130		-32,770									49,00	
		-1	29,000	0,283		-8,207		CHA1	m² Tapa de chapa acero galvanizado 2 mm TAPA DE CHAPA ACERO GALVANIZADO 2 MM DE ESPESOR SOPORTADA POR PERFILES HUECOS # 40.2 FORMANDO CUADROS DE 50 CM DE LADO, PARA UNA RESISTENCIA DE 200 KG/M2, COLOCADA, Y PUERTA DE HOMBRE DE ACCESO DE 1M. * 1 M. PROVISTA DE BISAGRAS Y CANDADO							
	Dado	1	3,200	3,700	2,600	30,784			Arqueta valvulas	1	7,500	8,900		66,750		
		-1	2,500	1,130		-2,825			Caudalímetro	1	3,800	3,800		14,440		
		-1	2,000	0,283		-0,566									81,19	
	Arqueta valvulas	1	7,300	8,700	4,600	292,146										
		-1	6,500	7,900	4,200	-215,670										
	Arqueta drenes	1	2,200	0,200	2,900	1,276		R07EM020	Kg Acero S275 JR Para Estructuras ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA.							
		1	1,200	0,200	2,900	0,696			Refuerzo estructura tapa	8	6,900		30,700	1.694,640		
	Apoyos-macizos	2	1,000	0,400	0,600	0,480			anclajes, refuerzos,...	0,1	1.694,640			169,464		
	Arquets caudalímetro	1	3,600	3,600	3,900	50,544									1.864,10	
		-1	3,000	3,000	3,600	-32,400										
							279,76									
R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.							R07BE06	Ud Anillado metálico pletina acero ANILLADO METÁLICO PARA ESCALERAS DE MANO O PATES REALIZADO MEDIANTE PLETINA DE ACERO CON ANILLO CADA 70 CM DE ALTURA. UNIDAD TOTALMENTE ACABADA.							
	Viga de fondo (50 kg/m3)	1	182,690	50,000		9.134,500			Arqueta toma	3	2,200			6,600		
	Arqueta (75 kg/m3)	1	97,072	75,000		7.280,400									6,60	
							16.414,90	ARQAUTO1	Ud Arqueta para automata, caseta Hormigón Pref. 2x1x2,1 ARQUETA PARA ALOJAMIENTO DE AUTOMATA TELECONTROL Y BATERIAS DEL SECCIONAMIENTO, CONSISTENTE EN CASETA PREFABRICADA DE HORMIGÓN CON BASE INTEGRADA O PRESOLERA DE HORMIGÓN HM-20, CON UNAS DIMENSIONES INTERIORES ÚTILES DE 2,00X1,00X2,10, CON APERTURA EN EJE VERTICAL DE DOBLE HOJA, PUERTAS EN GALVANIZADO 1,5 MM, NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA EN PUERTAS, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE. INCLUIDO SOPORTES, Y CANDADO, INCLUIDOS TODOS LOS MEDIOS AUXILIARES PARA SU COLOCACIÓN Y CIMENTACIÓN PARA MASTIL CONSISTENTE EN HORMIGÓN EN MASA DE 0,8X0,8X1,2M Y 4 PERNOS DE 16 MM DE DIAMETRO DE ACERO B-500S. INCLUIDOS TUBO DE PE CORRUGADO CON GUÍA PARA CABLEADO A LOS ELEMENTOS (VALVULAS Y CAUDALIMETROS, DOS TUBOS POR ELEMNTO), Y EL DESBROCE O PREPARACIÓN DE TERRENO PARA LA PRESOLERA. TOTALMENTE COLOCADA							
R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS								Automatización Salida BP3	1				1,000		
	Viga fondo	1	3,260		1,800	5,868									1,00	
		1	2,000		0,500	1,000										
	Dado	1	3,200		2,600	8,320										
		2	3,213		2,600	16,708										
	Arqueta valvulas	2	7,300		4,600	67,160										
		2	8,700		4,600	80,040										
		2	6,500		4,200	54,600										
		2	7,900		4,200	66,360									1,00	
	Arqueta drenes	1	3,200		2,900	9,280										
		1	3,600		2,900	10,440										
	Apoyos-macizos	4	1,000		0,600	2,400										
		4	0,400		0,600	0,960										
	Arqueta caudalímetro	4	3,600		3,900	56,160										
		4	3,000		3,600	43,200										
							422,50									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
SUBCAPÍTULO 06.03 DESAGÜE DE FONDO								APARTADO 06.03.02 TUBERÍAS Y VALVULERÍA								
APARTADO 06.03.01 MOVIMIENTO DE TIERRAS								APARTADO 06.03.03 CALDERERÍA Y PROTECCIÓN CATÓDICA								
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciadados							R07PC060-90	m Tubo Hormigón Armado Tipo C-90 DN 600							
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.							TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.								
	Mediciones auxiliares	1	657,200				657,200	Desagüe fondo	1	140,480					140,480	
							657,20								140,48	
R01RE400	m ³ Asiento y Relleno Material Granular 6/12 MM							MAACD	Kg Acero En Calderería							
	CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM: 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM: 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.								
	Mediciones auxiliares	1	58,720				58,720	Desagüe codo	600	1	2,500			77,580	193,950	
		1	22,900				22,900								193,95	
							81,62									
R01RE030	m ³ Relleno Seleccionado Compactado 95% PN							MAPCCII	Ud Anodos protección catódica							
	RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:								
	Mediciones auxiliares	1	222,540				222,540	- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2.								
							222,54	- ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA.								
								- CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD.								
								- CABLE DE CU RV 0,6/1KV 1*6 MM2.								
								- ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.								
									4						4,000	
															4,00	
R01RE010	m ³ Relleno Ordinario de Tierras Compactado 85% PN															
	RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.															
	Mediciones auxiliares	1	333,180				333,180									
							333,18									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD					
APARTADO 06.03.04 OBRA CIVIL								SUBCAPÍTULO 06.04 ALIVIADERO												
APARTADO 06.04.01 MOVIMIENTO DE TIERRAS																				
R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO 1-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO Hormigón limpieza arqueta descarga	1	2,850	1,250	0,100	0,356	0,36	R01EX010	m³ Excavación a cielo abierto en Zanjas y Vacíados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO. Mediciones auxiliares Viga	1	208,350			208,350	1	10,000	2,000	1,000	20,000	228,35
R07HO025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO 1-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO arqueta descarga	1 2 1	2,200 0,800 2,650	0,200 0,200 0,850	1,050 0,450 0,200	0,462 0,144 0,451	1,06	R01RE400	m³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. Mediciones auxiliares	1	26,270			26,270	1	10,430		10,430	36,70	
R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC., COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC., SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO. Viga y arqueta (50 kg/m3)	1	1,060	50,000		53,000	53,00	R01RE030	m³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. Mediciones auxiliares	1	87,990			87,990				87,99		
R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS Arqueta descarga	1 1 2 2 1 1 2	2,200 1,600 0,800 0,800 2,300 3,300 1,050		1,050 0,850 0,700 0,500 0,200 0,200 0,200	2,310 1,360 1,120 0,800 0,460 0,660 0,420	7,13	R01RE010	m³ Relleno Ordinario de Tierras Compactado 85% PN RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. Mediciones auxiliares	1	71,530			71,530				71,53		
R07EM020	Kg Acero S275 JR Para Estructuras ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA. Reja	100				100,000	100,00													
EXC03	m³ Construcción escollera, roca 30-60cm APORTE Y COLOCACIÓN DE PIEDRA O CANTOS RODADOS SELECCIONADOS DE PRÉSTAMOS DE 30 A 60 CM, A UNA DISTANCIA <25 KM. MEDIDA LA UNIDAD TOTALMENTE COLOCADA. Descarga alívio	1	5,000	4,000	0,600	12,000	12,00													

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
APARTADO 06.04.02 TUBERÍAS								APARTADO 06.04.04 OBRA CIVIL							
R02TB060	m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm							R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra						
	TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUIDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.							HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO							
	Viga-dique	2	22,000			44,000		Hormigón limpieza							
							44,00	Viga	1	8,000	1,800	0,100		1,440	
R07PC060-90	m Tubo Hormigón Armado Tipo C-90 DN 600							Aliviadero	1	10,400	1,400	0,100		1,456	
	TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.							arqueta descarga	1	3,000	1,250	0,100		0,375	
	Aliviadero	2	55,026			110,052									
	Viga-dique	-2	22,000			-44,000									
							66,05								
APARTADO 06.04.03 CALDERERÍA Y PROTECCIÓN CATÓDICA								APARTADO 06.04.04 OBRA CIVIL							
MAPCCII	Ud Anodos protección catódica							R07HO025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra						
	SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:							HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO							
	- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2.							Viga dique	1	8,000	2,000	1,200		19,200	
	- ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA.								-2	8,000	0,280			-4,480	
	- CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD.							Aliviadero	1	10,400	1,400	0,200		2,912	
	- CABLE DE CU RV 0,6/1KV 1*6 MM2.								1	10,000	0,200	1,000		2,000	
	- ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.								1	10,000	0,200	1,560		3,120	
		4				4,000			2	1,400	0,200	1,280		0,717	
							4,00	arqueta descarga	1	3,000	0,200	1,050		0,630	
									2	0,800	0,200	0,450		0,144	
									1	2,650	0,850	0,200		0,451	
															24,69
								R07EM001	Kg Acero B-500-S						
								ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.							
								Viga y arqueta (50 kg/m3)	1	24,690	50,000			1.234,500	
															1.234,50
								R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto						
								ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS							
								En viga paso dique	2	2,000		1,000		4,000	
								Aliviadero	1	10,400		1,760		18,304	
									1	10,400		1,200		12,480	
									1	10,000		1,560		15,600	
									1	10,000		1,000		10,000	
									2	1,400		1,480		4,144	
									2	1,000		1,280		2,560	
								Arqueta descarga	1	2,600		1,250		3,250	
									1	2,200		1,050		2,310	
									2	0,800		0,700		1,120	
									2	0,800		0,500		0,800	
									1	2,300		0,200		0,460	
									1	3,300		0,200		0,660	
									2	1,050		0,200		0,420	
															76,11

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
G04JU2345	m Junta Hidroexpansiva JUNTA HIDROEXPANSIVA TIPO MASTERFLEX 610 20*5, INCLUSO PREPARACIÓN DE SUPERFICIES, TOTALMENTE COLOCADA. En aliviadero	2 2	10,200 1,200			20,400 2,400	22,80	DR001	m² Lámina Geotextil 250 GR/M2: 2850 Ncbr GEOTEXTIL FABRICADO A BASE DE FIBRAS SINTÉTICAS DE POLIPROPILENO 100%, NO TEJIDO, DE FILAMENTOS CONTINUOS UNIDOS MECÁNICAMENTE POR UN PROCESO DE AGUJADO, DE RESISTENCIA A PERFORACIÓN CBR NO MENOR DE 2850 N (NORMA UNE-EN 12236), DE PERFORACIÓN A CAÍDA LIBRE DE CONO NO MAYOR DE 20 MM (NORMA EN 918), Y PESO NO INFERIOR A 250 G/M² (NORMA UNE-EN 965), INCLUSO SOLAPES, TOTALMENTE COLOCADO. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.						
R07EM020	Kg Acero S275 JR Para Estructuras ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA. Reja	100				100,000	100,00		Fondo Talud interior Anclaje lamina Anclaje pie talud	1 1 1 1	27.011,000 702,780 739,550 666,000	 13,500 2,150 1,800		27.011,000 9.487,530 1.590,033 1.198,800	39.287,36
EXC03	m³ Construcción escollera, roca 30-60cm APORTE Y COLOCACIÓN DE PIEDRA O CANTOS RODADOS SELECCIONADOS DE PRESTAMOS DE 30 A 60 CM, A UNA DISTANCIA <25 KM. MEDIDA LA UNIDAD TOTALMENTE COLOCADA. Descarga alivio	1	5,000	4,000	0,600	12,000	12,00	IM002	m² Lámina Impermeabilizante PEAD 2,0 mm LÁMINA IMPERMEABILIZANTE EN POLIETILENO DE ALTA DENSIDAD, FABRICADA MEDIANTE CALANDRADO EN 7,5 M DE ANCHO SIN SOLDADURAS INTERMEDIAS DE 2,0 MM DE ESPESOR, TOTALMENTE INSTALADA Y PROBADA, INCLUSO SOLAPES Y ANCLAJES MECÁNICOS A OBRAS DE FABRICA. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.	1	27.011,000			27.011,000	
SUBCAPÍTULO 06.05 IMPERMEABILIZACIÓN															
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vaciados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO. anclaje lamina coronación	1	739,550	0,500	0,600	221,865	221,87	AFBPEADC2	m Anclaje de fondo balsa con lámina PEAD rellenos de grava 6/12 ANCLAJES DE FONDO A BASE DE FUELLES CONFORMADOS CON LÁMINA DE PEAD DE 2 MM DE ESPESOR Y SECCIÓN CON PERIMETRO 1,45 M. DE PESO NO INFERIOR A 175 KG/ML. RELLENOS CON ÁRIDO NATURAL LAVADO 6/12 MM. TOTALMENTE COLOCADO. INCLUIDA LA INSTALACIÓN SOBRE LAMINA DE PEAD DE FONDO DE Balsa Y MEDIOS AUXILIARES. En anclaje pie de talud	1	666,000	2,000		1.332,000	1.332,00
								ANCLAJE-COR2	m Anclaje Coronación; Bordillo Tipo T-2 ANCLAJE DE CORONACIÓN EN BALSAS, MEDIANTE LA INSTALACIÓN DE LÍNEA DE BORDILLO TIPO T-2, DE PIEZAS PREFABRICADAS DE HORMIGÓN RECTAS Y CURVAS, COLOCADAS CON MORTERO DE CEMENTO 1:4 ELABORADO EN LA OBRA CON HORMIGONERA DE 165 L. INCLUIDO TRANSPORTE Y PUESTA EN OBRA EN CORONACIÓN DE Balsa, EXCAVACIÓN, LA BASE DE HORMIGÓN HM-20 Y TODAS LAS FAENAS PERTINENTES. TOTALMENTE COLOCADO. Anclaje coronación	1	739,550			739,550	739,55
R01RE030	m³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. anclaje lamina coronación	1	739,550	0,500	0,600	221,865	221,87								

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD				
SUBCAPÍTULO 06.06 DRENAJE								PVC110-RAN	m	Drenaje Tubería Ranurada PVC DN 110mm, Relleno Mat. Filtrante									
APARTADO 06.06.01 MOVIMIENTO DE TIERRAS								<p>CONJUNTO ZANJA DRENAJE, MEDIANTE TUBO DRENANTE PERFORADO DE PVC DN 110 MM DE DOBLE PARED, COLOCADO EN ZANJA DE SECCIÓN 0,50 M. DE ANCHURA Y PROFUNDIDAD MEDIA INFERIOR A 1,0 M., ENVUELTA ÉSTA EN FILTRO DREN A BASE DE GETEXTIL DE 150 GR/M2 Y RELLENA LA ZANJA CON MATERIAL GRANULAR 6/12 MM HASTA 20 CM POR ENCIMA DEL DREN ENVUELTO EN GEOTEXTIL. INCLUIDA PP DE PEQUEÑO MATERIAL Y ELEMENTOS DE CONEXIÓN A COLECTORES. MEDIDA LA LONGITUD TOTAL FINALMENTE INSTALADA Y PROBADA.</p> <p>Centrales: Auxiliares</p>											
R01EX010	m³	Excavación a cielo abierto en Zanjas y Vaciados																	
		EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES. SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.																	
		Perimetral Oeste	1	321,000	0,500	1,250	200,625												
		Perimetral Este	1	325,000	0,500	1,250	203,125												
		Central	1	115,000	0,500	1,250	71,875												
			1	172,000	0,500	1,250	107,500												
			1	156,000	0,500	1,250	97,500												
		Auxiliares	1	81,500	0,500	0,500	20,375												
			1	65,000	0,500	0,500	16,250												
			1	94,500	0,500	0,500	23,625												
			1	72,500	0,500	0,500	18,125												
																313,50			
								PVC160P10	m	Tubería de PVC DN 160 mm, 10 BAR, Instalada en Zanja									
		TUBO DE PVC NO PLASTIFICADO, DE ESPECIFICACIONES TÉCNICAS SEGÚN NORMA UNE 1452 DE DN. EXTERIOR 160 MM, Y 10 BAR DE PRESIÓN. UNIÓN TIPO FLEXIBLE MEDIANTE JUNTA ENCHUFE CON ANILLA ELASTOMÉRICA DE ESTANQUIDAD DE EPDM LUBRICADA SEGÚN NORMA UNE-EN 681. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.																	
		Perimetral Oeste	1	35,000			35,000												
		Perimetral Este	1	35,000			35,000												
		Central	1	35,000			35,000												
			1	35,000			35,000												
			1	35,000			35,000												
																175,00			
								PVC250P10	m	Tubería de PVC DN 250 mm, 10 BAR, Instalada en Zanja									
		TUBO DE PVC NO PLASTIFICADO, DE ESPECIFICACIONES TÉCNICAS SEGÚN NORMA UNE 1452 DE DN. EXTERIOR 250 MM, Y 10 BAR DE PRESIÓN. UNIÓN TIPO FLEXIBLE MEDIANTE JUNTA ENCHUFE CON ANILLA ELASTOMÉRICA DE ESTANQUIDAD DE EPDM LUBRICADA SEGÚN NORMA UNE-EN 681. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.																	
		Evacuación arqueta desagüe	1	150,000			150,000												
		Perimetral Oeste	1	321,000			321,000												
		Perimetral Este	1	325,000			325,000												
		Central	1	115,000			115,000												
			1	172,000			172,000												
			1	156,000			156,000												
																150,00			
																1.089,00			

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
SUBCAPÍTULO 06.07 VIALES								CAPÍTULO 07 ESTACIÓN DE BOMBEO								
SUBCAPÍTULO 06.08 VARIOS								SUBCAPÍTULO 07.01 MOVIMIENTO DE TIERRAS								
MVTRE023	m³	Terraplén seleccionado mat granular Z30 S/PG3							R01DM040	m²	Desbroce Y Limpieza Todo Tipo De Terreno Con Transporte					
		MATERIAL GRANULAR TIPO ZA30 S/PG3 PUESTO EN OBRA, EXTENDIDO, HUMEDECIDO Y COMPACTADO AL 98% DEL PM EN CAPAS DE 10 CM DE ESPESOR EN BASES DE OBRAS SINGULARES EN VIALES									DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 30 CM, INCLUIDO LA EXCAVACIÓN, INCLUSO DEFORESTACIÓN Y TALA DE ARBUSTOS Y DE ÁRBOLES DE CUALQUIER TIPO Y DIMENSIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.					
		Coronación	1	755,260	4,000	0,200	604,208			explanada	1	4.240,000			4.240,000	
		Camino acceso	1	526,000	4,000	0,200	420,800								4.240,00	
							1.025,01									
R04EM010	m	Cerramiento Valla Galvanizada h=2 m							R04AR010	m³	Excavación en Desmonte Todo Tipo de Terreno, Tte D=10 Km					
		CERRAMIENTO DE VALLA GALVANIZADA DE 2,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMIENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECCIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.									EXCAVACIÓN EN DESMONTE CON MEDIOS MECÁNICOS DE TERRENOS DE CUALQUIER NATURALEZA O CONSISTENCIA, INCLUIDAS LAS CAPAS DE ROCA RIPABLES CON POTENCIAS IGUALES A D10 O SIMILAR (447/538 KW), INCLUIDO EL USO DE MARTILLO ROMPEDOR PARA FACILITAR EL RIPADO O ARRANQUE, CON PRESENCIA POR LA TOTALIDAD DE LA ZONA DE EXCAVACIÓN, ADICIONALMENTE ROCA DE MAYOR DUREZA HASTA UN PORCENTAJE MÁXIMO DE UN 10% SOBRE EL VOLUMEN TOTAL EXCAVADO MEDIDO SOBRE TERRENO INALTERADO EN BASE A PERFILES DE TALUDES Y FONDO DE Balsa, INCLUSO TERRENOS DE CONSISTENCIA BLANDA. INCLUIDA LA EXCAVACIÓN SELECTIVA DE LOS MATERIALES PARA EL TERRAPLENADO (SEGÚN ESTUDIO GEOTÉCNICO), CON LA PREPARACIÓN DEL FONDO DE LA EXCAVACIÓN SEGÚN LAS ESPECIFICACIONES RECOGIDAS POR EL ESTUDIO GEOTÉCNICO RECOGIDO EN EL ANEJO 6 DEL PROYECTO, LABRADO O RIPADO DEL FONDO DE EXCAVACIÓN, CON POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA DEL TERRENO UNA VEZ ALCANZADA LA COTA DE FONDO, EN TODA LA ZONA DE ACTUACIÓN. INCLUSO RIPADO PREVIO SEGÚN CARACTERÍSTICAS INDICADAS, CARGA Y TRANSPORTE A TERRAPLÉN, CABALLEO A LUGAR DE EMPLEO O VERTEDERO AUTORIZADO (INCLUIDO CÁNON Y/O TASAS), A DISTANCIA INFERIOR A 10 KM. INCLUIDO EL EXTENDIDO Y PERFILADO DE TALUDES, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN A ZONAS DE UTILIZACIÓN CON SEPARACIÓN DE ELEMENTOS GRUESOS, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTICULAS DE POLVO A LA ATMÓSFERA. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.					
		En coronación	1	771,000			771,000			Explanada	1	564,548			564,548	
							771,00								564,55	
VA001	Ud	Elemento Seguridad Balsa							R04AR030	m³	Formación Terraplén Compactado Mat. Procedente de Excavación					
		ELEMENTO DE SEGURIDAD EN LA Balsa, FORMADO POR CABLE DE NYLON DE 12 MM. DE DIAMETRO CON FLOTADOR Y SUJETO A POSTE ANCLADO EN CORONACION DE Balsa, INCLUSO SUMINISTRO, COLOCACION Y SUJECIONES.									MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.					
		En coronación	3				3,000			Explanada	1	1.220,126			1.220,126	
							3,00								1.220,13	
R04EM010-A	m	Cerramiento Valla Galvanizada h=1 m														
		CERRAMIENTO DE VALLA GALVANIZADA DE 1,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMIENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECCIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.														
		Arquetas	1	90,000			90,000									
							90,00									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vaciados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.							R01RE030	m³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.						
	Zapatillas tipo 1	4	2,000	2,000	2,000		32,000		Drenes DN 110	1	50,000	0,400	0,300		6,000
	Zapatillas tipo 2	18	2,200	3,400	2,000		269,280		Alivio	1	64,000	0,400	0,300		7,680
	Zapatillas tipo 3	4	2,400	1,600	2,000		30,720			1	15,000	0,400	0,300		1,800
	Riostras	16	3,800	0,400	0,500		12,160			1	3,000	0,400	0,300		0,360
		4	3,900	0,400	0,500		3,120		Desagüe filtro	1	57,000	0,400	0,500		11,400
		4	5,200	0,400	0,500		4,160		Drenajes	1	17,000	0,400	0,300		2,040
		2	5,400	0,400	0,500		2,160			1	12,000	0,400	0,300		1,440
	Alivio	1	64,000	0,400	0,400		10,240		Colector evacuación arqueta drenes	1	41,000	0,600	1,400		34,440
		1	15,000	0,400	0,400		2,400								
		1	3,000	0,400	0,400		0,480								
	Desagüe filtro	1	57,000	0,400	0,600		13,680								
	Drenajes	1	17,000	0,400	0,400		2,720								
		1	12,000	0,400	0,400		1,920								
	Colector evacuación arqueta drenes	1	41,000	0,600	1,500		36,900								
								421,94							
MVTRE023	m³ Terraplén seleccionado mat granular Z30 S/PG3 MATERIAL GRANULAR TIPO ZA30 S/PG3 PUESTO EN OBRA, EXTENDIDO, HUMEDECIDO Y COMPACTADO AL 98% DEL PM EN CAPAS DE 10 CM DE ESPESOR EN BASES DE OBRAS SINGULARES EN VIALES								SUBCAPÍTULO 07.02 ESTRUCTURAS						
	Capa acabado	1	4.240,000		0,200		848,000		R07EM020	Kg Acero S275 JR Para Estructuras ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA.					
		-1	60,000	21,000	0,200		-252,000			Estructura edificio					
								596,00		Pilares esquina HEB200	4	6,000	61,300		1.471,200
										Pilares hastiales HEB200	4	6,700	61,300		1.642,840
										Pilares centrales HEB300	18	6,000	117,000		12.636,000
										Mensulas puente IPE200	22	0,500	28,500		313,500
										Dinteles IPE220	4	10,550	26,200		1.105,640
										IPE360	18	10,550	57,100		10.843,290
										Cartelas IPE220	4	0,600	26,200	0,500	31,440
										IPE360	18	3,100	57,100	0,500	1.593,090
										Rigidizadores	18	6,000	0,900	4,000	388,800
										2	8,000	0,600	4,000	38,400	
										Arriostros					
										IPE160	5	60,000	15,800		4.740,000
										R20	3	100,000	2,550		765,000
										Placas anclaje					
										Tipo 1	4	11,540			46,160
										Tipo 2	18	28,620			515,160
										Tipo 3	4	11,540			46,160
										Correas CF 225x3.0	22	60,400	8,210		10.909,448
										Pasarela E.B	40	50,000	2,000		4.000,000
															51.086,13
R01RE400	m³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.														
	Alivio	1	64,000	0,400	0,100		2,560								
		1	15,000	0,400	0,100		0,600								
		1	3,000	0,400	0,100		0,120								
	Desagüe filtro	1	57,000	0,400	0,100		2,280								
	Drenajes	1	17,000	0,400	0,100		0,680								
		1	12,000	0,400	0,100		0,480								
	Colector evacuación arqueta drenes	1	41,000	0,600	0,100		2,460								
								9,18							

65,16

51.086,13

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
SUBCAPÍTULO 07.03 CIMENTACIÓN Y SOLERAS								R07EM001	Kg	Acero B-500-S						
R07HO020A	m³	Hormigón HM-20/B/20/X0 en obra								ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.						
		HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO 1:32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO														
		Hormigón limpieza riostras														
		Zapatas tipo 1	4	2,000	2,000	1,000	16,000		Zapatas							
		Zapatas tipo 2	18	2,200	3,400	1,000	134,640		Tipo 1	4	2,500	28,000	1,630	456,400		
		Zapatas tipo 3	4	2,400	1,600	1,000	15,360			4	3,760	28,000	1,630	686,426		
		Riostras	16	3,800	0,400	0,100	2,432		Tipo 2	18	2,700	23,000	1,630	1.822,014		
			4	3,900	0,400	0,100	0,624			18	3,960	23,000	1,630	2.672,287		
			4	5,200	0,400	0,100	0,832			18	3,900	15,000	1,630	1.716,390		
			2	5,400	0,400	0,100	0,432			18	5,160	15,000	1,630	2.270,916		
		Zocalo perimetral	2	60,500	0,300	0,200	7,260		Tipo 3	4	2,900	11,000	1,630	207,988		
			2	21,500	0,300	0,200	2,580			4	4,160	11,000	1,630	298,355		
										4	2,100	16,000	1,630	219,072		
							180,16			4	3,360	16,000	1,630	350,515		
R07HO025A	m³	Hormigón HA-25/B/20/XC2+XA3+SR en obra								Riostras	2	60,000	4,000	0,888	426,240	
		HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO 1:32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO									2	21,000	4,000	0,888	149,184	
		Zapatas tipo 1	4	2,000	2,000	1,000	16,000			2	1,750	200,000	0,395	276,500		
		Zapatas tipo 2	18	2,200	3,400	1,000	134,640			2	1,750	70,000	0,395	96,775		
		Zapatas tipo 3	4	2,400	1,600	1,000	15,360		Pernos anclaje	4	1,000	2,000	2,550	20,400		
		Riostras	16	3,800	0,400	0,400	9,728			18	1,000	2,000	2,550	91,800		
			4	3,900	0,400	0,400	2,496			4	1,000	2,000	2,550	20,400		
			4	5,200	0,400	0,400	3,328		Extra 10% (solapes, anclajes, refuerzos,...)	0,1	11.781,660			1.178,166		
			2	5,400	0,400	0,400	1,728									
							183,28							12.959,83		
								MTHAPAV35	m²	Pavimento Cont. Hormigón Fratasado HA-25 e=20 cm armado						
										PAVIMENTO CONTINUO DE HORMIGÓN HA-25/B/20/XC2, DE 20 CM. DE ESPESOR, ARMADO CON MALLAZO DE ACERO 20X20X6, ACABADO SUPERFICIAL FRATASADO, VPREPARACIÓN DE LA BASE, EXTENDIDO, REGLEADO, VIBRADO, FRATASADO, CURADO, APORTACIÓN DE MORTERO DE CUARZO PARA ACABADO, CORTE DE LA SOLERA EN CUADRICULAS Y EN ZONA DE APOYO DE PILARES, LÁMINA PLÁSTICA BAJO LOSA CONTRA RADÓN, Y P.P.. DE JUNTAS.						
										Solera	1	60,000	21,000	1.260,000		
														1.260,00		
R07EN050	m²	Encofrado/Desencofrado metálico para hormigón oculto														
		ENCOFRADO Y DESENCOFRADO RECTO PARA DEJAR HORMIGÓN OCULTO, MEDIANTE LA UTILIZACIÓN DE PANELES METÁLICOS A UNA CARA, INCLUSO ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS.														
		Solera nave	2	13,000		0,200	5,200									
			2	8,000		0,200	3,200									
		Zapatas tipo 1	4	2,000	2,000	1,000	16,000									
			4	2,000	2,000	1,000	16,000									
		Zapatas tipo 2	18	2,200	2,000	1,000	79,200									
			18	3,400	2,000	1,000	122,400									
		Zapatas tipo 3	4	2,400	2,000	1,000	19,200									
			4	1,600	2,000	1,000	12,800									
		Riostras	16	3,800	2,000	0,400	48,640									
			4	3,900	2,000	0,400	12,480									
			4	5,200	2,000	0,400	16,640									
			2	5,400	2,000	0,400	8,640									
		Zocalo perimetral	2	60,500		0,200	24,200									
			2	21,500		0,200	8,600									
							393,20									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
SUBCAPÍTULO 07.04 CERRAMIENTOS								SUBCAPÍTULO 07.05 ALBAÑILERÍA Y CARPINTERÍA							
PANEL1	m ² Panel de cerramiento de cubierta tipo sandwich 30mm							R07CA130	m ² Puerta doble chapa acero						
	CUBIERTA COMPLETA FORMADA POR PANEL DE 30 MM DE ESPESOR TOTAL CONFORMADO CON DOBLE CHAPA DE ACERO DE 0,5 MM DE ESPESOR PERFIL NERVADO, LACADO AL EXTERIOR Y GALVANIZADO EL INTERIOR, CON RELLENO INTERMEDIO DE ESPUMA DE POLIURETANO; PANEL ANCLADO A LA ESTRUCTURA MEDIANTE TORNILLOS AUTORROSCANTES, W.P.P. DE TAPAJUNTAS, REMATES, PIEZAS ESPECIALES DE CUALQUIER TIPO, MEDIOS AUXILIARES, SEGÚN NTE/QTG-7.								PUERTA DE DOBLE CHAPA LISA DE ACERO DE 1 MM DE ESPESOR, GALVANIZADA Y PROTECCIÓN INTERIOR Y EXTERIOR CON EPOXY, ENGATILLADA, REALIZADA EN DOS BANDEJAS, CON RIGIDIZADORES DE TUBO RECTANGULAR, WPATILLAS PARA RECIBIR EN FÁBRICAS, Y HERRAJES DE COLGAR Y DE SEGURIDAD.						
	Cubierta	2	60,500	11,050		1.337,050			Puerta	2	4,000	4,000		32,000	
	Fachadas	2	60,500	1,000		121,000									32,00
		2	21,500	1,500		64,500									
							1.522,55								
R07CB010	m ² Cerramiento de bloque prefabricado Tipo "Split" Visto							R07CA310	m ² Ventanal fijo de aluminio						
	CERRAMIENTO COMPUESTO POR FÁBRICA DE BLOQUE PREFABRICADO DE HORMIGÓN TIPO "SPLIT", HIDRÓFUGO, DE COLOR, DE MEDIDAS 40X20X20 CM, EJECUTADO A UNA CARA VISTA Y ENFOSCADO POR EL INTERIOR, RECIBIDO CON MORTERO DE CEMENTO Y ARENA DE RÍO, INCLUSO PARTE PROPORCIONAL DE PIEZAS ESPECIALES, ZUNCHO, ROTURAS, APLOMADO, NIVELADO, LLAGUEADO Y LIMPIEZA, TOTALMENTE TERMINADO.								VENTANAL FIJO DE ALUMINIO ANODIZADO EN COLOR A DETERMINAR DE 13 MICRAS, PERFIL 50X40 MM Y 1,5 MM DE ESPESOR, CON JUNQUILLOS PARA FIJACIÓN DEL VIDRIO. TOTALMENTE COLOCADO EN EL PANEL PREFABRICADO DE HORMIGÓN.						
	Fachadas	2	60,500	6,000		726,000			Ventanas	14	2,000		1,000	28,000	
		2	21,500	6,000		258,000				3	2,000		0,500	3,000	
	A deducir									13	1,000		1,000	13,000	
	Ventanas	-17	2,000	1,000		-34,000									44,00
		-13	1,000	1,000		-13,000									
	Puerta	-2	4,000	4,000		-32,000									
	Extractores	-12	0,500	0,500		-3,000									
	Rejillas	-10	1,000	0,500		-5,000									
							897,00								
R07CR120	m ² Enfoscado, maestrado y fratasado							R07CV015	m ² Climalit 4/6, 8 ó 12 mm						
	ENFOSCADO MAESTREADO Y FRATASADO CON MORTERO DE CEMENTO II-Z/35A Y ARENA DE RÍO 1/4 (M-80) EN PARAMENTOS VERTICALES DE 20 MM DE ESPESOR, WREGLEADO, SACADO DE ARISTAS Y RINCONES CON MAESTRAS CADA 3 M Y ANDAMIAJE, WNTE-RPE-7, MEDIDO DEDUCIENDO HUECOS SUPERIORES A 1 M ² .								CLIMALIT CON DOS LUNAS INCOLORAS DE 4 MM Y CÁMARA DE AIRE DE 6,8 Ó 12 MM CON JUNTA PLÁSTICA, COLOCADO SOBRE MADERA, ALUMINIO O HIERRO Y SELLADO CON SILICONA INCOLORA.						
	Fachadas	2	60,000	6,000		720,000			Ventanas	14	2,000		1,000	28,000	
		2	21,000	6,000		252,000				3	2,000		1,000	6,000	
	A deducir									13	1,000		1,000	13,000	
	Ventanas	-17	2,000	1,000		-34,000									47,00
		-13	1,000	1,000		-13,000									
	Puerta	-2	4,000	4,000		-32,000									
	Extractores	-12	0,500	0,500		-3,000									
	Rejillas	-10	1,000	0,500		-5,000									
							885,00								8,00
								REJ	m ² Rejilla en fachadas						
									REJILLA EN FACHADAS						
									Rejillas	10	1,000		0,500	5,000	
										1	1,200		2,500	3,000	
															8,00
								E15DRA040	m ² Reja barras acero 30x15x1,5 mm.						
									REJA METÁLICA REALIZADA CON BARRAS DE ACERO LAMINADO EN FRÍO DE 30X15X1,5 MM. EN VERTICAL Y HORIZONTAL, SEPARADOS 15 CM. EN DOS PLANOS, CON GARRAS PARA RECIBIR DE 12 CM, ELABORADA EN TALLER Y MONTAJE EN OBRA. COMPLETAMENTE INSTALADA.						
									Ventanas	14	2,000		1,000	28,000	
										3	2,000		0,500	3,000	
										13	1,000		1,000	13,000	
							885,00								44,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R07CR119	m2 Muro de carga de fábrica de bloque cerámico aligerado MURO DE CARGA DE 19 CM DE ESPESOR DE FÁBRICA DE BLOQUE CERÁMICO ALIGERADO MACHIHEMBADO, 30X19X19 CM, PARA REVESTIR, RESISTENCIA A COMPRESIÓN 10 N/MM², RECIBIDA CON MORTERO DE CEMENTO CONFECCIONADO EN OBRA, CON 300 KG/M³ DE CEMENTO, COLOR GRIS, DOSIFICACIÓN 1:5, SUMINISTRADO EN SACOS, CON PIEZAS ESPECIALES TALES COMO MEDIOS BLOQUES, BLOQUES DE ESQUINA Y BLOQUES DE TERMINACIÓN. EL PRECIO NO INCLUYE LOS ZUNCHOS HORIZONTALES NI LA FORMACIÓN DE LOS DINTELES DE LOS HUECOS DEL PARAMENTO.							SUBCAPÍTULO 07.06 SANEAMIENTOS Y ACABADOS							
	sala oficina	1	21,00		3,00	63,00		D03AG004ME	m	Canalón acero lacado cuadrado rectangular					
		1	5,00		3,00	15,00				CANALÓN DE ACERO LACADO DE 0,5 MM DE ESPESOR, EN COLOR A ELEGIR, Y CON SECCIÓN EQUIVALENTE A UN 10% EXTRA DEL CANALÓN DE 250 MM DE DIÁMETRO (CTE). TANTO PARA INSTALACIÓN COLGADA COMO APOYADO EN UNIÓN DE VERTIENTES DE CUBIERTAS, ADECUÁNDOSE A LAS TERMINACIONES Y ACABADOS DE LA CUBIERTA DEL EDIFICIO A EJECUTAR. INCLUSO P.P. DE PIEZAS ESPECIALES, EMPALMES, CONEXIONES, TERMINALES, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN Y PREPARACIÓN PARA LA CONEXIÓN DE BAJANTES DE 110 MM DE DIÁMETRO. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA					
		1	4,90		3,00	14,70				En cubierta	2	60,500		121,000	
		1	3,00		3,00	9,00									121,00
		1	1,95		3,00	5,85		R02TM11EA	m	Bajante PVC Sanitario DN110 mm Junta elástica					
		1	2,00		3,00	6,00				TUBERÍA DE PVC SANITARIA SERIE C, DE 110 MM DE DIÁMETRO Y 4.0 MM. DE ESPESOR, UNIÓN POR ADHESIVO, COLOR GRIS, COLOCADA EN BAJANTES Y RED DE SANEAMIENTO HORIZONTAL COLGADA. INCLUSO P.P. DE PIEZAS ESPECIALES, EMPALMES, CONEXIONES, TERMINALES, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN SEGÚN NTE-ISS-49, UNE 53114, ISO-DIS-3633. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA					
	Huecos puerta	-1	1,20		2,50	-3,00				En esquinas	8	6,000		48,000	
		-2	0,80		2,10	-3,36									48,00
		-2	0,70		2,10	-2,94									
	ventanas	-1	1,50		1,50	-2,25									
	reja	-1	1,20		2,50	-3,00									
							99,00								
DFORJ010	M2 FORJ.SEMIVIG. 17+5, B. 70 M2. FORJADO 17+5 CM., FORMADO A BASE DE SEMVIGUETAS DE HORMIGÓN PRETENSADO, SEPARADAS 70 CM. ENTRE EJES, BOVEDILLA DE 60X25X17 CM. Y CAPA DE COMPRESIÓN DE 5 CM. DE HA-25/B/20/ IIA N/MM2, CON TAMAÑO MÁXIMO DEL ÁRIDO DE 20 MM., ELABORADO EN CENTRAL, CON P.P. DE ZUNCHOS, VARMADURA CON ACERO B-500 S EN REFUERZO DE ZONA DE NEGATIVOS. CONECTORES Y MALLAZO DE REPARTO, ENCOFRADO Y DESENCOFRADO, TOTALMENTE TERMINADO SEGÚN EHE.							R07CR050	m²	Pintura plástica blanca					
	sala cuadros-aseos-oficina	1	22,00	5,10		112,20				PINTURA PLÁSTICA LISA BLANCA EN PARAMENTOS VERTICALES Y HORIZONTALES, LAVABLE DOS MANOS, VLUADO Y EMPLASTECIDO.					
							112,20			Fachada interior	2	60,000	6,000	720,000	
											2	21,000	6,000	252,000	
										Sala cuadros, aseos y oficina	2	22,000	3,000	132,000	
											6	5,000	3,000	90,000	
											1	3,000	3,000	9,000	
											1	2,000	3,000	6,000	
											1	2,000	3,000	6,000	
															1.215,00
R07CR118	m2 Falso techo registrable de placas de yeso laminado FALSO TECHO REGISTRABLE SITUADO A UNA ALTURA MENOR DE 4 M, DECORATIVO, FORMADO POR PLACAS DE YESO LAMINADO, LISAS, ACABADO CON VINILO BLANCO, DE 600X600X9,5 MM, CON PERFILERÍA VISTA. EL PRECIO INCLUYE LA RESOLUCIÓN DE ENCIENTROS Y PUNTOS SINGULARES.							CSUMREJ	mI	Canal sumidero con rejilla					
	sala cuadros-aseos-oficina	1	22,00	5,10		112,20				SISTEMA DE DRENAJE LINEAL FORMADO POR CANAL DE HORMIGÓN POLIMÉRICO DE 100 MM DE ANCHURA LIBRE Y 200 MM DE ALTURA CON MARCO ZINCADO. CON REJILLA DE ACERO ZINCADO Y RESISTENCIA DE CARGA AL TRÁFICO A15. TOTALMENTE COLOCADA, MONTADA Y PROBADA.					
							112,20			En nave	1	21,000		21,000	
											1	43,000		43,000	
															64,00
OGB063	M2 SOL. GRES PORCEL. NATURAL 20X20C SOLADO DE BALDOSA DE GRES PORCELÁNICO NATURAL DE 20X20 CM., RECIBIDO CON MORTERO DE CEMENTO Y ARENA DE RÍO 1/6 (M-40), VCAMA DE 2 CM. DE ARENA DE RÍO, REJUNTADO CON LECHADA DE CEMENTO BLANCO Y LIMPIEZA, SINTE-RSR-2, MEDIDO EN SUPERFICIE REALMENTE EJECUTADA.							D26FD001	Ud	LAVABO PEDESTAL BLANCO GRIF					
	Oficina	1	3,00	2,85		8,55				UD. LAVABO DE 52X41 CM O SIMILAR. CON PEDESTAL EN BLANCO, CON MEZCLADOR DE LAVABO, VÁLVULA DE DESAGÜE DE 32 MM., LLAVE DE ESCUADRA DE 1/2" CROMADA, SIFÓN INDIVIDUAL PVC 40 MM. Y LATIGUILLO FLEXIBLE DE 20 CM., TOTALMENTE INSTALADO, INCLUIDA LA ALBAÑILERÍA ASOCIADA A LA INSTALACIÓN DEL EQUIPO Y SUS ACCESORIOS.					
	aseos	1	3,00	1,95		5,85				Aseo	1			1,00	
							14,40								1,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
D26LD001	<p>Ud INODORO T. BAJO BLANCO</p> <p>UD. INODORO DE TANQUE BAJO EN BLANCO, CON ASIENTO PINTADO EN BLANCO Y MECANISMOS, LLAVE DE ESCUADRA 1/2" CROMADA, LATIGUILLO FLEXIBLE DE 20 CM., EMPALME SIMPLE PVC DE 110 MM., TOTALMENTE INSTALADO, INCLUIDA LA ALBAÑILERIA ASOCIADA A LA INSTALACIÓN DEL EQUIPO Y SUS ACCESORIOS.</p> <p>Aseo</p>	1				1,00	1,00	SUBCAPÍTULO 07.07 GRUPOS DE BOMBEO								
								ZZ024-160	<p>Ud MOTOBOMBA HORIZONTAL CÁMARA PARTIDA 160 KW</p> <p>UD. GRUPO MOTOBOMBA CENTRÍFUGA HORIZONTAL DE CÁMARA PARTIDA PARA UN CAUDAL DE 352,45 L/S Y 33,63 M.C.A., RENDIMIENTO A 1490 RPM DEL 85,3% O SUPERIOR, EJE DE ACERO AL CARBONO, IMPULSOR DE BRONCE, MOTOR ELÉCTRICO EN HIERRO FUNDIDO A 1490 RPM, POTENCIA DE 160 KW Y TENSIÓN DE 400 V/50 HZ PREPARADO PARA VARIADOR DE FRECUENCIA, PROTECCIÓN IP55, RESIST. CALDEO, 3 SONDAS PT 100 EN DEVANADOS, 2 SONDAS PT 100 EN COJINETES Y REFRIGERACIÓN INTERNA MEDIANTE IMPULSOR INTERNO. INCLUSO DESCARGA Y MONTAJE. COMPLETAMENTE INSTALADA, CONEXIONADA ,CONOS DE AMPLIACIÓN Y REDUCCIÓN, INCLUSO PRUEBAS PRESENCIALES EN FÁBRICA, PRUEBAS DE FUNCIONAMIENTO Y PUESTA EN MARCHA UNA VEZ COLOCADA.</p>							5,00
D26LD003	<p>Ud Plato de ducha acrílico</p> <p>PLATO DE DUCHA ACRÍLICO, RECTANGULAR, COLOR BLANCO, DE 900X700X40 MM, CON FONDO ANTIDESLIZANTE Y JUEGO DE DESAGÜE, EQUIPADO CON GRIFERÍA MONOMANDO MURAL PARA DUCHA, CON CARTUCHO CERÁMICO, ACABADO CROMADO, MODELO THESIS. INCLUSO SILICONA PARA SELLADO DE JUNTAS, CONDUCCIÓN DESDE TUBERÍA PRINCIPAL AL ELEMENTO. GRIFERÍA REQUERIDA. TOTALMENTE EJECUTADO, INCLUIDA LA ALBAÑILERÍA ASOCIADA A LA INSTALACIÓN DEL EQUIPO Y SUS ACCESORIOS.</p> <p>Aseo</p>	1				1,00	1,00	ZZ024-200	<p>Ud MOTOBOMBA HORIZONTAL CÁMARA PARTIDA 200 KW</p> <p>UD. GRUPO MOTOBOMBA CENTRÍFUGA HORIZONTAL DE CÁMARA PARTIDA PARA UN CAUDAL DE 255,66 L/S Y 53,18 M.C.A., RENDIMIENTO A 1490 RPM DEL 84% O SUPERIOR, EJE DE ACERO AL CARBONO, IMPULSOR DE BRONCE, MOTOR ELÉCTRICO EN HIERRO FUNDIDO A 1490 RPM, POTENCIA DE 200 KW Y TENSIÓN DE 400 V/50 HZ PREPARADO PARA VARIADOR DE FRECUENCIA, PROTECCIÓN IP55, RESIST. CALDEO, 3 SONDAS PT 100 EN DEVANADOS, 2 SONDAS PT 100 EN COJINETES Y REFRIGERACIÓN INTERNA MEDIANTE IMPULSOR INTERNO. INCLUSO DESCARGA Y MONTAJE. COMPLETAMENTE INSTALADA, CONEXIONADA ,CONOS DE AMPLIACIÓN Y REDUCCIÓN, INCLUSO PRUEBAS PRESENCIALES EN FÁBRICA, PRUEBAS DE FUNCIONAMIENTO Y PUESTA EN MARCHA UNA VEZ COLOCADA.</p>						4,00	
D26FS001	<p>ud Fosa de acumulación horizontal 3.000 litros</p> <p>FOSA DE ACUMULACIÓN DE AGUAS RESIDUALES PARA SU ACUMULACIÓN Y POSTERIOR RETIRADA MEDIANTE EMPRESA AUTORIZADA. DEPOSITO DE FORMA CILINDRICA REALIZADO EN POLIETILENO CON LOS REFUERZOS Y ESTRUCTURA NECESARIOS PARA SOPORTAR LAS CARGAS DE TIERRAS DE HASTA 0.5 M. INCLUYE LA COLOCACIÓN EN ZANJA CON LOS APEOS Y APOYOS NECESARIOS, INTERCONEXIÓN DE TUBERÍAS DE EVACUACIÓN DE LAS INSTALACIONES, Y CONEXIÓN DE TUBERÍAS DE ALIVIO EN CASO DE LLENADO. INSTALACIÓN DE TUBERÍA DE DN110 O SUPERIOR PARA AIREACIÓN Y SALIDA DE GASES. EQUIPO EN CUMPLIMIENTO DE LA NORMA UNE-EN 12566-1. TOTALMENTE INSTALADO.</p> <p>Fosa EB</p>	1				1,00	1,00	ZZ024-250	<p>Ud MOTOBOMBA HORIZONTAL CÁMARA PARTIDA 250 KW</p> <p>UD. GRUPO MOTOBOMBA CENTRÍFUGA HORIZONTAL DE CÁMARA PARTIDA PARA UN CAUDAL DE 229,38 L/S Y 69,81 M.C.A., RENDIMIENTO A 1490 RPM DEL 83,2% O SUPERIOR, EJE DE ACERO AL CARBONO, IMPULSOR DE BRONCE, MOTOR ELÉCTRICO EN HIERRO FUNDIDO A 1490 RPM, POTENCIA DE 250 KW Y TENSIÓN DE 400 V/50 HZ PREPARADO PARA VARIADOR DE FRECUENCIA, PROTECCIÓN IP55, RESIST. CALDEO, 3 SONDAS PT 100 EN DEVANADOS, 2 SONDAS PT 100 EN COJINETES Y REFRIGERACIÓN INTERNA MEDIANTE IMPULSOR INTERNO. INCLUSO DESCARGA Y MONTAJE. COMPLETAMENTE INSTALADA, CONEXIONADA ,CONOS DE AMPLIACIÓN Y REDUCCIÓN, INCLUSO PRUEBAS PRESENCIALES EN FÁBRICA, PRUEBAS DE FUNCIONAMIENTO Y PUESTA EN MARCHA UNA VEZ COLOCADA.</p>						5,00	
R07FS001	<p>ud Acometida de agua para aseos</p> <p>INSATACIÓN DE ACOMETIDA DE AGUA PARA LOS ELEMENTOS DE ASEOS (LAVABO, INODOROS Y DUCHA) DESDE LA TUBERÍA DEL COLECTOR DE ENTRADA A LA Balsa, CONEXIÓN ENTRE EL FILTRO Y LA VALVULA DE SECCIONAMIENTO DE LA TUBERÍA DE PRESIÓN NATURAL. INCLUYE:</p> <ul style="list-style-type: none"> - TUBERIA DE CONEXIÓN HASTA SALA DE ASEOS (HASTA 12 M) - TUBERIAS DE DISTRIBUCIÓN PARA ABASTECIMIENTO DE CADA PUNTO DE CONSUMO (HASTA 10 M), REALIZADAS EN PEX - PIEZAS ESPECIALES, ACCESORIOS,... PARA CONEXIONES, CODOS, TES,... - LLAVES DE CORTE PRINCIPAL, MEDIANTE VALVULA DE ESFERA, TANTO EN CONEXIÓN A LA TUBERÍA PRINCIPAL COMO A LA ENTRADA EN LA SALA DE ASEOS. - LLAVES INDIVIDUALES EN CADA ELEMENTOS, EN SU PUNTO DE CONEXIÓN. - CALENTADOR DE AGUA (ACS) DE 30 LITROS COLOCADO EN PARAMENTO VERTICAL, CONECTADO A LA RED, Y LA RED DE ABASTECIMIENTO A LAVABO Y DUCHA. - ALBAÑILERIA, Y ACTUACIONES PARA EL SOTERRADO DE LA CONDUCCIÓN PRINCIPAL, Y EL EMBEBIDO DE LAS TUBERIAS DE DISTRIBUCIÓN A ELEMENTOS EN LAS PAREDES MEDIANTE ROZA Y REVESTIDO. - MEDIOS AUXILIARES PARA LA EJECUCIÓN <p>acometida aseos</p>	1				1,00	1,00									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
SUBCAPÍTULO 07.08 CALDERERÍA								SUBCAPÍTULO 07.09 VALVULERÍA							
MAACD	Kg Acero En Calderería							R05VM1810	Ud Válvula mariposa embridada DN-1800 PN-10						
	ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM; 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.							VÁLVULA DE MARIPOSA EMBRIDADA 1800 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.							
	S/Mediciones Auxiliares	1					89.321,700		Colector admisión	1					1,000
	10% apoyos y ajustes	0,1					8.932,170								
															1,00
							98.253,87								
R07EM020	Kg Acero S275 JR Para Estructuras							R05VM012	Ud Válvula mariposa embridada DN 1200 PN-10						
	ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA.							VÁLVULA DE MARIPOSA EMBRIDADA 1200 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.							
	apoyos calderería	3	5,000		50,000		750,000		En impulsión a BP1	1					1,000
		1	10,000		120,000		1.200,000								
	Escaleras y barandillas	1	40,000		150,000		6.000,000								1,00
		10	5,000		100,000		5.000,000								
	Otros	0,1	11.000,000				1.100,000								
															14.050,00
TRAMEX	m² Rejilla Tipo TrameX De 30x30 mm Colocada							R05VM1084	Ud Válvula mariposa embridada DN-1000 PN-16						
	CELOSÍA METÁLICA "TRAMEX", FORMADA POR MALLA DE ACERO 30X30 MM. Y PLETINA 40.3, Y BASTIDOR CON UNIONES ELECTROSOLDADAS, /SOLDADURA Y AJUSTE A OTROS ELEMENTOS, ESTRUCTURA AUXILIAR DE APOYO Y ANCLAJE.							VÁLVULA DE MARIPOSA EMBRIDADA 1000 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.							
	Pasarela	1	40,000	2,000			80,000		En impulsión a BP3	1					1,000
		10	5,000	1,000			50,000								
															1,00
							130,00								
								R05VM1083	ud Válvula mariposa embridada DN-900 PN-16						
								VÁLVULA DE MARIPOSA EMBRIDADA 900 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.							
									En Impulsión a BP2	1					1,000
															1,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R05VM106	<p>Ud Válvula mariposa embridada DN-600 PN-16</p> <p>VÁLVULA DE MARIPOSA EMBRIDADA 600 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>En impulsión a BP1</p>	2	5,000			10,000		R05VC123	<p>Ud Válvula compuerta ø150 mm PN-16</p> <p>VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 150 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>En by-pass:</p> <p>En impulsión a BP1</p> <p>En impulsión a BP2</p> <p>En impulsión a BP3</p>	1				1,000	
							10,00								
R05VM105	<p>Ud Válvula mariposa embridada DN-500 PN-16</p> <p>VÁLVULA DE MARIPOSA EMBRIDADA 500 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>En Impulsión a BP2</p> <p>En impulsión a BP3</p>	2	4,000			8,000		R05TM1805	<p>Ud Carrete desmontaje PN-10 DN 1800</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 1800 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 O SUPERIOR PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p> <p>Colector admisión</p>	1				1,000	
							18,00								3,00
R05VM104	<p>Ud Válvula mariposa embridada DN-400 PN-16</p> <p>VÁLVULA DE MARIPOSA EMBRIDADA 400 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>By-pass:</p> <p>En impulsión a BP1</p> <p>En Impulsión a BP2</p> <p>En impulsión a BP3</p>	2				2,000		R05TM125	<p>Ud Carrete desmontaje PN-10/16 DN-1200</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 1200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p> <p>En impulsión a BP1</p>	1				1,000	
							6,00								1,00
R05VC125	<p>Ud Válvula compuerta ø250 mm PN-16</p> <p>VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 250 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>Alivio:</p> <p>En impulsión a BP1</p> <p>En Impulsión a BP2</p> <p>En impulsión a BP3</p>	1				1,000		R05TM120	<p>Ud Carrete desmontaje PN-10/16 DN-1000</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 1000 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p> <p>En impulsión a BP3</p>	1				1,000	
							3,00								1,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R05TM119	Ud Carrete desmontaje PN-10/16 DN-900 CARRETE TELESCÓPICO DE DESMONTAJE DE 900 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. En Impulsión a BP2	1				1,000	1,00	R05TM112	Ud Carrete desmontaje PN-10/16 DN-250 CARRETE TELESCÓPICO DE DESMONTAJE DE 250 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. Alivio: En impulsión a BP1 En Impulsión a BP2 En impulsión a BP3	1 1 1				1,000 1,000 1,000	3,00
R05TM117	Ud Carrete desmontaje PN-10/16 DN-600 CARRETE TELESCÓPICO DE DESMONTAJE DE 600 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. En impulsión a BP1	2	5,000			10,000	10,00	R05TM111	Ud Carrete desmontaje PN-10/16 DN-150 CARRETE TELESCÓPICO DE DESMONTAJE DE 150 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. En by-pass: En impulsión a BP1 En Impulsión a BP2 En impulsión a BP3	1 1 1				1,000 1,000 1,000	3,00
R05TM116	Ud Carrete desmontaje PN-10/16 DN-500 CARRETE TELESCÓPICO DE DESMONTAJE DE 500 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. En Impulsión a BP2 En impulsión a BP3	2 2	4,000 5,000			8,000 10,000	18,00	R05VR2291-6	ud Válvula Retención Discos concetricos DN600 PN-16 VÁLVULA DE RETENCIÓN DE DE DISCOS CONCENTRICOS TIPO CLASSAR DE 600 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL, MECANISMOS EN ACERO INOXIDABLE. MONTADA Y PROBADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA EN OBRA. En impulsión a BP1	1	5,000			5,000	5,00
R05TM115	Ud Carrete desmontaje PN-10/16 DN-400 CARRETE TELESCÓPICO DE DESMONTAJE DE 400 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. By-pass: En impulsión a BP1 En Impulsión a BP2 En impulsión a BP3	1 1 1				1,000 1,000 1,000	3,00	R05VR2291-5	ud Válvula Retención Discos concetricos DN500 PN-16 VÁLVULA DE RETENCIÓN DE DE DISCOS CONCENTRICOS TIPO CLASSAR DE 500 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL, MECANISMOS EN ACERO INOXIDABLE. MONTADA Y PROBADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA EN OBRA. En Impulsión a BP2 En impulsión a BP3	4 5				4,000 5,000	9,00
								VASP002	ud Vávula de alivio de sobre presión DN 250 PN-16 UD. DE VÁLVULA DE ALIVIO DE SOBREPRESIÓN DE ACCIÓN DIRECTA, DE DIÁMETRO NOMINAL 250 MM Y PRESIÓN NOMINAL 16 ATMÓSFERAS, DE PASO RECTO Y ACTUACIÓN ELÉCTRICA, INCLUSO P.P. DE PIEZAS ESPECIALES, TE DE UNIÓN A COLECTOR DE IMPULSIÓN, TRANSPORTE, INSTALACIÓN Y MONTAJE. En impulsión a BP1 En Impulsión a BP2 En impulsión a BP3	1 1 1				1,00 1,00 1,00	3,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
R03VE008	<p>Ud Ventosa trifuncional ø200 PN-16</p> <p>VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 200 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 200 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p> <p>En impulsión a BP1 3 3,000</p> <p>En admisión 4 4,000</p> <p style="text-align: right;">7,00</p>															
R03VE006	<p>Ud Ventosa trifuncional ø150 PN-16</p> <p>VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p> <p>En Impulsión a BP2 3 3,000</p> <p>En impulsión a BP3 3 3,000</p> <p style="text-align: right;">6,00</p>															
R05EM03	<p>Ud Medidor ultrasónico DN200 - DN4000 PN-10/16</p> <p>EQUIPO DE MEDIDA DE CAUDAL POR ULTRASONIDOS, PARA DIÁMETRO ENTRE 200 Y 4000 MM, FORMADO POR DOS SONDAS Y CAUDALÍMETRO ULTRASÓNICO MONTADO A LA TUBERÍA, ELECTRÓNICA DE TRATAMIENTO DE SEÑAL 4-20 MA, CONVERTIDOR DE SEÑALES, SENSORES, Y PROTECCIONES SOBRETENSIONES, CABLE TRIAXIAL, INCLUIDO SUMINISTRO, INSTALACIÓN Y PRUEBAS DE FUNCIONAMIENTO.</p> <p>En impulsión a BP1 1 1,000</p> <p>En Impulsión a BP2 1 1,000</p> <p>En impulsión a BP3 1 1,000</p> <p style="text-align: right;">3,00</p>															
SUBCAPÍTULO 07.10 EQUIPOS ELECTROMECÁNICOS																
FIFMA6072-10	<p>UD FILTRO TIPO W PARA DN 1800 MM</p> <p>FILTRO TIPO W DE MALLA AUTOLIMPIANTE PARA CAUDAL HASTA 4.140 L/S , CON UN PASO DE MALLA DE 1,5X1,5MM, SUPERFICIE FILTRANTE 22.600CM2, DN 1800 MM PN10, CONEXIÓN DRENAJE DN 350 Y POTENCIA ELÉCTRICA 5,2 KW. EL FILTRO SE COMPONE DE UN CUERPO METÁLICO EN ACERO AL CARBONO, CORONA ROTATIVA EN ACERO INOXIDABLE, COLECTOR DE DESECHOS, VÁLVULA DE APERTURA Y GRUPO MOTOREDUCTOR PARA ACCIONAMIENTO DE LA CORONA ROTATIVA Y ELEMENTOS DE MEDICIÓN Y CONTROL. INCLUYE CUADRO ELÉCTRICO PARA SU CONTROL Y FUNCIONAMIENTO. SISTEMA DE LIMPIEZA, COMPUERTO POR:</p> <ul style="list-style-type: none"> - BOQUILLAS DE GRAN IMPACTO, PARA LA LIMPIEZA POR CONTRALAVADO DE LA MALLA FILTRANTE. - GRUPO DE PRESIÓN. - ESTANQUEIDAD DE LAS TRES CÁMARAS MEDIANTE CERDAS DE NYLON. <p>CONTROL DEL SISTEMA DE POSICIONAMIENTO DE LA CORONA FILTRANTE Y DE LA APERTURA Y CIERRE DE LA VÁLVULA DE LIMPIEZA POR SECTORES. CUADRO DE CONTROL Y PROGRAMADOR DE LA INSTALACIÓN. INCLUYE MONTAJE, TRANSPORTE Y PUESTA EN MARCHA.</p> <p>Colector principal 1 1,000</p> <p style="text-align: right;">1,00</p>															
MAPG2-4T21	<p>u Puente Grúa Monorrail 4 T y 21m, Camino rodadura IPE+40x30 e l.e</p> <p>PUENTE GRÚA MONORRAIL CON POLIPASTO CARRO MONORRAIL DE 4 TN, 21 M DE LUZ Y 6 M DE RECORRIDO DEL GANCHO, ALIMENTADO CON 380 V/ 50 HZ. Y UNA TENSIÓN DE MANDO DE 48 V/50 HZ. CON BOTONERA DESPLAZABLE INDEPENDIENTE DEL CARRO. LA GRÚA IRÁ PROVISTA DE TOMACORRIENTES. INCLUIDA LA INSTALACIÓN ELÉCTRICA DE 60 M DE LONGITUD Y VIGA CARRIL 2X60M CONFORMADA POR IPE Y CUADRADILLO 40X30, APOYADO SOBRE MÉNSULAS. TRANSPORTE Y MONTAJE INCLUIDO, COMPLETAMENTE INSTALADO Y PROBADO.</p> <p style="text-align: right;">1,00</p>															
SUBCAPÍTULO 07.11 URBANIZACIÓN																
SA100HP	<p>m Canaleta Prefabricada de Hormigón Polímero</p> <p>CANALETA PREFABRICADA DE HORMIGÓN POLÍMERO, 127 MM DE ANCHO EXTERIOR, 100 MM DE ANCHO INTERIOR Y 95 MM DE ALTURA, CON REJILLA NERVADA DE ACERO GALVANIZADO, CLASE A-15 SEGÚN UNE-EN 124, CON SISTEMA DE FIJACIÓN RÁPIDA POR PRESIÓN, COLOCADA SOBRE SOLERA DE HORMIGÓN EN MASA HM-20/B/20/IIA DE 10 CM DE ESPESOR. INCLUSO ACCESORIOS DE MONTAJE, PIEZAS ESPECIALES Y ELEMENTOS DE SUJECIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA</p> <p>Sumidero 2 10,000 20,000</p> <p style="text-align: right;">20,00</p>															
R02TE812C	<p>m TUBERÍA PEAD PN-8 DN-125</p> <p>TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 125 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 8 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.</p> <p>Evacuación canales 1 17,00 17,00</p> <p>1 12,00 12,00</p> <p style="text-align: right;">29,00</p>															

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R02TE825C	m TUBERÍA PEAD PN-8 DN-250 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 250 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 8 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							R07EN050	m² Encofrado/Desencofrado metálico para hormigón oculto ENCOFRADO Y DESENCOFRADO RECTO PARA DEJAR HORMIGÓN OCULTO, MEDIANTE LA UTILIZACIÓN DE PANELES METÁLICOS A UNA CARA, INCLUSO ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS.						
	Alivio	1	64,00			64,00			Arqueta recogida drenes:	2	2,400		1,700	8,160	
		1	15,00			15,00				2	1,400		1,700	4,760	
		1	3,00			3,00				2	2,000		1,500	6,000	
										2	1,000		1,500	3,000	
							82,00		Arqueta caudalímetro	8	3,600		4,000	115,200	
										8	3,000		3,700	88,800	
										2	4,600		4,000	36,800	
										2	3,600		4,000	28,800	
										2	4,000		3,700	29,600	
										2	3,000		3,700	22,200	
															343,32
R02TE831C	m TUBERÍA PEAD PN-8 DN-315 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 315 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 8 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.						
	Salida filtro W	57				57,00			Arqueta recogida drenes:	1	61,830	75,000		4.637,250	
							57,00								4.637,25
R04EM010	m Cerramiento Valla Galvanizada h=2 m CERRAMIENTO DE VALLA GALVANIZADA DE 2,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMIENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECCIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.							TRAMEX	m² Rejilla Tipo TrameX De 30x30 mm Colocada CELOSÍA METÁLICA "TRAMEX", FORMADA POR MALLA DE ACERO 30X30 MM. Y PLETINA 40.3, Y BASTIDOR CON UNIONES ELECTROSOLDADAS, SOLDADURA Y AJUSTE A OTROS ELEMENTOS, ESTRUCTURA AUXILIAR DE APOYO Y ANCLAJE.						
	En coronación	1	276,000			276,000			Arqueta recogida drenes:	1	2,100	1,100		2,310	
							276,00								2,31
R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO							PATES	Ud Pate de polipropileno colocado PATE DE POLIPROPILENO DE 30 CM * 25 CM COLOCADO.						
	Arqueta recogida drenes:	1	2,600	1,600	0,100	0,416			Arqueta valvulas	3	23,000			69,000	
	Arqueta caudalímetro	3	3,800	3,800	0,100	4,332			Arqueta caudalímetro	3	12,000			36,000	
							4,75								105,00
R07HO025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO							CHA1	m² Tapa de chapa acero galvanizado 2 mm TAPA DE CHAPA ACERO GALVANIZADO 2 MM DE ESPESOR SOPORTADA POR PERFILES HUECOS # 40.2 FORMANDO CUADROS DE 50 CM DE LADO, PARA UNA RESISTENCIA DE 200 KG/M2, COLOCADA, Y PUERTA DE HOMBRE DE ACCESO DE 1M. * 1 M. PROVISTA DE BISAGRAS Y CANDADO						
	Arqueta recogida drenes:	1	2,400	1,400	1,700	5,712			Arqueta valvulas	1	8,200	7,500		61,500	
		-1	2,000	1,000	1,500	-3,000			Arqueta caudalímetro	2	3,800	3,800		28,880	
	Arqueta caudalímetro	2	3,600	3,600	4,000	103,680				1	4,800	3,800		18,240	
		-2	3,000	3,000	3,700	-66,600									108,62
		1	4,600	3,600	4,000	66,240									
		-1	4,000	3,000	3,700	-44,400									
							61,63								

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
R04ARV10-2	m Formación de cuneta no revestida de 1.2 m y 0.75 m de alto FORMACIÓN DE CUNETAS EN LATERAL DE CAMINO CON UNA ANCHURA DE 1,2M Y CON UNA PROFUNDIDAD DE HASTA 0,75 M. PERFILADO DE TALUDES, INTERIOR Y EXTERIOR Y ADECUACIÓN DE PENDIENTES SEGÚN EL TERRENO Y SEGÚN LOS PUNTOS DE EVACUACIÓN DE AGUA PROXIMOS. CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS E LA TIERRA EXTRAIDA DE LA FORMACIÓN DE CUNETAS.							R01RE030	m³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO.MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							
	Perímetro explanada	1	76,00				76,00									
		1	31,00				31,00									
		1	43,00				43,00									
		1	23,00				23,00									
															173,00	
R07PC040-90	m Tubo Hormigón Armado Tipo C-90 DN 400 TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 400 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.							R01RE010	m³ Relleno Ordinario de Tierras Compactado 85% PN RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							
	Paso cuneta entrada explanada	1	10,000				10,000									
	Evacuación arqueta drenes a colector	1	42,000				42,000									
															52,00	
CAPÍTULO 08 TUBERÍA DE IMPULSIÓN A BALSA (BP1)																
SUBCAPÍTULO 08.01 MOVIMIENTO DE TIERRAS																
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vacíados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.								GFG2A126	m Tubería hormigón post camisa chapa acer, DN 1200, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1200MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.						
	Mediciones auxiliares	1	5.936,180				5.936,180									
															5.936,18	
R01RE400	m³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							R02TB120	m TUBERÍA DE ACERO HELICOIDAL ø1219 mm e=10,3 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1219 MM DE DIÁMETRO Y 10,3 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUIDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.							
	Mediciones auxiliares															
	cama	1	143,000				143,000									
	relleno	1	89,100				89,100									
															232,10	
															528,66	
															528,66	
															1.703,11	
															1.703,11	
															736,90	
															50,00	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
SUBCAPÍTULO 08.03 ELEMENTOS ELECTROMECÁNICOS								R05VC123	Ud Válvula compuerta ø150 mm PN-16							
R03VE008	Ud Ventosa trifuncional ø200 PN-16								VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 150 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.	By-pass	1				1,000	
	En impulsión	1					1,000									1,00
	En seccionamiento	1					1,000									
																2,00
R05TM125	Ud Carrete desmontaje PN-10/16 DN-1200															
	CARRETE TELESCÓPICO DE DESMONTAJE DE 1200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.															
	En impulsión a BP1	1					1,000									1,00
R05VM012	Ud Valvula mariposa embridada DN 1200 PN-10															
	VÁLVULA DE MARIPOSA EMBRIDADA 1200 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.															
	En impulsión a BP1	1					1,000									11,00
R05TM111	Ud Carrete desmontaje PN-10/16 DN-150															
	CARRETE TELESCÓPICO DE DESMONTAJE DE 150 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.															
	By-pass	1					1,000									1,00
																5,00
SUBCAPÍTULO 08.04 CALDERERÍA Y PROTECCIÓN CATÓDICA								MAPCCII	Ud Anodos protección catódica							
									SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:							
									- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2.							
									- ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA.							
									- CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD.							
									- CABLE DE CU RV 0,6/1KV 1*6 MM2.							
									- ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.							
	Paso desagüe															
	Elementos red							1						1,000		
	Derivaciones							1						1,000		
	Codos							9						9,000		
																11,00
SUBCAPÍTULO 08.05 OBRA CIVIL								R07MP510B	ud Arqueta prefabricada ø120cm							
									ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHEMBROS DE Ø120 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MICROM DE ESPESOR Y PROVISTA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA.							
	En ventosas	1	1,000											1,000		
																1,00
R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra															
	HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO															
	Losa protección en cruce tubería llenado	1	5,000	4,000	0,250									5,000		
																5,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO. Losa protección en cruce tubería llenado	1	5,000	20,000		100,000		R01RE400	m³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTICULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. Mediciones auxiliares cama relleno	1 1 1	643,490 24,420 321,590			643,490 24,420 321,590		
							100,00									
R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS Losa protección en cruce tubería llenado	2 2	5,000 4,000		0,250 0,250	2,500 2,000		R01RE030	m³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAIDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. Mediciones auxiliares Trazado bajo camino, pk 1+855 a pk 1+890	1 1 1	2,912,190 115,990 160,000			2,912,190 115,990 160,000		
							4,50								1.002,83	
SUBCAPÍTULO 08.06 OBRAS ESPECIALES																
ACEQUIA2	Ud Cruce acequia CHE. Con o sin reposición CRUCE Y REPOSICIÓN DE ACEQUIA CHE EXISTENTE O EQUIVALENTE MEDIANTE PASO INFERIOR SIN ALTERAR EL CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGON DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA, SUJECCIÓN DEL CAJERO Y RELLENO DE HM-20 HASTA LA BASE DEL CAJERO. O CRUCE MEDIANTE CORTE DE CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGON DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA Y HM-20 HASTA LA BASE Y REPOSICIÓN DEL CAJERO, DEBIDAMENTE SELLADO. INCLUIDO TODOS LOS COSTES DE GESTIÓN DE RESIDUOS, EXCAVACIONES, CARGAS Y TRANSPORTES NECESARIOS.COM- PLETAMENET EJECUTADO Paso acequia de Orillena	1				1,000		R01RE010	m³ Relleno Ordinario de Tierras Compactado 85% PN RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. Mediciones auxiliares Trazado bajo camino, pk 1+855 a pk 1+890	1 1 -1	7,276,300 338,590 160,000			7,276,300 338,590 -160,000		
							1,00								3.188,18	
CAPÍTULO 09 TUBERÍA DE IMPULSIÓN A BALSA (BP2)																
SUBCAPÍTULO 09.01 MOVIMIENTO DE TIERRAS																
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vacidados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTICULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO. Mediciones auxiliares	1 1	12.482,690 550,820			12.482,690 550,820										
							13.033,51								7.454,89	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
SUBCAPÍTULO 09.02 TUBERÍAS								R02TB090	m	TUBERÍA DE ACERO HELICOIDAL ø914 mm e=7,9 mm					
GFG2A090	m	Tubería hormigón post camisa chapa acer, DN 900, PN 10, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN900MM Y PN10 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO 1/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.							TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 914 MM DE DIÁMETRO Y 7,9 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:2006, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.						
		Impulsión a balsa BP2, de pk0 a pk 0+320	1		320,000		320,000		Cruce Canal, hinca	1				47,000	47,000
							320,00								47,00
SUBCAPÍTULO 09.03 ELEMENTOS ELECTROMECAÑICOS								R03VE006	Ud	Ventosa trifuncional ø150 PN-16					
GFG2A096	m	Tubería hormigón post camisa chapa acer, DN 900, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN900MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO 1/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.							VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.						
		Impulsión a balsa BP2, de pk0+320 a pk 2+089,242	1		1.769,242		1.769,242		En Impulsión a BP2	3					3,000
		Cruce Canal, hinca	-1		47,000		-47,000		Nudo pk 0+000	2					2,000
							1.722,24		Nudo pk 2+089	1					1,000
															6,00
GFG2A106	m	Tubería hormigón post camisa chapa acer, DN 1000, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1000MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO 1/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.						R05DE200A	Ud	Desagüe de 200 mm PN-16 y conexión.					
		Impulsión BP2. Tramo en toma fondo, conexión balsa	1		80,500		80,500		DESAGÜE DE 200 MM DE DIÁMETRO INTERIOR, SOBRE TUBERÍA DE PRESIÓN DE CUALQUIER DIÁMETRO, COMPRENDIENDO VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 200 MM DE DIÁMETRO NOMINAL, 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS, CON CUERPO Y TAPA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA. SE INCLUYE ADEMÁS PIEZAS ESPECIALES EN CALDERERÍA (TÉS, CODOS, BRIDAS, ETC) Y ACCESORIOS DE DN-200PN-16, PARA LA CONEXIÓN CON TUBERÍA DE PVC DN 200 PN6, A LOS DESAGÜES EXISTENTES O A ARQUETA DE ACHIQUE. INCLUIDO TAMBIÉN LOS ANCLAJES, CONTRARRESTOS, OBRAS DE TIERRA Y FÁBRICA COMPLEMENTARIAS, COLOCACIÓN Y PRUEBA DE TODA LA UNIDAD.						
							80,50		En Impulsión a BP2	2					2,000
															2,00
								R05VM1083	ud	Válvula mariposa embriada DN-900 PN-16					
									VÁLVULA DE MARIPOSA EMBRIDADA 900 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.						
									Nudo pk 0+000	2					2,000
									Nudo pk 2+089	1					1,000
															3,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R05VC116-1	<p>Ud Válvula compuerta ø100 mm PN-16</p> <p>VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 100 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p>						
	By-pass	3				3,000	
							3,00
R05TM119	<p>Ud Carrete desmontaje PN-10/16 DN-900</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 900 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p>						
	Nudo pk 0+000	2				2,000	
	Nudo pk 2+089	1				1,000	
							3,00
R05TM100	<p>Ud Carrete desmontaje PN-16 DN-100</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 100 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p>						
	By-pass	3				3,000	
							3,00

SUBCAPÍTULO 09.04 CALDERERÍA Y PROTECCIÓN CATÓDICA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
MAPCCII	<p>Ud Anodos protección catódica</p> <p>SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:</p> <ul style="list-style-type: none"> - TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2. - ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA. - CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD. - CABLE DE CU RV 0,6/1KV 1*6 MM2. - ELECTRODO REFERENCIA PERMANENTE CU/CUSO4. 						
	Paso desagüe	2				2,000	
	Elementos red	5				5,000	
	Derivaciones	2				2,000	
	Codos	11				11,000	
							20,00

SUBCAPÍTULO 09.05 OBRA CIVIL

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R07MP510	<p>Ud Arqueta prefabricada ø100cm</p> <p>ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHEMBROS DE Ø100 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MICROM DE ESPESOR Y PROVISTA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA.</p>						
	Ventosas	3				3,000	
	Desagües	2				2,000	
							5,00
ARQVALVU3	<p>Ud Arqueta para válvulas DN>=800, HA-35 (4x3 m interior)</p> <p>ARQUETA PARA ALOJAMIENTO DE VÁLVULAS DE SECCIONAMIENTO, CONSTRUIDA "IN SITU", DE 4,00 X 3,00 METROS DE DIMENSIONES INTERIORES Y ALTURA VARIABLE, INFERIOR A 2,50 METROS. CON SOLERA DE 0,30 METROS HORMIGÓN HA-35 CON CEMENTO SR, PAREDES DE HORMIGÓN ARMADO HA-35 DE 0,25 M DE ESPESOR, ARMADURA EN SOLERA Y PAREDES A BASE DE MALLAZO DE DIÁMETRO 12 MM CADA 15 CENTÍMETROS POR 15 CENTÍMETROS, INCLUSO POZO DE ACHIQUE O SALIDA A DESAGÜE CON CONEXIÓN DE CALDERERÍA INCLUIDA. TAPA METÁLICA DE ACERO DE 3 MM DE ESPESOR Y ESTRUCTURA CON TRATAMIENTO ANTICORROSIVO, MARCO DE SUJECIÓN Y CANDADO. PATES DE ACCESO TOTALMENTE INSTALADOS Y FUADOS EN MURO. COMPLETAMENTE EJECUTADA.</p>						
	Nudo pk 0+000	1				1,000	
	Nudo pk 2+089	1				1,000	
							2,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
SUBCAPÍTULO 09.06 OBRAS ESPECIALES								CAPÍTULO 10 TUBERÍA DE IMPULSIÓN A Balsa (BP3)							
SUBCAPÍTULO 10.01 MOVIMIENTO DE TIERRAS															
R07AT100B	m Paso Hinca Camisa Acero 1000 mm, escudo abierto							R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciados						
	PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 1016X10,3 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAÍDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.							EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.							
	Cruce Canal	1	45,000			45,000		Mediciones auxiliares	1	24.657,200			24.657,200		
							45,00								24.657,20
ACEQUIA2	Ud Cruce acequia CHE. Con o sin reposición							R01RE400	m ³ Asiento y Relleno Material Granular 6/12 MM						
	CRUCE Y REPOSICIÓN DE ACEQUIA CHE EXISTENTE O EQUIVALENTE MEDIANTE PASO INFERIOR SIN ALTERAR EL CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGÓN DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA, SUJECCIÓN DEL CAJERO Y RELLENO DE HM-20 HASTA LA BASE DEL CAJERO. O CRUCE MEDIANTE CORTE DE CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGÓN DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA Y HM-20 HASTA LA BASE Y REPOSICIÓN DEL CAJERO, DEBIDAMENTE SELLADO. INCLUIDO TODOS LOS COSTES DE GESTIÓN DE RESIDUOS, EXCAVACIONES, CARGAS Y TRANSPORTES NECESARIOS.COMPLETAMENTE EJECUTADO							CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							
	Cruce acequia	1				1,000		Mediciones auxiliares							
							1,00	cama	1	1.317,940			1.317,940		
								relleno	1	775,730			775,730		
															2.093,67
R07PC120	m Paso Camino Camisa Hormigón 1200							R01RE030	m ³ Relleno Seleccionado Compactado 95% PN						
	PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1200 MM. ZANJA DE ANCHURA EN LA BASE 1,8 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 20 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTÍMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.							RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO.MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							
	Cruce Camino	3	5,000			15,000		Mediciones auxiliares	1	6.528,970			6.528,970		
							15,00	Trazado bajo camino, pk 1+855 a pk 1+890	1	160,000			160,000		
								Trazado bajo camino, pk 2+243 a pk 2+410	1	1.205,000			1.205,000		
															7.893,97

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R01RE010	m³ Relleno Ordinario de Tierras Compactado 85% PN RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.							GFG2A126	m Tubería hormigón post camisa chapa acer, DN 1200, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1200MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO V42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.						
	Mediciones auxiliares	1	12.448,630				12.448,630								
	Trazado bajo camino, pk 1+855 a pk 1+890	-1	160,000				-160,000								
	Trazado bajo camino, pk 2+243 a pk 2+410	-1	1.205,000				-1.205,000								
							11.083,63								
SUBCAPÍTULO 10.02 TUBERÍAS															
GFG2A100	m Tubería hormigón post camisa chapa acer, DN 1000, PN 10, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1000MM Y PN10 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO V42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.							R02TB100	m TUBERÍA DE ACERO HELICOIDAL ø1016 mm e=10 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1016 MM DE DIÁMETRO Y 10,0 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUIDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.						
	Impulsión a balsa BP3, de pk0 a pk 0+788,28	1	788,280				788,280								
	Cruce Canal, hinca	-1	47,000				-47,000								
							741,28								47,00
															1.725,80
GFG2A106	m Tubería hormigón post camisa chapa acer, DN 1000, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1000MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO V42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.														
	Impulsión a balsa BP3, de pk788,28 a pk 2+089,242	1	1.300,962				1.300,962								
							1.300,96								
SUBCAPÍTULO 10.03 ELEMENTOS ELECTROMECÁNICOS															
R03VE008	Ud Ventosa trifuncional ø200 PN-16 VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 200 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 200 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.														
	En impulsión a BP3	5					5,000								
															5,00
R03VE006	Ud Ventosa trifuncional ø150 PN-16 VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.														
	En impulsión a BP3	3					3,000								
	Nudo pk 0+612	2					2,000								
	Nudo pk 2+089	1					1,000								
															6,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R05DE200A	<p>Ud Desagüe de 200 mm PN-16 y conexión.</p> <p>DESAGÜE DE 200 MM DE DIÁMETRO INTERIOR, SOBRE TUBERÍA DE PRESIÓN DE CUALQUIER DIÁMETRO, COMPRENDIENDO VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 200 MM DE DIÁMETRO NOMINAL, 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS, CON CUERPO Y TAPA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA. SE INCLUYE ADEMÁS PIEZAS ESPECIALES EN CALDERERÍA (TÉS, CODOS, BRIDAS, ETC) Y ACCESORIOS DE DN-200PN-16, PARA LA CONEXIÓN CON TUBERÍA DE PVC DN 200 PN6, A LOS DESAGÜES EXISTENTES O A ARQUETA DE ACHIQUE. INCLUIDO TAMBIÉN LOS ANCLAJES, CONTRARRESTOS, OBRAS DE TIERRA Y FÁBRICA COMPLEMENTARIAS, COLOCACIÓN Y PRUEBA DE TODA LA UNIDAD.</p> <p>En impulsión a BP3</p>	6				6,000		R05TM111	<p>Ud Carrete desmontaje PN-10/16 DN-150</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 150 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p> <p>By-pass</p>	3				3,000	
							6,00								3,00
SUBCAPÍTULO 10.04 CALDERERÍA Y PROTECCIÓN CATÓDICA															
R05VM1084	<p>Ud Válvula mariposa embridada DN-1000 PN-16</p> <p>VÁLVULA DE MARIPOSA EMBRIDADA 1000 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>Nudo pk 0+612</p> <p>Nudo pk 2+089</p>	2				2,000		MAPCCII	<p>Ud Anodos protección catódica</p> <p>SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PREEMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:</p> <ul style="list-style-type: none"> - TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2. - ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA. - CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD. - CABLE DE CU RV 0,6/1KV 1*6 MM2. - ELECTRODO REFERENCIA PERMANENTE CU/CUSO4. <p>Elementos red</p> <p>Derivaciones</p> <p>Codos</p>	16				16,000	
		1				1,000				3				3,000	
							3,00			11				11,000	
															30,00
SUBCAPÍTULO 10.05 OBRA CIVIL															
R05VC123	<p>Ud Válvula compuerta ø150 mm PN-16</p> <p>VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 150 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>By-pass</p>	3				3,000		R07MP510B	<p>ud Arqueta prefabricada ø120cm</p> <p>ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHEMBROS DE Ø120 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MICROM DE ESPESOR Y PROVISTA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA.</p> <p>En ventosas</p>	5				5,000	
							3,00								5,00
R05TM120	<p>Ud Carrete desmontaje PN-10/16 DN-1000</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 1000 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p> <p>Nudo pk 0+612</p> <p>Nudo pk 2+089</p>	2				2,000		R07MP510	<p>Ud Arqueta prefabricada ø100cm</p> <p>ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHEMBROS DE Ø100 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MICROM DE ESPESOR Y PROVISTA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA.</p> <p>Ventosas</p> <p>Desagües</p>	6				6,000	
		1				1,000				6				6,000	
							3,00								12,00
															3,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R07MP510-2	<p>Ud Arqueta prefabricada ø100cm. Solo en pozo archique desagüe Tipo2</p> <p>ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHEMBRA-DOS DE Ø100 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANI-ZADA EN CALIENTE, DE 250 MM DE ESPESOR Y PROVISTA DE VARILLA PASANTE Y CANDA-DO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POS-TERIOR DEL TRASDÓS DE LA ARQUETA.</p> <p>Doble pozo. Tipo II.</p>	3				3,000	3,00	SUBCAPÍTULO 10.06 OBRAS ESPECIALES							
ARQVALVU	<p>Ud Arqueta para válvulas DN<800, HA-35</p> <p>ARQUETA PARA ALOJAMIENTO DE VÁLVULAS DE SECCIONAMIENTO, CONSTRUIDA "IN SITU", DE 1,50 X 1,50 METROS DE DIMENSIONES INTERIORES Y ALTURA VARIABLE, INFERIOR A 2,50 METROS. CON SOLERA DE 0,25 METROS HORMIGÓN HA-35 CON CEMENTO SR, PARE-DES DE HORMIGÓN ARMADO HA-35 DE 0,20 M DE ESPESOR, ARMADURA EN SOLERA Y PA-REDES A BASE DE MALLAZO DE DIÁMETRO 12 MM CADA 15 CENTÍMETROS POR 15 CENTÍ-METROS, INCLUSO POZO DE ACHIQUE O SALIDA A DESAGÜE CON CONEXIÓN DE CALDERE-RÍA INCLUIDA. TAPA METÁLICA DE ACERO DE 3 MM DE ESPESOR Y ESTRUCTURA CON TRA-TAMIENTO ANTICORROSIVO, MARCO DE SUJECIÓN Y CANDADO. PATES DE ACCESO TOTAL-MENTE INSTALADOS Y FUJADOS EN MURO. COMPLETAMENTE EJECUTADA.</p> <p>Seccionamientos</p>	1				1,000	1,00	R07AT120B	<p>m Paso Hinca Camisa Acero 1200 mm, escudo abierto</p> <p>PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 1220X10,3 MM, A UNA PROFUNDIDAD MÍ-NIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍ-NIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECE-SARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATE-RIAL EXTRAÍDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TE-RRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.</p> <p>Cruce Canal, hinca</p>	1	45,000			45,000	45,00
ARQVALVU3	<p>Ud Arqueta para válvulas DN>=800, HA-35 (4x3 m interior)</p> <p>ARQUETA PARA ALOJAMIENTO DE VÁLVULAS DE SECCIONAMIENTO, CONSTRUIDA "IN SITU", DE 4,00 X 3,00 METROS DE DIMENSIONES INTERIORES Y ALTURA VARIABLE, INFERIOR A 2,50 METROS. CON SOLERA DE 0,30 METROS HORMIGÓN HA-35 CON CEMENTO SR, PARE-DES DE HORMIGÓN ARMADO HA-35 DE 0,25 M DE ESPESOR, ARMADURA EN SOLERA Y PA-REDES A BASE DE MALLAZO DE DIÁMETRO 12 MM CADA 15 CENTÍMETROS POR 15 CENTÍ-METROS, INCLUSO POZO DE ACHIQUE O SALIDA A DESAGÜE CON CONEXIÓN DE CALDERE-RÍA INCLUIDA. TAPA METÁLICA DE ACERO DE 3 MM DE ESPESOR Y ESTRUCTURA CON TRA-TAMIENTO ANTICORROSIVO, MARCO DE SUJECIÓN Y CANDADO. PATES DE ACCESO TOTAL-MENTE INSTALADOS Y FUJADOS EN MURO. COMPLETAMENTE EJECUTADA.</p> <p>Nudo pk 0+612</p> <p>Nudo pk 2+089</p>	1				1,000	1,00	ACEQUIA2	<p>Ud Cruce acequia CHE. Con o sin reposición</p> <p>CRUCE Y REPOSICIÓN DE ACEQUIA CHE EXISTENTE O EQUIVALENTE MEDIANTE PASO INFE-RIOR SIN ALTERAR EL CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGON DE DIÁ-METRO SUPERIOR AL DE LA TUBERÍA, SUJECCIÓN DEL CAJERO Y RELLENO DE HM-20 HAS-TA LA BASE DEL CAJERO. O CRUCE MEDIANTE CORTE DE CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGON DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA Y HM-20 HASTA LA BASE Y REPOSICIÓN DEL CAJERO, DEBIDAMENTE SELLADO. INLCUIDO TODOS LOS COSTES DE GESTIÓN DE RESIDUOS, EXCAVACIONES, CARGAS Y TRANSPORTES NECESARIOS.COM-PLETAMENET EJECUTADO</p> <p>Cruce acequia</p>	1				1,000	1,00
							2,00	R07PC160	<p>m Paso Camino Camisa Hormigón 1600</p> <p>PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1600 MM. ZANJA DE ANCHURA EN LA BASE 2,2 METROS, PROFUNDIDAD VA-RIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 20 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTÍMETROS DE ZAHORRAS COM-PACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.</p> <p>Cruce Camino</p>	3	5,000			15,000	15,00
								R07PC140	<p>m Paso Camino Camisa Hormigón 1400</p> <p>PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1400 MM. ZANJA DE ANCHURA EN LA BASE 2,0 METROS, PROFUNDIDAD VA-RIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 20 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTÍMETROS DE ZAHORRAS COM-PACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.</p> <p>Cruce Camino</p>	3	5,000			15,000	15,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
CAPÍTULO 11 RED DE RIEGO								R01RE010	m³ Relleno Ordinario de Tierras Compactado 85% PN							
SUBCAPÍTULO 11.01 RED PRIMARIA																
APARTADO 11.01.01 MOVIMIENTO DE TIERRAS																
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vaciadados															
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES. SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.															
	Mediciones auxiliares	1	301.573,430				301.573,430		Mediciones auxiliares	1	176.779,330				176.779,330	
	Por tendido de taludes en zonas con agua	0,05	301.573,430				15.078,672		Por tendido de taludes en zonas con agua	0,05	176.779,330				8.838,967	
							316.652,10								185.618,30	
								ZZ0802	m³ Relleno bolos							
	M3. RELLENO DE FONDO DE ZANJA A BASE DE ÁRIDO TIPO BOLO, NO PROCEDENTE DE CANTERA, DE TAMAÑO MAYOR DE 100 MM, PARA ESTABILIZACIÓN Y SANEAMIENTO DE ZANJAS EN ZONA DE LODOS. INCLUSO ADQUISICIÓN, EXTRACCIÓN, CLASIFICACIÓN, CARGA, TRANSPORTE, EXTENDIDO Y COMPACTACIÓN. TOTALMENTE COLOCADO Y RASANTEADO, INCLUSO AGOTAMIENTO.															
	En zona blandones	1	1.000,000				1.000,000								1.000,00	
								APARTADO 11.01.02 TUBERÍAS								
								GFG2A126	m Tubería hormigón post camisa chapa acer, DN 1200, PN 6, SR,							
	TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1200MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO 1/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.															
	R-2	1	1.285,790				1.285,790		R-2	1	1.285,790				1.285,790	
	R-1	1	2.259,870				2.259,870		R-1	1	2.259,870				2.259,870	
	A deducir pasos hincas, tramo acero:								A deducir pasos hincas, tramo acero:							
	CTRA A-129, R-1, PK0+140	-1	30,000				-30,000		CTRA A-129, R-1, PK0+140	-1	30,000				-30,000	
	CTRA A-129, R-2, PK1+126	-1	30,000				-30,000		CTRA A-129, R-2, PK1+126	-1	30,000				-30,000	
	CTRA A-1220, R-1, PK2+245	-1	27,000				-27,000		CTRA A-1220, R-1, PK2+245	-1	27,000				-27,000	
							51.164,60								3.458,66	
R01RE030	m³ Relleno Seleccionado Compactado 95% PN							GFG2A116	m Tubería hormigón post camisa chapa acer, DN 1100, PN 6, SR,							
	RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.															
	Mediciones auxiliares	1	53.088,830				53.088,830									
	Por tendido de taludes en zonas con agua	0,05	53.088,830				2.654,442									
							55.743,27								272,43	
															272,43	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
GFG2A106	m Tubería hormigón post camisa chapa acer, DN 1000, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1000MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO 1/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.							R02TL08A	m TUBO POLIÉSTER ø800 mm PN-6 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 800 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 6 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							
	R-2-3	1	1.020,000			1.020,000			R-1	1	1.726,25			1.726,25		
							1.020,00		R-1-1	1	1.170,86			1.170,86		
									R-6	1	1.046,35			1.046,35		
															3.943,46	
GFG2A100	m Tubería hormigón post camisa chapa acer, DN 1000, PN 10, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1000MM Y PN10 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO 1/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.							R02TL07A	m TUBO POLIÉSTER ø700 mm PN-6 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 700 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 6 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							
	R-4	1	1.998,329			1.998,329			R-6	1	570,01			570,01		
	R-2-3	1	466,462			466,462			R-2	1	674,19			674,19		
	A deducir pasos hincas, tramo acero: CTRA A-129, R-4, PK1+256	-1	27,000			-27,000									1.244,20	
							2.437,79		R02TL06A	m TUBO POLIÉSTER ø600 mm PN-6 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 600 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 6 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.						
GFG2A090	m Tubería hormigón post camisa chapa acer, DN 900, PN 10, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN900MM Y PN10 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO 1/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.								R-1-1	1	1.841,13			1.841,13		
	R-4								R-4	1	347,81			347,81		
									R-6	1	827,91			827,91		
									R-6	1	311,48			311,48		
															3.328,33	
	R-4	1	1.769,831			1.769,831			R02TL05A	m TUBO POLIÉSTER ø500 mm PN-6 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 500 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 6 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.						
							1.769,83		R-1-1	1	459,03			459,03		
									R-2-3-1	1	1.143,70			1.143,70		
									R-4	1	391,73			391,73		
									R-2-1	1	574,32			574,32		
									R-6-9	1	304,38			304,38		
									R-2-1	1	776,17			776,17		
															3.649,33	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
R02TL08B	m TUBO POLIÉSTER ø800 mm PN-10 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 800 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 10 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							R02TL05B	m TUBO POLIÉSTER ø500 mm PN-10 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 500 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 10 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							
	R-1	1	212,44			212,44			R-1-1	1	164,09			164,09		
	R-3	1	505,97			505,97			R-4	1	274,56			274,56		
	A deducir pasos hincas, tramo acero:								R-5	1	398,66			398,66		
	CTRA A-129, R-3, PK0+484	-1	31,00			-31,00			R-6	1	4.148,66			4.148,66		
	CTRA A-129, R-1, PK3+071	-1	27,00			-27,00			R-2-1	1	1.104,26			1.104,26		
							660,41		R-6-9-2	1	177,16			177,16		
									R-1-6	1	1.791,39			1.791,39		
									R-1-6-2	1	1.308,29			1.308,29		
									R-2-3	1	1.286,22			1.286,22		
									R-2-3-1	1	947,92			947,92		
															11.601,21	
R02TL07B	m TUBO POLIÉSTER ø700 mm PN-10 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 700 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 10 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							R02TE814C	m TUBERÍA PEAD PN-8 DN-140 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 140 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 8 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							
	R-4	1	775,80			775,80			R-2-2	1	536,90			536,90		
	R-1	1	734,34			734,34									536,90	
	R-6	1	1.985,70			1.985,70										
	R-2	1	908,37			908,37										
	R-2-3	1	870,21			870,21										
							5.274,42									
R02TL06B	m TUBO POLIÉSTER ø600 mm PN-10 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 600 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 10 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							R02TE816C	m TUBERÍA PEAD PN-8 DN-160 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 160 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 8 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							
	R-1	1	1.922,87			1.922,87			R-1-2	1	365,78			365,78		
	R-4	1	216,04			216,04									365,78	
	R-6	1	121,24			121,24										
	R-1	1	1.091,28			1.091,28										
	R-2	1	133,61			133,61										
	R-2-3	1	543,41			543,41										
	R-2-3-1	1	1.579,73			1.579,73										
	R-2-1	1	2.267,54			2.267,54										
	R-3	1	644,43			644,43										
	R-3-4	1	564,08			564,08										
	R-6	1	306,62			306,62										
	R-6-9	1	453,74			453,74										
	A deducir pasos hincas, tramo acero:															
	CTRA A-129, R-1, PK3+071	-1	27,00			-27,00										
	CTRA A-1220 R-2, PK3+245	-1	27,00			-27,00										
	CTRA A-1221 R-6-9, PK0+140	-1	23,00			-23,00										
							9.767,59								302,25	
															302,25	
															302,25	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R02TE820G	m TUBERÍA PEAD PN-8 DN-200 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 200 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 8 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							R02TE12C	m TUBERÍA PEAD PN-10 DN-125 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 125 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.						
	R-1-2	1	268,40			268,40			R-6-8	1	89,20			89,20	
							268,40		R-6-5	1	304,62			304,62	
									R-6-1	1	789,69			789,69	
									R-4-12-3	1	91,11			91,11	
									R-4-1	1	88,92			88,92	
									R-3	1	144,76			144,76	
									R-2-5	1	263,27			263,27	
									R-2-3-1-4	1	157,89			157,89	
									R-2-3-1-3	1	139,46			139,46	
									R-2-1-1	1	265,48			265,48	
									R-1-5	1	13,56			13,56	
									R-1-4	1	254,49			254,49	
									R-1-1-8	1	104,47			104,47	
									DERIVACION A H166	1	19,46			19,46	
									DERIVACION A H117	1	16,80			16,80	
									DERIVACION A H120	1	21,87			21,87	
									DERIVACION A H145	1	19,01			19,01	
									DERIVACION A H173	1	20,12			20,12	
									DERIVACION A H178	1	33,40			33,40	
									DERIVACION A H184	1	14,46			14,46	
									DERIVACION A H189	1	21,49			21,49	
									DERIVACION A H205	1	51,77			51,77	
									DERIVACION A H206	1	14,02			14,02	
									DERIVACION A H213	1	12,61			12,61	
									DERIVACION A H220	1	24,83			24,83	
									DERIVACION A H228	1	48,47			48,47	
									DERIVACION A H23	1	30,50			30,50	
									DERIVACION A H24 Y H28	1	24,38			24,38	
									DERIVACION A H252	1	47,71			47,71	
									DERIVACION A H285	1	15,93			15,93	
									DERIVACION A H300	1	20,14			20,14	
									DERIVACION A H345	1	17,46			17,46	
									DERIVACION A H38	1	21,12			21,12	
															3.202,47
R02TE09C	m TUBERÍA PEAD PN-10 DN-90 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 90 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.														
	R-6-9-1-2	1	148,94			148,94									
	R-4-10	1	204,14			204,14									
	R-2-4	1	88,95			88,95									
	R-1-7	1	267,63			267,63									
	DERIVACION A H219	1	11,84			11,84									
	DERIVACION A H330	1	46,76			46,76									
							768,26								
R02TE11C	m TUBERÍA PEAD PN-10 DN-110 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 110 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.														
	R-6-12-1	1	133,77			133,77									
	R-6-12	1	195,94			195,94									
	R-4-8-2	1	133,53			133,53									
	R-4-12	1	251,13			251,13									
	R-3-6	1	63,89			63,89									
	R-2-3-1-6	1	32,89			32,89									
	R-2-1-3	1	102,84			102,84									
	R-1-8	1	299,35			299,35									
	R-1-5	1	231,66			231,66									
	R-1-1-4	1	850,14			850,14									
	DERIVACION A H237	1	10,67			10,67									
	DERIVACION A H114	1	29,43			29,43									
	DERIVACION A H119	1	18,22			18,22									
	DERIVACION A H125	1	14,41			14,41									
	DERIVACION A H143	1	15,58			15,58									
	DERIVACION A H170	1	20,00			20,00									
	DERIVACION A H215	1	14,01			14,01									
							2.417,46								

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
R02TE14C	m TUBERÍA PEAD PN-10 DN-140 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 140 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							R02TE18C	m TUBERÍA PEAD PN-10 DN-180 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 180 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							
	R-6	1	68,08			68,08			R-6-9	1	136,92			136,92		
	R-4-6	1	138,36			138,36			R-6-8	1	121,69			121,69		
	R-4-4	1	24,35			24,35			R-4-12-2	1	226,63			226,63		
	R-2-3-2	1	320,06			320,06			R-4-12	1	286,73			286,73		
	R-2-3-1-2	1	119,85			119,85			R-3-4	1	20,44			20,44		
	R-2-3-1-1	1	137,18			137,18			R-2-5	1	222,58			222,58		
	R-2-1-8	1	120,55			120,55			R-2-3-1-5	1	32,71			32,71		
	R-2-1-6	1	102,35			102,35			R-2-3-1-2	1	18,77			18,77		
	R-2-1-4	1	326,14			326,14			R-2-3-1-1-2	1	62,48			62,48		
	DERIVACION A H187	1	20,02			20,02			R-2-1-6	1	64,91			64,91		
	DERIVACION A H333	1	29,73			29,73			R-2-1-4	1	90,80			90,80		
							1.406,67		R-2-1	1	20,07			20,07		
									R-1-4	1	582,79			582,79		
R02TE16C	m TUBERÍA PEAD PN-10 DN-160 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 160 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.								R-1-3	1	502,90			502,90		
	R-6-9-3	1	11,47			11,47			R-1-16	1	104,84			104,84		
	R-6-8	1	470,96			470,96			R-1-14	1	491,59			491,59		
	R-6-8	1	37,67			37,67			R-1-1	1	492,14			492,14		
	R-3-1	1	84,12			84,12			DERIVACION A H24 Y H28	1	24,58			24,58		
	R-3	1	151,29			151,29			DERIVACION A H270	1	20,60			20,60		
	R-2-3-1-5	1	246,44			246,44									3.524,17	
	R-2-3-12	1	175,00			175,00										
	R-2-1-1	1	51,07			51,07			R02TE20C	m TUBERÍA PEAD PN-10 DN-200 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 200 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.						
	R-1-4	1	354,18			354,18				R-6-9	1	213,04			213,04	
	R-1-14	1	283,12			283,12				R-6	1	319,65			319,65	
	R-1-10	1	329,75			329,75				R-4-14	1	132,30			132,30	
	DERIVACION A H141	1	25,36			25,36				R-4-12-1	1	96,46			96,46	
	DERIVACION A H225	1	20,87			20,87				R-4-12	1	348,39			348,39	
	DERIVACION A H292	1	24,41			24,41				R-3-1	1	22,42			22,42	
	DERIVACION A H296	1	15,94			15,94				R-2-3-1-6	1	293,83			293,83	
	DERIVACION A H340	1	17,30			17,30				R-2-1	1	252,35			252,35	
							2.298,95			DERIVACION A H224	1	23,89			23,89	
															1.702,33	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R02TE22C	m TUBERÍA PEAD PN-10 DN-225 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 225 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							R02TE31C	m TUBERÍA PEAD PN-10 DN-315 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 315 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.						
	R-6-9-1	1	369,03			369,03			R-6-3	1	357,39			357,39	
	R-4-14	1	18,25			18,25			R-4-8-1	1	286,03			286,03	
	R-2-3-1-1	1	524,87			524,87			R-4-8	1	98,02			98,02	
	R-2-1	1	58,70			58,70			R-3	1	1.048,31			1.048,31	
	R-2-1	1	54,25			54,25			R-2-3-4	1	31,90			31,90	
	R-1-6-2-1	1	134,88			134,88			R-2-3-3	1	406,60			406,60	
							1.159,98		R-2-3-1	1	308,62			308,62	
									R-2-1-3	1	249,17			249,17	
									R-2-1-12	1	132,28			132,28	
									R-2-1	1	368,14			368,14	
									R-2-1	1	372,19			372,19	
									R-1-6	1	230,87			230,87	
									R-1-1-6	1	208,43			208,43	
									R-1-1-2	1	258,30			258,30	
									R-1	1	537,80			537,80	
															4.894,05
R02TE25C	m TUBERÍA PEAD PN-10 DN-250 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 250 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							R02TE35C	m TUBERÍA PEAD PN-10 DN-355 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 355 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.						
	R-3-1	1	228,93			228,93			R-4-8	1	752,05			752,05	
	R-3	1	207,12			207,12			R-4-4	1	39,51			39,51	
	R-2-3-4	1	580,75			580,75			R-4-12	1	348,26			348,26	
	R-2-1-3	1	19,08			19,08			R-2-3-1	1	92,94			92,94	
	R-2-1-12	1	261,17			261,17			R-2-1	1	273,18			273,18	
	R-2-1	1	200,44			200,44			R-1-6	1	358,91			358,91	
	R-1-6-6	1	265,26			265,26			R-1-1	1	315,35			315,35	
	R-1-6-4	1	244,40			244,40									2.180,20
	R-1-10	1	59,08			59,08									
	R-1	1	851,86			851,86									
							2.918,09								

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R02TE40C	m TUBERÍA PEAD PN-10 DN-400 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 400 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							R02TE12D	m TUBERÍA PEAD PN-16 DN-125 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 125 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.						
	R-6-9-2	1	426,55			426,55			R-6-4	1	24,86			24,86	
	R-6-9	1	218,82			218,82			R-6-10	1	227,54			227,54	
	R-4-8	1	86,95			86,95			R-4-2	1	75,32			75,32	
	R-4	1	675,72			675,72			R-2-3	1	167,43			167,43	
	R-1-7-1	1	195,45			195,45			R-2-1	1	74,12			74,12	
	R-1-7	1	229,31			229,31			R-2	1	284,90			284,90	
	R-1	1	221,90			221,90			R-1-6-6	1	368,84			368,84	
							2.054,70		R-1	1	380,62			380,62	
									DERIVACION A H304	1	33,24			33,24	
									DERIVACION A H305	1	31,95			31,95	
									DERIVACION A H307	1	26,13			26,13	
									DERIVACION A H328	1	45,54			45,54	
									DERIVACION A H44	1	7,18			7,18	
															1.747,67
R02TE09D	m TUBERÍA PEAD PN-16 DN-90 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 90 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							R02TE14D	m TUBERÍA PEAD PN-16 DN-140 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 140 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.						
	R-6-3-4	1	112,96			112,96			R-6-3-2	1	108,33			108,33	
							112,96		R-4-14	1	498,56			498,56	
									R-1-12	1	170,34			170,34	
									DERIVACION A H317	1	38,42			38,42	
															815,65
R02TE11D	m TUBERÍA PEAD PN-16 DN-110 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 110 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							R02TE16D	m TUBERÍA PEAD PN-16 DN-160 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 160 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.						
	R-6-9-3-2	1	75,06			75,06			R-6-9-1	1	145,02			145,02	
	R-6-7	1	226,59			226,59			R-6-8	1	114,82			114,82	
	R-6-2	1	34,06			34,06			R-6-12	1	284,43			284,43	
	R-6-11	1	247,35			247,35			R-2-6	1	99,30			99,30	
	R-4-8	1	298,85			298,85			R-2-3-10	1	691,53			691,53	
	R-4-16	1	126,25			126,25			R-1-6-2	1	118,39			118,39	
	R-4-12	1	298,95			298,95			R-1-6	1	23,26			23,26	
	R-2-3-12	1	275,42			275,42			R-1-14	1	231,69			231,69	
	R-2-3-10	1	165,63			165,63									1.708,44
	R-2-1-3	1	142,93			142,93									
	R-1-6	1	418,80			418,80									
							2.309,89								

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R02TE18D	m TUBERÍA PEAD PN-16 DN-180 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 180 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							R02TE25D	m TUBERÍA PEAD PN-16 DN-250 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 250 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.						
	R-6-8	1	160,85			160,85			R-6-9-3	1	399,66			399,66	
	R-6-4	1	529,40			529,40			R-6-9	1	276,42			276,42	
	R-6-3-2	1	504,34			504,34			R-6	1	230,06			230,06	
	R-6-3	1	183,59			183,59			R-4	1	300,71			300,71	
	R-6-2	1	190,24			190,24			R-2-3-8	1	35,77			35,77	
	R-6-11	1	16,78			16,78			R-2-3	1	544,21			544,21	
	R-4-2	1	142,98			142,98			R-2-1-2	1	811,15			811,15	
	R-2-6	1	199,21			199,21			R-2-1-12	1	134,80			134,80	
	R-1-9	1	155,97			155,97			R-2-1	1	221,88			221,88	
	R-1-6-2	1	265,14			265,14			R-1-6-6	1	114,29			114,29	
	R-1-12	1	92,11			92,11			R-1-6-2-1	1	277,09			277,09	
							2.440,61		R-1	1	792,02			792,02	
R02TE20D	m TUBERÍA PEAD PN-16 DN-200 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 200 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							R02TE31D	m TUBERÍA PEAD PN-16 DN-315 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 315 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.						4.138,06
	R-6-3	1	592,18			592,18			R-6-9-3	1	301,12			301,12	
	R-6	1	420,81			420,81			R-6-9	1	539,76			539,76	
	R-2-3-4	1	297,64			297,64			R-6-3	1	218,39			218,39	
	R-2-1-10	1	72,06			72,06			R-6-12	1	533,00			533,00	
	R-2	1	218,46			218,46			R-3-2	1	480,26			480,26	
	R-1-6-2	1	324,55			324,55			R-2-6	1	33,98			33,98	
							1.925,70		R-2-3-6	1	506,56			506,56	
R02TE22D	m TUBERÍA PEAD PN-16 DN-225 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 225 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.							R02TE35D	m TUBERÍA PEAD PN-16 DN-355 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 355 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.						3.749,94
	R-6-3-2	1	158,11			158,11			R-6-9	1	219,29			219,29	
	R-6-11	1	17,25			17,25			R-6-6	1	189,06			189,06	
	R-4-2	1	561,55			561,55			R-6	1	707,76			707,76	
	R-2-6	1	21,61			21,61			R-2-3-8	1	1.070,25			1.070,25	
	R-2-3-10	1	535,57			535,57									
	R-2	1	38,32			38,32									
	R-1-9	1	410,03			410,03									
	R-1-6-2-1	1	236,97			236,97									
	R-1-6	1	599,25			599,25									
							2.578,66								2.186,36

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
APARTADO 11.01.03 ELEMENTOS ELECTROMECÁNICOS								R03VE004	Ud Ventosa trifuncional ø80 PN-16							
R03VE008	Ud Ventosa trifuncional ø200 PN-16								VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 80 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 80 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							
	En redes	7					7,000		En redes	26					26,000	
	En seccionamiento	1					1,000		Seccionamientos	8					8,000	
															34,00	
							8,00	R03VE002	Ud Ventosa trifuncional ø50 PN-16							
R03VE006	Ud Ventosa trifuncional ø150 PN-16								VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 50 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE ESFERA PARA ROSCA DN 50 MM PN-16 SOBRE TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							
	En redes	20					20,000		En redes	83					83,000	
	Seccionamientos	5					5,000		Seccionamientos	6					6,000	
															89,00	
							25,00	R05DE200A	Ud Desagüe de 200 mm PN-16 y conexión.							
R03VE005	Ud Ventosa trifuncional ø100 PN-16								DESAGÜE DE 200 MM DE DIÁMETRO INTERIOR, SOBRE TUBERÍA DE PRESIÓN DE CUALQUIER DIÁMETRO, COMPRENDIENDO VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 200 MM DE DIÁMETRO NOMINAL, 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS, CON CUERPO Y TAPA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA. SE INCLUYE ADEMÁS PIEZAS ESPECIALES EN CALDERERÍA (TÉS, CODOS, BRIDAS, ETC) Y ACCESORIOS DE DN-200PN-16, PARA LA CONEXIÓN CON TUBERÍA DE PVC DN 200 PN6, A LOS DESAGÜES EXISTENTES O A ARQUETA DE ACHIQUE. INCLUIDO TAMBIÉN LOS ANCLAJES, CONTRARRESTOS, OBRAS DE TIERRA Y FÁBRICA COMPLEMENTARIAS, COLOCACIÓN Y PRUEBA DE TODA LA UNIDAD.							
	En redes	66					66,000		En redes	63					63,000	
	Seccionamientos	18					18,000								63,00	
															84,00	
							84,00	R05DE100A	Ud Desagüe de 100 mm PN-16 y conexión.							
									DESAGÜE DE 100 MM DE DIÁMETRO INTERIOR, SOBRE TUBERÍA DE PRESIÓN DE CUALQUIER DIÁMETRO, COMPRENDIENDO VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 100 MM DE DIÁMETRO NOMINAL, 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS, CON CUERPO Y TAPA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA. SE INCLUYE ADEMÁS PIEZAS ESPECIALES EN CALDERERÍA (TÉS, CODOS, BRIDAS, ETC) Y ACCESORIOS DE DN-100 PN-16, PARA LA CONEXIÓN CON TUBERÍA DE PVC DN 110 PN6, A LOS DESAGÜES EXISTENTES O A ARQUETA DE ACHIQUE. INCLUIDO TAMBIÉN LOS ANCLAJES, CONTRARRESTOS, OBRAS DE TIERRA Y FÁBRICA COMPLEMENTARIAS, COLOCACIÓN Y PRUEBA DE TODA LA UNIDAD.							
									En redes	89					89,000	
															89,00	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R05TM125	Ud Carrete desmontaje PN-10/16 DN-1200 CARRETE TELESCÓPICO DE DESMONTAJE DE 1200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. En impulsión a BP1	1				1,000	1,00	R05TM117	Ud Carrete desmontaje PN-10/16 DN-600 CARRETE TELESCÓPICO DE DESMONTAJE DE 600 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. Seccionamientos	7				7,000	7,00
R05TM120	Ud Carrete desmontaje PN-10/16 DN-1000 CARRETE TELESCÓPICO DE DESMONTAJE DE 1000 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. Seccionamientos	2				2,000	2,00	R05TM116	Ud Carrete desmontaje PN-10/16 DN-500 CARRETE TELESCÓPICO DE DESMONTAJE DE 500 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. Seccionamientos	9				9,000	9,00
R05TM119	Ud Carrete desmontaje PN-10/16 DN-900 CARRETE TELESCÓPICO DE DESMONTAJE DE 900 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. Seccionamientos	1				1,000	1,00	R05TM115	Ud Carrete desmontaje PN-10/16 DN-400 CARRETE TELESCÓPICO DE DESMONTAJE DE 400 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. Seccionamientos	1				1,000	1,00
R05TM118	Ud Carrete desmontaje PN-10/16 DN-800 CARRETE TELESCÓPICO DE DESMONTAJE DE 800 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. Seccionamientos	2				2,000	2,00	R05TM1135	Ud Carrete desmontaje PN-10/16 DN-350 CARRETE TELESCÓPICO DE DESMONTAJE DE 350 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. Seccionamientos	2				2,000	2,00
R05TM117D	ud Carrete desmontaje PN-10/16 DN-700 CARRETE TELESCÓPICO DE DESMONTAJE DE 700 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. Seccionamientos	2				2,000	2,00	R05TM113	Ud Carrete desmontaje PN-10/16 DN-300 CARRETE TELESCÓPICO DE DESMONTAJE DE 300 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. Seccionamientos	5				5,000	5,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R05TM112	Ud Carrete desmontaje PN-10/16 DN-250 CARRETE TELESCÓPICO DE DESMONTAJE DE 250 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							R05VM012	Ud Válvula mariposa embridada DN 1200 PN-10 VÁLVULA DE MARIPOSA EMBRIDADA 1200 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.						
	Seccionamientos	2				2,000			En impulsión a BP1	1				1,000	
							2,00								1,00
R05TM111-1	Ud Carrete desmontaje PN-10/16 DN-200 CARRETE TELESCÓPICO DE DESMONTAJE DE 200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							R05VM1084	Ud Válvula mariposa embridada DN-1000 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 1000 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.						
	Seccionamientos	1				1,000			Seccionamientos	2				2,000	
							1,00								2,00
R05TM111	Ud Carrete desmontaje PN-10/16 DN-150 CARRETE TELESCÓPICO DE DESMONTAJE DE 150 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							R05VM1083	ud Válvula mariposa embridada DN-900 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 900 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.						
	By-pass seccionamientos DN>=1000	3				3,000			Seccionamientos	1				1,000	
							3,00								1,00
R05TM100	Ud Carrete desmontaje PN-16 DN-100 CARRETE TELESCÓPICO DE DESMONTAJE DE 100 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.							R05VM1082	Ud Válvula mariposa embridada DN-800 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 800 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.						
	Seccionamientos	1				1,000			Seccionamientos	2				2,000	
	By-pass seccionamientos 500<=DN<1000	21				21,000									2,00
							22,00								
								R05VM1081	ud Válvula mariposa embridada DN-700 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 700 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.						
									Seccionamientos	2				2,000	
															2,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R05VM106	<p>Ud Válvula mariposa embridada DN-600 PN-16</p> <p>VÁLVULA DE MARIPOSA EMBRIDADA 600 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>Seccionamientos 7</p>					7,000		R05VC130	<p>Ud Válvula compuerta ø300 mm PN-16</p> <p>VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 300 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>Seccionamientos 5</p>					5,000	
							7,00								5,00
R05VM105	<p>Ud Válvula mariposa embridada DN-500 PN-16</p> <p>VÁLVULA DE MARIPOSA EMBRIDADA 500 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>Seccionamientos 9</p>					9,000		R05VC125	<p>Ud Válvula compuerta ø250 mm PN-16</p> <p>VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 250 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>Seccionamientos 2</p>					2,000	
							9,00								2,00
R05VM104	<p>Ud Válvula mariposa embridada DN-400 PN-16</p> <p>VÁLVULA DE MARIPOSA EMBRIDADA 400 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>Seccionamientos 1</p>					1,000		R05VC124	<p>Ud Válvula compuerta ø200 mm PN-16</p> <p>VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 250 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>Seccionamientos 1</p>					1,000	
							1,00								1,00
R05VC135	<p>Ud Válvula compuerta ø350 mm PN-16</p> <p>VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 350 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>Seccionamientos 2</p>					2,000		R05VC123	<p>Ud Válvula compuerta ø150 mm PN-16</p> <p>VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 150 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>By-pass seccionamientos DN>=1000 3</p>					3,000	
							2,00								3,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R05VC116-1	<p>Ud Válvula compuerta ø100 mm PN-16</p> <p>VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 100 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>Seccionamientos 1 1,000</p> <p>By-pass seccionamientos 21 21,000</p> <p>500<=DN<1000</p>						22,00	D7408020ABP	<p>Ud Hidrante 3"cont reg lim - DNfiltro=DNválvula Baja perdida</p> <p>HIDRANTE 3" DE BAJA PERDIDA CON CONTADOR PROPORCIONAL DN 80 CON EMISOR DE PULSOS CADA 1000 L, VÁLVULA HIDRÁULICA LIMITADORA DE CAUDAL TIPO PALETA Y LIMITADORA DE PRESIÓN, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTARDOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 3" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN, PICAJE CON BRIDA CIEGA PARA TOMA AUXILIAR Y DOBLE CHAPA DE ACERO DE 3 MM CON PINTURA DE PROTECCIÓN CON JUNTA DE NEOPRENO COLOCADA EN LA PARED DEL HIDRANTE PARA LA TUBERÍA DE SALIDO HORIZONTAL. INCLUIDA LA CONEXIÓN A INSTALACIÓN EXISTENTE EN SU CASO (MANO DE OBRA Y MATERIAL DE UNIÓN). COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p> <p>Hidrantes individuales</p> <p>Zona Bombeos 54 54,000</p> <p>Zona Presión Natural 13 13,000</p> <p>A deducir por compartidos:</p> <p>Zona Bombeos -26 -26,000</p> <p>Zona Presión Natural -2 -2,000</p>						39,00
D7408020BBP	<p>Ud Hidrante 2"cont reg lim - DNfiltro=DNválvula Baja perdida</p> <p>HIDRANTE 2" DE BAJA PERDIDA CON CONTADOR PROPORCIONAL DN 50 CON EMISOR DE PULSOS CADA 1000 L, VÁLVULA HIDRÁULICA LIMITADORA DE CAUDAL TIPO PALETA Y LIMITADORA DE PRESIÓN, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTARDOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 2" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN, PICAJE CON BRIDA CIEGA PARA TOMA AUXILIAR Y DOBLE CHAPA DE ACERO DE 3 MM CON PINTURA DE PROTECCIÓN CON JUNTA DE NEOPRENO COLOCADA EN LA PARED DEL HIDRANTE PARA LA TUBERÍA DE SALIDO HORIZONTAL. INCLUIDA LA CONEXIÓN A INSTALACIÓN EXISTENTE EN SU CASO (MANO DE OBRA Y MATERIAL DE UNIÓN). COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p> <p>Hidrantes individuales</p> <p>Zona Bombeos 11 11,000</p> <p>Zona Presión Natural 1 1,000</p> <p>A deducir por compartidos:</p> <p>Zona Bombeos -5 -5,000</p> <p>Zona Presión Natural -1 -1,000</p>						6,00	D7408030BP	<p>Ud Hidrante 4"cont reg lim - DNfiltro=DNválvula Baja perdida</p> <p>HIDRANTE 4" DE BAJA PERDIDA CON CONTADOR PROPORCIONAL DN 100 CON EMISOR DE PULSOS CADA 1000 L, VÁLVULA HIDRÁULICA LIMITADORA DE CAUDAL TIPO PALETA Y LIMITADORA DE PRESIÓN, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTARDOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 4" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN, PICAJE CON BRIDA CIEGA PARA TOMA AUXILIAR Y DOBLE CHAPA DE ACERO DE 3 MM CON PINTURA DE PROTECCIÓN CON JUNTA DE NEOPRENO COLOCADA EN LA PARED DEL HIDRANTE PARA LA TUBERÍA DE SALIDO HORIZONTAL. INCLUIDA LA CONEXIÓN A INSTALACIÓN EXISTENTE EN SU CASO (MANO DE OBRA Y MATERIAL DE UNIÓN). COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p> <p>Hidrantes individuales</p> <p>Zona Bombeos 132 132,000</p> <p>Zona Presión Natural 28 28,000</p> <p>A deducir por compartidos:</p> <p>Zona Bombeos -44 -44,000</p> <p>Zona Presión Natural -11 -11,000</p>						105,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
D74080302BP	<p>Ud Hidrante 6"cont reg lim - DNfiltro=DNválvula Baja perdida</p> <p>HIDRANTE DE BAJA PERDIDA CON CONTADOR PROPORCIONAL DN 150 CON EMISOR DE PULSOS CADA 1000 L, VÁLVULA HIDRÁULICA LIMITADORA DE CAUDAL TIPO PALETA Y LIMITADORA DE PRESIÓN, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSCADA CON ADAPTADOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 6" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARIA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN, PICAJE CON BRIDA CIEGA PARA TOMA AUXILIAR Y DOBLE CHAPA DE ACERO DE 3 MM CON PINTURA DE PROTECCIÓN CON JUNTA DE NEOPRENO COLOCADA EN LA PARED DEL HIDRANTE PARA LA TUBERÍA DE SALIDO HORIZONTAL. INCLUIDA LA CONEXIÓN A INSTALACIÓN EXISTENTE EN SU CASO (MAÑO DE OBRA Y MATERIAL DE UNIÓN). COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p>							D7408020	<p>Ud Hidrante COMPARTIDO de 2"cont reg lim, hasta 5 tomas</p> <p>HIDRANTE 2" CON VÁLVULA HIDRÁULICA TIPO SERIE 400, REDUCTORA DE PRESIÓN Y LIMITADOR DE CAUDAL TIPO PALETA, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTARDOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 2" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARIA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN. COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p>							
	Hidrantes 2"															
	Zona Bombeos	5												5,000		
	Zona Presión Natural	1												1,000		
															6,00	
	Hidrantes individuales							D7408020-2	<p>Ud Hidrante COMPARTIDO de 3"cont reg lim, hasta 5 tomas</p> <p>HIDRANTE 3" CON VÁLVULA HIDRÁULICA TIPO SERIE 400, REDUCTORA DE PRESIÓN Y LIMITADOR DE CAUDAL TIPO PALETA, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTARDOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 3" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARIA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN. COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p>							
	Zona Bombeos	49												49,000		
	Zona Presión Natural	6												6,000		
	A deducir por compartidos:															
	Zona Bombeos	-4												-4,000		
	Zona Presión Natural	-1												-1,000		
															50,00	
D74080303BP	<p>Ud Hidrante 8"cont reg lim - DNfiltro=DNválvula Baja perdida</p> <p>HIDRANTE DE BAJA PERDIDA CON CONTADOR PROPORCIONAL DN 200 CON EMISOR DE PULSOS CADA 1000 L, VÁLVULA HIDRÁULICA LIMITADORA DE CAUDAL TIPO PALETA Y LIMITADORA DE PRESIÓN, CON PILOTO DE 3 VÍAS Y SOLENOIDE TIPO LATCH, FFILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSCADA CON ADAPTADOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 6" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARIA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN, PICAJE CON BRIDA CIEGA PARA TOMA AUXILIAR Y DOBLE CHAPA DE ACERO DE 3 MM CON PINTURA DE PROTECCIÓN CON JUNTA DE NEOPRENO COLOCADA EN LA PARED DEL HIDRANTE PARA LA TUBERÍA DE SALIDO HORIZONTAL. INCLUIDA LA CONEXIÓN A INSTALACIÓN EXISTENTE EN SU CASO (MAÑO DE OBRA Y MATERIAL DE UNIÓN). COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p>															
	Hidrantes individuales							D74080302-4	<p>Ud Hidrante COMPARTIDO de 4"cont reg lim, hasta 5 tomas</p> <p>HIDRANTE 4" CON VÁLVULA HIDRÁULICA TIPO SERIE 400, REDUCTORA DE PRESIÓN Y LIMITADOR DE CAUDAL TIPO PALETA, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTARDOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 4" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARIA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN. COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p>							
	Zona Bombeos	35												35,000		
	Zona Presión Natural	12												12,000		
	A deducir por compartidos:															
	Zona Bombeos															
	Zona Presión Natural															
															47,00	
	Hidrantes 3"															
	Zona Bombeos	26												26,000		
	Zona Presión Natural	2												2,000		
															28,00	
	Hidrantes 4"															
	Zona Bombeos	44												44,000		
	Zona Presión Natural	11												11,000		
															55,00	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD				
D74080302-6	<p>Ud Hidrante COMPARTIDO de 6"cont reg lim, hasta 5 tomas</p> <p>HIDRANTE 6" CON VÁLVULA HIDRÁULICA TIPO SERIE 400, REDUCTORA DE PRESIÓN Y LIMITADOR DE CAUDAL TIPO PALETA, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTADOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 6" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN. COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p> <p>Hidrantes 6 "</p> <p>Zona Bombeos 4</p> <p>Zona Presión Natural 1</p>					4,000	1,000		<p>MAPCCII Ud Anodos protección catódica</p> <p>SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PRE-EMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:</p> <p>- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2.</p> <p>- ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA.</p> <p>- CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD.</p> <p>- CABLE DE CU RV 0,6/1KV 1*6 MM2.</p> <p>- ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.</p> <p>Paso desagüe 7</p> <p>Seccionamientos 37</p> <p>VT y DG 93</p> <p>hidrantes 321</p> <p>Derivaciones 116</p> <p>Codos 131</p>					7,000	37,000	93,000	321,000	116,000	131,000
							5,00								705,00				
CON2	<p>Ud CONTADOR TANGENCIAL 2" CON VALVULA</p> <p>CONTADOR DE AGUA TANGENCIAL CON EMISOR DE PULSOS, DE DIÁMETRO 2" Y 16 ATM DE PRESIÓN DE TRABAJO, INCLUSO VÁLVULA DE COMPUERTA DN50, CALDERERÍA, BRIDAS, JUNTAS, TORNILLERÍA PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA.</p> <p>En hidrantes compartidos:</p> <p>Zona Bombeos 6</p> <p>Zona Presión Natural 27</p>					6,0000	27,0000		APARTADO 11.01.04 OBRA CIVIL										
							33,00												
CON3	<p>Ud CONTADOR TANGENCIAL 3" CON VALVULA</p> <p>CONTADOR DE AGUA TANGENCIAL CON EMISOR DE PULSOS, DE DIÁMETRO 3" Y 16 ATM DE PRESIÓN DE TRABAJO, INCLUSO VÁLVULA DE COMPUERTA DN80, CALDERERÍA, BRIDAS, JUNTAS, TORNILLERÍA PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA.</p> <p>En hidrantes compartidos:</p> <p>Zona Bombeos 24</p> <p>Zona Presión Natural 181</p>					24,0000	181,0000												
							205,00												
CON4	<p>Ud CONTADOR TANGENCIAL 4" CON VALVULA</p> <p>CONTADOR DE AGUA TANGENCIAL CON EMISOR DE PULSOS, DE DIÁMETRO 4" Y 16 ATM DE PRESIÓN DE TRABAJO, INCLUSO VÁLVULA DE COMPUERTA DN100, CALDERERÍA, BRIDAS, JUNTAS, TORNILLERÍA PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA.</p> <p>En hidrantes compartidos:</p> <p>Zona Bombeos 2</p> <p>Zona Presión Natural 4</p>					2,0000	4,0000												
							6,00												

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
ARQHIDRAN-TE1B	Ud Arqueta para Hidrante, Tipo Armario Hormigón Arm. 2,00x1,00x1,40							ARQHIDRAN-TE2	Ud Arqueta para Hidrante, Tipo Armario Hormigón Arm. 2,50x1,50x2,20						
	ARQUETA PARA ALOJAMIENTO DE HIDRANTE DE 3" Y 4", FORMADA POR ARMARIO PREFABRICADO DE DIMENSIONES INTERIORES 2,00X1,00X1,40 M, EN HA-25, TRATADO CON ADITIVO FLUIDIFICANTE, ARMADO PARA RESISTIR LAS SOLICITACIONES PROPIAS A LAS QUE ESTÁ DESTINADO, CON DOS PUERTAS DE ACERO GALVANIZADO DE 1,5 MM CON NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA TANTO EN PUERTAS COMO EN PARTE TRASERA DE ARQUETA, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE Y CANDADO CENTRAL. SEPARACIÓN ESPACIOS CR-USUARIO MEDIANTE LÁMINA METÁLICA. INCLUYE LLAVE MAESTRA PARA EL GESTOR DE LA COMUNIDAD DE REGANTES E INDIVIDUAL PARA USUARIO Y PLETINAS SOLDADAS A LA PUERTA (PREVIO AL GALVANIZADO) PARA EL CIERRE MEDIANTE CANDADO. INCLUYE ROTULACIÓN DE ARQUETA CON DENOMINACIÓN DEL HIDRANTE. INCLUYE REJILLAS TIPO MOSQUITERA EN TODOS LOS AGUJEROS DE LA CASETA QUE COMUNIQUEN CON EL EXTERIOR. INCLUYE CHAPA DE ACERO E=4 MM GALVANIZADA (E MEDIO 70 MICRAS, E MIN 55 MICRAS) DE DIMENSIONES 50 CM X 50 CM CON AGUJERO EN EL CENTRO TAL QUE PERMITA EL PASO DE LA CALDERERÍA DE SALIDA EN EL HIDRANTE, CON VIROLA DE LA MISMA CHAPA DE LONGITUD AL MENOS IGUAL AL ESPESOR DE LA CASETA, RECUBIERTA INTERIORMENTE POR JUNTA DE NEOPRENO DE E=1 CM PARA SUJECIÓN DE LA CALDERERÍA DE SALIDA DEL HIDRANTE. TANTO CHAPA COMO VIROLA Y JUNTA ESTARÁN SECCIONADAS POR LA MITAD PARA PODER ABRAZAR LA CALDERERÍA DE SALIDA, PERO SE INSTALARÁ UNIENDO LAS DOS SECCIONES. INCLUYE TORTILLERÍA Y TALADROS Y TODOS LOS TRABAJOS ACCESORIOS. INCLUYE REJUNTADO DE LA CALDERERÍA DE SALIDA DE LA CASETA CON MORTERO RESINADO. INCLUYE RELLENO EN GRAVILLÍN 6/12 MM Y SOLERA EN HM-20, COMPACTACIONES NECESARIAS PARA UNA CORRECTA ESTABILIDAD DE LA CASETA Y LOS POSIBLES IMPREVISTOS POR ASIENTOS DE LA CASETA. INCLUYE FIJACIÓN DE LOS CABLES DEL TELECONTROL A LA CASETA MEDIANTE CANALETA TIPO UNEX ATORNILLADA SOBRE EL INTERIOR DE LA CASETA O SIMILAR Y/O CABLE DE PVC CON ALMA DE ACERO GRAPADO EN EL INTERIOR DE LA CASETA (EN ESTE CASO LA DEFLEXIÓN MÁXIMA DEL TUBO DE ACERO DURANTE LOS DOS PRIMEROS AÑOS PERMITIDA SERÁ DE 1 CM). INCLUYE 3 METROS DE TUBO CORRUGADO DE DOBLE PARED DE PEAD DN 160 PARA PROTECCIÓN DE LOS MICROTUBOS DEL SISTEMA DE TELECONTROL DESDE EL INTERIOR AL EXTERIOR DE LA CASETA. INCLUYE COMPLETO REJUNTADO CON MORTERO RESINADO DEL MÁSTIL DEL TELECONTROL. INCLUYE APOYO DEL CONJUNTO HIDRANTE DESDE EL CARRETE INTERMEDIO ENTRE HIDRANTE Y FILTRO HASTA SOLERA MEDIANTE BORDILLO DE HORMIGÓN O SIMILAR Y PLETINAS METÁLICAS. INCLUYE TODOS LOS MEDIOS NECESARIOS E IMPREVISTOS. TOTALMENTE COLOCADA.								ARQUETA ARA ALOJAMIENTO DE HIDRANTE DE 6" Y 8", FORMADA POR ARMARIO PREFABRICADO DE DIMENSIONES INTERIORES 2,50X1,50X2,20M, EN HA-25, TRATADO CON ADITIVO FLUIDIFICANTE, ARMADO PARA RESISTIR LAS SOLICITACIONES PROPIAS A LAS QUE ESTÁ DESTINADO, CON DOS PUERTAS DE ACERO GALVANIZADO DE 1,5 MM CON NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA TANTO EN PUERTAS COMO EN PARTE TRASERA DE ARQUETA, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE Y CANDADO CENTRAL. SEPARACIÓN ESPACIOS CR-USUARIO MEDIANTE LÁMINA METÁLICA. INCLUYE LLAVE MAESTRA PARA EL GESTOR DE LA COMUNIDAD DE REGANTES E INDIVIDUAL PARA USUARIO Y PLETINAS SOLDADAS A LA PUERTA (PREVIO AL GALVANIZADO) PARA EL CIERRE MEDIANTE CANDADO. INCLUYE ROTULACIÓN DE ARQUETA CON DENOMINACIÓN DEL HIDRANTE. INCLUYE REJILLAS TIPO MOSQUITERA EN TODOS LOS AGUJEROS DE LA CASETA QUE COMUNIQUEN CON EL EXTERIOR. INCLUYE CHAPA DE ACERO E=4 MM GALVANIZADA (E MEDIO 70 MICRAS, E MIN 55 MICRAS) DE DIMENSIONES 50 CM X 50 CM CON AGUJERO EN EL CENTRO TAL QUE PERMITA EL PASO DE LA CALDERERÍA DE SALIDA EN EL HIDRANTE, CON VIROLA DE LA MISMA CHAPA DE LONGITUD AL MENOS IGUAL AL ESPESOR DE LA CASETA, RECUBIERTA INTERIORMENTE POR JUNTA DE NEOPRENO DE E=1 CM PARA SUJECIÓN DE LA CALDERERÍA DE SALIDA DEL HIDRANTE. TANTO CHAPA COMO VIROLA Y JUNTA ESTARÁN SECCIONADAS POR LA MITAD PARA PODER ABRAZAR LA CALDERERÍA DE SALIDA, PERO SE INSTALARÁ UNIENDO LAS DOS SECCIONES. INCLUYE TORTILLERÍA Y TALADROS Y TODOS LOS TRABAJOS ACCESORIOS. INCLUYE REJUNTADO DE LA CALDERERÍA DE SALIDA DE LA CASETA CON MORTERO RESINADO. INCLUYE RELLENO EN GRAVILLÍN 6/12 MM Y SOLERA EN HM-20, COMPACTACIONES NECESARIAS PARA UNA CORRECTA ESTABILIDAD DE LA CASETA Y LOS POSIBLES IMPREVISTOS POR ASIENTOS DE LA CASETA. 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	2"								6"						
	Hidrantess individuales y compartidos								Hidrantess individuales y compartidos						
	Zona Bombeos	11					11,000		Zona Bombeos	49					49,000
	Zona Presión Natural	1					1,000		Zona Presión Natural	6					6,000
	3"								3"						
	Hidrantess individuales								Hidrantess compartidos						
	Zona Bombeos	54					54,000		Zona Bombeos	26					26,000
	Zona Presión Natural	13					13,000		Zona Presión Natural	2					2,000
	A deducir por compartidos:								4"						
	Zona Bombeos	-26					-26,000		Hidrantess compartidos						
	Zona Presión Natural	-2					-2,000		Zona Bombeos	44					44,000
	4"								Zona Presión Natural	11					11,000
	Hidrantess individuales								A deducir por DOBLES:						
	Zona Bombeos	132					132,000		Zona Bombeos	-8					-8,000
	Zona Presión Natural	28					28,000		Zona Presión Natural						
	A deducir por compartidos:								A deducir por TRIPLES:						
	Zona Bombeos	-44					-44,000		Zona Bombeos						
	Zona Presión Natural	-11					-11,000		Zona Presión Natural						
	Hidrantess compartidos								A deducir por CUÁDRUPLES:						
									Zona Bombeos						
									Zona Presión Natural						

156,00

130,00

MEDICIONES

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CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
HIDARQ05C	UD ARQUETA TIPO ARMARIO HORMIGÓN 3,7x2,25x2,3							R07MP515	Ud Arqueta prefabricada ø150cm						
	ARQUETA PREFABRICADA, FORMADA POR ARMARIO PREFABRICADO DE DIMENSIONES INTERIORES 3,70X2,25X2,30 M, EN HA-25, TRATADO CON ADITIVO FLUIDIFICANTE, ARMADO PARA RESISTIR LAS SOLICITACIONES PROPIAS A LAS QUE ESTÁ DESTINADO, CON DOS PUERTAS DE ACERO GALVANIZADO DE 1,5 MM CON NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA TANTO EN PUERTAS COMO EN PARTE TRASERA DE ARQUETA, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE Y CANDADO CENTRAL. SEPARACIÓN ESPACIOS CR-USUARIO MEDIANTE LÁMINA METÁLICA. INCLUYE LLAVE MAESTRA PARA EL GESTOR DE LA COMUNIDAD DE REGANTES E INDIVIDUAL PARA USUARIO Y PLETINAS SOLDADAS A LA PUERTA (PREVIO AL GALVANIZADO) PARA EL CIERRE MEDIANTE CANDADO. INCLUYE ROTULACIÓN DE ARQUETA CON DENOMINACIÓN DEL HIDRANTE. INCLUYE REJILLAS TIPO MOSQUITERA EN TODOS LOS AGUJEROS DE LA CASETA QUE COMUNIQUEN CON EL EXTERIOR. INCLUYE CHAPA DE ACERO E=4 MM GALVANIZADA (E MEDIO 70 MICRAS, E MIN 55 MICRAS) DE DIMENSIONES 50 CM X 50 CM CON AGUJERO EN EL CENTRO TAL QUE PERMITA EL PASO DE LA CALDERERÍA DE SALIDA EN EL HIDRANTE, CON VIROLA DE LA MISMA CHAPA DE LONGITUD AL MENOS IGUAL AL ESPESOR DE LA CASETA, RECUBIERTA INTERIORMENTE POR JUNTA DE NEOPRENO DE E=1 CM PARA SUJECIÓN DE LA CALDERERÍA DE SALIDA DEL HIDRANTE. TANTO CHAPA COMO VIROLA Y JUNTA ESTARÁN SECCIONADAS POR LA MITAD PARA PODER ABRAZAR LA CALDERERÍA DE SALIDA, PERO SE INSTALARÁ UNIENDO LAS DOS SECCIONES. INCLUYE TORTILLERÍA Y TALADROS Y TODOS LOS TRABAJOS ACCESORIOS. INCLUYE REJUNTADO DE LA CALDERERÍA DE SALIDA DE LA CASETA CON MORTERO RESINADO. INCLUYE RELLENO EN GRAVILLÍN 6/12 MM Y SOLERA EN HM-20, COMPACTACIONES NECESARIAS PARA UNA CORRECTA ESTABILIDAD DE LA CASETA Y LOS POSIBLES IMPREVISTOS POR ASIENTOS DE LA CASETA. INCLUYE FIJACIÓN DE LOS CABLES DEL TELECONTROL A LA CASETA MEDIANTE CANALETA TIPO UNEX ATORNILLADA SOBRE EL INTERIOR DE LA CASETA O SIMILAR Y/O CABLE DE PVC CON ALMA DE ACERO GRAPADO EN EL INTERIOR DE LA CASETA (EN ESTE CASO LA DEFLEXIÓN MÁXIMA DEL TUBO DE ACERO DURANTE LOS DOS PRIMEROS AÑOS PERMITIDA SERÁ DE 1 CM). INCLUYE 3 METROS DE TUBO CORRUGADO DE DOBLE PARED DE PEAD DN 160 PARA PROTECCIÓN DE LOS MICROTUBOS DEL SISTEMA DE TELECONTROL DESDE EL INTERIOR AL EXTERIOR DE LA CASETA. INCLUYE COMPLETO REJUNTADO CON MORTERO RESINADO DEL MÁSTIL DEL TELECONTROL. INCLUYE APOYO DEL CONJUNTO HIDRANTE DESDE EL CARRETE INTERMEDIO ENTRE HIDRANTE Y FILTRO HASTA SOLERA MEDIANTE BORDILLO DE HORMIGÓN O SIMILAR Y PLETINAS METÁLICAS. INCLUYE TODOS LOS MEDIOS NECESARIOS E IMPREVISTOS. TOTALMENTE COLOCADA.								ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHEMBROS DE Ø100 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MM DE ESPESOR Y PROVISTA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA.						
									Ventosas	7				7,000	
															7,00
								R07MP510	Ud Arqueta prefabricada ø100cm						
									ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHEMBROS DE Ø100 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MICROM DE ESPESOR Y PROVISTA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA.						
									Ventosas	20				20,000	
										66				66,000	
										26				26,000	
										83				83,000	
									Desagües	63				63,000	
										89				89,000	
															347,00
								R07MP510-2	Ud Arqueta prefabricada ø100cm. Solo en pozo archique desagüe Tipo2						
									ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHEMBROS DE Ø100 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MM DE ESPESOR Y PROVISTA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA.						
									Doble pozo. Tipo II.	41				41,000	
															41,00
								AROVALVU	Ud Arqueta para válvulas DN<800, HA-35						
									ARQUETA PARA ALOJAMIENTO DE VÁLVULAS DE SECCIONAMIENTO, CONSTRUIDA "IN SITU", DE 1,50 X 1,50 METROS DE DIMENSIONES INTERIORES Y ALTURA VARIABLE, INFERIOR A 2,50 METROS. CON SOLERA DE 0,25 METROS HORMIGÓN HA-35 CON CEMENTO SR, PAREDES DE HORMIGÓN ARMADO HA-35 DE 0,20 M DE ESPESOR, ARMADURA EN SOLERA Y PAREDES A BASE DE MALLAZO DE DIÁMETRO 12 MM CADA 15 CENTÍMETROS POR 15 CENTÍMETROS, INCLUSO POZO DE ACHIQUE O SALIDA A DESAGÜE CON CONEXIÓN DE CALDERERÍA INCLUIDA. TAPA METÁLICA DE ACERO DE 3 MM DE ESPESOR Y ESTRUCTURA CON TRATAMIENTO ANTICORROSIVO, MARCO DE SUJECIÓN Y CANDADO. PATES DE ACCESO TOTALMENTE INSTALADOS Y FIJADOS EN MURO. COMPLETAMENTE EJECUTADA.						
									En Seccionamientos	31				31,000	
									Dos válvulas en una misma arqueta	-10				-10,000	
															21,00
	6" Dobles														
	Hidrantes individuales y compartidos														
	Zona Bombeos	4					4,00								
	Zona Presión Natural														
	8"														
	Hidrantes individuales														
	Zona Bombeos	35					35,00								
	Zona Presión Natural	12					12,00								
	A deducir por DOBLES:														
	Zona Bombeos	-5					-5,00								
	Zona Presión Natural	-2					-2,00								
	A deducir por TRIPLES:														
	Zona Bombeos	-2					-2,00								
	Zona Presión Natural	-1					-1,00								
	A deducir por CUÁDRUPLES:														
	Zona Bombeos	-2					-2,00								
	Zona Presión Natural														
															39,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
ARQVALVU2	Ud Arqueta para válvulas DN>=800, HA-35 ARQUETA PARA ALOJAMIENTO DE VÁLVULAS DE SECCIONAMIENTO, CONSTRUIDA "IN SITU", DE 2,50 X 2,50 METROS DE DIMENSIONES INTERIORES Y ALTURA VARIABLE, INFERIOR A 2,50 METROS. CON SOLERA DE 0,30 METROS HORMIGÓN HA-35 CON CEMENTO SR, PAREDES DE HORMIGÓN ARMADO HA-35 DE 0,25 M DE ESPESOR, ARMADURA EN SOLERA Y PAREDES A BASE DE MALLAZO DE DIÁMETRO 12 MM CADA 15 CENTÍMETROS POR 15 CENTÍMETROS, INCLUSO POZO DE ACHIQUE O SALIDA A DESAGÜE CON CONEXIÓN DE CALDERERÍA INCLUIDA. TAPA METÁLICA DE ACERO DE 3 MM DE ESPESOR Y ESTRUCTURA CON TRATAMIENTO ANTICORROSIVO, MARCO DE SUJECIÓN Y CANDADO. PATES DE ACCESO TOTALMENTE INSTALADOS Y FIJADOS EN MURO. COMPLETAMENTE EJECUTADA. En Seccionamientos 6 Dos válvulas en una misma arqueta -3					6,000 -3,000	3,00	R07AT120B	m Paso Hinca Camisa Acero 1200 mm, escudo abierto PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 1220X10,3 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAÍDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA. CTRA A-129, R-4, PK1+256 1 25,000					25,000	25,00
ARQVALVU3	Ud Arqueta para válvulas DN>=800, HA-35 (4x3 m interior) ARQUETA PARA ALOJAMIENTO DE VÁLVULAS DE SECCIONAMIENTO, CONSTRUIDA "IN SITU", DE 4,00 X 3,00 METROS DE DIMENSIONES INTERIORES Y ALTURA VARIABLE, INFERIOR A 2,50 METROS. CON SOLERA DE 0,30 METROS HORMIGÓN HA-35 CON CEMENTO SR, PAREDES DE HORMIGÓN ARMADO HA-35 DE 0,25 M DE ESPESOR, ARMADURA EN SOLERA Y PAREDES A BASE DE MALLAZO DE DIÁMETRO 12 MM CADA 15 CENTÍMETROS POR 15 CENTÍMETROS, INCLUSO POZO DE ACHIQUE O SALIDA A DESAGÜE CON CONEXIÓN DE CALDERERÍA INCLUIDA. TAPA METÁLICA DE ACERO DE 3 MM DE ESPESOR Y ESTRUCTURA CON TRATAMIENTO ANTICORROSIVO, MARCO DE SUJECIÓN Y CANDADO. PATES DE ACCESO TOTALMENTE INSTALADOS Y FIJADOS EN MURO. COMPLETAMENTE EJECUTADA. Dos válvulas en una misma arqueta 13					13,000	13,00	R07AT100B	m Paso Hinca Camisa Acero 1000 mm, escudo abierto PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 1016X10,3 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAÍDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA. CTRA A-129, R-3, PK0+484 1 29,000 CTRA A-129, R-1, PK3+071 1 25,000					29,000 25,000	54,00
APARTADO 11.01.05 OBRAS ESPECIALES															
R07AT140B	m Paso Hinca Camisa Acero 1400 mm, escudo abierto PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 1420X12,5 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAÍDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA. CTRA A-129, R-1, PK0+140 1 28,000 CTRA A-129, R-2, PK1+126 1 28,000 CTRA A-1220, R-1, PK2+245 1 25,000					28,000 28,000 25,000	81,00	R07AT080B	m Paso Hinca Camisa Acero 800 mm, escudo abierto PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 813X7,9 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAÍDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA. CTRA A-129, R-1, PK3+071 1 25,000 CTRA A-1220 R-2, PK3+245 1 25,000 CTRA A-1221 R-6-9, PK0+140 1 21,000					25,000 25,000 21,000	71,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R07AT060B	m Paso Hinca Camisa Acero 600 mm, escudo abierto PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 610X6,4 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAÍDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.	1	34,000			34,000		R07PCA140	m Paso Camino Asfaltado, Camisa 1400 PASO BAJO CAMINO ASFALTADO, MEDIANTE LA INSTALACIÓN DE CAMISA A BASE DE TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1400 MM. ZANJA DE ANCHURA EN LA BASE 2,0 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, RELLENO CON HORMIGÓN HM 20 HASTA UNA ALTURA DE 0,10M POR ENCIMA DE LA CLAVE SUPERIOR DEL TUBO DE HORMIGÓN, COMPLETÁNDOSE CON ZAHORRA NATURAL COMPACTADA AL 98% P.M. HASTA LOS ÚLTIMOS 0,3 M, QUE SE RELLENARÁ CON HORMIGÓN HM-20 HASTA ALCANZAR LA COTA DEL CAMINO, TERMINACIÓN CON MEZCLA BITUMINOSA EN CALIENTE DEBIDAMENTE COMPACTADA Y RIEGO ASFÁLTICO DE ADHERENCIA. INCLUSO EXCAVACIÓN CON ROMPEDOR EN CASO NECESARIO. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	1	10,000			10,000	
							34,00								10,00
R07AT040B	m Paso Hinca Camisa Acero 400 mm, escudo abierto PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 406X6,4 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAÍDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.	1	21,000			21,000		R07PCA100	m Paso Camino Asfaltado, Camisa 1000 PASO BAJO CAMINO ASFALTADO, MEDIANTE LA INSTALACIÓN DE CAMISA A BASE DE TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1000 MM. ZANJA DE ANCHURA EN LA BASE 1,6 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, RELLENO CON HORMIGÓN HM 20 HASTA UNA ALTURA DE 0,10M POR ENCIMA DE LA CLAVE SUPERIOR DEL TUBO DE HORMIGÓN, COMPLETÁNDOSE CON ZAHORRA NATURAL COMPACTADA AL 98% P.M. HASTA LOS ÚLTIMOS 0,3 M, QUE SE RELLENARÁ CON HORMIGÓN HM-20 HASTA ALCANZAR LA COTA DEL CAMINO, TERMINACIÓN CON MEZCLA BITUMINOSA EN CALIENTE DEBIDAMENTE COMPACTADA Y RIEGO ASFÁLTICO DE ADHERENCIA. INCLUSO EXCAVACIÓN CON ROMPEDOR EN CASO NECESARIO. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	2	10,000			20,000	
							21,00								40,00
R07PCA160	m Paso Camino Asfaltado, Camisa 1600 PASO BAJO CAMINO ASFALTADO, MEDIANTE LA INSTALACIÓN DE CAMISA A BASE DE TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1600 MM. ZANJA DE ANCHURA EN LA BASE 2,2 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, RELLENO CON HORMIGÓN HM 20 HASTA UNA ALTURA DE 0,10M POR ENCIMA DE LA CLAVE SUPERIOR DEL TUBO DE HORMIGÓN, COMPLETÁNDOSE CON ZAHORRA NATURAL COMPACTADA AL 98% P.M. HASTA LOS ÚLTIMOS 0,3 M, QUE SE RELLENARÁ CON HORMIGÓN HM-20 HASTA ALCANZAR LA COTA DEL CAMINO, TERMINACIÓN CON MEZCLA BITUMINOSA EN CALIENTE DEBIDAMENTE COMPACTADA Y RIEGO ASFÁLTICO DE ADHERENCIA. INCLUSO EXCAVACIÓN CON ROMPEDOR EN CASO NECESARIO. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	1	10,000			10,000		R07PCA040	m Paso Camino Asfaltado, Camisa 400 PASO BAJO CAMINO ASFALTADO, MEDIANTE LA INSTALACIÓN DE CAMISA A BASE DE TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 400 MM. ZANJA DE ANCHURA EN LA BASE 1,0 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, RELLENO CON HORMIGÓN HM 20 HASTA UNA ALTURA DE 0,10M POR ENCIMA DE LA CLAVE SUPERIOR DEL TUBO DE HORMIGÓN, COMPLETÁNDOSE CON ZAHORRA NATURAL COMPACTADA AL 98% P.M. HASTA LOS ÚLTIMOS 0,3 M, QUE SE RELLENARÁ CON HORMIGÓN HM-20 HASTA ALCANZAR LA COTA DEL CAMINO, TERMINACIÓN CON MEZCLA BITUMINOSA EN CALIENTE DEBIDAMENTE COMPACTADA Y RIEGO ASFÁLTICO DE ADHERENCIA. INCLUSO EXCAVACIÓN CON ROMPEDOR EN CASO NECESARIO. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	1	10,000			10,000	
							10,00								40,00
							10,00	R07PCA160	m Paso Camino Camisa Hormigón 1600 PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1600 MM. ZANJA DE ANCHURA EN LA BASE 2,2 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 20 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTÍMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	1	6,000			6,000	
										2	6,000			12,000	
															18,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
R07PC140	m Paso Camino Camisa Hormigón 1400 PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1400 MM. ZANJA DE ANCHURA EN LA BASE 2,0 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 20 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.							R07PC040	m Paso Camino Camisa Hormigón 400 PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 400 MM. ZANJA DE ANCHURA EN LA BASE 1,0 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 15 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.							
	CA-1000	4	6,000			24,000			CA-90	3	6,000			18,000		
							24,00		CA-110	12	6,000			72,000		
									CA-125	23	6,000			138,000		
R07PC120	m Paso Camino Camisa Hormigón 1200 PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1200 MM. ZANJA DE ANCHURA EN LA BASE 1,8 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 20 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.								CA-140	4	6,000			24,000		
	CA-800	7	6,000			42,000			CA-160	12	6,000			72,000		
	CA-900	2	6,000			12,000			CA-180	15	6,000			90,000		
							54,00		CA-200	9	6,000			54,000		
															468,00	
								ACEQUIA	Ud Cruce acequias riego. HM, HA o prefabricada CRUCE Y REPOSICIÓN DE ACEQUIA EXISTENTE. INCLUIDO EL CORTE, LA DEMOLICIÓN, ASÍ COMO LA RETIRADA Y GESTIÓN DE RESIDUOS. INCLUIDO LA REALIZACIÓN DE OBRAS COMPLEMENTARIAS PARA EL MANTENIMIENTO DEL SERVICIO EN LA ACEQUIA. COMPLETAMENTE EJECUTADO							
R07PC100	m Paso Camino Camisa Hormigón 1000 PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1000 MM. ZANJA DE ANCHURA EN LA BASE 1,4 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 15 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.								Cruce acequias							
	CA-600	18	6,000			108,000			AC-90	2				2,000		
	CA-700	14	6,000			84,000			AC-110	7				7,000		
							192,00		AC-125	10				10,000		
									AC-140	7				7,000		
									AC-160	8				8,000		
									AC-180	9				9,000		
									AC-200	8				8,000		
									AC-225	4				4,000		
									AC-250	8				8,000		
									AC-315	10				10,000		
									AC-355	8				8,000		
									AC-400	2				2,000		
									AC-500	16				16,000		
									AC-600	17				17,000		
															116,00	
R07PC080	m Paso Camino Camisa Hormigón 800 PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 800 MM. ZANJA DE ANCHURA EN LA BASE 1,4 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 15 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.							ACEQUIA2	Ud Cruce acequia CHE. Con o sin reposición CRUCE Y REPOSICIÓN DE ACEQUIA CHE EXISTENTE O EQUIVALENTE MEDIANTE PASO INFERIOR SIN ALTERAR EL CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGÓN DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA, SUJECCIÓN DEL CAJERO Y RELLENO DE HM-20 HASTA LA BASE DEL CAJERO. O CRUCE MEDIANTE CORTE DE CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGÓN DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA Y HM-20 HASTA LA BASE Y REPOSICIÓN DEL CAJERO, DEBIDAMENTE SELLADO. INCLUIDO TODOS LOS COSTES DE GESTIÓN DE RESIDUOS, EXCAVACIONES, CARGAS Y TRANSPORTES NECESARIOS.COMPLETAMENTE EJECUTADO							
	CA-500	19	6,000			114,000			Cruce acequias							
							114,00		AC-700	15				15,000		
									AC-800	1				1,000		
									AC-900	1				1,000		
									AC-1000	7				7,000		
									AC-1100	1				1,000		
									AC-1200	2				2,000		
															27,00	
R07PC060	m Paso Camino Camisa Hormigón 600 PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM. ZANJA DE ANCHURA EN LA BASE 1,2 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 15 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.															
	CA-225	7	6,000			42,000										
	CA-250	12	6,000			72,000										
	CA-315	16	6,000			96,000										
	CA-355	9	6,000			54,000										
	CA-400	4	6,000			24,000										
							288,00									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R07H0020SR	<p>m³ Hormigón HM-20/B/15-20/IIa+Qb en obra</p> <p>HORMIGÓN EN MASA HM-20/B/15-20/IIA+QB, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA PLÁSTICA, FABRICADO CON CEMENTO I-32,5/SR, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO</p> <p>Cruce desagües</p>	7	12,000	4,500	0,150	56,700		R02TB080	<p>m TUBERÍA DE ACERO HELICOIDAL ø813 mm e=7,9 mm</p> <p>TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 813 MM DE DIÁMETRO Y 7,9 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.</p> <p>Red de riego en tramo hincas:</p> <p>CTRA A-129, R-3, PK0+484</p> <p>CTRA A-129, R-1, PK3+071</p>	1	31,000			31,000	
							56,70								
R02TB020-1	<p>m TUBERÍA DE ACERO HELICOIDAL ø508 mm e=6,4 mm</p> <p>TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 711 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.</p> <p>Cruce desagües</p> <p>R-1-6, PK 0+13</p> <p>R-6, PK 0+4499</p> <p>R-6, PK 0+4499</p> <p>R-6-9-2, PK 0+146</p>	1	10,000			10,000		R02TB100	<p>m TUBERÍA DE ACERO HELICOIDAL ø1016 mm e=10 mm</p> <p>TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1016 MM DE DIÁMETRO Y 10,0 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.</p> <p>Red de riego en tramo hincas:</p> <p>CTRA A-129, R-4, PK1+256</p>	1	27,000			27,000	
							40,00								58,00
R02TB060	<p>m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm</p> <p>TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.</p> <p>Red de riego en tramo hincas:</p> <p>CTRA A-129, R-1, PK3+071</p> <p>CTRA A-1220 R-2, PK3+245</p> <p>CTRA A-1221 R-6-9, PK0+140</p> <p>Cruce desagües</p> <p>R-1, PK 0+6245,5</p>	1	27,000			27,000		R02TB120	<p>m TUBERÍA DE ACERO HELICOIDAL ø1219 mm e=10,3 mm</p> <p>TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1219 MM DE DIÁMETRO Y 10,3 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.</p> <p>Red de riego en tramo hincas:</p> <p>CTRA A-129, R-1, PK0+140</p> <p>CTRA A-129, R-2, PK1+126</p> <p>CTRA A-1220, R-1, PK2+245</p>	1	30,000			30,000	
							87,00								27,00
R02TB070	<p>m TUBERÍA DE ACERO HELICOIDAL ø711 mm e=7,9 mm</p> <p>TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 711 MM DE DIÁMETRO Y 7,9 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.</p> <p>Cruce desagües</p> <p>R-6, PK 0+2738</p> <p>R-6, PK 0+2738</p>	1	10,000			10,000		R07EM001	<p>Kg Acero B-500-S</p> <p>ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.</p> <p>Cruce desagües (50 kg/m3)</p>	56,7	50,000			2.835,000	
							20,00								2.835,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
SUBCAPÍTULO 11.02 RED SECUNDARIA								APARTADO 11.02.01 MOVIMIENTO DE TIERRAS								
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciadados	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES. SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.														
Terciarias																
Zona bombeos		1	12.330,000	0,600	1,200	8.877,600		Terciarias		1	10.114,560			10.114,560		
Zona Presión Natural		1	1.718,000	0,600	1,200	1.236,960		a deducir seleccionado		-1	2.528,640			-2.528,640		
							10.114,56									7.585,92
APARTADO 11.02.02 TUBERÍAS								APARTADO 11.02.02 TUBERÍAS								
R02TE09C	m TUBERÍA PEAD PN-10 DN-90	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 90 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.														
Zona Bombeos		1	716,00			716,00		Zona Bombeos		1	716,00			716,00		
Zona Presión Natural		1	25,00			25,00		Zona Presión Natural		1	25,00			25,00		
																741,00
R02TE11C	m TUBERÍA PEAD PN-10 DN-110	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 110 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.														
Zona Bombeos		1	1.108,00			1.108,00		Zona Bombeos		1	1.108,00			1.108,00		
Zona Presión Natural								Zona Presión Natural								
																1.108,00
R02TE12C	m TUBERÍA PEAD PN-10 DN-125	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 125 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.														
Zona Bombeos		1	6.322,00			6.322,00		Zona Bombeos		1	6.322,00			6.322,00		
Zona Presión Natural		1	935,00			935,00		Zona Presión Natural		1	935,00			935,00		
																7.257,00
R01RE400	m ³ Asiento y Relleno Material Granular 6/12 MM	CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.														
Terciarias																
Zona bombeos		1	12.330,000	0,600	0,100	739,800		Terciarias								842,88
Zona Presión Natural		1	1.718,000	0,600	0,100	103,080		Zona Presión Natural								
							842,88									
R01RE030	m ³ Relleno Seleccionado Compactado 95% PN	RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.														
Terciarias																
Zona bombeos		1	12.330,000	0,600	0,300	2.219,400		Terciarias								2.528,64
Zona Presión Natural		1	1.718,000	0,600	0,300	309,240		Zona Presión Natural								
							2.528,64									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R02TE14C	m TUBERÍA PEAD PN-10 DN-140 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 140 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA. Zona Bombeos Zona Presión Natural	1 1	3.627,00 486,00			3.627,00 486,00									
							4.113,00								
R02TE16C	m TUBERÍA PEAD PN-10 DN-160 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 160 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA. Zona Bombeos Zona Presión Natural	1 1	377,00			377,00									
							377,00								
R02TE20C	m TUBERÍA PEAD PN-10 DN-200 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 200 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA. Zona Bombeos Zona Presión Natural	1 1	180,00 272,00			180,00 272,00									
							452,00								
APARTADO 11.02.03 OBRAS ESPECIALES															
R07PC040	m Paso Camino Camisa Hormigón 400 PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 400 MM. ZANJA DE ANCHURA EN LA BASE 1,0 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 15 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA. Pasos caminos con red terciaria	23	6,000											138,000	
															138,00
CAPÍTULO 12 MEDIA TENSIÓN															
SUBCAPÍTULO 12.01 LÍNEA AÉREA DE MEDIA TENSIÓN															
ELEC0228	MI Tendido línea aérea cable LA-56 simple circuito (3 conductores) LÍNEA AÉREA SIMPLE CIRCUITO, CON CABLE DE ALUMINIO - ACERO, TIPOS LA-56, TERMINALES DE ALUMINO DE CONEXIONADO. TENDIDO, TENSADO, REGULADO Y CONEXIONADO. TRANSPORTE Y ACOPIO DE MATERIALES. (INCLUIRÁ P.P. DE RECORTES, AJUSTES Y FLECHA). Tramo 1 Tramo 2	1 1	2.784,62 1.689,10			2.784,62 1.689,10									
															4.473,72
C-14-3000	UD. APOYO METÁLICO DE CELOSIA C-14-3000 UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-14-3000, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSÍA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 14 METROS DE ALTURA Y 3.000 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL. Tramo 1 Tramo 2	1												1,00	
															1,00
C-14-2000	UD. APOYO METÁLICO DE CELOSIA C-14-2000 UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-14-2000, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSÍA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 14 METROS DE ALTURA Y 2.000 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL. Tramo 1 Tramo 2	2 1												2,00 1,00	
															3,00
C-10-2000	UD. APOYO METÁLICO DE CELOSIA C-10-2000 UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-10-2000, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSÍA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 10 METROS DE ALTURA Y 2.000 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL. Tramo 1 Tramo 2	1 1												1,00 1,00	
															2,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
C-14-1000	UD. APOYO METÁLICO DE CELOSIA C-14-1000 UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-14-1000, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSIA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 14 METROS DE ALTURA Y 1.000 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL. Tramo 1 Tramo 2							ARM-H3	UD. ARMADO HORIZONTAL H3 UD. SUMINISTRO Y MONTAJE DE ARMADO HORIZONTAL TIPO H3 EN ACERO GALVANIZADO EN CALIENTE PARA APOYOS METÁLICOS, TOTALMENTE INSTALADA Y COLOCADA, INCLUYENDO MEDIOS AUXILIARES DE MONTAJE Y ELEVACIÓN Y PEQUEÑO MATERIAL. Tramo 1 Tramo 2							
		1				1,00	1,00			5				5,00		
										6				6,00	11,00	
C-12-1000	UD. APOYO METÁLICO DE CELOSIA C-12-1000 UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-12-1000, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSIA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 12 METROS DE ALTURA Y 1.000 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL. Tramo 1 Tramo 2							ARM-TB3	UD. ARMADO TRESBOLILLO TB3 UD. SUMINISTRO Y MONTAJE DE ARMADO EN TRESBOLILLO TIPO TB3 EN ACERO GALVANIZADO EN CALIENTE PARA APOYOS METÁLICOS, TOTALMENTE INSTALADA Y COLOCADA, INCLUYENDO MEDIOS AUXILIARES DE MONTAJE Y ELEVACIÓN Y PEQUEÑO MATERIAL. Tramo 1 Tramo 2							
		1				1,00	1,00			19				19,00		
										7				7,00	26,00	
C-16-500	UD. APOYO METÁLICO DE CELOSIA C-16-500 UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-16-500, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSIA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 16 METROS DE ALTURA Y 500 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL. Tramo 1 Tramo 2							CAD_AMA	Ud CADENA DE AMARRE 4 PLATOS U70/127 UD. SUMINISTRO Y MONTAJE DE CADENA DE AMARRE FORMADA POR 4 ELEMENTOS AISLADORES DE VIDRIO TEMPLADO TIPO U70/127, INCLUIDA HORQUILLA DE BOLA, GRAPAS Y TODOS ELEMENTOS NECESARIOS PARA UN CORRECTO MONTAJE, TOTALMENTE MONTADA, INSTALADA Y CONEXIONADA. Tramo 1 en apoyos Tramo 2 en apoyos							
		2				2,00	2,00			23	3,00	2,00		138,00		
										1	3,00	1,00		3,00		
		1				1,00	1,00			12	3,00	2,00		72,00		
										1	3,00	1,00		3,00	216,00	
C-14-500	UD. APOYO METÁLICO DE CELOSIA C-14-500 UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-14-500, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSIA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 14 METROS DE ALTURA Y 500 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL. Tramo 1 Tramo 2							CONV_A-S	UD. CONVERSIÓN AÉREO-SUBTERRÁNEA UD. CONVERSIÓN AÉREO-SUBTERRÁNEA COMPLETA CON TODOS LOS ELEMENTOS NECESARIOS, COMO SON: - 3 UD. PARARRAYOS AUTOVALVULAR 25 KV, 10 KA. - 3 UD. BOTELLAS UNIPOLARES DE EXTERIOR PARA CABLE RH-Z1 18/30 KV DE 150 MM2 AL. - 1 UD. HERRAJE SOPORTE EN APOYO METÁLICO PARA PARARRAYOS Y BOTELLAS. - 1 PA. MATERIAL AUXILIAR NECESARIO: CANALIZACIONES DE PROTECCIÓN BAJANTE, CABLEADOS, ETC. - 1 UD. PUESTA A TIERRA AUTOVÁLVULAS. - INCLUIDO PEQUEÑO MATERIAL Y TODOS LOS ACCESORIOS PARA UN CORRECTO MONTAJE, TOTALMENTE MONTADA Y CONEXIONADA. Inicio y fin línea							
		19				19,00	19,00			2				2,00		
		6				6,00	6,00								2,00	
							25,00									
C-12-500	UD. APOYO METÁLICO DE CELOSIA C-12-500 UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-12-500, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSIA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 12 METROS DE ALTURA Y 500 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL. Tramo 1 Tramo 2							PRO_FN	ud PROTECCIONES FIN DE LÍNEA PROTECCIÓN DE FIN DE LÍNEA A INSTALAR EN EL ÚLTIMO APOYO: CONSISTE EN LA INSTALACIÓN DE PARARRAYOS - AUTOVÁLVULAS. TOTALMENTE INSTALADO.							
		1				1,00	1,00								2,00	
															1,00	
							1,00									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
DT02OCEX-CAP01	<p>UD. EXCAVACION Y CIMENTACIÓN TIPO 1 APOYO METÁLICO</p> <p>UD. EXCAVACIÓN Y HORMIGONADO TIPO 1 DE APOYO METÁLICO DE CELOSÍA CON CIMENTACIÓN MONOBLOQUE, INCLUIDO TRANSPORTE HORMIGÓN DESDE PLANTA A OBRA, ASÍ COMO RETIRADA DE TIERRAS A VERTEDERO AUTORIZADO. EXCAVACIÓN APROXIMADA PARA CIMENTACIÓN DE APOYO 2,5 M3.</p> <p>Tramo 1 1 1,00</p> <p>Tramo 2 8 8,00</p> <hr/> <p>9,00</p>							SUBCAPÍTULO 12.02 LÍNEA SUBTERRANEA DE MEDIA TENSIÓN								
DT02OCEX-CAP02	<p>UD. EXCAVACION Y CIMENTACIÓN TIPO 2 APOYO METÁLICO</p> <p>UD. EXCAVACIÓN Y HORMIGONADO TIPO 2 DE APOYO METÁLICO DE CELOSÍA CON CIMENTACIÓN MONOBLOQUE, INCLUIDO TRANSPORTE HORMIGÓN DESDE PLANTA A OBRA, ASÍ COMO RETIRADA DE TIERRAS A VERTEDERO AUTORIZADO. EXCAVACIÓN APROXIMADA PARA CIMENTACIÓN DE APOYO 3,0 M3.</p> <p>Tramo 1 19 19,00</p> <p>Tramo 2 1 1,00</p> <hr/> <p>20,00</p>							MT003	m Canalización Eléctrica Directamente Enterrada							
									CANALIZACIÓN ELÉCTRICA QUE CONSISTENTE EN UNA ZANJA DE 90 CM DE PROFUNDIDAD POR 40 CM DE ANCHURA, CON CAMA DE ARENA DE RÍO DE 5 CM PARA ASIENTO DE LOS CONDUCTORES Y RELLENO CON UNA CAPA DE 15 CM DE LA MISMA ARENA SOBRE LOS CONDUCTORES. SOBRE ÉSTA VA UNA HILADA DE RASILLAS CERÁMICAS O PLACAS DE PE, QUE SERVIRÁN DE PROTECCIÓN MECÁNICA (20 J) Y TESTIGO. EL RELLENO FINAL DE ZANJA SE LLEVARÁ A CABO POR TONGADAS DE 20 CM DE TIERRA PROCEDENTE DE LA EXCAVACIÓN, COMPACTADA AL 95 % DEL PRÓCTOR NORMAL. TOTALMENTE TERMINADA INCLUIDO EXCAVACIÓN SOBRE CUALQUIER CLASE DE TERRENO, TRANPORTE A VERTEDERO DE LA TIERRA SOBRANTE Y MANTENIMIENTO DE LOS SERVICIOS EXISTENTES.							
									CS a Apoyo 1 1 10,000 10,000							
									Apoyo 37 a CT 1 10,000 10,000						20,00	
								MT004A	m Cable MT RH-Z1 18/30 KV DE 3x1x240 mm2 AI S/LECHO ARENA							
									M.L. SUMINISTRO Y TENDIDO DE CABLE UNIPOLAR DE M.T. EN LECHO DE ARENA, DE AISLAMIENTO SECO RH-Z1 18/30 KV DE 3X1X240 MM2 DE SECCIÓN NOMINAL EN ALUMINIO, INCLUIDO PEQUEÑO MATERIAL PARA EL TENDIDO TENDIDO COMO RODILLOS, CINTURILLAS, ASÍ COMO MEDIOS MECÁNICOS NECESARIOS.							
									CS a Apoyo 1 1 20,000 20,000							
									Apoyo 37 a CT 1 20,000 20,000							
									Aproximación 2 5,000 10,000						50,00	
DT02OCEX-CAP06	<p>UD. EXCAVACION Y CIMENTACIÓN TIPO 3 APOYO METÁLICO</p> <p>UD. EXCAVACIÓN Y HORMIGONADO TIPO 3 DE APOYO METÁLICO DE CELOSÍA CON CIMENTACIÓN MONOBLOQUE, INCLUIDO TRANSPORTE HORMIGÓN DESDE PLANTA A OBRA, ASÍ COMO RETIRADA DE TIERRAS A VERTEDERO AUTORIZADO. EXCAVACIÓN APROXIMADA PARA CIMENTACIÓN DE APOYO 3,2 M3.</p> <p>Tramo 1 2 2,00</p> <p>Tramo 2 2 2,00</p> <hr/> <p>4,00</p>							MT005	Ud Botella Unipolar Interior Para Cable RH-Z1 18/30 KV 240 mm2 AI							
									UD. SUMINISTRO Y MONTAJE DE BOTELLA INTERIOR TERMINAL UNIPOLAR DE M.T. PARA CABLE SECO 18/30 KV TIPO RH-Z1 DE 1X240 MM2 DE SECCIÓN NOMINAL EN ALUMINIO, INCLUIDO TERMINAL DE CONEXION A PRESIÓN PARA MT, PEQUEÑO MATERIAL, MEDIOS AUXILIARES, TOTALMENTE MONTADA.							
									Extremo cableado 2 3,000 6,000						6,00	
DT02OCEX-CAP08	<p>UD. EXCAVACION Y CIMENTACIÓN TIPO 4 APOYO METÁLICO</p> <p>UD. EXCAVACIÓN Y HORMIGONADO TIPO 4 DE APOYO METÁLICO DE CELOSÍA CON CIMENTACIÓN MONOBLOQUE, INCLUIDO TRANSPORTE HORMIGÓN DESDE PLANTA A OBRA, ASÍ COMO RETIRADA DE TIERRAS A VERTEDERO AUTORIZADO. EXCAVACIÓN APROXIMADA PARA CIMENTACIÓN DE APOYO 4,1 M3.</p> <p>Tramo 1 2 2,00</p> <p>Tramo 2 2 2,00</p> <hr/> <p>4,00</p>							SUBCAPÍTULO 12.03 CENTRO DE SECCIONAMIENTO								
								MT005-PFU4	Ud Caseta prefabricada tipo PFU-4 o similar							
									CASETA PREFABRICADA TIPO PFU-4 O SIMILAR, MONOBLOQUE, DE HORMIGÓN ARMADO, DE 4460X2380X3045 MM, APTO PARA CONTENER UN TRANSFORMADOR Y LA APARAMENTA NECESARIA. INCLUSO TRANSPORTE Y DESCARGA. INCLUYE EXCAVACIÓN, CAMA DE ARENA, RELLENOS LATERALES, CARGAS Y TRANSPORTES DE MATERIALES NECESARIOS Y EXCEDENTES, EDIFICIO Y TODOS SUS ELEMENTOS EXTERIORES SEGÚN CEI 622171-202, TRANSPORTE, MONTAJE Y ACCESORIOS. TOTALMENTE INSTALADO Y TERMINADO. TOTALMENTE MONTADO.							
									CS 1 1,00 1,00						1,00	
BAL_SALV	<p>UD. BALIZA SEÑALIZACIÓN ANTIPÁJAROS</p> <p>BANDAS DE BALIZAMIENTO NEOPRENO EN "X" CON UNAS DIMENSIONES DE 8 CM DE ANCHURA Y 30 CM DE LONGITUD MÍNIMA PARA CADA BRAZO, DISPUESTAS "AL TRESBOLILLO" DE MANERA QUE LA SEPARACIÓN EFECTIVA ENTRE BANDAS CONSECUTIVAS SEA COMO MÁXIMO DE 10 M. Y DISPOSICIÓN DE PROTECCIÓN AISLANTE DE LA SERIE 56 KV, TIPO RETRÁCTIL EN LOS DOS PRIMEROS METROS DE CONDUCTOR A CADA LADO DE LAS CRUCETAS, TOTALMENTE INSTALADAS.</p> <p>Bandas salvapájaros</p> <p>Tramo 1 3 2.784,62 0,10 835,39</p> <p>Tramo 2 3 1.689,10 0,10 506,73</p> <p>redondeo 1 0,88 0,88</p> <hr/> <p>1.343,00</p>															

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
MTCELDAS002	Ud Celdas de protección y medida CELDA DE PROTECCIÓN PARA CENTRO DE TRANSFORMACIÓN, TIPO ORMAZABAL, SEGÚN DESGLOSE. - 3 CELDAS MODULARES DE LÍNEA MOTORIZADAS DISPUESTA DE UN INTERRUPTOR-SECCIONADOR DE TRES POSICIONES (CONECTADO, SECCIONADO Y PUESTA A TIERRA), AISLAMIENTO INTEGRO EN SF6 DE 24KV, 20KA Y 630A - 1 CELDA DE REMONTE - 1 CONJUNTO DE CELDAS TIPO DEV, FUNCIONES 1R+1PA CON AISLAMIENTO Y CORTE EN SF6 DE 24KV, 16KA Y 400A, INTEGRANDO UN CIRCUITO DE ALIMENTACIÓN DIRECTA CON SECCIONADOR DE P.A.T Y UNA FUNCIÓN DE PROTECCIÓN CON INTERRUPTOR AUTOMÁTICO DE CORTE EN VACÍO DE 400A RELE ELECTRÓNICO DE PROTECCIÓN Y TRES TRANSFORMADORES TOROIDALES DE INTENSIDAD, MANDO MANUAL, SECCIONADOR DE P.A.T PARA FUNCIÓN PROTECCIÓN, DISPOSITIVO DE PRESENCIA DE TENSIÓN Y ENCLAVAMIENTOS. - 1 CELDA MODULAR DE MEDIDA DISPUESTA EN EL INTERIOR LOS TRANSFORMADORES DE MEDIDA DE TENSIÓN E INTENSIDAD, DE 24KV. SE INCLUYE EL MONTAJE, PASATAPAS Y CONEXIÓN.	1					1,000	SUBCAPÍTULO 12.04 CENTRO TRANSFORMACIÓN								
	CT							MTCEL-DAS001B	Ud Celdas de protección CT CELDA DE PROTECCIÓN PARA CENTRO DE TRANSFORMACIÓN, TIPO ORMAZABAL, SEGÚN DESGLOSE. - 1 CELDA MODULAR DE SECCIONAMIENTO DISPUESTA DE UN INTERRUPTOR-SECCIONADOR, AISLAMIENTO INTEGRO EN SF6 DE 24KV, 16KA Y 400A. - 2 CONJUNTO DE CELDAS TIPO DEV, FUNCIONES 1R+1PA CON AISLAMIENTO Y CORTE EN SF6 DE 24KV, 16KA Y 400A, INTEGRANDO UN CIRCUITO DE ALIMENTACIÓN DIRECTA CON SECCIONADOR DE P.A.T Y UNA FUNCIÓN DE PROTECCIÓN CON INTERRUPTOR AUTOMÁTICO DE CORTE EN VACÍO DE 400A RELE ELECTRÓNICO DE PROTECCIÓN Y TRES TRANSFORMADORES TOROIDALES DE INTENSIDAD, MANDO MANUAL, SECCIONADOR DE P.A.T PARA FUNCIÓN PROTECCIÓN, DISPOSITIVO DE PRESENCIA DE TENSIÓN Y ENCLAVAMIENTOS. SE INCLUYE EL MONTAJE, PASATAPAS Y CONEXIÓN.	1					1,000	
							1,00								1,00	
RED_TT_HER_CS	ud Red de Tierras de Herrajes CS INSTALACIÓN PARA TOMA DE TIERRA DE APARELLAJE: 4 PICAS DE 2M Y 14MM DE DIAMETRO, 20 M DE CONDUCTOR DE CU DESNUDO S=50 MM2	1					1,000	RED_TT_HER_CT	Ud Red de Tierras de Herrajes y Neutro CT INSTALACIÓN PARA TOMA DE TIERRA DE APARELLAJE: 8 PICAS DE 2M Y 14MM DE DIAMETRO, 20 M DE CONDUCTOR DE CU DESNUDO S=50 MM2 INSTALACIÓN DE PUESTA A TIERRA DE NEUTRO: 3 PICAS DE 2M Y 14MM DE DIÁMETRO, 30M DE CONDUCTOR DE CU DESNUDO S=50MM2 PEQUEÑO MATERIAL NECESARIO COMO TORNILLOS, ARANDELAS, ANCLAJES ... PARA SU COLOCACIÓN							
							1,00		CT	1				1,000		
VARTF_CS2	ud Varios CS VARIOS EQUIPOS CONEXIÓN INSTALACIÓN EN CS CONSISTENTES EN: - EQUIPO DE MEDIDA AUXILAR CONSISTENTE EN: -1 CONTADOR DE ENERGÍA REACTIVA -1 CONTADOR DE ENERGÍA ACTIVA -1 MODEM GSM - 1 COMUNICACIONES Y ACCIONAMIENTO REMOTO CELDAS MOTORIZADAS -PUENTE DE CABLES MT CONECTOR 400 A. KIT TERMINAL 3X1X95MM2 AL DE CELDA DE PROTECCIÓN A CELDA DE MEDIDA, 2.5M	1					1,000	A_SEGUR	Ud Material de Seguridad MT MATERIAL DE SEGURIDAD MT, FORMADO POR: UN PAR DE GANTES AISLANTE PARA MANIOBRA Y PROTECCIÓN DE MT, UNA BANQUETA AISLANTE, CUATRO PLACAS DE PELIGRO DE MUERTE Y UNA PLACA REGLAMENTARIA DE PRIMEROS AUXILIOS.							
							1,00		Ct	1				1,000		
A_SEGUR	Ud Material de Seguridad MT MATERIAL DE SEGURIDAD MT, FORMADO POR: UN PAR DE GANTES AISLANTE PARA MANIOBRA Y PROTECCIÓN DE MT, UNA BANQUETA AISLANTE, CUATRO PLACAS DE PELIGRO DE MUERTE Y UNA PLACA REGLAMENTARIA DE PRIMEROS AUXILIOS.	1					1,000	VARTF_CT	Ud Varios CT VARIOS EQUIPOS CONEXIÓN INSTALACIÓN EN CT CONSISTENTES EN: - TERMÓMETRO 1" CON 2 CONTACTOS PARA CONTROL DE Tº DE TRANSFORMADOR - PUENTE DE CABLES MT CONECTOR 400 A. KIT TERMINAL 3X1X95MM2 AL DE CELDA DE PROTECCIÓN A TRANSFORMADOR, 8M							
							1,00		CT	1				1,000		
							1,00								1,00	

MEDICIONES
PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
MTCUADROBT	Ud Cuadro BT-B2 trafo. Interruptor en carga + fusibles CUADRO DE BT ESPECIALMENTE DISEÑADO PARA ESTA APLICACIÓN CON LAS SIGUIENTES CARACTERÍSTICAS: <ul style="list-style-type: none"> · INTERRUPTOR MANUAL DE CORTE EN CARGA DE 1250 A. · SALIDAS FORMADAS POR BASES PORTAFUSIBLES: 1 SALIDA · TENSIÓN NOMINAL: 440 V · AISLAMIENTO: 10 KV · DIMENSIONES: ALTO: 1820 MM ANCHO: 580 MM FONDO: 300 MM PUENTES, CONEXIONES Y DEMÁS MATERIAL Y TRABAJOS COMPLEMENTARIOS, INCLUIDOS. MEDIDA LA UNIDAD TOTLAMENTE TERMINADA.							ENSA- YOS_TPC	Ud Ensayos de tensiones de paso y contacto UD. ENSAYOS DE TENSIONES DE PASO Y CONTACTO, INCLUIDOS EQUIPOS NECESARIOS PEQUEÑO MATERIAL NECESARIO PARA LA ADAPTACION DE LA INSTALACION PARA REALIZAR EL ENSAYO Y ELABORACIÓN DE INFORME.							
		CT					1,000		MT		1				1,000	
							1,00	MT002-1	Pa P.A. Redacción de Proyecto eléctrico MT, visados y trámites PARTIDA ALZADA A JUSTIFICAR PARA REDACCIÓN DE PROYECTOS ELÉCTRICOS DE MT NECESARIOS PARA LOS CONDICIONANTES ESPECIFICADOS POR LA COMPAÑÍA Y QUE PUDIERAN SER EXIGIDOS POR LOS DIFERENTES ORGANISMOS, COPIAS DOCUMENTALES, VISA-DOS, INCLUIDOS TODO TIPO DE TRÁMITES Y TASAS.							
							1,00		MT		1				1,000	
MT005-PFU5	Ud Caseta prefabricada tipo PFU-5 o similar +techo alto + vent.forz CASETA PREFABRICADA TIPO PFU-5 O SIMILAR, MONOBLOQUE, DE HORMIGÓN ARMADO, DE 6080X2380X3240 MM, APTO PARA CONTENER UN TRANSFORMADOR Y LA APARAMENTA NECESARIA. INCLUSO TRANSPORTE Y DESCARGA. INCLUYE EXCAVACIÓN, CAMA DE ARENA, RELLENOS LATERALES, CARGAS Y TRANSPORTES DE MATERIALES NECESARIOS Y EXCEDENTES, EDIFICIO Y TODOS SUS ELEMENTOS EXTERIORES SEGÚN CEI 622171-202, TRANSPORTE, MONTAJE Y ACCESORIOS. TOTALMENTE INSTALADO Y TERMINADO. TOTALMENTE MONTADO.														1,00	
		CT					1,000									
							1,00									
TRAF-2000	UD. TRANSFORMADOR DE POTENCIA SECO 2000 KVA, 15.000/400 V UD. TRANSFORMADOR DE POTENCIA DE 2000 KVA, SERVICIO INTERIOR, AISLAMIENTO SECO, RELACIÓN DE TRANSFORMACIÓN 15 KV / 400 V, +-2,5+-5%,+10% CONEXIÓN DYN11, PANTALLA ELECTROESTÁTICA, CENTRALITA DE TEMPERATURAS Y RELE FOTOVOLTAICO INCLUIDOS MEDIOS AUXILIARES NECESARIOS, INSTALADO, MONTADO Y TRASLADADO.								m Canalización Cables BT 0,85 M Anachura En Tierra Varios Circ: BT M.L. REALIZACIÓN DE ZANJA EN TIERRA CON LECHO DE ARENA PARA CABLES DE BT DE 0,85 MTS DE ANCHURA Y 0,75 MTS DE PROFUNDIDAD, INCLUYENDO ROTURA Y REPOSICIÓN DE PAVIMENTO EXISTENTE, EXCAVACIÓN CON MEDIOS MECÁNICOS, CAPA DE ARENA FINA DE 20 CM, RELLENO DE ZANJAS CON ZAHORRAS MEDIANTE TONGADAS DE 50 CM, PLACA DE PE DE PROTECCIÓN Y SEÑALIZACIÓN, ASÍ COMO MEDIOS MECÁNICOS, RETIRADA DE TIERRAS A VERTEDERO, MANO DE OBRA ESPECIALIZADA Y PEQUEÑO MATERIAL AUXILIAR NECESARIO (, MEDIDA LA UNIDAD TERMINADA Y EJECUTADA.							
		CT					2,00		Acometida CT1	10	10,000			100,000		
							2,00		Acometida CT2	10	10,000			100,000		
							2,00								200,00	
							2,00	BT-URVK3X240A	m Conductor Unip. RV-K (3x240+1x150) Al 0,6/1 KV ACOMETIDA SUBTERRÁNEA. - SE EMPLEARÁ CABLE RV 0.6/1KV EN ALUMINIO 1X240, CONSTITUYENDO 3 TERNAS, Y 1X150 POR CADA TERNA PARA TT, PARA LA TENSIÓN DE 400V. COMPLETAMENTE INSTALADO.							
							2,00		Acometida CT1	10	15,000			150,000		
							2,00		Acometida CT2	10	15,000			150,000		
							2,00								300,00	
							2,00	BT-AC-CANL2	m TUBO CORRUGADO D=225 mm M.L. DE TUBO CORRUGADO DE PVC DE 225 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N, UNO POR TERNA + UNO DE RESERVA. TOTALMENTE INSTALADO Y COLOCADO: MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA.							
							2,00		Acometida CT1	10	10,00			100,00		
							2,00		Acometida CT2	10	10,00			100,00		
							2,00								200,00	
							2,00	BT059	m Tubo Corrugado curvable D=50 mm M.L. TUBO CORRUGADO DE DOBLE PARED FLEXIBLE DE DIÁMETRO 50MM PARA INSTALACIONES ELÉCTRICAS, RESISTENCIA DE COMPRESIÓN 750N, RIGIDEZ DIELÉCTRICA 2KV, RESISTENCIA AL IMPACTO 2J, RESISTENCIA ELÉCTRICA 100 OHM BAJO 500VCC. INCLUSO PEQUEÑO MATERIAL DE MONTAJE Y UNION. TOTALMENTE INSTALADO Y MONTADO.							
							2,00		señal	2	10,000			20,000		
							2,00								20,00	

SUBCAPÍTULO 12.05 ENSAYOS, PRUEBAS Y TRÁMITES

DT02-ENS-RA	Ud Ensayo cables MT según normas IdE ENSAYO CABLES DE MT INSTALADOS DE FORMA SUBTERRÁNEA SEGÚN NORMAS CIA SU-MINISTRADA, SEGÚN ENSAYO DMD00300.DOC "PROCEDIMIENTO DE ENSAYOS PARA CABLES UNIPOLARES NUEVOS DE MT HASTA 30 KV" Y PEQUEÑO MATERIAL NECESARIO PARA LA ADAPTACION DE LA INSTALACION PARA REALIZAR EL ENSAYO															
		MT					1,000									
							1,00	ENSA- YOS_PAT	Ud Medición de puesta a tierra MEDICIÓN DE PUESTA A TIERRA, INCLUIDOS EQUIPOS NECESARIOS, PEQUEÑO MATERIAL NECESARIO PARA LA ADAPTACION DE LA INSTALACION PARA REALIZAR EL ENSAYO Y ELABORACIÓN DE INFORME.							
		MT					1,000									
							1,00	ENSA- YOS_RP	Ud Ensayos cuadro relés de protección ENSAYOS DE CUADROS DE RELÉS DE PROTECCIÓN, INCLUIDOS EQUIPOS NECESARIOS, PEQUEÑO MATERIAL NECESARIO PARA LA ADAPTACION DE LA INSTALACION PARA REALIZAR EL ENSAYO Y ELABORACIÓN DE INFORME.							
		MT					1,000									
							1,00									

MEDICIONES**PROYECTO MODERNIZACIÓN C.R. LANAJA**

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
SUBCAPÍTULO 13.02 CUADROS ELÉCTRICOS DEL BOMBEO								AUTOMÁTICO IV	Ud CUADRO ACOMETIDA Y PROTECCIONES CA. EB						
E-2.3C	Ud CUADRO SAA EB								CUADRO DE ACOMETIDA DE BT EB QUE INCLUYE: - 2 ENVOLVENTES COMBINABLE METÁLICA DE 2000X1600X800, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA EN ACERO PLEGADO Y SOLDADO, APERTURA 120°, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO. - INCLUYE 3 PLETINAS DE COBRE DE 50X10 MM PARA EMBARRADO, DE 1.2M DE LARGO CADA UNA. - SOPORTES PARA EMBARRADO. - 5 RELÉS 24 VCC PARA MANDO. - 2 INTERRUPTOR AUTOMÁTICO II 16 A P DE C 10 KA - 14 INTERRUPTOR AUTOMÁTICO II 16 A P DE C 15 KA - 2 INTERRUPTOR AUTOMÁTICO II 10 A P DE C 35 KA - 4 INTERRUPTOR AUTOMÁTICO II 20 A P DE C 35 KA - 1 INTERRUPTOR AUTOMÁTICO II 25 A P DE C 35 KA - 5 INTERRUPTOR AUTOMÁTICO II 16 A P DE C 50 KA - 1 INTERRUPTOR AUTOMÁTICO II 16 A P DE C 50 KA - 8 INTERRUPTOR AUTOMÁTICO III 16 A P DE C 50 KA - 12 INTERRUPTOR AUTOMÁTICO IV 16 A P DE C 50 KA - 1 INTERRUPTOR AUTOMÁTICO IV 40 A P DE C 50 KA - 1 INTERRUPTOR AUTOMÁTICO IV 125 A P DE C 50 KA - 1 INTERRUPTOR DIFERENCIAL IV 63A 300MA AC - 2 INTERRUPTOR DIFERENCIAL IV 40A 300MA AC - 6 INTERRUPTOR DIFERENCIAL IV 25A 300MA AC - 2 INTERRUPTOR DIFERENCIAL IV 25A 30MA AC - 6 INTERRUPTOR DIFERENCIAL II 25A 30MA AC - 3 CONTACTORES III 16A CON TENSIÓN EN BOBINA DE 230V - 14 CONTACTORES II 16A CON TENSIÓN EN BOBINA DE 230V - INCLUYE PILOTOS DE SEÑALIZACIÓN, PULSADORES Y SELECTORES DE 3 POSICIONES. - INCLUYE TOMA DE CORRIENTE DE 230V - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. INCLUSO TRANSPORTE. TOTALMENTE MONTADO, CONECTADO Y PROBADO.						
	Servicios auxiliares	1					1,00								
															1,00
								BT025CC	Ud CUADRO ACOMETIDA Y PROTECCIONES CC FV. EB						
									ARMARIO PROTECCIONES BOMBAS ACOMETIDA FV EB INCLUYE: - 2 ENVOLVENTES COMBINABLE METÁLICA DE 2000X1600X800, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA DE 2 HOJAS EN ACERO PLEGADO Y SOLDADO, APERTURA 120°, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO. - INCLUYE 4 PLETINAS DE COBRE DE 2(120X10) MM PARA EMBARRADO, DE 1.6M DE LARGO CADA UNA. PARA CC. - 2 INTERRUPTOR AUTOMÁTICO TIPO EMAXDC 2000A 1100VCC - 5 INTERRUPTOR AUTOMÁTICO TIPO TMAX T5-6 DE IN 630 A, POTENCIA DE CORTE DE 20 KA Y 4POLOS, 1100V - 9 INTERRUPTOR AUTOMÁTICO TIPO TMAX T5 DE IN 400 A, POTENCIA DE CORTE DE 22 KA Y 4POLOS, 1100V - 14 DIODOS DE BLOQUEO PARA BUS CONTINUA VARIADOR. - SOPORTE PARA EMBARRADOS, INCLUYE PANTALLA DE METACRILATO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. INCLUSO TRANSPORTE. TOTALMENTE MONTADO, CONECTADO Y PROBADO.						
									Acometida CA	1				1,00	
									Acometida CC EB	1				1,00	
															1,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
BT0160	<p>Ud BOMBA 160KW VARIADOR FV+ARMARIO+PROTECC</p> <p>ARMARIO BOMBA 160 KW AC/DC CON VARIADOR FV. INCLUYE:</p> <ul style="list-style-type: none"> - ENVOLVENTE COMBINABLE METÁLICA DE 1780X529X2000 MM, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA DE 2 HOJAS EN ACERO PLEGADO Y SOLDADO, APERTURA 120°, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO. - SECCIONADOR AC - FUSIBLES AC - SECCIONADOR DC - FUSIBLES DC - PROTECTOR CONTRA SOBRETENSIONES - VIGILANTE DE AISLAMIENTO - KIT DE DIODO DE PROTECCIÓN TIRISTOR- DIODO. DIODOS DE BLOQUEO PARA BUS CONTINUA VARIADOR - FUNSIONAMIENTO EN INS. FLOTANTE - INSTALACIÓN PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA - SOPORTE PARA EMBARRADOS, INCLUYE PANTALLA DE METACRILATO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - VARIADOR DE FRECUENCIA FOTOVOLTAICO 160 KW, TIPO CD750SP O SIMILAR, TENSIÓN EN PUENTE RECTIFICADOR 400 VCC, TENSIÓN EN BUS CONTINUA MÁXIMIMA 1000 VCC Y MÍNIMA 540 VCC, 150% DURANTE 60SEG, TEMPERATURA AMBIENTE 50°C, DE DIMENSIONES 780X529X1715 MM, EN ARMARIO IP54 PARA INMUNIDAD RFI. INCLUYE RADIADOR DE ALTA EFICIENCIA, INSTALACIÓN COMPLETA PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA. FUENTE DE ALIMENTACIÓN DE 24VCC-100MA DISPONIBLE PARA EL USUARIO PROTEGIDA CONTRA CORTOCIRCUITOS. PUERTO DE COMUNICACIONES SERIE, PROTECCION CONTRA SOBRETENSIONES, SOBRECORRIENTE, SOBRECARGA EN LOS IGBTs, TEMPERATURA, INDUCTANCIA DE LÍNEA, FILTRO EMC, THDI BOBINAS Y FILTRO DV/DT EN SALIDA. -INCLUSO PULSADORES, SECCIONADORES EXTERIORES, SELECTOR DE TRES POSICIONES, POTENCIÓMETROS, PARA MANEJO DE BOMBAS Y LEDS SEÑALIZACIÓN EN PUERTA. - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. <p>INCLUSO TRANSPORTE. TOTALMENTE MONTADO, CONECTADO Y PROBADO.</p>	Bombeo 1	5				5,00	BT0200	<p>Ud BOMBA 200KW VARIADOR FV+ARMARIO+PROTECC</p> <p>ARMARIO BOMBA 200 KW AC/DC CON VARIADOR FV. INCLUYE:</p> <ul style="list-style-type: none"> - ENVOLVENTE COMBINABLE METÁLICA DE 1780X529X2000 MM, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA DE 2 HOJAS EN ACERO PLEGADO Y SOLDADO, APERTURA 120°, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO. - SECCIONADOR AC - FUSIBLES AC - SECCIONADOR DC - FUSIBLES DC - PROTECTOR CONTRA SOBRETENSIONES - VIGILANTE DE AISLAMIENTO - KIT DE DIODO DE PROTECCIÓN TIRISTOR- DIODO. DIODOS DE BLOQUEO PARA BUS CONTINUA VARIADOR - FUNSIONAMIENTO EN INS. FLOTANTE - INSTALACIÓN PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA - SOPORTE PARA EMBARRADOS, INCLUYE PANTALLA DE METACRILATO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - VARIADOR DE FRECUENCIA FOTOVOLTAICO 200 KW, TIPO CD750SP O SIMILAR, TENSIÓN EN PUENTE RECTIFICADOR 400 VCC, TENSIÓN EN BUS CONTINUA MÁXIMIMA 1000 VCC Y MÍNIMA 540 VCC, 150% DURANTE 60SEG, TEMPERATURA AMBIENTE 50°C, DE DIMENSIONES 780X529X1715 MM, EN ARMARIO IP54 PARA INMUNIDAD RFI. INCLUYE RADIADOR DE ALTA EFICIENCIA, INSTALACIÓN COMPLETA PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA. FUENTE DE ALIMENTACIÓN DE 24VCC-100MA DISPONIBLE PARA EL USUARIO PROTEGIDA CONTRA CORTOCIRCUITOS. PUERTO DE COMUNICACIONES SERIE, PROTECCION CONTRA SOBRETENSIONES, SOBRECORRIENTE, SOBRECARGA EN LOS IGBTs, TEMPERATURA, INDUCTANCIA DE LÍNEA, FILTRO EMC, THDI BOBINAS Y FILTRO DV/DT EN SALIDA. -INCLUSO PULSADORES, SECCIONADORES EXTERIORES, SELECTOR DE TRES POSICIONES, POTENCIÓMETROS, PARA MANEJO DE BOMBAS Y LEDS SEÑALIZACIÓN EN PUERTA. - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. <p>INCLUSO TRANSPORTE. TOTALMENTE MONTADO, CONECTADO Y PROBADO.</p>	Bombeo 2	4				4,00
							5,00								4,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
BT026	<p>Ud BOMBA 250KW VARIADOR FV+ARMARIO+PROTECC</p> <p>ARMARIO BOMBA 250 KW AC/DC CON VARIADOR FV. INCLUYE:</p> <ul style="list-style-type: none"> - ENVOLVENTE COMBINABLE METÁLICA DE 1780X529X2000 MM, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA DE 2 HOJAS EN ACERO PLEGADO Y SOLDADO, APERTURA 120º, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V.MANETA CON INSERTO DE FORMA Y TERMOSTATO. - SECCIONADOR AC - FUSIBLES AC - SECCIONADOR DC - FUSIBLES DC - PROTECTOR CONTRA SOBRETENSIONES - VIGILANTE DE AISLAMIENTO - KIT DE DIODO DE PROTECCIÓN TIRISTOR- DIODO. DIODOS DE BLOQUEO PARA BUS CONTINUA VARIADOR - FUSIONAMIENTO EN INS. FLOTANTE - INSTALACIÓN PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA - SOPORTE PARA EMBARRADOS, INCLUYE PANTALLA DE METACRILATO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - VARIADOR DE FRECUENCIA FOTOVOLTAICO 250 KW, TIPO CD750SP O SIMILAR, TENSIÓN EN PUENTE RECTIFICADOR 400 VCC, TENSIÓN EN BUS CONTINUA MÁXIMIMA 1000 VCC Y MÍNIMA 540 VCC, 150% DURANTE 60SEG, TEMPERATURA AMBIENTE 50°C, DE DIMENSIONES 780X529X1715 MM, EN ARMARIO IP54 PARA INMUNIDAD RFI. INCLUYE RADIADOR DE ALTA EFICIENCIA, INSTALACIÓN COMPLETA PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA. FUENTE DE ALIMENTACIÓN DE 24VCC-100MA DISPONIBLE PARA EL USUARIO PROTEGIDA CONTRA CORTOCIRCUITOS. PUERTO DE COMUNICACIONES SERIE, PROTECCION CONTRA SOBRETENSIONES, SOBRECORRIENTE, SOBRECARGA EN LOS IGBTs, TEMPERATURA, INDUCTANCIA DE LÍNEA, FILTRO EMC, THDI BOBINAS Y FILTRO DV/DT EN SALIDA. -INCLUSO PULSADORES, SECCIONADORES EXTERIORES, SELECTOR DE TRES POSICIONES, POTENCIÓMETROS, PARA MANEJO DE BOMBAS Y LEDS SEÑALIZACIÓN EN PUERTA. - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. <p>INCLUSO TRANSPORTE. TOTALMENTE MONTADO, CONECTADO Y PROBADO.</p>															
	Bombeo 3	5				5,00	5,00									
BT036E	<p>Ud BATERÍA DE CONDENSADORES 100 kVA. Auto. Vacío trafo</p> <p>BATERÍA DE CONDENSADORES AUTOMÁTICA PARA COMPENSACIÓN DE ENERGÍA REACTIVA, DE 135 KVAR (15+40X30) Y 400VAC TRIFÁSICA A 50HZ, ENVOLVENTE METÁLICA INCLUIDA EN LA ACOMTIDA, REGULADOR DIGITAL DE 96X96MM, PROTECCIÓN POR FUSIBLES, INTERRUPTOR GENERAL MANUAL DE CORTE EN CARGA CON BLOQUEO DE PUERTA, CONTACTOR CON RESISTENCIAS, VENTILADOR Y TERMOSTATO, SOBRECARGA 1,3IN, SOBRETENSIÓN 1,1VN, VALOR ICC EMBARRADO 70KA, 1SG, DISPOSITIVO ANTIEXPLOSIÓN Y RESISTENCIAS DE DESCARGA INCORPORADAS. PROTECCIÓN CONTRA CONTACTOS INDIRECTOS, AUTOTRANSFORMADOR 400/230V INTEGRADO, CONEXIÓN CABLEADO DE POTENCIA POR PARTE INFERIOR MEDIANTE TAPA PASACABLES, INCLUSO TRANSPORTE. TOTALMENTE MONTADA, CONECTADA, INSTALADA Y PROBADA.</p>															
	Vacío trafo	2				2,00	2,00									
							2,00									
SUBCAPÍTULO 13.03 CIRCUITOS ELÉCTRICOS DEL BOMBEO																
								BT-U240X3-120	m Cable Unipolar RZ1-K 0,6/1 KV de 3x240+120 mm2 Cu							
									M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR APANTALLADO RZ1 0,6/1 KV DE 3X240+TTX120 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.							
								Bomba 2.1	2	30,50				61,00		
								Bomba 2.2	2	33,50				67,00		
								Bomba 2.3	2	35,50				71,00		
								Bomba 2.4	2	40,50				81,00		
								Bomba 3.1	3	32,50				97,50		
								Bomba 3.2	3	35,50				106,50		
								Bomba 3.3	3	38,50				115,50		
								Bomba 3.4	3	40,50				121,50		
								Bomba 3.5	3	44,50				133,50		
								A variadores	1	30,00				30,00		
														884,50		
								BT-U185X3-095	m Cable Unipolar RZ1-K 0,6/1 KV de 3x185+95 mm2 Cu							
									M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR APANTALLADO RZ1 0,6/1 KV DE 3X95+TTX50 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.							
								A variadores	1	22,00				22,00		
														22,00		
								BT-U150X3-095	m Cable Unipolar RZ1-K 0,6/1 KV de 3x150+95 mm2 Cu							
									M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR APANTALLADO RZ1 0,6/1 KV DE 3X150+TTX95 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.							
								Bomba 1.3	2	21,00				42,00		
								Bomba 1.4	2	23,00				46,00		
								Bomba 1.5	2	27,50				55,00		
														143,00		
								BT-U120X3-070	m Cable Unipolar RZ1-K 0,6/1 KV de 3x120+70 mm2 Cu							
									M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR APANTALLADO RZ1 0,6/1 KV DE 3X120+TTX70 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.							
								Bomba 1.1	2	21,00				42,00		
								Bomba 1.2	2	20,50				41,00		
								A variadores	1	52,00				52,00		
														135,00		
								BT-U035X3-016	m Cable Unipolar RZ1-K 0,6/1 KV de 3x35+16 mm2 Cu							
									M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR APANTALLADO RZ1 0,6/1 KV DE 3X35+TTX16 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.							
								A cuadro SSAA	1	2,00				2,00		
														2,00		

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
BT-U006X3-000	m Cable Unipolar RZ1-K 0,6/1 KV de 3x6 mm2 Cu M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 3X6 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.							BT-U002.5X3-0	m Cable Unipolar RZ1-K 0,6/1 KV de 3x2.5 mm2 Cu M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 3X2.5 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.						
	Alumbrado Bombeo:								Base II Cuadros	1	6,000				6,000
	Norte 1	1	209,000			209,000			Caudalimetro TOMA	1	450,000				450,000
	Norte 2	1	159,000			159,000			Caudalimetro 1	1	33,500				33,500
	Sur 1	1	129,000			129,000			Caudalimetro 2	1	59,000				59,000
	Sur 2	1	109,000			109,000			Caudalimetro 3	1	63,000				63,000
							606,00		Resistencia caldeo:						
									Bomba 1.1	1	21,000				21,000
									Bomba 1.2	1	20,500				20,500
									Bomba 1.3	1	21,000				21,000
									Bomba 1.4	1	23,000				23,000
									Bomba 1.5	1	27,500				27,500
									Bomba 2.1	1	30,500				30,500
									Bomba 2.2	1	33,500				33,500
									Bomba 2.3	1	35,500				35,500
									Bomba 2.4	1	40,500				40,500
									Bomba 3.1	1	32,500				32,500
									Bomba 3.2	1	35,500				35,500
									Bomba 3.3	1	38,500				38,500
									Bomba 3.4	1	40,500				40,500
									Bomba 3.5	1	44,500				44,500
							233,00		Automatismos:						
									FA	1	30,000				30,000
									Automata	1	30,000				30,000
									Alumbrado Bombeo:						
									Sala cuadros	1	29,000				29,000
									Oficina y baños	1	24,000				24,000
															1.169,00
BT-U004X5-000	m Cable Unipolar RZ1-K 0,6/1 KV de 5x4 mm2 Cu M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 5X4 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.							BT-U002.5X5-0	m Cable Unipolar RZ1-K 0,6/1 KV de 5x2.5 mm2 Cu M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 5X2.5 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.						
	Limpiaarreas TOMA	1	615,00			615,00	615,00		Compuerta 1 TOMA	1	630,00				630,00
									Compuerta 2 TOMA	1	630,00				630,00
									Filtro W	1	15,00				15,00
									Val. Motorizada Balsa BPC	1	310,00				310,00
															1.585,00
BT-U004X4-000	m Cable Unipolar RZ1-K 0,6/1 KV de 4x4 mm2 Cu M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 4X4 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.							BT-U002.5X4-0	m Cable Unipolar RZ1-K 0,6/1 KV de 4x2.5 mm2 Cu M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 4X2.5 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.						
	Extractores	1	78,000			78,000			P. Grúa	1	28,00				28,00
	Base III N	1	94,500			94,500			Extractores	1	28,50				28,50
	Base III E	1	60,500			60,500				1	30,00				30,00
							233,00		Base III O	1	64,00				64,00
BT-U004X3-000	m Cable Unipolar RZ1-K 0,6/1 KV de 3x4 mm2 Cu M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 3X4 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.								Base III Cuadros	1	6,00				6,00
	Bases II N	1	93,500			93,500									156,50
	Bases II O	1	64,000			64,000									
	Bases II E	1	59,500			59,500									
							217,00								

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
BT-U001.5X3-0	<p>m Cable Unipolar RZ1-K 0,6/1 KV de 3x1.5 mm2 Cu</p> <p>M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 3X1.50 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.</p> <p>Línea automatismo</p> <p>Alumbrado:</p> <p>Cuadros</p> <p>Ext E</p> <p>Ext O</p> <p>Alumbrado emergencia:</p> <p>O</p> <p>E</p>	1	2,000			2,000		BT039-1C	<p>u EXTRACCIÓN 6300 m3/ud 900 rpm</p> <p>UD. DE VENTILACIÓN, EXTRACCIÓN DE AIRE MONTADA, CONEXIONADA Y PROBADA, COMPUESTA POR:</p> <p>- 1 VENTILADOR:</p> <p>- CAUDAL 6300M3/H.</p> <p>- 900 RPM</p> <p>- NIVEL SONORO 59 DB</p> <p>- BASE SOPORTE HCT PARA CUBIERTAS INCLINADAS.</p> <p>- BASE ATENUADORA ACÚSTICA: LOS VENTILADORES INSTALADOS SON DE GRAN CAPACIDAD, LO QUE CONLLEVA A QUE GENERAN UN ELEVADO NIVEL DE PRESIÓN SONORA, POR LO QUE SE AÑADE ESTE ACCESORIO.</p> <p>- MARCO SOPORTE EN CHAPA DE ACERO.</p> <p>- SOPORTE MOTOR CON REJILLA DE PROTECCIÓN CONTRA CONTACTOS, SEGÚN NORMAS DIN 24167 Y UNE 20-359-74.</p> <p>- HÉLICE EN POLIAMIDA 6 REFORZADA CON FIBRA DE VIDRIO.</p> <p>- CONJUNTO EQUILIBRADO DINÁMICAMENTE SEGÚN LA NORMA ISO 1940.</p> <p>- ACABADO ANTICORROSIÓN EN RESINA DE POLIESTER, POLIMERIZADA A 180°C., PREVIO DESENGRASE, FOSFATACIÓN Y PASIVADO.</p> <p>- CAJA DE CONEXIÓN INCLUIDA.</p> <p>- MOTORES ASÍNCRONOS, CON ROTOR DE JAULA DE ARDILLA.</p> <p>- TENSIÓN MOTOR 380-415 V 50 HZ .</p> <p>- POTENCIA CONSUMIDA 370W</p> <p>- AISLAMIENTO CLASE F Y PROTECCIÓN IP-65.</p> <p>- PROTECCIÓN TÉRMICA INCLUIDA PARA PROTEGER EL MOTOR CONTRA SOBRECALENTAMIENTOS PRODUCIDOS POR CUALQUIER ANOMALIA.</p> <p>- INTERRUPTORES PARA INSTALAR AL LADO DEL VENTILADOR, Y DE ESTA FORMA PODER CORTAR LA CORRIENTE ANTES DE MANIPULAR EL VENTILADOR. DE ACUERDO A LA NORMA IEC947-3.</p> <p>-PROTECCIÓN IP-65.</p>							
							406,00									
SUBCAPÍTULO 13.04 RECEPTORES																
BT037A	<p>Ud Iluminación Bombeo</p> <p>UD SUMINISTRO Y MONTAJE DE ILUMINACIÓN DE ESTACIÓN DE BOMBEO QUE INCLUYE:</p> <p>- 51 LUMINARIAS (INCLUIDA LAMPARA Y LUMINARIA) PARA INTERIOR, ESTANCA CON PROTECCIÓN IP65 O SUPERIOR, LUZ BLANCA, 6500 LM, 46,6 W Y LONGITUD DE 1600 MM. INCLUIDOS LOS ELEMENTOS DE ANCLAJE A ESTRUCTURAS DE HORMIGÓN Y PERFILES METÁLICOS, FALSOS TECHOS,..... ADEMÁS DE PEQUEÑO MATERIAL DE CONEXIÓN, Y ANCLAJE.</p> <p>- 14 LUMINARIAS DE ALUMBRADO PÚBLICO PARA EXTERIOR (LAMPARA Y LUMINARIA INCLUIDAS) TIPO FOCO, ESTANCO CON PROTECCIÓN IP65 O SUPERIOR, LUZ BLANCA, 15000 LM, 104 W CON SOPORTE METÁLICO INOXIDABLE PARA COLOCACIÓN EN FACHADAS DE HORMIGÓN U OTROS MATERIALES SIMILARES, INCLUYENDO LOS SISTEMAS DE ANCLAJE TORNILLERÍA, ALBAÑILERIA ASOCIADA, Y PEQUEÑO MATERIAL DE CONEXIÓN ENTRE ELEMENTOS.</p> <p>- 8 LUMINARIAS DE EMERGENCIA CON EQUIPO DE 8 W, CON CARCASA DE POLIESTER, IP54, INCLUIDA LÁMPARA 8 W, MEDIOS AUXILIARES NECESARIOS DE ELEVACIÓN Y PEQUEÑO MATERIAL, TOTALMENTE INSTALADA.</p> <p>TOTALMENTE INSTALADO, CONECTADO Y PROBADO.</p>															
		1				1,000									12,00	
							1,00									
SUBCAPÍTULO 13.05 CONDUCCIONES Y CANALIZACIONES CABLEADO																
BT042A	<p>Ud Cuadro Tomas De Corriente Bombeo</p> <p>UD. CONSTRUCCIÓN, SUMINISTRO Y MONTAJE DE CUADRO DE TOMAS DE CORRIENTE EN CAJA ESTANCA DE SUPERFICIE, MATERIAL PVC, PROTECCIÓN IP-66 DE 265X460X181 MM DE DIMENSIONES APROXIMADAS, CON CAPACIDAD PARA 24 MÓDULOS DE PROTECCIÓN, FRONTAL PRACTICABLE CON BISAGRAS INFERIORES Y TORNILLOS Y VENTANILLA ABATIBLE DE MAKROLÓN, COMPUESTA POR:</p> <p>- 1 INTERRUPTOR AUTOMÁTICO MAGNETOTÉRMICO GENERAL DE IX32 A.</p> <p>- 1 INTERRUPTOR DIFERENCIAL IX40 A, 30 MA.</p> <p>- 1 INTERRUPTOR AUTOMÁTICO MAGNETOTÉRMICO DE IIX16 A.</p> <p>- 1 INTERRUPTOR AUTOMÁTICO MAGNETOTÉRMICO DE IVX16 A.</p> <p>- 1 TOMAS DE CORRIENTE TIPO CETACT, 400 V, III+TX16 A, INCLINADA Y EMPOTRABLE.</p> <p>- 1 TOMAS DE CORRIENTE TIPO SCHUKO, 230 V, II+TX16 A, INCLINADA Y EMPOTRABLE.</p> <p>INCLUIDO HERRAJE DE SUJECCIÓN EN ESTRUCTURA O PARED EXISTENTES Y PEQUEÑO MATERIAL NECESARIO PARA UN CORRECTO MONTAJE, TOTALMENTE INSTALADO.</p>															
		4				4,000										
							4,00									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
BT056	<p>m ZANJA CABLES BT 0,6 MTS ANCHURA EN TIERRA VARIOS CIRCUITOS BT</p> <p>M.L. REALIZACIÓN DE ZANJA EN TIERRA CON LECHO DE ARENA PARA CABLES DE BT DE 0,6 MTS DE ANCHURA Y 0,9 MTS DE PROFUNDIDAD, INCLUYENDO ROTURA Y REPOSICIÓN DE PAVIMENTO EXISTENTE, EXCAVACIÓN CON MEDIOS MECÁNICOS, CAPA DE ARENA FINA DE 30 CM, RELLENO DE ZANJAS CON ZAHORRAS MEDIANTE TONGADAS DE 30 CM, MALLA DE SEÑALIZACIÓN (2 MTS), PLACA DE PVC DE SEÑALIZACIÓN (2 MTS), ASÍ COMO MEDIOS MECÁNICOS, RETIRADA DE TIERRAS A VERTEDERO, MANO DE OBRA ESPECIALIZADA Y PEQUEÑO MATERIAL AUXILIAR NECESARIO, MEDIDA LA UNIDAD TERMINADA Y EJECUTADA.</p>							BT-AC-CANL2	<p>m TUBO CORRUGADO D=225 mm</p> <p>M.L. DE TUBO CORRUGADO DE PVC DE 225 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N, UNO POR TERNA + UNO DE RESERVA. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA.</p>							
	De EB a Arqueta balsa BPC (PN)	1	310,00			310,00			Fuerza bombas:							
	De Arqueta balsa BPC (PN) a TOMA:	1	320,00			320,00			Bomba 2.1	2	30,50			61,00		
	Caudalímetro 1	1	33,50			33,50			Bomba 2.2	2	33,50			67,00		
	Caudalímetro 2	1	59,00			59,00			Bomba 2.3	2	35,50			71,00		
	Caudalímetro 3	1	63,00			63,00			Bomba 2.4	2	40,50			81,00		
	Bomba 1.1	1	21,00			21,00			Bomba 3.1	3	32,50			97,50		
	Bomba 1.2	1	20,50			20,50			Bomba 3.2	3	35,50			106,50		
	Bomba 1.3	1	21,00			21,00			Bomba 3.3	3	38,50			115,50		
	Bomba 1.4	1	23,00			23,00			Bomba 3.4	3	40,50			121,50		
	Bomba 1.5	1	27,50			27,50			Bomba 3.5	3	44,50			133,50		
	Bomba 2.1	1	30,50			30,50									854,50	
	Bomba 2.2	1	33,50			33,50			BT-AC-CANL200	<p>m TUBO CORRUGADO D=200 mm</p> <p>M.L. DE TUBO CORRUGADO DE PVC DE 200 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA.</p>						
	Bomba 2.3	1	35,50			35,50			De EB a Arqueta balsa BPC (PN)	2	310,00			620,00		
	Bomba 2.4	1	40,50			40,50									620,00	
	Bomba 2.5	1	44,50			44,50										
	Bomba 3.1	1	32,50			32,50			BT059-18	<p>m TUBO CORRUGADO D=180 mm</p> <p>M.L. TUBO CORRUGADO DE DOBLE PARED FLEXIBLE DE DIÁMETRO 180MM PARA INSTALACIONES ELÉCTRICAS, RESISTENCIA DE COMPRESIÓN 450N, RIGIDEZ DIELECTRICA 2KV, RESISTENCIA AL IMPACTO 2J, RESISTENCIA ELÉCTRICA 100 OHM BAJO 500VCC. INCLUSO CINTA DE SEÑALIZACIÓN DE AVISO DE CABLEADO, PEQUEÑO MATERIAL DE MONTAJE Y UNION. TOTALMENTE INSTALADO Y MONTADO.</p>						
	Bomba 3.2	1	35,50			35,50			Fuerza bombas:							
	Bomba 3.3	1	38,50			38,50			Bomba 1.1	2	21,00			42,00		
	Bomba 3.4	1	40,50			40,50			Bomba 1.2	2	20,50			41,00		
	Bomba 3.5	1	44,50			44,50			Bomba 1.3	2	21,00			42,00		
	Filtro W	1	15,00			15,00			Bomba 1.4	2	23,00			46,00		
							1.245,00		Bomba 1.5	2	27,50			55,00		
															226,00	
BT061	<p>m Construcción atarjea</p> <p>EJECUCIÓN DE ATARJEA MEDIANTE LADRILLO DE GERO REVESTIDO CON MORTERO CON DIMENSIONES DE 0,8 DE ANCHURA Y HASTA 0,8 M DE PROFUNDIDAD. INCLUIDA LA EXCAVACIÓN DE ZANJA, EJECUCIÓN DE MUROS Y SOLERA (NIVELADA EN DIRECCIÓN A PUNTO DE EVACUACIÓN DE AGUAS, TAPA REGISTRABLE DE ATARJEA. TOTALMENTE EJECUTADO.</p>															
	Entre cuadros	2	5,000			10,000									10,00	
BT058-1	<p>m Bandeja de PVC estanca de 150x60 mm</p> <p>BANDEJA DE PVC CON TAPA DE PVC, CON DIMENSIONES 150X60MM. INCLUSO PEQUEÑO MATERIAL, APOYOS MEDIANTE PERFILES METÁLICOS Y ANCLAJES A PARAMENTOS VERTICALES Y HORIZONTALES, TOTALMENTE INSTALADO Y EN SERVICIO.</p>															
	Bandejas	2	60,000			120,000										
		2	21,000			42,000										
							162,00									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
BT-AC-CANL050	m TUBO CORRUGADO D=50 mm							EG21281J	m Tubo rígido de PVC, de 25 mm de diámetro nominal						
	M.L. DE TUBO CORRUGADO DE PVC DE 50 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA.								TUBO RÍGIDO DE PVC, DE 25 MM DE DIÁMETRO NOMINAL, AISLANTE Y NO PROPAGADOR DE LA LLAMA, CON UNA RESISTENCIA AL IMPACTO DE 2 J, RESISTENCIA A COMPRESIÓN DE 1250 N Y UNA RIGIDEZ DIELECTRICA DE 2000 V, CON UNIÓN ENCHUFADA Y MONTADO SUPERFICIALMENTE						
	Caudalímetro 1	2	33,50			67,00			Alumbrado Bombeo:						
	Caudalímetro 2	2	59,00			118,00			Sala cuadros	1	29,00			29,00	
	Caudalímetro 3	2	63,00			126,00			Oficina y baños	1	24,00			24,00	
	Bomba 1.1	2	21,00			42,00			P. Grúa	1	4,00			4,00	
	Bomba 1.2	2	20,50			41,00			Ex tractores	12	2,50			30,00	
	Bomba 1.3	2	21,00			42,00			Base III O	3	4,00			12,00	
	Bomba 1.4	2	23,00			46,00			Base III Cuadros	1	4,00			4,00	
	Bomba 1.5	2	27,50			55,00			Alumbrado:						
	Bomba 2.1	2	30,50			61,00			Ext E	14	2,50			35,00	
	Bomba 2.2	2	33,50			67,00			Alumbrado emergencia:	8	3,00			24,00	
	Bomba 2.3	2	35,50			71,00			Bomba 1.1	1	5,00			5,00	
	Bomba 2.4	2	40,50			81,00			Bomba 1.2	1	5,00			5,00	
	Bomba 3.1	2	32,50			65,00			Bomba 1.3	1	5,00			5,00	
	Bomba 3.2	2	35,50			71,00			Bomba 1.4	1	5,00			5,00	
	Bomba 3.3	2	38,50			77,00			Bomba 1.5	1	5,00			5,00	
	Bomba 3.4	2	40,50			81,00			Bomba 2.1	1	5,00			5,00	
	Bomba 3.5	2	44,50			89,00			Bomba 2.2	1	5,00			5,00	
	Filtro W	2	15,00			30,00			Bomba 2.3	1	5,00			5,00	
	Válvula Impulsión BP1	2	30,00			60,00			Bomba 2.4	1	5,00			5,00	
	Válvula Impulsión BP2	2	60,00			120,00			Bomba 3.1	1	5,00			5,00	
	Válvula Impulsión BP3	2	60,00			120,00			Bomba 3.2	1	5,00			5,00	
	By-pass	2	30,00			60,00			Bomba 3.3	1	5,00			5,00	
		2	30,00			60,00			Bomba 3.4	1	5,00			5,00	
	De Arqueta balsa BPC (PN) a:								Bomba 3.5	1	5,00			5,00	
	Compuerta 1 TOMA	2	320,00			640,00			Filtro W	1	5,00			5,00	
	Compuerta 2 TOMA	2	320,00			640,00			By-pass	1	5,00			5,00	
	Caudalímetro TOMA	2	140,00			280,00				1	5,00			5,00	
							3.210,00								247,00
								EG21271J	m Tubo rígido de PVC, de 20 mm de diámetro nominal						
									TUBO RÍGIDO DE PVC, DE 20 MM DE DIÁMETRO NOMINAL, AISLANTE Y NO PROPAGADOR DE LA LLAMA, CON UNA RESISTENCIA AL IMPACTO DE 2 J, RESISTENCIA A COMPRESIÓN DE 1250 N Y UNA RIGIDEZ DIELECTRICA DE 2000 V, CON UNIÓN ENCHUFADA Y MONTADO SUPERFICIALMENTE						
									Bajadas	2	6,00			12,00	
										3	2,00			6,00	
															18,00
								BT-AC-ARQB120	UD ARQUETA IN SITU 80x80 END. H=120						
									ARQUETA IN SITU PARA EL PASO, DISTRIBUCIÓN O ENLACE DE CANALIZACIONES SUBTERRÁNEAS DE MEDIA Y BAJA TENSIÓN. DISPONE DE TAPA. TIENE UNAS DIMENSIONES INTERIORES DE 800X800 MM Y UNA ALTURA DE 120 CM. TAPA DE FUNDICIÓN CON CLASE DE CARGA C-250 SEGÚN UNE-EN 124. INCLUIDO MATERIALES AUXILIARES NECESARIOS PARA SU INSTALACIÓN, FIJACIÓN, COLOCACIÓN, ASÍ COMO PARA EL SELLADO DE CANALIZACIONES. MEDIDA LA UNIDAD TOTALMENTE INSTALADA.						
									Registro	1				1,00	
															1,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
SUBCAPÍTULO 13.06 RED DE PUESTA A TIERRA								BT069	Ud Conexión A Tierra Estructura Metálica						
BT065	m Conductor Desnudo De Cobre De 50 mm2							UD. SUMINISTRO Y MONTAJE DE CONEXIÓN A TIERRA DE ESTRUCTURA METÁLICA, COM-PUESTA POR:							
	CONDUCTOR DE COBRE DESNUDO DE 50 MM2 DE SECCIÓN NOMINAL POR CONDUCCIÓN DE PUESTA A TIERRA ENTERRADA, INCLUYE PEQUEÑO MATERIAL, EXCAVACIÓN, INSTALACIÓN Y PARTE PROPORCIONAL DE SOLDADURAS ALUMINOTÉRMICA							- 1 UD. SOLDADURA ALUMINOTÉRMICA EN TE CABLE-CABLE.							
	Cable tierras							- 1 UD. PLACA DE ACERO SOLDADA A ESTRUCTURA.							
	perimetral	1	150,000				150,000	- 1 UD. TORNILLO, TUERCAS Y ARANDELAS M20.							
	Conexiones	1	50,000				50,000	- 1 UD. TERMINAL EN COBRE A PRESIÓN PARA CABLE DE 35 MM2.							
								- 3 M.L. CABLE DE COBRE DESNUDO DE 35 MM2 DE SECCIÓN NOMINAL.							
								- 1,5 M.L. TUBO DE PVC ENCHUFABLE M25, INCLUIDA P.P. DE MANGUITOS DE UNIÓN, BOQUILLAS EN SUS EXTREMOS, CURVAS Y ELEMENTOS DE SUJECCIÓN A VIGA O PARED.							
							200,00								
BT073	m Conductor Desnudo De Cobre De 35 mm2							pilares	26					26,000	
	M.L. SUMINISTRO Y MONTAJE DE CONDUCTOR DESNUDO DE COBRE DE 1X35 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUIDO PEQUEÑO MATERIAL Y ACCESORIOS, TOTALMENTE INSTALADO.														26,00
	Cuadros	1	50,000				50,000								
															50,00
BT070	m Conductor de cobre UNE H07V-K 1x16mm2									3				3,000	
	CONDUCTOR DE COBRE UNE H07V-K 1X16MM2 PARA INTERCONEXIÓN DE EQUIPOS A TIERRA, INCLUYE PARTE PROPORCIONAL DE PEQUEÑO MATERIAL, TOTALMENTE MONTADO E CONECTADO.														3,00
		1	120,000				120,000								
															120,00
BT066-2	Ud Píca AC-CU 2.000x14 mm Con Grapa														
	M.L. SUMINISTRO Y MONTAJE DE PICA DE ACERO-COBREADO DE 2.000X14 MM DE DIMENSIONES, INCLUIDA GRAPA DE CONEXIÓN, ASÍ COMO PEQUEÑO MATERIAL Y MEDIOS AUXILIARES NECESARIOS, TOTALMENTE INSTALADA.							- 1 UD. SOLDADURA ALUMINOTÉRMICA EN TE CABLE-CABLE.							
		8					8,000	- 1 UD. PLACA DE ACERO SOLDADA A BANCADA EQUIPO.							
								- 1 UD. TORNILLO, TUERCAS Y ARANDELAS M20.							
								- 1 UD. TERMINAL EN COBRE A PRESIÓN PARA CABLE DE 35 MM2.							
								- 3 M.L. CABLE DE COBRE DESNUDO DE 35 MM2 DE SECCIÓN NOMINAL.							
								- 1,5 M.L. TUBO DE PVC ENCHUFABLE M25, INCLUIDA P.P. DE MANGUITOS DE UNIÓN, BOQUILLAS EN SUS EXTREMOS, CURVAS Y ELEMENTOS DE SUJECCIÓN A VIGA, PARED O BANCADA.							
							8,00								
BT067	Ud Soldadura Aluminotérmica Entre Cable-Cable							bombas	14					14,000	
	UD. SUMINISTRO Y MONTAJE DE SOLDADURA ALUMINOTÉRMICA EN TE CABLE-CABLE, INCLUIDOS MEDIOS AUXILIARES PARA REALIZAR LA SOLDADURA (MOLDE, TENAZAS, PÓLVORA, OTROS) Y PEQUEÑO MATERIAL, TOTALMENTE INSTALADA.							Filtro	1					1,000	
		40					40,000								15,00
															40,00
BT068	Ud Soldadura Aluminotérmica Entre Cable-Mallazo														
	UD. SUMINISTRO Y MONTAJE DE SOLDADURA ALUMINOTÉRMICA EN TE CABLE-MALLAZO, INCLUIDOS MEDIOS AUXILIARES PARA REALIZAR LA SOLDADURA (MOLDE, TENAZAS, PÓLVORA, OTROS) Y PEQUEÑO MATERIAL, TOTALMENTE INSTALADA.														
		4					4,000								
															4,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
SUBCAPÍTULO 13.07 PROYECTO ELÉCTRICO Y TRÁMITES								SUBCAPÍTULO 14.02 CIMENTACIONES, ESTRUCTURAS Y OBRA CIVIL							
BT002-1	Pa P.A. Redacción de Proyecto eléctrico BT, visados y trámites							R04EM010	m Cerramiento Valla Galvanizada h=2 m						
	PARTIDA ALZADA A JUSTIFICAR PARA REDACCIÓN DE PROYECTOS ELÉCTRICOS DE BT NECESARIOS PARA LOS CONDICIONANTES ESPECIFICADOS POR LA COMPAÑÍA Y QUE PUDIERAN SER EXIGIDOS POR LOS DIFERENTES ORGANISMOS, COPIAS DOCUMENTALES, VISADOS, BOLETINES, INCLUIDOS TODO TIPO DE TRÁMITES Y TASAS.								CERRAMIENTO DE VALLA GALVANIZADA DE 2,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECCIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.						
	BT-Rebombeo	1					1,000								868,00
							1,00								
CAPÍTULO 14 SOLAR								SUBCAPÍTULO 14.01 MOVIMIENTO DE TIERRAS							
R01DM040	m ² Desbroce Y Limpieza Todo Tipo De Terreno Con Transporte							ESTSOL18	ud Estructura de acero galvanizado para 18 modulos FV 144cel,13-30°						
	DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 30 CM, INCLUIDO LA EXCAVACIÓN, INCLUSO DEFORESTACIÓN Y TALA DE ARBUSTOS Y DE ÁRBOLES DE CUALQUIER TIPO Y DIMENSIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.								SUMINISTRO, COLOCACIÓN, MONTAJE SUPERFICIAL O HINCADO DE ESTRUCTURA DE ACERO GALVANIZADO BIAPOYADA, EN AW 6063 T66, CERTIFICADA Y AJUSTADA A CÓDIGO TÉCNICO DE LA EDIFICACIÓN Y CÓDIGO ESTRUCTURAL, PARA 18 MÓDULOS SOLARES FOTOVOLTAICOS. INCLUYENDO EL SUMINISTRO DE LA ESTRUCTURA PORTANTE DE ACERO GALVANIZADO Y TORNILLERÍA DE ACERO INOXIDABLE AISI 304 (A2-70), PARA LOS MÓDULOS SOLARES FOTOVOLTAICOS E INCLINACIÓN DE ENTRE 13° Y 30° RESPECTO A LA PROYECCIÓN HORIZONTAL DEL MÓDULO. LA ESTRUCTURA, AGRUPARÁ 18 MÓDULOS DE 144 CÉLULAS, TAMAÑO MÓDULO 2279X1134X40 MM, EN DISPOSICIÓN VERTICAL, ELEVADA 30 CM CON RESPECTO AL SUELO. TOTALMENTE INSTALADA INCLUSO ANCLAJES Y CIMENTACIÓN BAJA NIVEL DEL SUELO PARA AMARRAR LOS SOPORTES AL SUELO. INCLUIDOS LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CIMENTACIÓN, EXCAVACIÓN, CARGA Y TRANSPORTE A VERTEDERO O PREPERFORACIONES NECESARIAS PARA EL HINCADO. TRIÁNGULOS PREMONTADOS DE FÁBRICA, PARA UN RÁPIDO MONTAJE. INCLUIDO EL MONTAJE DE LA ESTRUCTURA ASÍ COMO EL MONTAJE DE LOS MÓDULOS SOBRE LAS MISMA. INCLUIDO EL MONTAJE DE LA ESTRUCTURA ASÍ COMO EL MONTAJE DE LOS MÓDULOS SOBRE LA MISMA. INCLUSO EL SUMINISTRO, COLOCACIÓN Y MONTAJE DE LAS BANDEJAS METÁLICA DE VARI LLA GALVANIZADA EN CALIENTE CON TAPA DE DIMENSIONES 100X30 MM, PARA EL ALOJAMIENTO DE LOS MÓDULOS, INCLUYENDO CANALIZACIÓN ELÉCTRICA, INCLUIDO ACCESORIOS Y PIEZAS ESPECIALES, TOTALMENTE MONTADA, SIN INCLUIR CABLEADO, SEGÚN EL REGLAMENTO ELECTROTÉCNICO DE BAJA TENSIÓN. TRANSPORTE Y MANO DE OBRA INCLUIDOS.						
	En campo FV	1	54.800,000				54.800,000		módulos FV	288				288,00	288,00
							54.800,00								288,00
R04AR030	m ³ Formación Terraplén Compactado Mat. Procedente de Excavación														
	MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.														
	En campo FV	1	333.000,000				333.000,000								
							333.000,00								
SUBCAPÍTULO 14.03 MÓDULOS FOTOVOLTAICOS															

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
FV_MODMO-NOPHC	<p>Wp Ud. de Wp en módulo fotovoltaico Mono-PERC Half-cut, Rto>20,5%</p> <p>UMINISTRO Y COLOCACIÓN DE UD. DE POTENCIA PICO (WP) EN MÓDULO FOTOVOLTAICO DE ALTA EFICIENCIA BAJA LID MONO-PERC CON TECNOLOGÍA HALF-CUT Y RTO>21,5%, 144 (2X(6X12)) CÉLULAS, ESPECIFICACIONES MÍNIMAS DE LA TABLA INFERIOR Y CON DIMENSIONES 2279X1134X40 MM SUMINISTRADO POR FABRICANTE TIER1. TENSIÓN DE AISLAMIENTO DE 1500V (IEC/UL), SEGURIDAD CLASE II, RESISTENCIA AL FUEGO UL TIPO 1 O 2, TOMA DE PLÁSTICO (PPO), VENTILADA Y CON ALIVIO DE TENSIÓN, AL MENOS IP65. CABLE SOLAR DE 6 MM2 Y 3M DE LONGITUD. VIDRIO FRONTAL TEMPLADO DE 3,2 MM CON BAJO CONTENIDO DE HIERRO. BASTIDOR DE ALUMINIO ANODIZADO ESTABLE EN UN DISEÑO DE SECCIÓN HUECA. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO, FUADO Y CABLEADO.</p> <p>TECNOLOGÍA MONOCRISTALINO PERC HALF-C</p> <p>Nº CELDAS (144(6X24))</p> <p>TIPO EX550MB-144</p> <p>PMPP (WP) 550</p> <p>UMPP (V) 41,95</p> <p>IMPP (A) 13,12</p> <p>ISC (A) 13,93</p> <p>UOC (V) 49,97</p> <p>RTO. MÓDULO 21,50%</p> <p>COEF. Tª (V) -0,290%</p> <p>COEF. Tª (A) 0,040%</p> <p>COEF. Tª (P) -0,350%</p> <p>NOCT °C 43</p> <p>TENSIÓN (V) 1500</p> <p>CORRIENTE FUSIBLE (A) 25</p> <p>Tª MAX 85</p> <p>Tª MIN -40</p> <p>DIODOS BY-PASS 3</p>							SOL_DCBOX6	<p>m Cable Unipolar Interconexion módulo ZZ-F o ZZ-F DUAL 6 mm2 Cu</p> <p>SUMINISTRO DE CABLE UNIPOLAR DE COBRE DE 6 MM2 CU. (PROTECCION SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC. MONTAJE E INSTALACION DE CABLE UNIPOLAR DE COBRE DE 6 MM2 CU. (PROTECCION SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC, COLOCADO EN EL INTERIOR DE TUBO CORRUGADO DE POLIETILENO DOBLE PARED FLEXIBLE PARA INSTALACIONES ELÉCTRICAS DE DIAMETRO 50 MM (SI PROCEDE) . INCLUSO CONEXIONADO A MÓDULOS FOTOVOLTAICOS MEDIANTE EMPALMES Y PUNTERAS TERMINALES. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.</p>							
									<p>Cableado cadenas/strings x cuadro nivel 1</p> <p>Retorno String a C1</p> <p>S1-C1</p> <p>S2-C1</p> <p>S3-C1</p> <p>S4-C1</p> <p>S5-C1</p> <p>S6-C1</p> <p>S7-C1</p> <p>S8-C1</p> <p>Retorno String</p> <p>Por ajustes +10%</p>	288	16,20	2,00			9.331,20	
															16.481,52	
	módulos FV	288	18,00	550,00		2.851.200,00		FV_RV-K25	<p>m Cable Unipolar RV-K 0,6/1 KV de 25 mm2 Cu</p> <p>SUMINISTRO DE CABLE UNIPOLAR DE COBRE 25MM². (PROTECCION SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC. CABLE DE INTERCONEXIÓN DCBOX A DC_GENERAL, REALIZADO CON CABLE UNIPOLAR DE COBRE DE 25 MM2 RV-K, SEGÚN CÁLCULOS REALIZADOS, DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.</p>							
							2.851.200,00		<p>De cuadro 1 a CC2</p> <p>Por ajustes +10%</p>	2	37,50			75,00		
										0,1	75,00			7,50	82,50	
								FV_RV-K35	<p>m Cable Unipolar RV-K 0,6/1 KV de 35 mm2 Cu</p> <p>SUMINISTRO DE CABLE UNIPOLAR DE COBRE 35MM². (PROTECCION SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC. CABLE DE INTERCONEXIÓN DCBOX A DC_GENERAL, REALIZADO CON CABLE UNIPOLAR DE COBRE DE 35 MM2 RV-K, SEGÚN CÁLCULOS REALIZADOS, DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.</p>							
									<p>De cuadro 1 a CC2</p> <p>Por ajustes +10%</p>	2	14,00			28,00		
										0,1	28,00			2,80	30,80	
	Retorno String a C1															
	S1-C1															
	S2-C1															
	S3-C1	36	38,00	2,00		2.736,00										
	S4-C1	36	57,00	2,00		4.104,00										
	S5-C1	36	57,00	2,00		4.104,00										
	S6-C1	36	38,00	2,00		2.736,00										
	S7-C1															
	S8-C1															
	Retorno String	36	19,25	4,00		2.772,00										
	Por ajustes +10%	0,1	16.452,00			1.645,20										
							18.097,20									

SUBCAPÍTULO 14.04 CIRCUITOS ELÉCTRICOS

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
FV_RV-K50	m Cable Unipolar RV-K 0,6/1 KV de 50 mm2 Cu SUMINISTRO DE CABLE UNIPOLAR DE COBRE 50MM². (PROTECCION SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. CABLE DE INTERCONEXIÓN DCBOX A DC_GENERAL, REALIZADO CON CABLE UNIPOLAR DE COBRE DE 50 MM2 RV-K, SEGÚN CÁLCULOS REALIZADOS, DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.							BT053	m Cable Ethernet Cat 6 SUMINISTRO Y MONTAJE DE CABLE UTP CATEGORÍA 6 PARA TRANSMISIÓN DE DATOS PARA RED ETHERNET Y MODBUS RTU. TOTALMENTE MONTADO E INSTALADO. Señales:							
	De cuadro 1 a CC2	2	79,50			159,00		C1	1	12,000				12,000		
	Por ajustes +10%	0,1	159,00			15,90		C2	1	20,000				20,000		
							174,90	C3	1	28,000				28,000		
FV_RV-K70	m Cable Unipolar RV-K 0,6/1 KV de 70 mm2 Cu SUMINISTRO DE CABLE UNIPOLAR DE COBRE 70MM². (PROTECCION SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. CABLE DE INTERCONEXIÓN DCBOX A DC_GENERAL, REALIZADO CON CABLE UNIPOLAR DE COBRE DE 70 MM2 RV-K, SEGÚN CÁLCULOS REALIZADOS, DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.							C4	1	36,000				36,000		
	De cuadro 1 a CC2	2	966,00			1.932,00		C5	1	44,000				44,000		
	Por ajustes +10%	0,1	1.932,00			193,20		C6	1	52,000				52,000		
							2.125,20	C7	1	61,000				61,000		
FV_RV-K95	m Cable Unipolar RV-K 0,6/1 KV de 95 mm2 Cu SUMINISTRO DE CABLE UNIPOLAR DE COBRE 95MM². (PROTECCION SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. CABLE DE INTERCONEXIÓN DCBOX A DC_GENERAL, REALIZADO CON CABLE UNIPOLAR DE COBRE DE 95 MM2 RV-K, SEGÚN CÁLCULOS REALIZADOS, DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.							C8	1	69,000				69,000		
	De cuadro 1 a CC2	2	2.024,50			4.049,00		C9	1	77,000				77,000		
	Por ajustes +10%	0,1	4.049,00			404,90		C10	1	85,000				85,000		
							4.453,90	C11	1	94,000				94,000		
FV_RV-K120	m Cable Unipolar RV-K 0,6/1 KV de 120 mm2 Cu SUMINISTRO DE CABLE UNIPOLAR DE COBRE 120MM². (PROTECCION SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. CABLE DE INTERCONEXIÓN DCBOX A DC_GENERAL, REALIZADO CON CABLE UNIPOLAR DE COBRE DE 120 MM2 RV-K, SEGÚN CÁLCULOS REALIZADOS, DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.							C12	1	102,000				102,000		
	De cuadro 1 a CC2	2	1.752,00			3.504,00		C13	1	110,000				110,000		
	Por ajustes +10%	0,1	3.504,00			350,40		C14	1	118,000				118,000		
							3.854,40	C15	1	6,000				6,000		
								C16	1	14,000				14,000		
								C17	1	22,000				22,000		
								C18	1	30,000				30,000		
								C19	1	39,000				39,000		
								C20	1	47,000				47,000		
								C21	1	55,000				55,000		
								C22	1	63,000				63,000		
								C23	1	71,500				71,500		
								C24	1	80,000				80,000		
								C25	1	88,000				88,000		
								C26	1	97,000				97,000		
								C27	1	105,000				105,000		
								C28	1	113,000				113,000		
								C29	1	88,000				88,000		
								C30	1	96,000				96,000		
								C31	1	104,000				104,000		
								C32	1	112,500				112,500		
								C33	1	121,000				121,000		
								C34	1	129,000				129,000		
								C35	1	137,000				137,000		
								C36	1	145,500				145,500		
								Por ajustes +10%	0,1	2.671,500				267,150		
															2.938,65	
								INSFIBOPT	CABLE FIBRA OPTICA TENDIDO EN ZANJA INSTALACIÓN Y TENDIDO EN ZANJA DE CABLE DE FIBRA OPTICA TIPO MONOMODO 8FO G652D FV CORROUGADO METAL CPR-FCA PE NEGRO2 O SIMILIAR ENTRE CENTROS DE TRANSFORMACION DE LA PLANTA SOLAR Y HASTA ESTACIÓN DE BOMBEO, INCLUYENDO CINTA DE SEÑALIZACIÓN, CHAPAS DE PROTECCIÓN, ACCESORIOS Y PEQUEÑO MATERIAL.							
								De CC2 a Acometida FV EB	1	490,00				490,00		
								Por ajustes +10%	0,1	500,00				50,00		
															540,00	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
FV_RV-K400AL	m Cable Unipolar RV-K 0,6/1 KV de 400 mm2 AI SUMINISTRO DE CABLE UNIPOLAR DE ALUMINIO 400MM² RV-K DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO. De CC2 a Acometida FV EB	20	490,00	2,00		19.600,00		FV_CC2_3X2000	ud Cuadro secundario CC2 en armario existente (1500V/3x2000A) SUMINISTRO CUADROS GENERAL DE CORRIENTE CONTINUA (CAJA DE 2º NIVEL). REALIZADO SOBRE UN CONJUNTO MODULAR DE DOBLE AISLAMIENTO Y CONSTRUIDA CON-POLIESTER REFORZADO CON FIBRA DE VIDRIO Y PLACA DE MONTAJE Y TAPAS OPACAS DEL MISMO MATERIAL, NO HIGROSCOPICAS Y RESISTENTES A LA CORROSIÓN CON GRADO DE PROTECCIÓN IP-65 SEGÚN UNE Y RIGIDEZ DIELECTRICA SUPERIOR A 5.000V. COMPUESTO POR: * ENVOLVENTE HORMIGÓN ARMADO TIPO ALP * ENTRADAS DCBOX PROTEGIDAS CON FUSIBLES DE CUCHILLA DE 200A, TIPO FUSIBLE DE LENGUETA CENTRADO 200A 1500V Y BASE PORTAFUSIBLES. * SALIDA PARA LÍNEAS DE 400 MM², PROTEGIDA MEDIANTE INTERRUPTOR AUTOMÁTICO DE 2000A, 1500VCC, TIPO OT. * 3 UDS. INTERRUPTOR AUTOMÁTICO EMAX DC 2000A 1100VCC * 3 UDS. DESCARGADOR SOBRETENSIONES. * 1 UD. REGLETA DE PUESTA A TIERRA. * 5 UD. SWITCH ETHERNET * 1 UD. CONVERSOR DE COMUNICACIONES ETHERNET/FO. CONVERSOR DE MEDIOS POE 10/100 BASE TX A 100 BASE-FX * MEDIDORES DE AISLAMIENTO. * INDICADORES LUMINOSOS INCLUSO TRANSPORTE. TOTALMENTE MONTADA, CONECTADA, INSTALADA Y PROBADA.							
							19.600,00									
SUBCAPÍTULO 14.05 CUADROS DE MANDO Y PROTECCIÓN																
FV_CC1_8E200A	ud Cuadro secundario de corriente continua(8E/25A/200A-1500V) SUMINISTRO CUADROS SECUNDARIOS DE CORRIENTE CONTINUA (CAJA DE CADENAS/STRINGS 1ºNIVEL).8 ENTRADAS REALIZADO SOBRE UN CONJUNTO MODULAR DE DOBLE AISLAMIENTO Y CONSTRUIDA CON-POLIESTER REFORZADO CON FIBRA DE VIDRIO Y PLACA DE MONTAJE Y TAPAS OPACAS DEL MISMO MATERIAL, NO HIGROSCOPICAS Y RESISTENTES A LA CORROSIÓN CON GRADO DE PROTECCIÓN IP-65 SEGÚN UNE Y RIGIDEZ DIELECTRICA SUPERIOR A 5.000 V. COMPUESTO POR: - CUADRO TIPO GEMINI TAMAÑO 2 IP 68 COMPLETO, CON PRENSAESTOPAS Y TUERCAS CON PASO MÉTRICO - IP 68 COMPLETO PARA LA INSTALACIÓN DE ELEMENTOS - INTERRUPTOR MAGNETOTÉRMICO TIPO OTDC200 - PROTECTOR CONTRA SOBRETENSIONES TIPO OVR PV 40 1500 P - SECCIONADOR DE FUSIBLES TIPO E 92/32, EN CADENAS/STRINGS Y SOBRETENSIONES - FUSIBLES TIPO 10X85 MM 1500 V C.C. 25 A, EN CADENAS/STRINGS - FUSIBLES 25 A TIPO GR PARA PROTECCIÓN DEL OVR - BORNAS DE TORNILLOS DE 2,5 A 240 MM 2, PARA TENSIONES HASTA 1500 V - REGLETA DE PUESTA A TIERRA - MEDIDOR DE CADENAS DE MÓDULOS (U, I) AUTOALIMENTADO CON COMUNICACIÓN ETHERNET. - PARTE PROPORCIONAL PEQUEÑA APARAMENTA Y MATERIAL SOPORTES, EMBARRADOS, DISTRIBUIDORES DE CABLES, PROTECCIONES, ELEMENTOS DE SEGURIDAD, PRENSAESTOPAS, ETC... INCLUSO TRANSPORTE, Y PARTE PROPORCIONAL DE SOPORTE Y FUJACIÓN A ESTRUCTURA FV. TOTALMENTE MONTADA, CONECTADA, INSTALADA Y PROBADA.	36				36,00		BT056	m ZANJA CABLES BT 0,6 MTS ANCHURA EN TIERRA VARIOS CIRCUITOS BT M.L. REALIZACIÓN DE ZANJA EN TIERRA CON LECHO DE ARENA PARA CABLES DE BT DE 0,6 MTS DE ANCHURA Y 0,9 MTS DE PROFUNDIDAD, INCLUYENDO ROTURA Y REPOSICIÓN DE PAVIMENTO EXISTENTE, EXCAVACIÓN CON MEDIOS MECÁNICOS, CAPA DE ARENA FINA DE 30 CM, RELLENO DE ZANJAS CON ZAHORRAS MEDIANTE TONGADAS DE 30 CM, MALLA DE SEÑALIZACIÓN (2 MTS), PLACA DE PVC DE SEÑALIZACIÓN (2 MTS), ASÍ COMO MEDIOS MECANICOS, RETIRADA DE TIERRAS A VERTEDERO, MANO DE OBRA ESPECIALIZADA Y PEQUEÑO MATERIAL AUXILIAR NECESARIO, MEDIDA LA UNIDAD TERMINADA Y EJECUTADA. Señales: De CC1 a CC2: Circuito 1 1 118,00 118,00 Circuito 2 1 113,00 113,00 Circuito 3 1 145,50 145,50 De CC2 a Acometida FV EB 1 500,00 500,00							
							36,00								1,00	
SUBCAPÍTULO 14.06 CANALIZACIONES																
FV_SUP2	ud Suministro,montaje,puesta en marcha monitorización DC y Sensores SUMINISTRO, MONTAJE Y PUESTA EN MARCHA MONITORIZACIÓN DC, INCLUYE: * UNIDAD DE CUADRO TELEMANDABLE Y GESTINABLE DESDE PLC CENTRAL. * MONITORIZACION DE ENERGIA POR CADA CIRCUITO DE STRING * SENSORES DE: 1 UDS. MEDICIÓN DE INTENSIDAD (SHUNT) 2 UDS. Sonda IRRADIANCIA (PIRANÓMETRO) 2 UDS. Sonda TEMPERATURA AMBIENTE PT100 2 UDS. Sonda TEMP. EN SUPERFICIE MÓDULOS. PT100 * 1 UD. CONVERSOR DE COMUNICACIONES ETHERNET/FO. CONVERSOR DE MEDIOS POE 10/100 BASE TX A 100 BASE-FX TOTALMENTE INSTALADOS, INCLUIDOS LOS ELEMENTOS DE FUJACIÓN, CABLEADO, COMUNICACIÓN Y PARAMETRIZACIÓN DE LOS EQUIPOS. TOTALMENTE INSTALADO, INCLUSO PARTE PROPORCIONAL DE ACCESORIOS NECESARIOS PARA SU INSTALACIÓN. MONTAJE, CONFIGURACIÓN, PROGRAMACIÓN Y PUESTA EN MARCHA INSTALACIÓN INCLUSO TRANSPORTE. TOTALMENTE MONTADA, CONECTADA, INSTALADA Y PROBADA.							BT-AC-CANL200	m TUBO CORRUGADO D=200 mm M.L. DE TUBO CORRUGADO DE PVC DE 200 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA. De CC1 a CC2: Circuito 1 2 118,00 236,00 Circuito 2 2 113,00 226,00 Circuito 3 2 145,50 291,00							
															876,50	
SUBCAPÍTULO 14.06 CANALIZACIONES																
															1,00	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
BT-AC-CANL160	m TUBO CORRUGADO D=160 mm M.L. DE TUBO CORRUGADO DE PVC DE 180 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA. De CC1 a CC2 De CC2 a Acometida FV EB	2 2 2	40,00 13,00 30,00			80,00 26,00 60,00	166,00	SUBCAPÍTULO 14.07 RED DE PUESTA A TIERRA							
BT-AC-CANL050	m TUBO CORRUGADO D=50 mm M.L. DE TUBO CORRUGADO DE PVC DE 50 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA. Señales: De CC1 a CC2: Circuito 1 Circuito 2 Circuito 3 De CC2 a Acometida FV EB	2 2 2 2	118,00 113,00 145,50 500,00			236,00 226,00 291,00 1.000,00	1.753,00	DT02IE-BT0808	UD. CONEXIÓN A TIERRA ESTRUCTURA METÁLICA UD. SUMINISTRO Y MONTAJE DE CONEXIÓN A TIERRA DE ESTRUCTURA METÁLICA, COM-PUESTA POR: - 1 UD. SOLDADURA ALUMINOTÉRMICA EN TE CABLE-CABLE. - 1 UD. PLACA DE ACERO SOLDADA A ESTRUCTURA. - 1 UD. TORNILLO, TUERCAS Y ARANDELAS M20. - 1 UD. TERMINAL EN COBRE A PRESIÓN PARA CABLE DE 35 MM2. - 3 M.L. CABLE DE COBRE DESNUDO DE 35 MM2 DE SECCIÓN NOMINAL. - 1,5 M.L. TUBO DE PVC ENCHUFABLE M25, INCLUIDA P.P. DE MANGUITOS DE UNIÓN, BOQUILLAS EN SUS EXTREMOS, CURVAS Y ELEMENTOS DE SUJECCIÓN A VIGA O PARED. Cadenas módulos	1	288,00		288,00	288,00	
BT-AC-AR- QE120	UD ARQUETA PREFABRICA A1 END. H=120 ARQUETA PREFABRICADA TIPO A1 PARA EL PASO, DISTRIBUCIÓN O ENLACE DE CANALIZACIONES SUBTERRÁNEAS DE MEDIA Y BAJA TENSIÓN. DISPONE DE TAPA. TIENE UNAS DIMENSIONES INTERIORES DE 535X625 MM Y UNA ALTURA DE 120 CM. TAPA DE FUNDICIÓN CON CLASE DE CARGA C-250 SEGÚN UNE-EN 124. HOMOLOGACIÓN POR AENOR. INCLUIDO MATERIALES AUXILIARES NECESARIOS PARA SU INSTALACIÓN, FIJACIÓN, COLOCACIÓN, ASÍ COMO PARA EL SELLADO DE CANALIZACIONES. MEDIDA LA UNIDAD TOTALMENTE INSTALADA. Registros	3				3,00	3,00	DT02IE-BT0804	UD. PICA AC-CU 2.000x14 mm CON GRAPA M.L. SUMINISTRO Y MONTAJE DE PICA DE ACERO-COBREADO DE 2.000X14 MM DE DIMENSIONES, INCLUIDA GRAPA DE CONEXIÓN, ASÍ COMO PEQUEÑO MATERIAL Y MEDIOS AUXILIARES NECESARIOS, TOTALMENTE INSTALADA. Cadenas módulos	2	288,00		576,00	576,00	
BT-AC-ARQB120	UD ARQUETA IN SITU 80x80 END. H=120 ARQUETA IN SITU PARA EL PASO, DISTRIBUCIÓN O ENLACE DE CANALIZACIONES SUBTERRÁNEAS DE MEDIA Y BAJA TENSIÓN. DISPONE DE TAPA. TIENE UNAS DIMENSIONES INTERIORES DE 800X800 MM Y UNA ALTURA DE 120 CM. TAPA DE FUNDICIÓN CON CLASE DE CARGA C-250 SEGÚN UNE-EN 124. INCLUIDO MATERIALES AUXILIARES NECESARIOS PARA SU INSTALACIÓN, FIJACIÓN, COLOCACIÓN, ASÍ COMO PARA EL SELLADO DE CANALIZACIONES. MEDIDA LA UNIDAD TOTALMENTE INSTALADA. Registros	33				33,00	33,00	SUBCAPÍTULO 14.08 REDACCIÓN PROYECTO Y TRAMITACIÓN							
							3,00	BT002-1	Pa P.A. Redacción de Proyecto eléctrico BT, visados y trámites PARTIDA ALZADA A JUSTIFICAR PARA REDACCIÓN DE PROYECTOS ELÉCTRICOS DE BT NECESARIOS PARA LOS CONDICIONANTES ESPECIFICADOS POR LA COMPAÑÍA Y QUE PUDIÉ-RAN SER EXIGIDOS POR LOS DIFERENTES ORGANISMOS, COPIAS DOCUMENTALES, VISADOS, BOLETINES, INCLUIDOS TODO TIPO DE TRÁMITES Y TASAS.					1,00	
CAPÍTULO 15 AUTOMATIZACIÓN															
SUBCAPÍTULO 15.01 ESTACIÓN BOMBEO, TOMA Y BALSA BPC (EB)															

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
BT043A	<p>Ud Cuadro automatismo</p> <p>UD SUMINISTRO DE CUADRO AUTOMATISMO COMPUESTO POR:</p> <ul style="list-style-type: none"> - ENVOLVENTE COMPARTIDA CON CUADRO SSAA - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - 1 CONVERTIDOR DE CORRIENTE CONTINUA, TENSIÓN DE ENTRADA 24 VCC, TENSIÓN DE SALIDA 12VCC, DIMENSIONES 124X32X102, POTENCIA MÁX. 96W, CORRIENTE DE SALIDA 8A - 1MÓDULO REDUNDANTE PARA FUENTES DE ALIMENTACIÓN DE TENSIÓN DE ENTRADA DE 24 VCC Y SALIDA DE 80 A. DOBLE ENTRADA Y ÚNICA SALIDA. PÉRDIDAS DE 50MV A 40A DE CORRIENTE DE SALIDA. PÉRDIDAS DE 2.7 W A 40A Y 8.3W A 80A. TAMAÑO 46X124X127 ENVOLVENTE METÁLICA. - 1 FUENTES ALIMENTACIÓN, SALIDA 24VCC, CORRIENTE DE SALIDA 10A, TAMAÑO 125X100X125, POTENCIA MÁX. DE SALIDA 240W, TENSIÓN DE ENTRADA 85 A 264VAC, TIPO CONMUTADO - 4 INTERRUPTORES MAGNÉTICOS 1P DE CORRIENTE CONTINUA CON TENSIÓN 24VCC Y 6A DE CORRIENTE. - 2 INTERRUPTORES BIPOLARES 16 A PDEC DE 35 KA. 230V - 5 RELÉS DE MANDO 24VCC - 1 AISLADORES GALVÁNICOS PARA ENTRADAS ANALÓGICAS DE 2 CANALES. - SAI 2.2 KVA POTENCIA CON VOLTAJE DE 230VAC, CON CAPACIDAD DE BATERÍAS PARA 12 MINUTOS, CON CABLE DE COMUNICACIÓN A PUERTO SERIE CON PC, Y SOFTWARE DE SUPERVISIÓN DEL SAI INCLUYE TRANSPORTE. - 1 MODEM GSM CON COMUNICACIÓN POR ETHERNET Y TARJETA SIM PARA COMUNICACIÓN REMOTA. PARA AVISOS VÍA SMS (ANTIRROBO, ALARMA). - 1 PROTECCIÓN CONTRA SOBRETENSIONES TIPO D 230V. - 3 SWTCH INDUSTRIAL DE 8 PUERTOS RJ45 - PANEL DE PC TÁCTIL TIPO RESISTIVO ANÁLOGO, CON WINDOWS 7 A 64 BITS Y PROCESADOR CORE 3RD GENERACIÓN, 827E, CACHE 3 MB, PARA PANTALLA DE 12" Y 17 MILLORES DE COLORES, RESOLUCIÓN 1024X768 XGA, LCD DE COLOR TFT CON RETROILUMINACIÓN LED, CON LUMINANCIA 375 CD/M2, TARJETA GRÁFICA INTEL HD GRAPHICS 3000, MONTADA SOBRE SOPORTE DE ALUMINIO. DISCO DURO MAYOR DE 60 GB FLASH DISCK SSD MLC PARA 2000000 HORAS, Y MEMORIA INTERNA DE HASTA 16 GB RAM DDR3. CONEXIONES (DVI, ETHERNET, COM 1 Y COM2, USB 2.0 Y USB 3.0, MINIJACK) Y PUERTO ETHERNET. - INCLUYE LUCES DE SEÑALIZACIÓN. - INCLUYE TRANSPORTE. <p>TOTALMENTE MONTADO, INSTALADO, CONECTADO Y PROBADO.</p>															
	E. Turbina-Bomba	1					1,000									
							1,00									
BT044B	<p>Ud Automata bombeo</p> <p>UNIDAD PLC PARA CONTROL DE ESTACIÓN DE BOMBEO CONSISTENTE EN:</p> <ul style="list-style-type: none"> -1XCPU -MAX 1024 VÍAS ED/SD -MAX 256 VÍAS EA/SA -4.098 KB DE RAM DE USO INTERNO -3584KB DE MEMORIA INTERNA PARA ALMACENAMIENTO DE PROGRAMA -1 PUERTO ENLACE SERIE INTEGRADO RJ45 CON INTERFAZ RS232/RS485 PARA PROTOCOLO MODBUS -1 PUERTO ETHERNET INTEGRADO -1 PUERTO USB DE PROGRAMACIÓN. - 5 MÓDULO DE 32 ED 24VCC DE ALTA DENSIDAD - 2 MÓDULO DE 32 SALIDAS DIGITALES - 10 MÓDULOS DE ENTRADAS ANALÓGICAS PARA SONDAS DE TEMPERATURA - 4 MÓDULO DE 4 SALIDAS ANALÓGICAS - 2 MÓDULO DE 8 ENTRADAS ANALÓGICAS - 2 RACK DE 12 EMPLAZAMIENTOS - 1 FUENTE DE ALIMENTACIÓN DE 220/24 VCC DE 36W - 17 BORNEROS DESENCHUFABLES DE 20 PUNTOS PARA ENTRADAS ANALÓGICAS - INCLUYE PROGRAMA Y PROGRAMACIÓN DEL PLC. - INCLUYE PUESTA EN MARCHA DEL PLC Y DE TODO EL SISTEMA DE AUTOMATIZACIÓN, INCLUYENDO COMUNICACIÓN CON REMOTAS. - INCLUYE PEQUEÑO MATERIAL AUXILIAR Y DE MONTAJE. <p>TOTALMENTE INSTALADO, CONFIGURADO, CONECTADO Y PROBADO.</p>															
	E. Rebombao	1												1,000		
															1,00	
BT045A	<p>Ud Instrumentación bombeo y balsa BPC (EB)</p> <p>INSTRUMENTACIÓN NECESARIA PARA CONTROL Y MONITORIZACIÓN DE LA ESTACIÓN DE BOMBEO QUE INCLUYE:</p> <ul style="list-style-type: none"> - 5 TRANSDUCTOR DE PRESIÓN, TIPO SITRANS P SERIE Z, CON GAMA DE PRESIÓN 0-16 BAR, CONEXIÓN DE PRESIÓN G1/2, SALIDA 4..20 MA., TENSIÓN DE ALIMENTACIÓN 10-36 VCC, CARCASA DE ACERO INOXIDABLE, IP65, TEMPERATURA AMBIENTE -25 +85°, CONEXIÓN 2 HILOS - 2 SENSORES DE LÁMINA DE PUERTA 2 HILOS Y TENSIÓN MÁXIMA DE CONMUTACIÓN DE 30VCC, 2 PARA ESTACIÓN DE BOMBEO Y 2 PARA CT. - 2 TERMOSTATOS PARA PARED CON CONTACTO NO 230V 0 A 60° PARA ACTIVACIÓN DE EXTRACTORES. - 24 FINALES DE CARRERA PARA CONTROL DE APERTURA DE VÁLVULAS PREVIA CONEXIÓN DE EQUIPOS DE BOMBEO. - INCLUYE PEQUEÑO MATERIAL DE MONTAJE. <p>TOTALMENTE INSTALADO Y PROBADO.</p>															
	E. Turbina-Bomba	1												1,000		
															1,00	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD		
BT046A	<p>Ud Centro de control bombeo</p> <p>CENTRO DE CONTROL PARA MONITORIZACIÓN Y COMANDO DE ESTACIÓN DE BOMBEO COMPUESTO POR:</p> <ul style="list-style-type: none"> - SAI DE 750VA DE POTENCIA PARA CONEXIÓN DE PC DE CENTRO DE CONTROL, CON VOLTAJE DE 230VAC, CON CAPACIDAD DE BATERÍAS PARA 12 MINUTOS A MEDIA CARGA, Y 6 MINUTOS A PLENA CARGA, CON CABLE DE COMUNICACIÓN A PUERTO SERIE CON PC, Y SOFTWARE DE SUPERVISIÓN DEL SAI. - PC CON WINDOWS XP, PROCESADOR INTEL CORE 2 DUO O EQUIVALENTE, CON 2 GB DE MEMORIA RAM, DISCO DURO DE 500 GB Y MONITOR DE 21". - INCLUYE SCADA PARA CONTROL DE LAS UNIDADES REMOTAS Y DE LA ESTACIÓN DE BOMBEO. SCADA DE SUPERVISIÓN INCLUYENDO LA PROGRAMACIÓN DE PANTALLAS Y SUBPANTALLAS COMO MINIMO: <ul style="list-style-type: none"> - PANTALLA DE SITUACIÓN: GESTIÓN DE ACCESO Y PERMISOS. - PANTALLA DE ESTADO GENERAL: VALORES MÁS SIGNIFICATIVOS ON-LINE, VISITA DE LAS BOMBAS Y SALA DE CUADROS, Y ACCESO A OTRAS PANTALLAS. - PANTALLA DE ESTADO DEL GRUPO DE BOMBEO: ESTADO DE LA BOMBA, TEMPERATURAS PT100, GESTIÓN DE ALARMAS, RESULTADOS, VARIABLES ELÉCTRICAS (V, I, P ETC), GRÁFICOS DE VARIABLES, PRESIONES Y CAUDALES, HORAS DE MARCHA, Nº DE CONEXIONES ETC. - PANTALLA DE ESTADO DE EQUIPOS: PROTECCIONES COMUNES DEL BOMBEO, PROTECCIONES ELÉCTRICAS INDIVIDUALES, PROTECCIONES DE FILTROS. - PANTALLA DE ESTADO DEL CT, PROTECCIONES Y CONSUMOS. - PANTALLA DE PROGRAMACIÓN: VALORES DE CAPTACIÓN, VALORES DE LLENADO AUTOMÁTICO, LÍMITES DE LLENADO, FUNCIONAMIENTO, PROGRAMACIÓN DE PERIODOS, PROGRAMACIÓN Nº DE BOMBAS, VALORES DE CIERRE, PROGRAMACIÓN VENTILACIÓN, RANGOS HORARIOS DE BOMBEO Y PERIODOS TARIFARIOS, HORARIO LIMITADO O CONTINUO, PARÁMETROS PARA GESTIÓN DE LA EFICIENCIA ENERGÉTICA, RENDIMIENTO ÓPTIMO, PROGRAMACIÓN DE MÁXIMOS CAUDALES Y PROTENCIA, CONFIGURACIÓN SMS, PROGRAMACIÓN SMS ALARMAS, AVISOS Y Nº DE TELÉFONO ETC. PROGRAMACIÓN PARÁMETROS DE INTRUSIÓN. - PANTALLA DE GRÁFICOS: GRÁFICOS A ELECCIÓN DEL USUARIO CRUZANDO VARIABLES A LO LARGO DEL TIEMPO GENERAL DE LA INSTALACIÓN, COMO INDIVIDUALES DE LOS EQUIPOS, VISUALIZACIÓN DE GRÁFICOS INSTANTANEOS O EN UN RANGO DE TIEMPOS, ALMACENAMIENTO DE VARIABLES, MODIFICACION DE ESCALAS. - PANTALLA DE ALARMAS Y ADVERTENCIAS: ALMACENAMIENTO DE ALARMAS Y SUCESOS, ALARMAS ACTUALES, FILTRO DE RESULTADOS ETC. - PANTALLA DE INFORMES: GENERACIÓN DE INFORMES EN UN RANGO DE RASTREO DE LAS VARIABLES DESEADA, IMPRESIÓN DE INFORMES <p>TOTALMENTE PROGRAMADO, MONTADO, INSTALADO, CONFIGURADO Y PROBADO.</p> <p>E. Turbina-Bomba 1 1,000</p>						1,00										
BT047	<p>Ud Comunicaciones</p> <p>CENTRO DE COMUNICACIONES RADIO QUE CONSISTE EN:</p> <ul style="list-style-type: none"> - CONCENTRADORA RADIO CON PROTOCOLO MODBUS RTU 12 VCC - 1 LATIGUILLO INTERIOR CUADRO RG-58 1M N MACHO- N HEMBRA - 1 CABLE COAXIAL RG-213 10 M N MACHO - N MACHO - 1 ANTENA OMNIDIRECCIONAL COLINEAL UHF, 3 DB DE GANANCIA, N HEMBRA, 405-445 MHZ - 1 JUEGO DE SOPORTES PARA RAIL DIN - 1 KIT DE PRUEBAS PARA UNIDAD CONCENTRADORA - 1 KIT DE PRUEBAS PARA UNIDADES REMOTAS - 1 CABLE DE CONFIGURACIÓN DE UNIDAD REMOTA - 1 CABLE DE CONFIGURACIÓN PARA CONCENTRADORA. - INCLUYE MASTIL PARA INSTALACIÓN DE ANTENA. <p>TOTALMENTE INSTALADO, CONECTADO Y PROBADO.</p> <p>E. Turbina-Bomba 1 1,000</p>						1,00										
SUBCAPÍTULO 15.02 CONTROL BALSAS																	
BT048	<p>u Unidad Remota 10ED, 2SD, 1EA</p> <p>UNIDAD REMOTA RADIO CONSISTENTE EN:</p> <ul style="list-style-type: none"> - UNIDAD REMOTA RADIO CON 10ED, 2SD, 1EA, IP66 FUNCIONAMIENTO MEDIANTE BATERÍA DE 3 AÑOS DE AUTONOMÍA. - ACCIONAMIENTO POR RELÉ PARA APERTURA Y CIERRE DE MOTORIZACIÓN TIPO VÁLVULA MOTORIZADAL. - 1 RADIOMODEM Y MÓDEM GSM - 1 TARJETA CON 1 ENTRADA ANALÓGICA 0/4-20 MA - 1 ANTENA LAMBDA/2 EXTERIOR DE 2 DB DE GANANCIA, CABLE DE 7M Y CONECTOR - 1 PACK DE PILA DE LITIO + CONECTOR PARA UNIDAD REMOTA. - 1 CABLE COAXIAL RG-213 10M N MACHO - N MACHO - 1 LATIGUILLO RG-58 1M TNC M - N H - CON PUERTO Y CONEXIÓN PARA COMUNICACIÓN BIDIRECCIONAL CON AUTÓMATA DE CONTROL PARA MANDAR ORDENES Y RECIBIR ESTADOS E INFORMACIÓN DE SEÑALES Y CAUDALIMETRO. <p>INCLUYE MASTIL DE 3M PARA ANTENA, COLOCACIÓN, ENSAYOS Y PUESTA EN MARCHA.</p> <p>Balsa BP1 1 1,00</p> <p>Balsa BP2 1 1,00</p> <p>Balsa BP3 1 1,00</p> <p>Balsa BPC (PN) 1 1,00</p> <p style="text-align: right;">4,00</p>																
BT049	<p>Ud Instrumentación</p> <p>SUMINISTRO E INSTALACIÓN DE LA INSTRUMENTACIÓN DE LA BALSA CONSISTENTE EN:</p> <ul style="list-style-type: none"> -1 BOYA DE NIVEL MÁXMO TENSIÓN 12VCC, GRADO DE PROTECCIÓN IP68 CON CONTACTO NA/NC -1 SENSOR DE PRESIÓN HIDROSTÁTICO PARA MEDIDA DE NIVEL, INCLUYE 20M DE CABLE ESPECIAL PARA INMERSIÓN, SALIDA ANALÓGICA 4..20MA, RANGO DE TEMPERATURAS DE FUNCIONAMIENTO DE -20 A 50°C, SOBREPESIÓN MÁXMA 2 EN ESCALA COMPLETA, IP 68, RANGO DE PRESIÓN DE 0 A 400 BAR, 12VCC, - 1 TRANSDUCTOR DE PRESIÓN, TIPO SITRANS P SERIE Z, CON GAMA DE PRESIÓN 0-16 BAR, CONEXIÓN DE PRESIÓN G1/2, SALIDA 4..20 MA., TENSIÓN DE ALIMENTACIÓN 10-36 VCC, CARCASA DE ACERO INOXIDABLE, IP65, TEMPERATURA AMBIENTE -25 +85°, CONEXIÓN 2 HILOS - 1 FINALES DE CARRERA PARA CONTROL DE APERTURA DE VÁLVULAS PREVIA CONEXIÓN DE EQUIPOS DE BOMBEO. - INCLUYE PEQUEÑO MATERIAL DE MONTAJE. <p>TOTALMENTE INSTALADO Y PROBADO.</p> <p>Balsa BP1 1 1,000</p> <p>Balsa BP2 1 1,000</p> <p>Balsa BP3 1 1,000</p> <p>Balsa BPC (PN) 1 1,000</p> <p>Balsa BPC (EB) 1 1,000</p> <p style="text-align: right;">5,00</p>																

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
ZZ0801B	<p>Ud Sist. Autónomo de alimentación y Autómata control, 275Ah y 24V</p> <p>ALIMENTACIÓN ELÉCTRICA MEDIANTE INSTALACIÓN SOLAR FOTOVOLTAICA Y AUTÓMATA DE CONTROL CON PANTALLA 12" TÁCTIL Y SCADA INTALADO EN ARMARIO FORMADA POR:</p> <ul style="list-style-type: none"> - 1 CONJUNTO DE 12 VASOS LIBRES DE MANTENIMIENTO DE 2V CADA UNO Y 275H, ES DE CIR 24V Y 275AH. - 1 REGULADOR DE CARGA 12/24V (24V; >1300W), 45A IN CARGA, 50A ICCMÁX., VCC. 16,2-150V, FACTOR DE POTENCIA >=98%. - 2 PANEL SOLAR DE APROX. (SEGÚN DISPONIBILIDAD COMERCIAL) DE 445WP/UD (MONO-CRISTALINO, TIER1, PERC, HALF-CUT TECH) CON DETECCIÓN DE INTRUSIÓN SOBRE MÁSTIL EXISTENTE EN SOPORTE ORIENTABLE, COLOCADO SOBRE ZAPATA Y ESPERAS EXISTENTES INSERTADAS EN OBRA CIVIL. - 1 MÁSTIL TUBULAR/TROCOCÓNICO DE 8M DE ALTURA Y 4MM DE PARED CON VENTANA DE CONEXIONADO, SOBRE ZAPATA Y ESPERAS EXISTENTES INSERTADAS EN OBRA CIVIL. - PROTECCIONES - CABLE TIPO RVK 4X4 POR TUBO PREVIAMENTE INSTALADO. <p>TOTALMENTE INSTALADO, CONEXIONADO, CONECTADO Y EN FUNCIONAMIENTO. INCLUYENDO EL ALQUILER DE VEHICULOS Y/O MEDIOS NECESARIOS PARA EL TRANSPORTE Y LEVANTAMIENTO DE MÁSTIL JUNTO CON PANEL SOLAR Y OTROS ELEMENTOS SOBRE ÉSTOS.</p> <p>AUTÓMATA DE CONTROL:</p> <p>UNIDAD PLC CON PANTALLA 12" Y SCADA PARA CONTROL DE VÁLVULA MOTORIZADA Y VÁLVULAS HIDRÁULICAS DE REGULACIÓN EN FUNCIÓN DE LECTURA DE CAUDALIMETRO Y TRASDUCTOR DE PRESIÓN Y NIVEL EN BALSA, CONSISTENTE EN:</p> <ul style="list-style-type: none"> -1XCPU. MEMORIA INTERNA Y ENLACE RJ45, CON INTERFAZ RS232/RS485 PARA PROTOCOLO MODBUS RTU. PUERTO ETHERNET INTEGRADO Y USB DE PROGRAMACIÓN. MÓDULOS DE CONEXIÓN ED/SD, EA/SA, ALIMENTACIÓN 24 VDC, BORNEROS ENCHUFABLES. EN ENVOLVENTE IP67. - INCLUYE PROGRAMA Y PROGRAMACIÓN DEL PLC. - INCLUYE PUESTA EN MARCHA DEL PLC Y DE TODO EL SISTEMA DE AUTOMATIZACIÓN. - INCLUYE PEQUEÑO MATERIAL AUXILIAR Y DE MONTAJE. <p>TOTALMENTE INSTALADO, CONEXIONADO, CONFIGURADO, CONECTADO Y PROBADO.</p> <p>En toma de fondo:</p> <p>Balsa PBC (PN) 1 1,000</p> <p>Balsa BP1 1 1,000</p> <p>Balsa BP2 1 1,000</p> <p>Balsa BP3 1 1,000</p>							4,00	<p>SUBCAPÍTULO 15.03 CABLEADO INSTRUMENTACIÓN</p> <p>BT050 m Cable Tronic LiCy 3x2x1.5</p> <p>CABLE DE DATOS DE PARES DE 2X2X1.5 APANTALLADO RANGO DE TEMPERATURA -30° A 80° RECUBRIMIENTO DE PVC, CONDUCTORES DE COBRE DE ALAMBRE FINO, CONDUCTORES TRENZADOS EN PARES, PARES TRENZADOS, PANTALLA DE COBRE ESTAÑADOTRENZADO, CUBIERTA DE PVC RESISTENTE AL ACEITE, A LOS PRODUCTOS QUIMICOS Y NO PROPAGADORA DE LLAMA.</p> <p>TOTALMENTE INSTALADO, CONECTADO Y PROBADO</p> <p>ESTACIÓN BOMBEO.</p> <p>En válvula motorizada entrada balsa 1 10,000 10,000</p> <p>Bomba 1.1 1 21,000 21,000</p> <p>Bomba 1.2 1 20,500 20,500</p> <p>Bomba 1.3 1 21,000 21,000</p> <p>Bomba 1.4 1 23,000 23,000</p> <p>Bomba 1.5 1 27,500 27,500</p> <p>Bomba 2.1 1 30,500 30,500</p> <p>Bomba 2.2 1 33,500 33,500</p> <p>Bomba 2.3 1 35,500 35,500</p> <p>Bomba 2.4 1 40,500 40,500</p> <p>Bomba 3.1 1 32,500 32,500</p> <p>Bomba 3.2 1 35,500 35,500</p> <p>Bomba 3.3 1 38,500 38,500</p> <p>Bomba 3.4 1 40,500 40,500</p> <p>Bomba 3.5 1 44,500 44,500</p> <p>Filtro W 1 15,000 15,000</p> <p>Balsa Pié Canal (BPC), salida (EB):</p> <p>En válvula motorizada entrada balsa 1 320,000 320,000</p> <p>En TOMA Canal</p> <p>En compuerta motorizada canal 2 640,000 1.280,000</p> <p>En limpiarrejas 1 640,000 640,000</p> <hr/> <p style="text-align: right;">2.709,50</p>							

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
BT051	m Cable Tronic LiCy 1x2x1.5 CABLE DE DATOS DE PARES DE 1X2X1.5 APANTALLADO RANGO DE TEMPERATURA -30° A 80° RECUBRIMIENTO DE PVC, CONDUCTORES DE COBRE DE ALAMBRE FINO, CONDUCTORES TRENZADOS EN PARES, PARES TRENZADOS, PANTALLA DE COBRE ESTAÑADOTRENZADO, CUBIERTA DE PVC RESISTENTE AL ACEITE, A LOS PRODUCTOS QUIMICOS Y NO PROPAGA- DORA DE LLAMA. TOTALMENTE INSTALADO, CONECTADO Y PROBADO							BT052	m Cable Tronic LiCY 2x2x1.5 CABLE DE DATOS DE PARES DE 2X2X1.5 APANTALLADO RANGO DE TEMPERATURA -30° A 80° RECUBRIMIENTO DE PVC, CONDUCTORES DE COBRE DE ALAMBRE FINO, CONDUCTORES TRENZADOS EN PARES, PARES TRENZADOS, PANTALLA DE COBRE ESTAÑADOTRENZADO, CUBIERTA DE PVC RESISTENTE AL ACEITE, A LOS PRODUCTOS QUIMICOS Y NO PROPAGA- DORA DE LLAMA. TOTALMENTE MONTADO, CONECTADO Y PROBADO.						
	ESTACIÓN BOMBEO.								ESTACIÓN BOMBEO.						
	Sensor lámina Puerta	1	15,000			15,000			Caudalímetro 1	1	33,500			33,500	
		1	60,000			60,000			Caudalímetro 2	1	59,000			59,000	
	Sensor lámina Puerta Trafo	2	30,000			60,000			Caudalímetro 3	1	63,000			63,000	
	Cableado protecciones Cuadros	1	30,000			30,000			Bomba 1.1	1	21,000			21,000	
	Final Carrera Válvulas EB:								Bomba 1.2	1	20,500			20,500	
	Bomba 1.1	1	21,000			21,000			Bomba 1.3	1	21,000			21,000	
	Bomba 1.2	1	20,500			20,500			Bomba 1.4	1	23,000			23,000	
	Bomba 1.3	1	21,000			21,000			Bomba 1.5	1	27,500			27,500	
	Bomba 1.4	1	23,000			23,000			Bomba 2.1	1	30,500			30,500	
	Bomba 1.5	1	27,500			27,500			Bomba 2.2	1	33,500			33,500	
	Bomba 2.1	1	30,500			30,500			Bomba 2.3	1	35,500			35,500	
	Bomba 2.2	1	33,500			33,500			Bomba 2.4	1	40,500			40,500	
	Bomba 2.3	1	35,500			35,500			Bomba 3.1	1	32,500			32,500	
	Bomba 2.4	1	40,500			40,500			Bomba 3.2	1	35,500			35,500	
	Bomba 3.1	1	32,500			32,500			Bomba 3.3	1	38,500			38,500	
	Bomba 3.2	1	35,500			35,500			Bomba 3.4	1	40,500			40,500	
	Bomba 3.3	1	38,500			38,500			Bomba 3.5	1	44,500			44,500	
	Bomba 3.4	1	40,500			40,500			Sensor lámina Puerta	1	15,000			15,000	
	Bomba 3.5	1	44,500			44,500				1	60,000			60,000	
	Filtro W	1	15,000			15,000			Transductor 1	1	15,000			15,000	
	Alivio	3	30,000			90,000			Transductor 2	1	30,000			30,000	
	By pass	3	30,000			90,000			Transductor 3	1	30,000			30,000	
	EN BALSAS:								Transductor 3	1	20,000			20,000	
	Boya de Máximo	5	20,000			100,000			EN BALSAS:						
	Sensor lámina Puerta Arq Balsas	4	2,000			8,000			Sonda Nivel Balsas	4	20,000			80,000	
	Final Carrera Válvula Balsa	5	20,000			100,000									850,00
							1.012,50	BT-U001.5X2-0	m Cable Unipolar RZ1-K 0,6/1 KV de 2x1.5 mm2 Cu CABLE UNIPOLAR RZ1-K 0,6/1KV 2X1.5; TOTALMENTE MONTADO, CONECTADO Y PROBADO.						
									Termostatos	1	15,000			15,000	
										1	30,000			30,000	
															45,00
								BT053	m Cable Ethernet Cat 6 SUMINISTRO Y MONTAJE DE CABLE UTP CATEGORÍA 6 PARA TRANSMISIÓN DE DATOS PA- RA RED ETHERNET Y MODBUS RTU. TOTALMENTE MONTADO E INSTALADO.						
									ESTACIÓN BOMBEO.						
									Red Ethernet	1	30,000			30,000	
									Red Modbus	1	30,000			30,000	
															60,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
SUBCAPÍTULO 15.04 CANALIZACIÓN								BT046-2A	Ud Centro De Control						
BT056	m ZANJA CABLES BT 0,6 MTS ANCHURA EN TIERRA VARIOS CIRCUITOS BT														
	M.L. REALIZACIÓN DE ZANJA EN TIERRA CON LECHO DE ARENA PARA CABLES DE BT DE 0,6 MTS DE ANCHURA Y 0,9 MTS DE PROFUNDIDAD, INCLUYENDO ROTURA Y REPOSICIÓN DE PAVIMENTO EXISTENTE, EXCAVACIÓN CON MEDIOS MECÁNICOS, CAPA DE ARENA FINA DE 30 CM, RELLENO DE ZANJAS CON ZAHORRAS MEDIANTE TONGADAS DE 30 CM, MALLA DE SEÑALIZACIÓN (2 MTS), PLACA DE PVC DE SEÑALIZACIÓN (2 MTS), ASÍ COMO MEDIOS MECÁNICOS, RETIRADA DE TIERRAS A VERTEDERO, MANO DE OBRA ESPECIALIZADA Y PEQUEÑO MATERIAL AUXILIAR NECESARIO, MEDIDA LA UNIDAD TERMINADA Y EJECUTADA.														
	EN BALSAS (+1 reserva):														
	Boya de Máximo	5	20,00	2,00			200,00								
	Final Carrera Válvula Balsa	5	20,00	2,00			200,00								
	Caudalímetro	4	30,00	2,00			240,00								
							640,00								
BT-AC-CANL050	m TUBO CORRUGADO D=50 mm														
	M.L. DE TUBO CORRUGADO DE PVC DE 50 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA.														
	EN BALSAS (+1 reserva):														
	Boya de Máximo	5	20,00	2,00			200,00								
	Final Carrera Válvula Balsa	5	20,00	2,00			200,00								
	Caudalímetro	4	30,00	2,00			240,00								
							640,00								
CAPÍTULO 16 TELECONTROL															
SUBCAPÍTULO 16.01 CENTRO CONTROL CR															
		<p>CENTRO DE CONTROL PARA MONITORIZACIÓN Y COMANDO DE ESTACIÓN DE BOMBEO COMPUESTO POR:</p> <ul style="list-style-type: none"> - SAI DE 750VA DE POTENCIA PARA CONEXIÓN DE PC DE CENTRO DE CONTROL, CON VOLTAJE DE 230VAC, CON CAPACIDAD DE BATERÍAS PARA 12 MINUTOS A MEDIA CARGA, Y 6 MINUTOS A PLENA CARGA, CON CABLE DE COMUNICACIÓN A PUERTO SERIE CON PC, Y SOFTWARE DE SUPERVISIÓN DEL SAI. - EQUIPOS INFORMÁTICOS COMPUESTO POR: <ul style="list-style-type: none"> - ORDENADOR PC DE GESTIÓN DELL CON PROCESADOR CORE-DUO 3GHZ DE 4GB RAM, DISCO DURO DE 250 GB, TARJETA GRÁFICA DE 512 MB Y MONITOR DE 22". - UN PC SERVIDOR CON PROCESADOR QUAD-CORE XEON DE 4 GB DE RAM DISCO DURO REDUNDANTE DE 145 GB CON CINTAS DAT72 DE COPIA DE SEGURIDAD. - SAI - COMPLETA IMPRESORA DE LÁSER COLOR Y UN SAI DE 1900 VA. - INCLUYE TRABAJOS DE PARAMETRIZACIÓN Y CONFIGURACIÓN DEL SOFTWARE. - SUMINISTRO, INSTALACIÓN Y PRUEBAS DE SOFTWARE. PAQUETE DE SOFTWARE FORMADO POR TRES PROGRAMAS: <ul style="list-style-type: none"> - COMUNICACIONES, CONTROL Y GESTIÓN. SE INSTALA EN LOS EQUIPOS INFORMÁTICOS ANTERIORMENTE DESCRITOS. - SE INCLUYE GUARDIÁN PARA EL CONTROL DEL SOFTWARE Y ALIMENTACIÓN DEL SISTEMA ASÍ COMO LA GESTIÓN DE ENVÍO Y RECEPCIÓN DE LOS MENSAJES SMS DE ALARMA U ÓRDENES SEGÚN CONFIGURACIÓN. PARA LA PROGRAMACIÓN Y PARAMETRIZACIÓN DEL RIEGO DE COMUNIDADES DE REGANTES, A TRAVÉS DE UN PC BAJO ENTORNO WINDOWS. PERMITE LA EXPORTACIÓN Y ALMACENAMIENTO DE DATOS A OTROS PROGRAMAS (EXCEL, WORD, ETC.) PARA LA GESTIÓN DEL SISTEMA. - PERSONALIZACIÓN DEL PROGRAMA Y LAS PANTALLAS A CARGO DE UN ESPECIALISTA INFORMÁTICO. ENTRADA DE DATOS DE TODOS LOS HIDRANTES Y SECTORES DE RIEGO, ADEMÁS DE LA CONFIGURACIÓN DEL ENTORNO GRÁFICO EN PLANOS GIS POR SECTORES DE RIEGO. SINÓPTICOS ESTACIONES DE BOMBEO Y BALSAS. TRABAJOS DE INTEROPERABILIDAD ENTRE BASES DE DATOS (SQL-SERVER) DESDE SCADA-HMI DEL AUTÓMATA DE BOMBEO Y EL SOFTWARE EN CENTRO DE CONTROL, PARA VISUALIZACIÓN DE SEÑALES DIGITALES Y ANALÓGICAS DE LA ESTACIÓN DE BOMBEO. - INCLUYE SCADA PARA CONTROL DE LAS UNIDADES REMOTAS Y DE LAS ESTACIONES DE BOMBEO. SCADA DE SUPERVISIÓN INCLUYENDO LA PROGRAMACIÓN DE PANTALLAS Y SUBPANTALLAS COMO MÍNIMO: <ul style="list-style-type: none"> - PANTALLA DE SITUACIÓN: GESTIÓN DE ACCESO Y PERMISOS. - PANTALLA DE ESTADO GENERAL: VALORES MÁS SIGNIFICATIVOS ON-LINE, VISTA DE LAS BOMBAS Y SALA DE CUADROS, Y ACCESO A OTRAS PANTALLAS. - PANTALLA DE ESTADO DEL GRUPO DE BOMBEO/TURBINAS: ESTADO DE LA TURBINA/BOMBA, TEMPERATURAS PT100, GESTIÓN DE ALARMAS, RESULTADOS, VARIABLES ELÉCTRICAS (V, I, P ETC), GRÁFICOS DE VARIABLES, PRESIONES Y CAUDALES, HORAS DE MARCHA, Nº DE CONEXIONES ETC. - PANTALLA DE ESTADO DE EQUIPOS: PROTECCIONES COMUNES DEL BOMBEO, PROTECCIONES ELÉCTRICAS INDIVIDUALES, PROTECCIONES DE FILTROS. - PANTALLA DE ESTADO DEL CT, PROTECCIONES Y CONSUMOS. - PANTALLA DE PROGRAMACIÓN: VALORES DE CAPTACIÓN, VALORES DE LLENADO AUTOMÁTICO, LÍMITES DE LLENADO, FUNCIONAMIENTO, PROGRAMACIÓN DE PERIODOS, PROGRAMACIÓN Nº DE BOMBAS, VALORES DE CIERRE, PROGRAMACIÓN VENTILACIÓN, RANGOS HORARIOS DE BOMBEO Y PERIODOS TARIFARIOS, HORARIO LIMITADO O CONTINUO, PARÁMETROS PARA GESTIÓN DE LA EFICIENCIA ENERGÉTICA, RENDIMIENTO ÓPTIMO, PROGRAMACIÓN DE MÁXIMOS CAUDALES Y PROTENCIA, CONFIGURACIÓN SMS, PROGRAMACIÓN SMS ALARMAS, AVISOS Y Nº DE TELÉFONO ETC. PROGRAMACIÓN PARÁMETROS DE INTRUSIÓN. - PANTALLA DE GRÁFICOS: GRÁFICOS A ELECCIÓN DEL USUARIO CRUZANDO VARIABLES A LO LARGO DEL TIEMPO GENERAL DE LA INSTALACIÓN, COMO INDIVIDUALES DE LOS EQUIPOS, VISUALIZACIÓN DE GRÁFICOS INSTANTÁNEOS O EN UN RANGO DE TIEMPOS, ALMACENAMIENTO DE VARIABLES, MODIFICACION DE ESCALAS. - PANTALLA DE ALARMAS Y ADVERTENCIAS: ALMACENAMIENTO DE ALARMAS Y SUCESOS, ALARMAS ACTUALES, FILTRO DE RESULTADOS ETC. - PANTALLA DE INFORMES: GENERACIÓN DE INFORMES EN UN RANGO DE RASTREO DE LAS VARIABLES DESEADA, IMPRESIÓN DE INFORMES 													

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD		
	Sede CR	1				1,000											
BT047B	Ud Frontal De Comunicaciones CENTRO DE COMUNICACIONES RADIO QUE CONSISTE EN: - 2 RADIOMÓDEM 1W 446 MHZ CON ANTENA COLINEAL UHF 5,5DB CON CONECTOR PARA PUERTO SERIE RS-232/RS-485 Y CAJA ENLACE RS-485+USB PARA ENLACE CON PC Y ALIMENTADOR AC/DC 100-240 VAC/12VDC 2A Y SUMINSTRO RADIOMÓDEM 433 MHZ EN PC. - INCLUYE MASTIL DE 6 METROS PARA INSTALACIÓN DE ANTENA. - INCLUYE PARTE PROPORCIONAL DE PEQUEÑO MATERIAL, SOPORTES, CABLEADOS, CONEXIONES, ETC..., Y PUESTA EN MARCHA. TOTALMENTE INSTALADO, CONECTADO Y PROBADO.						1,00	BT048A	Ud Control Unidad Remota Via Radio 4-4-2 UNIDAD REMOTA RADIO CONSISTENTE EN: - UNIDAD REMOTA RADIO CON 4 ENTRADAS DIGITALES Y 2 ENTRDAS ANALÓGICAS, IP66 FUNCIONAMIENTO MEDIANTE BATERÍA DE 3 AÑOS DE AUTONOMÍA. SOFTWARE COMPLETO DE CONTROL Y DE COMUNICACIONES; PROTECCIÓN ENTRADAS. CON MICROCONTROLADOR DE 16 BITS DE BAJO CONSUMO CON WATCHDOG, MEMORIA FLASH, RAM Y EEPROM CON REGISTRO DE ACUMULADOS. ALOJADO EN CAJAS PARA CARRIL DIN E INSTALADAS EN CAJAS CON GRADO DE PROTECCIÓN IP66. ALIMENTADO MEDIANTE PACK DE 3 BATERÍAS DE NI-MH CON PANEL SOLAR 5W - 1 TARJETA CON 1 ENTRADA ANALÓGICA 0/4-20 MA - 1 ANTENA LAMBDA/2 EXTERIOR DE 2 DB DE GANANCIA, CABLE DE 7M Y CONECTOR - 1 PACK DE PILA DE LITIO + CONECTOR PARA UNIDAD REMOTA. - 1 CABLE COAXIAL RG-213 10M N MACHO - N MACHO - 1 LATIGUILLO RG-58 1M TNC M - N H INCLUYE MASTIL DE 6M PARA ANTENA, COLOCACIÓN, ENSAYOS Y PUESTA EN MARCHA.								
	Sede CR	1				1,000											
SUBCAPÍTULO 16.02 RED DE DISTRIBUCIÓN (HIDRANTES)																	
BT048C	Ud Concentradora Enlace Radiomodem 433 MHz UNIDAD REMOTA RADIO CONSISTENTE EN: SUMINISTRO E INSTALACIÓN DE UNIDAD CONCENTRADORA ENLACE RADIO (EAR) 12 VDC PARA LA COMUNICACIÓN CON LOS TERMINALES DE CONTROL REMOTO PARA UN TOTAL DE 60 MÓDULOS. INCLUYE RADIOMÓDEM 433 MHZ PARA COMUNICACIÓN ENTRE EAR Y SOFTWARE AGRÓNIC NET II CON ANTENA OMNIDIRECCIONAL. ALIMENTACIÓN 12 VDC CON PANEL SOLAR 75W, BATERÍA DE 120 A/H Y REGULADOR. ESTRUCTURA METÁLICA CON SOPORTE PANEL SOLAR Y MÁSTIL DE 6 MTS ALTURA Y CASETA PREFABRICADA 1X1 PARA ALOJAMIENTO EQUIPAMIENTO. INCLUYE COLOCACIÓN, ENSAYOS Y PUESTA EN MARCHA.																
	Concentradoras	7				7,000											
	Balsa BP1	1				1,000											
	Balsa BP2	1				1,000											
	Balsa BP3	1				1,000											
	Balsa BPC (PN)	1				1,000											
							11,00										
BT048F	Ud Control Unidad Remota Via Radio 10-10-2 UNIDAD REMOTA RADIO CONSISTENTE EN: - UNIDAD REMOTA RADIO CON 10 ENTRADAS DIGITALES Y 2 ENTRDAS ANALÓGICAS, IP66 FUNCIONAMIENTO MEDIANTE BATERÍA DE 3 AÑOS DE AUTONOMÍA. SOFTWARE COMPLETO DE CONTROL Y DE COMUNICACIONES; PROTECCIÓN ENTRADAS. CON MICROCONTROLADOR DE 16 BITS DE BAJO CONSUMO CON WATCHDOG, MEMORIA FLASH, RAM Y EEPROM CON REGISTRO DE ACUMULADOS. ALOJADO EN CAJAS PARA CARRIL DIN E INSTALADAS EN CAJAS CON GRADO DE PROTECCIÓN IP66. ALIMENTADO MEDIANTE PACK DE 3 BATERÍAS DE NI-MH CON PANEL SOLAR 5W - 1 TARJETA CON 1 ENTRADA ANALÓGICA 0/4-20 MA - 1 ANTENA LAMBDA/2 EXTERIOR DE 2 DB DE GANANCIA, CABLE DE 7M Y CONECTOR - 1 PACK DE PILA DE LITIO + CONECTOR PARA UNIDAD REMOTA. - 1 CABLE COAXIAL RG-213 10M N MACHO - N MACHO - 1 LATIGUILLO RG-58 1M TNC M - N H INCLUYE MASTIL DE 6M PARA ANTENA, COLOCACIÓN, ENSAYOS Y PUESTA EN MARCHA.																
	Hidrantes hasta 9 tomas	17				17,000											
	Hidrantes compartidos						17,00										
SUBCAPÍTULO 16.03 INSTRUMENTACIÓN																	
BT049B	Ud Alarma Intrusión SUMINISTRO E INSTALACIÓN ALARMAS DE INTRUSIÓN EN ARQUETAS DE HIDRANTE PARA AVISOS DE OBERTURA Y CIERRE PUERTA DE ACCESO. INCLUSO MICROINTERRUPTOR DE DESCONEXIÓN. INCLUYE PEQUEÑO MATERIAL DE MONTAJE. TOTALMENTE INSTALADO Y PROBADO.																
	Hidrantes	321				321,000											
	Otros (balsas)	4				4,000											
							325,00										
BT049C	Ud Trasductor de presión SUMINISTRO E INSTALACIÓN DE TRASDUCTOR DE PRESIÓN, RANGO DE 0-16 BAR. SALIDA 4-20 MA. COLOCADO EN RED DE RIEGO Y ELEMENTOS PRINCIPALES DE LA RED. INCLUYE CABLEADO APANTALLADO, CONEXIONES Y PEQUEÑO MATERIAL DE MONTAJE. TOTALMENTE INSTALADO Y PROBADO.																
	Red de riego (5 en cada piso)	5	4,000			20,000											
							20,00										

MEDICIONES**PROYECTO MODERNIZACIÓN C.R. LANAJA**

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
SUBCAPÍTULO 16.04 ESTUDIO COBERTURAS. PUESTA EN MARCHA Y FORMACIÓN								SUBCAPÍTULO 16.06 ELABORACIÓN DE MAPA DE CRAD DEL SUELO							
BT_TC_CO-BERT	Ud Estudio De Cobertura De La Instalación							C09002	Ud Descripción de calicata en estudios de suelos						
	ESTUDIO DE COBERTURAS DE LA INSTALACIÓN PARA LA DISTRIBUCIÓN DE LOS DISTINTOS PUNTOS DE CONTROL DE HIDRANTE Y DE LAS CONCENTRADORAS DE PROGRAMACIÓN Y CONTROL, ASÍ COMO DE LOS REPETIDORES NECESARIOS Y ELEMENTOS ACCESORIOS. INFORME Y JUSTIFICACIÓN TÉCNICA, LEGALIZACIÓN DE LICENCIAS Y BANDAS DE RADIOFRECUENCIA. INCLUIDA LA REALIZACIÓN DE PROYECTOS, TRÁMITES Y TASAS PARA SU LEGALIZACIÓN.								DESCRIPCIÓN DE CALICATA EN ESTUDIOS DE SUELOS.						
	Preyecto	1				1,000	1,00		Descripción de la calicatas	1	101,00			101,00	101,00
								ECCPMP	Ud Ensayo de capacidad de campo y punto de marchitez permanente						
									DETERMINACIÓN EN LABORATORIO DEL CONTENIDO HÍDRICO DE PUNTO MARCHITEZ PERMANENTE(-1,5 MPA) Y CAPACIDAD DE CAMPO (-0,033 MPA) SE MIDE VOLUMÉTRICAMENTE MEDIANTE PLACAS EXTRACTORAS A PRESIÓN EN UN EQUIPO DE MEMBRANA EUELKAMP.						
									Ensayos 1 cada 10 ha	1	402,00			402,00	402,00
BT_TC_PUE-MARC	Ud Puesta En Marcha							C09001	Ud Apertura y tapado calicata hasta 2 m de profundidad						
	PARA LA PUESTA EN MARCHA DEL SISTEMA, COMPROBACIÓN DE TODOS ELEMENTOS Y DE SU CORRECTO FUNCIONAMIENTO. APLICACIÓN DEL PROTOCOLO DE PUESTA EN MARCHA PARA UNA CORRECTA IMPLANTACIÓN DEL SISTEMA.								APERTURA Y TAPADO DE CALICATA HASTA 2 M DE PROFUNDIDAD						
	Proyecto	1				1,000	1,00		Calicatas 1 cada 100 ha	1	101,00			101,00	101,00
BT_TC_FOR-MACI	Ud Formación Personal CR							CAPÍTULO 17 MEDIDAS AMBIENTALES							
	FORMACIÓN QUE SE REALIZARÁ AL PERSONAL ASIGNADO POR LA COMUNIDAD PARA LLEVAR LA SUPERVISIÓN Y GESTIÓN DEL TELECONTROL PARA UN COMPLETO CONOCIMIENTO Y APROVECHAMIENTO DEL SISTEMA. INCLUYE MANUALES DE UTILIZACIÓN Y MANTENIMIENTO PARA UN CORRECTO FUNCIONAMIENTO DEL SISTEMA.							SUBCAPÍTULO 17.01 MEDIDAS PREVENTIVAS Y CORRECTORAS							
	Proyecto	1				1,000	1,00	MEDEIASIE	m² Siembra a Voleo de Superficies y cuidados posteriores						
									SIEMBRA A VOLEO DE SUPERFICIES CON ESPECIES LOCALES (INCLUIDAS ESPECIES PERTENECIENTES A LOS HABITATS COMUNITARIOS EXISTENTES EN LA ZONA, RECOGIDOS EN EL ESTUDIO DE IMPACTO AMBIENTAL), INCLUSO APORTACION Y EXTENDIDO DE TIERRA VEGETAL (APROXIMADAMENTE 20 CM) E INCLUIDA LA SEMILLA, SIEMBRA, RIEGO Y CUIDADOS POSTERIORES PARA ADECUADA SUPERVIVENCIA DE LAS ESPECIES IMPLANTADAS.						
									Talud exterior Balsa PC	0,5	2.143,500	11,000		11.789,250	
									Talud exterior Balsa BP2	0,5	739,000	20,130		7.438,035	
									Talud exterior Balsa BP3	0,5	771,000	13,500		5.204,250	
									Red de Riego	1	2.000,000	2,500		5.000,000	
															29.431,54
								REST	m² Restauración suelo labor						
									RESTAURACIÓN SUELO LABOR						
									EN TUBERÍAS	0,05	95.921,000	10,000		47.960,500	
															47.960,50
								CINTBAL	m Cinta de balizamiento						
									CINTA DE BALIZAMIENTO						
									En trazados y acopios extra	0,1	95.921,000			9.592,100	
										1	500,000			500,000	
															10.092,10
								REIGOSUL	Hr Riego de suelo con cisterna						
									RIEGO DE SUELO CON CISTERNA						
									2 veces/día (4h/día)	260				260,000	
															260,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
FAUNA1	m Red salida animales en balsas SUMINISTRO E INSTALACIÓN DE RED DE MATERIAL SINTÉTICO NO PLÁSTICO, TIPO TEXTIL, CON TAMAÑO DE MALLA MÁXIMO DE 30X30MM, CON CUERDA DE 5MM DE ESPESOR, ANCHO DE 1 METRO Y LONGITUD IGUAL AL TALUD DE LA Balsa. DISPUESTA SOBRE LA LÁMINA IMPERMEABILIZANTE Y FIJADA EN CORONACIÓN Y PIE DE TALUD DE FORMA QUE PERMITA LA ADHERENCIA DE LA FAUNA QUE PUEDA CAER AL INTERIOR DEL VASO. INCLUIDA LA PARTE PROPORCIONAL DE SOPORTES Y ELEMENTOS DE FIJACIÓN, INCLUIDOS LOS MOVIMIENTOS DE TIERRAS, CIMENTACIÓN Y LASTRES DE SUJECCIÓN, ASÍ COMO LA ADECUACIÓN Y ACONDICIONAMIENTO DE LA RED. UNIDAD TOTALMENTE COLOCADA.							SE10CIRIS	Ud Cartel indicat.riesgo con soporte UD. CARTEL INDICATIVO DE RIESGO DE 0,30X0,30 M. CON SOPORTE METÁLICO DE HIERRO GALVANIZADO 80X40X2 MM. Y 1,3 M. DE ALTURA, INCLUSO APERTURA DE POZO, HORMIGONADO, COLOCACIÓN Y DESMONTADO. S/R.D. 485/97.							
									Limitación velocidad	10				10,000		
									Información fauna	10				10,000		
							160,00								20,00	
	Balsa PC	4	15,000				60,000	PANIDIFAVI	Pa P.A. Instalación de Nidos Artificiales. Aves PARTIDA ALZADA A JUSTIFICAR PARA LA INSTALACIÓN DE NIDOS ARTIFICIALES EN DIFERENTES PUNTOS DEL ÁMBITO DE ACTUACIÓN (CAJAS NIDO Y/O TORRES DE NIDIFICACIÓN), DESTINADOS A ESPECIES COMO LA LECHUZA COMÚN (TYTO ALBA), EL MOCHUELO (ATHE-NE NOCTUA) O EL CERNÍCALO PRIMILLA (FALCO NAUMANNI) ENTRE OTRAS DE LA ZONA.							
	Balsa BP1	2	15,000				30,000									
	Balsa BP2	2	20,000				40,000									
	Balsa BP3	2	15,000				30,000									
										1				1,000		
FAUNA2	Ud Plataforma flotante en balsa SUMINISTRO E INSTALACIÓN DE PLATAFORMA FLOTANTE EN Balsa APTA PARA ANIMALES, COMPUESTA POR MATERIAL PLÁSTICO RESISTENTE A LA RADIACIÓN SOLAR Y ADHERENCIA ADECUADA PARA EL ACCESO DE ANIMALES, CON DIMENSIONES 1,0X1,0M, INSTALADA EN EL CENTRO DE LA Balsa Y FIJADA AL FONDO DEL EMBALSE MEDIANTE LASTRE DE ARENA. INCLUIDA LA PARTE PROPORCIONAL DE SOPORTES Y ELEMENTOS DE FIJACIÓN, CIMENTACIÓN Y LASTRES DE SUJECCIÓN, ASÍ COMO LA ADECUACIÓN Y ACONDICIONAMIENTO DE LA PLATAFORMA. UNIDAD TOTALMENTE COLOCADA.							PANIDIFAVI2	Pa P.A. Instalación de Nidos Artificiales. Quirópteros PARTIDA ALZADA A JUSTIFICAR PARA LA INSTALACIÓN DE NIDOS ARTIFICIALES EN DIFERENTES PUNTOS DEL ÁMBITO DE ACTUACIÓN (CAJAS NIDO Y/O TORRES DE NIDIFICACIÓN), DESTINADOS A QUIRÓPTEROS.							
										1				1,000		
	Balsa PC	2					2,000									
	Balsa BP1	1					1,000									
	Balsa BP2	1					1,000									
	Balsa BP3	1					1,000									
															1,00	
							5,00	PAPLANARB	Pa P.A. Plantación de Plantas Arbustivas en Margenes y Ribazos PARTIDA ALZADA A JUSTIFICAR DE PLANTACIÓN DE PLANTAS ARBUSTIVAS EN MARGENES Y RIBAZOS, CON ESPECIES COMO ROSAL SILVESTRE (ROSA CANINCA), ESPINO ALBAR (CRATAEGUS MONOGYNA), ESPINO NEGRO (RHAMNUS LYCIOIDES), LENTISCO (PISTACIA LENTISCUS), Y AROMÁTICAS COMO ROMERO (ROSMARINUS OFFICINALIS) Y TOMILLO (THYMUS VULGARIS), ENTRE OTRAS. INCLUIDO RIEGOS (MIN 4) Y CUIDADOS POSTERIORES PARA ADECUADA SUPERVIVENCIA DE LAS ESPECIES IMPLANTADAS.							
										1				1,000		
															1,00	
SUBCAPÍTULO 17.02 SEGUIMIENTO Y CONTROL AMBIENTAL																
PUL1HID	Ud Punto carga equipos pulverización agrícola PUNTO DE CARGA DE EQUIPO DE PULVERIZACIÓN AGRICOLA CONFORMADO POR: - PREPARACIÓN DE TERRENO Y COMPACTACIÓN DE 50 M2 (PLATAFORMA PARA VEHICULO) - EXCAVACIÓN REQUERIDA PARA ZAPATA, Y PREPARACIÓN DE TERRENO A COMPACTAR. - CIMIENTO DE 0,75X0.75X0.4 M CON ARMADURA B-500S DE 12 MM DE DIAMTERO CADA 15 CM EN AMBAS DIRECCIÓN DE LA CARA INFERIOR (INCLUIDA PATILLA LATERAL DE 15 CM) - ESTRUCTURA METÁLICA MEDIANTE PILAR DE PERFIL IPE 140 DE 5 M DE ALTURA MASTIL REALIZADO CON IPE 100 DE 2 M DE LONGITUD Y REFUERZO ANGULAR MEDIANTE IPE 80. LA UNIÓN ENTRE LOS ELEMENTOS HORIZONTALES Y EL PILAR SE REALIZARÁ MEDIANTE UNA UNIÓN ARTICULADA EN EL EJE HORIZONTAL, TIPO BISAGRA (TUBULAR-BULON) QUE PERMITA EL GIRO DE LA ESTRUCTURA FORMANDO UN SEMICIRCULO RESPECTO AL EJE VERTICAL DEL PILAR (INCLUIDA LA EJECUCIÓN DE LA UNIÓN CON ACERO) ELEMENTOS IMPRIMADOS Y CON DOS CAPAS DE PINTURA DE ACABADO. - TUBERIA DE PEAD DN 50 PN10 PE100 DESDE CONEXIÓN DE HIDRANTE PROXIMO A EXTREMO DE ESTRUCTURA, INCLUIDA LA CALDERERIA DE PIEZAS ESPECIALES UNIONES, Y ADECUACIÓN DEL HIDRANTE. - MANGUERA FLEXIBLE TIPO ARIN FLAT REFORZADA O SIMILAR, DE PVC DN 50 MM REFORZADA CON DOBLE CAPA DE FIBRA TRATADA, UBICADA EN EL PUNTO DE GIRO DE LA ESTRUCTURA Y COLGADA PARA ADECUACIÓN A EQUIPO DE CARGA. - INSTALACIÓN DE VALVULA DE COMPUERTA DN 50MM - INSTALACIÓN DE CONTADOR DN 50MM - ARMARIO/ENVOLVENTE METÁLICA PARA EXTERIOR (IP55) CON ESTRUCTURA Y TORNILLERÍA DE ANCLAJE AL PILAR METÁLICO, Y PUERTA BATIENTE DE UNA HOJA CON BISAGRAS Y CIERRE (CERRADURA INTEGRADA O CANDADO). TOTALMENTE EJECUTADO, Y PROBADO								ARQUEO	Pa P.A. Control y Seguimiento Arqueológico PARTIDA ALZADA A JUSTIFICAR DE CONTROL Y SEGUIMIENTO ARQUEOLÓGICO, POR TÉCNICO COMPETENTE, CON UNA DEDICACIÓN MÍNIMA DE 2 H/SEMANALES						
										1				1,000		
															1,00	
							2,000									
															2,00	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
ARQUEO2	<p>Pa P.A. Control y Seguimiento Arqueológico Balsa BP3 Guerra Civil</p> <p>PARTIDA ALZADA A JUSTIFICAR DE CONTROL Y SEGUIMIENTO ARQUEOLÓGICO EN Balsa BP3, YACIMIENTO TRINCHERA BALSAMEDIAS, POR TÉCNICO COMPETENTE, QUE COMPRENDEN:</p> <p>RECOGIDA PREVIA DE MATERIALES PROSPECCIÓN ARQUEOLÓGICA INTENSIVA, PREVIA AL INICIO DE LOS MOVIMIENTOS DE TIERRA CON RECOGIDA DE TODO EL MATERIAL ARQUEOLÓGICO VISIBLE DENTRO DEL ÁREA PROYECTADA PARA LAS OBRAS. CON APOYO DE GPS. TOMA DE DATOS, FOTOS, ETC. INCLUYENDO LOS TRABAJOS PREVIOS DE DOCUMENTACIÓN, PREPARACIÓN DE TRACKS, PLANOS, ETC.</p> <p>SONDEO ARQUEOLÓGICO EJECUCIÓN DE AL MENOS 1 SONDEO ARQUEOLÓGICO LLEVADO A CABO DE FORMA MANUAL, SIGUIENDO EL MÉTODO ESTRATIGRÁFICO, HASTA ALCANZAR EL SUSTRATO NATURAL. INCLUYE LA RECOGIDA DE MATERIALES, DOCUMENTACIÓN, RECOGIDA DE DATOS, FOTOGRAFÍAS, PLANIMETRÍAS, FOTOGRAMETRÍA Y TOPOGRAFÍA PARA GEORREFERENCIACIÓN DE SONDEOS Y HALLAZGOS.</p> <p>SUPERVISIÓN ARQUEOLÓGICA SUPERVISIÓN ARQUEOLÓGICA CONTINUA DURANTE LA EJECUCIÓN DE LOS TRABAJOS DE EXCAVACIÓN Y MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CONSTRUCCIÓN DE Balsa BP3. INCLUYE TOMA DE DATOS, FOTOGRAFÍAS, RECOGIDA DE MATERIALES, ETC.</p> <p>INFORME ARQUEOLÓGICO FINAL REDACCIÓN DEL INFORME ARQUEOLÓGICO FINAL Y ENTREGA AL CLIENTE Y AL DEPARTAMENTO COMPETENTE EN MATERIA DE PATRIMONIO HISTÓRICO ARQUEOLÓGICO DEL GOBIERNO DE ARAGÓN. INCLUIDOS PLANOS DE PLANTA, SECCIONES ESTRATIGRÁFICAS, Y EL INVENTARIO Y CATALOGACIÓN DE TODOS LOS MATERIALES ARQUEOLÓGICOS, TANTO LOS RECOGIDOS EN PROSPECCIÓN PREVIA COMO DURANTE LA EJECUCIÓN DE LOS SONDEOS, CON FOTOGRAFÍA Y DIBUJO DE UNA MUESTRA REPRESENTATIVA DE LOS MISMOS. SIGLADOS, ORGANIZADOS EN FICHAS Y EMBALADOS PARA SU DEPÓSITO EN PATRIMONIO.</p>	1				1,000	1,00
PROSPFLOR	<p>Pa P.A. Control y Seguimiento Flora</p> <p>PARTIDA ALZADA A JUSTIFICAR DE CONTROL Y SEGUIMIENTO DE FLORA, POR TÉCNICO COMPETENTE, CON UNA DEDICACIÓN MÍNIMA DE 2 H/SEMANALES</p>	1				1,000	1,00
PROSPFAU	<p>Pa P.A. Control y Seguimiento Fauna</p> <p>PARTIDA ALZADA A JUSTIFICAR DE CONTROL Y SEGUIMIENTO DE FAUNA, POR TÉCNICO COMPETENTE, INCLUYENDO INFORME PREOPERACIONAL, ANTES DEL INICIO DE LA OBRA, CON EL OBJETO DE IDENTIFICAR LA PRESENCIA Y VULNERABILIDAD DE ESPECIES SENSIBLES, CON UNA DEDICACIÓN MÍNIMA DE 2 H/SEMANALES</p>	1				1,000	1,00
VIGAMB	<p>Pa P.A. Vigilancia Ambiental</p> <p>PARTIDA ALZADA A JUSTIFICAR DE VIGILANCIA AMBIENTAL GENERAL CON UNA DEDICACIÓN MÍNIMA DE 6 H/SEMANALES</p>	1				1,000	1,00

SUBCAPÍTULO 17.03 CREACIÓN HUMEDALES ARTIFICIALES
APARTADO 17.03.01 MOVIMIENTO DE TIERRAS

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R01EX010	<p>m³ Excavación a cielo abierto en Zanjas y Vaciados</p> <p>EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.</p>						
	DESAGÜE D80						
	Tubería Llenado	1	4.664,000				4.664,000
	Tubería Salida	1	50,000				50,000
	Canales Humedales	1	406,000	2,000	1,000		812,000
		1	356,000	2,000	1,000		712,000
	Azud	1	2,400	1,000	0,200		0,480
	Obra de Toma Azud	1	7,830		0,400		3,132
	Obra Aforador	1	1,790		0,200		0,358
	DESAGÜE D80-1						
	Tubería Llenado	1	983,210				983,210
	Tubería Salida	1	50,000				50,000
	Canales Humedales	1	300,000	2,000	1,000		600,000
		1	273,000	2,000	1,000		546,000
	Azud	1	2,400	1,000	0,200		0,480
	Obra de Toma Azud	1	7,830		0,400		3,132
	Obra Aforador	1	1,790		0,200		0,358
	DESAGÜE D78 y D78-2						
	Tubería Llenado	1	993,020				993,020
	Tubería Salida	1	50,000				50,000
	Canales Humedales	1	201,000	2,000	1,000		402,000
		1	115,000	2,000	1,000		230,000
	Azud	1	2,400	1,000	0,200		0,480
	Obra de Toma Azud	1	7,830		0,400		3,132
	Obra Aforador	1	1,790		0,200		0,358

10.104,14

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R01RE400	m³ Asiento y Relleno Material Granular 6/12 MM							R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación						
	CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTICULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.								MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.						
	DESAGÜE D80								DESAGÜE D80						
	Tubería Llenado	1	185,150			185,150			Dique humedal	1	420,000	2,000	1,000	840,000	
	Tubería Salida	1	10,000			10,000			Bermas humedales	2	65,000	1,500	0,600	117,000	
	DESAGÜE D80-1								DESAGÜE D80-1						
	Tubería Llenado	1	46,960			46,960			Dique humedal	1	273,000	2,000	1,000	546,000	
	Tubería Salida	1	10,000			10,000			Bermas humedales	1	65,000	1,500	0,600	58,500	
	DESAGÜE D78 y D78-2								DESAGÜE D78 y D78-2						
	Tubería Llenado	1	179,280			179,280			Dique humedal	1	425,000	2,000	1,000	850,000	
	Tubería Salida	1	10,000			10,000			Bermas humedales	1	450,000	1,500	0,600	405,000	
							441,39								
R01RE010	m³ Relleno Ordinario de Tierras Compactado 85% PN							R01DM020	m² Desbroce y Limpieza Terreno Agrícola						
	RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.								DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 20 CM, INCLUIDO LA EXCAVACIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 3 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.						
	DESAGÜE D80								HUMEDAL D-80	1	31.780,000			31.780,000	
	Tubería Llenado	1	4.870,180			4.870,180			HUMEDAL D-80-1	1	28.000,000			28.000,000	
	Tubería Salida	1	50,000			50,000			DESAGÜE D78 y D78-2	1	67.910,000			67.910,000	
	DESAGÜE D80-1														
	Tubería Llenado	1	909,040			909,040									
	Tubería Salida	1	50,000			50,000									
	DESAGÜE D78 y D78-2														
	Tubería Llenado	1	1.113,210			1.113,210									
	Tubería Salida	1	50,000			50,000									
							7.042,43								127.690,00
R01DM040	m² Desbroce Y Limpieza Todo Tipo De Terreno Con Transporte							ESCMALLA	m³ Gavión Enmallado de Cantos Rodados						
	DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 30 CM, INCLUIDO LA EXCAVACIÓN, INCLUSO DEFORESTACIÓN Y TALA DE ARBUSTOS Y DE ÁRBOLES DE CUALQUIER TIPO Y DIMENSIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.								GAVIÓN ENMALLADO DE CANTOS RODADOS SELECCIONADOS DE PRÉSTAMO, DE 30 A 60 CM DE DIÁMETRO						
	DESAGÜE D80								DESAGÜE D80						
	Azud	1	2,400	1,000	0,200	0,480			Azud	1	2,400	1,000	0,200	0,480	
	Obra de Toma Azud	1	7,830		0,400	3,132			DESAGÜE D80-1						
	Obra Aforador	1	1,790		0,200	0,358			Azud	1	2,400	1,000	0,200	0,480	
	DESAGÜE D80-1								DESAGÜE D78 y D78-2						
	Azud	1	2,400	1,000	0,200	0,480			Azud	1	2,400	1,000	0,200	0,480	
	Obra de Toma Azud	1	7,830		0,400	3,132									
	Obra Aforador	1	1,790		0,200	0,358									
	DESAGÜE D78 y D78-2														
	Azud	1	2,400	1,000	0,200	0,480									
	Obra de Toma Azud	1	7,830		0,400	3,132									
	Obra Aforador	1	1,790		0,200	0,358									
							11,91								1,44

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
R01DM090	m³ Embaste de Terrenos CR Superior a 10 cm NIVELACIÓN DEL TERRENO CON UNA DISTANCIA MEDIA DE 150 METROS DE TRANSPORTE A CADA UNO DE LOS BANCALES, INCLUIDA LA CARGA, EL TRANSPORTE DE LA CARGA, DESCARGA Y TRANPORTE EN VACIO, INCLUSO EL TRANSPORTE A VERTEDERO A UNA DISTANCIA INFERIOR A 10 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS.							R07HO025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO							
	HUMEDAL D-80	1	10.801,567			10.801,567			Obra de Toma Azud							
		1	9.328,840			9.328,840			Humedal Desagüe D-80	1	4,370		0,500		2,185	
	HUMEDAL D-80-1	1	8.681,699			8.681,699				1	6,812	0,300	0,800		1,635	
		1	8.462,138			8.462,138				1	1,000	0,200	0,800		0,160	
	DESAGÜE D78 y D78-2	1	15.649,613			15.649,613			Humedal Desagüe D-80-1							
		1	12.377,621			12.377,621				1	4,370		0,500		2,185	
							65.301,48			1	6,812	0,300	0,800		1,635	
										1	1,000	0,200	0,800		0,160	
APARTADO 17.03.02 TUBERÍAS																
R07PC040-90	m Tubo Hormigón Armado Tipo C-90 DN 400 TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 400 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.								Humedal Desagüe D-78							
	HUMEDAL D-80	1	664,000			664,000				1	5,292		0,500		2,646	
	HUMEDAL D-80-1	1	225,000			225,000				1	7,637	0,300	0,800		1,833	
	DESAGÜE D78 y D78-2	1	615,000			615,000				1	1,000	0,200	0,800		0,160	
		1	54,000			54,000			Humedal Desagüe D-78-1							
							1.558,00			1	5,292		0,500		2,646	
										1	7,637	0,300	0,800		1,833	
										1	1,000	0,200	0,800		0,160	
									Obra Aforador							
									Humedal Desagüe D-80							
										1	1,790		0,150		0,269	
										1	6,530	0,150	0,600		0,588	
									Humedal Desagüe D-80-1							
										1	2,640		0,150		0,396	
										1	7,890	0,150	0,150		0,178	
									Humedal Desagüe D-78 y D-78-1							
										1	1,790		0,150		0,269	
										1	6,530	0,150	0,600		0,588	
															19,53	
APARTADO 17.03.03 OBRA CIVIL																
R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO															
	Obra de Toma Azud															
	Humedal Desagüe D-80	1	6,700		0,200	1,340										
	Humedal Desagüe D-80-1	1	6,700		0,200	1,340										
	Humedal Desagüe D-78	1	7,830		0,200	1,566										
	Humedal Desagüe D-78-1	1	7,830		0,200	1,566										
	Obra Aforador															
	Humedal Desagüe D-80	1	1,790		0,100	0,179										
	Humedal Desagüe D-80-1	1	2,640		0,100	0,264										
	Humedal Desagüe D-78 y D-78-1	1	1,790		0,100	0,179										
							6,43									

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
R07EN050	m² Encofrado/Desencofrado metálico para hormigón oculto ENCOFRADO Y DESENCOFRADO RECTO PARA DEJAR HORMIGÓN OCULTO, MEDIANTE LA UTILIZACIÓN DE PANELES METÁLICOS A UNA CARA, INCLUSO ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS. Obra de Toma Azud Humedal Desagüe D-80	1	10,820		0,500	5,410		INNOURBAS-POZ2	Ud Base De Pozo Giro o Derivación, HA-25 In Situ 1,00x1,00 BASE DE POZO DE REGISTRO, EN HA-25 DE 100 X100 CM INTERIOR, ALTURA HASTA 2,00 M, CON TAPA DE REDUCCIÓN, REALIZADA "IN SITU" INCLUSO HORMIGÓN DE LIMPIEZA Y RECIBIDO DE TUBERÍA Y CANAL INTERIOR EN EL DIÁMETRO DE LA CONDUCCIÓN, INCLUSO EN GIROS Y SALTOS. DESAGÜE D80 Tubería Llenado Tubería Salida DESAGÜE D80-1 Tubería Llenado Tubería Salida DESAGÜE D78 y D78-2 Tubería Llenado Tubería Salida	4				4,000	
	Humedal Desagüe D-80-1	1	11,473		0,800	9,178									
		1	4,150		0,800	3,320									
	Humedal Desagüe D-78	1	10,820		0,500	5,410									
		1	11,473		0,800	9,178									
		1	4,150		0,800	3,320									
	Humedal Desagüe D-78	1	11,840		0,500	5,920		INNOURCON-POZ	Ud Cono Asimétrico Prefabricado de Hormigón CONO ASIMÉTRICO PREFABRICADO DE HORMIGÓN, DE 150 CM. DE DIÁMETRO INFERIOR, 62,50 CM. DE DIÁMETRO SUPERIOR, ALTURA 60 CM., INCLUSO MEDIOS AUXILIARES Y COLOCACIÓN. DESAGÜE D80 Tubería Llenado Tubería Salida DESAGÜE D80-1 Tubería Llenado Tubería Salida DESAGÜE D78 y D78-2 Tubería Llenado Tubería Salida	4				4,000	
		1	12,300		0,800	9,840									
		1	4,975		0,800	3,980									
	Humedal Desagüe D-78-1	1	11,840		0,500	5,920									
		1	12,300		0,800	9,840									
		1	4,975		0,800	3,980									
	Obra Aforador Humedal Desagüe D-80	1	7,100		0,150	1,065									
		1	12,760		0,600	7,656									
	Humedal Desagüe D-80-1	1	8,590		0,150	1,289									
		1	15,480		0,600	9,288									
	Humedal Desagüe D-78 y D-78-1	1	7,100		0,150	1,065									
		1	12,760		0,600	7,656									
							103,32								
R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC., SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO. Obra de Toma Azud (75 kg/m3) Humedal Desagüe D-80 Humedal Desagüe D-80-1 Humedal Desagüe D-78 Humedal Desagüe D-78-1 Obra Aforador Humedal Desagüe D-80 Humedal Desagüe D-80-1 Humedal Desagüe D-78 y D-78-1	1	3,980	75,000		298,500		INNOURTAP-POZ	Ud Marco y Tapa de Fundición MARCO Y TAPA DE FUNDICIÓN DE 62,50 CM. DE DIÁMETRO, INCLUSO MEDIOS AUXILIARES Y COLOCACIÓN. DESAGÜE D80 Tubería Llenado Tubería Salida DESAGÜE D80-1 Tubería Llenado Tubería Salida DESAGÜE D78 y D78-2 Tubería Llenado Tubería Salida	4				4,000	
		1	3,980	75,000		298,500									
		1	4,639	75,000		347,925									
		1	4,639	75,000		347,925									
		1	0,857	75,000		64,275									
		1	0,574	75,000		43,050									
		1	0,857	75,000		64,275									
							1.464,45								

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
ARQ1X1M	Ud Arqueta Control de Nivel in situ 1,00x1,00 ARQUETA DE HORMIGÓN PARA CONTROL DE NIVEL IN SITU DE DIMENSIONES INTERIORES DE 1,00 M. DE ANCHO, 1,00 M. DE LARGO. REALIZADA CON HORMIGÓN HA-25. INCLUSO REJUNTADO CON MORTERO SIN RETRACCIÓN EN LA UNIÓN TANTO EN LAS TAJADERAS COMO EN LA CONEXIÓN CON EL TUBO, INCLUIDA COMPUERTA REGULABLE EN ALTURA DE ACERO. MEDIDA LA UNIDAD EJECUTADA							APARTADO 17.03.04 ELEMENTOS ELECTROMECÁNICOS							
	DESAGÜE D-80	2				2,000		TAJ-50X50	Ud Tajadera Simple 0,50 x 0,50 m, Cierre 3 Juntas TAJADERA METÁLICA CON ACCIONAMIENTO MANUAL MEDIANTE VOLANTE CON REDUCTOR SITUADO EN EL BASTIDOR SUPERIOR, CON HUSILLO SIMPLE DE TIPO ASCENDETE Y ROSCA TRAPEZIAL, PASO ESTANDARIZADO, REALIZADO EN ACERO AISI 304 DE DIAMETRO 40 MM O SUPERIOR (ACORDE A LA PRESIÓN Y FRICCIÓN DE LA COMPUERTA). TABLERO DE COMPUERTA DE UNAS DIMENSIONES DE 0,4X0.8(H) M REALIZADO EN ACERO AL CARBONO S-275-JR, ESTRUCTURA DEL BASTIDOR REALIZADO CON PERFILES CONFORMADOS MEDIANTE PLEGADO Y REFUERZOS EN ACERO S-275-JR, CON PUENTE SUPERIOR DE APOYO DEL VOLANTE DESMONTABLE PARA EXTRACCIÓN DE HOJA DE COMPUERTA, Y BASTIDOR CON UNA ALTURA SUFICIENTE PARA ASEGURAR UNA ALTURA DEL VOLANTE DE 1,2M SOBRE EL TERRENO O CORONACIÓN DEL CAJERO EXTERIOR DE LA ACEQUIA. CIERRE HERMETICO A 3 JUNTAS UNIDIRECCIONAL MEDIANTE JUNTAS DE GOMA DE EPDM O NEOPRENO, CON FORMA Y TIPOLOGÍA ACORDE A LA FORMA DE LA HOJA Y BASTIDOR. INSTALACIÓN DE GUÍAS DESLIZANTES EN PUNTOS DE UNIÓN VERTICAL ENTRE BASTIDOR Y TABLERO REALIZADAS MEDIANTE PIEZAS DE POLIETILENO O NYLON, CON UNIÓN FACILMENTE SUSTITUIBLE. TORNILLERÍA EN ACERO INOXIDABLE CALIDAD 8.8 O SUPERIOR. TODAS LAS PIEZAS REALIZADAS EN ACERO S-275 DISPONDRÁN DE TRATAMIENTO MEDIANTE GRANALLADO, DESENGRASADO DE SUPERFICIES, RECUBRIMIENTO DE PINTURA EPOXI RICA EN ZINC (50 MICRAS), RECUBRIMIENTO DE EPOXI POLIAMIDA DE 100 MICRAS Y RECUBRIMIENTO DE PINTURA DE POLIURETANO ALIFATICO DE 50 MICRAS. INCLUSO PLATAFORMA PARA ACCIONAMIENTO, ELEMENTOS DE ANCLAJE Y PEQUEÑO MATERIAL PARA OBRA CIVIL Y DE ACONDICIONAMIENTO DE BANDA NECESARIA PARA TRÁNSITO DE MAQUINARIA EN EJECUCIÓN DE LOS TRABAJOS. COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA Y PROBADA.						
	DESAGÜE D-80-1	3				3,000			En azud:						
	DESAGÜE D78 y D78-2	1				1,000			HUMEDAL D-80	1				1,000	
							6,00		HUMEDAL D-80-1	1				1,000	
ARQ1X1N	Ud Arqueta Control de Nitratos in situ 1,00x1,00 ARQUETA DE HORMIGÓN PARA CONTROL DE NIVEL IN SITU DE DIMENSIONES INTERIORES DE 1,00 M. DE ANCHO, 1,00 M. DE LARGO. REALIZADA CON HORMIGÓN HA-30. INCLUSO REJUNTADO CON MORTERO SIN RETRACCIÓN EN LA UNIÓN TANTO EN LAS TAJADERAS COMO EN LA CONEXIÓN CON EL TUBO. MEDIDA LA UNIDAD EJECUTADA								DESAGÜE D78 y D78-2	1				1,000	
	Analizador														3,00
	DESAGÜE D-80	1				1,000									
	DESAGÜE D-80-1	1				1,000									
	DESAGÜE D78 y D78-2	1				1,000									
							3,00								
TRAMEX	m² Rejilla Tipo TrameX De 30x30 mm Colocada CELOSÍA METÁLICA "TRAMEX", FORMADA POR MALLA DE ACERO 30X30 MM. Y PLETINA 40.3, Y BASTIDOR CON UNIONES ELECTROSOLDADAS, SOLDADURA Y AJUSTE A OTROS ELEMENTOS, ESTRUCTURA AUXILIAR DE APOYO Y ANCLAJE.														
	Obra Aforador														
	HUMEDAL D-80	1	0,810			0,810		TAJ-50X80	Ud Tajadera Simple 0,50 x 0,80 m, Cierre 3 Juntas TAJADERA METÁLICA CON ACCIONAMIENTO MANUAL MEDIANTE VOLANTE CON REDUCTOR SITUADO EN EL BASTIDOR SUPERIOR, CON HUSILLO SIMPLE DE TIPO ASCENDETE Y ROSCA TRAPEZIAL, PASO ESTANDARIZADO, REALIZADO EN ACERO AISI 304 DE DIAMETRO 40 MM O SUPERIOR (ACORDE A LA PRESIÓN Y FRICCIÓN DE LA COMPUERTA). TABLERO DE COMPUERTA DE UNAS DIMENSIONES DE 0,6X0.8(H) M REALIZADO EN ACERO AL CARBONO S-275-JR, ESTRUCTURA DEL BASTIDOR REALIZADO CON PERFILES CONFORMADOS MEDIANTE PLEGADO Y REFUERZOS EN ACERO S-275-JR, CON PUENTE SUPERIOR DE APOYO DEL VOLANTE DESMONTABLE PARA EXTRACCIÓN DE HOJA DE COMPUERTA, Y BASTIDOR CON UNA ALTURA SUFICIENTE PARA ASEGURAR UNA ALTURA DEL VOLANTE DE 1,2M SOBRE EL TERRENO O CORONACIÓN DEL CAJERO EXTERIOR DE LA ACEQUIA. CIERRE HERMETICO A 3 JUNTAS UNIDIRECCIONAL MEDIANTE JUNTAS DE GOMA DE EPDM O NEOPRENO, CON FORMA Y TIPOLOGÍA ACORDE A LA FORMA DE LA HOJA Y BASTIDOR. INSTALACIÓN DE GUÍAS DESLIZANTES EN PUNTOS DE UNIÓN VERTICAL ENTRE BASTIDOR Y TABLERO REALIZADAS MEDIANTE PIEZAS DE POLIETILENO O NYLON, CON UNIÓN FACILMENTE SUSTITUIBLE. TORNILLERÍA EN ACERO INOXIDABLE CALIDAD 8.8 O SUPERIOR. TODAS LAS PIEZAS REALIZADAS EN ACERO S-275 DISPONDRÁN DE TRATAMIENTO MEDIANTE GRANALLADO, DESENGRASADO DE SUPERFICIES, RECUBRIMIENTO DE PINTURA EPOXI RICA EN ZINC (50 MICRAS), RECUBRIMIENTO DE EPOXI POLIAMIDA DE 100 MICRAS Y RECUBRIMIENTO DE PINTURA DE POLIURETANO ALIFATICO DE 50 MICRAS. INCLUSO PLATAFORMA PARA ACCIONAMIENTO, ELEMENTOS DE ANCLAJE Y PEQUEÑO MATERIAL PARA OBRA CIVIL Y DE ACONDICIONAMIENTO DE BANDA NECESARIA PARA TRÁNSITO DE MAQUINARIA EN EJECUCIÓN DE LOS TRABAJOS. COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA Y PROBADA.						
	HUMEDAL D-80-1	1	1,500			1,500			En azud:						
	DESAGÜE D78 y D78-2	1	1,500			1,500			HUMEDAL D-80	1				1,000	
							3,81		HUMEDAL D-80-1	1				1,000	
									DESAGÜE D78 y D78-2	1				1,000	
															3,00
AFOR6	Ud Canal Parshall 6" CANAL PARSAHLL 6" PREFABRICADO CONSTRUIDO EN ACERO INOXIDABLE AISI- 304, PARA DE CAUDALES: QMIN: 5,70 M3/H - QMAX: 390 M3/H, EQUIPADO CON BASTIDOR PARA INSTALAR SENSOR ULTRASÓNICO EN EL PUNTO ADECUADO. CON REGLETA DE INDICACIÓN VISUAL CAUDAL/ALTURA.														
	DESAGÜE D-80	1				1,000									
							1,00								
AFOR9	Ud Canal Parshall 9" CANAL PARSAHLL 9 "PREFABRICADO CONSTRUIDO EN ACERO INOXIDABLE AISI- 304, PARA DE CAUDALES: QMIN: 8,60 M3/H - QMAX: 720 M3/H, EQUIPADO CON BASTIDOR PARA INSTALAR SENSOR ULTRASÓNICO EN EL PUNTO ADECUADO. CON REGLETA DE INDICACIÓN VISUAL CAUDAL/ALTURA.														
	DESAGÜE D-80-1	1				1,000			En azud:						
	DESAGÜE D78 y D78-2	1				1,000			HUMEDAL D-80	1				1,000	
							2,00		HUMEDAL D-80-1	1				1,000	
									DESAGÜE D78 y D78-2	1				1,000	
															3,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
CONTNIT	<p>Ud Sistema Analizador de Retornos de Riego y Control de Caudales</p> <p>SISTEMA ANALIZADOR DE RETORNOS DE RIEGO Y CONTROL DE CAUDALES, CONSISTENTE EN:</p> <ul style="list-style-type: none"> - CONTROLADOR INTELIGENTE CON MENÚS ESTRUCTURADOS DE OPERACIÓN DEL SENSOR, CONTROLADOR DE CC: 24 V CC + 15 % - 20 %; 2,5 A (CARGA MÁX. DE SENSORES 20 W), TENSIÓN MÁXIMA DE CONMUTACIÓN: 30 V CA O 42 V CC, CORRIENTE MÁXIMA DE CONMUTACIÓN: 4 A RESISTIVA/1 A INDUCTIVA, POTENCIA MÁXIMA DE CONMUTACIÓN: 125 W RESISTIVA/28 W INDUCTIVA, CINCO SALIDAS ANALÓGICAS DE 0 - 20 MA O 4 - 20 MA EN CADA MÓDULO ANALÓGICO DE SALIDAS, CONECTIVIDAD DE RED (LAN: DOS CONECTORES ETHERNET (10/100 MBPS), MÓVIL: 4G EXTERNO Y WI-FI), PUERTO USB Y COMPATIBLE CON TECNOLOGÍAS RED GSM 3G/4G - SONDA DE INMERSIÓN CONSISTE EN UN FOTÓMETRO DE ABSORBANCIA ULTRAVIOLETA DE DOBLE HAZ CON COMPENSACIÓN EFECTIVA DE TURBIDEZ, MEDIDA POR ABSORCIÓN UV, SIN REACTIVOS, CON RANGO DE MEDIDA CON SOLUCIONES ESTÁNDAR NO3-N: 0,1-100,0 MG/L NO2+3-N (1 MM), 0,1-50,0 MG/L NO2+3-N (2 MM), 0,1-25,0 MG/L NO2+3-N (5 MM), CON TOLERANCIA DE MEDIDA 3 % DEL VALOR MEDIDO (0,5 MG/L), CON ALIMENTACIÓN 24 V AC/DC ± 25 %, 800 MA - SET DE MONTAJE EN ACERO INOX. PARA SONDA CON ESCUADRA 10 CM A PARED, PERTIGA 2 M. Y ACOPLAMIENTO DE SONDA A 90 -MEDIDOR DE NIVEL ULTRASONICO COMPACTO DE CORTO ALCANCE. 								En azul:						
	HUMEDAL D-80	1					1,000		HUMEDAL D-80	1					1,000
	HUMEDAL D-80-1	1					1,000		HUMEDAL D-80-1	1					1,000
	DESAGÜE D78 y D78-2	1					1,000		DESAGÜE D78 y D78-2	1					1,000
															3,00
SUBCAPÍTULO 17.04 FORMACION															
APARTADO 17.04.01 Curso General "Mejora de la eficiencia del regadío"															
	C_G_PREPA-RACI	ud							Preparación de la documentación						
									PREPARACIÓN DEL CURSO. NO INCLUYE MATERIAL DIVULGATIVO ELABORACIÓN DE CONTENIDO PARA SEÑAL TIPO CN-00 SEGÚN EL MANUAL DE SEÑALIZACIÓN DE CAMINOS NATURALES.						
									Curso	1					1,000
															1,00
	C_G_IMPARTI-CI	ud							Curso general en BPA						
									INCLUYE LA IMPARTICIÓN DEL PROPIO CURSO Y EL DESPLAZAMIENTO						
									Curso	1					1,000
															1,00
APARTADO 17.04.02 Curso Específico "Asesoramiento de Riego"															
	C_H_PREPA-RACI	ud							Preparación de la documentación						
									PREPARACIÓN DEL CURSO. NO INCLUYE MATERIAL DIVULGATIVO						
									Curso	1					1,000
															1,00
	C_H_IMPARTI-CI	ud							Curso monitorización de calidad del agua entrante						
									INCLUYE LA IMPARTICIÓN DEL PROPIO CURSO Y EL DESPLAZAMIENTO						
									Curso	1					1,000
															1,00
SISFV	<p>Ud Sist. Autónomo de alimentación</p> <p>ALIMENTACIÓN ELÉCTRICA MEDIANTE INSTALACIÓN SOLAR FOTOVOLTAICA FORMADA POR:</p> <ul style="list-style-type: none"> - CONJUNTO DE 12 VASOS LIBRES DE MANTENIMIENTO, DE 2V CADA UNO Y 200AH - REGULADOR DE CARGA 12/24V 20A. - PANEL SOLAR DE APROX. (SEGÚN DISPONIBILIDAD COMERCIAL) 24V 120W CON DETECCIÓN DE INTRUSIÓN SOBRE MÁSTIL EXISTENTE EN SOPORTE ORIENTABLE, COLOCADO SOBRE ZAPATA Y ESPERAS EXISTENTES INSERTADAS EN OBRA CIVIL. - MÁSTIL TUBULAR/TROCOCÓNICO DE 8M DE ALTURA Y 4MM DE PARED CON VENTANA DE CONEXIONADO, SOBRE ZAPATA Y ESPERAS EXISTENTES INSERTADAS EN OBRA CIVIL. - CABLE TIPO RVK 4X4 POR TUBO - ARQUETA PARA ALOJAMIENTO DE LAS BATERIAS REGULADOR, CONSISTENTE EN CASETA PREFABRICADA DE HORMIGÓN CON BASE INTEGRADA O PRESOLERA DE HORMIGÓN HM-20, CON UNAS DIMENSIONES INTERIORES ÚTILES DE 2,00X1,00X1,900, CON APERTURA EN EJE VERTICAL DE DOBLE HOJA, PUERTAS EN GALVANIZADO 1,5 MM, NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA EN PUERTAS, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE. INCLUIDO SOPORTES, Y CANDADO, INCLUIDOS TODOS LOS MEDIOS AUXILIARES PARA SU COLOCACIÓN Y CIMENTACIÓN PARA MASTIL CONSISTENTE EN HORMIGÓN EN MASA DE 0,8X0,8X1,2M Y 4 PERNOS DE 16 MM DE DIAMETRO DE ACERO B-500S. INCLUIDOS TUBO DE PE CORRUGADO CON GUÍA PARA CABLEADO A LOS ELEMENTOS (VALVULAS Y CAUDALIMETROS, DOS TUBOS POR ELEMNTO), Y EL DESBROCE O PREPARACIÓN DE TERRENO PARA LA PRESOLERA. TOTALMENTE INSTALADO, CONEXIONADO, CONECTADO Y EN FUNCIONAMIENTO. INCLUYENDO EL ALQUILER DE VEHÍCULOS Y/O MEDIOS NECESARIOS PARA EL TRANSPORTE Y LEVANTAMIENTO DE MÁSTIL JUNTO CON PANEL SOLAR Y OTROS ELEMENTOS SOBRE ÉSTOS. 														
	HUMEDAL D-80	1					1,000								
	HUMEDAL D-80-1	1					1,000								
	DESAGÜE D78 y D78-2	1					1,000								
															3,00
RTOMA1000	<p>Ud Reja de Desbaste para Toma 1,0 m</p> <p>REJA DE DESBASTE PARA TOMA DE 1,00M, SOBRE GUÍAS PARA FACILITAR SU LIMPIEZA Y MANTENIMIENTO. EN ACERO INOXIDABLE AISI-316, CON LUZ DE PASO MÁXIMA DE 50 CON REFUERZOS CADA 150 MM Y ALTURA MÍNIMA DE 1,5 M. INCLUYE PLETINAS, TORNILLERÍA Y PP. DE PEQUEÑO MATERIAL PARA ANCLAJE A HORMIGÓN Y CON LÁMINA PLÁSTICA. MEDIDA LA UNIDAD TOTALMENTE MONTADA Y PROBADA.</p>														

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	
APARTADO 17.04.03 Curso Especifico "Estaciones Control de Retornos de Riego"								E28RA100	Ud Semi mascara antipolvo 1filtro SEMI-MASCARILLA ANTIPOLVO UN FILTRO, (AMORTIZABLE EN 3 USOS). CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.							
CR_SUP_PRE-PAR	ud Preparación de la documentación PREPARACIÓN DEL CURSO. NO INCLUYE MATERIAL DIVULGATIVO															
	Curso	1				1,000			Nº trabajadores	2	22,000			44,000		
									Extra	10				10,000		
							1,00								54,00	
CR_SUP_IM-PART	ud Curso monitorización calidad de los retornos superficiales INCLUYE LA IMPARTICIÓN DEL PROPIO CURSO Y EL DESPLAZAMIENTO							PP10PA	Ud Protectores auditivos. UD. PROTECTORES AUDITIVOS. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.							
	Curso	1				1,000			Nº trabajadores	2	22,000			44,000		
									Extra	10				10,000		
							1,00								54,00	
APARTADO 17.04.04 Curso Especifico "Implementación medidas y Buenas Prácticas"								PP30MSS	Ud Mandil soldador serraje UD. MANDIL DE SERRAJE PARA SOLDADOR GRADO A, 60X90 CM. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.							
C_VF_PREPA-RAC	ud Preparación de la documentación PREPARACIÓN DEL CURSO. NO INCLUYE MATERIAL DIVULGATIVO								Nº trabajadores (especialista soldador)	6				6,000		
	Curso	1				1,000			Extra eventuales	2				2,000		
							1,00								8,00	
C_VF_IMPAR-TIC	ud Curso de BPA para el sostenimiento de los agrosistemas y su país INCLUYE LA IMPARTICIÓN DEL PROPIO CURSO Y EL DESPLAZAMIENTO							PP50PMSH	Ud Par manguitos soldador h. UD. PAR DE MANGUITOS PARA SOLDADOR AL HOMBRO SERRAJE GRADO A, HOMOLOGADO CE.							
	Curso	1				1,000			Nº trabajadores (especialista soldador)	6				6,000		
									Extra eventuales	2				2,000		
							1,00								8,00	
CAPÍTULO 18 SEGURIDAD Y SALUD																
SUBCAPÍTULO 18.01 PROTECCIONES INDIVIDUALES								PP60PPS	Ud Par polainas soldador UD. PAR DE POLAINAS PARA SOLDADOR SERRAJE GRAD A, HOMOLOGADAS CE.							
PP10GCI	Ud Gafas contra impactos. UD. GAFAS CONTRA IMPACTOS ANTIRAYADURA. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.								Nº trabajadores (especialista soldador)	6				6,000		
									Extra eventuales	2				2,000		
							48,00								8,00	
PP10GA	Ud Gafas antipolvo. UD. GAFAS ANTIPOLVO TIPO VISITANTE INCOLORA, ANTIEMPAÑABES. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.							PP50PGS34C	Ud Par guantes soldador 34 cm UD. PAR DE GUANTES PARA SOLDADOR SERRAJE FORRADO IGNÍFUGO, LARGO 34 CM., HOMOLOGADO CE.							
									Nº trabajadores (especialista soldador)	6				6,000		
									Extra eventuales	2				2,000		
							48,00								8,00	
PP10GPL	Ud Gafas panorámicas líquidos UD. GAFAS PANORÁMICAS CONTRA LÍQUIDOS CON VÁLVULAS ANTIEMPAÑANTES. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.							PP10SPS	Ud Pant.segurid. para soldadura. UD. PANTALLA DE SEGURIDAD PARA SOLDADURA. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.							
									Nº trabajadores (especialista soldador)	6				6,000		
									Extra eventuales	2				2,000		
							26,00								8,00	
								PP50PGLA	Ud Par guantes latex anticor. UD. PAR DE GUANTES DE LATEX RUGOSO ANTICORTE. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.							
									Nº trabajadores	24	22,000			528,000		
									Extra eventuales	6				6,000		
															534,00	

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
PP50PGN	Ud Par guantes nitrilo 100% UD. PAR DE GUANTES DE NITRILLO ALTA-RESISTENCIA. 100% AZULTES. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.								Nº trabajadores Extra	2 12	22,000			44,000 12,000	56,00
	Nº trabajadores Extra eventuales	24 6	22,000			528,000 6,000	534,00	PP30ASCA	Ud Cinturon seguridad clase a. UD. CINTURÓN DE SEGURIDAD CLASE A (SUJECCIÓN), CON CUERDA REGULABLE DE 1,8 M. CON GUARDA CABOS Y 2 MOSQUETONES. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.	1	22,000			22,000	22,00
PP60PBSPS	Ud Par botas segur.punt.serr. UD. PAR DE BOTAS DE SEGURIDAD S2 SERRAJE/LONA CON PUNTERA Y METÁLICAS. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.							PP30ASCC	Ud Arnes de seguridad clase c UD. ARNÉS DE SEGURIDAD CLASE C (PARACAIDAS), CON CUERDA DE 1 M. Y DOS MOSQUETONES, EN BOLSA DE TRANSPORTE. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.	1	22,000			22,000	22,00
	Nº trabajadores Extra	1 5	22,000			22,000 5,000	27,00		Nº trabajadores	1	22,000			22,000	22,00
PP60PBSPS	Ud Par botas segur.punt.piel UD. PAR DE BOTAS DE SEGURIDAD S3 PIEL NEGRA CON PUNTERA Y PLANTILLA METÁLICA. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.							PP30ADC	Ud Anticaidas deslizante cuerdas UD. ANTICAIDAS DESLIZANTE PARA CUERDA DE 14 MM, C/MOSQUETÓN. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.	1	22,000			22,000	22,00
	Nº trabajadores	1	22,000			22,000	22,00		Nº trabajadores	1	22,000			22,000	22,00
PP60PBPA	Ud Par botas aislantes. UD. PAR DE BOTAS AISLANTES PARA ELECTRICISTA HASTA 5.000 V. DE TENSIÓN. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.							PP30AF	Ud Aparato freno. UD. APARATO DE FRENO DE PARACAIDAS. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.	1	22,000			22,000	22,00
	Nº trabajadores (especialista electricista)	6				6,000	6,00		Nº trabajadores	1	22,000			22,000	22,00
PP60PBAM	Ud Par de botas de agua. Monocolor UD. PAR DE BOTAS DE AGUA MONOCOLOR. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.							PP30C14P	m Cuerda d=14mm poliamida CUERDA REALIZADA EN POLIAMIDA DE ALTA TENACIDAD DE D=14 MM. INCLUSO BARRA ARGOLLAS EN EXTREMO DE POLIMIDAS REVESTIDAS DE PVC. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.						
	Nº trabajadores Extra	22 5				22,000 5,000	27,00			200				200,000	200,00
PP10CS	Ud Casco de seguridad. UD. CASCO DE SEGURIDAD CON DESUDADOR. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.							PP30CPH	Ud Cinturon portaherramientas. UD. CINTURÓN PORTAHERRAMIENTAS. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.	1	22,000			22,000	22,00
	Nº trabajadores Extra	2 10	22,000			44,000 10,000	54,00		Nº trabajadores	1	22,000			22,000	22,00
PP30MONO-TRA	Ud Mono de trabajo. UD. MONO DE TRABAJO. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.							PP30CAP	Ud Cuerda amarre poliamida 1m UD. CUERDA DE AMARRE DE LONGITUD 1,00 MT. REALIZADO EN POLIAMIDA DE ALTA TENACIDAD DE 14 MM DE DIÁMETRO, V ARGOLLAS EN EXTREMOS DE POLIMIDA REVESTIDAS DE PVC. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.	1	22,000			22,000	22,00
	Nº trabajadores Extra eventuales	2 4	22,000			44,000 4,000	48,00		Nº trabajadores	1	22,000			22,000	22,00
PP30IMPERM	Ud Impermeable. UD. IMPERMEABLE DE TRABAJO. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.							SYS02	Ud Faja de protección lumbar FAJA DE PROTECCIÓN LUMBAR CON AMPLIO SOPORTE ABDOMINAL Y SUJECCIÓN REGULABLE MEDIANTE VELCRO, AMORTIZABLE EN 4 USOS	3				3,000	3,00
	Nº trabajadores	1	22,000			22,000	22,00								
PP30PRBA	Ud Peto reflectante but./amar. UD. PETO REFLECTANTE DE SEGURIDAD PERSONAL EN COLORES AMARILLO Y ROJO. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.														

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
SYS05	Ud Caja de 50 mascarillas quirúrgicas de un solo uso CAJA DE 50 MASCARILLAS QUIRÚRGICAS DE UN SOLO USO, TIPO I, DE 17,5X9,5 CM, FORMADAS POR TRES CAPAS, LAS CAPAS INTERIOR Y EXTERIOR DE POLIÉSTER Y LA CAPA INTERMEDIA DE POLIPROPILENO, CON PUENTE NASAL DE ALUMINIO PARA MEJORAR EL AJUSTE AL CONTORNO DE LA NARIZ Y CINTAS ELÁSTICAS PARA SUJECIÓN DE LA MASCARILLA A LA CABEZA.	4				4,000	4,00	SE10CIRSS	Ud Cartel indicat.riesgo sin soporte UD. CARTEL INDICATIVO DE RIESGO DE 0,30X0,30 M., SIN SOPORTE METÁLICO, INCLUSO COLOCACIÓN Y DESMONTADO. S/R.D. 485/97. Nº Señales riesgo	32				32,000	32,00
SYS07	Ud Juego de orejeras con atenuación acústica de 15 dB JUEGO DE OREJERAS, ESTÁNDAR, COMPUESTO POR UN CASQUETE DISEÑADO PARA PRODUCIR PRESIÓN SOBRE LA CABEZA MEDIANTE UN ARNÉS Y AJUSTE CON ALMOHADILLADO CENTRAL, CON ATENUACIÓN ACÚSTICA DE 15 DB.	3				3,000	3,00	SE10BOYA	Ud Boya intermitente con célula BOYA INTERMITENTE CON CÉLULA FOTOELÉCTRICA PARA SEÑALIZACIÓN NOCTURNA. COLOCADA. S/R.D. 485/97. Nº puntos con riesgo especial	1	32,000			32,000	32,00
SYS08	UD Muñequeras Antivibratorias JUEGOS DE MUÑEQUERAS ANTIVIBRATORIAS	3				3,000	3,00	SE20VCP	Ud Valla contencion peatones. UD. VALLA AUTÓNOMA METÁLICA DE 2,5 M. DE LONGITUD PARA CONTENCIÓN DE PEATONES NORMALIZADA, INCLUSO COLOCACIÓN Y DESMONTAJE. (20 USOS). S/R.D. 485/97.	254				254,000	254,00
SYS28	Ud Crema solar BOTE DE 1 L O SUPERIOR CAPACIDAD DE CREMA SOLAR DE PROTECCIÓN FACTOR 50. PARA PROTECCIÓN FRENTE A LOS RAYOS SOLARES. cantidad	2				2,000	2,00	SE20CB	m Cinta de balizamiento r/b. ML. CINTA CORRIDA DE BALIZAMIENTO PLÁSTICA PINTADA A DOS COLORES ROJA Y BLANCA, INCLUSO COLOCACIÓN Y DESMONTADO. S/R.D. 485/97. ZANJAS (a un lado) Obra de toma Admisión BPC En Impulsión BP1 En impulsión BP2 En impulsión BP3 En Red Piso Natural En Red Piso 1 En Red Piso 2 En Red Piso 3	2 1,5 1,5 1,5 1,5 1,5 1,5 1,5	30,000 278,000 3.892,000 2.098,000 3.892,000 19.464,300 34.104,630 26.556,330 28.004,690		60,000 417,000 5.838,000 3.147,000 5.838,000 29.196,450 51.156,945 39.834,495 42.007,035	177.494,93	
SUBCAPÍTULO 18.02 PROTECCIONES COLECTIVAS															
SE10CPRIENT	Ud Cartel provisional riesgo entrada obra/EPI's CARTEL PROVISIONAL DE RIESGO ENTRADA OBRA/EPI'S. INCLUSO APERTURA DE POZO, HORMIGONADO, COLOCACIÓN Y DESMONTADO. S/R.D. 485/97. ACCESOS A OBRA Nº carteles acceso BP1 Nº carteles acceso BP2 Nº carteles acceso BP3 Nº carteles acceso OBRA TOMA Nº carteles acceso OBRA RED Nº carteles acceso ESTACION	1 1 1 1 3 2				1,000 1,000 1,000 1,000 3,000 2,000	9,00	PC10RHPH	m² Red horizontal protec.huecos. M2. RED HORIZONTAL PARA PROTECCIÓN DE HUECOS DE POLIAMIDA DE HILO DE D=4 MM. Y MALLA DE 75X75 MM. INCLUSO COLOCACIÓN Y DESMONTADO. S/R.D. 485/97. Estacion bombeo	1	60,000	21,000		1.260,000	1.260,00
SE10SSIS	Ud Señal Stop con soporte SEÑAL DE STOP TIPO OCTOGONAL DE D=600 MM. NORMALIZADA, CON SOPORTE METÁLICO DE HIERRO GALVANIZADO 80X40X2 MM. Y 1,3 M. DE ALTURA INCLUSO PARTE PROPORCIONAL DE APERTURA DE POZO, HORMIGONADO, COLOCACIÓN Y DESMONTADO. (3 USOS) . S/R.D. 485/97.	24				24,000	24,00	PC20BTST	m Barandilla tipo sargto. tabl. ML. BARANDILLA CON SOPORTE TIPO SARGENTO Y TRES TABLONES DE 0,20X0,07 M. EN PERIMETRO DE FORJADOS TANTO DE PISOS COMO DE CUBIERTA, INCLUSO COLOCACIÓN Y DESMONTAJE. S/R.D. 485/97. SOLERAS Estacion bombeo Arquetas y varios	2 2 1	60,000 20,000 100,000		120,000 40,000 100,000	260,00	
SE10CIRIS	Ud Cartel indicat.riesgo con soporte UD. CARTEL INDICATIVO DE RIESGO DE 0,30X0,30 M. CON SOPORTE METÁLICO DE HIERRO GALVANIZADO 80X40X2 MM. Y 1,3 M. DE ALTURA, INCLUSO APERTURA DE POZO, HORMIGONADO, COLOCACIÓN Y DESMONTADO. S/R.D. 485/97. Nº Señales riesgo	32				32,000	32,00								

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
PC20MPS	m Malla polietileno seguridad MALLA DE POLIETILENO ALTA DENSIDAD CON TRATAMIENTO PARA PROTECCIÓN DE ULTRA-VIOLETAS, COLOR NARANJA DE 1 M. DE ALTURA Y DOBLE ZÓCALO DEL MISMO MATERIAL, /COLOCACIÓN Y DESMONTAJE. (AMORTIZACIÓN EN DOS PUESTAS). S/R.D. 485/97. PERIMETRAL Balsa BPC Balsa BP1 Balsa BP2 Balsa BP3 Estación de Bombeo PUNTOS SINGULARES Campo Fotovoltaico	1 1 1 1 4 1 1	2.420,000 900,000 852,000 890,000 200,000 350,000 1.000,000			2.420,000 900,000 852,000 890,000 800,000 350,000 1.000,000		SYS04	Ud Pórtico de limitación de altura libre de 5 m, PÓRTICO DE LIMITACIÓN DE ALTURA LIBRE DE 5 M, PARA PROTECCIÓN DE LÍNEAS ELÉCTRICAS AÉREAS, COMPUESTO POR 2 ROLLIZOS DE MADERA DE 15/20 CM DE DIÁMETRO, HINCADOS EN EL TERRENO, SEPARADOS ENTRE SÍ 6 M, AMORTIZABLES EN 5 USOS Y UNIDOS EN SU PARTE SUPERIOR MEDIANTE CABLE TENSADO DE ACERO DE 10 MM DE DIÁMETRO, SOBRE EL QUE SE SUSPENDERÁ UN CORDÓN DE BALIZAMIENTO CON GUIRNALDAS REFLECTANTES DE PLÁSTICO, COLOR ROJO Y BLANCO.	5				5,000	5,00
							7.212,00	SYS06	I Gel hidroalcohólico virucida GEL HIDROALCOHÓLICO, BACTERICIDA Y VIRUCIDA, PARA LA DESINFECCIÓN DE MANOS.	45				45,000	45,00
PC10CATA	m Cable de atado trab.altura ML. CABLE DE SEGURIDAD PARA ATADO EN TRABAJOS DE ALTURA, SUJETO MADIANTE ANCLAJES HORMIGONADOS Y SEPARADOS CADA 2ML./MONTAJE Y DESMONTAJE. S/R.D. 485/97. Cubierta nave	3	65,000			195,000									45,00
							195,00	SUBCAPÍTULO 18.03 INSTALACIONES PROVISIONALES							
MO10ESE	Hr Equipo de Señalización H. EQUIPO DE LIMPIEZA Y CONSERVACIÓN DE INSTALACIONES PROVISIONALES DE OBRA, CONSIDERANDO UNA HORA DIARIA DE OFICIAL DE 2º Y DE AYUDANTE. S/R.D. 485/97. En proximidades vías de circulación En otros puntos singulares 1 hora al día	1 1 24	350,000 24,000 22,000			350,000 24,000 528,000		IP20APELECT	Ud Acomet.prov.elect.a caseta. ACOMETIDA PROVISIONAL DE ELECTRICIDAD A CASETA DE OBRA, DESDE EL CUADRO GENERAL FORMADA POR MANGUERA FLEXIBLE DE 4X4 MM2 DE TENSIÓN NOMINAL 750 V., INCORPORANDO CONDUCTOR DE TIERRA COLOR VERDE Y AMARILLO, FUJADA SOBRE APOYOS INTERMEDIOS CADA 2,50 M. INSTALADA. Caseta Vestuarios Caseta Comedor Caseta Aseos	2 2 3				2,000 2,000 3,000	7,00
							902,00	IP20APFONT	Ud Acomet.prov.fontan.a caseta. UD. ACOMETIDA PROVISIONAL DE FONTANERIA A CASETAS DE OBRA. Caseta Comedor Caseta Aseos	3 2				3,000 2,000	5,00
SYS01	Ud Barrera New Jersey BARRERA DE SEGURIDAD PORTÁTIL TIPO NEW JERSEY DE POLIETILENO DE ALTA DENSIDAD, DE 1,20X0,60X0,40 M, CON CAPACIDAD DE LASTRADO DE 150 L, COLOR ROJO O BLANCO, AMORTIZABLE EN 20 USOS.	10				10,000		IP20APSANEA	Ud Acomet.prov.saneamt.a caseta. UD. ACOMETIDA PROVISIONAL DE SANEAMIENTO A CASETAS DE OBRA. Caseta Comedor Caseta Aseos	3 2				3,000 2,000	5,00
							10,00	IP10ACPCO-ME	Ud Alquiler caseta p.vestuarios. MÉS DE ALQUILER DE CASETA PREFABRICADA PARA VESTUARIOS DE OBRA DE 6X2.35 M., CON ESTRUCTURA METÁLICA MEDIANTE PERFILES CONFORMADOS EN FRÍO Y CERRAMIENTO CHAPA NERVADA Y GALVANIZADA CON TERMINACIÓN DE PINTURA PRELACADA. AISLAMIENTO INTERIOR CON LANA DE VIDRIO COMBINADA CON POLIESTIRENO EXPANDIDO. REVESTIMIENTO DE P.V.C. EN SUELOS Y TABLERO MELAMINADO EN PAREDES. VENTANAS DE ALUMINIO ANODIZADO, CON PERSIANAS CORREDERAS DE PROTECCIÓN, INCLUSO INSTALACIÓN ELÉCTRICA CON DISTRIBUCIÓN INTERIOR DE ALUMBRADO Y FUERZA CON TOMA EXTERIOR A 220 V. Alquiler casetas	2	24,000			48,000	48,00
SYS03	m Protección frente a la caída de camiones en bordes de excavación PROTECCIÓN FRENTE A LA CAÍDA DE CAMIONES EN BORDES DE EXCAVACIÓN, DURANTE LOS TRABAJOS DE DESCARGA DIRECTA DE HORMIGÓN O MATERIALES DE RELLENO, FORMADA POR TOPE COMPUESTO POR 1 TABLONES DE MADERA DE PINO DE 0,20X0X20 CM, AMORTIZABLES EN 4 USOS Y PERFILES DE ACERO UNE-EN 10025 S275JR, LAMINADO EN CALIENTE, DE LA SERIE IPN 200, GALVANIZADO EN CALIENTE, DE 1 M DE LONGITUD, HINCADOS EN EL TERRENO CADA 2,0 M, AMORTIZABLES EN 150 USOS. INCLUSO ELEMENTOS DE ACERO PARA EL ENSAMBLE DE LOS TABLONES.	30				30,000									30,00
							30,00								
YSB060	Ud Cono de balizamiento CONO DE BALIZAMIENTO REFLECTANTE DE 75 CM DE ALTURA, DE 1 PIEZA DE POLIETILENO CON LASTRE DE ARENA, CON 2 BANDAS REFLECTANTES DE 150 MM DE ANCHURA Y RETRORREFLECTANCIA NIVEL 1 (E.G.), AMORTIZABLE EN 10 USOS. INCLUSO ARENA UTILIZADA PARA EL LASTRADO DE LAS PIEZAS, MANTENIMIENTO EN CONDICIONES SEGURAS DURANTE TODO EL PERIODO DE TIEMPO QUE SE REQUIERA Y DESMONTAJE.	85				85,000									85,00
							85,00								85,00

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
SUBCAPÍTULO 18.04 MEDICINA PREVENTIVA Y PRIMEROS AUXILIOS								I2R5K000	Ud Transporte de Bidones de Residuos Especiales a Centro Autorizado						
IP30BOBRA	Ud Botiquin de obra. UD. BOTIQUIN DE OBRA INSTALADO.	6				6,000			TRANSPORTE DE BIDONES DE RESIDUOS ESPECIALES A CENTRO DE RECOGIDA Y TRANSFERENCIA.					21,000	
							6,00		Bidones	21					21,00
IP30RBOTIQ	Ud Reposicion de botiquin. UD. REPOSICIÓN DE MATERIAL DE BOTIQUIN DE OBRA.	6				6,000		I2RA8620	m³ Deposition controlada a centro Autorizado Residuos Especiales						
							6,00		DEPOSICIÓN CONTROLADA A CENTRO DE RECOGIDA AUTORIZADO Y TRANSFERENCIA DE RESIDUOS ESPECIALES.						
IP30CPEVAC	Ud Camilla portatil evacuaciones UD. CAMILLA PORTÁTIL PARA EVACUACIONES, COLOCADA. (20 USOS)	4				4,000			Residuos Especiales 150110	0,79				0,790	
							4,00		Residuos Especiales 080409	0,96				0,960	
									Residuos Especiales 050105	0,96				0,960	
									Residuos Especiales 120101	1,43				1,430	4,14
SUBCAPÍTULO 18.05 FORMACIÓN Y REUNIONES INFORMATIVAS								I2RA6500	m³ Deposition controlada a centro Autorizado Residuos No Especiales						
MO10CSH	Hr Reunión de Seguridad y Salud REUNIÓN DE SEGURIDAD Y SALUD, COMPUESTO POR UN TÉCNICO EN MATERIA DE SEGURIDAD CON CATEGORIA DE ENCARGADO, DOS TRABAJADORES CON CATEGORIA DE OFICIAL DE 2º, UN AYUDANTE Y UN VIGILANTE DE SEGURIDAD CON CATEGORIA DE OFICIAL DE 1º, CONSIDERANDO UNA REUNIÓN COMO MÍNIMO AL MES. 3 Reunion mensuales (2 hora) Reunion extraordinaria	24 4	2,000 1,000	3,000 2,000		144,000 8,000			DEPOSICIÓN CONTROLADA A CENTRO DE RECOGIDA AUTORIZADO Y TRANSFERENCIA DE RESIDUOS NO ESPECIALES.						
							152,00		Residuos No Especiales 170405	15,89				15,890	
									Residuos No Especiales 170201	19,85				19,850	
									Residuos No Especiales 170203	15,89				15,890	
									Residuos No Especiales 150101	2,65				2,650	
									Residuos No Especiales 170604	0,54				0,540	
									Residuos No Especiales 170103	1,59				1,590	
									Residuos No Especiales 170411	0,18				0,180	
									Residuos No Especiales 170802	0,59				0,590	
									Residuos No Especiales 080112	0,59				0,590	57,77
MREPREOBR	Ud Mes de recurso preventivo en obra FORMACIÓN DE SEGURIDAD Y SALUD EN EL TRABAJO, CONSIDERANDO UNA HORA A LA SEMANA Y REALIZADA POR UN ENCARGADO. Meses obra	18				18,000		I2RA7360	m³ Deposition controlada a centro Autorizado Residuos Inertes Mezcl						
							18,00		DEPOSICIÓN CONTROLADA A CENTRO DE RECOGIDA AUTORIZADO Y TRANSFERENCIA DE RESIDUOS INERTES MEZCLADOS DE LA CONSTRUCCIÓN						
							18,00		Residuos Inertes Mezclados 170904	46,07				46,070	46,07
CAPÍTULO 19 GESTIÓN DE RESIDUOS								I2RA8500	m³ Deposition controlada a centro Autorizado Residuos Inertes						
I2R24200	m³ Clasificación a Pie de Obra de Residuos CLASIFICACIÓN A PIE DE OBRA DE RESIDUOS DE LA CONSTRUCCIÓN EN RESIDUOS INERTES, NO ESPECIALES Y ESPECIALES CON MEDIOS MANUALES.	185,6				185,600			DEPOSICIÓN CONTROLADA A CENTRO DE RECOGIDA AUTORIZADO Y TRANSFERENCIA DE RESIDUOS INERTES.						
							185,60		Residuos Inertes 170101	67,03				67,030	67,03
I2R650G0	m³ Carga + Transporte Contenedor a Centro de Tratamiento Autorizado CARGA Y TRANSPORTE DE RESIDUOS A CENTRO DE RECICLAJE, A MONODEPÓSITO, A VERTEDERO ESPECÍFICO O A CENTRO DE RECOGIDA Y TRANSFERENCIA, CON CONTENEDOR, CARGADO CON MEDIOS MECÁNICOS.	181,46				181,460									
							181,46								
I2R5PL00	Ud Suministro de Bidón de 200 l para Residuos Especiales SUMINISTRO DE BIDÓN DE 200 L PARA RESIDUOS ESPECIALES (P-4)	21				21,000									
							21,00								

MEDICIONES

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD
CAPÍTULO 20 PUBLICIDAD							
Z005	Ud Panel de 2,1x1,5 m., en chapa galvanizada ELABORACIÓN Y COLOCACIÓN DE PLACAS PERMANENTES INFORMATIVAS DE LA EVENTUAL FINANCIACIÓN DE LA OBRA POR EL PRTR, SOLO APLICABLE EN EL CASO DE QUE EL PROYECTO ACABE SIENDO ELEGIDO PARA SU FINANCIACIÓN EN EL MARCO DEL PRTR, EN CHAPA GALVANIZADA DE 2,10 X 1,50 M. DISEÑO SEGÚN PLIEGO DE PRESCRIPCIONES TÉCNICAS. EN CASO DE QUE EL PROYECTO NO RESULTE FINALMENTE SELECCIONADO, ESTA UNIDAD DE OBRA NO SE EJECUTARÍA.	2				2,000	2,00
Z019	Ud Panel cuadrado de 0,42 x 0,42 m en metacrilato ELABORACIÓN Y COLOCACIÓN DE PLACAS PERMANENTES INFORMATIVAS DE LA EVENTUAL FINANCIACIÓN DE LA OBRA POR EL PRTR SOLO APLICABLE EN EL CASO DE QUE EL PROYECTO ACABE SIENDO ELEGIDO PARA SU FINANCIACIÓN EN EL MARCO DEL PRTR, EN CHAPA GALVANIZADA DE 0,42 X 0,42 M. DISEÑO SEGÚN PLIEGO DE PRESCRIPCIONES TÉCNICAS. EN CASO DE QUE EL PROYECTO NO RESULTE FINALMENTE SELECCIONADO, ESTA UNIDAD DE OBRA NO SE EJECUTARÍA.						
	Balsas	2				2,000	
	Estación de Bombeo	1				1,000	
	Captación	1				1,000	
							4,00

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0001	ACEQUIA	Ud	CRUCE Y REPOSICIÓN DE ACEQUIA EXISTENTE. INCLUIDO EL CORTE, LA DEMOLICIÓN, ASÍ COMO LA RETIRADA Y GESTIÓN DE RESIDUOS. INCLUIDO LA REALIZACIÓN DE OBRAS COMPLEMENTARIAS PARA EL MANTENIMIENTO DEL SERVICIO EN LA ACEQUIA. COMPLETAMENTE EJECUTADO	CIENTO TREINTA Y TRES EUROS con CUATRO CÉNTIMOS	133,04	0007	ANEM-TFA42	Ud	ANEMÓMETRO PORTÁTIL DIGITAL DE HÉLICE DIRECCIONAL CON TERMÓMETRO. PRECISA ENFRENTARLO AL VIENTO PARA UNA CORRECTA LECTURA. INDICA LA VELOCIDAD DEL VIENTO ACTUAL COMO PROMEDIO DE LOS ÚLTIMOS 4 SEGUNDOS, PUDIENDO AJUSTARSE ENTRE 2 Y 10 SEG. INDICA LA VELOCIDAD DEL VIENTO MÁXIMA Y MEDIA DESDE EL ENCENDIDO. UNIDADES DE MEDIDA: BEAUFORT (BARRAS GRÁFICAS), NUDOS, MPH, M/SEG Y KM/H. RANGO DE MEDIDA: 0,2 A 30 M/SEG.		65,71
0002	ACEQUIA2	Ud	CRUCE Y REPOSICIÓN DE ACEQUIA CHE EXISTENTE O EQUIVALENTE MEDIANTE PASO INFERIOR SIN ALTERAR EL CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGÓN DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA, SUJECCIÓN DEL CAJERO Y RELLENO DE HM-20 HASTA LA BASE DEL CAJERO. O CRUCE MEDIANTE CORTE DE CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGÓN DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA Y HM-20 HASTA LA BASE Y REPOSICIÓN DEL CAJERO, DEBIDAMENTE SELLADO. INCLUIDO TODOS LOS COSTES DE GESTIÓN DE RESIDUOS, EXCAVACIONES, CARGAS Y TRANSPORTES NECESARIOS. COMPLETAMENTE EJECUTADO	SETECIENTOS NOVENTA EUROS con CINCUENTA CÉNTIMOS	790,50	0008	ARM-H3	UD.	UD. SUMINISTRO Y MONTAJE DE ARMADO HORIZONTAL TIPO H3 EN ACERO GALVANIZADO EN CALIENTE PARA APOYOS METÁLICOS, TOTALMENTE INSTALADA Y COLOCADA, INCLUYENDO MEDIOS AUXILIARES DE MONTAJE Y ELEVACIÓN Y PEQUEÑO MATERIAL.	SESENTA Y CINCO EUROS con SETENTA Y UN CÉNTIMOS	359,43
0003	AFBPEADC2	m	ANCLAJES DE FONDO A BASE DE FUELLES CONFORMADOS CON LÁMINA DE PEAD DE 2 MM DE ESPESOR Y SECCIÓN CON PERÍMETRO 1,45 M. DE PESO NO INFERIOR A 175 KG/ML. RELLENOS CON ÁRIDO NATURAL LAVADO 6/12 MM. TOTALMENTE COLOCADO. INCLUIDA LA INSTALACIÓN SOBRE LÁMINA DE PEAD DE FONDO DE Balsa Y MEDIOS AUXILIARES.	DIEZ EUROS con OCHO CÉNTIMOS	10,08	0009	ARM-TB3	UD.	UD. SUMINISTRO Y MONTAJE DE ARMADO EN TRESBOLILLO TIPO TB3 EN ACERO GALVANIZADO EN CALIENTE PARA APOYOS METÁLICOS, TOTALMENTE INSTALADA Y COLOCADA, INCLUYENDO MEDIOS AUXILIARES DE MONTAJE Y ELEVACIÓN Y PEQUEÑO MATERIAL.	TRESCIENTOS CINCUENTA Y NUEVE EUROS con CUARENTA Y TRES CÉNTIMOS	513,93
0004	AFOR6	Ud	CANAL PARSAHLL 6" PREFABRICADO CONSTRUIDO EN ACERO INOXIDABLE AISI- 304, PARA DE CAUDALES: QMIN: 5,70 M3/H - QMAX: 390 M3/H, EQUIPADO CON BASTIDOR PARA INSTALAR SENSOR ULTRASÓNICO EN EL PUNTO ADECUADO. CON REGLETA DE INDICACIÓN VISUAL CAUDAL/ALTURA.	DOS MIL CUATROCIENTOS CUARENTA EUROS con TREINTA Y TRES CÉNTIMOS	2.440,33	0010	ARQ1X1M	Ud	ARQUETA DE HORMIGÓN PARA CONTROL DE NIVEL IN SITU DE DIMENSIONES INTERIORES DE 1,00 M. DE ANCHO, 1,00 M. DE LARGO. REALIZADA CON HORMIGÓN HA-25. INCLUSO REJUNTADO CON MORTERO SIN RETRACCIÓN EN LA UNIÓN TANTO EN LAS TAJADERAS COMO EN LA CONEXIÓN CON EL TUBO, INCLUIDA COMPUERTA REGULABLE EN ALTURA DE ACERO. MEDIDA LA UNIDAD EJECUTADA	QUINIENTOS TRECE EUROS con NOVENTA Y TRES CÉNTIMOS	1.450,47
0005	AFOR9	Ud	CANAL PARSAHLL 9 "PREFABRICADO CONSTRUIDO EN ACERO INOXIDABLE AISI- 304, PARA DE CAUDALES: QMIN: 8,60 M3/H - QMAX: 720 M3/H, EQUIPADO CON BASTIDOR PARA INSTALAR SENSOR ULTRASÓNICO EN EL PUNTO ADECUADO. CON REGLETA DE INDICACIÓN VISUAL CAUDAL/ALTURA.	TRES MIL CUATROCIENTOS VEINTE EUROS con TREINTA Y CINCO CÉNTIMOS	3.420,35	0011	ARQ1X1N	Ud	ARQUETA DE HORMIGÓN PARA CONTROL DE NIVEL IN SITU DE DIMENSIONES INTERIORES DE 1,00 M. DE ANCHO, 1,00 M. DE LARGO. REALIZADA CON HORMIGÓN HA-30. INCLUSO REJUNTADO CON MORTERO SIN RETRACCIÓN EN LA UNIÓN TANTO EN LAS TAJADERAS COMO EN LA CONEXIÓN CON EL TUBO. MEDIDA LA UNIDAD EJECUTADA	MIL CUATROCIENTOS CINCUENTA EUROS con CUARENTA Y SIETE CÉNTIMOS	392,17
0006	ANCLAJECOR2	m	ANCLAJE DE CORONACIÓN EN BALSAS, MEDIANTE LA INSTALACIÓN DE LÍNEA DE BORDILLO TIPO T-2, DE PIEZAS PREFABRICADAS DE HORMIGÓN RECTAS Y CURVAS, COLOCADAS CON MORTERO DE CEMENTO 1:4 ELABORADO EN LA OBRA CON HORMIGONERA DE 165 L. INCLUIDO TRANSPORTE Y PUESTA EN OBRA EN CORONACIÓN DE Balsa, EXCAVACIÓN, LA BASE DE HORMIGÓN HM-20 Y TODAS LAS FAENAS PERTINENTES. TOTALMENTE COLOCADO.	SIETE EUROS con NOVENTA Y NUEVE CÉNTIMOS	7,99					TRESCIENTOS NOVENTA Y DOS EUROS con DIECISIETE CÉNTIMOS	

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0012	AROAUTO1	Ud	ARQUETA PARA ALOJAMIENTO DE AUTOMATA TELECONTROL Y BATERIAS DEL SECCIONAMIENTO, CONSISTENTE EN CASETA PREFABRICADA DE HORMIGÓN CON BASE INTEGRADA O PRESOLERA DE HORMIGÓN HM-20, CON UNAS DIMENSIONES INTERIORES ÚTILES DE 2,00X1,00X2,10, CON APERTURA EN EJE VERTICAL DE DOBLE HOJA, PUERTAS EN GALVANIZADO 1,5 MM, NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA EN PUERTAS, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE. INCLUIDO SOPORTES, Y CANDADO, INCLUIDOS TODOS LOS MEDIOS AUXILIARES PARA SU COLOCACIÓN Y CIMENTACIÓN PARA MASTIL CONSISTENTE EN HORMIGÓN EN MASA DE 0,8X0,8X1,2M Y 4 PERNOS DE 16 MM DE DIAMETRO DE ACERO B-500S. INCLUIDOS TUBO DE PE CORRUGADO CON GUÍA PARA CABLEADO A LOS ELEMENTOS (VALVULAS Y CAUDALIMETROS, DOS TUBOS POR ELEMNTO), Y EL DESBROCE O PREPARACIÓN DE TERRENO PARA LA PRESOLERA. TOTALMENTE COLOCADA	MIL SETENTA Y CINCO EUROS con SESENTA CÉNTIMOS	1.075,60	0013	ARQHIDRANTE1B	Ud	ARQUETA PARA ALOJAMIENTO DE HIDRANTE DE 3" Y 4", FORMADA POR ARMARIO PREFABRICADO DE DIMENSIONES INTERIORES 2,00X1,00X1,40 M, EN HA-25, TRATADO CON ADITIVO FLUIDIFICANTE, ARMADO PARA RESISTIR LAS SOLICITACIONES PROPIAS A LAS QUE ESTÁ DESTINADO, CON DOS PUERTAS DE ACERO GALVANIZADO DE 1,5 MM CON NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA TANTO EN PUERTAS COMO EN PARTE TRASERA DE ARQUETA, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE Y CANDADO CENTRAL. SEPARACIÓN ESPACIOS CR-USUARIO MEDIANTE LÁMINA METÁLICA. INCLUYE LLAVE MAESTRA PARA EL GESTOR DE LA COMUNIDAD DE REGANTES E INDIVIDUAL PARA USUARIO Y PLETINAS SOLDADAS A LA PUERTA (PREVIO AL GALVANIZADO) PARA EL CIERRE MEDIANTE CANDADO. INCLUYE ROTULACIÓN DE ARQUETA CON DENOMINACIÓN DEL HIDRANTE. INCLUYE REJILLAS TIPO MOSQUITERA EN TODOS LOS AGUJEROS DE LA CASETA QUE COMUNIQUEN CON EL EXTERIOR. INCLUYE CHAPA DE ACERO E=4 MM GALVANIZADA (E MEDIO 70 MICRAS, E MIN 55 MICRAS) DE DIMENSIONES 50 CM X 50 CM CON AGUJERO EN EL CENTRO TAL QUE PERMITA EL PASO DE LA CALDERERÍA DE SALIDA EN EL HIDRANTE, CON VIROLA DE LA MISMA CHAPA DE LONGITUD AL MENOS IGUAL AL ESPESOR DE LA CASETA, RECUBIERTA INTERIORMENTE POR JUNTA DE NEOPRENO DE E=1 CM PARA SUJECCIÓN DE LA CALDERERÍA DE SALIDA DEL HIDRANTE. TANTO CHAPA COMO VIROLA Y JUNTA ESTARÁN SECCIONADAS POR LA MITAD PARA PODER ABRAZAR LA CALDERERÍA DE SALIDA, PERO SE INSTALARÁ UNIENDO LAS DOS SECCIONES. INCLUYE TORTILLERÍA Y TALADROS Y TODOS LOS TRABAJOS ACCESORIOS. INCLUYE REJUNTADO DE LA CALDERERÍA DE SALIDA DE LA CASETA CON MORTERO RESINADO. INCLUYE RELLENO EN GRAVILLÍN 6/12 MM Y SOLERA EN HM-20, COMPACTACIONES NECESARIAS PARA UNA CORRECTA ESTABILIDAD DE LA CASETA Y LOS POSIBLES IMPREVISTOS POR ASIEN-TOS DE LA CASETA. INCLUYE FIJACIÓN DE LOS CABLES DEL TELECONTROL A LA CASETA MEDIANTE CANALETA TIPO UNEX ATORNILLADA SOBRE EL INTERIOR DE LA CASETA O SIMILAR Y/O CABLE DE PVC CON ALMA DE ACERO GRAPADO EN EL INTERIOR DE LA CASETA (EN ESTE CASO LA DEFLEXIÓN MÁXIMA DEL TUBO DE ACERO DURANTE LOS DOS PRIMEROS AÑOS PERMITIDA SERÁ DE 1 CM). INCLUYE 3 METROS DE TUBO CORRUGADO DE DOBLE PARED DE PEAD DN 160 PARA PROTECCIÓN DE LOS MICROTUBOS DEL SISTEMA DE TELECONTROL DESDE EL INTERIOR AL EXTERIOR DE LA CASETA. INCLUYE COMPLETO REJUNTADO CON MORTERO RESINADO DEL MÁSTIL DEL TELECONTROL. INCLUYE APOYO DEL CONJUNTO HIDRANTE DESDE EL CARRETE INTERMEDIO ENTRE HIDRANTE Y FILTRO HASTA SOLERA MEDIANTE BORDILLO DE HORMIGÓN O SIMILAR Y PLETINAS METÁLICAS. INCLUYE TODOS LOS MEDIOS NECESARIOS E IMPREVISTOS. TOTALMENTE COLOCADA.	OCHOCIENTOS CINCUENTA Y SIETE EUROS con TREINTA Y CUATRO CÉNTIMOS	857,34

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0014	AROHIDRANTE2	Ud	ARQUETA ARA ALOJAMIENTO DE HIDRANTE DE 6" Y 8", FORMADA POR ARMARIO PREFABRICADO DE DIMENSIONES INTERIORES 2,50X1,50X2,20M, EN HA-25, TRATADO CON ADITIVO FLUIDIFICANTE, ARMADO PARA RESISTIR LAS SOLICITACIONES PROPIAS A LAS QUE ESTÁ DESTINADO, CON DOS PUERTAS DE ACERO GALVANIZADO DE 1,5 MM CON NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA TANTO EN PUERTAS COMO EN PARTE TRASERA DE ARQUETA, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE Y CANDADO CENTRAL. SEPARACIÓN ESPACIOS CR-USUARIO MEDIANTE LÁMINA METÁLICA. INCLUYE LLAVE MAESTRA PARA EL GESTOR DE LA COMUNIDAD DE REGANTES E INDIVIDUAL PARA USUARIO Y PLETINAS SOLDADAS A LA PUERTA (PREVIO AL GALVANIZADO) PARA EL CIERRE MEDIANTE CANDADO. INCLUYE ROTULACIÓN DE ARQUETA CON DENOMINACIÓN DEL HIDRANTE. INCLUYE REJILLAS TIPO MOSQUITERA EN TODOS LOS AGUJEROS DE LA CASETA QUE COMUNIQUEN CON EL EXTERIOR. INCLUYE CHAPA DE ACERO E=4 MM GALVANIZADA (E MEDIO 70 MICRAS, E MIN 55 MICRAS) DE DIMENSIONES 50 CM X 50 CM CON AGUJERO EN EL CENTRO TAL QUE PERMITA EL PASO DE LA CALDERERÍA DE SALIDA EN EL HIDRANTE, CON VIOLA DE LA MISMA CHAPA DE LONGITUD AL MENOS IGUAL AL ESPESOR DE LA CASETA, RECUBIERTA INTERIORMENTE POR JUNTA DE NEOPRENO DE E=1 CM PARA SUJECIÓN DE LA CALDERERÍA DE SALIDA DEL HIDRANTE. TANTO CHAPA COMO VIOLA Y JUNTA ESTARÁN SECCIONADAS POR LA MITAD PARA PODER ABRAZAR LA CALDERERÍA DE SALIDA, PERO SE INSTALARÁ UNIENDO LAS DOS SECCIONES. INCLUYE TORTILLERÍA Y TALADROS Y TODOS LOS TRABAJOS ACCESORIOS. INCLUYE REJUNTADO DE LA CALDERERÍA DE SALIDA DE LA CASETA CON MORTERO RESINADO. INCLUYE RELLENO EN GRAVILLIN 6/12 MM Y SOLERA EN HM-20, COMPACTACIONES NECESARIAS PARA UNA CORRECTA ESTABILIDAD DE LA CASETA Y LOS POSIBLES IMPREVISTOS POR ASIENTOS DE LA CASETA. INCLUYE FIJACIÓN DE LOS CABLES DEL TELECONTROL A LA CASETA MEDIANTE CANALETA TIPO UNEX ATORNILLADA SOBRE EL INTERIOR DE LA CASETA O SIMILAR Y/O CABLE DE PVC CON ALMA DE ACERO GRAPADO EN EL INTERIOR DE LA CASETA (EN ESTE CASO LA DEFLEXIÓN MÁXIMA DEL TUBO DE ACERO DURANTE LOS DOS PRIMEROS AÑOS PERMITIDA SERÁ DE 1 CM). INCLUYE 3 METROS DE TUBO CORRUGADO DE DOBLE PARED DE PEAD DN 160 PARA PROTECCIÓN DE LOS MICROTUBOS DEL SISTEMA DE TELECONTROL DESDE EL INTERIOR AL EXTERIOR DE LA CASETA. INCLUYE COMPLETO REJUNTADO CON MORTERO RESINADO DEL MÁSTIL DEL TELECONTROL. INCLUYE APOYO DEL CONJUNTO HIDRANTE DESDE EL CARRETE INTERMEDIO ENTRE HIDRANTE Y FILTRO HASTA SOLERA MEDIANTE BORDILLO DE HORMIGÓN O SIMILAR Y PLETINAS METÁLICAS. INCLUYE TODOS LOS MEDIOS NECESARIOS E IMPREVISTOS. TOTALMENTE COLOCADA.	MIL TRESCIENTOS OCHENTA Y SIETE EUROS con NOVENTA Y TRES CÉNTIMOS	1.387,93	0016	ARQUEO2	Pa	PARTIDA ALZADA A JUSTIFICAR DE CONTROL Y SEGUIMIENTO ARQUEOLÓGICO EN Balsa BP3, YACIMIENTO TRINCHERA BALSAMEDIAS, POR TÉCNICO COMPETENTE, QUE COMPRENDEN: RECOGIDA PREVIA DE MATERIALES PROSPECCIÓN ARQUEOLÓGICA INTENSIVA, PREVIA AL INICIO DE LOS MOVIMIENTOS DE TIERRA CON RECOGIDA DE TODO EL MATERIAL ARQUEOLÓGICO VISIBLE DENTRO DEL ÁREA PROYECTADA PARA LAS OBRAS. CON APOYO DE GPS. TOMA DE DATOS, FOTOS, ETC. INCLUYENDO LOS TRABAJOS PREVIOS DE DOCUMENTACIÓN, PREPARACIÓN DE TRACKS, PLANOS, ETC. SONDEO ARQUEOLÓGICO EJECUCIÓN DE AL MENOS 1 SONDEO ARQUEOLÓGICO LLEVADO A CABO DE FORMA MANUAL, SIGUIENDO EL MÉTODO ESTRATIGRÁFICO, HASTA ALCANZAR EL SUSTRATO NATURAL. INCLUYE LA RECOGIDA DE MATERIALES, DOCUMENTACIÓN, RECOGIDA DE DATOS, FOTOGRAFÍAS, PLANIMETRÍAS, FOTOGRAMETRÍA Y TOPOGRAFÍA PARA GEORREFERENCIACIÓN DE SONDEOS Y HALLAZGOS. SUPERVISIÓN ARQUEOLÓGICA SUPERVISIÓN ARQUEOLÓGICA CONTINUA DURANTE LA EJECUCIÓN DE LOS TRABAJOS DE EXCAVACIÓN Y MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CONSTRUCCIÓN DE Balsa BP3. INCLUYE TOMA DE DATOS, FOTOGRAFÍAS, RECOGIDA DE MATERIALES, ETC. INFORME ARQUEOLÓGICO FINAL REDACCIÓN DEL INFORME ARQUEOLÓGICO FINAL Y ENTREGA AL CLIENTE Y AL DEPARTAMENTO COMPETENTE EN MATERIA DE PATRIMONIO HISTÓRICO ARQUEOLÓGICO DEL GOBIERNO DE ARAGÓN. INCLUIDOS PLANOS DE PLANTA, SECCIONES ESTRATIGRÁFICAS, Y EL INVENTARIO Y CATALOGACIÓN DE TODOS LOS MATERIALES ARQUEOLÓGICOS, TANTO LOS RECOGIDOS EN PROSPECCIÓN PREVIA COMO DURANTE LA EJECUCIÓN DE LOS SONDEOS, CON FOTOGRAFÍA Y DIBUJO DE UNA MUESTRA REPRESENTATIVA DE LOS MISMOS. SIGLADOS, ORGANIZADOS EN FICHAS Y EMBALADOS PARA SU DEPÓSITO EN PATRIMONIO.	MIL EUROS	1.000,00
0015	ARQUEO	Pa	PARTIDA ALZADA A JUSTIFICAR DE CONTROL Y SEGUIMIENTO ARQUEOLÓGICO, POR TÉCNICO COMPETENTE, CON UNA DEDICACIÓN MÍNIMA DE 2 H/SEMANALES	CINCO MIL EUROS	5.000,00	0017	ARQVALVU	Ud	ARQUETA PARA ALOJAMIENTO DE VÁLVULAS DE SECCIONAMIENTO, CONSTRUIDA "IN SITU", DE 1,50 X 1,50 METROS DE DIMENSIONES INTERIORES Y ALTURA VARIABLE, INFERIOR A 2,50 METROS. CON SOLERA DE 0,25 METROS HORMIGÓN HA-35 CON CEMENTO SR, PAREDES DE HORMIGÓN ARMADO HA-35 DE 0,20 M DE ESPESOR, ARMADURA EN SOLERA Y PAREDES A BASE DE MALLAZO DE DIÁMETRO 12 MM CADA 15 CENTÍMETROS POR 15 CENTÍMETROS, INCLUSO POZO DE ACHIQUE O SALIDA A DESAGÜE CON CONEXIÓN DE CALDERERÍA INCLUIDA. TAPA METÁLICA DE ACERO DE 3 MM DE ESPESOR Y ESTRUCTURA CON TRATAMIENTO ANTICORROSIVO, MARCO DE SUJECIÓN Y CANDADO. PATES DE ACCESO TOTALMENTE INSTALADOS Y FIJADOS EN MURO. COMPLETAMENTE EJECUTADA.	DOS MIL DOSCIENTOS CUATRO EUROS con CUARENTA CÉNTIMOS	2.204,40

CUADRO DE PRECIOS 1

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Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0018	ARQVALVU2	Ud	ARQUETA PARA ALOJAMIENTO DE VÁLVULAS DE SECCIONAMIENTO, CONSTRUIDA "IN SITU", DE 2,50 X 2,50 METROS DE DIMENSIONES INTERIORES Y ALTURA VARIABLE, INFERIOR A 2,50 METROS. CON SOLERA DE 0,30 METROS HORMIGÓN HA-35 CON CEMENTO SR, PAREDES DE HORMIGÓN ARMADO HA-35 DE 0,25 M DE ESPESOR, ARMADURA EN SOLERA Y PAREDES A BASE DE MALLAZO DE DIÁMETRO 12 MM CADA 15 CENTÍMETROS POR 15 CENTÍMETROS, INCLUSO POZO DE ACHIQUE O SALIDA A DESAGÜE CON CONEXIÓN DE CALDERERÍA INCLUIDA. TAPA METÁLICA DE ACERO DE 3 MM DE ESPESOR Y ESTRUCTURA CON TRATAMIENTO ANTICORROSIVO, MARCO DE SUJECIÓN Y CANDADO. PATES DE ACCESO TOTALMENTE INSTALADOS Y FUADOS EN MURO. COMPLETAMENTE EJECUTADA.	TRES MIL CIENTO OCHENTA Y DOS EUROS con NOVENTA Y TRES CÉNTIMOS	3.182,93	0021	Automático IV	Ud	CUADRO DE ACOMETIDA DE BT EB QUE INCLUYE: - 2 ENVOLVENTES COMBINABLE METÁLICA DE 2000X1600X800, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA EN ACERO PLEGADO Y SOLDADO, APERTURA 120º, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO. - INCLUYE 6 PLETINAS DE COBRE DE 2(120X10) MM PARA EMBARRADO, DE 1,60M DE LARGO. - SOPORTE PARA EMBARRADO, INCLUYE PANTALLA DE METACRILATO. - 2 INTERRUPTOR AUTOMÁTICO IV DE IN 3000 A, CON POTENCIA DE CORTE DE 50 KA - 2 LIMITADOR DE SOBRETENSIONES TRANSITORIAS IV DE CLASE I 40KA 1.2 KV - 2 ANALIZADOR DE REDES 400V CA (3000/5A), MEDIDA MÁXIMA 400V CA, CON PUERTO DE COMUNICACIONES CON MODBUS, INSTALADO EN PANEL PUERTA ENVOLVENTE DE ACOMETIDA, INCLUIDO TROQUEL EN CHAPA Y CABLEADO TOTALMENTE INSTALADO. - 5 INTERRUPTOR AUTOMÁTICO MAGNETOTÉRMICO III DE IN 630 A, CON POTENCIA DE CORTE DE 50 KA - 9 INTERRUPTOR AUTOMÁTICO MAGNETOTÉRMICO III DE IN 400 A, CON POTENCIA DE CORTE DE 50 KA - 1 INTERRUPTOR AUTOMÁTICO IV DE IN 125 A, CON POTENCIA DE CORTE DE 50 KA - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. INCLUSO TRANSPORTE. TOTALMENTE MONTADO, CONECTADO Y PROBADO.	NOVENTA Y SEIS MIL SETECIENTOS TREINTA Y UN EUROS con CINCUENTA Y SEIS CÉNTIMOS	96.731,56
0019	ARQVALVU3	Ud	ARQUETA PARA ALOJAMIENTO DE VÁLVULAS DE SECCIONAMIENTO, CONSTRUIDA "IN SITU", DE 4,00 X 3,00 METROS DE DIMENSIONES INTERIORES Y ALTURA VARIABLE, INFERIOR A 2,50 METROS. CON SOLERA DE 0,30 METROS HORMIGÓN HA-35 CON CEMENTO SR, PAREDES DE HORMIGÓN ARMADO HA-35 DE 0,25 M DE ESPESOR, ARMADURA EN SOLERA Y PAREDES A BASE DE MALLAZO DE DIÁMETRO 12 MM CADA 15 CENTÍMETROS POR 15 CENTÍMETROS, INCLUSO POZO DE ACHIQUE O SALIDA A DESAGÜE CON CONEXIÓN DE CALDERERÍA INCLUIDA. TAPA METÁLICA DE ACERO DE 3 MM DE ESPESOR Y ESTRUCTURA CON TRATAMIENTO ANTICORROSIVO, MARCO DE SUJECIÓN Y CANDADO. PATES DE ACCESO TOTALMENTE INSTALADOS Y FUADOS EN MURO. COMPLETAMENTE EJECUTADA.	CUATRO MIL TRESCIENTOS VEINTIOCHO EUROS con OCHENTA Y OCHO CÉNTIMOS	4.328,88						
0020	A_SEGUR	Ud	MATERIAL DE SEGURIDAD MT, FORMADO POR: UN PAR DE GUANTES AISLANTE PARA MANIOBRA Y PROTECCIÓN DE MT, UNA BANQUETA AISLANTE, CUATRO PLACAS DE PELIGRO DE MUERTE Y UNA PLACA REGLAMENTARIA DE PRIMEROS AUXILIOS.	TRESCIENTOS NOVENTA EUROS con SESENTA Y OCHO CÉNTIMOS	390,68						
						0022	BAL_SALV	UD.	BANDAS DE BALIZAMIENTO NEOPRENO EN "X" CON UNAS DIMENSIONES DE 8 CM DE ANCHURA Y 30 CM DE LONGITUD MÍNIMA PARA CADA BRAZO, DISPUESTAS "AL TRESBOLILLO" DE MANERA QUE LA SEPARACIÓN EFECTIVA ENTRE BANDAS CONSECUTIVAS SEA COMO MÁXIMO DE 10 M. Y DISPOSICIÓN DE PROTECCIÓN AISLANTE DE LA SERIE 56 KV, TIPO RETRÁCTIL EN LOS DOS PRIMEROS METROS DE CONDUCTOR A CADA LADO DE LAS CRUCETAS, TOTALMENTE INSTALADAS.	SIETE EUROS con SETENTA Y OCHO CÉNTIMOS	7,78
						0023	BT-AC-ARQB120	UD	ARQUETA IN SITU PARA EL PASO, DISTRIBUCIÓN O ENLACE DE CANALIZACIONES SUBTERRÁNEAS DE MEDIA Y BAJA TENSIÓN. DISPONE DE TAPA. TIENE UNAS DIMENSIONES INTERIORES DE 800X800 MM Y UNA ALTURA DE 120 CM. TAPA DE FUNDICIÓN CON CLASE DE CARGA C-250 SEGÚN UNE-EN 124. INCLUIDO MATERIALES AUXILIARES NECESARIOS PARA SU INSTALACIÓN, FIJACIÓN, COLOCACIÓN, ASÍ COMO PARA EL SELLADO DE CANALIZACIONES. MEDIDA LA UNIDAD TOTALMENTE INSTALADA.	TRESCIENTOS CATORCE EUROS con CINCUENTA Y NUEVE CÉNTIMOS	314,59

CUADRO DE PRECIOS 1

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Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0024	BT-AC-ARQE120	UD	ARQUETA PREFABRICADA TIPO A1 PARA EL PASO, DISTRIBUCIÓN O ENLACE DE CANALIZACIONES SUBTERRÁNEAS DE MEDIA Y BAJA TENSIÓN. DISPONE DE TAPA. TIENE UNAS DIMENSIONES INTERIORES DE 535X625 MM Y UNA ALTURA DE 120 CM. TAPA DE FUNDICIÓN CON CLASE DE CARGA C-250 SEGÚN UNE-EN 124. HOMOLOGACIÓN POR AENOR. INCLUIDO MATERIALES AUXILIARES NECESARIOS PARA SU INSTALACIÓN, FIJACIÓN, COLOCACIÓN, ASÍ COMO PARA EL SELLADO DE CANALIZACIONES. MEDIDA LA UNIDAD TOTALMENTE INSTALADA.		205,58	0033	BT-U002.5X4-0	m	M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 4X2.5 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.	CUATRO EUROS con TREINTA Y DOS CÉNTIMOS	4,32
				DOSCIENTOS CINCO EUROS con CINCUENTA Y OCHO CÉNTIMOS		0034	BT-U002.5X5-0	m	M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 5X2.5 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.	CINCO EUROS con VEINTICINCO CÉNTIMOS	5,25
						0035	BT-U004X3-000	m	M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 3X4 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.	CUATRO EUROS con CINCUENTA Y NUEVE CÉNTIMOS	4,59
0025	BT-AC-CANL050	m	M.L. DE TUBO CORRUGADO DE PVC DE 50 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA.		2,79						
				DOS EUROS con SETENTA Y NUEVE CÉNTIMOS		0036	BT-U004X4-000	m	M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 4X4 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.	CINCO EUROS con OCHENTA Y DOS CÉNTIMOS	5,82
						0037	BT-U004X5-000	m	M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 5X4 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.	SIETE EUROS con SEIS CÉNTIMOS	7,06
0026	BT-AC-CANL160	m	M.L. DE TUBO CORRUGADO DE PVC DE 180 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA.		5,22						
				CINCO EUROS con VEINTIDOS CÉNTIMOS		0038	BT-U006X3-000	m	M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 3X6 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.	SEIS EUROS con CUARENTA Y CUATRO CÉNTIMOS	6,44
0027	BT-AC-CANL2	m	M.L. DE TUBO CORRUGADO DE PVC DE 225 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N, UNO POR TERNA + UNO DE RESERVA. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA.		13,97						
				TRECE EUROS con NOVENTA Y SIETE CÉNTIMOS		0039	BT-U035X3-016	m	M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR APANTALLADO RZ1 0,6/1 KV DE 3X35+TTX16 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.	VEINTICUATRO EUROS con CUARENTA Y NUEVE CÉNTIMOS	24,49
0028	BT-AC-CANL200	m	M.L. DE TUBO CORRUGADO DE PVC DE 200 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA.		6,10						
				SEIS EUROS con DIEZ CÉNTIMOS		0040	BT-U120X3-070	m	M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR APANTALLADO RZ1 0,6/1 KV DE 3X120+TTX70 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.	CINCUENTA Y CUATRO EUROS con NOVENTA Y SEIS CÉNTIMOS	54,96
0029	BT-CCABLE085	m	M.L. REALIZACIÓN DE ZANJA EN TIERRA CON LECHO DE ARENA PARA CABLES DE BT DE 0,85 MTS DE ANCHURA Y 0,75 MTS DE PROFUNDIDAD, INCLUYENDO ROTURA Y REPOSICIÓN DE PAVIMENTO EXISTENTE, EXCAVACIÓN CON MEDIOS MECÁNICOS, CAPA DE ARENA FINA DE 20 CM, RELLENO DE ZANJAS CON ZAHORRAS MEDIANTE TONGADAS DE 50 CM, PLACA DE PE DE PROTECCIÓN Y SEÑALIZACIÓN, ASÍ COMO MEDIOS MECÁNICOS, RETIRADA DE TIERRAS A VERTEDERO, MANO DE OBRA ESPECIALIZADA Y PEQUEÑO MATERIAL AUXILIAR NECESARIO (, MEDIDA LA UNIDAD TERMINADA Y EJECUTADA.		34,53						
				TREINTA Y CUATRO EUROS con CINCUENTA Y TRES CÉNTIMOS		0041	BT-U150X3-095	m	M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR APANTALLADO RZ1 0,6/1 KV DE 3X150+TTX95 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.	SESENTA Y OCHO EUROS con CINCUENTA Y UN CÉNTIMOS	68,51
0030	BT-U001.5X2-0	m	CABLE UNIPOLAR RZ1-K 0,6/1KV 2X1.5; TOTALMENTE MONTADO, CONECTADO Y PROBADO.		2,22						
				DOS EUROS con VEINTIDOS CÉNTIMOS		0042	BT-U185X3-095	m	M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR APANTALLADO RZ1 0,6/1 KV DE 3X95+TTX50 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.	OCHENTA Y UN EUROS con CINCUENTA Y OCHO CÉNTIMOS	81,58
0031	BT-U001.5X3-0	m	M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 3X1.50 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.		2,88						
				DOS EUROS con OCHENTA Y OCHO CÉNTIMOS							
0032	BT-U002.5X3-0	m	M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR RZ1 0,6/1 KV DE 3X2.5 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.		3,50						
				TRES EUROS con CINCUENTA CÉNTIMOS							

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0043	BT-U240X3-120	m	M.L. SUMINISTRO Y MONTAJE DE CABLE UNIPOLAR APANTALLADO RZ1 0,6/1 KV DE 3X240+TTX120 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.		103,58	0046	BT0160	Ud	ARMARIO BOMBA 160 KW AC/DC CON VARIADOR FV. INCLUYE: - ENVOLVENTE COMBINABLE METÁLICA DE 1780X529X2000 MM, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA DE 2 HOJAS EN ACERO PLEGADO Y SOLDADO, APERTURA 120°, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO.		31.934,45
				CIENTO TRES EUROS con CINCUENTA Y OCHO CÉNTIMOS							
0044	BT-URVK3X240A	m	ACOMETIDA SUBTERRÁNEA. - SE EMPLEARÁ CABLE RV 0.6/1KV EN ALUMINIO 1X240, CONSTITUYENDO 3 TERNAS, Y 1X150 POR CADA TERNA PARA TT, PARA LA TENSIÓN DE 400V. COMPLETAMENTE INSTALADO.		35,08						
				TREINTA Y CINCO EUROS con OCHO CÉNTIMOS							
0045	BT002-1	Pa	PARTIDA ALZADA A JUSTIFICAR PARA REDACCIÓN DE PROYECTOS ELÉCTRICOS DE BT NECESARIOS PARA LOS CONDICIONANTES ESPECIFICADOS POR LA COMPAÑÍA Y QUE PUDIERAN SER EXIGIDOS POR LOS DIFERENTES ORGANISMOS, COPIAS DOCUMENTALES, VISADOS, BOLETINES, INCLUIDOS TODO TIPO DE TRÁMITES Y TASAS.		1.000,00				- SECCIONADOR AC - FUSIBLES AC - SECCIONADOR DC - FUSIBLES DC - PROTECTOR CONTRA SOBRETENSIONES - VIGILANTE DE AISLAMIENTO - KIT DE DIODO DE PROTECCIÓN TIRISTOR- DIODO. DIODOS DE BLOQUEO PARA BUS CONTINUA VARIADOR - FUSIONAMIENTO EN INS. FLOTANTE - INSTALACIÓN PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA - SOPORTE PARA EMBARRADOS, INCLUYE PANTALLA DE METACRILATO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - VARIADOR DE FRECUENCIA FOTOVOLTAICO 160 KW, TIPO CD750SP O SIMILAR, TENSIÓN EN PUENTE RECTIFICADOR 400 VCC, TENSIÓN EN BUS CONTINUA MÁXIMA 1000 VCC Y MINIMA 540 VCC, 150% DURANTE 60SEG, TEMPERATURA AMBIENTE 50°C, DE DIMENSIONES 780X529X1715 MM, EN ARMARIO IP54 PARA INMUNIDAD RFI. INCLUYE RADIADOR DE ALTA EFICIENCIA, INSTALACIÓN COMPLETA PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA. FUENTE DE ALIMENTACIÓN DE 24VCC-100MA DISPONIBLE PARA EL USUARIO PROTEGIDA CONTRA CORTOCIRCUITOS. PUERTO DE COMUNICACIONES SERIE, PROTECCION CONTRA SOBRETENSIONES, SOBRECORRIENTE, SOBRECARGA EN LOS IGBTs, TEMPERATURA, INDUCTANCIA DE LÍNEA, FILTRO EMC, THDI BOBINAS Y FILTRO DV/DT EN SALIDA. -INCLUSO PULSADORES, SECCIONADORES EXTERIORES, SELECTOR DE TRES POSICIONES, POTENCIÓMETROS, PARA MANEJO DE BOMBAS Y LEDS SEÑALIZACIÓN EN PUERTA. - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS.		
				MIL EUROS					INCLUSO TRANSPORTE. TOTALMENTE MONTADO, CONECTADO Y PROBADO.		
										TREINTA Y UN MIL NOVECIENTOS TREINTA Y CUATRO EUROS con CUARENTA Y CINCO CÉNTIMOS	

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0047	BT0200	Ud	<p>ARMARIO BOMBA 200 KW AC/DC CON VARIADOR FV. INCLUYE:</p> <ul style="list-style-type: none"> - ENVOLVENTE COMBINABLE METÁLICA DE 1780X529X2000 MM, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA DE 2 HOJAS EN ACERO PLEGADO Y SOLDADO, APERTURA 120º, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO. - SECCIONADOR AC - FUSIBLES AC - SECCIONADOR DC - FUSIBLES DC - PROTECTOR CONTRA SOBRETENSIONES - VIGILANTE DE AISLAMIENTO - KIT DE DIODO DE PROTECCIÓN TIRISTOR- DIODO. DIODOS DE BLOQUEO PARA BUS CONTINUA VARIADOR - FUSIONAMIENTO EN INS. FLOTANTE - INSTALACIÓN PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA - SOPORTE PARA EMBARRADOS, INCLUYE PANTALLA DE METACRILATO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - VARIADOR DE FRECUENCIA FOTOVOLTAICO 200 KW, TIPO CD750SP O SIMILAR, TENSIÓN EN PUENTE RECTIFICADOR 400 VCC, TENSIÓN EN BUS CONTINUA MÁXIMA 1000 VCC Y MÍNIMA 540 VCC, 150% DURANTE 60SEG, TEMPERATURA AMBIENTE 50°C, DE DIMENSIONES 780X529X1715 MM, EN ARMARIO IP54 PARA INMUNIDAD RFI. INCLUYE RADIADOR DE ALTA EFICIENCIA, INSTALACIÓN COMPLETA PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA. FUENTE DE ALIMENTACIÓN DE 24VCC-100MA DISPONIBLE PARA EL USUARIO PROTEGIDA CONTRA CORTOCIRCUITOS. PUERTO DE COMUNICACIONES SERIE, PROTECCION CONTRA SOBRETENSIONES, SOBRECORRIENTE, SOBRECARGA EN LOS IGBTs, TEMPERATURA, INDUCTANCIA DE LÍNEA, FILTRO EMC, THDI BOBINAS Y FILTRO DV/DT EN SALIDA. -INCLUSO PULSADORES, SECCIONADORES EXTERIORES, SELECTOR DE TRES POSICIONES, POTENCIÓMETROS, PARA MANEJO DE BOMBAS Y LEDS SEÑALIZACIÓN EN PUERTA. - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. <p>INCLUSO TRANSPORTE. TOTALMENTE MONTADO, CONECTADO Y PROBADO.</p>	TREINTA Y DOS MIL CIENTO CUARENTA Y OCHO EUROS con SESENTA Y NUEVE CÉNTIMOS	32.148,69	0048	BT025CC	Ud	<p>ARMARIO PROTECCIONES BOMBAS ACOMETIDA FV EB INCLUYE:</p> <ul style="list-style-type: none"> - 2 ENVOLVENTES COMBINABLE METÁLICA DE 2000X1600X800, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA DE 2 HOJAS EN ACERO PLEGADO Y SOLDADO, APERTURA 120º, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO. - INCLUYE 4 PLETINAS DE COBRE DE 2(120X10) MM PARA EMBARRADO, DE 1.6M DE LARGO CADA UNA. PARA CC. - 2 INTERRUPTOR AUTOMÁTICO TIPO EMAXDC 2000A 1100VCC - 5 INTERRUPTOR AUTOMÁTICO TIPO TMAX T5-6 DE IN 630 A, POTENCIA DE CORTE DE 20 KA Y 4POLOS, 1100V - 9 INTERRUPTOR AUTOMÁTICO TIPO TMAX T5 DE IN 400 A, POTENCIA DE CORTE DE 22 KA Y 4POLOS, 1100V - 14 DIODOS DE BLOQUEO PARA BUS CONTINUA VARIADOR. - SOPORTE PARA EMBARRADOS, INCLUYE PANTALLA DE METACRILATO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. <p>INCLUSO TRANSPORTE. TOTALMENTE MONTADO, CONECTADO Y PROBADO.</p>	SESENTA Y UN MIL SEISCIENTOS CUARENTA EUROS con DOCE CÉNTIMOS	61.640,12

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0049	BT026	Ud	<p>ARMARIO BOMBA 250 KW AC/DC CON VARIADOR FV. INCLUYE:</p> <ul style="list-style-type: none"> - ENVOLVENTE COMBINABLE METÁLICA DE 1780X529X2000 MM, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA DE 2 HOJAS EN ACERO PLEGADO Y SOLDADO, APERTURA 120º, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO. - SECCIONADOR AC - FUSIBLES AC - SECCIONADOR DC - FUSIBLES DC - PROTECTOR CONTRA SOBRETENSIONES - VIGILANTE DE AISLAMIENTO - KIT DE DIODO DE PROTECCIÓN TIRISTOR- DIODO. DIODOS DE BLOQUEO PARA BUS CONTINUA VARIADOR - FUSIONAMIENTO EN INS. FLOTANTE - INSTALACIÓN PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA - SOPORTE PARA EMBARRADOS, INCLUYE PANTALLA DE METACRILATO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - VARIADOR DE FRECUENCIA FOTOVOLTAICO 250 KW, TIPO CD750SP O SIMILAR, TENSIÓN EN PUENTE RECTIFICADOR 400 VCC, TENSIÓN EN BUS CONTINUA MÁXIMIMA 1000 VCC Y MÍNIMA 540 VCC, 150% DURANTE 60SEG, TEMPERATURA AMBIENTE 50°C, DE DIMENSIONES 780X529X1715 MM, EN ARMARIO IP54 PARA INMUNIDAD RFI. INCLUYE RADIADOR DE ALTA EFICIENCIA, INSTALACIÓN COMPLETA PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA. FUENTE DE ALIMENTACIÓN DE 24VCC-100MA DISPONIBLE PARA EL USUARIO PROTEGIDA CONTRA CORTOCIRCUITOS. PUERTO DE COMUNICACIONES SERIE, PROTECCION CONTRA SOBRETENSIONES, SOBRECORRIENTE, SOBRECARGA EN LOS IGBTs, TEMPERATURA, INDUCTANCIA DE LÍNEA, FILTRO EMC, THDI BOBINAS Y FILTRO DV/DT EN SALIDA. -INCLUSO PULSADORES, SECCIONADORES EXTERIORES, SELECTOR DE TRES POSICIONES, POTENCIÓMETROS, PARA MANEJO DE BOMBAS Y LEDS SEÑALIZACIÓN EN PUERTA. - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. <p>INCLUSO TRANSPORTE. TOTALMENTE MONTADO, CONECTADO Y PROBADO.</p>	TREINTA Y DOS MIL NOVECIENTOS NOVENTA Y CINCO EUROS con TREINTA Y CINCO CÉNTIMOS	32.995,35	0050	BT036E	Ud	<p>BATERIA DE CONDENSADORES AUTOMÁTICA PARA COMPENSACIÓN DE ENERGÍA REACTIVA, DE 135 KVAR (15+40X30) Y 400VAC TRIFÁSICA A 50HZ, ENVOLVENTE METÁLICA INCLUIDA EN LA ACOMTIDA, REGULADOR DIGITAL DE 96X96MM, PROTECCIÓN POR FUSIBLES, INTERRUPTOR GENERAL MANUAL DE CORTE EN CARGA CON BLOQUEO DE PUERTA, CONTACTOR CON RESISTENCIAS, VENTILADOR Y TERMOSTATO, SOBRECARGA 1,3IN, SOBRETENSIÓN 1,1VN, VALOR ICC EMBARRADO 70KA, 1SG, DISPOSITIVO ANTIEXPLOSIÓN Y RESISTENCIAS DE DESCARGA INCORPORADAS. PROTECCIÓN CONTRA CONTACTOS INDIRECTOS, AUTOTRANSFORMADOR 400/230V INTEGRADO, CONEXIÓN CABLEADO DE POTENCIA POR PARTE INFERIOR MEDIANTE TAPA PASACABLES, INCLUSO TRANSPORTE. TOTALMENTE MONTADA, CONECTADA, INSTALADA Y PROBADA.</p>	DOS MIL TRESCIENTOS NOVENTA Y SEIS EUROS con NOVENTA Y NUEVE CÉNTIMOS	2.396,99
						0051	BT037A	Ud	<p>UD SUMINISTRO Y MONTAJE DE ILUMINACIÓN DE ESTACIÓN DE BOMBEO QUE INCLUYE:</p> <ul style="list-style-type: none"> - 51 LUMINARIAS (INCLUIDA LAMPARA Y LUMINARIA) PARA INTERIOR, ESTANCA CON PROTECCIÓN IP65 O SUPERIOR, LUZ BLANCA, 6500 LM, 46,6 W Y LONGITUD DE 1600 MM. INCLUIDOS LOS ELEMENTOS DE ANCLAJE A ESTRUCTURAS DE HORMIGÓN Y PERFILES METÁLICOS, FALSOS TECHOS,.... ADEMÁS DE PEQUEÑO MATERIAL DE CONEXIÓN, Y ANCLAJE. - 14 LUMINARIAS DE ALUMBRADO PÚBLICO PARA EXTERIOR (LAMPARA Y LUMINARIA INCLUIDAS) TIPO FOCO, ESTANCO CON PROTECCIÓN IP65 O SUPERIOR, LUZ BLANCA, 15000 LM, 104 W CON SOPORTE METÁLICO INOXIDABLE PARA COLOCACIÓN EN FACHADAS DE HORMIGÓN U OTROS MATERIALES SIMILARES, INCLUYENDO LOS SISTEMAS DE ANCLAJE TORNILLERÍA, ALBAÑILERÍA ASOCIADA, Y PEQUEÑO MATERIAL DE CONEXIÓN ENTRE ELEMENTOS. - 8 LUMINARIAS DE EMERGENCIA CON EQUIPO DE 8 W, CON CARCASA DE POLIESTER, IP54, INCLUIDA LÁMPARA 8 W, MEDIOS AUXILIARES NECESARIOS DE ELEVACIÓN Y PEQUEÑO MATERIAL, TOTALMENTE INSTALADA. <p>TOTALMENTE INSTALADO, CONECTADO Y PROBADO.</p>	DOCE MIL DOSCIENTOS CUATRO EUROS con CINCUENTA CÉNTIMOS	12.204,50

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0052	BT039-1C	u	UD. DE VENTILACIÓN, EXTRACCIÓN DE AIRE MONTADA, CONEXIONADA Y PROBADA, COMPUESTA POR: - 1 VENTILADOR: - CAUDAL 6300M3/H. - 900 RPM - NIVEL SONORO 59 DB - BASE SOPORTE HCT PARA CUBIERTAS INCLINADAS. - BASE ATENUADORA ACÚSTICA: LOS VENTILADORES INSTALADOS SON DE GRAN CAPACIDAD, LO QUE CONLLEVA A QUE GENERAN UN ELEVADO NIVEL DE PRESIÓN SONORA, POR LO QUE SE AÑADE ESTE ACCESORIO. - MARCO SOPORTE EN CHAPA DE ACERO. - SOPORTE MOTOR CON REJILLA DE PROTECCIÓN CONTRA CONTACTOS, SEGÚN NORMAS DIN 24167 Y UNE 20-359-74. - HÉLICE EN POLIAMIDA 6 REFORZADA CON FIBRA DE VIDRIO. - CONJUNTO EQUILIBRADO DINÁMICAMENTE SEGÚN LA NORMA ISO 1940. - ACABADO ANTICORROSIÓN EN RESINA DE POLIESTER, POLIMERIZADA A 180°C., PREVIO DESENGRASE, FOSFATACIÓN Y PASIVADO. - CAJA DE CONEXIÓN INCLUIDA. - MOTORES ASÍNCRONOS, CON ROTOR DE JAULA DE ARDILLA. - TENSIÓN MOTOR 380-415 V 50 HZ . - POTENCIA CONSUMIDA 370W - AISLAMIENTO CLASE F Y PROTECCIÓN IP-65. - PROTECCIÓN TÉRMICA INCLUIDA PARA PROTEGER EL MOTOR CONTRA SOBRECALENTAMIENTOS PRODUCIDOS POR CUALQUIER ANOMALIA. - INTERRUPTORES PARA INSTALAR AL LADO DEL VENTILADOR, Y DE ESTA FORMA PODER CORTAR LA CORRIENTE ANTES DE MANIPULAR EL VENTILADOR. DE ACUERDO A LA NORMA IEC947-3. -PROTECCIÓN IP-65.	QUINIENTOS TREINTA Y TRES EUROS con CINCUENTA Y CUATRO CÉNTIMOS	533,54	0054	BT043A	Ud	UD SUMINISTRO DE CUADRO AUTOMATISMO COMPUESTO POR: - ENVOLVENTE COMPARTIDA CON CUADRO SSAA - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - 1 CONVERTIDOR DE CORRIENTE CONTINUA, TENSIÓN DE ENTRADA 24 VCC, TENSIÓN DE SALIDA 12VCC, DIMENSIONES 124X32X102, POTENCIA MÁX. 96W, CORRIENTE DE SALIDA 8A - 1MÓDULO REDUNDANTE PARA FUENTES DE ALIMENTACIÓN DE TENSIÓN DE ENTRADA DE 24 VCC Y SALIDA DE 80 A. DOBLE ENTRADA Y ÚNICA SALIDA. PÉRDIDAS DE 50MV A 40A DE CORRIENTE DE SALIDA. PÉRDIDAS DE 2.7 W A 40A Y 8.3W A 80A. TAMAÑO 46X124X127 ENVOLVENTE METÁLICA. - 1 FUENTES ALIMENTACIÓN, SALIDA 24VCC, CORRIENTE DE SALIDA 10A, TAMAÑO 125X100X125, POTENCIA MÁX. DE SALIDA 240W, TENSIÓN DE ENTRADA 85 A 264VAC, TIPO CONMUTADO - 4 INTERRUPTORES MAGNÉTICOS 1P DE CORRIENTE CONTINUA CON TENSIÓN 24VCC Y 6A DE CORRIENTE. - 2 INTERRUPTORES BIPOLARES 16 A PDEC DE 35 KA. 230V - 5 RELÉS DE MANDO 24VCC - 1 AISLADORES GALVÁNICOS PARA ENTRADAS ANALÓGICAS DE 2 CANALES. - SAI 2.2 KVA POTENCIA CON VOLTAJE DE 230VAC, CON CAPACIDAD DE BATERÍAS PARA 12 MINUTOS,CON CABLE DE COMUNICACIÓN A PUERTO SERIE CON PC, Y SOFTWARE DE SUPERVISIÓN DEL SAI INCLUYE TRANSPORTE. - 1 MODEM GSM CON COMUNICACIÓN POR ETHERNET Y TARJETA SIM PARA COMUNICACIÓN REMOTA. PARA AVISOS VÍA SMS (ANTIRROBO, ALARMA). - 1 PROTECCIÓN CONTRA SOBRETENSIONES TIPO D 230V. - 3 SWTCH INDUSTRIAL DE 8 PUERTOS RJ45 - PANEL DE PC TÁCTIL TIPO RESISTIVO ANÁLOGO, CON WINDOWS 7 A 64 BITS Y PROCESADOR CORE 3RD GENERACIÓN, 827E, CACHE 3 MB, PARA PANTALLA DE 12" Y 17 MILLONES DE COLORES, RESOLUCIÓN 1024X768 XGA, LCD DE COLOR TFT CON RETROILUMINACIÓN LED, CON LUMINANCIA 375 CD/M2, TARJETA GRÁFICA INTEL HD GRAPHICS 3000, MONTADA SOBRE SOPORTE DE ALUMINIO. DISCO DURO MAYOR DE 60 GB FLASH DISCK SSD MLC PARA 2000000 HORAS, Y MEMORIA INTERNA DE HASTA 16 GB RAM DDR3. CONEXIONES (DVI, ETHERNET, COM 1 Y COM2, USB 2.0 Y USB 3.0, MINIJACK) Y PUERTO ETHERNET. - INCLUYE LUCES DE SEÑALIZACIÓN. - INCLUYE TRANSPORTE. TOTALMENTE MONTADO, INSTALADO, CONECTADO Y PROBADO.	CINCO MIL VEINTE EUROS con OCHENTA Y CUATRO CÉNTIMOS	5.020,84
0053	BT042A	Ud	UD. CONSTRUCCIÓN, SUMINISTRO Y MONTAJE DE CUADRO DE TOMAS DE CORRIENTE EN CAJA ESTANCA DE SUPERFICIE, MATERIAL PVC, PROTECCIÓN IP-66 DE 265X460X181 MM DE DIMENSIONES APROXIMADAS, CON CAPACIDAD PARA 24 MÓDULOS DE PROTECCIÓN, FRONTAL PRACTICABLE CON BISAGRAS INFERIORES Y TORNILLOS Y VENTANILLA ABATIBLE DE MAKROLÓN, COMPUESTA POR: - 1 INTERRUPTOR AUTOMÁTICO MAGNETOTÉRMICO GENERAL DE IVX32 A. - 1 INTERRUPTOR DIFERENCIAL IVX40 A, 30 MA. - 1 INTERRUPTOR AUTOMÁTICO MAGNETOTÉRMICO DE IIX16 A. - 1 INTERRUPTOR AUTOMÁTICO MAGNETOTÉRMICO DE IVX16 A. - 1 TOMAS DE CORRIENTE TIPO CETACT, 400 V, III+TX16 A, INCLINADA Y EMPOTRABLE. - 1 TOMAS DE CORRIENTE TIPO SCHUKO, 230 V, II+TX16 A, INCLINADA Y EMPOTRABLE. INCLUIDO HERRAJE DE SUJECCIÓN EN ESTRUCTURA O PARED EXISTENTES Y PEQUEÑO MATERIAL NECESARIO PARA UN CORRECTO MONTAJE, TOTALMENTE INSTALADO.	SEISCIENTOS DOS EUROS con VEINTINUEVE CÉNTIMOS	602,29						

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0055	BT044B	Ud	<p>UNIDAD PLC PARA CONTROL DE ESTACIÓN DE BOMBEO CONSISTENTE EN:</p> <ul style="list-style-type: none"> -1XCPU -MAX 1024 VÍAS ED/SD -MAX 256 VÍAS EA/SA -4.098 KB DE RAM DE USO INTERNO -3584KB DE MEMORIA INTERNA PARA ALMACENAMIENTO DE PROGRAMA -1 PUERTO ENLACE SERIE INTEGRADO RJ45 CON INTERFAZ RS232/RS485 PARA PROTOCOLO MODBUS -1 PUERTO ETHERNET INTEGRADO -1 PUERTO USB DE PROGRAMACIÓN. - 5 MÓDULO DE 32 ED 24VCC DE ALTA DENSIDAD - 2 MÓDULO DE 32 SALIDAS DIGITALES - 10 MÓDULOS DE ENTRADAS ANALÓGICAS PARA SONDAS DE TEMPERATURA - 4 MÓDULO DE 4 SALIDAS ANALÓGICAS - 2 MÓDULO DE 8 ENTRADAS ANALÓGICAS - 2 RACK DE 12 EMPLAZAMIENTOS - 1 FUENTE DE ALIMENTACIÓN DE 220/24 VCC DE 36W - 17 BORNEROS DESENCHUFABLES DE 20 PUNTOS PARA ENTRADAS ANALÓGICAS - INCLUYE PROGRAMA Y PROGRAMACIÓN DEL PLC. - INCLUYE PUESTA EN MARCHA DEL PLC Y DE TODO EL SISTEMA DE AUTOMATIZACIÓN, INCLUYENDO COMUNICACIÓN CON REMOTAS. - INCLUYE PEQUEÑO MATERIAL AUXILIAR Y DE MONTAJE. <p>TOTALMENTE INSTALADO, CONFIGURADO, CONECTADO Y PROBADO.</p>	VEINTIDOS MIL TRESCIENTOS TREINTA Y UN EUROS con SETENTA Y CINCO CÉNTIMOS	22.331,75				<p>DE 4 GB DE RAM DISCO DURO REDUNDANTE DE 145 GB CON CINTAS DAT72 DE COPIA DE SEGURIDAD.</p> <ul style="list-style-type: none"> - SAI - COMPLETA IMPRESORA DE LÁSER COLOR Y UN SAI DE 1900 VA. - INCLUYE TRABAJOS DE PARAMETRIZACIÓN Y CONFIGURACIÓN DEL SOFTWARE. - SUMINISTRO, INSTALACIÓN Y PRUEBAS DE SOFTWARE.PAQUETE DE SOFTWARE FORMADO POR TRES PROGRAMAS: - COMUNICACIONES, CONTROL Y GESTIÓN. SE INSTALA EN LOS EQUIPOS INFORMÁTICOS ANTERIORMENTE DESCRITOS. - SE INCLUYE GUARDIÁN PARA EL CONTROL DEL SOFTWARE Y ALIMENTACIÓN DEL SISTEMA ASÍ COMO LA GESTIÓN DE ENVÍO Y RECEPCIÓN DE LOS MENSAJES SMS DE ALARMA U ÓRDENES SEGÚN CONFIGURACIÓN.PARA LA PROGRAMACIÓN Y PARAMETRIZACIÓN DEL RIEGO DE COMUNIDADES DE REGANTES, A TRAVÉS DE UN PC BAJO ENTORNO WINDOWS. PERMITE LA EXPORTACIÓN Y ALMACENAMIENTO DE DATOS A OTROS PROGRAMAS (EXCEL, WORD, ETC.) PARA LA GESTIÓN DEL SISTEMA. - PERSONALIZACIÓN DEL PROGRAMA Y LAS PANTALLAS A CARGO DE UN ESPECIALISTA INFORMÁTICO. ENTRADA DE DATOS DE TODOS LOS HIDRANTES Y SECTORES DE RIEGO, ADEMÁS DE LA CONFIGURACIÓN DEL ENTORNO GRÁFICO EN PLANOS GIS POR SECTORES DE RIEGO. SINÓPTICOS ESTACIONES DE BOMBEO Y BALSAS. TRABAJOS DE INTEROPERABILIDAD ENTRE BASES DE DATOS (SQL-SERVER) DESDE SCADA-HMI DEL AUTÓMATA DE BOMBEO Y EL SOFTWARE EN CENTRO DE CONTROL, PARA VISUALIZACIÓN DE SEÑALES DIGITALES Y ANALÓGICAS DE LA ESTACIÓN DE BOMBEO. - INCLUYE SCADA PARA CONTROL DE LAS UNIDADES REMOTAS Y DE LAS ESTACIONES DE BOMBEO. <p>SCADA DE SUPERVISIÓN INCLUYENDO LA PROGRAMACIÓN DE PANTALLAS Y SUBPANTALLAS COMO MINIMO:</p> <ul style="list-style-type: none"> - PANTALLA DE SITUACIÓN: GESTIÓN DE ACCESO Y PERMISOS. - PANTALLA DE ESTADO GENERAL: VALORES MÁS SIGNIFICATIVOS ON-LINE, VISTA DE LAS BOMBAS Y SALA DE CUADROS, Y ACCESO A OTRAS PANTALLAS. - PANTALLA DE ESTADO DEL GRUPO DE BOMBEO/TURBINAS: ESTADO DE LA TURBINA/BOMBA, TEMPERATURAS PT100, GESTIÓN DE ALARMAS, RESULTADOS, VARIABLES ELÉCTRICAS (V, I, P ETC), GRÁFICOS DE VARIABLES, PRESIONES Y CAUDALES, HORAS DE MARCHA, Nº DE CONEXIONES ETC. - PANTALLA DE ESTADO DE EQUIPOS: PROTECCIONES COMUNES DEL BOMBEO, PROTECCIONES ELÉCTRICAS INDIVIDUALES, PROTECCIONES DE FILTROS. - PANTALLA DE ESTADO DEL CT, PROTECCIONES Y CONSUMOS. - PANTALLA DE PROGRAMACIÓN: VALORES DE CAPTACIÓN, VALORES DE LLENADO AUTOMÁTICO, LÍMITES DE LLENADO, FUNCIONAMIENTO, PROGRAMACIÓN DE PERIODOS, PROGRAMACIÓN Nº DE BOMBAS, VALORES DE CIERRE, PROGRAMACIÓN VENTILACIÓN, RANGOS HORARIOS DE BOMBEO Y PERIODOS TARIFARIOS, HORARIO LIMITADO O CONTINUO, PARÁMETROS PARA GESTIÓN DE LA EFICIENCIA ENERGÉTICA, RENDIMIENTO ÓPTIMO, PROGRAMACIÓN DE MÁXIMOS CAUDALES Y PROTENCIA, CONFIGURACIÓN SMS, PROGRAMACIÓN SMS ALARMAS, AVISOS Y Nº DE TELÉFONO ETC. PROGRAMACIÓN PARÁMETROS DE INTRUSIÓN. -PANTALLA DE GRÁFICOS: GRÁFICOLS A ELECCIÓN DEL USUARIO CRUZANDO VARIABLES A LO LARGO DEL TIEMPO GENERAL DE LA INSTALACIÓN, COMO INDIVIDUALES DE LOS EQUIPOS, VISUALIZACIÓN DE GRÁFICOS INSTANTANEOS O EN 		
0056	BT045A	Ud	<p>INSTRUMENTACIÓN NECESARIA PARA CONTROL Y MONITORIZACIÓN DE LA ESTACIÓN DE BOMBEO QUE INCLUYE:</p> <ul style="list-style-type: none"> - 5 TRANSDUCTOR DE PRESIÓN, TIPO SITRANS P SERIE Z, CON GAMA DE PRESIÓN 0-16 BAR, CONEXIÓN DE PRESIÓN G1/2, SALIDA 4..20 MA., TENSIÓN DE ALIMENTACIÓN 10-36 VCC, CARCASA DE ACERO INOXIDABLE, IP65, TEMPERATURA AMBIENTE -25 +85°, CONEXIÓN 2 HILOS - 2 SENSORES DE LÁMINA DE PUERTA 2 HILOS Y TENSIÓN MÁXIMA DE CONMUTACIÓN DE 30VCC, 2 PARA ESTACIÓN DE BOMBEO Y 2 PARA CT. - 2 TERMOSTATOS PARA PARED CON CONTACTO NO 230V 0 A 60° PARA ACTIVACIÓN DE EXTRACTORES. - 24 FINALES DE CARRERA PARA CONTROL DE APERTURA DE VÁLVULAS PREVIA CONEXIÓN DE EQUIPOS DE BOMBEO. - INCLUYE PEQUEÑO MATERIAL DE MONTAJE. <p>TOTALMENTE INSTALADO Y PROBADO.</p>	MIL CUATROCIENTOS CINCUENTA Y OCHO EUROS con SETENTA Y OCHO CÉNTIMOS	1.458,78						
0057	BT046-2A	Ud	<p>CENTRO DE CONTROL PARA MONITORIZACIÓN Y COMANDO DE ESTACIÓN DE BOMBEO COMPUESTO POR:</p> <ul style="list-style-type: none"> - SAI DE 750VA DE POTENCIA PARA CONEXIÓN DE PC DE CENTRO DE CONTROL, CON VOLTAJE DE 230VAC, CON CAPACIDAD DE BATERÍAS PARA 12 MINUTOS A MEDIA CARGA, Y 6 MINUTOS A PLENA CARGA,CON CABLE DE COMUNICACIÓN A PUERTO SERIE CON PC, Y SOFTWARE DE SUPERVISIÓN DEL SAI. <p>- EQUIPOS INFORMÁTICOS COMPUESTO POR:</p> <ul style="list-style-type: none"> - ORDENADOR PC DE GESTIÓN DELL CON PROCESADOR CORE-DUO 3GHZ DE 4GB RAM, DISCO DURO DE 250 GB, TARJETA GRÁFICA DE 512 MB Y MONITOR DE 22". - UN PC SERVIDOR CON PROCESADOR QUAD-CORE XEON 		11.714,14						

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
			UN RANGO DE TIEMPOS, ALMACENAMIENTO DE VARIABLES, MODIFICACION DE ESCALAS. -PANTALLA DE ALARMAS Y ADVERTENCIAS: ALMACENAMIENTO DE ALARMAS Y SUCESOS, ALARMAS ACTUALES, FILTRO DE RESULTADOS ETC. -PANTALLA DE INFORMES: GENERACIÓN DE INFORMES EN UN RANGO DE RASTREO DE LAS VARIABLES DESEADA, IMPRESIÓN DE INFORMES TOALMENTE PROGRAMADO, MONTADO,INSTALADO, CONFIGURADO Y PROBADO.	ONCE MIL SETECIENTOS CATORCE EUROS con CATORCE CÉNTIMOS		0058	BT046A	Ud	CENTRO DE CONTROL PARA MONITORIZACIÓN Y COMANDO DE ESTACIÓN DE BOMBEO COMPUESTO POR: - SAI DE 750VA DE POTENCIA PARA CONEXIÓN DE PC DE CENTRO DE CONTROL, CON VOLTAJE DE 230VAC, CON CAPACIDAD DE BATERÍAS PARA 12 MINUTOS A MEDIA CARGA, Y 6 MINUTOS A PLENA CARGA, CON CABLE DE COMUNICACIÓN A PUERTO SERIE CON PC, Y SOFTWARE DE SUPERVISIÓN DEL SAI. - PC CON WINDOWS XP, PROCESADOR INTEL CORE 2 DUO O EQUIVALENTE, CON 2 GB DE MEMORIA RAM, DISCO DURO DE 500 GB Y MONITOR DE 21". - INCLUYE SCADA PARA CONTROL DE LAS UNIDADES REMOTAS Y DE LA ESTACIÓN DE BOMBEO. SCADA DE SUPERVISIÓN INCLUYENDO LA PROGRAMACIÓN DE PANTALLAS Y SUBPANTALLAS COMO MINIMO: - PANTALLA DE SITUACIÓN: GESTIÓN DE ACCESO Y PERMISOS. - PANTALLA DE ESTADO GENERAL: VALORES MÁS SIGNIFICATIVOS ON-LINE, VISTA DE LAS BOMBAS Y SALA DE CUADROS, Y ACCESO A OTRAS PANTALLAS. - PANTALLA DE ESTADO DEL GRUPO DE BOMBEO: ESTADO DE LA BOMBA, TEMPERATURAS PT100, GESTIÓN DE ALARMAS, RESULTADOS, VARIABLES ELÉCTRICAS (V, I, P ETC), GRÁFICOS DE VARIABLES, PRESIONES Y CAUDALES, HORAS DE MARCHA, Nº DE CONEXIONES ETC. - PANTALLA DE ESTADO DE EQUIPOS: PROTECCIONES COMUNES DEL BOMBEO, PROTECCIONES ELÉCTRICAS INDIVIDUALES, PROTECCIONES DE FILTROS. - PANTALLA DE ESTADO DEL CT, PROTECCIONES Y CONSUMOS. - PANTALLA DE PROGRAMACIÓN: VALORES DE CAPTACIÓN, VALORES DE LLENADO AUTOMÁTICO, LÍMITES DE LLENADO, FUNCIONAMIENTO, PROGRAMACIÓN DE PERIODOS, PROGRAMACIÓN Nº DE BOMBAS, VALORES DE CIERRE, PROGRAMACIÓN VENTILACIÓN, RANGOS HORARIOS DE BOMBEO Y PERIODOS TARIFARIOS, HORARIO LIMITADO O CONTINUO, PARÁMETROS PARA GESTIÓN DE LA EFICIENCIA ENERGÉTICA, RENDIMIENTO ÓPTIMO, PROGRAMACIÓN DE MÁXIMOS CAUDALES Y PROTENCIA, CONFIGURACIÓN SMS, PROGRAMACIÓN SMS ALARMAS, AVISOS Y Nº DE TELÉFONO ETC. PROGRAMACIÓN PARÁMETROS DE INTRUSIÓN. -PANTALLA DE GRÁFICOS: GRÁFICOLS A ELECCIÓN DEL USUARIO CRUZANDO VARIABLES A LO LARGO DEL TIEMPO GENERAL DE LA INSTALACIÓN, COMO INDIVIDUALES DE LOS EQUIPOS, VISUALIZACIÓN DE GRÁFICOS INSTANTANEOS O EN UN RANGO DE TIEMPOS, ALMACENAMIENTO DE VARIABLES, MODIFICACION DE ESCALAS. -PANTALLA DE ALARMAS Y ADVERTENCIAS: ALMACENAMIENTO DE ALARMAS Y SUCESOS, ALARMAS ACTUALES, FILTRO DE RESULTADOS ETC. -PANTALLA DE INFORMES: GENERACIÓN DE INFORMES EN UN RANGO DE RASTREO DE LAS VARIABLES DESEADA, IMPRESIÓN DE INFORMES TOALMENTE PROGRAMADO, MONTADO,INSTALADO, CONFIGURADO Y PROBADO.	CUATRO MIL CIENTO TRES EUROS con OCHENTA Y SEIS CÉNTIMOS	4.103,86

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0059	BT047	Ud	CENTRO DE COMUNICACIONES RADIO QUE CONSISTE EN: - CONCENTRADORA RADIO CON PROTOCOLO MODBUS RTU 12 VCC - 1 LATIGUILLO INTERIOR CUADRO RG-58 1M N MACHO- N HEMBRA - 1 CABLE COAXIAL RG-213 10 M N MACHO - N MACHO - 1 ANTENA OMNIDIRECCIONAL COLINEAL UHF, 3 DB DE GANANCIA, N HEMBRA, 405-445 MHZ - 1 JUEGO DE SOPORTES PARA RAIL DIN - 1 KIT DE PRUEBAS PARA UNIDAD CONCENTRADORA - 1 KIT DE PRUEBAS PARA UNIDADES REMOTAS - 1 CABLE DE CONFIGURACIÓN DE UNIDAD REMOTA - 1 CABLE DE CONFIGURACIÓN PARA CONCENTRADORA. - INCLUYE MASTIL PARA INSTALACIÓN DE ANTENA. TOTALMENTE INSTALADO, CONECTADO Y PROBADO.	DOS MIL QUINIENTOS NOVENTA Y CUATRO EUROS con QUINCE CÉNTIMOS	2.594,15	0062	BT048A	Ud	UNIDAD REMOTA RADIO CONSISTENTE EN: - UNIDAD REMOTA RADIO CON 4 ENTRADAS DIGITALES Y 2 ENTRADAS ANALÓGICAS, IP66 FUNCIONAMIENTO MEDIANTE BATERÍA DE 3 AÑOS DE AUTONOMÍA. SOFTWARE COMPLETO DE CONTROL Y DE COMUNICACIONES; PROTECCIÓN ENTRADAS. CON MICROCONTROLADOR DE 16 BITS DE BAJO CONSUMO CON WATCHDOG, MEMORIA FLASH, RAM Y EEPROM CON REGISTRO DE ACUMULADOS. ALOJADO EN CAJAS PARA CARRIL DIN E INSTALADAS EN CAJAS CON GRADO DE PROTECCIÓN IP66. ALIMENTADO MEDIANTE PACK DE 3 BATERÍAS DE NI-MH CON PANEL SOLAR 5W - 1 TARJETA CON 1 ENTRADA ANALÓGICA 0/4-20 MA - 1 ANTENA LAMBDA/2 EXTERIOR DE 2 DB DE GANANCIA, CABLE DE 7M Y CONECTOR - 1 PACK DE PILA DE LITIO + CONECTOR PARA UNIDAD REMOTA. - 1 CABLE COAXIAL RG-213 10M N MACHO - N MACHO - 1 LATIGUILLO RG-58 1M TNC M - N H INCLUYE MASTIL DE 6M PARA ANTENA, COLOCACIÓN, ENSAYOS Y PUESTA EN MARCHA.	MIL TREINTA Y UN EUROS con DIEZ CÉNTIMOS	1.031,10
0060	BT047B	Ud	CENTRO DE COMUNICACIONES RADIO QUE CONSISTE EN: - 2 RADIOMÓDEM 1W 446 MHZ CON ANTENA COLINEAL UHF 5,5DB CON CONECTOR PARA PUERTO SERIE RS-232/RS-485 Y CAJA ENLACE RS-485+USB PARA ENLACE CON PC Y ALIMENTADOR AC/DC 100-240 VAC/12VDC 2A Y SUMINISTRO RADIO-MÓDEM 433 MHZ EN PC. - INCLUYE MASTIL DE 6 METROS PARA INSTALACIÓN DE ANTENA. - INCLUYE PARTE PROPORCIONAL DE PEQUEÑO MATERIAL, SOPORTES, CABLEADOS, CONEXIONES, ETC..., Y PUESTA EN MARCHA. TOTALMENTE INSTALADO, CONECTADO Y PROBADO.	CUATRO MIL CIENTO DIEZ EUROS	4.110,00	0063	BT048C	Ud	UNIDAD REMOTA RADIO CONSISTENTE EN: SUMINISTRO E INSTALACIÓN DE UNIDAD CONCENTRADORA ENLACE RADIO (EAR) 12 VDC PARA LA COMUNICACIÓN CON LOS TERMINALES DE CONTROL REMOTO PARA UN TOTAL DE 60 MÓDULOS. INCLUYE RADIOMÓDEM 433 MHZ PARA COMUNICACIÓN ENTRE EAR Y SOFTWARE AGRÓNIC NET II CON ANTENA OMNIDIRECCIONAL. ALIMENTACIÓN 12 VDC CON PANEL SOLAR 75W, BATERÍA DE 120 A/H Y REGULADOR. ESTRUCTURA METÁLICA CON SOPORTE PANEL SOLAR Y MÁSTIL DE 6 MTS ALTURA Y CASSETA PREFABRICADA 1X1 PARA ALOJAMIENTO EQUIPAMIENTO. INCLUYE COLOCACIÓN, ENSAYOS Y PUESTA EN MARCHA.	DOS MIL NOVECIENTOS SEIS EUROS con CUARENTA Y TRES CÉNTIMOS	2.906,43
0061	BT048	u	UNIDAD REMOTA RADIO CONSISTENTE EN: - UNIDAD REMOTA RADIO CON 10ED, 2SD, 1EA, IP66 FUNCIONAMIENTO MEDIANTE BATERÍA DE 3 AÑOS DE AUTONOMÍA. - ACCIONAMIENTO POR RELÉ PARA APERTURA Y CIERRE DE MOTORIZACIÓN TIPO VÁLVULA MOTORIZADA. - 1 RADIOMÓDEM Y MÓDEM GSM - 1 TARJETA CON 1 ENTRADA ANALÓGICA 0/4-20 MA - 1 ANTENA LAMBDA/2 EXTERIOR DE 2 DB DE GANANCIA, CABLE DE 7M Y CONECTOR - 1 PACK DE PILA DE LITIO + CONECTOR PARA UNIDAD REMOTA. - 1 CABLE COAXIAL RG-213 10M N MACHO - N MACHO - 1 LATIGUILLO RG-58 1M TNC M - N H - CON PUERTO Y CONEXIÓN PARA COMUNICACIÓN BIDIRECCIONAL CON AUTÓMATA DE CONTROL PARA MANDAR ORDENES Y RECIBIR ESTADOS E INFORMACIÓN DE SEÑALES Y CAUDALÍMETRO. INCLUYE MASTIL DE 3M PARA ANTENA, COLOCACIÓN, ENSAYOS Y PUESTA EN MARCHA.	MIL DOSCIENTOS VEINTITRES EUROS con TREINTA CÉNTIMOS	1.223,30	0064	BT048F	Ud	UNIDAD REMOTA RADIO CONSISTENTE EN: - UNIDAD REMOTA RADIO CON 10 ENTRADAS DIGITALES Y 2 ENTRADAS ANALÓGICAS, IP66 FUNCIONAMIENTO MEDIANTE BATERÍA DE 3 AÑOS DE AUTONOMÍA. SOFTWARE COMPLETO DE CONTROL Y DE COMUNICACIONES; PROTECCIÓN ENTRADAS. CON MICROCONTROLADOR DE 16 BITS DE BAJO CONSUMO CON WATCHDOG, MEMORIA FLASH, RAM Y EEPROM CON REGISTRO DE ACUMULADOS. ALOJADO EN CAJAS PARA CARRIL DIN E INSTALADAS EN CAJAS CON GRADO DE PROTECCIÓN IP66. ALIMENTADO MEDIANTE PACK DE 3 BATERÍAS DE NI-MH CON PANEL SOLAR 5W - 1 TARJETA CON 1 ENTRADA ANALÓGICA 0/4-20 MA - 1 ANTENA LAMBDA/2 EXTERIOR DE 2 DB DE GANANCIA, CABLE DE 7M Y CONECTOR - 1 PACK DE PILA DE LITIO + CONECTOR PARA UNIDAD REMOTA. - 1 CABLE COAXIAL RG-213 10M N MACHO - N MACHO - 1 LATIGUILLO RG-58 1M TNC M - N H INCLUYE MASTIL DE 6M PARA ANTENA, COLOCACIÓN, ENSAYOS Y PUESTA EN MARCHA.	MIL DOSCIENTOS VEINTISEIS EUROS con DIEZ CÉNTIMOS	1.226,10

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0065	BT049	Ud	SUMINISTRO E INSTALACIÓN DE LA INSTRUMENTACIÓN DE LA Balsa consistente en: -1 BOYA DE NIVEL MÁXIMO TENSIÓN 12VCC, GRADO DE PROTECCIÓN IP68 CON CONTACTO NA/NC -1 SENSOR DE PRESIÓN HIDROSTÁTICO PARA MEDIDA DE NIVEL, INCLUYE 20M DE CABLE ESPECIAL PARA INMERSIÓN, SALIDA ANALÓGICA 4..20MA, RANGO DE TEMPERATURAS DE FUNCIONAMIENTO DE -20 A 50°C, SOBREPESIÓN MÁXIMA 2 EN ESCALA COMPLETA, IP 68, RANGO DE PRESIÓN DE 0 A 400 BAR, 12VCC, - 1 TRANSDUCTOR DE PRESIÓN, TIPO SITRANS P SERIE Z, CON GAMA DE PRESIÓN 0-16 BAR, CONEXIÓN DE PRESIÓN G1/2, SALIDA 4..20 MA., TENSIÓN DE ALIMENTACIÓN 10-36 VCC, CARCASA DE ACERO INOXIDABLE, IP65, TEMPERATURA AMBIENTE -25 +85°, CONEXIÓN 2 HILOS - 1 FINALES DE CARRERA PARA CONTROL DE APERTURA DE VÁLVULAS PREVIA CONEXIÓN DE EQUIPOS DE BOMBEO. - INCLUYE PEQUEÑO MATERIAL DE MONTAJE. TOTALMENTE INSTALADO Y PROBADO.		891,76	0070	BT052	m	CABLE DE DATOS DE PARES DE 2X2X1.5 APANTALLADO RANGO DE TEMPERATURA -30° A 80° RECUBRIMIENTO DE PVC, CONDUCTORES DE COBRE DE ALAMBRE FINO, CONDUCTORES TRENZADOS EN PARES, PARES TRENZADOS, PANTALLA DE COBRE ESTAÑADOTRENZADO, CUBIERTA DE PVC RESISTENTE AL ACEITE, A LOS PRODUCTOS QUÍMICOS Y NO PROPAGADORA DE LLAMA. TOTALMENTE MONTADO, CONECTADO Y PROBADO.	CINCO EUROS con SESENTA Y CUATRO CÉNTIMOS	5,64
						0071	BT053	m	SUMINISTRO Y MONTAJE DE CABLE UTP CATEGORÍA 6 PARA TRANSMISIÓN DE DATOS PARA RED ETHERNET Y MODBUS RTU. TOTALMENTE MONTADO E INSTALADO.	CINCO EUROS con CUARENTA Y SIETE CÉNTIMOS	5,47
						0072	BT056	m	M.L. REALIZACIÓN DE ZANJA EN TIERRA CON LECHO DE ARENA PARA CABLES DE BT DE 0,6 MTS DE ANCHURA Y 0,9 MTS DE PROFUNDIDAD, INCLUYENDO ROTURA Y REPOSICIÓN DE PAVIMENTO EXISTENTE, EXCAVACIÓN CON MEDIOS MECÁNICOS, CAPA DE ARENA FINA DE 30 CM, RELLENO DE ZANJAS CON ZAHORRAS MEDIANTE TONGADAS DE 30 CM, MALLA DE SEÑALIZACIÓN (2 MTS), PLACA DE PVC DE SEÑALIZACIÓN (2 MTS), ASÍ COMO MEDIOS MECANICOS, RETIRADA DE TIERRAS A VERTEDERO, MANO DE OBRA ESPECIALIZADA Y PEQUEÑO MATERIAL AUXILIAR NECESARIO, MEDIDA LA UNIDAD TERMINADA Y EJECUTADA.		6,21
				OCHOCIENTOS NOVENTA Y UN EUROS con SETENTA Y SEIS CÉNTIMOS							
0066	BT049B	Ud	SUMINISTRO E INSTALACIÓN ALARMAS DE INTRUSIÓN EN ARQUETAS DE HIDRANTE PARA AVISOS DE OBERTURA Y CIERRE PUERTA DE ACCESO. INCLUSO MICROINTERRUPTOR DE DESCONEXIÓN. INCLUYE PEQUEÑO MATERIAL DE MONTAJE. TOTALMENTE INSTALADO Y PROBADO.		35,01					SEIS EUROS con VEINTIUN CÉNTIMOS	
				TREINTA Y CINCO EUROS con UN CÉNTIMOS		0073	BT058-1	m	BANDEJA DE PVC CON TAPA DE PVC, CON DIMENSIONES 150X60MM. INCLUSO PEQUEÑO MATERIAL, APOYOS MEDIANTE PERFILES METÁLICOS Y ANCLAJES A PARAMENTOS VERTICALES Y HORIZONTALES, TOTALMENTE INSTALADO Y EN SERVICIO.		16,47
0067	BT049C	Ud	SUMINISTRO E INSTALACIÓN DE TRASDUCTOR DE PRESIÓN, RANGO DE 0-16 BAR. SALIDA 4-20 MA. COLOCADO EN RED DE RIEGO Y ELEMENTOS PRINCIPALES DE LA RED. INCLUYE CABLEADO APANTALLADO, CONEXIONES Y PEQUEÑO MATERIAL DE MONTAJE. TOTALMENTE INSTALADO Y PROBADO.		75,00					DIECISEIS EUROS con CUARENTA Y SIETE CÉNTIMOS	
				SETENTA Y CINCO EUROS		0074	BT059	m	M.L. TUBO CORRUGADO DE DOBLE PARED FLEXIBLE DE DIÁMETRO 50MM PARA INSTALACIONES ELÉCTRICAS, RESISTENCIA DE COMPRESIÓN 750N, RIGIDEZ DIELECTRICA 2KV, RESISTENCIA AL IMPACTO 2J, RESISTENCIA ELÉCTRICA 100 OHM BAJO 500VCC. INCLUSO PEQUEÑO MATERIAL DE MONTAJE Y UNION.		3,26
0068	BT050	m	CABLE DE DATOS DE PARES DE 2X2X1.5 APANTALLADO RANGO DE TEMPERATURA -30° A 80° RECUBRIMIENTO DE PVC, CONDUCTORES DE COBRE DE ALAMBRE FINO, CONDUCTORES TRENZADOS EN PARES, PARES TRENZADOS, PANTALLA DE COBRE ESTAÑADOTRENZADO, CUBIERTA DE PVC RESISTENTE AL ACEITE, A LOS PRODUCTOS QUÍMICOS Y NO PROPAGADORA DE LLAMA. TOTALMENTE INSTALADO, CONECTADO Y PROBADO		5,83					TRES EUROS con VEINTISEIS CÉNTIMOS	
				CINCO EUROS con OCHENTA Y TRES CÉNTIMOS		0075	BT059-18	m	M.L. TUBO CORRUGADO DE DOBLE PARED FLEXIBLE DE DIÁMETRO 180MM PARA INSTALACIONES ELÉCTRICAS, RESISTENCIA DE COMPRESIÓN 450N, RIGIDEZ DIELECTRICA 2KV, RESISTENCIA AL IMPACTO 2J, RESISTENCIA ELÉCTRICA 100 OHM BAJO 500VCC. INCLUSO CINTA DE SEÑALIZACIÓN DE AVISO DE CABLEADO, PEQUEÑO MATERIAL DE MONTAJE Y UNION. TOTALMENTE INSTALADO Y MONTADO.		6,25
0069	BT051	m	CABLE DE DATOS DE PARES DE 1X2X1.5 APANTALLADO RANGO DE TEMPERATURA -30° A 80° RECUBRIMIENTO DE PVC, CONDUCTORES DE COBRE DE ALAMBRE FINO, CONDUCTORES TRENZADOS EN PARES, PARES TRENZADOS, PANTALLA DE COBRE ESTAÑADOTRENZADO, CUBIERTA DE PVC RESISTENTE AL ACEITE, A LOS PRODUCTOS QUÍMICOS Y NO PROPAGADORA DE LLAMA. TOTALMENTE INSTALADO, CONECTADO Y PROBADO		5,50					SEIS EUROS con VEINTICINCO CÉNTIMOS	
				CINCO EUROS con CINCUENTA CÉNTIMOS		0076	BT061	m	EJECUCIÓN DE ATARJEA MEDIANTE LADRILLO DE GERO REVESTIDO CON MORTERO CON DIMENSIONES DE 0,8 DE ANCHURA Y HASTA 0,8 M DE PROFUNDIDAD. INCLUIDA LA EXCAVACIÓN DE ZANJA, EJECUCIÓN DE MUROS Y SOLERA (NIVELADA EN DIRECCIÓN A PUNTO DE EVACUACIÓN DE AGUAS, TAPA REGISTRABLE DE ATARJEA. TOTALMENTE EJECUTADO.		31,89
										TREINTA Y UN EUROS con OCHENTA Y NUEVE CÉNTIMOS	

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Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0077	BT065	m	CONDUCTOR DE COBRE DESNUDO DE 50 MM2 DE SECCIÓN NOMINAL POR CONDUCCIÓN DE PUESTA A TIERRA ENTERRADA, INCLUYE PEQUEÑO MATERIAL, EXCAVACIÓN, INSTALACIÓN Y PARTE PROPORCIONAL DE SOLDADURAS ALUMINOTÉRMICA		4,43	0084	BT072	Ud	UD. SUMINISTRO Y MONTAJE DE CONEXIÓN A TIERRA DE ESTRUCTURA METÁLICA, COMPUESTA POR: - 1 UD. SOLDADURA ALUMINOTÉRMICA EN TE CABLE-CABLE. - 1 UD. PLACA DE ACERO SOLDADA A BANCADA EQUIPO. - 1 UD. TORNILLO, TUERCAS Y ARANDELAS M20. - 1 UD. TERMINAL EN COBRE A PRESIÓN PARA CABLE DE 35 MM2. - 3 M.L. CABLE DE COBRE DESNUDO DE 35 MM2 DE SECCIÓN NOMINAL. - 1,5 M.L. TUBO DE PVC ENCHUFABLE M25, INCLUIDA P.P. DE MANGUITOS DE UNIÓN, BOQUILLAS EN SUS EXTREMOS, CURVAS Y ELEMENTOS DE SUJECCIÓN A VIGA, PARED O BANCADA.		50,53
				CUATRO EUROS con CUARENTA Y TRES CÉNTIMOS							
0078	BT066-2	Ud	M.L. SUMINISTRO Y MONTAJE DE PICA DE ACERO-COBREADO DE 2.000X14 MM DE DIMENSIONES, INCLUIDA GRAPA DE CONEXIÓN, ASÍ COMO PEQUEÑO MATERIAL Y MEDIOS AUXILIARES NECESARIOS, TOTALMENTE INSTALADA.		13,95						
				TRECE EUROS con NOVENTA Y CINCO CÉNTIMOS							
0079	BT067	Ud	UD. SUMINISTRO Y MONTAJE DE SOLDADURA ALUMINOTÉRMICA EN TE CABLE-CABLE, INCLUIDOS MEDIOS AUXILIARES PARA REALIZAR LA SOLDADURA (MOLDE, TENAZAS, PÓLVORA, OTROS) Y PEQUEÑO MATERIAL, TOTALMENTE INSTALADA.		20,66						
				VEINTE EUROS con SESENTA Y SEIS CÉNTIMOS						CINCUENTA EUROS con CINCUENTA Y TRES CÉNTIMOS	
0080	BT068	Ud	UD. SUMINISTRO Y MONTAJE DE SOLDADURA ALUMINOTÉRMICA EN TE CABLE-MALLAZO, INCLUIDOS MEDIOS AUXILIARES PARA REALIZAR LA SOLDADURA (MOLDE, TENAZAS, PÓLVORA, OTROS) Y PEQUEÑO MATERIAL, TOTALMENTE INSTALADA.		22,52	0085	BT073	m	M.L. SUMINISTRO Y MONTAJE DE CONDUCTOR DESNUDO DE COBRE DE 1X35 MM2 DE SECCIÓN NOMINAL EN COBRE, INCLUIDO PEQUEÑO MATERIAL Y ACCESORIOS, TOTALMENTE INSTALADO.		2,82
				VEINTIDOS EUROS con CINCUENTA Y DOS CÉNTIMOS						DOS EUROS con OCHENTA Y DOS CÉNTIMOS	
0081	BT069	Ud	UD. SUMINISTRO Y MONTAJE DE CONEXIÓN A TIERRA DE ESTRUCTURA METÁLICA, COMPUESTA POR: - 1 UD. SOLDADURA ALUMINOTÉRMICA EN TE CABLE-CABLE. - 1 UD. PLACA DE ACERO SOLDADA A ESTRUCTURA. - 1 UD. TORNILLO, TUERCAS Y ARANDELAS M20. - 1 UD. TERMINAL EN COBRE A PRESIÓN PARA CABLE DE 35 MM2. - 3 M.L. CABLE DE COBRE DESNUDO DE 35 MM2 DE SECCIÓN NOMINAL. - 1,5 M.L. TUBO DE PVC ENCHUFABLE M25, INCLUIDA P.P. DE MANGUITOS DE UNIÓN, BOQUILLAS EN SUS EXTREMOS, CURVAS Y ELEMENTOS DE SUJECCIÓN A VIGA O PARED.		31,99	0086	BT_TC_COBERT	Ud	ESTUDIO DE COBERTURAS DE LA INSTALACIÓN PARA LA DISTRIBUCIÓN DE LOS DISTINTOS PUNTOS DE CONTROL DE HIDRANTE Y DE LAS CONCENTRADORAS DE PROGRAMACIÓN Y CONTROL, ASÍ COMO DE LOS REPETIDORES NECESARIOS Y ELEMENTOS ACCESORIOS. INFORME Y JUSTIFICACIÓN TÉCNICA, LEGALIZACIÓN DE LICENCIAS Y BANDAS DE RADIOFRECUENCIA. INCLUIDA LA REALIZACIÓN DE PROYECTOS, TRÁMITES Y TASAS PARA SU LEGALIZACIÓN.		1.545,00
				TREINTA Y UN EUROS con NOVENTA Y NUEVE CÉNTIMOS						MIL QUINIENTOS CUARENTA Y CINCO EUROS	
						0087	BT_TC_CONWEB	Ud	PROGRAMA PORTAL WEB. PROGRAMA DE PC PARA LA GESTIÓN DESDE INTERNET PARA CADA USUARIO, SEGÚN UNA CONTRASEÑA DADA POR LA COMUNIDAD DE REGANTES. SERÁ IMPRESCINDIBLE QUE EL USUARIO DE ACCESO DISPONGA DE ADSL-INTERNET.		4.251,00
										CUATRO MIL DOSCIENTOS CINCUENTA Y UN EUROS	
0082	BT070	m	CONDUCTOR DE COBRE UNE H07V-K 1X16MM2 PARA INTERCONEXIÓN DE EQUIPOS A TIERRA, INCLUYE PARTE PROPORCIONAL DE PEQUEÑO MATERIAL, TOTALMENTE MONTADO E CONECTADO.		3,32	0088	BT_TC_FORMACI	Ud	FORMACIÓN QUE SE REALIZARÁ AL PERSONAL ASIGNADO POR LA COMUNIDAD PARA LLEVAR LA SUPERVISIÓN Y GESTIÓN DEL TELECONTROL PARA UN COMPLETO CONOCIMIENTO Y APROVECHAMIENTO DEL SISTEMA. INCLUYE MANUALES DE UTILIZACIÓN Y MANTENIMIENTO PARA UN CORRECTO FUNCIONAMIENTO DEL SISTEMA.		257,50
				TRES EUROS con TREINTA Y DOS CÉNTIMOS							
0083	BT071	Ud	UD. SUMINISTRO Y MONTAJE DE BARRA EQUIPOTENCIAL DE PUESTA A TIERRA, INCLUIDO PEQUEÑO MATERIAL, TOTALMENTE INSTALADA.		17,57					DOSCIENTOS CINCUENTA Y SIETE EUROS con CINCUENTA CÉNTIMOS	
				DIECISIETE EUROS con CINCUENTA Y SIETE CÉNTIMOS		0089	BT_TC_PUEMARCU	Ud	PARA LA PUESTA EN MARCHA DEL SISTEMA, COMPROBACIÓN DE TODOS ELEMENTOS Y DE SU CORRECTO FUNCIONAMIENTO. APLICACIÓN DEL PROTOCOLO DE PUESTA EN MARCHA PARA UNA CORRECTA IMPLANTACIÓN DEL SISTEMA.		1.397,71
										MIL TRESCIENTOS NOVENTA Y SIETE EUROS con SETENTA Y UN CÉNTIMOS	

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Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0090	C-10-2000	UD.	UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-10-2000, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSIA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 10 METROS DE ALTURA Y 2.000 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL.	MIL SETECIENTOS NOVENTA Y SIETE EUROS con SESENTA Y SIETE CÉNTIMOS	1.797,67	0095	C-14-3000	UD.	UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-14-3000, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSIA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 14 METROS DE ALTURA Y 3.000 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL.	DOS MIL TRESCIENTOS NOVENTA Y CUATRO EUROS con TREINTA Y DOS CÉNTIMOS	2.394,32
0091	C-12-1000	UD.	UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-12-1000, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSIA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 12 METROS DE ALTURA Y 1.000 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL.	MIL SEISCIENTOS SETENTA Y OCHO EUROS con OCHENTA Y CUATRO CÉNTIMOS	1.678,84	0096	C-14-500	UD.	UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-14-500, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSIA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 14 METROS DE ALTURA Y 500 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL.	MIL SETECIENTOS SESENTA EUROS con OCHENTA Y SIETE CÉNTIMOS	1.760,87
0092	C-12-500	UD.	UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-12-500, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSIA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 12 METROS DE ALTURA Y 500 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL.	MIL SEISCIENTOS OCHENTA Y TRES EUROS con NOVENTA Y NUEVE CÉNTIMOS	1.683,99	0097	C-16-500	UD.	UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-16-500, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSIA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 16 METROS DE ALTURA Y 500 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL.	MIL NOVECIENTOS QUINCE EUROS	1.915,00
0093	C-14-1000	UD.	UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-14-1000, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSIA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 14 METROS DE ALTURA Y 1.000 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL.	MIL OCHOCIENTOS SIETE EUROS con VEINTIDOS CÉNTIMOS	1.807,22	0098	C09001	Ud	APERTURA Y TAPADO DE CALICATA HASTA 2 M DE PROFUNDIDAD		50,65
										CINCUENTA EUROS con SESENTA Y CINCO CÉNTIMOS	
						0099	C09002	Ud	DESCRIPCIÓN DE CALICATA EN ESTUDIOS DE SUELOS.		49,87
						0100	CAD_AMA	Ud	UD. SUMINISTRO Y MONTAJE DE CADENA DE AMARRE FORMADA POR 4 ELEMENTOS AISLADORES DE VIDRIO TEMPLADO TIPO U70/127, INCLUIDA HORQUILLA DE BOLA, GRAPAS Y TODOS ELEMENTOS NECESARIOS PARA UN CORRECTO MONTAJE, TOTALMENTE MONTADA, INSTALADA Y CONEXIONADA.		130,28
0094	C-14-2000	UD.	UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-14-2000, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSIA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 14 METROS DE ALTURA Y 2.000 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL.	DOS MIL CIENTO CINCO EUROS con NOVENTA Y DOS CÉNTIMOS	2.105,92	0101	CHA1	m²	TAPA DE CHAPA ACERO GALVANIZADO 2 MM DE ESPESOR SOPORTADA POR PERFILES HUECOS # 40.2 FORMANDO CUADROS DE 50 CM DE LADO, PARA UNA RESISTENCIA DE 200 KG/M2, COLOCADA, Y PUERTA DE HOMBRE DE ACCESO DE 1M. * 1 M. PROVISTA DE BISAGRAS Y CANDADO	SESENTA Y TRES EUROS con CINCUENTA Y CINCO CÉNTIMOS	63,55
						0102	CINTBAL	m	CINTA DE BALIZAMIENTO	CERO EUROS con VEINTIOCHO CÉNTIMOS	0,28

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Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0103	COMPMUR14X14	ud	COMPUERTA METÁLICA TIPO MURAL MOTORIZADA CON PERFILES DE REFUERZO, PARA SECCIÓN DE CANAL DE ENTRADA DE DIMENSIONES DE HOJA DE 1,40 X 1,40 M. MATERIALES: CUERPO: ACERO S275 CON TRATAMIENTO ANTICORROSIVO CONFORMADO POR TRES CAPAS DE PINTURA; TAJADERA: ACERO S275 CON TRATAMIENTO ANTICORROSIVO CONFORMADO POR TRES CAPAS DE PINTURA; CIERRE: EPDM. MECANISMO MEDIANTE HUSILLO NO ASCENDENTE. GUÍA DE POLIETILENO CON JUNTA EPDM DE ESTANQUEIDAD EN UN SENTIDO, CON CIERRE HERMÉTICO DE 4 JUNTAS. TRATAMIENTO EPOXI DE 200 MICRAS. INCLUSO PLATAFORMA PARA ACCIONAMIENTO, ELEMENTOS DE ANCLAJE Y P.P. DE OBRA CIVIL Y DE ACONDICIONAMIENTO DE BANDA NECESARIA PARA TRÁNSITO DE MAQUINARIA EN EJECUCIÓN DE LOS TRABAJOS. SUMINISTRO E INSTALACION DE ACTUADOR ELCTRICO CON MOTOR DE 320VAC, REDUCTOR CONICO 1:3,5. CON DETECCION DE INTRUSION. ACOPLADO SOBRE BRIDA NORMALIZADA F14 Y MECANIZADO DE TUERCA DE ARRASTRE PARA ADAPTACION A EJE O HUSILLO, AJUSTE Y PUESTA EN MARCHA. CON CONEXIONES ELECTRICAS DE FUERZA Y AUTOMATISMO CON PRENSAESTOPAS. INSTALACION DE TUBO RIGIDO ELECTRICO DE ACERO GALVANIZADO ENCHUFABLE DE DIAMETRO 32MM CON CODOS Y EMPALMES NECESARIOS SUJETO MEDIANTE GRAPAS ATORNILLADAS. COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA.	SEIS MIL CIENTO NOVENTA EUROS con CINCUENTA Y SIETE CÉNTIMOS	6.190,57	0107	CONTNIT	Ud	SISTEMA ANALIZADOR DE RETORNOS DE RIEGO Y CONTROL DE CAUDALES, CONSISTENTE EN: - CONTROLADOR INTELIGENTE CON MENÚS ESTRUCTURADOS DE OPERACIÓN DEL SENSOR, CONTROLADOR DE CC: 24 V CC + 15 % - 20 %; 2,5 A (CARGA MÁX. DE SENSORES 20 W), TENSIÓN MÁXIMA DE CONMUTACIÓN: 30 V CA O 42 V CC, CORRIENTE MÁXIMA DE CONMUTACIÓN: 4 A RESISTIVA/1 A INDUCTIVA, POTENCIA MÁXIMA DE CONMUTACIÓN: 125 W RESISTIVA/28 W INDUCTIVA, CINCO SALIDAS ANALÓGICAS DE 0 - 20 MA O 4 - 20 MA EN CADA MÓDULO ANALÓGICO DE SALIDAS, CONECTIVIDAD DE RED (LAN: DOS CONECTORES ETHERNET (10/100 MBPS), MÓVIL: 4G EXTERNO Y WI-FI), PUERTO USB Y COMPATIBLE CON TECNOLOGÍAS RED GSM 3G/4G - SONDA DE INMERSIÓN CONSISTE EN UN FOTÓMETRO DE ABSORBANCIA ULTRAVIOLETA DE DOBLE HAZ CON COMPENSACIÓN EFECTIVA DE TURBIDEZ, MEDIDA POR ABSORCIÓN UV, SIN REACTIVOS, CON RANGO DE MEDIDA CON SOLUCIONES ESTÁNDAR NO3-N: 0,1-100,0 MG/L NO2+3-N (1 MM), 0,1-50,0 MG/L NO2+3-N (2 MM), 0,1-25,0 MG/L NO2+3-N (5 MM), CON TOLERANCIA DE MEDIDA 3 % DEL VALOR MEDIDO (0,5 MG/L), CON ALIMENTACIÓN 24 V AC/DC ± 25 %, 800 MA - SET DE MONTAJE EN ACERO INOX. PARA SONDA CON ESCUADRA 10 CM A PARED, PERTIGA 2 M. Y ACOPLAMIENTO DE SONDA A 90 -MEDIDOR DE NIVEL ULTRASÓNICO COMPACTO DE CORTO ALCANCE.	DIECINUEVE MIL QUINIENTOS SETENTA Y NUEVE EUROS con CUARENTA Y SEIS CÉNTIMOS	19.579,46
0104	CON2	Ud	CONTADOR DE AGUA TANGENCIAL CON EMISOR DE PULSOS, DE DIÁMETRO 2" Y 16 ATM DE PRESIÓN DE TRABAJO, INCLUSO VÁLVULA DE COMPUERTA DN50, CALDERERÍA, BRIDAS, JUNTAS, TORNILLERÍA PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA.	DOSCIENTOS VEINTISEIS EUROS con CUARENTA Y CINCO CÉNTIMOS	226,45	0108	CONV_A-S	UD.	UD. CONVERSIÓN AÉREO-SUBTERRÁNEA COMPLETA CON TODOS LOS ELEMENTOS NECESARIOS, COMO SON: - 3 UD. PARARRAYOS AUTOVALVULAR 25 KV, 10 KA. - 3 UD. BOTELLAS UNIPOLARES DE EXTERIOR PARA CABLE RH-Z1 18/30 KV DE 150 MM2 AL. - 1 UD. HERRAJE SOPORTE EN APOYO METÁLICO PARA PARARRAYOS Y BOTELLAS. - 1 PA. MATERIAL AUXILIAR NECESARIO: CANALIZACIONES DE PROTECCIÓN BAJANTE, CABLEADOS, ETC. - 1 UD. PUESTA A TIERRA AUTOVÁLVULAS. - INCLUIDO PEQUEÑO MATERIAL Y TODOS LOS ACCESORIOS PARA UN CORRECTO MONTAJE, TOTALMENTE MONTADA Y CONEXIONADA.	OCHOCIENTOS NOVENTA Y SIETE EUROS con SETENTA Y CUATRO CÉNTIMOS	897,74
0105	CON3	Ud	CONTADOR DE AGUA TANGENCIAL CON EMISOR DE PULSOS, DE DIÁMETRO 3" Y 16 ATM DE PRESIÓN DE TRABAJO, INCLUSO VÁLVULA DE COMPUERTA DN80, CALDERERÍA, BRIDAS, JUNTAS, TORNILLERÍA PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA.	TRESCIENTOS NOVENTA Y NUEVE EUROS con TREINTA CÉNTIMOS	399,30	0109	CR_SUP_IMPART	ud	INCLUYE LA IMPARTICIÓN DEL PROPIO CURSO Y EL DESPLAZAMIENTO	MIL QUINIENTOS CUATRO EUROS con NOVENTA Y OCHO CÉNTIMOS	1.504,98
0106	CON4	Ud	CONTADOR DE AGUA TANGENCIAL CON EMISOR DE PULSOS, DE DIÁMETRO 4" Y 16 ATM DE PRESIÓN DE TRABAJO, INCLUSO VÁLVULA DE COMPUERTA DN100, CALDERERÍA, BRIDAS, JUNTAS, TORNILLERÍA PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA.	QUINIENTOS UN EUROS con NOVENTA Y NUEVE CÉNTIMOS	501,99	0110	CR_SUP_PREPAR	Rud	PREPARACIÓN DEL CURSO. NO INCLUYE MATERIAL DIVULGATIVO	CUATROCIENTOS OCHENTA Y SIETE EUROS con OCHENTA CÉNTIMOS	487,80
						0111	CSUMREJ	ml	SISTEMA DE DRENAJE LINEAL FORMADO POR CANAL DE HORMIGÓN POLIMÉRICO DE 100 MM DE ANCHURA LIBRE Y 200 MM DE ALTURA CON MARCO ZINCADO. CON REJILLA DE ACERO ZINCADO Y RESISTENCIA DE CARGA AL TRÁFICO A15. TOTALMENTE COLOCADA, MONTADA Y PROBADA.	VEINTIOCHO EUROS con SETENTA Y NUEVE CÉNTIMOS	28,79

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PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0112	C_G_IMPARTICI	ud	INCLUYE LA IMPARTICIÓN DEL PROPIO CURSO Y EL DESPLAZAMIENTO	TRES MIL NOVENTA Y CUATRO EUROS con CUARENTA CÉNTIMOS	3.094,40	0120	D26FS001	ud	FOSA DE ACUMULACIÓN DE AGUAS RESIDUALES PARA SU ACUMULACIÓN Y POSTERIOR RETIRADA MEDIANTE EMPRESA AUTORIZADA. DEPOSITO DE FORMA CILINDRICA REALIZADO EN POLIETILENO CON LOS REFUERZOS Y ESTRUCTURA NECESARIOS PARA SOPORTAR LAS CARGAS DE TIERRAS DE HASTA 0.5 M. INCLUYE LA COLOCACIÓN EN ZANJA CON LOS APEOS Y APOYOS NECESARIOS, INTERCONEXIÓN DE TUBERÍAS DE EVACUACIÓN DE LAS INSTALACIONES, Y CONEXIÓN DE TUBERÍAS DE ALIVIO EN CASO DE LLENADO. INSTALACIÓN DE TUBERÍA DE DN110 O SUPERIOR PARA AIREACIÓN Y SALIDA DE GASES. EQUIPO EN CUMPLIMIENTO DE LA NORMA UNE-EN 12566-1. TOTALMENTE INSTALADO.	MIL CUATROCIENTOS SETENTA Y SEIS EUROS con DOCE CÉNTIMOS	1.476,12
0113	C_G_PREPARACI	ud	PREPARACIÓN DEL CURSO. NO INCLUYE MATERIAL DIVULGATIVO ELABORACIÓN DE CONTENIDO PARA SEÑAL TIPO CN-00 SEGÚN EL MANUAL DE SEÑALIZACIÓN DE CAMINOS NATURALES.	SETECIENTOS CINCO EUROS con SESENTA Y SEIS CÉNTIMOS	705,66						
0114	C_H_IMPARTICI	ud	INCLUYE LA IMPARTICIÓN DEL PROPIO CURSO Y EL DESPLAZAMIENTO	MIL QUINIENTOS CUATRO EUROS con NOVENTA Y OCHO CÉNTIMOS	1.504,98	0121	D26LD001	Ud	UD. INODORO DE TANQUE BAJO EN BLANCO, CON ASIENTO PINTADO EN BLANCO Y MECANISMOS, LLAVE DE ESCUADRA 1/2" CROMADA, LATIGUILLO FLEXIBLE DE 20 CM., EMPALME SIMPLE PVC DE 110 MM., TOTALMENTE INSTALADO, INCLUIDA LA ALBAÑILERIA ASOCIADA A LA INSTALACIÓN DEL EQUIPO Y SUS ACCESORIOS.		198,51
0115	C_H_PREPARACI	ud	PREPARACIÓN DEL CURSO. NO INCLUYE MATERIAL DIVULGATIVO	CUATROCIENTOS OCHENTA Y SIETE EUROS con OCHENTA CÉNTIMOS	487,80						
0116	C_VF_IMPARTIC	ud	INCLUYE LA IMPARTICIÓN DEL PROPIO CURSO Y EL DESPLAZAMIENTO	MIL QUINIENTOS CUATRO EUROS con NOVENTA Y OCHO CÉNTIMOS	1.504,98	0122	D26LD003	Ud	PLATO DE DUCHA ACRÍLICO, RECTANGULAR, COLOR BLANCO, DE 900X700X40 MM, CON FONDO ANTIDESLIZANTE Y JUEGO DE DESAGÜE, EQUIPADO CON GRIFERÍA MONOMANDO MURAL PARA DUCHA, CON CARTUCHO CERÁMICO, ACABADO CROMADO, MODELO THESIS. INCLUSO SILICONA PARA SELLADO DE JUNTAS, CONDUCCIÓN DESDE TUBERÍA PRINCIPAL AL ELEMENTO. GRIFERÍA REQUERIDA. TOTALMENTE EJECUTADO, INCLUIDA LA ALBAÑILERIA ASOCIADA A LA INSTALACIÓN DEL EQUIPO Y SUS ACCESORIOS.	CIENTO NOVENTA Y OCHO EUROS con CINCUENTA Y UN CÉNTIMOS	198,51
0117	C_VF_PREPARAC	ud	PREPARACIÓN DEL CURSO. NO INCLUYE MATERIAL DIVULGATIVO	CUATROCIENTOS OCHENTA Y SIETE EUROS con OCHENTA CÉNTIMOS	487,80						
0118	D03AG004ME	m	CANALÓN DE ACERO LACADO DE 0,5 MM DE ESPESOR, EN COLOR A ELEGIR, Y CON SECCIÓN EQUIVALENTE A UN 10% EXTRA DEL CANALÓN DE 250 MM DE DIAMETRO (CTE). TANTO PARA INSTALACIÓN COLGADA COMO APOYADO EN UNIÓN DE VERTIENTES DE CUBIERTAS, ADECUÁNDOSE A LAS TERMINACIONES Y ACABADOS DE LA CUBIERTA DEL EDIFICIO A EJECUTAR. INCLUSO P.P. DE PIEZAS ESPECIALES, EMPALMES, CONEXIONES, TERMINALES, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN Y PREPARACIÓN PARA LA CONEXIÓN DE BAJANTES DE 110 MM DE DIAMETRO. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA	VEINTICINCO EUROS con SETENTA Y SIETE CÉNTIMOS	25,77	0123	D27GA001	Ud	UD. TOMA TIERRA CON PICA COBRIZADA DE D=14,3 MM. Y 2 M. DE LONGITUD, CABLE DE COBRE DESNUDO DE 1X35 MM2. CLAVADA A TIERRA Y CON EL DESMONTAJE INCLUIDO.	VEINTIUN EUROS con NOVENTA Y SEIS CÉNTIMOS	21,96
						0124	D2EGA001	Ud	UD. INTERRUPTOR DIFERENCIAL DE 25 A. INTENSIDAD NOMINAL, TETRAPOLAR CON SENSIBILIDAD DE 0.3 A. FUJADO A PRESION Y CON DESMONTAJE INCLUIDO.		84,35
0119	D26FD001	Ud	UD. LAVABO DE 52X41 CM O SIMILAR. CON PEDESTAL EN BLANCO, CON MEZCLADOR DE LAVABO, VÁLVULA DE DESAGÜE DE 32 MM., LLAVE DE ESCUADRA DE 1/2" CROMADA, SIFÓN INDIVIDUAL PVC 40 MM. Y LATIGUILLO FLEXIBLE DE 20 CM., TOTALMENTE INSTALADO, INCLUIDA LA ALBAÑILERIA ASOCIADA A LA INSTALACIÓN DEL EQUIPO Y SUS ACCESORIOS.	CIENTO TREINTA Y SIETE EUROS con VEINTIUN CÉNTIMOS	137,21					OCHENTA Y CUATRO EUROS con TREINTA Y CINCO CÉNTIMOS	

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0125	D7408020	Ud	HIDRANTE 2" CON VÁLVULA HIDRÁULICA TIPO SERIE 400, REDUCTORA DE PRESIÓN Y LIMITADOR DE CAUDAL TIPO PALETA, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTARDOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 2" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN. COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.	SEISCIENTOS OCHENTA Y SEIS EUROS con CINCUENTA Y CUATRO CÉNTIMOS	686,54	0127	D7408020ABP	Ud	HIDRANTE 3" DE BAJA PERDIDA CON CONTADOR PROPORCIONAL DN 80 CON EMISOR DE PULSOS CADA 1000 L, VÁLVULA HIDRÁULICA LIMITADORA DE CAUDAL TIPO PALETA Y LIMITADORA DE PRESIÓN, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTARDOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 3" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN, PICAJE CON BRIDA CIEGA PARA TOMA AUXILIAR Y DOBLE CHAPA DE ACERO DE 3 MM CON PINTURA DE PROTECCIÓN CON JUNTA DE NEOPRENO COLOCADA EN LA PARED DEL HIDRANTE PARA LA TUBERÍA DE SALIDO HORIZONTAL. INCLUIDA LA CONEXIÓN A INSTALACIÓN EXISTENTE EN SU CASO (MANO DE OBRA Y MATERIAL DE UNIÓN). COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.	MIL CIENTO NOVENTA Y CINCO EUROS con SESENTA Y CINCO CÉNTIMOS	1.195,65
0126	D7408020-2	Ud	HIDRANTE 3" CON VÁLVULA HIDRÁULICA TIPO SERIE 400, REDUCTORA DE PRESIÓN Y LIMITADOR DE CAUDAL TIPO PALETA, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTARDOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 3" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN. COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.	MIL CIENTO SETENTA Y SIETE EUROS con CINCUENTA Y TRES CÉNTIMOS	1.177,53	0128	D7408020BBP	Ud	HIDRANTE 2" DE BAJA PERDIDA CON CONTADOR PROPORCIONAL DN 50 CON EMISOR DE PULSOS CADA 1000 L, VÁLVULA HIDRÁULICA LIMITADORA DE CAUDAL TIPO PALETA Y LIMITADORA DE PRESIÓN, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTARDOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 2" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN, PICAJE CON BRIDA CIEGA PARA TOMA AUXILIAR Y DOBLE CHAPA DE ACERO DE 3 MM CON PINTURA DE PROTECCIÓN CON JUNTA DE NEOPRENO COLOCADA EN LA PARED DEL HIDRANTE PARA LA TUBERÍA DE SALIDO HORIZONTAL. INCLUIDA LA CONEXIÓN A INSTALACIÓN EXISTENTE EN SU CASO (MANO DE OBRA Y MATERIAL DE UNIÓN). COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.	SETECIENTOS SETENTA Y NUEVE EUROS con TREINTA Y SEIS CÉNTIMOS	779,36

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0129	D74080302-4	Ud	HIDRANTE 4" CON VÁLVULA HIDRÁULICA TIPO SERIE 400, REDUCTORA DE PRESIÓN Y LIMITADOR DE CAUDAL TIPO PALETA, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTARDOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 4" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN. COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.	MIL TRESCIENTOS OCHENTA Y CINCO EUROS con CINCO CÉNTIMOS	1.385,05	0131	D74080302BP	Ud	HIDRANTE DE BAJA PERDIDA CON CONTADOR PROPORCIONAL DN 150 CON EMISOR DE PULSOS CADA 1000 L, VÁLVULA HIDRÁULICA LIMITADORA DE CAUDAL TIPO PALETA Y LIMITADORA DE PRESIÓN, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSCADA CON ADAPTADOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 6" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN, PICAJE CON BRIDA CIEGA PARA TOMA AUXILIAR Y DOBLE CHAPA DE ACERO DE 3 MM CON PINTURA DE PROTECCIÓN CON JUNTA DE NEOPRENO COLOCADA EN LA PARED DEL HIDRANTE PARA LA TUBERÍA DE SALIDO HORIZONTAL. INCLUIDA LA CONEXIÓN A INSTALACIÓN EXISTENTE EN SU CASO (MANO DE OBRA Y MATERIAL DE UNIÓN). COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.	DOS MIL DOSCIENTOS CUATRO EUROS con DOS CÉNTIMOS	2.204,02
0130	D74080302-6	Ud	HIDRANTE 6" CON VÁLVULA HIDRÁULICA TIPO SERIE 400, REDUCTORA DE PRESIÓN Y LIMITADOR DE CAUDAL TIPO PALETA, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTARDOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 6" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN. COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.	DOS MIL CINCUENTA Y OCHO EUROS con TREINTA Y OCHO CÉNTIMOS	2.058,38	0132	D74080303BP	Ud	HIDRANTE DE BAJA PERDIDA CON CONTADOR PROPORCIONAL DN 200 CON EMISOR DE PULSOS CADA 1000 L, VÁLVULA HIDRÁULICA LIMITADORA DE CAUDAL TIPO PALETA Y LIMITADORA DE PRESIÓN, CON PILOTO DE 3 VÍAS Y SOLENOIDE TIPO LATCH, FFILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSCADA CON ADAPTADOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 6" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN, PICAJE CON BRIDA CIEGA PARA TOMA AUXILIAR Y DOBLE CHAPA DE ACERO DE 3 MM CON PINTURA DE PROTECCIÓN CON JUNTA DE NEOPRENO COLOCADA EN LA PARED DEL HIDRANTE PARA LA TUBERÍA DE SALIDO HORIZONTAL. INCLUIDA LA CONEXIÓN A INSTALACIÓN EXISTENTE EN SU CASO (MANO DE OBRA Y MATERIAL DE UNIÓN). COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.	TRES MIL SETECIENTOS TREINTA Y DOS EUROS con TREINTA Y TRES CÉNTIMOS	3.732,33

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0133	D7408030BP	Ud	HIDRANTE 4" DE BAJA PERDIDA CON CONTADOR PROPORCIONAL DN 100 CON EMISOR DE PULSOS CADA 1000 L, VÁLVULA HIDRÁULICA LIMITADORA DE CAUDAL TIPO PALETA Y LIMITADORA DE PRESIÓN, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTADOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 4" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARIA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN, PICAJE CON BRIDA CIEGA PARA TOMA AUXILIAR Y DOBLE CHAPA DE ACERO DE 3 MM CON PINTURA DE PROTECCIÓN CON JUNTA DE NEOPRENO COLOCADA EN LA PARED DEL HIDRANTE PARA LA TUBERIA DE SALIDO HORIZONTAL. INCLUIDA LA CONEXIÓN A INSTALACIÓN EXISTENTE EN SU CASO (MANO DE OBRA Y MATERIAL DE UNIÓN). COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.	MIL CUATROCIENTOS TREINTA EUROS con TREINTA Y NUEVE CÉNTIMOS	1.430,39	0138	DEXTINTCO2	Ud	UD EXTINTOR DE CO2 DE 6 KG	CIENTO OCHO EUROS con QUINCE CÉNTIMOS	108,15
						0139	DFORJ010	M2	M2. FORJADO 17+5 CM., FORMADO A BASE DE SEMVIGUETAS DE HORMIGÓN PRETENSADO, SEPARADAS 70 CM. ENTRE EJES, BOVEDILLA DE 60X25X17 CM. Y CAPA DE COMPRESIÓN DE 5 CM. DE HA-25/B/20/ IIA N/MM2, CON TAMAÑO MÁXIMO DEL ÁRIDO DE 20 MM., ELABORADO EN CENTRAL, CON P.P. DE ZUNCHOS, ARMADURA CON ACERO B-500 S EN REFUERZO DE ZONA DE NEGATIVOS. CONECTORES Y MALLAZO DE REPARTO, ENCOFRADO Y DESENCOFRADO, TOTALMENTE TERMINADO SEGÚN EHE.	CINCUENTA EUROS con SESENTA Y CUATRO CÉNTIMOS	50,64
						0140	DR001	m²	GEOTEXTIL FABRICADO A BASE DE FIBRAS SINTÉTICAS DE POLIPROPILENO 100%, NO TEJIDO, DE FILAMENTOS CONTINUOS UNIDOS MECÁNICAMENTE POR UN PROCESO DE AGUJADO, DE RESISTENCIA A PERFORACIÓN CBR NO MENOR DE 2850 N (NORMA UNE-EN 12236), DE PERFORACIÓN A CAÍDA LIBRE DE CONO NO MAYOR DE 20 MM (NORMA EN 918), Y PESO NO INFERIOR A 250 G/M² (NORMA UNE-EN 965), INCLUSO SOLAPES, TOTALMENTE COLOCADO. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.	UN EUROS con VEINTIUN CÉNTIMOS	1,21
						0141	DT02-ENS-RA	Ud	ENSAYO CABLES DE MT INSTALADOS DE FORMA SUBTERRÁNEA SEGÚN NORMAS CIA SUMINISTRADA, SEGÚN ENSAYO DMD00300.DOC "PROCEDIMIENTO DE ENSAYOS PARA CABLES UNIPOLARES NUEVOS DE MT HASTA 30 KV" Y PEQUEÑO MATERIAL NECESARIO PARA LA ADAPTACION DE LA INSTALACION PARA REALIZAR EL ENSAYO		863,92
0134	DEMCOMP1	Ud	DEMOLICIÓN COMPLETA DE GRANJA E INSTALACIONES EXISTENTES EN ZONA DE INFLUENCIA DEL VASO DE LA Balsa DE PIE DE CANAL. REALIZADA MEDIANTE PALA GIRATORIA SOBRE CADENAS CON CIZALLA Y COMPRESOR NEUMÁTICO JUNTO CON LABORES DE DEMOLICIÓN ELEMENTO A ELEMENTO CON MEDIOS MANUALES Y MECÁNICOS DE EDIFICIO DE APROXIMADAMENTE 1100 M² DE SUPERFICIE TOTAL, JUNTO CON LAS INSTALACIONES INTERIORES Y EXTERIORES ASOCIADAS (SILO METÁLICO, TUBERIAS, LONAS BALSAS,...). CARGA MECÁNICA SOBRE CAMIÓN O CONTENEDOR, AISLADO. EL EDIFICIO PRESENTA UNA ESTRUCTURA DE HORMIGÓN Y ELEMENTOS METÁLICOS. TAMBIÉN INCLUYE, LA DEMOLICIÓN DE LAS LÁMINAS DE LAS DOS BALSAS DE ADYACENTES, Y LA VALLA METÁLICA PERIMETRAL QUE EXISTEN ALREDEDOR DEL EDIFICIO. SE INCLUYE LA SEPARACIÓN DE RESIDUOS Y SU POSTERIOR TRATAMIENTO, CARGA Y TRANSPORTE A VERTEDERO O PLANTA DE TRATAMIENTO AUTORIZADO, INCLUIDOS CÁNONES Y TASAS.	VEINTE MIL CINCUENTA Y SEIS EUROS con CINCUENTA Y SIETE CÉNTIMOS	20.056,57	0142	DT02IE-BT0804	UD.	M.L. SUMINISTRO Y MONTAJE DE PICA DE ACERO-COBREADO DE 2.000X14 MM DE DIMENSIONES, INCLUIDA GRAPA DE CONEXIÓN, ASÍ COMO PEQUEÑO MATERIAL Y MEDIOS AUXILIARES NECESARIOS, TOTALMENTE INSTALADA.	OCHOCIENTOS SESENTA Y TRES EUROS con NOVENTA Y DOS CÉNTIMOS	29,25
						0143	DT02IE-BT0808	UD.	UD. SUMINISTRO Y MONTAJE DE CONEXIÓN A TIERRA DE ESTRUCTURA METÁLICA, COMPUESTA POR: - 1 UD. SOLDADURA ALUMINOTÉRMICA EN TE CABLE-CABLE. - 1 UD. PLACA DE ACERO SOLDADA A ESTRUCTURA. - 1 UD. TORNILLO, TUERCAS Y ARANDELAS M20. - 1 UD. TERMINAL EN COBRE A PRESIÓN PARA CABLE DE 35 MM2. - 3 M.L. CABLE DE COBRE DESNUDO DE 35 MM2 DE SECCIÓN NOMINAL. - 1,5 M.L. TUBO DE PVC ENCHUFABLE M25, INCLUIDA P.P. DE MANGUITOS DE UNIÓN, BOQUILLAS EN SUS EXTREMOS, CURVAS Y ELEMENTOS DE SUJECIÓN A VIGA O PARED.	VEINTINUEVE EUROS con VEINTICINCO CÉNTIMOS	111,24
0135	DEML_ACE	m³	DEMOLICIÓN, PICADO Y CARGADO DE CANALES, ACEQUIAS Y ELEMENTOS DE HORMIGÓN, INCLUIDO SU POSTERIOR TRANSPORTE A VERTEDERO O PLANTA DE TRATAMIENTO AUTORIZADO PARA SU POSTERIOR REUTILIZACIÓN, INCLUIDO TASAS DEL MISMO.	TREINTA EUROS con NOVENTA CÉNTIMOS	30,90				CIENTO ONCE EUROS con VEINTICUATRO CÉNTIMOS		
0136	DESTUAIRE	Ud	UD ESTUFA DE AIRE CALIENTE.	TREINTA EUROS con NOVENTA CÉNTIMOS	30,90	0144	DT02OCEXCAP01	UD.	UD. EXCAVACIÓN Y HORMIGONADO TIPO 1 DE APOYO METÁLICO DE CELOSÍA CON CIMENTACIÓN MONOBLOQUE, INCLUIDO TRANSPORTE HORMIGÓN DESDE PLANTA A OBRA, ASÍ COMO RETIRADA DE TIERRAS A VERTEDERO AUTORIZADO. EXCAVACIÓN APROXIMADA PARA CIMENTACIÓN DE APOYO 2,5 M3.		282,24
0137	DEXTINTABC	Ud	UD EXTINTOR DE POLVO DE 6 KG PARA FUEGOS DE TIPO ABC.	SESENTA Y CINCO EUROS con CUARENTA Y SEIS CÉNTIMOS	65,46				DOSCIENTOS OCHENTA Y DOS EUROS con VEINTICUATRO CÉNTIMOS		

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0145	DT020CEXCAP02	UD.	UD. EXCAVACIÓN Y HORMIGONADO TIPO 2 DE APOYO METÁLICO DE CELOSÍA CON CIMENTACIÓN MONOBLOQUE, INCLUIDO TRANSPORTE HORMIGÓN DESDE PLANTA A OBRA, ASÍ COMO RETIRADA DE TIERRAS A VERTEDERO AUTORIZADO. EXCAVACIÓN APROXIMADA PARA CIMENTACIÓN DE APOYO 3,0 M3.	TRESCIENTOS TREINTA Y CINCO EUROS con SESENTA Y TRES CÉNTIMOS	335,63	0148	E-2.3C	Ud	CUADRO DE SERVICIOS AUXILIARES EN EB, ENVOLVENTES COM-PARTIDAS CON AUTOMATISMO BOMBEO, QUE INCLUYE: - 2 ENVOLVENTES COMBINABLE METÁLICA DE 2000X1200X800, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA DE 2 HOJAS EN ACERO PLEGADO Y SOLDADO, APERTU-RA 120º, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPAC-TA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILA-CIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO. - INCLUYE 3 PLETINAS DE COBRE DE 50X10 MM PARA EM-BARRADO, DE 1.2M DE LARGO CADA UNA. - SOPORTES PARA EMBARRADO. - 5 RELÉS 24 VCC PARA MANDO. - 2 INTERRUPTOR AUTOMÁTICO II 16 A P DE C 10 KA - 14 INTERRUPTOR AUTOMÁTICO II 16 A P DE C 15 KA - 2 INTERRUPTOR AUTOMÁTICO II 10 A P DE C 35 KA - 4 INTERRUPTOR AUTOMÁTICO II 20 A P DE C 35 KA - 1 INTERRUPTOR AUTOMÁTICO II 25 A P DE C 35 KA - 5 INTERRUPTOR AUTOMÁTICO II 16 A P DE C 50 KA - 1 INTERRUPTOR AUTOMÁTICO II 16 A P DE C 50 KA - 8 INTERRUPTOR AUTOMÁTICO III 16 A P DE C 50 KA - 12 INTERRUPTOR AUTOMÁTICO IV 16 A P DE C 50 KA - 1 INTERRUPTOR AUTOMÁTICO IV 40 A P DE C 50 KA - 1 INTERRUPTOR AUTOMÁTICO IV 125 A P DE C 50 KA - 1 INTERRUPTOR DIFERENCIAL IV 63A 300MA AC - 2 INTERRUPTOR DIFERENCIAL IV 40A 300MA AC - 6 INTERRUPTOR DIFERENCIAL IV 25A 300MA AC - 2 INTERRUPTOR DIFERENCIAL IV 25A 30MA AC - 6 INTERRUPTOR DIFERENCIAL II 25A 30MA AC - 3 CONTACTORES III 16A CON TENSIÓN EN BOBINA DE 230V - 14 CONTACTORES II 16A CON TENSIÓN EN BOBINA DE 230V - INCLUYE PILOTOS DE SEÑALIZACIÓN, PULSADORES Y SE-LECTORES DE 3 POSICIONES. - INCLUYE TOMA DE CORRIENTE DE 230V - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALI-ZACIÓN Y CONEXIÓN DEL MISMO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. INCLUSO TRANSPORTE. TOTALMENTE MONTADO, CONECTADO Y PROBADO.	24.541,84	
0146	DT020CEXCAP06	UD.	UD. EXCAVACIÓN Y HORMIGONADO TIPO 3 DE APOYO METÁLICO DE CELOSÍA CON CIMENTACIÓN MONOBLOQUE, INCLUIDO TRANSPORTE HORMIGÓN DESDE PLANTA A OBRA, ASÍ COMO RETIRADA DE TIERRAS A VERTEDERO AUTORIZADO. EXCAVA-CIÓN APROXIMADA PARA CIMENTACIÓN DE APOYO 3,2 M3.	TRESCIENTOS CINCUENTA Y SEIS EUROS con OCHENTA Y SIETE CÉNTIMOS	356,87						
0147	DT020CEXCAP08	UD.	UD. EXCAVACIÓN Y HORMIGONADO TIPO 4 DE APOYO METÁLICO DE CELOSÍA CON CIMENTACIÓN MONOBLOQUE, INCLUIDO TRANSPORTE HORMIGÓN DESDE PLANTA A OBRA, ASÍ COMO RETIRADA DE TIERRAS A VERTEDERO AUTORIZADO. EXCAVA-CIÓN APROXIMADA PARA CIMENTACIÓN DE APOYO 4,1 M3.	CUATROCIENTOS CINCUENTA Y SIETE EUROS con OCHENTA Y CUATRO CÉNTIMOS	457,84						
						0149	E15DRA040	m²	REJA METÁLICA REALIZADA CON BARRAS DE ACERO LAMINADO EN FRÍO DE 30X15X1,5 MM. EN VERTICAL Y HORIZONTAL, SEPA-RADOS 15 CM. EN DOS PLANOS, CON GARRAS PARA RECIBIR DE 12 CM, ELABORADA EN TALLER Y MONTAJE EN OBRA. COMPLE-TAMENTE INSTALADA.	OCHENTA Y DOS EUROS con CUARENTA Y CINCO CÉNTIMOS	82,45
						0150	E28RA100	Ud	SEMI-MASCARILLA ANTIPOLVO UN FILTRO, (AMORTIZABLE EN 3 USOS). CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.	OCHO EUROS con QUINCE CÉNTIMOS	8,15

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0151	ECCPMP	Ud	DETERMINACIÓN EN LABORATORIO DEL CONTENIDO HÍDRICO DE PUNTO MARCHITEZ PERMANENTE(-1,5 MPA) Y CAPACIDAD DE CAMPO (-0,033 MPA) SE MIDE VOLUMÉTRICAMENTE MEDIANTE PLACAS EXTRACTORAS A PRESIÓN EN UN EQUIPO DE MEMBRANA EUJELKAMP.		12,36	0159	ESTSOL18	ud	SUMINISTRO, COLOCACIÓN, MONTAJE SUPERFICIAL O HINCADO DE ESTRUCTURA DE ACERO GALVANIZADO BIAPOYADA, EN AW 6063 T66, CERTIFICADA Y AJUSTADA A CÓDIGO TÉCNICO DE LA EDIFICACIÓN Y CÓDIGO ESTRUCTURAL, PARA 18 MÓDULOS SOLARES FOTOVOLTAICOS. INCLUYENDO EL SUMINISTRO DE LA ESTRUCTURA PORTANTE DE ACERO GALVANIZADO Y TORNILLERÍA DE ACERO INOXIDABLE AISI 304 (A2-70), PARA LOS MÓDULOS SOLARES FOTOVOLTAICOS E INCLINACIÓN DE ENTRE 13º Y 30 º RESPECTO A LA PROYECCIÓN HORIZONTAL DEL MÓDULO. LA ESTRUCTURA, AGRUPARÁ 18 MÓDULOS DE 144 CÉLULAS, TAMAÑO MÓDULO 2279X1134X40 MM, EN DISPOSICIÓN VERTICAL, ELEVADA 30 CM CON RESPECTO AL SUELO. TOTALMENTE INSTALADA INCLUSO ANCLAJES Y CIMENTACIÓN BAJO NIVEL DEL SUELO PARA AMARRAR LOS SOPORTES AL SUELO. INCLUIDOS LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CIMENTACIÓN, EXCAVACIÓN, CARGA Y TRANSPORTE A VERTEDERO O PREPERFORACIONES NECESARIAS PARA EL HINCADO.		1.343,48
				DOCE EUROS con TREINTA Y SEIS CÉNTIMOS							
0152	EG21271J	m	TUBO RÍGIDO DE PVC, DE 20 MM DE DIÁMETRO NOMINAL, AISLANTE Y NO PROPAGADOR DE LA LLAMA, CON UNA RESISTENCIA AL IMPACTO DE 2 J, RESISTENCIA A COMPRESIÓN DE 1250 N Y UNA RIGIDEZ DIELECTRICA DE 2000 V, CON UNIÓN ENCHUFADA Y MONTADO SUPERFICIALMENTE		2,63				TRIÁNGULOS PREMONTADOS DE FÁBRICA, PARA UN RÁPIDO MONTAJE. INCLUIDO EL MONTAJE DE LA ESTRUCTURA ASÍ COMO EL MONTAJE DE LOS MÓDULOS SOBRE LAS MISMA. INCLUIDO EL MONTAJE DE LA ESTRUCTURA ASÍ COMO EL MONTAJE DE LOS MÓDULOS SOBRE LA MISMA.		
				DOS EUROS con SESENTA Y TRES CÉNTIMOS							
0153	EG21281J	m	TUBO RÍGIDO DE PVC, DE 25 MM DE DIÁMETRO NOMINAL, AISLANTE Y NO PROPAGADOR DE LA LLAMA, CON UNA RESISTENCIA AL IMPACTO DE 2 J, RESISTENCIA A COMPRESIÓN DE 1250 N Y UNA RIGIDEZ DIELECTRICA DE 2000 V, CON UNIÓN ENCHUFADA Y MONTADO SUPERFICIALMENTE		2,96				INCLUSO EL SUMINISTRO, COLOCACIÓN Y MONTAJE DE LAS BANDEJAS METÁLICA DE VARILLA GALVANIZADA EN CALIENTE CON TAPA DE DIMENSIONES 100X30 MM, PARA EL ALOJAMIENTO DE LOS MÓDULOS, INCLUYENDO CANALIZACIÓN ELÉCTRICA, INCLUIDO ACCESORIOS Y PIEZAS ESPECIALES, TOTALMENTE MONTADA, SIN INCLUIR CABLEADO, SEGÚN EL REGLAMENTO ELECTROTÉCNICO DE BAJA TENSIÓN. TRANSPORTE Y MANO DE OBRA INCLUIDOS.		
				DOS EUROS con NOVENTA Y SEIS CÉNTIMOS							
0154	ELEC0228	MI	LÍNEA AÉREA SIMPLE CIRCUITO, CON CABLE DE ALUMINIO - ACERO, TIPOS LA-56, TERMINALES DE ALUMINO DE CONEXIONADO. TENDIDO, TENSADO, REGULADO Y CONEXIONADO. TRANSPORTE Y ACOPIO DE MATERIALES. (INCLUIRÁ P.P. DE RECORTES, AJUSTES Y FLECHA).		6,28						
				SEIS EUROS con VEINTIOCHO CÉNTIMOS							
0155	ENSAYOS_PAT	Ud	MEDICIÓN DE PUESTA A TIERRA, INCLUIDOS EQUIPOS NECESARIOS, PEQUEÑO MATERIAL NECESARIO PARA LA ADAPTACION DE LA INSTALACION PARA REALIZAR EL ENSAYO Y ELABORACIÓN DE INFORME.		750,77					MIL TRESCIENTOS CUARENTA Y TRES EUROS con CUARENTA Y OCHO CÉNTIMOS	
				SETECIENTOS CINCUENTA EUROS con SETENTA Y SIETE CÉNTIMOS		0160	EXC03	m³	APORTE Y COLOCACIÓN DE PIEDRA O CANTOS RODADOS SELECCIONADOS DE PRESTAMOS DE 30 A 60 CM, A UNA DISTANCIA <25 KM. MEDIDA LA UNIDAD TOTALMENTE COLOCADA.		10,85
0156	ENSAYOS_RP	Ud	ENSAYOS DE CUADROS DE RELÉS DE PROTECCIÓN, INCLUIDOS EQUIPOS NECESARIOS, PEQUEÑO MATERIAL NECESARIO PARA LA ADAPTACION DE LA INSTALACION PARA REALIZAR EL ENSAYO Y ELABORACIÓN DE INFORME.		1.165,79					DIEZ EUROS con OCHENTA Y CINCO CÉNTIMOS	
				MIL CIENTO SESENTA Y CINCO EUROS con SETENTA Y NUEVE CÉNTIMOS		0161	FAUNA1	m	SUMINISTRO E INSTALACIÓN DE RED DE MATERIAL SINTÉTICO NO PLÁSTICO, TIPO TEXTIL, CON TAMAÑO DE MALLA MÁXIMO DE 30X30MM, CON CUERDA DE 5MM DE ESPESOR, ANCHO DE 1 METRO Y LONGITUD IGUAL AL TALUD DE LA Balsa. DISPUESTA SOBRE LA LÁMINA IMPERMEABILIZANTE Y FUJADA EN CORONACIÓN Y PIE DE TALUD DE FORMA QUE PERMITA LA ADHERENCIA DE LA FAUNA QUE PUEDA CAER AL INTERIOR DEL VASO. INCLUIDA LA PARTE PROPORCIONAL DE SOPORTES Y ELEMENTOS DE FIJACIÓN, INCLUIDOS LOS MOVIMIENTOS DE TIERRAS, CIMENTACIÓN Y LASTRES DE SUJECCIÓN, ASÍ COMO LA ADECUACIÓN Y ACONDICIONAMIENTO DE LA RED. UNIDAD TOTALMENTE COLOCADA.		37,66
0157	ENSAYOS_TPC	Ud	UD. ENSAYOS DE TENSIONES DE PASO Y CONTACTO, INCLUIDOS EQUIPOS NECESARIOS PEQUEÑO MATERIAL NECESARIO PARA LA ADAPTACION DE LA INSTALACION PARA REALIZAR EL ENSAYO Y ELABORACIÓN DE INFORME.		859,40						
				OCHOCIENTOS CINCUENTA Y NUEVE EUROS con CUARENTA CÉNTIMOS							
0158	ESCMALLA	m³	GAVIÓN ENMALLADO DE CANTOS RODADOS SELECCIONADOS DE PRÉSTAMO, DE 30 A 60 CM DE DIÁMETRO		42,66					TREINTA Y SIETE EUROS con SESENTA Y SEIS CÉNTIMOS	
				CUARENTA Y DOS EUROS con SESENTA Y SEIS CÉNTIMOS							

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0162	FAUNA2	Ud	SUMINISTRO E INSTALACIÓN DE PLATAFORMA FLOTANTE EN Balsa APTA PARA ANIMALES, COMPUESTA POR MATERIAL PLÁSTICO RESISTENTE A LA RADIACIÓN SOLAR Y ADHERENCIA ADECUADA PARA EL ACCESO DE ANIMALES, CON DIMENSIONES 1,0X1,0M, INSTALADA EN EL CENTRO DE LA Balsa Y FIJADA AL FONDO DEL EMBALSE MEDIANTE LASTRE DE ARENA. INCLUIDA LA PARTE PROPORCIONAL DE SOPORTES Y ELEMENTOS DE FIJACIÓN, CIMENTACIÓN Y LASTRES DE SUJECCIÓN, ASÍ COMO LA ADECUACIÓN Y ACONDICIONAMIENTO DE LA PLATAFORMA. UNIDAD TOTALMENTE COLOCADA.	TRESCIENTOS TREINTA Y CUATRO EUROS con SETENTA Y SEIS CÉNTIMOS	334,76	0164	FV_CC1_8E200A	ud	SUMINISTRO CUADROS SECUNDARIOS DE CORRIENTE CONTINUA (CAJA DE CADENAS/STRINGS 1ºNIVEL).8 ENTRADAS REALIZADO SOBRE UN CONJUNTO MODULAR DE DOBLE AISLAMIENTO Y CONSTRUIDA CONPOLIESTER REFORZADO CON FIBRA DE VIDRIO Y PLACA DE MONTAJE Y TAPAS OPACAS DEL MISMO MATERIAL, NO HIGROSCOPICAS Y RESISTENTES A LA CORROSIÓN CON GRADO DE PROTECCIÓN IP-65 SEGÚN UNE Y RIGIDEZ DIELECTRICA SUPERIOR A 5.000 V. COMPUESTO POR: - CUADRO TIPO GEMINI TAMAÑO 2 IP 68 COMPLETO, CON PRENSAESTOPAS Y TUERCAS CON PASO MÉTRICO - IP 68 COMPLETO PARA LA INSTALACIÓN DE ELEMENTOS - INTERRUPTOR MAGNETOTÉRMICO TIPO OTDC200 - PROTECTOR CONTRA SOBRETENSIONES TIPO OVR PV 40 1500 P - SECCIONADOR DE FUSIBLES TIPO E 92/32, EN CADENAS/STRINGS Y SOBRETENSIONES - FUSIBLES TIPO 10X85 MM 1500 V C.C. 25 A, EN CADENAS/STRINGS - FUSIBLES 25 A TIPO GR PARA PROTECCIÓN DEL OVR - BORNAS DE TORNILLOS DE 2,5 A 240 MM 2, PARA TENSIONES HASTA 1500 V - REGLETA DE PUESTA A TIERRA - MEDIDOR DE CADENAS DE MÓDULOS (U, I) AUTOALIMENTADO CON COMUNICACIÓN ETHERNET. - PARTE PROPORCIONAL PEQUEÑA APARAMENTA Y MATERIAL SOPORTES, EMBARRADOS, DISTRIBUIDORES DE CABLES, PROTECCIONES, ELEMENTOS DE SEGURIDAD, PRENSAESTOPAS, ETC... INCLUSO TRANSPORTE, Y PARTE PROPORCIONAL DE SOPORTE Y FIJACIÓN A ESTRUCTURA FV. TOTALMENTE MONTADA, CONECTADA, INSTALADA Y PROBADA.	DOS MIL CIENTO CINCUENTA Y SIETE EUROS con TREINTA Y CINCO CÉNTIMOS	2.157,35
0163	FIFMA6072-10	UD	FILTRO TIPO W DE MALLA AUTOLIMPIANTE PARA CAUDAL HASTA 4.140 L/S , CON UN PASO DE MALLA DE 1,5X1,5MM, SUPERFICIE FILTRANTE 22.600CM2, DN 1800 MM PN10, CONEXIÓN DRENAJE DN 350 Y POTENCIA ELÉCTRICA 5,2 KW. EL FILTRO SE COMPONE DE UN CUERPO METÁLICO EN ACERO AL CARBONO, CORONA ROTATIVA EN ACERO INOXIDABLE, COLECTOR DE DESECHOS, VÁLVULA DE APERTURA Y GRUPO MOTOREDUCTOR PARA ACCIONAMIENTO DE LA CORONA ROTATIVA Y ELEMENTOS DE MEDICIÓN Y CONTROL. INCLUYE CUADRO ELÉCTRICO PARA SU CONTROL Y FUNCIONAMIENTO. SISTEMA DE LIMPIEZA, COMPUESTO POR: - BOQUILLAS DE GRAN IMPACTO, PARA LA LIMPIEZA POR CONTRALAVADO DE LA MALLA FILTRANTE. - GRUPO DE PRESIÓN. - ESTANQUEIDAD DE LAS TRES CÁMARAS MEDIANTE CERDAS DE NYLON. CONTROL DEL SISTEMA DE POSICIONAMIENTO DE LA CORONA FILTRANTE Y DE LA APERTURA Y CIERRE DE LA VÁLVULA DE LIMPIEZA POR SECTORES. CUADRO DE CONTROL Y PROGRAMADOR DE LA INSTALACIÓN. INCLUYE MONTAJE, TRANSPORTE Y PUESTA EN MARCHA.	NOVENTA Y NUEVE MIL TRESCIENTOS CUARENTA Y NUEVE EUROS con DOS CÉNTIMOS	99,349,02	0165	FV_CC2_3X2000	ud	SUMINISTRO CUADROS GENERAL DE CORRIENTE CONTINUA (CAJA DE 2º NIVEL). REALIZADO SOBRE UN CONJUNTO MODULAR DE DOBLE AISLAMIENTO Y CONSTRUIDA CONPOLIESTER REFORZADO CON FIBRA DE VIDRIO Y PLACA DE MONTAJE Y TAPAS OPACAS DEL MISMO MATERIAL, NO HIGROSCOPICAS Y RESISTENTES A LA CORROSIÓN CON GRADO DE PROTECCIÓN IP-65 SEGÚN UNE Y RIGIDEZ DIELECTRICA SUPERIOR A 5.000V. COMPUESTO POR: * ENVOLVENTE HORMIGÓN ARMADO TIPO ALP * ENTRADAS DCBOX PROTEGIDAS CON FUSIBLES DE CUCHILLA DE 200A, TIPO FUSIBLE DE LENGUETA CENTRADO 200A 1500V Y BASE PORTAFUSIBLES. * SALIDA PARA LÍNEAS DE 400 MM², PROTEGIDA MEDIANTE INTERRUPTOR AUTOMÁTICO DE 2000A, 1500VCC, TIPO OT. * 3 UDS. INTERRUPTOR AUTOMÁTICO EMAX DC 2000A 1100VCC * 3 UDS. DESCARGADOR SOBRETENSIONES. * 1 UD. REGLETA DE PUESTA A TIERRA. * 5 UD. SWITCH ETHERNET * 1 UD. CONVERSOR DE COMUNICACIONES ETHERNET/FO. CONVERSOR DE MEDIOS POE 10/100 BASE TX A 100 BASE-FX * MEDIDORES DE AISLAMIENTO. * INDICADORES LUMINOSOS INCLUSO TRANSPORTE. TOTALMENTE MONTADA, CONECTADA, INSTALADA Y PROBADA.	TREINTA Y NUEVE MIL CINCUENTA Y UN EUROS con SESENTA Y DOS CÉNTIMOS	39.051,62

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0166	FV_MODMONOPHWP	m	UMINISTRO Y COLOCACIÓN DE UD. DE POTENCIA PICO (WP) EN MÓDULO FOTOVOLTAICO DE ALTA EFICIENCIA BAJA LID MONO-PERC CON TECNOLOGÍA HALF-CUT Y RTO>21,5%, 144 (2X(6X12)) CÉLULAS, ESPECIFICACIONES MÍNIMAS DE LA TABLA INFERIOR Y CON DIMENSIONES 2279X1134X40 MM SUMINISTRADO POR FABRICANTE TIER1. TENSIÓN DE AISLAMIENTO DE 1500V (IEC/UL), SEGURIDAD CLASE II, RESISTENCIA AL FUEGO UL TIPO 1 O 2, TOMA DE PLÁSTICO (PPO), VENTILADA Y CON ALVIO DE TENSIÓN, AL MENOS IP65. CABLE SOLAR DE 6 MM2 Y 3M DE LONGITUD. VIDRIO FRONTAL TEMPLADO DE 3,2 MM CON BAJO CONTENIDO DE HIERRO. BASTIDOR DE ALUMINIO ANODIZADO ESTABLE EN UN DISEÑO DE SECCIÓN HUECA. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO, FIJADO Y CABLEADO.		0,35	0169	FV_RV-K35	m	SUMINISTRO DE CABLE UNIPOLAR DE COBRE 35MM². (PROTECCIÓN SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. CABLE DE INTERCONEXIÓN DCBOX A DC_GENERAL, REALIZADO CON CABLE UNIPOLAR DE COBRE DE 35 MM2 RV-K, SEGÚN CÁLCULOS REALIZADOS, DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.		4,78
			TECNOLOGÍA MONOCRISTALINO PERC HALF-C Nº CELDAS (144(6X24)) TIPO EX550MB-144 PMPP (WP) 550 UMPP (V) 41,95 IMPP (A) 13,12 ISC (A) 13,93 UOC (V) 49,97 RTO. MÓDULO 21,50% COEF. Tª (V) -0,290% COEF. Tª (A) 0,040% COEF. Tª (P) -0,350% NOCT °C 43 TENSIÓN (V) 1500 CORRIENTE FUSIBLE (A) 25 Tª MAX 85 Tª MIN -40 DIODOS BY-PASS 3							CUATRO EUROS con SETENTA Y OCHO CÉNTIMOS	
						0170	FV_RV-K400AL	m	SUMINISTRO DE CABLE UNIPOLAR DE ALUMINIO 400MM² RV-K DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.		29,72
										VEINTINUEVE EUROS con SETENTA Y DOS CÉNTIMOS	
						0171	FV_RV-K50	m	SUMINISTRO DE CABLE UNIPOLAR DE COBRE 50MM². (PROTECCIÓN SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. CABLE DE INTERCONEXIÓN DCBOX A DC_GENERAL, REALIZADO CON CABLE UNIPOLAR DE COBRE DE 50 MM2 RV-K, SEGÚN CÁLCULOS REALIZADOS, DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.		6,66
										SEIS EUROS con SESENTA Y SEIS CÉNTIMOS	
						0172	FV_RV-K70	m	SUMINISTRO DE CABLE UNIPOLAR DE COBRE 70MM². (PROTECCIÓN SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. CABLE DE INTERCONEXIÓN DCBOX A DC_GENERAL, REALIZADO CON CABLE UNIPOLAR DE COBRE DE 70 MM2 RV-K, SEGÚN CÁLCULOS REALIZADOS, DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.		9,14
										CERO EUROS con TREINTA Y CINCO CÉNTIMOS	
0167	FV_RV-K120	m	SUMINISTRO DE CABLE UNIPOLAR DE COBRE 120MM². (PROTECCIÓN SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. CABLE DE INTERCONEXIÓN DCBOX A DC_GENERAL, REALIZADO CON CABLE UNIPOLAR DE COBRE DE 120 MM2 RV-K, SEGÚN CÁLCULOS REALIZADOS, DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.		15,33					NUEVE EUROS con CATORCE CÉNTIMOS	
						0173	FV_RV-K95	m	SUMINISTRO DE CABLE UNIPOLAR DE COBRE 95MM². (PROTECCIÓN SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. CABLE DE INTERCONEXIÓN DCBOX A DC_GENERAL, REALIZADO CON CABLE UNIPOLAR DE COBRE DE 95 MM2 RV-K, SEGÚN CÁLCULOS REALIZADOS, DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.		12,24
										QUINCE EUROS con TREINTA Y TRES CÉNTIMOS	
0168	FV_RV-K25	m	SUMINISTRO DE CABLE UNIPOLAR DE COBRE 25MM². (PROTECCIÓN SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. CABLE DE INTERCONEXIÓN DCBOX A DC_GENERAL, REALIZADO CON CABLE UNIPOLAR DE COBRE DE 25 MM2 RV-K, SEGÚN CÁLCULOS REALIZADOS, DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.		3,56					DOCE EUROS con VEINTICUATRO CÉNTIMOS	
										TRES EUROS con CINCUENTA Y SEIS CÉNTIMOS	

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0174	FV_SUP2	ud	SUMINISTRO, MONTAJE Y PUESTA EN MARCHA MONITORIZACIÓN DC, INCLUYE: * UNIDAD DE CUADRO TELEMANDABLE Y GESTINABLE DESDE PLC CENTRAL. * MONITORIZACION DE ENERGIA POR CADA CIRCUITO DE STRING * SENSORES DE: 1 UDS. MEDICIÓN DE INTENSIDAD (SHUNT) 2 UDS. Sonda IRRADIANCIA (PIRANÓMETRO) 2 UDS. Sonda TEMPERATURA AMBIENTE PT100 2 UDS. Sonda TEMP. EN SUPERFICIE MÓDULOS. PT100 * 1 UD. CONVERSOR DE COMUNICACIONES ETHERNET/FO. CONVERSOR DE MEDIOS POE 10/100 BASE TX A 100 BASE-FX TOTALMENTE INSTALADOS, INCLUIDOS LOS ELEMENTOS DE FIJACIÓN, CABLEADO, COMUNICACIÓN Y PARAMETRIZACIÓN DE LOS EQUIPOS. TOTALMENTE INSTALADO, INCLUSO PARTE PROPORCIONAL DE ACCESORIOS NECESARIOS PARA SU INSTALACIÓN. MONTAJE, CONFIGURACIÓN, PROGRAMACIÓN Y PUESTA EN MARCHA INSTALACIÓN INCLUSO TRANSPORTE. TOTALMENTE MONTADA, CONECTADA, INSTALADA Y PROBADA.		6.212,75	0177	GFG2A096	m	TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN900MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.		258,59
										DOSCIENTOS CINCUENTA Y OCHO EUROS con CINCUENTA Y NUEVE CÉNTIMOS	
						0178	GFG2A100	m	TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1000MM Y PN10 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.		301,64
										SEIS MIL DOSCIENTOS DOCE EUROS con SETENTA Y CINCO CÉNTIMOS	
0175	G04JU2345	m	JUNTA HIDROEXPANSIVA TIPO MASTERFLEX 610 20*5, INCLUSO PREPARACIÓN DE SUPERFICIES, TOTALMENTE COLOCADA.		7,38						
										SIETE EUROS con TREINTA Y OCHO CÉNTIMOS	
0176	GFG2A090	m	TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN900MM Y PN10 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.		261,62						
										TRESCIENTOS UN EUROS con SESENTA Y CUATRO CÉNTIMOS	
						0179	GFG2A106	m	TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1000MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.		288,11
										DOSCIENTOS SESENTA Y UN EUROS con SESENTA Y DOS CÉNTIMOS	
										DOSCIENTOS OCHENTA Y OCHO EUROS con ONCE CÉNTIMOS	

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0180	GFG2A116	m	TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1200MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.	TRESCIENTOS CATORCE EUROS con NOVENTA Y TRES CÉNTIMOS	314,93	0183	GFG2A186	m	TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1800MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.	SETECIENTOS TREINTA Y DOS EUROS con SETENTA Y UN CÉNTIMOS	732,71
0181	GFG2A126	m	TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1200MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.	TRESCIENTOS CINCUENTA Y OCHO EUROS con NOVENTA Y SEIS CÉNTIMOS	358,96						
0182	GFG2A166	m	TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1600MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.	QUINIENTOS NOVENTA Y UN EUROS con CUARENTA Y CUATRO CÉNTIMOS	591,44						

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0184	HIDARQ05C	UD	ARQUETA PREFABRICADA, FORMADA POR ARMARIO PREFABRICADO DE DIMENSIONES INTERIORES 3,70X2,25X2,30 M, EN HA-25, TRATADO CON ADITIVO FLUIDIFICANTE, ARMADO PARA RESISTIR LAS SOLICITACIONES PROPIAS A LAS QUE ESTÁ DESTINADO, CON DOS PUERTAS DE ACERO GALVANIZADO DE 1,5 MM CON NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA TANTO EN PUERTAS COMO EN PARTE TRASERA DE ARQUETA, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE Y CANDADO CENTRAL. SEPARACIÓN ESPACIOS CR-USUARIO MEDIANTE LÁMINA METÁLICA. INCLUYE LLAVE MAESTRA PARA EL GESTOR DE LA COMUNIDAD DE REGANTES E INDIVIDUAL PARA USUARIO Y PLETINAS SOLDADAS A LA PUERTA (PREVIO AL GALVANIZADO) PARA EL CIERRE MEDIANTE CANDADO. INCLUYE ROTULACIÓN DE ARQUETA CON DENOMINACIÓN DEL HIDRANTE. INCLUYE REJILLAS TIPO MOSQUITERA EN TODOS LOS AGUJEROS DE LA CASETA QUE COMUNIQUEN CON EL EXTERIOR. INCLUYE CHAPA DE ACERO E=4 MM GALVANIZADA (E MEDIO 70 MICRAS, E MIN 55 MICRAS) DE DIMENSIONES 50 CM X 50 CM CON AGUJERO EN EL CENTRO TAL QUE PERMITA EL PASO DE LA CALDERERÍA DE SALIDA EN EL HIDRANTE, CON VIOLA DE LA MISMA CHAPA DE LONGITUD AL MENOS IGUAL AL ESPESOR DE LA CASETA, RECUBIERTA INTERIORMENTE POR JUNTA DE NEOPRENO DE E=1 CM PARA SUJECCIÓN DE LA CALDERERÍA DE SALIDA DEL HIDRANTE. TANTO CHAPA COMO VIOLA Y JUNTA ESTARÁN SECCIONADAS POR LA MITAD PARA PODER ABRAZAR LA CALDERERÍA DE SALIDA, PERO SE INSTALARÁ UNIENDO LAS DOS SECCIONES. INCLUYE TORTILLERÍA Y TALADROS Y TODOS LOS TRABAJOS ACCESORIOS. INCLUYE REJUNTADO DE LA CALDERERÍA DE SALIDA DE LA CASETA CON MORTERO RESINADO. INCLUYE RELLENO EN GRAVILLÍN 6/12 MM Y SOLERA EN HM-20, COMPACTACIONES NECESARIAS PARA UNA CORRECTA ESTABILIDAD DE LA CASETA Y LOS POSIBLES IMPREVISTOS POR ASIENTOS DE LA CASETA. INCLUYE FIJACIÓN DE LOS CABLES DEL TELECONTROL A LA CASETA MEDIANTE CANALETA TIPO UNEX ATORNILLADA SOBRE EL INTERIOR DE LA CASETA O SIMILAR Y/O CABLE DE PVC CON ALMA DE ACERO GRAPADO EN EL INTERIOR DE LA CASETA (EN ESTE CASO LA DEFLEXIÓN MÁXIMA DEL TUBO DE ACERO DURANTE LOS DOS PRIMEROS AÑOS PERMITIDA SERÁ DE 1 CM). INCLUYE 3 METROS DE TUBO CORRUGADO DE DOBLE PARED DE PEAD DN 160 PARA PROTECCIÓN DE LOS MICROTUBOS DEL SISTEMA DE TELECONTROL DESDE EL INTERIOR AL EXTERIOR DE LA CASETA. INCLUYE COMPLETO REJUNTADO CON MORTERO RESINADO DEL MÁSTIL DEL TELECONTROL. INCLUYE APOYO DEL CONJUNTO HIDRANTE DESDE EL CARRETE INTERMEDIO ENTRE HIDRANTE Y FILTRO HASTA SOLERA MEDIANTE BORDILLO DE HORMIGÓN O SIMILAR Y PLETINAS METÁLICAS. INCLUYE TODOS LOS MEDIOS NECESARIOS E IMPREVISTOS. TOTALMENTE COLOCA DA.	2.608,18	0187	I2R5PL00	Ud	SUMINISTRO DE BIDÓN DE 200 L PARA RESIDUOS ESPECIALES (P-4)		16,78	
									DIECISEIS EUROS con SETENTA Y OCHO CÉNTIMOS		
						0188	I2R650G0	m³	CARGA Y TRANSPORTE DE RESIDUOS A CENTRO DE RECICLAJE, A MONODEPÓSITO, A VERTEDERO ESPECÍFICO O A CENTRO DE RECOGIDA Y TRANSFERENCIA, CON CONTENODOR, CARGADO CON MEDIOS MECÁNICOS.		11,14
									ONCE EUROS con CATORCE CÉNTIMOS		
						0189	I2RA6500	m³	DEPOSICIÓN CONTROLADA A CENTRO DE RECOGIDA AUTORIZADO Y TRANSFERENCIA DE RESIDUOS NO ESPECIALES.		7,78
									SIETE EUROS con SETENTA Y OCHO CÉNTIMOS		
						0190	I2RA7360	m³	DEPOSICIÓN CONTROLADA A CENTRO DE RECOGIDA AUTORIZADO Y TRANSFERENCIA DE RESIDUOS INERTES MEZCLADOS DE LA CONSTRUCCIÓN		7,46
									SIETE EUROS con CUARENTA Y SEIS CÉNTIMOS		
						0191	I2RA8500	m³	DEPOSICIÓN CONTROLADA A CENTRO DE RECOGIDA AUTORIZADO Y TRANSFERENCIA DE RESIDUOS INERTES.		6,18
									SEIS EUROS con DIECIOCHO CÉNTIMOS		
					0192	I2RA8620	m³	DEPOSICIÓN CONTROLADA A CENTRO DE RECOGIDA AUTORIZADO Y TRANSFERENCIA DE RESIDUOS ESPECIALES.		665,12	
								SEISCIENTOS SESENTA Y CINCO EUROS con DOCE CÉNTIMOS			
					0193	IM002	m²	LÁMINA IMPERMEABILIZANTE EN POLIETILENO DE ALTA DENSIDAD, FABRICADA MEDIANTE CALANDRADO EN 7,5 M DE ANCHO SIN SOLDADURAS INTERMEDIAS DE 2,0 MM DE ESPESOR, TOTALMENTE INSTALADA Y PROBADA, INCLUSO SOLAPES Y ANCLAJES MECÁNICOS A OBRAS DE FABRICA. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.		5,42	
								CINCO EUROS con CUARENTA Y DOS CÉNTIMOS			
					0194	INNOURBASPOZ2Ud		BASE DE POZO DE REGISTRO, EN HA-25 DE 100 X100 CM INTERIOR, ALTURA HASTA 2,00 M, CON TAPA DE REDUCCIÓN, REALIZADA "IN SITU" INCLUSO HORMIGÓN DE LIMPIEZA Y RECIBIDO DE TUBERÍA Y CANAL INTERIOR EN EL DIÁMETRO DE LA CONDUCCIÓN, INCLUSO EN GIROS Y SALTOS.		422,62	
								CUATROCIENTOS VEINTIDOS EUROS con SESENTA Y DOS CÉNTIMOS			
					0195	INNOURCONPOZ Ud		CONO ASIMÉTRICO PREFABRICADO DE HORMIGÓN, DE 150 CM. DE DIÁMETRO INFERIOR, 62,50 CM. DE DIÁMETRO SUPERIOR, ALTURA 60 CM., INCLUSO MEDIOS AUXILIARES Y COLOCACIÓN.		149,17	
								CIENTO CUARENTA Y NUEVE EUROS con DIECISIETE CÉNTIMOS			
0185	I2R24200	m³	CLASIFICACIÓN A PIE DE OBRA DE RESIDUOS DE LA CONSTRUCCIÓN EN RESIDUOS INERTES, NO ESPECIALES Y ESPECIALES CON MEDIOS MANUALES.		25,28	0196	INNOURTAPPOZ Ud	MARCO Y TAPA DE FUNDICIÓN DE 62,50 CM. DE DIÁMETRO, INCLUSO MEDIOS AUXILIARES Y COLOCACIÓN.		119,16	
								CIENTO DIECINUEVE EUROS con DIECISEIS CÉNTIMOS			
0186	I2R5K000	Ud	TRANSPORTE DE BIDONES DE RESIDUOS ESPECIALES A CENTRO DE RECOGIDA Y TRANSFERENCIA.		63,45	0197	INSFIBOPT	INSTALACIÓN Y TENDIDO EN ZANJA DE CABLE DE FIBRA OPTICA TIPO MONOMODO 8FO G652D FV CORROUGADO METAL CPR-FCA PE NEGRO2 O SIMILAR ENTRE CENTROS DE TRANSFORMACION DE LA PLANTA SOLAR Y HASTA ESTACIÓN DE BOMBEO, INCLUYENDO CINTA DE SEÑALIZACIÓN, CHAPAS DE PROTECCIÓN, ACCESORIOS Y PEQUEÑO MATERIAL.		8,99	
								OCHO EUROS con NOVENTA Y NUEVE CÉNTIMOS			

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0198	IP10AAIDL2	Ud	MÉS DE ALQUILER DE CASETA PREFABRICADA PARA ASEOS DE OBRA DE 4.10X1.90 M. CON DOS INODOROS, UNA DUCHA, UN LAVABO TERMO ELÉCTRICO DE 50 LITROS DE CAPACIDAD; CON LAS MISMAS CARACTERÍSTICAS QUE LAS OFICINAS. SUELO DE CONTRACHAPADO HIDRÓFUGO CON CAPA FENÓLICA ANTIDESLIZANTE Y RESISTENTE AL DESGASTE. PIEZAS SANITARIAS DE FIBRA DE VIDRIO ACABADAS EN GEL-COAT BLANCO Y PINTURA ANTIDESLIZANTE. PUERTAS INTERIORES DE MADERA EN LOS COMPARTIMENTOS. INSTALACIÓN DE FONTANERÍA CON TUBERÍAS DE POLIBUTILENO E INSTALACIÓN ELÉCTRICA PARA CORRIENTE MONOFÁSICA DE 220 V. PROTEGIDA CON INTERRUPTOR AUTOMÁTICO.		210,64	0205	IP30BOBRA	Ud	UD. BOTIQUÍN DE OBRA INSTALADO.		40,72
										CUARENTA EUROS con SETENTA Y DOS CÉNTIMOS	
						0206	IP30BP5P	Ud	BANCO DE POLIPROPILENO PARA 5 PERSONAS CON SOPORTES METÁLICOS, COLOCADO. (10 USOS)		21,67
										VEINTIUN EUROS con SESENTA Y SIETE CÉNTIMOS	
						0207	IP30CPEVAC	Ud	UD. CAMILLA PORTÁTIL PARA EVACUACIONES, COLOCADA. (20 USOS)		6,66
										SEIS EUROS con SESENTA Y SEIS CÉNTIMOS	
						0208	IP30DB800L	Ud	UD. DEPOSITO DE BASURAS DE 800 LITROS DE CAPACIDAD REALIZADO EN POLIETILENO INYECTADO, ACERO Y BANDAS DE CAUCHO, CON RUEDAS PARA SU TRANSPORTE, COLOCADO. (10 USOS)		17,75
										DOSCIENTOS DIEZ EUROS con SESENTA Y CUATRO CÉNTIMOS	
0199	IP10ACPCOME	Ud	MÉS DE ALQUILER DE CASETA PREFABRICADA PARA VESTUARIOS DE OBRA DE 6X2.35 M., CON ESTRUCTURA METÁLICA MEDIANTE PERFILES CONFORMADOS EN FRÍO Y CERRAMIENTO CHAPA NERVADA Y GALVANIZADA CON TERMINACIÓN DE PINTURA PRELACADA. AISLAMIENTO INTERIOR CON LANA DE VIDRIO COMBINADA CON POLIESTIRENO EXPANDIDO. REVESTIMIENTO DE P.V.C. EN SUELOS Y TABLERO MELAMINADO EN PAREDES. VENTANAS DE ALUMINIO ANODIZADO, CON PERSIANAS CORREDERAS DE PROTECCIÓN, INCLUSO INSTALACIÓN ELÉCTRICA CON DISTRIBUCIÓN INTERIOR DE ALUMBRADO Y FUERZA CON TOMA EXTERIOR A 220 V.		114,74						
										DIECISIETE EUROS con SETENTA Y CINCO CÉNTIMOS	
						0209	IP30JINDUS	Ud	UD. JABONERA DE USO INDUSTRIAL CON DOSIFICADOR DE JABÓN, EN ACERO INOXIDABLE, COLOCADA. (10 USOS)		5,96
										CINCO EUROS con NOVENTA Y SEIS CÉNTIMOS	
						0210	IP30RBOTIQ	Ud	UD. REPOSICIÓN DE MATERIAL DE BOTIQUÍN DE OBRA.		28,87
										VEINTIOCHO EUROS con OCHENTA Y SIETE CÉNTIMOS	
						0211	IP30TMINDIV	Ud	TAQUILLA METÁLICA INDIVIDUAL CON LLAVE DE 1.78 M. DE ALTURA COLOCADA. (10 USOS)		12,76
										DOCE EUROS con SETENTA Y SEIS CÉNTIMOS	
0200	IP10ACPOFIC	Ud	UD. MÉS DE ALQUILER DE CASETA PREFABRICADA PARA COMEDOR DE OBRA DE 6X2.35 M., CON ESTRUCTURA METÁLICA MEDIANTE PERFILES CONFORMADOS EN FRÍO Y CERRAMIENTO CHAPA NERVADA Y GALVANIZADA CON TERMINACIÓN DE PINTURA PRELACADA. AISLAMIENTO INTERIOR CON LANA DE VIDRIO COMBINADA CON POLIESTIRENO EXPANDIDO. REVESTIMIENTO DE P.V.C. EN SUELOS Y TABLERO MELAMINADO EN PAREDES. VENTANAS DE ALUMINIO ANODIZADO, CON PERSIANAS CORREDERAS DE PROTECCIÓN, INCLUSO INSTALACIÓN ELÉCTRICA CON DISTRIBUCIÓN INTERIOR DE ALUMBRADO Y FUERZA CON TOMA EXTERIOR A 220 V.		105,20	0212	JTOMA1000	u	JAULA DE DESBASTE PARA TOMA DE FONDO EN DIÁMETRO 1000 MM. EN ACERO INOXIDABLE AISI-316, CON LUZ DE PASO DE 20 MM ENTRE BARRAS VERTICALES Y ALTURA MÍNIMA DE 1,2 M. INCLUYE PLETINAS, TORNILLERÍA Y PP. DE PEQUEÑO MATERIAL PARA ANCLAJE A HORMIGÓN Y CON LÁMINA PLÁSTICA. MEDIDA LA UNIDAD TOTALMENTE MONTADA Y PROBADA.		1.858,24
										MIL OCHOCIENTOS CINCUENTA Y OCHO EUROS con VEINTICUATRO CÉNTIMOS	
						0213	JTOMA1200	Ud	JAULA DE DESBASTE PARA TOMA DE FONDO EN DIÁMETRO 1200 MM. EN ACERO INOXIDABLE AISI-316, CON LUZ DE PASO DE 30 MM ENTRE BARRAS VERTICALES Y ALTURA MÍNIMA DE 1,2 M. INCLUYE PLETINAS, TORNILLERÍA Y PP. DE PEQUEÑO MATERIAL PARA ANCLAJE A HORMIGÓN Y CON LÁMINA PLÁSTICA. MEDIDA LA UNIDAD TOTALMENTE MONTADA Y PROBADA.		2.339,07
										CIENTO CINCO EUROS con VEINTE CÉNTIMOS	
0201	IP10TCPREF	Ud	TRANSPORTE DE CASETA PREFABRICADA A OBRA, INCLUSO DESCARGA Y POSTERIOR RECOGIDA.		217,42						
										DOS MIL TRESCIENTOS TREINTA Y NUEVE EUROS con SIETE CÉNTIMOS	
0202	IP20APELECT	Ud	ACOMETIDA PROVISIONAL DE ELECTRICIDAD A CASETA DE OBRA, DESDE EL CUADRO GENERAL FORMADA POR MANGUERA FLEXIBLE DE 4X4 MM2 DE TENSIÓN NOMINAL 750 V., INCORPORANDO CONDUCTOR DE TIERRA COLOR VERDE Y AMARILLO, FIJADA SOBRE APOYOS INTERMEDIOS CADA 2,50 M. INSTALADA.		96,52	0214	JTOMA1800	Ud	JAULA DE DESBASTE PARA TOMA DE FONDO EN DIÁMETRO 1800 MM. EN ACERO INOXIDABLE AISI-316, CON LUZ DE PASO DE 30 MM ENTRE BARRAS VERTICALES Y ALTURA MÍNIMA DE 1,2 M. INCLUYE PLETINAS, TORNILLERÍA Y PP. DE PEQUEÑO MATERIAL PARA ANCLAJE A HORMIGÓN Y CON LÁMINA PLÁSTICA. MEDIDA LA UNIDAD TOTALMENTE MONTADA Y PROBADA.		4.337,51
										CUATRO MIL TRESCIENTOS TREINTA Y SIETE EUROS con CINCUENTA Y UN CÉNTIMOS	
										NOVENTA Y SEIS EUROS con CINCUENTA Y DOS CÉNTIMOS	
0203	IP20APFONT	Ud	UD. ACOMETIDA PROVISIONAL DE FONTANERÍA A CASSETAS DE OBRA.		77,25						
										SETENTA Y SIETE EUROS con VEINTICINCO CÉNTIMOS	
0204	IP20APSANEA	Ud	UD. ACOMETIDA PROVISIONAL DE SANEAMIENTO A CASSETAS DE OBRA.		66,95						
										SESENTA Y SEIS EUROS con NOVENTA Y CINCO CÉNTIMOS	

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0215	MAACD	Kg	ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM: 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM: 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.		5,20	0219	MO10CSH	Hr	REUNIÓN DE SEGURIDAD Y SALUD, COMPUESTO POR UN TÉCNICO EN MATERIA DE SEGURIDAD CON CATEGORÍA DE ENCARGADO, DOS TRABAJADORES CON CATEGORÍA DE OFICIAL DE 2º, UN AYUDANTE Y UN VIGILANTE DE SEGURIDAD CON CATEGORÍA DE OFICIAL DE 1º, CONSIDERANDO UNA REUNIÓN COMO MÍNIMO AL MES.	CINCUENTA Y DOS EUROS con SETENTA Y SEIS CÉNTIMOS	52,76
						0220	MO10ESE	Hr	H. EQUIPO DE LIMPIEZA Y CONSERVACIÓN DE INSTALACIONES PROVISIONALES DE OBRA, CONSIDERANDO UNA HORA DIARIA DE OFICIAL DE 2º Y DE AYUDANTE. S/R.D. 485/97.	TREINTA Y NUEVE EUROS con CUARENTA Y CUATRO CÉNTIMOS	39,44
				CINCO EUROS con VEINTE CÉNTIMOS		0221	MO10LDC	Ud	24 LIMPIEZA Y DESINFECCIÓN DE CASSETAS DE OBRA, CONSIDERANDO UNA LIMPIEZA POR CADA DOS SEMANAS.	TREINTA EUROS con NOVENTA CÉNTIMOS	30,90
0216	MAPCCII	Ud	SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PREEMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS: - TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2. - ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA. - CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD. - CABLE DE CU RV 0,6/1KV 1*6 MM2. - ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.		106,40	0222	MOTCOMP	ud	SUMINISTRO E INSTALACION DE ACTUADOR ELECTRICO CON MOTOR DE 320VAC O 24 VDC, REDUCTOR CONICO 1:3,5. CON DETECCION DE INTRUSION. ACOPLADO SOBRE BRIDA NORMALIZADA F14 Y MECANIZADO DE TUERCA DE ARRASTRE PARA ADAPTACION A EJE O HUSILLO, AJUSTE Y PUESTA EN MARCHA. CON CONEXIONES ELECTRICAS DE FUERZA Y AUTOMATISMO CON PRENSAESTOPAS. INSTALACION DE TUBO RIGIDO ELECTRICO DE ACERO GALVANIZADO ENCHUFABLE DE DIAMETRO 32MM CON CODOS Y EMPALMES NECESARIOS SUJETO MEDIANTE GRAPAS ATORNILLADAS. COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA.	TRES MIL QUINIENTOS DOS EUROS con VEINTICINCO CÉNTIMOS	3.502,25
				CIENTO SEIS EUROS con CUARENTA CÉNTIMOS		0223	MREPREOBR	Ud	FORMACIÓN DE SEGURIDAD Y SALUD EN EL TRABAJO, CONSIDERANDO UNA HORA A LA SEMANA Y REALIZADA POR UN ENCARGADO.	SESENTA Y DOS EUROS con CUARENTA CÉNTIMOS	62,40
0217	MAPG2-4T21	u	PUENTE GRÚA MONORRAIL CON POLIPASTO CARRO MONORRAIL DE 4 TN, 21 M DE LUZ Y 6 M DE RECORRIDO DEL GANCHO, ALIMENTADO CON 380 V/ 50 HZ. Y UNA TENSIÓN DE MANDO DE 48 V/50 HZ. CON BOTONERA DESPLAZABLE INDEPENDIENTE DEL CARRO. LA GRÚA IRÁ PROVISTA DE TOMACORRIENTES. INCLUIDA LA INSTALACIÓN ELÉCTRICA DE 60 M DE LONGITUD Y VIGA CARRIL 2X60M CONFORMADA POR IPE Y CUADRADILLO 40X30, APOYADO SOBRE MÉNSULAS. TRANSPORTE Y MONTAJE INCLUIDO, COMPLETAMENTE INSTALADO Y PROBADO.		47.568,65	0224	MT002-1	Pa	PARTIDA ALZADA A JUSTIFICAR PARA REDACCIÓN DE PROYECTOS ELÉCTRICOS DE MT NECESARIOS PARA LOS CONDICIONANTES ESPECIFICADOS POR LA COMPAÑÍA Y QUE PUDIERAN SER EXIGIDOS POR LOS DIFERENTES ORGANISMOS, COPIAS DOCUMENTALES, VISADOS, INCLUIDOS TODO TIPO DE TRÁMITES Y TASAS.	MIL EUROS	1.000,00
				CUARENTA Y SIETE MIL QUINIENTOS SESENTA Y OCHO EUROS con SESENTA Y CINCO CÉNTIMOS		0225	MT003	m	CANALIZACIÓN ELÉCTRICA QUE CONSISTENTE EN UNA ZANJA DE 90 CM DE PROFUNDIDAD POR 40 CM DE ANCHURA, CON CAMA DE ARENA DE RÍO DE 5 CM PARA ASIENTO DE LOS CONDUCTORES Y RELLENO CON UNA CAPA DE 15 CM DE LA MISMA ARENA SOBRE LOS CONDUCTORES. SOBRE ÉSTA VA UNA HILADA DE RASILLAS CERÁMICAS O PLACAS DE PE, QUE SERVIRÁN DE PROTECCIÓN MECÁNICA (20 J) Y TESTIGO. EL RELLENO FINAL DE ZANJA SE LLEVARÁ A CABO POR TONGADAS DE 20 CM DE TIERRA PROCEDENTE DE LA EXCAVACIÓN, COMPACTADA AL 95 % DEL PRÓCTOR NORMAL. TOTALMENTE TERMINADA INCLUIDO EXCAVACIÓN SOBRE CUALQUIER CLASE DE TERRENO, TRANSPORTE A VERTEDERO DE LA TIERRA SOBRANTE Y MANTENIMIENTO DE LOS SERVICIOS EXISTENTES.	VEINTITRES EUROS con TREINTA Y SIETE CÉNTIMOS	23,37
0218	MEDEIASIE	m²	SIEMBRA A VOLEO DE SUPERFICIES CON ESPECIES LOCALES (INCLUIDAS ESPECIES PERTENECIENTES A LOS HABITATS COMUNITARIOS EXISTENTES EN LA ZONA, RECOGIDOS EN EL ESTUDIO DE IMPACTO AMBIENTAL), INCLUSO APORTACION Y EXTENDIDO DE TIERRA VEGETAL (APROXIMADAMENTE 20 CM) E INCLUIDA LA SEMILLA, SIEMBRA, RIEGO Y CUIDADOS POSTERIORES PARA ADECUADA SUPERVIVENCIA DE LAS ESPECIES IMPLANTADAS.		0,89						
				CERO EUROS con OCHENTA Y NUEVE CÉNTIMOS							

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0226	MT004A	m	M.L. SUMINISTRO Y TENDIDO DE CABLE UNIPOLAR DE M.T. EN LECHO DE ARENA, DE AISLAMIENTO SECO RH-Z1 18/30 KV DE 3X1X240 MM2 DE SECCIÓN NOMINAL EN ALUMINIO, INCLUIDO PEQUEÑO MATERIAL PARA EL TENDIDO TENDIDO COMO RODILLOS, CINTURILLAS, ASÍ COMO MEDIOS MECÁNICOS NECESARIOS.		28,42	0231	MTCELDAS002	Ud	CELDA DE PROTECCIÓN PARA CENTRO DE TRANSFORMACIÓN, TIPO ORMAZABAL, SEGÚN DESGLOSE.		34.226,37
				VEINTIOCHO EUROS con CUARENTA Y DOS CÉNTIMOS					- 3 CELDAS MODULARES DE LÍNEA MOTORIZADAS DISPUESTA DE UN INTERRUPTOR-SECCIONADOR DE TRES POSICIONES (CONECTADO, SECCIONADO Y PUESTA A TIERRA), AISLAMIENTO INTEGRO EN SF6 DE 24KV, 20KA Y 630A - 1 CELDA DE REMONTE - 1 CONJUNTO DE CELDAS TIPO DEV, FUNCIONES 1R+1PA CON AISLAMIENTO Y CORTE EN SF6 DE 24KV, 16KA Y 400A, INTEGRANDO UN CIRCUITO DE ALIMENTACIÓN DIRECTA CON SECCIONADOR DE P.A.T Y UNA FUNCIÓN DE PROTECCIÓN CON INTERRUPTOR AUTOMÁTICO DE CORTE EN VACÍO DE 400A RELE ELECTRÓNICO DE PROTECCIÓN Y TRES TRANSFORMADORES TOROIDALES DE INTENSIDAD, MANDO MANUAL, SECCIONADOR DE P.A.T PARA FUNCIÓN PORTECCIÓN, DISPOSITIVO DE PRESENCIA DE TENSIÓN Y ENCLAVAMIENTOS.		
0227	MT005	Ud	UD. SUMINISTRO Y MONTAJE DE BOTELLA INTERIOR TERMINAL UNIPOLAR DE M.T. PARA CABLE SECO 18/30 KV TIPO RH-Z1 DE 1X240 MM2 DE SECCIÓN NOMINAL EN ALUMINIO, INCLUIDO TERMINAL DE CONEXION A PRESIÓN PARA MT, PEQUEÑO MATERIAL, MEDIOS AUXILIARES, TOTALMENTE MONTADA.		151,66				- 1 CELDA MODULAR DE MEDIDA DISPUESTA EN EL INTERIOR LOS TRANSFORMADORES DE MEDIDA DE TENSIÓN E INTENSIDAD, DE 24KV. SE INCLUYE EL MONTAJE, PASATAPAS Y CONEXIÓN.	TREINTA Y CUATRO MIL DOSCIENTOS VEINTISEIS EUROS con TREINTA Y SIETE CÉNTIMOS	
				CIENTO CINCUENTA Y UN EUROS con SESENTA Y SEIS CÉNTIMOS							
0228	MT005-PFU4	Ud	CASETA PREFABRICADA TIPO PFU-4 O SIMILAR, MONOBLOQUE, DE HORMIGÓN ARMADO, DE 4460X2380X3045 MM, APTO PARA CONTENER UN TRANSFORMADOR Y LA APARAMENTA NECESARIA. INCLUSO TRANSPORTE Y DESCARGA. INCLUYE EXCAVACIÓN, CAMA DE ARENA, RELLENOS LATERALES, CARGAS Y TRANSPORTES DE MATERIALES NECESARIOS Y EXCEDENTES, EDIFICIO Y TODOS SUS ELEMENTOS EXTERIORES SEGÚN CEI 622171-202, TRANSPORTE, MONTAJE Y ACCESORIOS. TOTALMENTE INSTALADO Y TERMINADO. TOTALMENTE MONTADO.		9.593,82	0232	MTCUADROBT	Ud	CUADRO DE BT ESPECIALMENTE DISEÑADO PARA ESTA APLICACIÓN CON LAS SIGUIENTES CARACTERÍSTICAS: - INTERRUPTOR MANUAL DE CORTE EN CARGA DE 1250 A. - SALIDAS FORMADAS POR BASES PORTAFUSIBLES: 1 SALIDA - TENSIÓN NOMINAL: 440 V - AISLAMIENTO: 10 KV - DIMENSIONES: ALTO: 1820 MM ANCHO: 580 MM FONDO: 300 MM PUENTES, CONEXIONES Y DEMÁS MATERIAL Y TRABAJO COMPLEMENTARIOS, INLCUIDOS. MEDIDA LA UNIDAD TOTLAMENTE TERMINADA.		2.178,18
				NUEVE MIL QUINIENTOS NOVENTA Y TRES EUROS con OCHENTA Y DOS CÉNTIMOS							
0229	MT005-PFU5	Ud	CASETA PREFABRICADA TIPO PFU-5 O SIMILAR, MONOBLOQUE, DE HORMIGÓN ARMADO, DE 6080X2380X3240 MM, APTO PARA CONTENER UN TRANSFORMADOR Y LA APARAMENTA NECESARIA. INCLUSO TRANSPORTE Y DESCARGA. INCLUYE EXCAVACIÓN, CAMA DE ARENA, RELLENOS LATERALES, CARGAS Y TRANSPORTES DE MATERIALES NECESARIOS Y EXCEDENTES, EDIFICIO Y TODOS SUS ELEMENTOS EXTERIORES SEGÚN CEI 622171-202, TRANSPORTE, MONTAJE Y ACCESORIOS. TOTALMENTE INSTALADO Y TERMINADO. TOTALMENTE MONTADO.		13.286,26					DOS MIL CIENTO SETENTA Y OCHO EUROS con DIECIOCHO CÉNTIMOS	
				TRECE MIL DOSCIENTOS OCHENTA Y SEIS EUROS con VEINTISEIS CÉNTIMOS							
0230	MTCELDAS001B	Ud	CELDA DE PROTECCIÓN PARA CENTRO DE TRANSFORMACIÓN, TIPO ORMAZABAL, SEGÚN DESGLOSE. - 1 CELDA MODULAR DE SECCIONAMIENTO DISPUESTA DE UN INTERRUPTOR-SECCIONADOR, AISLAMIENTO INTEGRO EN SF6 DE 24KV, 16KA Y 400A. - 2 CONJUNTO DE CELDAS TIPO DEV, FUNCIONES 1R+1PA CON AISLAMIENTO Y CORTE EN SF6 DE 24KV, 16KA Y 400A, INTEGRANDO UN CIRCUITO DE ALIMENTACIÓN DIRECTA CON SECCIONADOR DE P.A.T Y UNA FUNCIÓN DE PROTECCIÓN CON INTERRUPTOR AUTOMÁTICO DE CORTE EN VACÍO DE 400A RELE ELECTRÓNICO DE PROTECCIÓN Y TRES TRANSFORMADORES TOROIDALES DE INTENSIDAD, MANDO MANUAL, SECCIONADOR DE P.A.T PARA FUNCIÓN PORTECCIÓN, DISPOSITIVO DE PRESENCIA DE TENSIÓN Y ENCLAVAMIENTOS. SE INCLUYE EL MONTAJE, PASATAPAS Y CONEXIÓN.		34.784,13	0233	MTHAPAV35	m²	PAVIMENTO CONTINUO DE HORMIGÓN HA-25/B/20/XC2, DE 20 CM. DE ESPESOR, ARMADO CON MALLAZO DE ACERO 20X20X6, ACABADO SUPERFICIAL FRATASADO, VPREPARACIÓN DE LA BASE, EXTENDIDO, REGLEADO, VIBRADO, FRATASADO, CURADO, APORTACIÓN DE MORTERO DE CUARZO PARA ACABADO, CORTE DE LA SOLERA EN CUADRICULAS Y EN ZONA DE APOYO DE PILARES, LÁMINA PLÁSTICA BAJO LOSA CONTRA RADÓN, Y P.P.. DE JUNTAS.		23,29
										VEINTITRES EUROS con VEINTINUEVE CÉNTIMOS	
						0234	MVTRE023	m³	MATERIAL GRANULAR TIPO ZA30 S/PG3 PUESTO EN OBRA, EXTENDIDO, HUMEDECIDO Y COMPACTADO AL 98% DEL PM EN CAPAS DE 10 CM DE ESPESOR EN BASES DE OBRAS SINGULARES EN VIALES		22,90
										VEINTIDOS EUROS con NOVENTA CÉNTIMOS	
						0235	OGB063	M2	SOLADO DE BALDOSA DE GRES PORCELÁNICO NATURAL DE 20X20 CM., RECIBIDO CON MORTERO DE CEMENTO Y ARENA DE RÍO 1/6 (M-40), V/CAMA DE 2 CM. DE ARENA DE RÍO, REJUNTADO CON LECHADA DE CEMENTO BLANCO Y LIMPIEZA, S/NTE-RSR-2, MEDIDO EN SUPERFICIE REALMENTE EJECUTADA.		39,45
										TREINTA Y NUEVE EUROS con CUARENTA Y CINCO CÉNTIMOS	

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0236	OPA030	m	BARANDILLA DE 90 CM. DE ALTURA, CONSTRUIDA CON PERFILES DE TUBO HUECO DE ACERO LAMINADO EN FRÍO, CON PASAMANOS DE 60X40X1,5 MM. Y BARROTES VERTICALES DE 20X20X1,5 MM. CON PROLONGACIÓN PARA ANCLAJE A LA LOSA, SEPARADOS 10 CM., ELABORADA EN TALLER Y MONTAJE EN OBRA.		71,91	0242	PANIDIFAVI2	Pa	PARTIDA ALZADA A JUSTIFICAR PARA LA INSTALACIÓN DE NIDOS ARTIFICIALES EN DIFERENTES PUNTOS DEL ÁMBITO DE ACTUACIÓN (CAJAS NIDO Y/O TORRES DE NIDIFICACIÓN), DESTINADOS A QUIRÓPTEROS.	DOS MIL EUROS	2.000,00
				SETENTA Y UN EUROS con NOVENTA Y UN CÉNTIMOS		0243	PAPLANARB	Pa	PARTIDA ALZADA A JUSTIFICAR DE PLANTACIÓN DE PLANTAS ARBUSTIVAS EN MARGENES Y RIBAZOS, CON ESPECIES COMO ROSAL SILVESTRE (ROSA CANINCA), ESPINO ALBAR (CRATAEGUS MONOGYNA), ESPINO NEGRO (RHAMNUS LYCIOIDES), LENTISCO (PISTACIA LENTISCUS), Y AROMÁTICAS COMO ROMERO (ROSMARINUS OFFICINALIS) Y TOMILLO (THYMUS VULGARIS), ENTRE OTRAS. INCLUIDO RIEGOS (MIN 4) Y CUIDADOS POSTERIORES PARA ADECUADA SUPERVIVENCIA DE LAS ESPECIES IMPLANTADAS.	CUATRO MIL EUROS	4.000,00
0237	OT01	ud	MÁQUINA LIMPIA REJAS DE UN BRAZO ACCIONADA POR SISTEMA OLEOHIDRÁULICO, ACCIONADA POR TEMPORIZADOR, CON CAPACIDAD DE CARGA EN REJA DE 3.400 KG. ACABADO CON 2 CAPAS DE PINTURA (IMPRIMACIÓN Y ACABADO). INCLUIDO ARMARIO DE CONTROL CON GRUPO OLEOHIDRÁULICO Y CUADRO ELÉCTRICO (POTENCIA 4 CV CON NEUTRO (220/380 V TRIFÁSICO). TOTALMENTE TERMINADA Y PROBADA.		29.162,34	0244	PATES	Ud	PATE DE POLIPROPILENO DE 30 CM * 25 CM COLOCADO.	TRES EUROS con SETENTA Y NUEVE CÉNTIMOS	3,79
				VEINTINUEVE MIL CIENTO SESENTA Y DOS EUROS con TREINTA Y CUATRO CÉNTIMOS		0245	PC10CATA	m	ML. CABLE DE SEGURIDAD PARA ATADO EN TRABAJOS DE ALTURA, SUJETO MADIANTE ANCLAJES HORMIGONADOS Y SEPARADOS CADA 2ML./MONTAJE Y DESMONTAJE. S/R.D. 485/97.	TRECE EUROS con CINCUENTA Y OCHO CÉNTIMOS	13,58
0238	OT02	ud	SISTEMA DE EVACUACIÓN DE RESIDUOS FILTRADOS MEDIANTE PALA ACCIONADA POR CADENA, DE 8 M DE CARRERA Y 2 TOLVAS DE ALMACENAJE. TOTALMENTE TERMINADA Y PROBADA.		5.009,67	0246	PC10RHPH	m²	M2. RED HORIZONTAL PARA PROTECCIÓN DE HUECOS DE POLIAMIDA DE HILO DE D=4 MM. Y MALLA DE 75X75 MM. INCLUSO COLOCACIÓN Y DESMONTADO. S/R.D. 485/97.	NUEVE EUROS con NUEVE CÉNTIMOS	9,09
				CINCO MIL NUEVE EUROS con SESENTA Y SIETE CÉNTIMOS		0247	PC20BTST	m	ML. BARANDILLA CON SOPORTE TIPO SARGENTO Y TRES TABLONES DE 0,20X0,07 M. EN PERIMETRO DE FORJADOS TANTO DE PISOS COMO DE CUBIERTA, INCLUSO COLOCACIÓN Y DESMONTAJE. S/R.D. 485/97.	SIETE EUROS con CATORCE CÉNTIMOS	7,14
0239	OT03	ud	REJA DE FINOS DE 4000 X 4000 MM, Y 20 MM DE LUZ ENTRE BARROTES, DE LAS SIGUIENTES CARACTERÍSTICAS: - PASAMANO DE 60X6 MM. - LONGITUD DEL PASAMANO DE 4000 MM - EXISTIRÁN 3 ZONAS DE APOYO DE LA REJA: - INFERIOR: PERFIL UPN EN LA QUE SE AJUSTARÁ LA REJA DE FINOS. - MEDIO: BIGA IPE FUJADA A LAS PAREDES DEL CANAL. - SUPERIOR: DE OBRA SOBRE LA CUAL SE APOYARÁ LA REJA. TOTALMENTE TERMINADA Y PROBADA.		7.913,53	0248	PC20MPS	m	MALLA DE POLIETILENO ALTA DENSIDAD CON TRATAMIENTO PARA PROTECCIÓN DE ULTRAVIOLETAS, COLOR NARANJA DE 1 M. DE ALTURA Y DOBLE ZÓCALO DEL MISMO MATERIAL, COLOCACIÓN Y DESMONTAJE. (AMORTIZACIÓN EN DOS PUESTAS). S/R.D. 485/97.	DOS EUROS con VEINTIOCHO CÉNTIMOS	2,28
				SIETE MIL NOVECIENTOS TRECE EUROS con CINCUENTA Y TRES CÉNTIMOS		0249	PP10CS	Ud	UD. CASCO DE SEGURIDAD CON DESUDADOR. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.	TRES EUROS	3,00
0240	PANEL1	m²	CUBIERTA COMPLETA FORMADA POR PANEL DE 30 MM DE ESPESOR TOTAL CONFORMADO CON DOBLE CHAPA DE ACERO DE 0,5 MM DE ESPESOR PERFIL NERVADO, LACADO AL EXTERIOR Y GALVANIZADO EL INTERIOR, CON RELLENO INTERMEDIO DE ESPUMA DE POLIURETANO; PANEL ANCLADO A LA ESTRUCTURA MEDIANTE TORNILLOS AUTORROSCANTES, V.P.P. DE TAPAJUNTAS, REMATES, PIEZAS ESPECIALES DE CUALQUIER TIPO, MEDIOS AUXILIARES, SEGÚN NTE/QTG-7.		44,88	0250	PP10GA	Ud	UD. GAFAS ANTIPOLVO TIPO VISITANTE INCOLORA, ANTIEMPAÑABES. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.	DOS EUROS con CUARENTA Y SIETE CÉNTIMOS	2,47
						0251	PP10GCI	Ud	UD. GAFAS CONTRA IMPACTOS ANTIRAYADURA. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.	SEIS EUROS con CUARENTA Y NUEVE CÉNTIMOS	6,49
0241	PANIDIFAVI	Pa	PARTIDA ALZADA A JUSTIFICAR PARA LA INSTALACIÓN DE NIDOS ARTIFICIALES EN DIFERENTES PUNTOS DEL ÁMBITO DE ACTUACIÓN (CAJAS NIDO Y/O TORRES DE NIDIFICACIÓN), DESTINADOS A ESPECIES COMO LA LECHUZA COMÚN (TYTO ALBA), EL MOCHUELO (ATHENE NOCTUA) O EL CERNÍCALO PRIMILLA (FALCO NAUMANNI) ENTRE OTRAS DE LA ZONA.		4.500,00	0252	PP10GPL	Ud	UD. GAFAS PANORÁMICAS CONTRA LÍQUIDOS CON VÁLVULAS ANTIEMPAÑANTES. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.	NUEVE EUROS con VEINTISIETE CÉNTIMOS	9,27
				CUATRO MIL QUINIENTOS EUROS		0253	PP10PA	Ud	UD. PROTECTORES AUDITIVOS. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.	SIETE EUROS con SETENTA Y CUATRO CÉNTIMOS	7,74

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0254	PP10PSPS	Ud	UD. PANTALLA DE SEGURIDAD PARA SOLDADURA. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.		12,07	0267	PP50PGN	Ud	UD. PAR DE GUANTES DE NITRILO ALTA-RESISTENCIA. 100% AZULTES. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.		3,29
				DOCE EUROS con SIETE CÉNTIMOS						TRES EUROS con VEINTINUEVE CÉNTIMOS	
0255	PP30ADC	Ud	UD. ANTICAIDAS DESLIZANTE PARA CUERDA DE 14 MM, C/MOSQUETÓN. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.		180,25	0268	PP50PGS34C	Ud	UD. PAR DE GUANTES PARA SOLDADOR SERRAJE FORRADO IGNÍFUGO, LARGO 34 CM., HOMOLOGADO CE.		7,74
				CIENTO OCHENTA EUROS con VEINTICINCO CÉNTIMOS						SIETE EUROS con SETENTA Y CUATRO CÉNTIMOS	
0256	PP30AF	Ud	UD. APARATO DE FRENO DE PARACAIDAS. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.		62,40	0269	PP50PMSH	Ud	UD. PAR DE MANGUITOS PARA SOLDADOR AL HOMBRO SERRAJE GRADO A, HOMOLOGADO CE.		10,53
				SESENTA Y DOS EUROS con CUARENTA CÉNTIMOS						DIEZ EUROS con CINCUENTA Y TRES CÉNTIMOS	
0257	PP30ASCA	Ud	UD. CINTURÓN DE SEGURIDAD CLASE A (SUJECCIÓN), CON CUERDA REGULABLE DE 1,8 M. CON GUARDA CABOS Y 2 MOSQUETONES. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.		65,62	0270	PP60PBA	Ud	UD. PAR DE BOTAS AISLANTES PARA ELECTRICISTA HASTA 5.000 V. DE TENSIÓN. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.		25,69
				SESENTA Y CINCO EUROS con SESENTA Y DOS CÉNTIMOS						VEINTICINCO EUROS con SESENTA Y NUEVE CÉNTIMOS	
0258	PP30ASCC	Ud	UD. ARNÉS DE SEGURIDAD CLASE C (PARACAIDAS), CON CUERDA DE 1 M. Y DOS MOSQUETONES, EN BOLSA DE TRANSPORTE. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.		78,00	0271	PP60PBAM	Ud	UD. PAR DE BOTAS DE AGUA MONOCOLOR. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.		13,97
				SETENTA Y OCHO EUROS						TRECE EUROS con NOVENTA Y SIETE CÉNTIMOS	
0259	PP30C14P	m	CUERDA REALIZADA EN POLIAMIDA DE ALTA TENACIDAD DE D=14 MM. INCLUSO BARRA ARGOLLAS EN EXTREMO DE POLIMIDAS REVESTIDAS DE PVC. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.		5,11	0272	PP60PBSPP	Ud	UD. PAR DE BOTAS DE SEGURIDAD S3 PIEL NEGRA CON PUNTERA Y PLANTILLA METÁLICA. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.		36,57
				CINCO EUROS con ONCE CÉNTIMOS						TREINTA Y SEIS EUROS con CINCUENTA Y SIETE CÉNTIMOS	
0260	PP30CAP	Ud	UD. CUERDA DE AMARRE DE LONGITUD 1,00 MT, REALIZADO EN POLIAMIDA DE ALTA TENACIDAD DE 14 MM DE DIÁMETRO, V ARGOLLAS EN EXTREMOS DE POLIMIDA REVESTIDAS DE PVC. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.		8,66	0273	PP60PBSPS	Ud	UD. PAR DE BOTAS DE SEGURIDAD S2 SERRAJE/LONA CON PUNTERA Y METÁLICAS. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.		24,14
				OCHO EUROS con SESENTA Y SEIS CÉNTIMOS						VEINTICUATRO EUROS con CATORCE CÉNTIMOS	
0261	PP30CPH	Ud	UD. CINTURÓN PORTAHERRAMIENTAS. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.		21,67	0274	PP60PPS	Ud	UD. PAR DE POLAINAS PARA SOLDADOR SERRAJE GRAD A, HOMOLOGADAS CE.		10,22
				VEINTIUN EUROS con SESENTA Y SIETE CÉNTIMOS						DIEZ EUROS con VEINTIDOS CÉNTIMOS	
0262	PP30IMPERM	Ud	UD. IMPERMEABLE DE TRABAJO. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.		9,29	0275	PROSPFAU	Pa	PARTIDA ALZADA A JUSTIFICAR DE CONTROL Y SEGUIMIENTO DE FAUNA, POR TÉCNICO COMPETENTE, INCLUYENDO INFORME PREOPERACIONAL, ANTES DEL INICIO DE LA OBRA, CON EL OBJETO DE IDENTIFICAR LA PRESENCIA Y VULNERABILIDAD DE ESPECIES SENSIBLES, CON UNA DEDICACIÓN MÍNIMA DE 2 H/SEMANALES		6.000,00
				NUEVE EUROS con VEINTINUEVE CÉNTIMOS						SEIS MIL EUROS	
0263	PP30MONOTRA	Ud	UD. MONO DE TRABAJO. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.		16,10	0276	PROSPFLOR	Pa	PARTIDA ALZADA A JUSTIFICAR DE CONTROL Y SEGUIMIENTO DE FLORA, POR TÉCNICO COMPETENTE, CON UNA DEDICACIÓN MÍNIMA DE 2 H/SEMANALES		6.000,00
				DIECISEIS EUROS con DIEZ CÉNTIMOS						SEIS MIL EUROS	
0264	PP30MSS	Ud	UD. MANDIL DE SERRAJE PARA SOLDADOR GRADO A, 60X90 CM. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.		14,42	0277	PRO_FN	ud	PROTECCIÓN DE FIN DE LÍNEA A INSTALAR EN EL ÚLTIMO APOYO: CONSISTE EN LA INSTALACIÓN DE PARARRAYOS - AUTOVÁLVULAS. TOTALMENTE INSTALADO.		888,47
				CATORCE EUROS con CUARENTA Y DOS CÉNTIMOS						OCHOCIENTOS OCHENTA Y OCHO EUROS con CUARENTA Y SIETE CÉNTIMOS	
0265	PP30PRBA	Ud	UD. PETO REFLECTANTE DE SEGURIDAD PERSONAL EN COLORES AMARILLO Y ROJO. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.		10,30						
				DIEZ EUROS con TREINTA CÉNTIMOS							
0266	PP50PGLA	Ud	UD. PAR DE GUANTES DE LATEX RUGOSO ANTICORTE. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.		2,78						
				DOS EUROS con SETENTA Y OCHO CÉNTIMOS							

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	
0278	PUL1HID	Ud	PUNTO DE CARGA DE EQUIPO DE PULVERIZACIÓN AGRÍCOLA CONFORMADO POR: - PREPARACIÓN DE TERRENO Y COMPACTACIÓN DE 50 M2 (PLATAFORMA PARA VEHICULO) - EXCAVACIÓN REQUERIDA PARA ZAPATA, Y PREPARACIÓN DE TERRENO A COMPACTAR. - CIMENTO DE 0,75X0.75X0.4 M CON ARMADURA B-500S DE 12 MM DE DIAMTERO CADA 15 CM EN AMBAS DIRECCIÓN DE LA CARA INFERIOR (INCLUIDA PATILLA LATERAL DE 15 CM) - ESTRUCTURA METÁLICA MEDIANTE PILAR DE PERFIL IPE 140 DE 5 M DE ALTURA MASTIL REALIZADO CON IPE 100 DE 2 M DE LONGITUD Y REFUERZO ANGULAR MEDIANTE IPE 80. LA UNIÓN ENTRE LOS ELEMENTOS HORIZONTALES Y EL PILAR SE REALIZARÁ MEDIANTE UNA UNIÓN ARTICULADA EN EL EJE HORIZONTAL, TIPO BISAGRA (TUBULAR-BULON) QUE PERMITA EL GIRO DE LA ESTRUCTURA FORMANDO UN SEMICIRCULO RESPECTO AL EJE VERTICAL DEL PILAR (INCLUIDA LA EJECUCIÓN DE LA UNIÓN CON ACERO) ELEMENTOS IMPRIMADOS Y CON DOS CAPAS DE PINTURA DE ACABADO. - TUBERIA DE PEAD DN 50 PN10 PE100 DESDE CONEXIÓN DE HIDRANTE PROXIMO A EXTREMO DE ESTRUCTURA, INCLUIDA LA CALDERERIA DE PIEZAS ESPECIALES UNIONES, Y ADECUACIÓN DEL HIDRANTE. - MANGUERA FLEXIBLE TIPO ARIN FLAT REFORZADA O SIMILAR, DE PVC DN 50 MM REFORZADA CON DOBLE CAPA DE FIBRA TRATADA, UBICADA EN EL PUNTO DE GIRO DE LA ESTRUCTURA Y COLGADA PARA ADECUACIÓN A EQUIPO DE CARGA. - INSTALACIÓN DE VALVULA DE COMPUERTA DN 50MM - INSTALACIÓN DE CONTADOR DN 50MM - ARMARIO/ENVOLVENTE METÁLICA PARA EXTERIOR (IP55) CON ESTRUCTURA Y TORNILLERIA DE ANCLAJE AL PILAR METÁLICO, Y PUERTA BATIENTE DE UNA HOJA CON BISAGRAS Y CIERRE (CERRADURA INTEGRADA O CANDADO). TOTALMENTE EJECUTADO, Y PROBADO		1.148,45	0281	PVC160P10	m	TUBO DE PVC NO PLASTIFICADO, DE ESPECIFICACIONES TÉCNICAS SEGÚN NORMA UNE 1452 DE DN. EXTERIOR 160 MM, Y 10 BAR DE PRESIÓN. UNIÓN TIPO FLEXIBLE MEDIANTE JUNTA ENCHUFE CON ANILLA ELASTOMÉRICA DE ESTANQUIDAD DE EPDM LUBRICADA SEGÚN NORMA UNE-EN 681. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.	DOCE EUROS con UN CÉNTIMOS		12,01
						0282	PVC250P10	m	TUBO DE PVC NO PLASTIFICADO, DE ESPECIFICACIONES TÉCNICAS SEGÚN NORMA UNE 1452 DE DN. EXTERIOR 250 MM, Y 10 BAR DE PRESIÓN. UNIÓN TIPO FLEXIBLE MEDIANTE JUNTA ENCHUFE CON ANILLA ELASTOMÉRICA DE ESTANQUIDAD DE EPDM LUBRICADA SEGÚN NORMA UNE-EN 681. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.	TREINTA EUROS con OCHENTA CÉNTIMOS	30,80	
						0283	R01DM020	m²	DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 20 CM, INCLUIDO LA EXCAVACIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 3 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.	CERO EUROS con TREINTA CÉNTIMOS	0,30	
				MIL CIENTO CUARENTA Y OCHO EUROS con CUARENTA Y CINCO CÉNTIMOS								
0279	PVC110-RAN	m	CONJUNTO ZANJA DRENAJE, MEDIANTE TUBO DRENANTE PERFORADO DE PVC DN 110 MM DE DOBLE PARED, COLOCADO EN ZANJA DE SECCIÓN 0,50 M. DE ANCHURA Y PROFUNDIDAD MEDIA INFERIOR A 1,0 M., ENVUELTA ÉSTA EN FILTRO DREN A BASE DE GETEXTIL DE 150 GR/M2 Y RELLENA LA ZANJA CON MATERIAL GRANULAR 6/12 MM HASTA 20 CM POR ENCIMA DEL DREN ENVUELTO EN GEOTEXTIL. INCLUIDA PP DE PEQUEÑO MATERIAL Y ELEMENTOS DE CONEXIÓN A COLECTORES. MEDIDA LA LONGITUD TOTAL FINALMENTE INSTALADA Y PROBADA.		8,53	0284	R01DM040	m²	DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 30 CM, INCLUIDO LA EXCAVACIÓN, INCLUSO DEFORESTACIÓN Y TALA DE ARBUSTOS Y DE ÁRBOLES DE CUALQUIER TIPO Y DIMENSIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.	CERO EUROS con TREINTA Y NUEVE CÉNTIMOS	0,39	
				OCHO EUROS con CINCUENTA Y TRES CÉNTIMOS								
0280	PVC160-RAN	m	CONJUNTO ZANJA DRENAJE, MEDIANTE TUBO DRENANTE PERFORADO DE PVC DN 160 MM DE DOBLE PARED, COLOCADO EN ZANJA DE SECCIÓN 0,50 M. DE ANCHURA Y PROFUNDIDAD MEDIA INFERIOR A 1,0 M., ENVUELTA ÉSTA EN FILTRO DREN A BASE DE GETEXTIL DE 150 GR/M2 Y RELLENA LA ZANJA CON MATERIAL GRANULAR 6/12 MM HASTA 20 CM POR ENCIMA DEL DREN ENVUELTO EN GEOTEXTIL. INCLUIDA PP DE PEQUEÑO MATERIAL Y ELEMENTOS DE CONEXIÓN A COLECTORES. MEDIDA LA LONGITUD TOTAL FINALMENTE INSTALADA Y PROBADA.		11,13	0285	R01DM090	m³	NIVELACIÓN DEL TERRENO CON UNA DISTANCIA MEDIA DE 150 METROS DE TRANSPORTE A CADA UNO DE LOS BANCALES, INCLUIDA LA CARGA, EL TRANSPORTE DE LA CARGA, DESCARGA Y TRANSPORTE EN VACIO, INCLUSO EL TRANSPORTE A VERTEDERO A UNA DISTANCIA INFERIOR A 10 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS.	CERO EUROS con NOVENTA Y CUATRO CÉNTIMOS	0,94	
				ONCE EUROS con TRECE CÉNTIMOS								

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0286	R01EX010	m³	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.	UN EUROS con SESENTA Y OCHO CÉNTIMOS	1,68	0289	R01RE010	m³	RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.	CERO EUROS con CINCUENTA Y CUATRO CÉNTIMOS	0,54
						0290	R01RE030	m³	RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.	UN EUROS con VEINTISIETE CÉNTIMOS	1,27
						0291	R01RE400	m³	CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON PARTIDO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.		20,01
0287	R01EXPLA01	m²	APERTURA DE CAMINO, REFINO Y MARCADO DE CUNETAS A AMBOS LADOS EN TERRENO DE TRÁNSITO, CON PENDIENTESEGÚN PROYECTO Y UNA PROFUNDIDAD MÁXIMA DE 30 CM. INCLUIDA EN LA UNIDAD EL PERFILADO, RASANTEADO, EJECUCIÓN DEL BOMBEO DE LA PLATAFORMA DEL CAMINO, REGADO A HUMEDAD ÓPTIMA Y COMPACTADO HASTA EL 95 %PM HASTA ALCANZAR LAS DIMENSIONES NECESARIAS PARA LA EJECUCIÓN DE LA SECCIONES PREVISTAS EN EL CAMINO. MEDIDA LA UNIDAD POR SUPERFICIE FINALMENTE EJECUTADA.	UN EUROS con TREINTA Y CINCO CÉNTIMOS	1,35	0292	R02TB020-1	m	TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 711 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUIDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.	VEINTE EUROS con UN CÉNTIMOS	153,40
0288	R01FIR018	m³	CONSTRUCCIÓN DE SUB-BASES O BASES GRANULARES CON ZAHORRA NATURAL SELECCIONADA A HUSO ZN(40) SEGÚN PG3/ O.M 31-07-86. OBTENIDO EL MATERIAL MEDIANTE CRIBA DE ZAHORRA NATURAL , INCLUYENDO LEGALIZACIÓN DEL PRÉSTAMO, CANON, ARRANQUE, CRIBADO, CARGA, TRANSPORTE HASTA LA OBRA. O BIEN, TAMBIÉN INCLUIDO, LA ADQUISICIÓN DE LOS MATERIALES DE PLANTA Y SU TRANSPORTE DESDE PLANTA DE ÁRIDOS HASTA LA OBRA. INCLUIDA EN LA UNIDAD LA EXTENSIÓN DEL MATERIAL EN OBRA Y COMPACTACIÓN HASTA EL 98% PM CON APORTE EXTERNO DE AGUA HASTA LA HUMEDAD ÓPTIMA, TODO ELLO EN TONGADAS CON UN ESPESOR MÁXIMO DE 20 CM. MEDIDA LA UNIDAD REALMENTE EJECUTADA.	CATORCE EUROS con SESENTA Y SEIS CÉNTIMOS	14,66					CIENTO CINCUENTA Y TRES EUROS con CUARENTA CÉNTIMOS	

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0293	R02TB060	m	TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.		164,69	0297	R02TB082	m	TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1820 MM DE DIÁMETRO Y 12,7 MM DE ESPESOR PN MÁX 10 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:2006, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.	OCHOCIENTOS CATORCE EUROS con CINCUENTA Y NUEVE CÉNTIMOS	814,59
				CIENTO SESENTA Y CUATRO EUROS con SESENTA Y NUEVE CÉNTIMOS		0298	R02TB090	m	TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 914 MM DE DIÁMETRO Y 7,9 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:2006, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.	DOSCIENTOS TREINTA Y DOS EUROS con SESENTA Y CINCO CÉNTIMOS	232,65
0294	R02TB064	m	TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1620 MM DE DIÁMETRO Y 12,7 MM DE ESPESOR PN MÁX 10 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:2006, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.		731,16						
				SETECIENTOS TREINTA Y UN EUROS con DIECISEIS CÉNTIMOS		0299	R02TB100	m	TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1016 MM DE DIÁMETRO Y 10,0 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.	CUATROCIENTOS TRES EUROS con OCHENTA Y CINCO CÉNTIMOS	403,85
0295	R02TB070	m	TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 711 MM DE DIÁMETRO Y 7,9 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.		144,64						
				CIENTO CUARENTA Y CUATRO EUROS con SESENTA Y CUATRO CÉNTIMOS		0300	R02TB120	m	TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1219 MM DE DIÁMETRO Y 10,3 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.	CUATROCIENTOS DIECINUEVE EUROS con VEINTICINCO CÉNTIMOS	419,25
0296	R02TB080	m	TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 813 MM DE DIÁMETRO Y 7,9 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.		277,02						
				DOSCIENTOS SETENTA Y SIETE EUROS con DOS CÉNTIMOS							

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0301	R02TE09C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 90 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	CINCO EUROS con DIECISIETE CÉNTIMOS	5,17	0306	R02TE12D	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 125 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	DOCE EUROS con TREINTA Y SEIS CÉNTIMOS	12,36
0302	R02TE09D	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 90 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	OCHO EUROS con CINCUENTA Y TRES CÉNTIMOS	8,53	0307	R02TE14C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 140 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	ONCE EUROS con VEINTIOCHO CÉNTIMOS	11,28
0303	R02TE11C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 110 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	SIETE EUROS con DIECISIETE CÉNTIMOS	7,17	0308	R02TE14D	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 140 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	QUINCE EUROS con TREINTA Y UN CÉNTIMOS	15,31
0304	R02TE11D	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 110 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	NUEVE EUROS con SESENTA Y CUATRO CÉNTIMOS	9,64	0309	R02TE16C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 160 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	CATORCE EUROS con DIECIOCHO CÉNTIMOS	14,18
0305	R02TE12C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 125 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	OCHO EUROS con NOVENTA Y UN CÉNTIMOS	8,91	0310	R02TE16D	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 160 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	DIECINUEVE EUROS con SESENTA Y DOS CÉNTIMOS	19,62

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0311	R02TE18C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 180 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		17,86	0315	R02TE22C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 225 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		28,13
				DIECISIETE EUROS con OCHENTA Y SEIS CÉNTIMOS					VEINTIOCHO EUROS con TRECE CÉNTIMOS		
0312	R02TE18D	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 180 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		24,45	0316	R02TE22D	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 225 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		38,40
				VEINTICUATRO EUROS con CUARENTA Y CINCO CÉNTIMOS					TREINTA Y OCHO EUROS con CUARENTA CÉNTIMOS		
0313	R02TE20C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 200 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		21,07	0317	R02TE25C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 250 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		33,12
				VEINTIUN EUROS con SIETE CÉNTIMOS					TREINTA Y TRES EUROS con DOCE CÉNTIMOS		
0314	R02TE20D	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 200 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		29,31	0318	R02TE25D	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 250 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		45,83
				VEINTINUEVE EUROS con TREINTA Y UN CÉNTIMOS					CUARENTA Y CINCO EUROS con OCHENTA Y TRES CÉNTIMOS		

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0319	R02TE31C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 315 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		51,22	0323	R02TE40C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 400 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		77,34
				CINCUENTA Y UN EUROS con VEINTIDOS CÉNTIMOS						SETENTA Y SIETE EUROS con TREINTA Y CUATRO CÉNTIMOS	
0320	R02TE31D	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 315 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		68,61	0324	R02TE812C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 125 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 8 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		7,71
				SESENTA Y OCHO EUROS con SESENTA Y UN CÉNTIMOS						SIETE EUROS con SETENTA Y UN CÉNTIMOS	
0321	R02TE35C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 355 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		63,73	0325	R02TE814C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 140 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 8 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		9,10
				SESENTA Y TRES EUROS con SETENTA Y TRES CÉNTIMOS						NUEVE EUROS con DIEZ CÉNTIMOS	
0322	R02TE35D	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 355 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		85,99	0326	R02TE816C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 160 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 8 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.		11,80
				OCHENTA Y CINCO EUROS con NOVENTA Y NUEVE CÉNTIMOS						ONCE EUROS con OCHENTA CÉNTIMOS	

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0327	R02TE818C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 180 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 8 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	QUINCE EUROS con TREINTA Y TRES CÉNTIMOS	15,33	0332	R02TL05b	m	TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 500 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 10 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	OCHENTA Y SEIS EUROS con SETENTA Y SEIS CÉNTIMOS	86,76
0328	R02TE820g	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 200 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 8 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	DIECIOCHO EUROS con TREINTA Y NUEVE CÉNTIMOS	18,39	0333	R02TL06a	m	TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 600 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 6 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	CIENTO SEIS EUROS con OCHENTA Y OCHO CÉNTIMOS	106,88
0329	R02TE825C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 250 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 8 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	VEINTISIETE EUROS con VEINTINUEVE CÉNTIMOS	27,29	0334	R02TL06b	m	TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 600 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 10 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	NOVENTA Y CINCO EUROS con CINCUENTA Y CINCO CÉNTIMOS	95,55
0330	R02TE831C	m	TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 315 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 8 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	CUARENTA Y UN EUROS con SETENTA Y TRES CÉNTIMOS	41,73	0335	R02TL07a	m	TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 700 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 6 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	CIENTO TREINTA Y DOS EUROS con SETENTA Y NUEVE CÉNTIMOS	132,79
0331	R02TL05a	m	TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 500 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 6 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	OCHENTA Y CUATRO EUROS con NUEVE CÉNTIMOS	84,09	0336	R02TL07b	m	TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 700 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 10 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	CIENTO TREINTA Y SIETE EUROS con SESENTA CÉNTIMOS	137,60

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0337	R02TL08a	m	TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 800 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 6 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	CIENTO SESENTA EUROS con CINCUENTA Y SIETE CÉNTIMOS	160,57	0341	R03VE004	Ud	VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 80 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 80 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	QUINIENTOS OCHENTA EUROS con TRECE CÉNTIMOS	580,13
0338	R02TL08b	m	TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 800 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 10 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	CIENTO SESENTA Y DOS EUROS con TRES CÉNTIMOS	162,03	0342	R03VE005	Ud	VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 100 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 100 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	OCHOCIENTOS ONCE EUROS con CUARENTA Y UN CÉNTIMOS	811,41
0339	R02TM11eA	m	TUBERÍA DE PVC SANITARIA SERIE C, DE 110 MM DE DIÁMETRO Y 4.0 MM. DE ESPESOR, UNIÓN POR ADHESIVO, COLOR GRIS, COLOCADA EN BAJANTES Y RED DE SANEAMIENTO HORIZONTAL COLGADA. INCLUSO P.P. DE PIEZAS ESPECIALES, EMPALMES, CONEXIONES, TERMINALES, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN SEGÚN NTE-ISS-49, UNE 53114, ISO-DIS-3633. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA	CUATRO EUROS con TREINTA Y DOS CÉNTIMOS	4,32	0343	R03VE006	Ud	VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	MIL QUINIENTOS SESENTA Y OCHO EUROS con OCHO CÉNTIMOS	1.568,08
0340	R03VE002	Ud	VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 50 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE ESFERA PARA ROSCA DN 50 MM PN-16 SOBRE TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y CALDERERÍA EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	DOSCIENTOS SETENTA Y UN EUROS con TREINTA Y CUATRO CÉNTIMOS	271,34						

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0344	R03VE008	Ud	VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 200 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 200 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.		2.298,73	0346	R04AR030	m³	MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.		1,07
				DOS MIL DOSCIENTOS NOVENTA Y OCHO EUROS con SETENTA Y TRES CÉNTIMOS							
0345	R04AR010	m³	EXCAVACIÓN EN DESMONTE CON MEDIOS MECÁNICOS DE TERRENOS DE CUALQUIER NATURALEZA O CONSISTENCIA, INCLUIDAS LAS CAPAS DE ROCA RIPABLES CON POTENCIAS IGUALES A D10 O SIMILAR (447/538 KW), INCLUIDO EL USO DE MARTILLO ROMPEDOR PARA FACILITAR EL RIPADO O ARRANQUE, CON PRESENCIA POR LA TOTALIDAD DE LA ZONA DE EXCAVACIÓN, ADICIONALMENTE ROCA DE MAYOR DUREZA HASTA UN PORCENTAJE MÁXIMO DE UN 10% SOBRE EL VOLUMEN TOTAL EXCAVADO MEDIDO SOBRE TERRENO INALTERADO EN BASE A PERFILES DE TALUDES Y FONDO DE Balsa, INCLUSO TERRENOS DE CONSISTENCIA BLANDA. INCLUIDA LA EXCAVACIÓN SELECTIVA DE LOS MATERIALES PARA EL TERRAPLENADO (SEGÚN ESTUDIO GEOTÉCNICO), CON LA PREPARACIÓN DEL FONDO DE LA EXCAVACIÓN SEGÚN LAS ESPECIFICACIONES RECOGIDAS POR EL ESTUDIO GEOTÉCNICO RECOGIDO EN EL ANEJO 6 DEL PROYECTO, LABRADO O RIPADO DEL FONDO DE EXCAVACIÓN, CON POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA DEL TERRENO UNA VEZ ALCANZADA LA COTA DE FONDO, EN TODA LA ZONA DE ACTUACIÓN. INCLUSO RIPADO PREVIO SEGÚN CARACTERÍSTICAS INDICADAS, CARGA Y TRANSPORTE A TERRAPLÉN, CABALLEO A LUGAR DE EMPLEO O VERTEDERO AUTORIZADO (INCLUIDO CÁNON Y/O TASAS), A DISTANCIA INFERIOR A 10 KM. INCLUIDO EL EXTENDIDO Y PERFILADO DE TALUDES, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN A ZONAS DE UTILIZACIÓN CON SEPARACIÓN DE ELEMENTOS GRUESOS, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.		1,66					UN EUROS con SIETE CÉNTIMOS	
						0347	R04ARV10-2	m	FORMACIÓN DE CUNETA EN LATERAL DE CAMINO CON UNA ANCHURA DE 1,2M Y CON UNA PROFUNDIDAD DE HASTA 0,75 M. PERFILADO DE TALUDES, INTERIOR Y EXTERIOR Y ADECUACIÓN DE PENDIENTES SEGÚN EL TERRENO Y SEGÚN LOS PUNTOS DE EVACUACIÓN DE AGUA PROXIMOS. CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CÁNON Y AUTORIZACIONES DE VERTIDO NECESARIAS E LA TIERRA EXTRAIDA DE LA FORMACIÓN DE CUNETA.		4,41
										CUATRO EUROS con CUARENTA Y UN CÉNTIMOS	
						0348	R04EM010	m	CERRAMIENTO DE VALLA GALVANIZADA DE 2,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECCIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.		16,56
										DIECISEIS EUROS con CINCUENTA Y SEIS CÉNTIMOS	
						0349	R04EM010-A	m	CERRAMIENTO DE VALLA GALVANIZADA DE 1,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECCIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.		12,29
				UN EUROS con SESENTA Y SEIS CÉNTIMOS						DOCE EUROS con VEINTINUEVE CÉNTIMOS	

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0350	R05DE100A	Ud	DESAGÜE DE 100 MM DE DIÁMETRO INTERIOR, SOBRE TUBERÍA DE PRESIÓN DE CUALQUIER DIÁMETRO, COMPRENDIENDO VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 100 MM DE DIÁMETRO NOMINAL, 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS, CON CUERPO Y TAPA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA. SE INCLUYE ADEMÁS PIEZAS ESPECIALES EN CALDERERÍA (TÉS, CODOS, BRIDAS, ETC) Y ACCESORIOS DE DN-100 PN-16, PARA LA CONEXIÓN CON TUBERÍA DE PVC DN 110 PN6, A LOS DESAGÜES EXISTENTES O A ARQUETA DE ACHIQUE. INCLUIDO TAMBIÉN LOS ANCLAJES, CONTRARRESTOS, OBRAS DE TIERRA Y FÁBRICA COMPLEMENTARIAS, COLOCACIÓN Y PRUEBA DE TODA LA UNIDAD.		345,37	0354	R05TM111	Ud	CARRETE TELESCÓPICO DE DESMONTAJE DE 150 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	CIENTO SETENTA Y SEIS EUROS con SETENTA CÉNTIMOS	176,70
				TRESCIENTOS CUARENTA Y CINCO EUROS con TREINTA Y SIETE CÉNTIMOS		0355	R05TM111-1	Ud	CARRETE TELESCÓPICO DE DESMONTAJE DE 200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	DOSCIENTOS SESENTA Y OCHO EUROS con SESENTA Y SEIS CÉNTIMOS	268,66
0351	R05DE200A	Ud	DESAGÜE DE 200 MM DE DIÁMETRO INTERIOR, SOBRE TUBERÍA DE PRESIÓN DE CUALQUIER DIÁMETRO, COMPRENDIENDO VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 200 MM DE DIÁMETRO NOMINAL, 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS, CON CUERPO Y TAPA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA. SE INCLUYE ADEMÁS PIEZAS ESPECIALES EN CALDERERÍA (TÉS, CODOS, BRIDAS, ETC) Y ACCESORIOS DE DN-200PN-16, PARA LA CONEXIÓN CON TUBERÍA DE PVC DN 200 PN6, A LOS DESAGÜES EXISTENTES O A ARQUETA DE ACHIQUE. INCLUIDO TAMBIÉN LOS ANCLAJES, CONTRARRESTOS, OBRAS DE TIERRA Y FÁBRICA COMPLEMENTARIAS, COLOCACIÓN Y PRUEBA DE TODA LA UNIDAD.		794,84	0356	R05TM112	Ud	CARRETE TELESCÓPICO DE DESMONTAJE DE 250 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	SETECIENTOS NOVENTA Y CUATRO EUROS con OCHENTA Y CUATRO CÉNTIMOS	352,33
0352	R05EM03	Ud	EQUIPO DE MEDIDA DE CAUDAL POR ULTRASONIDOS, PARA DIÁMETRO ENTRE 200 Y 4000 MM, FORMADO POR DOS SONDAS Y CAUDALÍMETRO ULTRASÓNICO MONTADO A LA TUBERÍA, ELECTRÓNICA DE TRATAMIENTO DE SEÑAL 4-20 MA, CONVERTIDOR DE SEÑALES, SENSORES, Y PROTECCIONES SOBRETENSIONES, CABLE TRIAXIAL, INCLUIDO SUMINISTRO, INSTALACIÓN Y PRUEBAS DE FUNCIONAMIENTO.		4.110,38	0357	R05TM113	Ud	CARRETE TELESCÓPICO DE DESMONTAJE DE 300 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	TRESCIENTOS CINCUENTA Y DOS EUROS con TREINTA Y TRES CÉNTIMOS	417,66
				CUATRO MIL CIENTO DIEZ EUROS con TREINTA Y OCHO CÉNTIMOS							
0353	R05TM100	Ud	CARRETE TELESCÓPICO DE DESMONTAJE DE 100 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.		161,31					CUATROCIENTOS DIECISIETE EUROS con SESENTA Y SEIS CÉNTIMOS	
				CIENTO SESENTA Y UN EUROS con TREINTA Y UN CÉNTIMOS							

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0358	R05TM1135	Ud	CARRETE TELESCÓPICO DE DESMONTAJE DE 350 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	QUINIENTOS SETENTA Y SEIS EUROS con CINCUENTA Y DOS CÉNTIMOS	576,52	0362	R05TM117D	ud	CARRETE TELESCÓPICO DE DESMONTAJE DE 700 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	MIL TRESCIENTOS NOVENTA Y TRES EUROS con VEINTIUN CÉNTIMOS	1.393,21
0359	R05TM115	Ud	CARRETE TELESCÓPICO DE DESMONTAJE DE 400 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	SEISCIENTOS UN EUROS con DOCE CÉNTIMOS	601,12	0363	R05TM118	Ud	CARRETE TELESCÓPICO DE DESMONTAJE DE 800 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	MIL SETECIENTOS CINCUENTA Y OCHO EUROS con CINCUENTA Y CINCO CÉNTIMOS	1.758,55
0360	R05TM116	Ud	CARRETE TELESCÓPICO DE DESMONTAJE DE 500 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	SETECIENTOS VEINTISIETE EUROS con SIETE CÉNTIMOS	727,07	0364	R05TM119	Ud	CARRETE TELESCÓPICO DE DESMONTAJE DE 900 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	DOS MIL CIENTO VEINTINUEVE EUROS con OCHENTA Y SEIS CÉNTIMOS	2.129,86
0361	R05TM117	Ud	CARRETE TELESCÓPICO DE DESMONTAJE DE 600 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	MIL CIENTO NUEVE EUROS con NOVENTA Y SEIS CÉNTIMOS	1.109,96	0365	R05TM120	Ud	CARRETE TELESCÓPICO DE DESMONTAJE DE 1000 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	DOS MIL QUINIENTOS ONCE EUROS con CINCUENTA Y TRES CÉNTIMOS	2.511,53

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0366	R05TM125	Ud	CARRETE TELESCÓPICO DE DESMONTAJE DE 1200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	TRES MIL OCHOCIENTOS NOVENTA Y OCHO EUROS con VEINTIUN CÉNTIMOS	3.898,21	0370	R05VC124	Ud	VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 250 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.	CUATROCIENTOS CUARENTA Y DOS EUROS con SETENTA CÉNTIMOS	442,70
0367	R05TM1805	Ud	CARRETE TELESCÓPICO DE DESMONTAJE DE 1800 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 O SUPERIOR PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.	SEIS MIL CIENTO QUINCE EUROS con SETENTA Y CINCO CÉNTIMOS	6.115,75	0371	R05VC125	Ud	VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 250 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.	SEISCIENTOS CUARENTA EUROS con SETENTA Y NUEVE CÉNTIMOS	640,79
0368	R05VC116-1	Ud	VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 100 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.	CIENTO CINCUENTA Y OCHO EUROS con SETENTA CÉNTIMOS	158,70	0372	R05VC130	Ud	VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 300 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.	OCHOCIENTOS CINCUENTA EUROS con VEINTINUEVE CÉNTIMOS	850,29
0369	R05VC123	Ud	VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 150 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.	DOSCIENTOS CINCO EUROS con CINCUENTA Y CUATRO CÉNTIMOS	205,54	0373	R05VC135	Ud	VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 350 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.	MIL OCHOCIENTOS NOVENTA Y DOS EUROS con DOCE CÉNTIMOS	1.892,12

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0374	R05VM012	Ud	VÁLVULA DE MARIPOSA EMBRIDADA 1200 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.		19.537,15	0378	R05VM1081	ud	VÁLVULA DE MARIPOSA EMBRIDADA 700 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.		5.116,02
				DIECINUEVE MIL QUINIENTOS TREINTA Y SIETE EUROS con QUINCE CÉNTIMOS					CINCO MIL CIENTO DIECISEIS EUROS con DOS CÉNTIMOS		
0375	R05VM104	Ud	VÁLVULA DE MARIPOSA EMBRIDADA 400 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.		1.393,16	0379	R05VM1082	Ud	VÁLVULA DE MARIPOSA EMBRIDADA 800 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.		6.697,39
				MIL TRESCIENTOS NOVENTA Y TRES EUROS con DIECISEIS CÉNTIMOS					SEIS MIL SEISCIENTOS NOVENTA Y SIETE EUROS con TREINTA Y NUEVE CÉNTIMOS		
0376	R05VM105	Ud	VÁLVULA DE MARIPOSA EMBRIDADA 500 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.		2.996,74	0380	R05VM1083	ud	VÁLVULA DE MARIPOSA EMBRIDADA 900 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.		9.433,03
				DOS MIL NOVECIENTOS NOVENTA Y SEIS EUROS con SETENTA Y CUATRO CÉNTIMOS					NUEVE MIL CUATROCIENTOS TREINTA Y TRES EUROS con TRES CÉNTIMOS		
0377	R05VM106	Ud	VÁLVULA DE MARIPOSA EMBRIDADA 600 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.		3.175,51	0381	R05VM1084	Ud	VÁLVULA DE MARIPOSA EMBRIDADA 1000 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.		12.224,01
				TRES MIL CIENTO SETENTA Y CINCO EUROS con CINCUENTA Y UN CÉNTIMOS					DOCE MIL DOSCIENTOS VEINTICUATRO EUROS con UN CÉNTIMOS		

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0382	R05VM1085	Ud	VÁLVULA DE MARIPOSA EMBRIDADA, 1000 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL, CON REDUCTOR DESMULTIPLICADOR MOTORIZADO TIPO AUMA O SIMILAR PARA APERTURA Y CIERRE REGULABLE, TOTAL O PARCIAL (NO TODO O NADA), CON ACCIONAMIENTO MANUAL ADICIONAL, PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.		16.423,12	0386	R05VR2291-5	ud	VÁLVULA DE RETENCIÓN DE DE DISCOS CONCENTRICOS TIPO CLASSAR DE 500 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL, MECANISMOS EN ACERO INOXIDABLE. MONTADA Y PROBADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA EN OBRA.	DIEZ MIL CUATROCIENTOS OCHENTA Y UN EUROS con CINCO CÉNTIMOS	10.481,05
				DIECISEIS MIL CUATROCIENTOS VEINTITRES EUROS con DOCE CÉNTIMOS		0387	R05VR2291-6	ud	VÁLVULA DE RETENCIÓN DE DE DISCOS CONCENTRICOS TIPO CLASSAR DE 600 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL, MECANISMOS EN ACERO INOXIDABLE. MONTADA Y PROBADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA EN OBRA.		26.312,18
0383	R05VM1810	Ud	VÁLVULA DE MARIPOSA EMBRIDADA 1800 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.		61.762,05	0388	R07AT040B	m	PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 406X6,4 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAÍDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.	VEINTISEIS MIL TRESCIENTOS DOCE EUROS con DIECIOCHO CÉNTIMOS	718,39
				SESENTA Y UN MIL SETECIENTOS SESENTA Y DOS EUROS con CINCO CÉNTIMOS		0389	R07AT060B	m	PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 610X6,4 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAÍDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.	SETECIENTOS DIECIOCHO EUROS con TREINTA Y NUEVE CÉNTIMOS	885,72
0384	R05VMM012	Ud	VÁLVULA DE MARIPOSA EMBRIDADA, DE 1200 MM DE DIÁMETRO NOMINAL, Y 10 ATM DE PRESIÓN NOMINAL. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, EJE DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI431 Y ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO. EQUIPADA DE ACTUADOR ELÉCTRICO CON MOTOR DE 24VDV CON REDUCTOR PARA ENTREGAR 100NM PAR MAX, ACOPLADO SOBRE BRIDA NORMALIZADA A VÁLVULA. INCLUYE PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. AJUSTE Y PUESTA EN MACHA DE MOTORIZACIÓN. TOTALMENTE INSTALADA Y PROBADA.		21.871,13						
				VEINTIUN MIL OCHOCIENTOS SETENTA Y UN EUROS con TRECE CÉNTIMOS							
0385	R05VMM1810	Ud	VÁLVULA DE MARIPOSA EMBRIDADA, DE 1800 MM DE DIÁMETRO NOMINAL, Y 10 ATM DE PRESIÓN NOMINAL. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, EJE DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI431 Y ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO. EQUIPADA DE ACTUADOR ELÉCTRICO CON MOTOR DE 320VCA CON REDUCTOR PARA ENTREGAR, ACOPLADO SOBRE BRIDA NORMALIZADA A VÁLVULA. INCLUYE PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. AJUSTE Y PUESTA EN MACHA DE MOTORIZACIÓN. TOTALMENTE INSTALADA Y PROBADA.		67.064,87						
				SESENTA Y SIETE MIL SESENTA Y CUATRO EUROS con OCHENTA Y SIETE CÉNTIMOS						OCHOCIENTOS OCHENTA Y CINCO EUROS con SETENTA Y DOS CÉNTIMOS	

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0390	R07AT080B	m	PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 813X7,9 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAÍDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.	MIL TREINTA Y UN EUROS con CINCUENTA Y OCHO CÉNTIMOS	1.031,58	0392	R07AT120B	m	PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 1220X10,3 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAÍDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.	MIL CUATROCIENTOS CINCUENTA Y TRES EUROS con NOVENTA Y NUEVE CÉNTIMOS	1.453,99
0391	R07AT100B	m	PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 1016X10,3 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAÍDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.	MIL DOSCIENTOS DOCE EUROS con TREINTA Y CUATRO CÉNTIMOS	1.212,34	0393	R07AT140B	m	PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 1420X12,5 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAÍDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.	MIL SETECIENTOS SETENTA Y DOS EUROS con VEINTITRES CÉNTIMOS	1.772,23
						0394	R07BE06	Ud	ANILLADO METÁLICO PARA ESCALERAS DE MANO O PATES REALIZADO MEDIANTE PLETINA DE ACERO CON ANILLO CADA 70 CM DE ALTURA. UNIDAD TOTALMENTE ACABADA.	VEINTE EUROS con NOVENTA Y SEIS CÉNTIMOS	20,96
						0395	R07CA130	m ²	PUERTA DE DOBLE CHAPA LISA DE ACERO DE 1 MM DE ESPESOR, GALVANIZADA Y PROTECCIÓN INTERIOR Y EXTERIOR CON EPOXY, ENGATILLADA, REALIZADA EN DOS BANDEJAS, CON RIGIDIZADORES DE TUBO RECTANGULAR, VPATILLAS PARA RECIBIR EN FÁBRICAS, Y HERRAJES DE COLGAR Y DE SEGURIDAD.	OCHENTA Y CUATRO EUROS con CUARENTA Y CINCO CÉNTIMOS	84,45
						0396	R07CA310	m ²	VENTANAL FIJO DE ALUMINIO ANODIZADO EN COLOR A DETERMINAR DE 13 MICRAS, PERFIL 50X40 MM Y 1,5 MM DE ESPESOR, CON JUNQUILLOS PARA FIJACIÓN DEL VIDRIO. TOTALMENTE COLOCADO EN EL PANEL PREFABRICADO DE HORMIGÓN.	CIENTO QUINCE EUROS con OCHENTA Y NUEVE CÉNTIMOS	115,89

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Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0397	R07CB010	m²	CERRAMIENTO COMPUESTO POR FÁBRICA DE BLOQUE PREFABRICADO DE HORMIGÓN TIPO "SPLIT", HIDRÓFUGO, DE COLOR, DE MEDIDAS 40X20X20 CM, EJECUTADO A UNA CARA VISTA Y ENFOSCADO POR EL INTERIOR, RECIBIDO CON MORTERO DE CEMENTO Y ARENA DE RÍO, INCLUSO PARTE PROPORCIONAL DE PIEZAS ESPECIALES, ZUNCHO, ROTURAS, APLOMADO, NIVELADO, LLAGUEADO Y LIMPIEZA, TOTALMENTE TERMINADO.	CINCUENTA EUROS con NUEVE CÉNTIMOS	50,09	0405	R07EN020	m²	ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS	VEINTIUN EUROS con SETENTA Y CINCO CÉNTIMOS	21,75
0398	R07CR050	m²	PINTURA PLÁSTICA LISA BLANCA EN PARAMENTOS VERTICALES Y HORIZONTALES, LAVABLE DOS MANOS, VILUADO Y EMPLASTECIDO.	OCHO EUROS con VEINTICUATRO CÉNTIMOS	8,24	0406	R07EN050	m²	ENCOFRADO Y DESENCOFRADO RECTO PARA DEJAR HORMIGÓN OCULTO, MEDIANTE LA UTILIZACIÓN DE PANELES METÁLICOS A UNA CARA, INCLUSO ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS.	TRECE EUROS con VEINTIOCHO CÉNTIMOS	13,28
0399	R07CR118	m2	FALSO TECHO REGISTRABLE SITUADO A UNA ALTURA MENOR DE 4 M, DECORATIVO, FORMADO POR PLACAS DE YESO LAMINADO, LISAS, ACABADO CON VINILO BLANCO, DE 600X600X9,5 MM, CON PERFILERÍA VISTA. EL PRECIO INCLUYE LA RESOLUCIÓN DE ENCUELTOS Y PUNTOS SINGULARES.	VEINTIDOS EUROS con VEINTITRES CÉNTIMOS	22,23	0407	R07FS001	ud	INSALACIÓN DE ACOMETIDA DE AGUA PARA LOS ELEMENTOS DE ASEOS (LAVABO, INODOROS Y DUCHA) DESDE LA TUBERÍA DEL COLECTOR DE ENTRADA A LA Balsa, CONEXIÓN ENTRE EL FILTRO Y LA VALVULA DE SECCIONAMIENTO DE LA TUBERÍA DE PRESIÓN NATURAL. INCLUYE: - TUBERIA DE CONEXIÓN HASTA SALA DE ASEOS (HASTA 12 M) - TUBERIAS DE DISTRIBUCIÓN PARA ABASTECIMIENTO DE CADA PUNTO DE CONSUMO (HASTA 10 M), REALIZADAS EN PEX - PIEZAS ESPECIALES, ACCESORIOS,... PARA CONEXIONES, CODOS, TES,... - LLAVES DE CORTE PRINCIPAL, MEDIANTE VALVULA DE ESFERA, TANTO EN CONEXIÓN A LA TUBERÍA PRINCIPAL COMO A LA ENTRADA EN LA SALA DE ASEOS. - LLAVES INDIVIDUALES EN CADA ELEMENTOS, EN SU PUNTO DE CONEXIÓN. - CALENTADOR DE AGUA (ACS) DE 30 LITROS COLOCADO EN PARAMENTO VERTICAL, CONECTADO A LA RED, Y LA RED DE ABASTECIMIENTO A LAVABO Y DUCHA. - ALBAÑILERIA, Y ACTUACIONES PARA EL SOTERRADO DE LA CONDUCCIÓN PRINCIPAL, Y EL EMBEBIDO DE LAS TUBERIAS DE DISTRIBUCIÓN A ELEMENTOS EN LAS PAREDES MEDIANTE ROZA Y REVESTIDO. - MEDIOS AUXILIARES PARA LA EJECUCIÓN TOTALMENTE INSTALADO Y PROBADO.	SEISCIENTOS TREINTA Y CINCO EUROS con CUARENTA Y CINCO CÉNTIMOS	635,45
0400	R07CR119	m2	MURO DE CARGA DE 19 CM DE ESPESOR DE FÁBRICA DE BLOQUE CERÁMICO ALIGERADO MACHIHEMBADO, 30X19X19 CM, PARA REVESTIR, RESISTENCIA A COMPRESIÓN 10 N/MM², RECIBIDA CON MORTERO DE CEMENTO CONFECCIONADO EN OBRA, CON 300 KG/M³ DE CEMENTO, COLOR GRIS, DOSIFICACIÓN 1:5, SUMINISTRADO EN SACOS, CON PIEZAS ESPECIALES TALES COMO MEDIOS BLOQUES, BLOQUES DE ESQUINA Y BLOQUES DE TERMINACIÓN. EL PRECIO NO INCLUYE LOS ZUNCHOS HORIZONTALES NI LA FORMACIÓN DE LOS DINTELES DE LOS HUECOS DEL PARAMENTO.	VEINTICUATRO EUROS con CATORCE CÉNTIMOS	24,14						
0401	R07CR120	m²	ENFOSCADO MAESTREADO Y FRATASADO CON MORTERO DE CEMENTO II-Z/35A Y ARENA DE RÍO 1/4 (M-80) EN PARAMENTOS VERTICALES DE 20 MM DE ESPESOR, VREGLEADO, SACADO DE ARISTAS Y RINCONES CON MAESTRAS CADA 3 M Y ANDAMIAJE, S/NTE-RPE-7, MEDIDO DEDUCIENDO HUECOS SUPERIORES A 1 M².	QUINCE EUROS con NOVENTA Y SIETE CÉNTIMOS	15,97						
0402	R07CV015	m²	CLIMALIT CON DOS LUNAS INCOLORAS DE 4 MM Y CÁMARA DE AIRE DE 6,8 Ó 12 MM CON JUNTA PLÁSTICA, COLOCADO SOBRE MADERA, ALUMINIO O HIERRO Y SELLADO CON SILICONA INCOLORA.	CUARENTA Y CUATRO EUROS con OCHENTA Y CUATRO CÉNTIMOS	44,84	0408	R07HO020A	m³	HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO	SETENTA Y DOS EUROS con DIECISIETE CÉNTIMOS	72,17
0403	R07EM001	Kg	ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.	UN EUROS con DOCE CÉNTIMOS	1,12	0409	R07HO020SR	m³	HORMIGÓN EN MASA HM-20/B/15-20/IIA+QB, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA PLÁSTICA, FABRICADO CON CEMENTO I-32,5/SR, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO	SETENTA Y DOS EUROS con DIECISIETE CÉNTIMOS	72,17
0404	R07EM020	Kg	ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA.	DOS EUROS con OCHO CÉNTIMOS	2,08					SETENTA Y DOS EUROS con DIECISIETE CÉNTIMOS	

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Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0410	R07H0025A	m³	HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO		85,04	0417	R07PC060	m	PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM. ZANJA DE ANCHURA EN LA BASE 1,2 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 15 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.		154,70
				OCHENTA Y CINCO EUROS con CUATRO CÉNTIMOS							
0411	R07MP510	Ud	ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHembrados DE Ø100 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MICROM DE ESPESOR Y PROVISTA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA.		175,64					CIENTO CINCUENTA Y CUATRO EUROS con SETENTA CÉNTIMOS	
						0418	R07PC060-135	m	TUBERÍA DE HORMIGÓN CLASE C-135 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.		42,30
				CIENTO SETENTA Y CINCO EUROS con SESENTA Y CUATRO CÉNTIMOS						CUARENTA Y DOS EUROS con TREINTA CÉNTIMOS	
0412	R07MP510-2	Ud	ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHembrados DE Ø100 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MM DE ESPESOR Y PROVISTA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA.		401,57	0419	R07PC060-90	m	TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.		40,08
										CUARENTA EUROS con OCHO CÉNTIMOS	
				CUATROCIENTOS UN EUROS con CINCUENTA Y SIETE CÉNTIMOS		0420	R07PC080	m	PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 800 MM. ZANJA DE ANCHURA EN LA BASE 1,4 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 15 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.		192,40
0413	R07MP510B	ud	ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHembrados DE Ø120 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MICROM DE ESPESOR Y PROVISTA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA.		197,04					CIENTO NOVENTA Y DOS EUROS con CUARENTA CÉNTIMOS	
						0421	R07PC100	m	PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1000 MM. ZANJA DE ANCHURA EN LA BASE 1,4 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 15 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.		271,51
				CIENTO NOVENTA Y SIETE EUROS con CUATRO CÉNTIMOS							
0414	R07MP515	Ud	ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHembrados DE Ø100 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MM DE ESPESOR Y PROVISTA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA.		318,05					DOSCIENTOS SETENTA Y UN EUROS con CINCUENTA Y UN CÉNTIMOS	
						0422	R07PC120	m	PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1200 MM. ZANJA DE ANCHURA EN LA BASE 1,8 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 20 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.		303,10
				TRESCIENTOS DIECIOCHO EUROS con CINCO CÉNTIMOS							
0415	R07PC040	m	PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 400 MM. ZANJA DE ANCHURA EN LA BASE 1,0 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 15 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.		105,55					TRESCIENTOS TRES EUROS con DIEZ CÉNTIMOS	
						0423	R07PC120-135	m	TUBERÍA DE HORMIGÓN CLASE C-135 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1.200 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.		110,46
				CIENTO CINCO EUROS con CINCUENTA Y CINCO CÉNTIMOS							
0416	R07PC040-90	m	TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 400 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.		31,20					CIENTO DIEZ EUROS con CUARENTA Y SEIS CÉNTIMOS	
				TREINTA Y UN EUROS con VEINTE CÉNTIMOS							

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PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0424	R07PC140	m	PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1400 MM. ZANJA DE ANCHURA EN LA BASE 2,0 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 20 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	TRESCIENTOS SETENTA Y UN EUROS con CUARENTA Y UN CÉNTIMOS	371,41	0428	R07PCA140	m	PASO BAJO CAMINO ASFALTADO, MEDIANTE LA INSTALACIÓN DE CAMISA A BASE DE TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1400 MM. ZANJA DE ANCHURA EN LA BASE 2,0 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, RELLENO CON HORMIGÓN HM 20 HASTA UNA ALTURA DE 0,10M POR ENCIMA DE LA CLAVE SUPERIOR DEL TUBO DE HORMIGÓN, COMPLETÁNDOSE CON ZAHORRA NATURAL COMPACTADA AL 98% P.M. HASTA LOS ÚLTIMOS 0,3 M, QUE SE RELLENARÁ CON HORMIGÓN HM-20 HASTA ALCANZAR LA COTA DEL CAMINO, TERMINACIÓN CON MEZCLA BITUMINOSA EN CALIENTE DEBIDAMENTE COMPACTADA Y RIEGO ASFÁLTICO DE ADHERENCIA. INCLUSO EXCAVACIÓN CON ROMPEDOR EN CASO NECESARIO. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	TRESCIENTOS SESENTA Y OCHO EUROS con SETENTA Y SIETE CÉNTIMOS	368,77
0425	R07PC160	m	PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1600 MM. ZANJA DE ANCHURA EN LA BASE 2,2 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 20 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	CUATROCIENTOS CINCUENTA Y SIETE EUROS con SETENTA Y SEIS CÉNTIMOS	457,76	0429	R07PCA160	m	PASO BAJO CAMINO ASFALTADO, MEDIANTE LA INSTALACIÓN DE CAMISA A BASE DE TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1600 MM. ZANJA DE ANCHURA EN LA BASE 2,2 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, RELLENO CON HORMIGÓN HM 20 HASTA UNA ALTURA DE 0,10M POR ENCIMA DE LA CLAVE SUPERIOR DEL TUBO DE HORMIGÓN, COMPLETÁNDOSE CON ZAHORRA NATURAL COMPACTADA AL 98% P.M. HASTA LOS ÚLTIMOS 0,3 M, QUE SE RELLENARÁ CON HORMIGÓN HM-20 HASTA ALCANZAR LA COTA DEL CAMINO, TERMINACIÓN CON MEZCLA BITUMINOSA EN CALIENTE DEBIDAMENTE COMPACTADA Y RIEGO ASFÁLTICO DE ADHERENCIA. INCLUSO EXCAVACIÓN CON ROMPEDOR EN CASO NECESARIO. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	CUATROCIENTOS SESENTA EUROS con CINCUENTA Y CUATRO CÉNTIMOS	460,54
0426	R07PCA040	m	PASO BAJO CAMINO ASFALTADO, MEDIANTE LA INSTALACIÓN DE CAMISA A BASE DE TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 400 MM. ZANJA DE ANCHURA EN LA BASE 1,0 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, RELLENO CON HORMIGÓN HM 20 HASTA UNA ALTURA DE 0,10M POR ENCIMA DE LA CLAVE SUPERIOR DEL TUBO DE HORMIGÓN, COMPLETÁNDOSE CON ZAHORRA NATURAL COMPACTADA AL 98% P.M. HASTA LOS ÚLTIMOS 0,3 M, QUE SE RELLENARÁ CON HORMIGÓN HM-20 HASTA ALCANZAR LA COTA DEL CAMINO, TERMINACIÓN CON MEZCLA BITUMINOSA EN CALIENTE DEBIDAMENTE COMPACTADA Y RIEGO ASFÁLTICO DE ADHERENCIA. INCLUSO EXCAVACIÓN CON ROMPEDOR EN CASO NECESARIO. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	DOSCIENTOS VEINTIDOS EUROS con SETENTA CÉNTIMOS	222,70	0430	RED_TT_HER_CS	ud	INSTALACIÓN PARA TOMA DE TIERRA DE APARELLAJE: 4 PICAS DE 2M Y 14MM DE DIAMPETRO,20 M DE CONDUCTOR DE CU DESNUDO S=50 MM2		439,56
0427	R07PCA100	m	PASO BAJO CAMINO ASFALTADO, MEDIANTE LA INSTALACIÓN DE CAMISA A BASE DE TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1000 MM. ZANJA DE ANCHURA EN LA BASE 1,6 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, RELLENO CON HORMIGÓN HM 20 HASTA UNA ALTURA DE 0,10M POR ENCIMA DE LA CLAVE SUPERIOR DEL TUBO DE HORMIGÓN, COMPLETÁNDOSE CON ZAHORRA NATURAL COMPACTADA AL 98% P.M. HASTA LOS ÚLTIMOS 0,3 M, QUE SE RELLENARÁ CON HORMIGÓN HM-20 HASTA ALCANZAR LA COTA DEL CAMINO, TERMINACIÓN CON MEZCLA BITUMINOSA EN CALIENTE DEBIDAMENTE COMPACTADA Y RIEGO ASFÁLTICO DE ADHERENCIA. INCLUSO EXCAVACIÓN CON ROMPEDOR EN CASO NECESARIO. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	DOSCIENTOS NOVENTA Y TRES EUROS con TRECE CÉNTIMOS	293,13	0431	RED_TT_HER_CT	Ud	INSTALACIÓN PARA TOMA DE TIERRA DE APARELLAJE: 8 PICAS DE 2M Y 14MM DE DIAMPETRO,20 M DE CONDUCTOR DE CU DESNUDO S=50 MM2 INSTALACIÓN DE PUESTA A TIERRA DE NEUTRO: 3 PICAS DE 2M Y 14MM DE DIÁMETRO, 30M DE CONDUCTOR DE CU DESNUDO S=50MM2 PEQUEÑO MATERIAL NECESARIO COMO TORNILLOS, ARANDELAS, ANCLAJES ... PARA SU COLOCACIÓN	CUATROCIENTOS TREINTA Y NUEVE EUROS con CINCUENTA Y SEIS CÉNTIMOS	941,97
						0432	REIGOSUL	Hr	RIEGO DE SUELO CON CISTERNA		49,78
						0433	REJ	m²	REJILLA EN FACHADAS		54,55
						0434	REST	m²	RESTAURACIÓN SUELO LABOR		0,32

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Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0435	RTOMA1000	Ud	REJA DE DESBASTE PARA TOMA DE 1,00M, SOBRE GUÍAS PARA FACILITAR SU LIMPIEZA Y MANTENIMIENTO. EN ACERO INOXIDABLE AISI-316, CON LUZ DE PASO MÁXIMA DE 50 CON REFUERZOS CADA 150 MM Y ALTURA MÍNIMA DE 1,5 M. INCLUYE PLETINAS, TORNILLERÍA Y PP. DE PEQUEÑO MATERIAL PARA ANCLAJE A HORMIGÓN Y CON LÁMINA PLÁSTICA. MEDIDA LA UNIDAD TOTALMENTE MONTADA Y PROBADA.	NOVECIENTOS NOVENTA Y SIETE EUROS con DIECISEIS CÉNTIMOS	997,16	0444	SISFV	Ud	ALIMENTACIÓN ELÉCTRICA MEDIANTE INSTALACIÓN SOLAR FOTOVOLTAICA FORMADA POR: - CONJUNTO DE 12 VASOS LIBRES DE MANTENIMIENTO, DE 2V CADA UNO Y 200AH - REGULADOR DE CARGA 12/24V 20A. - PANEL SOLAR DE APROX. (SEGÚN DISPONIBILIDAD COMERCIAL) 24V 120W CON DETECCIÓN DE INTRUSIÓN SOBRE MÁSTIL EXISTENTE EN SOPORTE ORIENTABLE, COLOCADO SOBRE ZAPATA Y ESPERAS EXISTENTES INSERTADAS EN OBRA CIVIL. - MÁSTIL TUBULAR/TROCOCÓNICO DE 8M DE ALTURA Y 4MM DE PARED CON VENTANA DE CONEXIONADO, SOBRE ZAPATA Y ESPERAS EXISTENTES INSERTADAS EN OBRA CIVIL. - CABLE TIPO RVK 4X4 POR TUBO - ARQUETA PARA ALOJAMIENTO DE LAS BATERIAS REGULADOR, CONSISTENTE EN CASETA PREFABRICADA DE HORMIGÓN CON BASE INTEGRADA O PRESOLERA DE HORMIGÓN HM-20, CON UNAS DIMENSIONES INTERIORES ÚTILES DE 2,00X1,00X1,900, CON APERTURA EN EJE VERTICAL DE DOBLE HOJA, PUERTAS EN GALVANIZADO 1,5 MM, NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA EN PUERTAS, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE. INCLUIDO SOPORTES, Y CANDADO, INCLUIDOS TODOS LOS MEDIOS AUXILIARES PARA SU COLOCACIÓN Y CIMENTACIÓN PARA MASTIL CONSISTENTE EN HORMIGÓN EN MASA DE 0,8X0,8X1,2M Y 4 PERNOS DE 16 MM DE DIAMETRO DE ACERO B-500S. INCLUIDOS TUBO DE PE CORRUGADO CON GUÍA PARA CABLEADO A LOS ELEMENTOS (VALVULAS Y CAUDALIMETROS, DOS TUBOS POR ELEMNTO), Y EL DESBROCE O PREPARACIÓN DE TERRENO PARA LA PRESOLERA. TOTALMENTE INSTALADO, CONEXIONADO, CONECTADO Y EN FUNCIONAMIENTO. INCLUYENDO EL ALQUILER DE VEHÍCULOS Y/O MEDIOS NECESARIOS PARA EL TRANSPORTE Y LEVANTAMIENTO DE MÁSTIL JUNTO CON PANEL SOLAR Y OTROS ELEMENTOS SOBRE ÉSTOS.		2.267,01
0436	SA100HP	m	CANALETA PREFABRICADA DE HORMIGÓN POLÍMERO, 127 MM DE ANCHO EXTERIOR, 100 MM DE ANCHO INTERIOR Y 95 MM DE ALTURA, CON REJILLA NERVADA DE ACERO GALVANIZADO, CLASE A-15 SEGÚN UNE-EN 124, CON SISTEMA DE FIJACIÓN RÁPIDA POR PRESIÓN, COLOCADA SOBRE SOLERA DE HORMIGÓN EN MASA HM-20/B/20/IIA DE 10 CM DE ESPESOR. INCLUSO ACCESORIOS DE MONTAJE, PIEZAS ESPECIALES Y ELEMENTOS DE SUJECCIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA	VEINTIDOS EUROS con DOS CÉNTIMOS	22,02						
0437	SE10BOYA	Ud	BOYA INTERMITENTE CON CÉLULA FOTOELÉCTRICA PARA SEÑALIZACIÓN NOCTURNA. COLOCADA. S/R.D. 485/97.	CINCUENTA Y DOS EUROS con TREINTA Y TRES CÉNTIMOS	52,33						
0438	SE10CIRIS	Ud	UD. CARTEL INDICATIVO DE RIESGO DE 0,30X0,30 M. CON SOPORTE METÁLICO DE HIERRO GALVANIZADO 80X40X2 MM. Y 1,3 M. DE ALTURA, INCLUSO APERTURA DE POZO, HORMIGONADO, COLOCACIÓN Y DESMONTADO. S/R.D. 485/97.	DIECINUEVE EUROS con CUATRO CÉNTIMOS	19,04						
0439	SE10CIRSS	Ud	UD. CARTEL INDICATIVO DE RIESGO DE 0,30X0,30 M., SIN SOPORTE METÁLICO, INCLUSO COLOCACIÓN Y DESMONTADO. S/R.D. 485/97.	TRES EUROS con DIECISIETE CÉNTIMOS	3,17					DOS MIL DOSCIENTOS SESENTA Y SIETE EUROS con UN CÉNTIMOS	
0440	SE10CPRIENT	Ud	CARTEL PROVISIONAL DE RIESGO ENTRADA OBRA/EPI'S. INCLUSO APERTURA DE POZO, HORMIGONADO, COLOCACIÓN Y DESMONTADO. S/R.D. 485/97.	CIENTO TREINTA Y CINCO EUROS con VEINTIOCHO CÉNTIMOS	135,28	0445	SOL_DCBOX10	m	SUMINISTRO DE CABLE UNIPOLAR DE COBRE DE 10 MM2 CU. (PROTECCION SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC. MONTAJE E INSTALACION DE CABLE UNIPOLAR DE COBRE DE 6 MM2 CU. (PROTECCION SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC, COLOCADO EN EL INTERIOR DE TUBO CORRUGADO DE POLIETILENO DOBLE PARED FLEXIBLE PARA INSTALACIONES ELÉCTRICAS DE DIAMETRO 50 MM (SI PROCEDE) . INCLUSO CONEXIONADO A MÓDULOS FOTOVOLTAICOS MEDIANTE EMPALMES Y PUNTERAS TERMINALES. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.		2,12
0441	SE10SSIS	Ud	SEÑAL DE STOP TIPO OCTOGONAL DE D=600 MM. NORMALIZADA, CON SOPORTE METÁLICO DE HIERRO GALVANIZADO 80X40X2 MM. Y 1,3 M. DE ALTURA INCLUSO PARTE PROPORCIONAL DE APERTURA DE POZO, HORMIGONADO, COLOCACIÓN Y DESMONTADO. (3 USOS) . S/R.D. 485/97.	SETENTA Y SIETE EUROS con TREINTA Y SIETE CÉNTIMOS	77,37					DOS EUROS con DOCE CÉNTIMOS	
0442	SE20CB	m	ML. CINTA CORRIDA DE BALIZAMIENTO PLÁSTICA PINTADA A DOS COLORES ROJA Y BLANCA, INCLUSO COLOCACIÓN Y DESMONTADO. S/R.D. 485/97.	CERO EUROS con TREINTA CÉNTIMOS	0,30						
0443	SE20VCP	Ud	UD. VALLA AUTÓNOMA METÁLICA DE 2,5 M. DE LONGITUD PARA CONTENCIÓN DE PEATONES NORMALIZADA, INCLUSO COLOCACIÓN Y DESMONTAJE. (20 USOS). S/R.D. 485/97.	DOS EUROS con SESENTA Y DOS CÉNTIMOS	2,62						

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Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0446	SOL_DCBOX6	m	SUMINISTRO DE CABLE UNIPOLAR DE COBRE DE 6 MM2 CU. (PROTECCION SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC. MONTAJE E INSTALACION DE CABLE UNIPOLAR DE COBRE DE 6 MM2 CU. (PROTECCION SOLAR) DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULARDO Y CUBIERTA DE PVC, COLOCADO EN EL INTERIOR DE TUBO CORRUGADO DE POLIETILENO DOBLE PARED FLEXIBLE PARA INSTALACIONES ELÉCTRICAS DE DIAMETRO 50 MM (SI PROCEDE) . INCLUSO CONEXIONADO A MÓDULOS FOTOVOLTAICOS MEDIANTE EMPALMES Y PUNTERAS TERMINALES. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO.		1,63	0453	SYS07	Ud	JUEGO DE OREJERAS, ESTÁNDAR, COMPUESTO POR UN CASQUETE DISEÑADO PARA PRODUCIR PRESIÓN SOBRE LA CABEZA MEDIANTE UN ARNÉS Y AJUSTE CON ALMOHADILLADO CENTRAL, CON ATENUACIÓN ACÚSTICA DE 15 DB.	DIEZ EUROS con QUINCE CÉNTIMOS	10,15
						0454	SYS08	UD	JUEGOS DE MUÑEQUERAS ANTIVIBRATORIAS	CINCO EUROS con SESENTA Y CINCO CÉNTIMOS	5,65
						0455	SYS28	Ud	BOTE DE 1 L O SUPERIOR CAPACIDAD DE CREMA SOLAR DE PROTECCIÓN FACTOR 50. PARA PROTECCIÓN FRENTE A LOS RAYOS SOLARES.	CINCUENTA Y UN EUROS con CINCUENTA CÉNTIMOS	51,50
				UN EUROS con SESENTA Y TRES CÉNTIMOS		0456	TAJ-50X50	Ud	TAJADERA METÁLICA CON ACCIONAMIENTO MANUAL MEDIANTE VOLANTE CON REDUCTOR SITUADO EN EL BASTIDOR SUPERIOR, CON HUSILLO SIMPLE DE TIPO ASCENDETE Y ROSCA TRAPICIAL, PASO ESTANDARIZADO, REALIZADO EN ACERO AISI 304 DE DIAMETRO 40 MM O SUPERIOR (ACORDE A LA PRESIÓN Y FRICCIÓN DE LA COMPUERTA), TABLERO DE COMPUERTA DE UNAS DIMENSIONES DE 0,4X0.8(H) M REALIZADO EN ACERO AL CARBONO S-275-JR, ESTRUCTURA DEL BASTIDOR REALIZADO CON PERFILES CONFORMADOS MEDIANTE PLEGADO Y REFUERZOS EN ACERO S-275-JR, CON PUENTE SUPERIOR DE APOYO DEL VOLANTE DESMONTABLE PARA EXTRACCIÓN DE HOJA DE COMPUERTA, Y BASTIDOR CON UNA ALTURA SUFICIENTE PARA ASEGURAR UNA ALTURA DEL VOLANTE DE 1,2M SOBRE EL TERRENO O CORONACIÓN DEL CAJERO EXTERIOR DE LA ACEQUIA. CIERRE HERMETICO A 3 JUNTAS UNIDIRECCIONAL MEDIANTE JUNTAS DE GOMA DE EPDM O NEOPRENO, CON FORMA Y TIPOLOGÍA ACORDE A LA FORMA DE LA HOJA Y BASTIDOR. INSTALACIÓN DE GUIAS DESLIZANTES EN PUNTOS DE UNIÓN VERTICAL ENTRE BASTIDOR Y TABLERO REALIZADAS MEDIANTE PIEZAS DE POLIETILENO O NYLON, CON UNIÓN FACILMENTE SUSTITUIBLE. TORNILLERÍA EN ACERO INOXIDABLE CALIDAD 8.8 O SUPERIOR. TODAS LAS PIEZAS REALIZADAS EN ACERO S-275 DISPONDRÁN DE TRATAMIENTO MEDIANTE GRANALLADO, DESNGRASADO DE SUPERFICIES, RECUBRIMIENTO DE PINTURA EPOXI RICA EN ZINC (50 MICRAS), RECUBRIMIENTO DE EPOXI POLIAMIDA DE 100 MICRAS Y RECUBRIMIENTO DE PINTURA DE POLIURETANO ALIFATICO DE 50 MICRAS. INCLUSO PLATAFORMA PARA ACCIONAMIENTO, ELEMENTOS DE ANCLAJE Y PEQUEÑO MATERIAL PARA OBRA CIVIL Y DE ACONDICIONAMIENTO DE BANDA NECESARIA PARA TRÁNSITO DE MAQUINARIA EN EJECUCIÓN DE LOS TRABAJOS. COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA Y PROBADA.		661,29
0447	SYS01	Ud	BARRERA DE SEGURIDAD PORTÁTIL TIPO NEW JERSEY DE POLIETILENO DE ALTA DENSIDAD, DE 1,20X0,60X0,40 M, CON CAPACIDAD DE LASTRADO DE 150 L, COLOR ROJO O BLANCO, AMORTIZABLE EN 20 USOS.		5,40					CINCO EUROS con CUARENTA CÉNTIMOS	
0448	SYS02	Ud	FAJA DE PROTECCIÓN LUMBAR CON AMPLIO SOPORTE ABDOMINAL Y SUJECIÓN REGULABLE MEDIANTE VELCRO, AMORTIZABLE EN 4 USOS		5,05					CINCO EUROS con CINCO CÉNTIMOS	
0449	SYS03	m	PROTECCIÓN FRENTE A LA CAÍDA DE CAMIONES EN BORDES DE EXCAVACIÓN, DURANTE LOS TRABAJOS DE DESCARGA DIRECTA DE HORMIGÓN O MATERIALES DE RELLENO, FORMADA POR TOPE COMPUESTO POR 1 TABLONES DE MADERA DE PINO DE 0,20X0,20 CM, AMORTIZABLES EN 4 USOS Y PERFILES DE ACERO UNE-EN 10025 S275JR, LAMINADO EN CALIENTE, DE LA SERIE IPN 200, GALVANIZADO EN CALIENTE, DE 1 M DE LONGITUD, HINCADOS EN EL TERRENO CADA 2,0 M, AMORTIZABLES EN 150 USOS. INCLUSO ELEMENTOS DE ACERO PARA EL ENSAMBLE DE LOS TABLONES.		17,19					DIECISIETE EUROS con DIECINUEVE CÉNTIMOS	
0450	SYS04	Ud	PÓRTICO DE LIMITACIÓN DE ALTURA LIBRE DE 5 M, PARA PROTECCIÓN DE LÍNEAS ELÉCTRICAS AÉREAS, COMPUESTO POR 2 ROLLIZOS DE MADERA DE 15/20 CM DE DIÁMETRO, HINCADOS EN EL TERRENO, SEPARADOS ENTRE SÍ 6 M, AMORTIZABLES EN 5 USOS Y UNIDOS EN SU PARTE SUPERIOR MEDIANTE CABLE TENSADO DE ACERO DE 10 MM DE DIÁMETRO, SOBRE EL QUE SE SUSPENDERÁ UN CORDÓN DE BALIZAMIENTO CON GUIRNALDAS REFLECTANTES DE PLÁSTICO, COLOR ROJO Y BLANCO.		132,16					CIENTO TREINTA Y DOS EUROS con DIECISEIS CÉNTIMOS	SEISCIENTOS SESENTA Y UN EUROS con VEINTINUEVE CÉNTIMOS
0451	SYS05	Ud	CAJA DE 50 MASCARILLAS QUIRÚRGICAS DE UN SOLO USO, TIPO I, DE 17,5X9,5 CM, FORMADAS POR TRES CAPAS, LAS CAPAS INTERIOR Y EXTERIOR DE POLIÉSTER Y LA CAPA INTERMEDIA DE POLIPROPILENO, CON PUENTE NASAL DE ALUMINIO PARA MEJORAR EL AJUSTE AL CONTORNO DE LA NARIZ Y CINTAS ELÁSTICAS PARA SUJECIÓN DE LA MASCARILLA A LA CABEZA.		29,36					VEINTINUEVE EUROS con TREINTA Y SEIS CÉNTIMOS	
0452	SYS06	l	GEL HIDROALCOHÓLICO, BACTERICIDA Y VIRUCIDA, PARA LA DESINFECCIÓN DE MANOS.		5,66					CINCO EUROS con SESENTA Y SEIS CÉNTIMOS	

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Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0457	TAJ-50X80	Ud	TAJADERA METÁLICA CON ACCIONAMIENTO MANUAL MEDIANTE VOLANTE CON REDUCTOR SITUADO EN EL BASTIDOR SUPERIOR, CON HUSILLO SIMPLE DE TIPO ASCENDETE Y ROSCA TRAPEZIAL, PASO ESTANDARIZADO, REALIZADO EN ACERO AISI 304 DE DIAMETRO 40 MM O SUPERIOR (ACORDE A LA PRESIÓN Y FRICCIÓN DE LA COMPUERTA). TABLERO DE COMPUERTA DE UNAS DIMENSIONES DE 0,6X0.8(H) M REALIZADO EN ACERO AL CARBONO S-275-JR, ESTRUCTURA DEL BASTIDOR REALIZADO CON PERFILES CONFORMADOS MEDIANTE PLEGADO Y REFUERZOS EN ACERO S-275-JR, CON PUENTE SUPERIOR DE APOYO DEL VOLANTE DESMONTABLE PARA EXTRACCIÓN DE HOJA DE COMPUERTA, Y BASTIDOR CON UNA ALTURA SUFICIENTE PARA ASEGURAR UNA ALTURA DEL VOLANTE DE 1,2M SOBRE EL TERRENO O CORONACIÓN DEL CAJERO EXTERIOR DE LA ACEQUIA. CIERRE HERMETICO A 3 JUNTAS UNIDIRECCIONAL MEDIANTE JUNTAS DE GOMA DE EPDM O NEOPRENO, CON FORMA Y TIPOLOGÍA ACORDE A LA FORMA DE LA HOJA Y BASTIDOR. INSTALACIÓN DE GUÍAS DESLIZANTES EN PUNTOS DE UNIÓN VERTICAL ENTRE BASTIDOR Y TABLERO REALIZADAS MEDIANTE PIEZAS DE POLIETILENO O NYLON, CON UNIÓN FACILMENTE SUSTITUIBLE. TORNILLERÍA EN ACERO INOXIDABLE CALIDAD 8.8 O SUPERIOR. TODAS LAS PIEZAS REALIZADAS EN ACERO S-275 DISPONDRÁN DE TRATAMIENTO MEDIANTE GRANALLADO, DESENGRASADO DE SUPERFICIES, RECUBRIMIENTO DE PINTURA EPOXI RICA EN ZINC (50 MICRAS), RECUBRIMIENTO DE EPOXI POLIAMIDA DE 100 MICRAS Y RECUBRIMIENTO DE PINTURA DE POLIURETANO ALIFATICO DE 50 MICRAS. INCLUSO PLATAFORMA PARA ACCIONAMIENTO, ELEMENTOS DE ANCLAJE Y PEQUEÑO MATERIAL PARA OBRA CIVIL Y DE ACONDICIONAMIENTO DE BANDA NECESARIA PARA TRÁNSITO DE MAQUINARIA EN EJECUCIÓN DE LOS TRABAJOS. COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA Y PROBADA.		976,47	0461	UNIDAD2A	Kg	BARRAS POSTINSTALADAS DE ANCLAJE, FORMADAS POR BARRAS DE Ø12 MM HIT RE 500 Ó SIMILAR, CON TALADROS DE 150 MM DE LONGITUD EN HORMIGÓN EXISTENTE, INCLUIDO CEPILLADO DEL HORMIGÓN PARA MEJORAR LAS ADHERENCIA MEDIANTE CEPILLADO DE LA JUNTA HASTA ALCANZAR UNA RUGOSIDAD TIPO B SEGÚN NORMA ACI. SUMINISTRO DE LAS BARRAS, EJECUCIÓN DEL TALADRO, LIMPIEZA DEL MISMO CON AIRE, COLOCACIÓN DE LAS BARRAS Y RELLENO CON RESINA DE TENSIÓN DE ROTURA MEDIA DE ADHERENCIA DE 16,6 N/MM².		5,50
									CINCO EUROS con CINCUENTA CÉNTIMOS		
						0462	VA001	Ud	ELEMENTO DE SEGURIDAD EN LA Balsa, FORMADO POR CABLE DE NYLON DE 12 MM. DE DIAMETRO CON FLOTADOR Y SUJETO A POSTE ANCLADO EN CORONACION DE Balsa, INCLUSO SUMINISTRO, COLOCACION Y SUJECIONES.		265,56
									DOSCIENTOS SESENTA Y CINCO EUROS con CINCUENTA Y SEIS CÉNTIMOS		
						0463	VARTF_CS2	ud	VARIOS EQUIPOS CONEXIÓN INSTALACIÓN EN CS CONSISTENTES EN: - EQUIPO DE MEDIDA AUXILAR CONSISTENTE EN: -1 CONTADOR DE ENERGÍA REACTIVA -1 CONTADOR DE ENERGÍA ACTIVA -1 MODEM GSM - 1 COMUNICACIONES Y ACCIONAMIENTO REMOTO CELDAS MOTORIZADAS -PUENTE DE CABLES MT CONECTOR 400 A. KIT TERMINAL 3X1X95MM2 AL DE CELDA DE PROTECCIÓN A CELDA DE MEDIDA, 2.5M		3.458,74
									TRES MIL CUATROCIENTOS CINCUENTA Y OCHO EUROS con SETENTA Y CUATRO CÉNTIMOS		
						0464	VARTF_CT	Ud	VARIOS EQUIPOS CONEXIÓN INSTALACIÓN EN CT CONSISTENTES EN: - TERMÓMETRO 1" CON 2 CONTACTOS PARA CONTROL DE Tª DE TRANSFORMADOR - PUENTE DE CABLES MT CONECTOR 400 A. KIT TERMINAL 3X1X95MM2 AL DE CELDA DE PROTECCIÓN A TRANSFORMADOR, 8M		1.038,18
0458	TEX005	m²	REFINO Y PERFILADO DE TALUDES INTERIORES Y EXTERIORES DE TERRAPLÉN SEGÚN PLANOS, INCLUSO CON LA UTILIZACIÓN DE MEDIOS MANUALES SI SON PRECISOS, ASEGURANDO LA ELIMINACIÓN TOTAL DE ELEMENTOS GRUESOS VISTOS EN SUPERFICIE CON UN TAMAÑO MAYOR A 2 CM O DE FORMA ANGULOSA. EN EL CASO DE NO PODER REALIZAR ESTA ELIMINACIÓN SE INCLUYE ADEMÁS LA EXTENSIÓN, COLOCACIÓN Y COMPACTACIÓN DE UNA CAPA DE 15 CM DE MATERIAL FINO SELECCIONADO Y CRIBADO OBTENIDO DEL MOVIMIENTO DE TIERRAS DE LOS TALUDES Y ACOPIADO DURANTE SU EJECUCIÓN PREVIA PARA TAL FIN. MEDIDA LA SUPERFICIE FINALIZADA Y EJECUTADA FINAL.		0,32						
									MIL TREINTA Y OCHO EUROS con DIECIOCHO CÉNTIMOS		
						0465	VASP002	ud	UD. DE VÁLVULA DE ALIVIO DE SOBREPRESIÓN DE ACCIÓN DIRECTA, DE DIÁMETRO NOMINAL 250 MM Y PRESIÓN NOMINAL 16 ATMÓSFERAS, DE PASO RECTO Y ACTUACIÓN ELÉCTRICA, INCLUSO P.P. DE PIEZAS ESPECIALES, TE DE UNIÓN A COLECTOR DE IMPULSIÓN, TRANSPORTE, INSTALACIÓN Y MONTAJE.		9.234,31
									CERO EUROS con TREINTA Y DOS CÉNTIMOS		
0459	TRAF-2000	UD.	UD. TRANSFORMADOR DE POTENCIA DE 2000 KVA, SERVICIO INTERIOR, AISLAMIENTO SECO, RELACIÓN DE TRANSFORMACIÓN 15 KV / 400 V, +-2,5+-5%,+10% CONEXIÓN DYN11, PANTALLA ELECTROESTÁTICA, CENTRALITA DE TEMPERATURAS Y RELE FOTOVOLTAICO INCLUIDOS MEDIOS AUXILIARES NECESARIOS, INSTALADO, MONTADO Y TRASLADADO.		17.362,06						
									NUEVE MIL DOSCIENTOS TREINTA Y CUATRO EUROS con TREINTA Y UN CÉNTIMOS		
						0466	VIGAMB	Pa	PARTIDA ALZADA A JUSTIFICAR DE VIGILANCIA AMBIENTAL GENERAL CON UNA DEDICACIÓN MÍNIMA DE 6 H/SEMANALES		15.000,00
									QUINCE MIL EUROS		
						0467	YSB060	Ud	CONO DE BALIZAMIENTO REFLECTANTE DE 75 CM DE ALTURA, DE 1 PIEZA DE POLIETILENO CON LASTRE DE ARENA, CON 2 BANDAS REFLECTANTES DE 150 MM DE ANCHURA Y RETROREFLECTANCIA NIVEL 1 (E.G.), AMORTIZABLE EN 10 USOS. INCLUSO ARENA UTILIZADA PARA EL LASTRADO DE LAS PIEZAS, MANTENIMIENTO EN CONDICIONES SEGURAS DURANTE TODO EL PERIODO DE TIEMPO QUE SE REQUIERA Y DESMONTAJE.		2,65
									DIECISIETE MIL TRECIENTOS SESENTA Y DOS EUROS con SEIS CÉNTIMOS		
0460	TRAMEX	m²	CELOSÍA METÁLICA "TRAMEX", FORMADA POR MALLA DE ACERO 30X30 MM. Y PLETINA 40.3, Y BASTIDOR CON UNIONES ELECTROSOLDADAS, VSOLDADURA Y AJUSTE A OTROS ELEMENTOS, ESTRUCTURA AUXILIAR DE APOYO Y ANCLAJE.		51,99						
									DOS EUROS con SESENTA Y CINCO CÉNTIMOS		
									CINCUENTA Y UN EUROS con NOVENTA Y NUEVE CÉNTIMOS		

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE	
0468	Z005	Ud	ELABORACIÓN Y COLOCACIÓN DE PLACAS PERMANENTES INFORMATIVAS DE LA EVENTUAL FINANCIACIÓN DE LA OBRA POR EL PRTR, SOLO APLICABLE EN EL CASO DE QUE EL PROYECTO ACABE SIENDO ELEGIDO PARA SU FINANCIACIÓN EN EL MARCO DEL PRTR, EN CHAPA GALVANIZADA DE 2,10 X 1,50 M. DISEÑO SEGÚN PLIEGO DE PRESCRIPCIONES TÉCNICAS. EN CASO DE QUE EL PROYECTO NO RESULTE FINALMENTE SELECCIONADO, ESTA UNIDAD DE OBRA NO SE EJECUTARÍA.	SEISCIENTOS TRECE EUROS con TREINTA Y SEIS CÉNTIMOS	613,36	0472	ZZ024-250	Ud	UD. GRUPO MOTOBOMBA CENTRÍFUGA HORIZONTAL DE CÁMARA PARTIDA PARA UN CAUDAL DE 229,38 L/S Y 69,81 M.C.A., RENDIMIENTO A 1490 RPM DEL 83,2% O SUPERIOR, EJE DE ACERO AL CARBONO, IMPULSOR DE BRONCE, MOTOR ELÉCTRICO EN HIERRO FUNDIDO A 1490 RPM, POTENCIA DE 250 KW Y TENSIÓN DE 400 V/50 HZ PREPARADO PARA VARIADOR DE FRECUENCIA, PROTECCIÓN IP55, RESIST. CALDEO, 3 SONDAS PT 100 EN DEVANADOS, 2 SONDAS PT 100 EN COJINETES Y REFRIGERACIÓN INTERNA MEDIANTE IMPULSOR INTERNO. INCLUSO DESCARGA Y MONTAJE. COMPLETAMENTE INSTALADA, CONEXIONADA ,CONOS DE AMPLIACIÓN Y REDUCCIÓN, INCLUSO PRUEBAS PRESENCIALES EN FÁBRICA, PRUEBAS DE FUNCIONAMIENTO Y PUESTA EN MARCHA UNA VEZ COLOCADA.	SETENTA Y CINCO MIL CUATROCIENTOS OCHENTA Y OCHO EUROS con CINCUENTA Y NUEVE CÉNTIMOS	75.488,59	
0469	Z019	Ud	ELABORACIÓN Y COLOCACIÓN DE PLACAS PERMANENTES INFORMATIVAS DE LA EVENTUAL FINANCIACIÓN DE LA OBRA POR EL PRTR SOLO APLICABLE EN EL CASO DE QUE EL PROYECTO ACABE SIENDO ELEGIDO PARA SU FINANCIACIÓN EN EL MARCO DEL PRTR, EN CHAPA GALVANIZADA DE 0,42 X 0,42 M. DISEÑO SEGÚN PLIEGO DE PRESCRIPCIONES TÉCNICAS. EN CASO DE QUE EL PROYECTO NO RESULTE FINALMENTE SELECCIONADO, ESTA UNIDAD DE OBRA NO SE EJECUTARÍA.	CIENTO DIEZ EUROS con OCHENTA Y SIETE CÉNTIMOS	110,87	0473	ZZ0801B	Ud	ALIMENTACIÓN ELÉCTRICA MEDIANTE INSTALACIÓN SOLAR FOTOVOLTAICA Y AUTÓMATA DE CONTROL CON PANTALLA 12" TÁCTIL Y SCADA INTALADO EN ARMARIO FORMADA POR: - 1 CONJUNTO DE 12 VASOS LIBRES DE MANTENIMIENTO DE 2V CADA UNO Y 275H, ES DECIR 24V Y 275AH. - 1 REGULADOR DE CARGA 12/24V (24V; >1300W), 45A IN CARGA, 50A ICCMÁX., VCC. 16,2-150V, FACTOR DE POTENCIA >=98%. - 2 PANEL SOLAR DE APROX. (SEGÚN DISPONIBILIDAD COMERCIAL) DE 445WP/UD (MONOCRISTALINO, TIER1, PERC, HALF-CUT TECH) CON DETECCIÓN DE INTRUSIÓN SOBRE MÁSTIL EXISTENTE EN SOPORTE ORIENTABLE, COLOCADO SOBRE ZAPATA Y ESPERAS EXISTENTES INSERTADAS EN OBRA CIVIL. - 1 MÁSTIL TUBULAR/TROCOCÓNICO DE 8M DE ALTURA Y 4MM DE PARED CON VENTANA DE CONEXIONADO, SOBRE ZAPATA Y ESPERAS EXISTENTES INSERTADAS EN OBRA CIVIL. - PROTECCIONES - CABLE TIPO RVK 4X4 POR TUBO PREVIAMENTE INSTALADO. TOTALMENTE INSTALADO, CONEXIONADO, CONECTADO Y EN FUNCIONAMIENTO. INCLUYENDO EL ALQUILER DE VEHÍCULOS Y/O MEDIOS NECESARIOS PARA EL TRANSPORTE Y LEVANTAMIENTO DE MÁSTIL JUNTO CON PANEL SOLAR Y OTROS ELEMENTOS SOBRE ÉSTOS.	ALIMENTACIÓN ELÉCTRICA MEDIANTE INSTALACIÓN SOLAR FOTOVOLTAICA Y AUTÓMATA DE CONTROL CON PANTALLA 12" TÁCTIL Y SCADA INTALADO EN ARMARIO FORMADA POR: - 1 CONJUNTO DE 12 VASOS LIBRES DE MANTENIMIENTO DE 2V CADA UNO Y 275H, ES DECIR 24V Y 275AH. - 1 REGULADOR DE CARGA 12/24V (24V; >1300W), 45A IN CARGA, 50A ICCMÁX., VCC. 16,2-150V, FACTOR DE POTENCIA >=98%. - 2 PANEL SOLAR DE APROX. (SEGÚN DISPONIBILIDAD COMERCIAL) DE 445WP/UD (MONOCRISTALINO, TIER1, PERC, HALF-CUT TECH) CON DETECCIÓN DE INTRUSIÓN SOBRE MÁSTIL EXISTENTE EN SOPORTE ORIENTABLE, COLOCADO SOBRE ZAPATA Y ESPERAS EXISTENTES INSERTADAS EN OBRA CIVIL. - 1 MÁSTIL TUBULAR/TROCOCÓNICO DE 8M DE ALTURA Y 4MM DE PARED CON VENTANA DE CONEXIONADO, SOBRE ZAPATA Y ESPERAS EXISTENTES INSERTADAS EN OBRA CIVIL. - PROTECCIONES - CABLE TIPO RVK 4X4 POR TUBO PREVIAMENTE INSTALADO. TOTALMENTE INSTALADO, CONEXIONADO, CONECTADO Y EN FUNCIONAMIENTO. INCLUYENDO EL ALQUILER DE VEHÍCULOS Y/O MEDIOS NECESARIOS PARA EL TRANSPORTE Y LEVANTAMIENTO DE MÁSTIL JUNTO CON PANEL SOLAR Y OTROS ELEMENTOS SOBRE ÉSTOS.	DOCE MIL SETENTA Y DOS EUROS con VEINTISIETE CÉNTIMOS	12.072,27
0470	ZZ024-160	Ud	UD. GRUPO MOTOBOMBA CENTRÍFUGA HORIZONTAL DE CÁMARA PARTIDA PARA UN CAUDAL DE 352,45 L/S Y 33,63 M.C.A., RENDIMIENTO A 1490 RPM DEL 85,3% O SUPERIOR, EJE DE ACERO AL CARBONO, IMPULSOR DE BRONCE, MOTOR ELÉCTRICO EN HIERRO FUNDIDO A 1490 RPM, POTENCIA DE 160 KW Y TENSIÓN DE 400 V/50 HZ PREPARADO PARA VARIADOR DE FRECUENCIA, PROTECCIÓN IP55, RESIST. CALDEO, 3 SONDAS PT 100 EN DEVANADOS, 2 SONDAS PT 100 EN COJINETES Y REFRIGERACIÓN INTERNA MEDIANTE IMPULSOR INTERNO. INCLUSO DESCARGA Y MONTAJE. COMPLETAMENTE INSTALADA, CONEXIONADA ,CONOS DE AMPLIACIÓN Y REDUCCIÓN, INCLUSO PRUEBAS PRESENCIALES EN FÁBRICA, PRUEBAS DE FUNCIONAMIENTO Y PUESTA EN MARCHA UNA VEZ COLOCADA.	CUARENTA Y OCHO MIL CUATROCIENTOS NOVENTA Y SIETE EUROS con SETENTA Y CINCO CÉNTIMOS	48.497,75							
0471	ZZ024-200	Ud	UD. GRUPO MOTOBOMBA CENTRÍFUGA HORIZONTAL DE CÁMARA PARTIDA PARA UN CAUDAL DE 255,66 L/S Y 53,18 M.C.A., RENDIMIENTO A 1490 RPM DEL 84% O SUPERIOR, EJE DE ACERO AL CARBONO, IMPULSOR DE BRONCE, MOTOR ELÉCTRICO EN HIERRO FUNDIDO A 1490 RPM, POTENCIA DE 200 KW Y TENSIÓN DE 400 V/50 HZ PREPARADO PARA VARIADOR DE FRECUENCIA, PROTECCIÓN IP55, RESIST. CALDEO, 3 SONDAS PT 100 EN DEVANADOS, 2 SONDAS PT 100 EN COJINETES Y REFRIGERACIÓN INTERNA MEDIANTE IMPULSOR INTERNO. INCLUSO DESCARGA Y MONTAJE. COMPLETAMENTE INSTALADA, CONEXIONADA ,CONOS DE AMPLIACIÓN Y REDUCCIÓN, INCLUSO PRUEBAS PRESENCIALES EN FÁBRICA, PRUEBAS DE FUNCIONAMIENTO Y PUESTA EN MARCHA UNA VEZ COLOCADA.	SESENTA Y OCHO MIL CIENTO OCHENTA Y CUATRO EUROS con VEINTINUEVE CÉNTIMOS	68.184,29				AUTÓMATA DE CONTROL: UNIDAD PLC CON PANTALLA 12" Y SCADA PARA CONTROL DE VÁLVULA MOTORIZADA Y VÁLVULAS HIDRÁULICAS DE REGULACIÓN EN FUNCIÓN DE LECTURA DE CAUDALÍMETRO Y TRANSDUCTOR DE PRESIÓN Y NIVEL EN BALSA, CONSISTENTE EN: -1XCPU. MEMORIA INTERNA Y ENLACE RJ45, CON INTERFAZ RS232/RS485 PARA PROTOCOLO MODBUS RTU. PUERTO ETHERNET INTEGRADO Y USB DE PROGRAMACIÓN. MÓDULOS DE CONEXIÓN ED/SD, EA/SA, ALIMENTACIÓN 24 VDC, BORNEROS ENCHUFABLES. EN ENVOLVENTE IP67. - INCLUYE PROGRAMA Y PROGRAMACIÓN DEL PLC. - INCLUYE PUESTA EN MARCHA DEL PLC Y DE TODO EL SISTEMA DE AUTOMATIZACIÓN. - INCLUYE PEQUEÑO MATERIAL AUXILIAR Y DE MONTAJE. TOTALMENTE INSTALADO, CONEXIONADO, CONFIGURADO, CONECTADO Y PROBADO.	DOCE MIL SETENTA Y DOS EUROS con VEINTISIETE CÉNTIMOS		

CUADRO DE PRECIOS 1

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	UD	DESCRIPCIÓN	PRECIO EN LETRA	IMPORTE
0474	ZZ0802	m ³	M3. RELLENO DE FONDO DE ZANJA A BASE DE ÁRIDO TIPO BOLO, NO PROCEDENTE DE CANTERA, DE TAMAÑO MAYOR DE 100 MM, PARA ESTABILIZACIÓN Y SANEAMIENTO DE ZANJAS EN ZONA DE LODOS. INCLUSO ADQUISICIÓN, EXTRACCIÓN, CLASIFICACIÓN, CARGA, TRANSPORTE, EXTENDIDO Y COMPACTACIÓN. TOTALMENTE COLOCADO Y RASANTEADO, INCLUSO AGOTAMIENTO.	QUINCE EUROS con SESENTA Y NUEVE CÉNTIMOS	15,69

Zaragoza, julio de 2023



D. Néstor Moré Coloma

Colegiado Nº 1.649 del Colegio Oficial de Ingenieros

Agrónomos de Aragón, Navarra y País Vasco

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	
0006	ANCLAJECOR2	m	Anclaje Coronación; Bordillo Tipo T-2 Anclaje de coronación en Balsas, mediante la instalación de línea de Bordillo tipo T-2, de piezas prefabricadas de hormigón rectas y curvas, colocadas con mortero de cemento 1:4 elaborado en la obra con hormigonera de 165 l. Incluido transporte y puesta en obra en coronación de balsa, excavación, la base de hormigón HM-20 y todas las faenas pertinentes. Totalmente colocado.				0009	ARM-TB3	UD.	ARMADO TRESBOLILLO TB3 Ud. Suministro y montaje de armado en tresbolillo tipo TB3 en acero galvanizado en caliente para apoyos metálicos, totalmente instalada y colocada, incluyendo medios auxiliares de montaje y elevación y pequeño material.				
	MO010	0,050 Hr	Peón	17,33	0,87			MO005D	1,000 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	48,00	48,00		
	MO008	0,038 Hr	Oficial de primera	20,96	0,80			%PM..1	2,000 %	Pequeño Material	48,00	0,96		
	MAQ034	0,010 Hr	Transporte y descarga con camión pluma	48,50	0,49			C-ARM-TB3	3,000 Ud	Cruceta en tresbolillo	150,00	450,00		
	MAT455	1,050 m	Bordillo de hormigón prefabricado tipo T-2	4,25	4,46			%PCI03	3,000 %	Costes indirectos	499,00	14,97		
	B051E301	0,004 T	Cemento portland blanco compuesto BL II 32,5, en sacos	159,25	0,64			TOTAL PARTIDA.....					513,93	
	MAT178Ib	0,010 m³	Hormigón HM-20/B/20/X0 EN OBRA	49,60	0,50			Asciende el precio total de la partida a la mencionada cantidad de QUINIENTOS TRECE EUROS con NOVENTA Y TRES CÉNTIMOS						
	%00PCI03	3,000 %	Costes Indirectos	7,80	0,23		0010	ARQ1X1M	Ud	Arqueta Control de Nivel in situ 1,00x1,00 Arqueta de Hormigón para Control de Nivel in situ de dimensiones interiores de 1,00 m. de ancho, 1,00 m. de largo. Realizada con hormigón HA-25. Incluso rejuntado con mortero sin retracción en la unión tanto en las tajaderas como en la conexión con el tubo, incluida compuerta regulable en altura de acero. Medida la unidad ejecutada				
	TOTAL PARTIDA.....					7,99								
	Asciende el precio total de la partida a la mencionada cantidad de SIETE EUROS con NOVENTA Y NUEVE CÉNTIMOS							MO003	0,300 Hr	Capataz	21,71	6,51		
0007	ANEM-TFA42	Ud	Anemometro Anemómetro portátil digital de hélice direccional con termómetro. Precisa enfrentarlo al viento para una correcta lectura. Indica la velocidad del viento actual como promedio de los últimos 4 segundos, pudiendo ajustarse entre 2 y 10 seg. Indica la velocidad del viento máxima y media desde el encendido. Unidades de medida: Beaufort (barras gráficas), nudos, mph, m/seg y km/h. Rango de medida: 0,2 a 30 m/seg.					MO004	3,000 Hr	Oficial de primera ferrallista	20,96	62,88		
	TFA 42.6000	1,000 Ud	Anemometro TFA 42.6000	63,80	63,80			MO007	3,000 Hr	Ayudante encofrador	19,08	57,24		
	%00PCI03	3,000 %	Costes Indirectos	63,80	1,91			MO008	3,000 Hr	Oficial de primera	20,96	62,88		
	TOTAL PARTIDA.....					65,71		MO010	3,000 Hr	Peón	17,33	51,99		
	Asciende el precio total de la partida a la mencionada cantidad de SESENTA Y CINCO EUROS con SETENTA Y UN CÉNTIMOS							MAT097-1X1	1,000 Ud	Tajadera Simple 0,50x1,00 m	1.024,00	1.024,00		
0008	ARM-H3	UD.	ARMADO HORIZONTAL H3 Ud. Suministro y montaje de armado horizontal tipo H3 en acero galvanizado en caliente para apoyos metálicos, totalmente instalada y colocada, incluyendo medios auxiliares de montaje y elevación y pequeño material.					MAT281	4,800 m²	Tablero Metálico encofrar de 26 mm	1,59	7,63		
	MO005D	1,000 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	48,00	48,00			MAT133	1,000 Ud	Desencofrante p/encofrado metálico	1,53	1,53		
	%PM..1	2,000 %	Pequeño Material	48,00	0,96			MAT101	1,000 m²	Tapa de acero galvanizado	49,95	49,95		
	C-ARM-H3	1,000 Ud	Cruceta horizontal H3	300,00	300,00			MAT004	50,000 Kg	Acero Corrugado B-500 S	0,81	40,50		
	%PCI03	3,000 %	Costes indirectos	349,00	10,47			MAT178Ib	0,100 m³	Hormigón HM-20/B/20/X0 EN OBRA	49,60	4,96		
	TOTAL PARTIDA.....					359,43		MAT179	0,660 m³	Hormigón HA-25/B/15-20/IIa+Qb EN OBRA	57,80	38,15		
	Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS CINCUENTA Y NUEVE EUROS con CUARENTA Y TRES CÉNTIMOS							%00PCI03	3,000 %	Costes Indirectos	1.408,20	42,25		
								TOTAL PARTIDA.....					1.450,47	
								Asciende el precio total de la partida a la mencionada cantidad de MIL CUATROCIENTOS CINCUENTA EUROS con CUARENTA Y SIETE CÉNTIMOS						

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0014	ARQHIDRANTE2	Ud	Arqueta para Hidrante, Tipo Armario Hormigón Arm. 2,50x1,50x2,20 Arqueta ara alojamiento de Hidrante de 6" y 8", formada por armario prefabricado de dimensiones interiores 2,50x1,50x2,20m, en HA-25, tratado con aditivo fluidificante, armado para resistir las sollicitaciones propias a las que está destinado, con dos puertas de acero galvanizado de 1,5 mm con nervadura perimetral de refuerzo, rejilla de ventilación con mosquitera tanto en puertas como en parte trasera de arqueta, bisagras con perno de pala, cerrajo reforzado tipo AZBE y candado central. Separación espacios CR-Uuario mediante lámina metálica. Incluye llave maestra para el gestor de la Comunidad de Regantes e individual para usuario y pletinas soldadas a la puerta (previo al galvanizado) para el cierre mediante candado. Incluye rotulación de arqueta con denominación del hidrante. Incluye rejillas tipo mosquitera en todos los agujeros de la caseta que comuniquen con el exterior. Incluye chapa de acero e=4 mm galvanizada (e medio 70 micras, e min 55 micras) de dimensiones 50 cm x 50 cm con agujero en el centro tal que permita el paso de la calderería de salida en el hidrante, con virola de la misma chapa de longitud al menos igual al espesor de la caseta, recubierta interiormente por junta de neopreno de e=1 cm para sujeción de la calderería de salida del hidrante. Tanto chapa como virola y junta estarán seccionadas por la mitad para poder abrazar la calderería de salida, pero se instalará uniendo las dos secciones. Incluye tortillería y taladros y todos los trabajos accesorios. Incluye rejuntado de la calderería de salida de la caseta con mortero resinado. Incluye relleno en gravillín 6/12 mm y solera en HM-20, compactaciones necesarias para una correcta estabilidad de la caseta y los posibles imprevistos por asientos de la caseta. Incluye fijación de los cables del telecontrol a la caseta mediante canaleta tipo UNEX atornillada sobre el interior de la caseta o similar y/o cable de PVC con alma de acero grapado en el interior de la caseta (en este caso la deflexión máxima del tubo de acero durante los dos primeros años permitida será de 1 cm). Incluye 3 metros de tubo corrugado de doble pared de PEAD DN 160 para protección de los microtubos del sistema de telecontrol desde el interior al exterior de la caseta. Incluye completo rejuntado con mortero resinado del mástil del telecontrol. Incluye apoyo del conjunto hidrante desde el carrete intermedio entre hidrante y filtro hasta solera mediante bordillo de hormigón o similar y pletinas metálicas. Incluye todos los medios necesarios e imprevistos. Totalmente colocada.				0016	ARQUEO2	Pa	P.A. Control y Seguimiento Arqueológico Balsa BP3 Guerra Civil Partida Alzada a Justificar de control y seguimiento arqueológico en Balsa BP3, yacimiento Trinchera Balsamedias, por técnico competente, que comprenden: RECOGIDA PREVIA DE MATERIALES Prospección arqueológica intensiva, previa al inicio de los movimientos de tierra con recogida de todo el material arqueológico visible dentro del área proyectada para las obras. Con apoyo de gps. Toma de datos, fotos, etc. incluyendo los trabajos previos de documentación, preparación de tracks, planos, etc. SONDEO ARQUEOLÓGICO Ejecución de al menos 1 sondeo arqueológico llevado a cabo de forma manual, siguiendo el método estratigráfico, hasta alcanzar el sustrato natural. Incluye la recogida de materiales, documentación, recogida de datos, fotografías, planimetrías, fotogrametría y topografía para georreferenciación de sondeos y hallazgos. SUPERVISIÓN ARQUEOLÓGICA Supervisión arqueológica continua durante la ejecución de los trabajos de excavación y movimientos de tierra necesarios para la construcción de balsa BP3. Incluye toma de datos, fotografías, recogida de materiales, etc. INFORME ARQUEOLÓGICO FINAL Redacción del informe arqueológico final y entrega al cliente y al departamento competente en materia de patrimonio histórico arqueológico del Gobierno de Aragón. Incluidos planos de planta, secciones estratigráficas, y el inventario y catalogación de todos los materiales arqueológicos, tanto los recogidos en prospección previa como durante la ejecución de los sondeos, con fotografía y dibujo de una muestra representativa de los mismos. Siglados, organizados en fichas y embalados para su depósito en Patrimonio.			
	MO012	1,000 Hr	Cuadrilla Construcción; Oficial de Primera, Ayudante y Peón	57,37	57,37		ARQUEO-02	1,000 Pa	P.A. Control y Seguimiento Arqueológico. Trinchera GC	1.000,00	1.000,00		
	MAT024	1,000 Ud	Arqueta para Hidrante, Tipo Armario Hormigón Arm. 2,50x1,50x2,20	1.262,00	1.262,00								
	MAT017	1,875 m³	Arido material granular 6-12 mm en obra	15,00	28,13								
	%00PCI03	3,000 %	Costes Indirectos	1.347,50	40,43								
TOTAL PARTIDA.....						1.387,93							

Asciende el precio total de la partida a la mencionada cantidad de MIL TRESCIENTOS OCHENTA Y SIETE EUROS con NOVENTA Y TRES CÉNTIMOS

0015	ARQUEO	Pa	P.A. Control y Seguimiento Arqueológico Partida Alzada a Justificar de control y seguimiento arqueológico, por técnico competente, con una dedicación mínima de 2 h/semanales										
	ARQUEO-01	1,000 Pa	P.A. Control y Seguimiento Arqueológico. General	5.000,00	5.000,00								
TOTAL PARTIDA.....						5.000,00							

Asciende el precio total de la partida a la mencionada cantidad de CINCO MIL EUROS

TOTAL PARTIDA..... 1.000,00

Asciende el precio total de la partida a la mencionada cantidad de MIL EUROS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0017	ARQVALVU	Ud	Arqueta para válvulas DN<800, HA-35 Arqueta para alojamiento de válvulas de seccionamiento, construida "in situ", de 1,50 x 1,50 metros de dimensiones interiores y altura variable, inferior a 2,50 metros. Con solera de 0,25 metros hormigón HA-35 con cemento SR, paredes de hormigón armado HA-35 de 0,20 m de espesor, armadura en solera y paredes a base de mallazo de diámetro 12 mm cada 15 centímetros por 15 centímetros, incluso pozo de achique o salida a desagüe con conexión de calderería incluida. Tapa metálica de acero de 3 mm de espesor y estructura con tratamiento anticorrosivo, marco de sujeción y candado. Pates de acceso totalmente instalados y fijados en muro. Completamente ejecutada.				0018	ARQVALVU2	Ud	Arqueta para válvulas DN>=800, HA-35 Arqueta para alojamiento de válvulas de seccionamiento, construida "in situ", de 2,50 x 2,50 metros de dimensiones interiores y altura variable, inferior a 2,50 metros. Con solera de 0,30 metros hormigón HA-35 con cemento SR, paredes de hormigón armado HA-35 de 0,25 m de espesor, armadura en solera y paredes a base de mallazo de diámetro 12 mm cada 15 centímetros por 15 centímetros, incluso pozo de achique o salida a desagüe con conexión de calderería incluida. Tapa metálica de acero de 3 mm de espesor y estructura con tratamiento anticorrosivo, marco de sujeción y candado. Pates de acceso totalmente instalados y fijados en muro. Completamente ejecutada.			
	MO003	0,300 Hr	Capataz	21,71	6,51			MO003	0,300 Hr	Capataz	21,71	6,51	
	MO008B	1,000 h	Oficial 1ª ferrallista	20,96	20,96			MO008B	1,000 h	Oficial 1ª ferrallista	20,96	20,96	
	MO007	1,000 Hr	Ayudante encofrador	19,08	19,08			MO007	1,000 Hr	Ayudante encofrador	19,08	19,08	
	MO008	1,000 Hr	Oficial de primera	20,96	20,96			MO008	1,000 Hr	Oficial de primera	20,96	20,96	
	MO010	1,000 Hr	Peón	17,33	17,33			MO010	1,000 Hr	Peón	17,33	17,33	
	MO012	5,650 Hr	Cuadrilla Construcción; Oficial de Primera, Ayudante y Peón	57,37	324,14			MO012	5,650 Hr	Cuadrilla Construcción; Oficial de Primera, Ayudante y Peón	57,37	324,14	
	MAQ016	3,000 Hr	Vibrador de agujas para morteros y hormigones, d=76 mm	2,78	8,34			MAQ016	3,000 Hr	Vibrador de agujas para morteros y hormigones, d=76 mm	2,78	8,34	
	MAT179-2	4,500 m³	Hormigón HA-35/P/20/XC2+XA3+SR EN OBRA	78,80	354,60			MAT179-2	9,500 m³	Hormigón HA-35/P/20/XC2+XA3+SR EN OBRA	78,80	748,60	
	MAT100	6,000 Ud	PATE DE POLIPROPILENO 30 CM * 25 CM	2,91	17,46			MAT100	6,000 Ud	PATE DE POLIPROPILENO 30 CM * 25 CM	2,91	17,46	
	MAT004	300,000 Kg	Acero Corrugado B-500 S	0,81	243,00			MAT004	570,000 Kg	Acero Corrugado B-500 S	0,81	461,70	
	MAT101	4,000 m²	Tapa de acero galvanizado	49,95	199,80			MAT101	9,000 m²	Tapa de acero galvanizado	49,95	449,55	
	MAT008	25,000 Kg	TUBO RECTANGULAR 80X60X3 MM.	1,00	25,00			MAT008	75,000 Kg	TUBO RECTANGULAR 80X60X3 MM.	1,00	75,00	
	MAT009	3,000 Kg	MINIO ELECTROLITICO	7,82	23,46			MAT009	5,000 Kg	MINIO ELECTROLITICO	7,82	39,10	
	MAT281	38,200 m²	Tablero Metálico encofrar de 26 mm	1,59	60,74			MAT281	52,000 m²	Tablero Metálico encofrar de 26 mm	1,59	82,68	
	MAT282	5,000 m³	Tablón pino 2,50/5,50x205x76	149,80	749,00			MAT282	5,000 m³	Tablón pino 2,50/5,50x205x76	149,80	749,00	
	MAT133	1,000 Ud	Desencofrante p/encofrado metálico	1,53	1,53			MAT133	1,000 Ud	Desencofrante p/encofrado metálico	1,53	1,53	
	MAT260	1,000 Kg	Puntas acero 20x100	6,50	6,50			MAT260	1,000 Kg	Puntas acero 20x100	6,50	6,50	
	MAT102	2,500 m	CONTRAFUERTE MET.P/PARAM.MURO,H=5-10M,200USOS	0,47	1,18			MAT102	2,500 m	CONTRAFUERTE MET.P/PARAM.MURO,H=5-10M,200USOS	0,47	1,18	
	MAT103	0,500 m³	LATA MADERA PINO	73,70	36,85			MAT103	0,500 m³	LATA MADERA PINO	73,70	36,85	
	MAT104	5,000 m	TABLON MADERA PINO P/10 USOS	0,75	3,75			MAT104	5,000 m	TABLON MADERA PINO P/10 USOS	0,75	3,75	
	%00PCI03	3,000 %	Costes Indirectos	2.140,20	64,21			%00PCI03	3,000 %	Costes Indirectos	3.090,20	92,71	
TOTAL PARTIDA.....					2.204,40		TOTAL PARTIDA.....					3.182,93	

Asciende el precio total de la partida a la mencionada cantidad de DOS MIL DOSCIENTOS CUATRO EUROS con CUARENTA CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de TRES MIL CIENTO OCHENTA Y DOS EUROS con NOVENTA Y TRES CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0019	ARQVALVU3	Ud	Arqueta para válvulas DN>=800, HA-35 (4x3 m interior) Arqueta para alojamiento de válvulas de seccionamiento, construida "in situ", de 4,00 x 3,00 metros de dimensiones interiores y altura variable, inferior a 2,50 metros. Con solera de 0,30 metros hormigón HA-35 con cemento SR, paredes de hormigón armado HA-35 de 0,25 m de espesor, armadura en solera y paredes a base de mallazo de diámetro 12 mm cada 15 centímetros por 15 centímetros, incluso pozo de achique o salida a desagüe con conexión de calderería incluida. Tapa metálica de acero de 3 mm de espesor y estructura con tratamiento anticorrosivo, marco de sujeción y candado. Pates de acceso totalmente instalados y fijados en muro. Completamente ejecutada.				0021	Automático IV	Ud	CUADRO ACOMETIDA Y PROTECCIONES CA. EB Cuadro de Acometida de BT EB que incluye: - 2 Envolventes combinable metálica de 2000x1600x800, acorde a la norma IEC 62208, con IP 55, IK10, estructura realizada en acero galvanizado, Puerta en acero plegado y soldado, apertura 120°, con zócalo lateral, frontal y trasero de 100 mm de elevación, incluso placa de montaje, iluminación interior por medio de lámpara de neón plana y compacta de 11W, interruptor de puerta, rejilla con filtro, elevación de techo para aireación, placa de ventilación para techo con 3 ventiladores de 170m3/h c/u, 220V, Maneta con inserto de forma y termostato. - Incluye 6 pletinas de cobre de 2(120x10) mm para embarrado, de 1,60m de largo. - Soporte para embarrado, incluye pantalla de metacrilato. - 2 Interruptor Automático IV de In 3000 A, con Potencia de Corte de 50 kA - 2 Limitador de sobretensiones transitorias IV de clase I 40kA 1.2 kV - 2 Analizador de redes 400V CA (3000/5A), medida máxima 400V CA, con puerto de comunicaciones con Modbus, instalado en panel puerta envolvente de acometida, incluido troquel en chapa y cableado totalmente instalado. - 5 Interruptor Automático Magnetotérmico III de In 630 A, con Potencia de Corte de 50 kA - 9 Interruptor Automático Magnetotérmico III de In 400 A, con Potencia de Corte de 50 kA - 1 Interruptor Automático IV de In 125 A, con Potencia de Corte de 50 kA - Incluye cableado interior y material para canalización y conexión del mismo. - Pequeño material auxiliar y accesorios. Incluso Transporte. Totalmente montado, conectado y probado.			
	MO003	0,300 Hr	Capataz	21,71	6,51								
	MO008B	1,000 h	Oficial 1ª ferrallista	20,96	20,96								
	MO007	1,000 Hr	Ayudante encofrador	19,08	19,08								
	MO008	1,000 Hr	Oficial de primera	20,96	20,96								
	MO010	1,000 Hr	Peón	17,33	17,33								
	MO012	5,650 Hr	Cuadrilla Construcción; Oficial de Primera, Ayudante y Peón	57,37	324,14								
	MAQ016	3,100 Hr	Vibrador de agujas para morteros y hormigones, d=76 mm	2,78	8,62								
	MAT179-2	14,050 m³	Hormigón HA-35/P/20/XC2+XA3+SR EN OBRA	78,80	1.107,14								
	MAT100	6,000 Ud	PATE DE POLIPROPILENO 30 CM * 25 CM	2,91	17,46								
	MAT004	1.220,000 Kg	Acero Corrugado B-500 S	0,81	988,20		MO002A	20,000 H	Ayudante	19,08	381,60		
	MAT101	12,250 m²	Tapa de acero galvanizado	49,95	611,89		MO008A	20,000 h	Oficial 1ª	20,96	419,20		
	MAT008	95,000 Kg	TUBO RECTANGULAR 80X60X3 MM.	1,00	95,00		MAQ037B	0,500 h	Camión grúa de 12 Tm - 19 mts altura	96,00	48,00		
	MAT009	5,000 Kg	MINIO ELECTROLITICO	7,82	39,10		ACCESOR02	2,000 Ud.	Pequeño material y accesorios	400,00	800,00		
	MAT281	80,000 m²	Tablero Metálico encofrar de 26 mm	1,59	127,20		BT-ZOC100	2,000 Ud	Zócalo frontal y trasero de elevación de 100mm	82,15	164,30		
	MAT282	5,000 m³	Tablón pino 2,50/5,50x205x76	149,80	749,00		BT-ZOCL100	2,000 Ud	Zócalo lateral de elevación de 100 mm	15,37	30,74		
	MAT133	1,200 Ud	Desencofrante p/encofrado metálico	1,53	1,84		BT-LAM-ENV9W	2,000 Ud	Lámpara de Neón planade 11W 220V para envolvente	180,64	361,28		
	MAT260	1,000 Kg	Puntas acero 20x100	6,50	6,50		BT-INT-ENV	2,000 Ud	Interruptor de puerta para Envolvente	19,61	39,22		
	MAT102	2,700 m	CONTRAFUERTE MET.P/PARAM.MURO,H=5-10M,200USOS	0,47	1,27		BT-ENV-201608	2,000 Ud	Envolvente metálica 2x1.6x0.8 con placa de montaje	1.704,20	3.408,40		
	MAT103	0,500 m³	LATA MADERA PINO	73,70	36,85		DT01VENT02	4,000 Ud.	Rejilla con filtro	35,00	140,00		
	MAT104	5,000 m	TABLON MADERA PINO P/10 USOS	0,75	3,75		BT-EMB-02400	9,600 M.I	Pletina de cobre de 2(120x10)	432,00	4.147,20		
	%00PCI03	3,000 %	Costes Indirectos	4.202,80	126,08		DT01BT-CE0801	4,000 Ud.	Aisladores soporte	75,00	300,00		
			TOTAL PARTIDA.....		4.328,88		BT-IA-0125 IV	1,000 Ud	Interruptor Automático IV 125A PdeC 50kA	700,00	700,00		
							BT-IA-3000 IV	2,000 Ud	Interruptor Automático IV 3200A 50 kA	20.635,00	41.270,00		
							BT-AN-RD	2,000 Ud	Analizador De Redes	400,00	800,00		
							BT-IA-20 IV22	2,000 Ud	Interruptor Automático Magnetotérmico modular IVx20 A	220,00	440,00		
							BT-LIM-40KA	2,000 Ud	Limitador de Sobretensiones IV clase I de 40 kA 1.2kV	740,00	1.480,00		
							TERM	2,000 Ud.	Termostato	15,00	30,00		
							INT-AUX-IA	2,000 Ud	Contacto auxiliar de señalización abierto/cerrado	47,10	94,20		
							BT-IA-630III5	5,000 ud	Interruptor Automático III 630 A Ireg 50 kA	3.092,00	15.460,00		
							BT-IA-400III5	9,000 ud	Interruptor Automático III 400 A 50 kA	2.600,00	23.400,00		
							%PCI03	3,000 %	Costes indirectos	93.914,10	2.817,42		
			TOTAL PARTIDA.....		390,68				TOTAL PARTIDA.....		96.731,56		

Asciende el precio total de la partida a la mencionada cantidad de CUATRO MIL TRESCIENTOS VEINTIOCHO EUROS con OCHENTA Y OCHO CÉNTIMOS

0020 A_SEGUR

Ud Material de Seguridad MT

Material de Seguridad MT, formado por:

un par de guantes aislante para maniobra y protección de MT, una banqueta aislante, cuatro placas de peligro de muerte y una placa reglamentaria de primeros auxilios.

MO013	1,000 Hr	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	57,37	57,37
MAT516	1,000 Ud	Material de seguridad del CT-CS	321,93	321,93
%00PCI03	3,000 %	Costes Indirectos	379,30	11,38

Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS NOVENTA EUROS con SESENTA Y OCHO CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de NOVENTA Y SEIS MIL SETECIENTOS TREINTA Y UN EUROS con CINCUENTA Y SEIS CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0022	BAL_SALV		UD. BALIZA SEÑALIZACIÓN ANTIPÁJAROS Bandas de balizamiento neopreno en "X" con unas dimensiones de 8 cm de anchura y 30 cm de longitud mínima para cada brazo, dispuestas "al tresbolillo" de manera que la separación efectiva entre bandas consecutivas sea como máximo de 10 m. y disposición de protección aislante de la serie 56 KV, tipo retráctil en los dos primeros metros de conductor a cada lado de las crucetas, totalmente instaladas.				0026	BT-AC-CANL160	m	TUBO CORRUGADO D=160 mm M.I. de Tubo corrugado de PVC de 180 mm de diámetro nominal, Resistencia de compresión 750N. Totalmente instalado y colocado; medida de la unidad terminada y ejecutada.			
	SALVAPAJARO	1,000 Ud	Salva pájaro	5,00	5,00			MO005D	0,011 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	48,00	0,53	
	MO005D	0,050 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	48,00	2,40			BT-TB-160	1,000 M.I	Tubo curvable corrugado de PVC, de 160mm de diámetro nominal	4,54	4,54	
	%PM..1	2,000 %	Pequeño Material	7,40	0,15			%PCI03	3,000 %	Costes indirectos	5,10	0,15	
	%PCI03	3,000 %	Costes indirectos	7,60	0,23								
			TOTAL PARTIDA.....			7,78							5,22
			Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con VEINTIDOS CÉNTIMOS										
0023	BT-AC-ARQB120		UD ARQUETA IN SITU 80x80 END. H=120 Arqueta in situ para el paso, distribución o enlace de canalizaciones subterráneas de media y baja tensión. Dispone de tapa. Tiene unas dimensiones interiores de 800x800 mm y una altura de 120 cm. Tapa de fundición con clase de carga C-250 según UNE-EN 124. Incluido materiales auxiliares necesarios para su instalación, fijación, colocación, así como para el sellado de canalizaciones. Medida la unidad totalmente instalada.				0027	BT-AC-CANL2	m	TUBO CORRUGADO D=225 mm M.I. de Tubo corrugado de PVC de 225 mm de diámetro nominal, Resistencia de compresión 750N, uno por terna + uno de reserva. Totalmente instalado y colocado; medida de la unidad terminada y ejecutada.			
	MO015	0,250 Hr	Tecnico Especialista Telecomunicaciones	21,71	5,43			MO005D	0,025 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	48,00	1,20	
	BT-ARQB120	1,000 M.I	ARQUETA IN SITU 80x80 END= H120	300,00	300,00			BT-TB-225	1,000 M.I.	Tubo curvable corrugado de PVC, de 225mm de diámetro nominal	12,36	12,36	
	%PCI03	3,000 %	Costes indirectos	305,40	9,16			%PCI03	3,000 %	Costes indirectos	13,60	0,41	
			TOTAL PARTIDA.....			314,59							13,97
			Asciende el precio total de la partida a la mencionada cantidad de SIETE EUROS con SETENTA Y OCHO CÉNTIMOS										
0024	BT-AC-ARQE120		UD ARQUETA PREFABRICA A1 END. H=120 Arqueta PREFABRICADA TIPO A1 para el paso, distribución o enlace de canalizaciones subterráneas de media y baja tensión. Dispone de tapa. Tiene unas dimensiones interiores de 535x625 mm y una altura de 120 cm. Tapa de fundición con clase de carga C-250 según UNE-EN 124. Homologación por AENOR. Incluido materiales auxiliares necesarios para su instalación, fijación, colocación, así como para el sellado de canalizaciones. Medida la unidad totalmente instalada.				0028	BT-AC-CANL200	m	TUBO CORRUGADO D=200 mm M.I. de Tubo corrugado de PVC de 200 mm de diámetro nominal, Resistencia de compresión 750N. Totalmente instalado y colocado; medida de la unidad terminada y ejecutada.			
	MO015	0,200 Hr	Tecnico Especialista Telecomunicaciones	21,71	4,34			MO015	0,011 Hr	Tecnico Especialista Telecomunicaciones	21,71	0,24	
	BT-ARQE120	1,000 M.I	ARQUETA PREFABRICA A1 END= H120	195,25	195,25			BT-TB-200	1,000 M.I	Tubo curvable corrugado de PVC, de 200mm de diámetro nominal	5,68	5,68	
	%PCI03	3,000 %	Costes indirectos	199,60	5,99			%PCI03	3,000 %	Costes indirectos	5,90	0,18	
			TOTAL PARTIDA.....			205,58							6,10
			Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS CATORCE EUROS con CINCUENTA Y NUEVE CÉNTIMOS										
0025	BT-AC-CANL050	m	TUBO CORRUGADO D=50 mm M.I. de Tubo corrugado de PVC de 50 mm de diámetro nominal, Resistencia de compresión 750N. Totalmente instalado y colocado; medida de la unidad terminada y ejecutada.				0029	BT-CCABLE085	m	Canalización Cables BT 0,85 M Anchura En Tierra Varios Circ: BT M.I. Realización de zanja en tierra con lecho de arena para cables de BT de 0,85 mts de anchura y 0,75 mts de profundidad, incluyendo rotura y reposición de pavimento existente, excavación con medios mecánicos, capa de arena fina de 20 cm, relleno de zanjas con zehorras mediante tongadas de 50 cm, placa de PE de protección y señalización, así como medios mecánicos, retirada de tierras a vertedero, mano de obra especializada y pequeño material auxiliar necesario (, medida la unidad terminada y ejecutada.			
	MO005D	0,020 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	48,00	0,96			MO013	0,279 Hr	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	57,37	16,01	
	TUBCORD50	1,000 M.I	Tubo corrugado de D=50mm	1,75	1,75			MAQ015	0,130 Hr	Excavadora línea subterránea	60,54	7,87	
	%PCI03	3,000 %	Costes indirectos	2,70	0,08			MAQ009	0,510 Hr	Compactador vibratorio de conducción manual de 0,30 t	1,35	0,69	
			TOTAL PARTIDA.....			2,79		MAT014	0,350 m³	Arena de río (0-5mm)	14,83	5,19	
			Asciende el precio total de la partida a la mencionada cantidad de DOS EUROS con SETENTA Y NUEVE CÉNTIMOS										
								MAT500	1,000 m	Placa cubrecables PE protección y señalización	0,84	0,84	
								MAT410	0,300 m³	Zahorra natural Z-40 PG-3	9,72	2,92	
								%00PCI03	3,000 %	Costes Indirectos	33,50	1,01	
			TOTAL PARTIDA.....			2,79							34,53
			Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y CUATRO EUROS con CINCUENTA Y TRES CÉNTIMOS										

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0030	BT-U001.5X2-0	m	Cable Unipolar RZ1-K 0,6/1 KV de 2x1.5 mm2 Cu Cable Unipolar RZ1-K 0,6/1KV 2x1.5; Totalmente montado, conectado y probado.				0034	BT-U002.5X5-0	m	Cable Unipolar RZ1-K 0,6/1 KV de 5x2.5 mm2 Cu M.I. Suministro y montaje de cable unipolar RZ1 0,6/1 KV de 5x2.5 mm2 de sección nominal en cobre, incluyendo medios auxiliares, totalmente instalado.			
	MO003	0,020 Hr	Capataz	21,71	0,43			MO003	0,020 Hr	Capataz	21,71	0,43	
	MO008D	0,020 Hr	Oficial 1ª	20,96	0,42			MO008D	0,020 Hr	Oficial 1ª	20,96	0,42	
	BT-RZ1-001.5	2,000 m.l.	Cable Unipolar RZ1-K 0,6/1 KV de 1.5 mm2 Cu	0,65	1,30			BT-RZ1-002.5	5,000 m.l.	Cable Unipolar RZ1-K 0,6/1 KV de 2.5 mm2 Cu	0,85	4,25	
	%00PCI03	3,000 %	Costes Indirectos	2,20	0,07			%PCI03	3,000 %	Costes indirectos	5,10	0,15	
TOTAL PARTIDA.....						2,22	TOTAL PARTIDA.....						5,25
Asciende el precio total de la partida a la mencionada cantidad de DOS EUROS con VEINTIDOS CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con VEINTICINCO CÉNTIMOS						
0031	BT-U001.5X3-0	m	Cable Unipolar RZ1-K 0,6/1 KV de 3x1.5 mm2 Cu M.I. Suministro y montaje de cable unipolar RZ1 0,6/1 kV de 3x1.50 mm2 de sección nominal en cobre, incluyendo medios auxiliares, totalmente instalado.				0035	BT-U004X3-000	m	Cable Unipolar RZ1-K 0,6/1 KV de 3x4 mm2 Cu M.I. Suministro y montaje de cable unipolar RZ1 0,6/1 kV de 3x4 mm2 de sección nominal en cobre, incluyendo medios auxiliares, totalmente instalado.			
	MO003	0,020 Hr	Capataz	21,71	0,43			MO003	0,020 Hr	Capataz	21,71	0,43	
	MO008D	0,020 Hr	Oficial 1ª	20,96	0,42			MO008D	0,020 Hr	Oficial 1ª	20,96	0,42	
	BT-RZ1-001.5	3,000 m.l.	Cable Unipolar RZ1-K 0,6/1 KV de 1.5 mm2 Cu	0,65	1,95			BT-RZ1-004	3,000 m.l.	Cable Unipolar RZ1-K 0,6/1 KV de 4 mm2 Cu	1,20	3,60	
	%00PCI03	3,000 %	Costes Indirectos	2,80	0,08			%00PCI03	3,000 %	Costes Indirectos	4,50	0,14	
TOTAL PARTIDA.....						2,88	TOTAL PARTIDA.....						4,59
Asciende el precio total de la partida a la mencionada cantidad de DOS EUROS con OCHENTA Y OCHO CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CUATRO EUROS con CINCUENTA Y NUEVE CÉNTIMOS						
0032	BT-U002.5X3-0	m	Cable Unipolar RZ1-K 0,6/1 KV de 3x2.5 mm2 Cu M.I. Suministro y montaje de cable unipolar RZ1 0,6/1 kV de 3x2.5 mm2 de sección nominal en cobre, incluyendo medios auxiliares, totalmente instalado.				0036	BT-U004X4-000	m	Cable Unipolar RZ1-K 0,6/1 KV de 4x4 mm2 Cu M.I. Suministro y montaje de cable unipolar RZ1 0,6/1 kV de 4x4 mm2 de sección nominal en cobre, incluyendo medios auxiliares, totalmente instalado.			
	MO003	0,020 Hr	Capataz	21,71	0,43			MO003	0,020 Hr	Capataz	21,71	0,43	
	MO008D	0,020 Hr	Oficial 1ª	20,96	0,42			MO008D	0,020 Hr	Oficial 1ª	20,96	0,42	
	BT-RZ1-002.5	3,000 m.l.	Cable Unipolar RZ1-K 0,6/1 KV de 2.5 mm2 Cu	0,85	2,55			BT-RZ1-004	4,000 m.l.	Cable Unipolar RZ1-K 0,6/1 KV de 4 mm2 Cu	1,20	4,80	
	%00PCI03	3,000 %	Costes Indirectos	3,40	0,10			%00PCI03	3,000 %	Costes Indirectos	5,70	0,17	
TOTAL PARTIDA.....						3,50	TOTAL PARTIDA.....						5,82
Asciende el precio total de la partida a la mencionada cantidad de TRES EUROS con CINCUENTA CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con OCHENTA Y DOS CÉNTIMOS						
0033	BT-U002.5X4-0	m	Cable Unipolar RZ1-K 0,6/1 KV de 4x2.5 mm2 Cu M.I. Suministro y montaje de cable unipolar RZ1 0,6/1 kV de 4x2.5 mm2 de sección nominal en cobre, incluyendo medios auxiliares, totalmente instalado.				0037	BT-U004X5-000	m	Cable Unipolar RZ1-K 0,6/1 KV de 5x4 mm2 Cu M.I. Suministro y montaje de cable unipolar RZ1 0,6/1 kV de 5x4 mm2 de sección nominal en cobre, incluyendo medios auxiliares, totalmente instalado.			
	MO001	0,020 h	Encargado de obra	19,79	0,40			MO003	0,020 Hr	Capataz	21,71	0,43	
	MO01OB210	0,020 h.	Oficial 2ª especialista	19,51	0,39			MO008C	0,020 H	Oficial 1ª	20,96	0,42	
	BT-RZ1-002.5	4,000 m.l.	Cable Unipolar RZ1-K 0,6/1 KV de 2.5 mm2 Cu	0,85	3,40			BT-RZ1-004	5,000 m.l.	Cable Unipolar RZ1-K 0,6/1 KV de 4 mm2 Cu	1,20	6,00	
	%PCI03	3,000 %	Costes indirectos	4,20	0,13			%PCI03	3,000 %	Costes indirectos	6,90	0,21	
TOTAL PARTIDA.....						4,32	TOTAL PARTIDA.....						7,06
Asciende el precio total de la partida a la mencionada cantidad de CUATRO EUROS con TREINTA Y DOS CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de SIETE EUROS con SEIS CÉNTIMOS						

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0038	BT-U006X3-000	m	Cable Unipolar RZ1-K 0,6/1 KV de 3x6 mm2 Cu M.I. Suministro y montaje de cable unipolar RZ1 0,6/1 kV de 3x6 mm2 de sección nominal en cobre, incluyendo medios auxiliares, totalmente instalado.				0042	BT-U185X3-095	m	Cable Unipolar RZ1-K 0,6/1 KV de 3x185+95 mm2 Cu M.I. Suministro y montaje de cable unipolar apantallado RZ1 0,6/1 kV de 3x95+TTx50 mm2 de sección nominal en cobre, incluyendo medios auxiliares, totalmente instalado.			
	MO003	0,020 Hr	Capataz	21,71	0,43			MO003	0,020 Hr	Capataz	21,71	0,43	
	MO008D	0,020 Hr	Oficial 1ª	20,96	0,42			MO008D	0,020 Hr	Oficial 1ª	20,96	0,42	
	BT-RZ1-006	3,000 m.l.	Cable Unipolar RZ1-K 0,6/1 KV de 6 mm2 Cu	1,80	5,40			BT-RZ1-185	3,000 M.I	Cable Unipolar RZ1-K 0,6/1 KV de 185 mm2 Cu	22,30	66,90	
	%00PCI03	3,000 %	Costes Indirectos	6,30	0,19			BT-RZ1-095	1,000 M.I	Cable Unipolar RZ1-K 0,6/1 KV de 95 mm2 Cu	11,45	11,45	
			TOTAL PARTIDA.....			6,44		%PCI03	3,000 %	Costes indirectos	79,20	2,38	
Asciende el precio total de la partida a la mencionada cantidad de SEIS EUROS con CUARENTA Y CUATRO CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de OCHENTA Y UN EUROS con CINCUENTA Y OCHO CÉNTIMOS						81,58
0039	BT-U035X3-016	m	Cable Unipolar RZ1-K 0,6/1 KV de 3x35+16 mm2 Cu M.I. Suministro y montaje de cable unipolar apantallado RZ1 0,6/1 kV de 3x35+TTx16 mm2 de sección nominal en cobre, incluyendo medios auxiliares, totalmente instalado.				0043	BT-U240X3-120	m	Cable Unipolar RZ1-K 0,6/1 KV de 3x240+120 mm2 Cu M.I. Suministro y montaje de cable unipolar apantallado RZ1 0,6/1 kV de 3x240+TTx120 mm2 de sección nominal en cobre, incluyendo medios auxiliares, totalmente instalado.			
	MO003	0,020 Hr	Capataz	21,71	0,43			MO003	0,020 Hr	Capataz	21,71	0,43	
	MO008D	0,020 Hr	Oficial 1ª	20,96	0,42			MO008D	0,020 Hr	Oficial 1ª	20,96	0,42	
	BT-RZ1-016	1,000 M.I	Cable Unipolar RZ1-K 0,6/1 KV de 16 mm2 Cu	3,43	3,43			BT-RZ1-240	3,000 M.I	Cable Unipolar RZ1-K 0,6/1 KV de 240 mm2 Cu	28,42	85,26	
	BT-RZ1-035	3,000 M.I	Cable Unipolar RZ1-K 0,6/1 KV de 35 mm2 Cu	6,50	19,50			BT-RZ1-120	1,000 M.I	Cable Unipolar RZ1-K 0,6/1 KV de 120 mm2 Cu	14,45	14,45	
	%PCI03	3,000 %	Costes indirectos	23,80	0,71			%PCI03	3,000 %	Costes indirectos	100,60	3,02	
			TOTAL PARTIDA.....			24,49				TOTAL PARTIDA.....			103,58
Asciende el precio total de la partida a la mencionada cantidad de VEINTICUATRO EUROS con CUARENTA Y NUEVE CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CIENTO TRES EUROS con CINCUENTA Y OCHO CÉNTIMOS						
0040	BT-U120X3-070	m	Cable Unipolar RZ1-K 0,6/1 KV de 3x120+70 mm2 Cu M.I. Suministro y montaje de cable unipolar apantallado RZ1 0,6/1 kV de 3x120+TTx70 mm2 de sección nominal en cobre, incluyendo medios auxiliares, totalmente instalado.				0044	BT-URVK3X240A	m	Conductor Unip. RV-K (3x240+1x150) Al 0,6/1 KV ACOMETIDA SUBTERRÁNEA. - SE EMPLEARÁ CABLE RV 0,6/1KV EN ALUMINIO 1X240, CONSTITUYENDO 3 TERNAS, Y 1X150 POR CADA TERNA PARA TT, PARA LA TENSION DE 400V. COMPLETAMENTE INSTALADO.			
	MO003	0,020 Hr	Capataz	21,71	0,43			MO005D	0,200 h	Cuadrilla Eléctrica: Oficial de Primera, Ayudante y Peón	48,00	9,60	
	MO008C	0,020 H	Oficial 1ª	20,96	0,42			BT-UNIP-240A	3,000 M.I	Cable unipolar RV 0,6/1 KV de 240 mm2 Al	6,75	20,25	
	BT-RZ1-120	3,000 M.I	Cable Unipolar RZ1-K 0,6/1 KV de 120 mm2 Cu	14,45	43,35			BT-UNIP-150A	1,000 M.I	Cable unipolar RV 0,6/1 KV de 150 mm2 Al	4,21	4,21	
	BT-RZ1-070	1,000 M.I	Cable Unipolar RZ1-K 0,6/1 KV de 70 mm2 Cu	9,16	9,16			%PCI03	3,000 %	Costes indirectos	34,10	1,02	
	%PCI03	3,000 %	Costes indirectos	53,40	1,60					TOTAL PARTIDA.....			35,08
			TOTAL PARTIDA.....			54,96	Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y CINCO EUROS con OCHO CÉNTIMOS						
Asciende el precio total de la partida a la mencionada cantidad de CINCUENTA Y CUATRO EUROS con NOVENTA Y SEIS CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de MIL EUROS						
0041	BT-U150X3-095	m	Cable Unipolar RZ1-K 0,6/1 KV de 3x150+95 mm2 Cu M.I. Suministro y montaje de cable unipolar apantallado RZ1 0,6/1 kV de 3x150+TTx95 mm2 de sección nominal en cobre, incluyendo medios auxiliares, totalmente instalado.				0045	BT002-1	Pa	P.A. Redacción de Proyecto eléctrico BT, visados y trámites Partida Alzada a Justificar para redacción de proyectos eléctricos de BT necesarios para los condicionantes especificados por la compañía y que pudieran ser exigidos por los diferentes organismos, copias documentales, visados, boletines, incluidos todo tipo de trámites y tasas.			
	MO003	0,020 Hr	Capataz	21,71	0,43			BT002-01	1,000 Pa	P.A. Redacción de Proyecto eléctrico BT, visados y trámites	1.000,00	1.000,00	
	MO008D	0,020 Hr	Oficial 1ª	20,96	0,42					TOTAL PARTIDA.....			1.000,00
	BT-RZ1-095	1,000 M.I	Cable Unipolar RZ1-K 0,6/1 KV de 95 mm2 Cu	11,45	11,45		Asciende el precio total de la partida a la mencionada cantidad de SESENTA Y OCHO EUROS con CINCUENTA Y UN CÉNTIMOS						
	BT-RZ1-150	3,000 M.I	Cable Unipolar RZ1-K 0,6/1 KV de 150 mm2 Cu	18,07	54,21								
	%PCI03	3,000 %	Costes indirectos	66,50	2,00								
			TOTAL PARTIDA.....			68,51							

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0046	BT0160	Ud	<p>BOMBA 160KW VARIADOR FV+ARMARIO+PROTECC Armario Bomba 160 kW AC/DC con Variador FV. Incluye:</p> <ul style="list-style-type: none"> - Envolvente combinable metálica de 1780x529x2000 mm, acorde a la norma IEC 62208, con IP 55, IK10, estructura realizada en acero galvanizado, Puerta de 2 hojas en acero plegado y soldado, apertura 120°, con zócalo lateral, frontal y trasero de 100 mm de elevación, incluso placa de montaje, iluminación interior por medio de lámpara de neón plana y compacta de 11W, interruptor de puerta, rejilla con filtro, elevación de techo para aireación, placa de ventilación para techo con 3 ventiladores de 170m3/h c/u, 220V, Maneta con inserto de forma y termostato. - Seccionador AC - Fusibles AC - Seccionador DC - Fusibles DC - Protector contra sobretensiones - Vigilante de aislamiento - Kit de diodo de protección Tiristor- Diodo. Diodos de bloqueo para BUS continua variador - Funcionamiento en ins. flotante - Instalación para carga suave de condensadores previa a alimentación por bus continua - Soporte para embarrados, incluye pantalla de metacrilato. - Pequeño material auxiliar y accesorios. - Variador de frecuencia fotovoltaico 160 kW, tipo CD750SP o similar, tensión en puente rectificador 400 Vcc, tensión en BUS continua máxima 1000 Vcc y mínima 540 VCC, 150% durante 60seg, Temperatura ambiente 50°C, de dimensiones 780x529x1715 mm, en armario IP54 para inmunidad RFI. Incluye radiador de alta eficiencia, instalación completa para carga suave de condensadores previa a alimentación por bus continua. Fuente de Alimentación de 24Vcc-100mA disponible para el usuario protegida contra cortocircuitos. Puerto de comunicaciones Serie, protección contra sobretensiones, sobrecorriente, sobrecarga en los IGBTs, Temperatura, Inductancia de línea, Filtro EMC, THDi bobinas y filtro dV/dt en salida. - Incluso Pulsadores, seccionadores exteriores, selector de tres posiciones, Potenciómetros, para manejo de Bombas y Leds Señalización en Puerta. - Incluye cableado interior y material para canalización y conexión del mismo. - Pequeño material auxiliar y accesorios. <p>Incluso Transporte. Totalmente montado, conectado y probado.</p>				0047	BT0200	Ud	<p>BOMBA 200KW VARIADOR FV+ARMARIO+PROTECC Armario Bomba 200 kW AC/DC con Variador FV. Incluye:</p> <ul style="list-style-type: none"> - Envolvente combinable metálica de 1780x529x2000 mm, acorde a la norma IEC 62208, con IP 55, IK10, estructura realizada en acero galvanizado, Puerta de 2 hojas en acero plegado y soldado, apertura 120°, con zócalo lateral, frontal y trasero de 100 mm de elevación, incluso placa de montaje, iluminación interior por medio de lámpara de neón plana y compacta de 11W, interruptor de puerta, rejilla con filtro, elevación de techo para aireación, placa de ventilación para techo con 3 ventiladores de 170m3/h c/u, 220V, Maneta con inserto de forma y termostato. - Seccionador AC - Fusibles AC - Seccionador DC - Fusibles DC - Protector contra sobretensiones - Vigilante de aislamiento - Kit de diodo de protección Tiristor- Diodo. Diodos de bloqueo para BUS continua variador - Funcionamiento en ins. flotante - Instalación para carga suave de condensadores previa a alimentación por bus continua - Soporte para embarrados, incluye pantalla de metacrilato. - Pequeño material auxiliar y accesorios. - Variador de frecuencia fotovoltaico 200 kW, tipo CD750SP o similar, tensión en puente rectificador 400 Vcc, tensión en BUS continua máxima 1000 Vcc y mínima 540 VCC, 150% durante 60seg, Temperatura ambiente 50°C, de dimensiones 780x529x1715 mm, en armario IP54 para inmunidad RFI. Incluye radiador de alta eficiencia, instalación completa para carga suave de condensadores previa a alimentación por bus continua. Fuente de Alimentación de 24Vcc-100mA disponible para el usuario protegida contra cortocircuitos. Puerto de comunicaciones Serie, protección contra sobretensiones, sobrecorriente, sobrecarga en los IGBTs, Temperatura, Inductancia de línea, Filtro EMC, THDi bobinas y filtro dV/dt en salida. - Incluso Pulsadores, seccionadores exteriores, selector de tres posiciones, Potenciómetros, para manejo de Bombas y Leds Señalización en Puerta. - Incluye cableado interior y material para canalización y conexión del mismo. - Pequeño material auxiliar y accesorios. <p>Incluso Transporte. Totalmente montado, conectado y probado.</p>			
	MO002A	2,000 H	Ayudante	19,08	38,16			MO002A	2,000 H	Ayudante	19,08	38,16	
	MO008A	2,000 h	Oficial 1ª	20,96	41,92			MO008A	2,000 h	Oficial 1ª	20,96	41,92	
	MAQ017	1,000 Hr	Grúa hidráulica acoplable a vehículos de 15 t	35,24	35,24			MAQ017	1,000 Hr	Grúa hidráulica acoplable a vehículos de 15 t	35,24	35,24	
	BT-VAR160KWFV	1,000 Ud	Variador 160 kW FV, 540-1000Vcc, 400Vac, IP54, prot, diodos y ..	30.889,00	30.889,00			BT-VAR200KWFV	1,000 Ud	Variador 250 kW FV, 540-1000Vcc, 400Vac, IP54	31.097,00	31.097,00	
	%PCI03	3,000 %	Costes indirectos	31.004,30	930,13			%PCI03	3,000 %	Costes indirectos	31.212,30	936,37	
TOTAL PARTIDA.....					31.934,45		TOTAL PARTIDA.....					32.148,69	

Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y UN MIL NOVECIENTOS TREINTA Y CUATRO EUROS con CUARENTA Y CINCO CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y DOS MIL CIENTO CUARENTA Y OCHO EUROS con SESENTA Y NUEVE CÉNTIMOS

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PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0048	BT025CC	Ud	CUADRO ACOMETIDA Y PROTECCIONES CC FV. EB Armario Protecciones Bombas Acometida FV EB incluye: - 2 Envolvertes combinable metálica de 2000x1600x800, acorde a la norma IEC 62208, con IP 55, IK10, estructura realizada en acero galvanizado, Puerta de 2 hojas en acero plegado y soldado, apertura 120º, con zócalo lateral, frontal y trasero de 100 mm de elevación, incluso placa de montaje, iluminación interior por medio de lámpara de neón plana y compacta de 11W, interruptor de puerta, rejilla con filtro, elevación de techo para aireación, placa de ventilación para techo con 3 ventiladores de 170m3/h c/u, 220V, Maneta con inserto de forma y termostato. - Incluye 4 pletinas de cobre de 2(120x10) mm para embarrado, de 1.6m de largo cada una. para CC. - 2 Interruptor Automático tipo Emax DC 2000A 1100Vcc - 5 Interruptor Automático tipo Tmax T5-6 de In 630 A, Potencia de Corte de 20 kA y 4polos, 1100V - 9 Interruptor Automático tipo Tmax T5 de In 400 A, Potencia de Corte de 22 kA y 4polos, 1100V - 14 diodos de bloqueo para BUS continua variador. - Soporte para embarrados, incluye pantalla de metacrilato. - Pequeño material auxiliar y accesorios. - Incluye cableado interior y material para canalización y conexión del mismo. Incluso Transporte. Totalmente montado, conectado y probado.				0049	BT026	Ud	BOMBA 250KW VARIADOR FV+ARMARIO+PROTECC Armario Bomba 250 kW AC/DC con Variador FV. Incluye: - Envolverte combinable metálica de 1780x529x2000 mm, acorde a la norma IEC 62208, con IP 55, IK10, estructura realizada en acero galvanizado, Puerta de 2 hojas en acero plegado y soldado, apertura 120º, con zócalo lateral, frontal y trasero de 100 mm de elevación, incluso placa de montaje, iluminación interior por medio de lámpara de neón plana y compacta de 11W, interruptor de puerta, rejilla con filtro, elevación de techo para aireación, placa de ventilación para techo con 3 ventiladores de 170m3/h c/u, 220V, Maneta con inserto de forma y termostato. - Seccionador AC - Fusibles AC - Seccionador DC - Fusibles DC - Protector contra sobretensiones - Vigilante de aislamiento - Kit de diodo de protección Tiristor- Diodo. Diodos de bloqueo para BUS continua variador - Funcionamiento en ins. flotante - Instalación para carga suave de condensadores previa a alimentación por bus continua - Soporte para embarrados, incluye pantalla de metacrilato. - Pequeño material auxiliar y accesorios. - Variador de frecuencia fotovoltaico 250 kW, tipo CD750SP o similar, tensión en puente rectificador 400 Vcc, tensión en BUS continua máxima 1000 Vcc y mínima 540 VCC, 150% durante 60seg, Temperatura ambiente 50°C, de dimensiones 780x529x1715 mm, en armario IP54 para inmunidad RFI. Incluye radiador de alta eficiencia, instalación completa para carga suave de condensadores previa a alimentación por bus continua. Fuente de Alimentación de 24Vcc-100mA disponible para el usuario protegida contra cortocircuitos. Puerto de comunicaciones Serie, protección contra sobretensiones, sobrecorriente, sobrecarga en los IGBTs, Temperatura, Inductancia de línea, Filtro EMC, THDi bobinas y filtro dV/dt en salida. -Incluso Pulsadores, seccionadores exteriores, selector de tres posiciones, Potenciómetros, para manejo de Bombas y Leds Señalización en Puerta. - Incluye cableado interior y material para canalización y conexión del mismo. - Pequeño material auxiliar y accesorios. Incluso Transporte. Totalmente montado, conectado y probado.			
MO002A	20,000 H	Ayudante	19,08	381,60			MO002A	2,000 H	Ayudante	19,08	38,16		
MO008A	20,000 h	Oficial 1ª	20,96	419,20			MO008A	2,000 h	Oficial 1ª	20,96	41,92		
MAQ017	1,000 Hr	Grúa hidráulica acoplable a vehículos de 15 t	35,24	35,24			MAQ017	1,000 Hr	Grúa hidráulica acoplable a vehículos de 15 t	35,24	35,24		
BT-ACCESOR02	2,000 Ud	Pequeño material y accesorios	400,00	800,00			BT-VAR250KWFV	1,000 Ud	Variador 250 kW FV, 540-1000Vcc, 400Vac, IP54	31.919,00	31.919,00		
BT-ZOC100	2,000 Ud	Zócalo frontal y trasero de elevación de 100mm	82,15	164,30			%PCI03	3,000 %	Costes indirectos	32.034,30	961,03		
BT-ZOCL100	2,000 Ud	Zócalo lateral de elevación de 100 mm	15,37	30,74									
BT-LAM-ENV9W	2,000 Ud	Lámpara de Neón planade 11W 220V para envolverte	180,64	361,28									
BT-INT-ENV	2,000 Ud	Interruptor de puerta para Envolverte	19,61	39,22									
BT-DT01VENT02	4,000 Ud	Rejilla con filtro	35,00	140,00									
BT-ENV-201608	2,000 Ud	Envolverte metálica 2x1.6x0.8 con placa de montaje	1.704,20	3.408,40									
BT-EMB-02400	6,400 M.I	Pletina de cobre de 2(120x10)	432,00	2.764,80									
BT-DT01CE0801	4,000 Ud	Aisladores Soporte	75,00	300,00									
BT-IA-2000 FV	3,000 Ud	Interruptor Automático Emax DC E 2000A 1100Vcc	6.400,00	19.200,00									
BT-IA-0630 FV	6,000 Ud	Interruptor Seccionador Tmax T5-6-D/PV 630A 1100Vcc	2.300,00	13.800,00									
BT-IA-0400 FV	9,000 Ud	Interruptor Seccionador Tmax T5-D/PV 400A 1100Vcc	2.000,00	18.000,00									
%PCI03	3,000 %	Costes indirectos	59.844,80	1.795,34									
TOTAL PARTIDA.....											32.995,35		
TOTAL PARTIDA.....					61.640,12	Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y DOS MIL NOVECIENTOS NOVENTA Y CINCO EUROS con TREINTA Y CINCO CÉNTIMOS							

Asciende el precio total de la partida a la mencionada cantidad de SESENTA Y UN MIL SEISCIENTOS CUARENTA EUROS con DOCE CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0050	BT036E		Ud BATERÍA DE CONDENSADORES 100 kVA. Auto. Vacío trafo Batería de condensadores automática para compensación de energía reactiva, de 135 KVAr (15+40x30) y 400Vac trifásica a 50Hz, envolvente metálica incluida en la acomtida, regulador digital de 96x96mm, protección por fusibles, interruptor general manual de corte en carga con bloqueo de puerta, contactor con resistencias, ventilador y termostato, sobrecarga 1,3In, sobretensión 1,1Vn, valor lcc embarrado 70KA, 1sg, dispositivo antiexplosión y resistencias de descarga incorporadas. Protección contra contactos indirectos, autotransformador 400/230V integrado, Conexión cableado de potencia por parte inferior mediante tapa pasacables, Incluso Transporte. Totalmente montada, conectada, instalada y probada.				0052	BT039-1C	u EXTRACCIÓN 6300 m3/ud 900 rpm Ud. de ventilación, extracción de aire montada, conexionada y probada, compuesta por: - 1 Ventilador: - Caudal 6300m3/h. - 900 RPM - Nivel sonoro 59 dB - Base soporte HCT para cubiertas inclinadas. - Base atenuadora acústica: los ventiladores instalados son de gran capacidad, lo que conlleva a que generen un elevado nivel de presión sonora, por lo que se añade este accesorio. - Marco soporte en chapa de acero. - Soporte motor con rejilla de protección contra contactos, según normas DIN 24167 y UNE 20-359-74. - Hélice en poliamida 6 reforzada con fibra de vidrio. - Conjunto equilibrado dinámicamente según la norma ISO 1940. - Acabado anticorrosión en resina de poliéster, polimerizada a 180°C., previo desengrase, fosfatación y pasivado. - Caja de conexión incluida. - Motores asíncronos, con rotor de jaula de ardilla. - Tensión motor 380-415 V 50 Hz . - Potencia consumida 370W - Aislamiento clase F y protección IP-65. - Protección térmica incluida para proteger el motor contra sobrecalentamientos producidos por cualquier anomalía. - Interruptores para instalar al lado del ventilador, y de esta forma poder cortar la corriente antes de manipular el ventilador. De acuerdo a la norma IEC947-3. -Protección IP-65.				
	MO002A	3,000 H	Ayudante	19,08	57,24								
	MO008A	3,000 h	Oficial 1ª	20,96	62,88								
	MAQ017	0,200 Hr	Grúa hidráulica acoplable a vehículos de 15 t	35,24	7,05								
	BT-BCV-100KVA	1,000 Ud	Batería de condensadores 100KVAr e Interruptor	2.200,00	2.200,00								
	%PCI03	3,000 %	Costes indirectos	2.327,20	69,82								
TOTAL PARTIDA.....						2.396,99							
Asciende el precio total de la partida a la mencionada cantidad de DOS MIL TRESCIENTOS NOVENTA Y SEIS EUROS con NOVENTA Y NUEVE CÉNTIMOS													
0051	BT037A		Ud Iluminación Bombeo Ud Suministro y montaje de Iluminación de Estación de Bombeo que incluye: - 51 luminarias (incluida lampara y luminaria) para interior, estanca con protección IP65 o superior, luz blanca, 6500 lm, 46,6 W y longitud de 1600 mm. Incluidos los elemtnos de anclaje a estructuras de hormigón y perfiles metálicos, falsos techos,.... Además de pequeño material de conexión, y anclaje. - 14 luminarias de alumbrado público para exterior (lampara y luminaria incluidas) tipo foco, estanco con protección IP65 o superior, luz blanca, 15000 lm, 104 W con soporte metálico inoxidable para colocación en fachadas de hormigón u otros materiales similares, incluyendo los sistemas de anclaje tornillería, albañilería asociada, y pequeño materil de conexión entre elementos. - 8 luminarias de emergencia con equipo de 8 W, con carcasa de poliéster, IP54, incluida lámapra 8 W, medios auxiliares necesarios de elevación y pequeño material, totalmente instalada. Totalmente instalado, conectado y probado.										
	MO005D	1,000 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	48,00	48,00								
	BT-EX6300-220	1,000 Ud	Extractor Caudal 6300m3/h 370W 400V	470,00	470,00								
	%PCI03	3,000 %	Costes indirectos	518,00	15,54								
TOTAL PARTIDA.....						533,54							
Asciende el precio total de la partida a la mencionada cantidad de QUINIENOS TREINTA Y TRES EUROS con CINCUENTA Y CUATRO CÉNTIMOS													
	MO013	11,000 Hr	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	57,37	631,07								
	LUM-EM-8W	8,000 Ud	Aparato autónomo de emergencia 8 W señ., IP-54, 80 Lm, 16 m2.	41,62	332,96								
	LUMLED-1X104W	14,000 Ud.	Luminaria alumbrado exterior LED 104 W. incl lampara	140,00	1.960,00								
	LUM-LED47W	51,000 Ud.	Pantalla led 47W colgada, incluido anclaje, descuelge, lampara	175,00	8.925,00								
	%00PCI03	3,000 %	Costes Indirectos	11.849,00	355,47								
TOTAL PARTIDA.....						12.204,50							
Asciende el precio total de la partida a la mencionada cantidad de DOCE MIL DOSCIENTOS CUATRO EUROS con CINCUENTA CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0053	BT042A	Ud	Cuadro Tomas De Corriente Bombeo Ud. Construcción, suministro y montaje de cuadro de tomas de corriente en caja estanca de superficie, material PVC, protección IP-66 de 265x460x181 mm de dimensiones aproximadas, con capacidad para 24 módulos de protección, frontal practicable con bisagras inferiores y tornillos y ventanilla abatible de makrolón, compuesta por: <ul style="list-style-type: none"> - 1 Interruptor automático magnetotérmico general de IVx32 A. - 1 Interruptor diferencial IVx40 A, 30 mA. - 1 Interruptor automático magnetotérmico de IIx16 A. - 1 Interruptor automático magnetotérmico de IVx16 A. - 1 tomas de corriente tipo cetact, 400 V, III+Tx16 A, inclinada y empotrable. - 1 tomas de corriente tipo schuko, 230 V, II+Tx16 A, inclinada y empotrable. incluido herraje de sujeción en estructura o pared existentes y pequeño material necesario para un correcto montaje, totalmente instalado.				0054	BT043A	Ud	Cuadro automatismo Ud Suministro de Cuadro Automatismo compuesto por: <ul style="list-style-type: none"> - Envolvente compartida con cuadro SSAA - Pequeño material auxiliar y accesorios. - Incluye cableado interior y material para canalización y conexión del mismo. - Pequeño material auxiliar y accesorios. - 1 Convertidor de Corriente continua, Tensión de entrada 24 Vcc, Tensión de salida 12Vcc, Dimensiones 124x32x102, Potencia máx. 96W, Corriente de salida 8A - 1Módulo Redundante para fuentes de alimentación de tensión de entrada de 24 Vcc y salida de 80 A. Doble entrada y única salida. Pérdidas de 50mV a 40A de corriente de salida. Pérdidas de 2.7 W a 40A y 8.3W a 80A. Tamaño 46x124x127 Envolvente metálica. - 1 Fuentes alimentación, Salida 24Vcc, Corriente de salida 10A, Tamaño 125x100x125, Potencia máx. de salida 240W, Tensión de Entrada 85 a 264Vac, Tipo Conmutado - 4 Interruptores magnéticos 1P de corriente continua con tensión 24Vcc y 6A de corriente. - 2 Interruptores Bipolares 16 A PdeC de 35 kA. 230V - 5 Relés de mando 24Vcc - 1 Aisladores galvánicos para entradas analógicas de 2 canales. - SAI 2.2 KVA potencia con voltaje de 230Vac, con capacidad de baterías para 12 minutos, con cable de comunicación a puerto serie con PC, y software de supervisión del SAI Incluye transporte. - 1 modem GSM con comunicación por Ethernet y tarjeta SIM para comunicación remota. Para avisos vía SMS (Antirrobo, Alarma). - 1 Protección contra sobretensiones tipo D 230V. - 3 Switch Industrial de 8 Puertos RJ45 - Panel de PC táctil tipo resistivo análogo, con Windows 7 a 64 bits y procesador Core 3rd generación, 827E, cache 3 MB, para pantalla de 12" y 17 millones de colores, resolución 1024x768 XGA, LCD de color TFT con retroiluminación LED, con luminancia 375 cd/m2, tarjeta gráfica Intel HD Graphics 3000, montada sobre soporte de aluminio. Disco duro mayor de 60 GB Flash Disk SSD MLC para 2000000 horas, y memoria interna de hasta 16 GB RAM DDR3. Conexiones (DVI, Ethernet, COM 1 y COM2, USB 2.0 y USB 3.0, Minijack) y puerto Ethernet. - Incluye luces de señalización. - Incluye transporte. Totalmente montado, instalado, conectado y probado.			
MO013		1,000 Hr	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	57,37	57,37								
BT-TC-01		1,000 Ud	Toma de corriente 2Px16 A+T	10,00	10,00								
BT-TC-02		1,000 Ud	Toma de corriente 4Px16 A+T	11,00	11,00								
BT-TC-03		1,000 Ud	Caja PVC estanca 24 módulos	35,00	35,00								
BT-01CEIN0522		1,000 Ud	Interruptor automático magnetotérmico modular IIX16 A PdC=15 KA	29,90	29,90								
BT-01CEIN0550		1,000 Ud	Interruptor automático magnetotérmico modular IVx16 A PdC=15 KA	61,10	61,10								
BT-01CEIN0553		1,000 Ud	Interruptor automático magnetotérmico modular IVx32 A PdC=15 KA	68,25	68,25								
BT-ID-440-30		1,000 Ud	Interruptor Diferencial IV 40 A 30 mA	302,13	302,13								
BT-TC-04		1,000 Ud	Herraje de sujeción	10,00	10,00								
%00PCI03		3,000 %	Costes Indirectos	584,80	17,54								
TOTAL PARTIDA.....						602,29							

Asciende el precio total de la partida a la mencionada cantidad de SEISCIENTOS DOS EUROS con VEINTINUEVE CÉNTIMOS

MO003		15,000 Hr	Capataz	21,71	325,65
MO008D		15,000 Hr	Oficial 1ª	20,96	314,40
MAQ017		1,000 Hr	Grúa hidráulica acoplable a vehículos de 15 t	35,24	35,24
BT-F24V10A240		1,000 Ud	Fuente Alimentación 24Vcc 10 A 240 W	127,76	127,76
BT-CONV24V12V		1,000 Ud	Convertidor DC/DC 24Vcc/12Vcc 96W	160,10	160,10
BT-MORE24V80A		1,000 Ud	Módulo Redundante de FAs 24Vcc 80A	132,62	132,62
BT-INT6A24VCC		4,000 Ud	Interruptor Magnético 6A 24Vcc	84,04	336,16
BT-IA-2P16-25		2,000 Ud	Interruptor Automático II 16A PdeC 25kA	160,00	320,00
BT-REL-AUX24V		5,000 Ud	Relé Auxiliar 24Vcc	25,00	125,00
BT-AISGAL2CH		1,000 Ud	Aislador Galvánico De 2 Canales	122,00	122,00
BT-SAI2200KVA		1,000 Ud	SAI de 2200VA de Baterías 12 min	480,00	480,00
BT-MOD-SIM		1,000 Ud	Equipo módem, tarjeta SIM.	345,67	345,67
BT-PROTSTD		1,000 Ud	Protección Contra Sobretensiones Tipo D 230V	450,00	450,00
BT-SW5ETHRJ45		3,000 Ud	Switch Ethernet Industrial 8 Puertos RJ45	200,00	600,00
MAT540B		1,000 m	Pantalla táctil 12" + SCADA	1.000,00	1.000,00
%00PCI03		3,000 %	Costes Indirectos	4.874,60	146,24
TOTAL PARTIDA.....					5.020,84

Asciende el precio total de la partida a la mencionada cantidad de CINCO MIL VEINTE EUROS con OCHENTA Y CUATRO CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0055	BT044B	Ud	Autómata bombeo Unidad PLC para control de Estación de Bombeo consistente en: -1x CPU -max 1024 vías ED/SD -max 256 vías EA/SA -4.098 Kb de RAM de uso interno -3584Kb de memoria interna para almacenamiento de programa -1 Puerto enlace serie integrado RJ45 con interfaz RS232/RS485 para protocolo Modbus -1 Puerto Ethernet integrado -1 Puerto USB de programación. - 5 Módulo de 32 ED 24Vcc de alta densidad - 2 Módulo de 32 Salidas digitales - 10 Módulos de Entradas Analógicas para sondas de Temperatura - 4 Módulo de 4 salidas analógicas - 2 Módulo de 8 Entradas analógicas - 2 Rack de 12 Emplazamientos - 1 Fuente de alimentación de 220/24 Vcc de 36W - 17 Borneros desenchufables de 20 puntos para entradas analógicas - Incluye programa y programación del PLC. - Incluye Puesta en marcha del PLC y de todo el Sistema de Automatización, incluyendo comunicación con Remotas. - Incluye pequeño material auxiliar y de montaje. Totalmente instalado, configurado, conectado y probado.				0056	BT045A	Ud	Instrumentación bombeo y balsa BPC (EB) Instrumentación necesaria para control y monitorización de la Estación de Bombeo que incluye: - 5 Transductor de presión, tipo Sitrans P Serie Z, con gama de presión 0-16 Bar, conexión de presión G1/2, salida 4..20 mA., tensión de alimentación 10-36 Vcc, carcasa de acero inoxidable, IP65, temperatura ambiente -25 +85°, conexión 2 hilos - 2 Sensores de lámina de puerta 2 hilos y tensión máxima de conmutación de 30Vcc, 2 para Estación de Bombeo y 2 para CT. - 2 Termostatos para pared con contacto NO 230V 0 a 60° para activación de Extractores. - 24 Finales de carrera para control de apertura de válvulas previa conexión de equipos de bombeo. - Incluye pequeño material de montaje. Totalmente instalado y probado.			
	MO003	15,000 Hr	Capataz	21,71	325,65		MO003	1,500 Hr	Capataz		21,71	32,57	
	MO008D	15,000 Hr	Oficial 1ª	20,96	314,40		MO008D	2,000 Hr	Oficial 1ª		20,96	41,92	
	MO014	10,000 Hr	Especialista Informatico	21,71	217,10		BT-TRP016B	5,000 Ud	Transductor de presión 0-16 bar		127,40	637,00	
	BT-CPUPLCME	1,000 Ud	CPU max.1024 ED/SD max256 EA/SA 4.096Kb RAM	964,32	964,32		BT-SENSPUER	2,000 Ud	Sensor de lámina para puerta		22,00	44,00	
	BT-MOD32EDAD	5,000 Ud	Módulo de 32 Entradas Digitales	280,00	1.400,00		BT-ERMNO230P	2,000 Ud	Termostato con contacto NO para Pared		21,76	43,52	
	BT-MOD32SD	2,000 Ud	Módulo de 32 Salidas Digitales	293,16	586,32		BT-FCARRERA	24,000 Ud	Final de Carrera para válvula		25,72	617,28	
	BT-MOD8EATEM	10,000 Ud	Módulo de 8 Entradas Analógicas sondas Temp	585,48	5.854,80		%00PCI03	3,000 %	Costes Indirectos		1.416,30	42,49	
	BT-MOD4SA	4,000 Ud	Módulo de 4 Salidas Analógicas	310,80	1.243,20								
	BT-MOD8EA	2,000 Ud	Módulo de 8 Entradas Analógicas	592,20	1.184,40								
	BT-RACK12M	2,000 Ud	Rack de 12 Emplazamientos	200,76	401,52								
	BT-FA36W	1,000 Ud	Fuente de alimentación 220/24Vcc 36W	378,84	378,84								
	BT-BORN20PT	17,000 Ud	Bornero desenchufable de 20 puntos	18,28	310,76								
	BT-PROGPLC	1,000 Ud	Programación PLC	3.500,00	3.500,00								
	BT-PMARCHA	1,000 Ud	Puesta en Marcha del Sistema de Automatización	5.000,00	5.000,00								
	%00PCI03	3,000 %	Costes Indirectos	21.681,30	650,44								
			TOTAL PARTIDA.....		22.331,75								

TOTAL PARTIDA..... 1.458,78

Asciende el precio total de la partida a la mencionada cantidad de MIL CUATROCIENTOS CINCUENTA Y OCHO EUROS con SETENTA Y OCHO CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de VEINTIDOS MIL TRESCIENTOS TREINTA Y UN EUROS con SETENTA Y CINCO CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE			
0057	BT046-2A	Ud	Centro De Control Centro de control para monitorización y comando de Estación de Bombeo compuesto por: - SAI de 750VA de potencia para conexión de PC de centro de control, con voltaje de 230Vac, con capacidad de baterías para 12 minutos a media carga, y 6 minutos a plena carga, con cable de comunicación a puerto serie con PC, y software de supervisión del SAI. - EQUIPOS INFORMÁTICOS compuesto por: - Ordenador PC de Gestión Dell con procesador Core-Duo 3GHz de 4Gb RAM, disco duro de 250 Gb, tarjeta gráfica de 512 Mb y monitor de 22". - Un PC Servidor con procesador Quad-core Xeon de 4 Gb de RAM disco duro redundante de 145 Gb con Cintas DAT72 de copia de seguridad. - SAI - Completa Impresora de láser color y un SAI de 1900 VA. - Incluye trabajos de parametrización y configuración del Software. - Suministro, instalación y pruebas de software. Paquete de software formado por tres programas: - Comunicaciones, Control y Gestión. Se instala en los equipos informáticos anteriormente descritos. - Se incluye Guardián para el control del software y alimentación del sistema así como la gestión de envío y recepción de los mensajes SMS de alarma u órdenes según configuración para la programación y parametrización del riego de comunidades de regantes, a través de un PC bajo entorno Windows. Permite la exportación y almacenamiento de datos a otros programas (Excel, Word, etc.) para la gestión del sistema. - Personalización del programa y las pantallas a cargo de un especialista informático. Entrada de datos de todos los hidrantes y sectores de riego, además de la configuración del entorno gráfico en planos GIS por sectores de riego. Sinópticos estaciones de bombeo y balsas. Trabajos de interoperabilidad entre bases de datos (SQL-Server) desde Scada-HMI del autómatas de bombeo y el Software en Centro de Control, para visualización de señales digitales y analógicas de la estación de bombeo. - Incluye SCADA para control de las unidades remotas y de las estaciones de Bombeo. Scada de supervisión incluyendo la programación de pantallas y subpantallas como mínimo: - Pantalla de situación: gestión de acceso y permisos. - Pantalla de estado general: Valores más significativos ON-LINE, vista de las bombas y sala de cuadros, y acceso a otras pantallas. - Pantalla de estado del Grupo de Bombeo/Turbinas: Estado de la turbina/bomba, Temperaturas PT100, Gestión de alarmas, resultados, variables eléctricas (V, I, P etc), gráficos de variables, presiones y caudales, horas de marcha, nº de conexiones etc. - Pantalla de estado de equipos: Protecciones comunes del bombeo, protecciones eléctricas individuales, protecciones de filtros. - Pantalla de Estado del CT, protecciones y consumos. - Pantalla de programación: Valores de captación, valores de llenado automático, límites de llenado, funcionamiento, programación de periodos, programación nº de bombas, valores de cierre, programación ventilación, rangos horarios de bombeo y periodos tarifarios, horario limitado o continuo, parámetros para gestión de la eficiencia energética, rendimiento óptimo, programación de máximos caudales y potencia, configuración SMS, programación SMS alarmas, avisos y nº de teléfono etc. Programación parámetros de intrusión. -Pantalla de gráficos: gráficos a elección del usuario cruzando variables a lo largo del tiempo general de la instalación, como individuales de los equipos, visualización de gráficos instantaneos o en un rango de tiempos, almacenamiento de variables, modificación de escalas. -Pantalla de alarmas y advertencias: Almacenamiento de alarmas y sucesos, alarmas actuales, filtro de resultados etc. -Pantalla de informes: Generación de informes en un rango de rastreo de las variables deseada, impresión de informes Toalmente programado, montado, instalado, configurado y probado.													
TOTAL PARTIDA.....												11.714,14				
Asciende el precio total de la partida a la mencionada cantidad de ONCE MIL SETECIENTOS CATORCE EUROS con CATORCE CÉNTIMOS																
0058	BT046A	Ud	Centro de control bombeo Centro de control para monitorización y comando de Estación de Bombeo compuesto por: - SAI de 750VA de potencia para conexión de PC de centro de control, con voltaje de 230Vac, con capacidad de baterías para 12 minutos a media carga, y 6 minutos a plena carga, con cable de comunicación a puerto serie con PC, y software de supervisión del SAI. - PC con Windows Xp, procesador Intel core 2 duo o equivalente, con 2 Gb de memoria RAM, Disco Duro de 500 Gb y monitor de 21". - Incluye SCADA para control de las unidades remotas y de la estación de Bombeo. Scada de supervisión incluyendo la programación de pantallas y subpantallas como mínimo: - Pantalla de situación: gestión de acceso y permisos. - Pantalla de estado general: Valores más significativos ON-LINE, vista de las bombas y sala de cuadros, y acceso a otras pantallas. - Pantalla de estado del Grupo de Bombeo: Estado de la bomba, Temperaturas PT100, Gestión de alarmas, resultados, variables eléctricas (V, I, P etc), gráficos de variables, presiones y caudales, horas de marcha, nº de conexiones etc. - Pantalla de estado de equipos: Protecciones comunes del bombeo, protecciones eléctricas individuales, protecciones de filtros. - Pantalla de Estado del CT, protecciones y consumos. - Pantalla de programación: Valores de captación, valores de llenado automático, límites de llenado, funcionamiento, programación de periodos, programación nº de bombas, valores de cierre, programación ventilación, rangos horarios de bombeo y periodos tarifarios, horario limitado o continuo, parámetros para gestión de la eficiencia energética, rendimiento óptimo, programación de máximos caudales y potencia, configuración SMS, programación SMS alarmas, avisos y nº de teléfono etc. Programación parámetros de intrusión. -Pantalla de gráficos: gráficos a elección del usuario cruzando variables a lo largo del tiempo general de la instalación, como individuales de los equipos, visualización de gráficos instantaneos o en un rango de tiempos, almacenamiento de variables, modificación de escalas. -Pantalla de alarmas y advertencias: Almacenamiento de alarmas y sucesos, alarmas actuales, filtro de resultados etc. -Pantalla de informes: Generación de informes en un rango de rastreo de las variables deseada, impresión de informes Toalmente programado, montado, instalado, configurado y probado.													
	MO014	3,000 Hr	Especialista Informatico	21,71							21,71	65,13				
	BT-SAI750VA	1,000 Ud	SAI de 750VA de Baterías 12min	219,20							219,20	219,20				
	BT-PCWINXP2	1,000 Ud	Pc 2Gb RAM HD500Gb	1.200,00							1.200,00	1.200,00				
	BT-SCADA	1,000 Ud	SCADA para control	2.500,00							2.500,00	2.500,00				
	%00PCI03	3,000 %	Costes Indirectos	3.984,30							3.984,30	119,53				
TOTAL PARTIDA.....												4.103,86				
Asciende el precio total de la partida a la mencionada cantidad de CUATRO MIL CIENTO TRES EUROS con OCHENTA Y SEIS CÉNTIMOS																
MO014		25,000 Hr	Especialista Informatico	21,71		542,75										
BT-SAI750VA		1,000 Ud	SAI de 750VA de Baterías 12min	219,20		219,20										
BT-PCWINXP		1,000 Ud	Pc 2Gb RAM HD500Gb+ Servidor	3.000,00		3.000,00										
BT-IMPTINT		1,000 Ud	Impresora Inyección de Tinta	151,00		151,00										
BT-SCADA2		1,000 Ud	SCADA y Software para supevisión, control y almacenamiento datos	7.460,00		7.460,00										
%00PCI03		3,000 %	Costes Indirectos	11.373,00		341,19										

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0059	BT047	Ud	Comunicaciones Centro de comunicaciones Radio que consiste en: - Concentradora Radio con protocolo MODBUS RTU 12 Vcc - 1 Latiguillo interior cuadro RG-58 1m N Macho- N Hembra - 1 Cable coaxial RG-213 10 m N Macho - N Macho - 1 Antena Omnidireccional Colineal UHF, 3 dB de ganancia, N Hembra, 405-445 MHz - 1 Juego de soportes para rail DIN - 1 Kit de pruebas para unidad concentradora - 1 Kit de pruebas para unidades Remotas - 1 Cable de configuración de unidad Remota - 1 Cable de configuración para concentradora. - Incluye mastil para instalación de antena. Totalmente instalado, conectado y probado.				0061	BT048	u	Unidad Remota 10ED, 2SD, 1EA Unidad Remota Radio consistente en: - Unidad Remota Radio con 10ED, 2SD, 1EA, IP66 funcionamiento mediante batería de 3 años de autonomía. - Accionamiento por relé para apertura y cierre de motorización tipo válvula motorizada. - 1 radiomodem y módem GSM - 1 Tarjeta con 1 entrada analógica 0/4-20 mA - 1 Antena Lambda/2 Exterior de 2 dB de ganancia, cable de 7m y conector - 1 Pack de pila de litio + conector para unidad Remota. - 1 Cable coaxial RG-213 10m N Macho - N Macho - 1 Latiguillo RG-58 1m TNC m - N h - Con puerto y conexión para comunicación bidireccional con autómatas de control para mandar ordenes y recibir estados e información de señales y caudalímetro. Incluye mastil de 3m para antena, colocación, ensayos y puesta en marcha.			
MO003		1,000 Hr	Capataz	21,71	21,71		MO003		1,000 Hr	Capataz	21,71	21,71	
MO008D		3,000 Hr	Oficial 1ª	20,96	62,88		MO008C		1,000 H	Oficial 1ª	20,96	20,96	
BT-UMAST		1,000 Ud	Concentradora Radio	1.790,00	1.790,00		BT-UREM		1,000 Ud	Unidad Remota 6ED	876,00	876,00	
BT-CA-058-05		1,000 Ud	Latiguillo interior cuadro RG-58 1m	22,00	22,00		BT-MOD EA		1,000 Ud	Tarjeta con 1 entrada analógica	80,00	80,00	
BT-CA-213-04		1,000 Ud	Cable Coaxial RG-213 10m	61,00	61,00		BT-ANT-UY10-1		1,000 Ud	Antena Lambda/2 Exterior 2db 7m	68,00	68,00	
BT-ANT-UO3-01		1,000 Ud	Antena Omnidireccional UFH	342,00	342,00		BT-IRMT-PIL		38,000 Ud	Pack pila+panel 5W+conector	1,00	38,00	
BT-TMOD-JSPRD		1,000 Ud	Juego de soportes para DIN	36,00	36,00		BT-CA-213-04		1,000 Ud	Cable Coaxial RG-213 10m	61,00	61,00	
BT-KIT01		1,000 Ud	Kit Pruebas Concentradora	60,00	60,00		BT-CA-058-04		1,000 Ud	Latiguillo RG-58 1m TNC	22,00	22,00	
BT-KIT 02		1,000 Ud	Kit Pruebas Remota	60,00	60,00		%PCI03		3,000 %	Costes indirectos	1.187,70	35,63	
BT-CABLCONFIM		1,000 Ud	Cable Configuración Concentradora	35,00	35,00								
BT-CABLCONFUR		1,000 Ud	Cable Configuración Remota	28,00	28,00								
%00PCI03		3,000 %	Costes Indirectos	2.518,60	75,56								
TOTAL PARTIDA.....											1.223,30		
Asciende el precio total de la partida a la mencionada cantidad de MIL DOSCIENTOS VEINTITRES EUROS con TREINTA CÉNTIMOS													
TOTAL PARTIDA.....					2.594,15								

Asciende el precio total de la partida a la mencionada cantidad de DOS MIL QUINIENTOS NOVENTA Y CUATRO EUROS con QUINCE CÉNTIMOS

0060	BT047B	Ud	Frontal De Comunicaciones Centro de comunicaciones Radio que consiste en: - 2 Radiomodem 1W 446 MHz con antena colineal UHF 5,5db con conector para puerto serie RS-232/RS-485 y caja enlace RS-485+USB para enlace con PC y alimantador AC/DC 100-240 Vac/12Vdc 2A Y Suminstro radiomodem 433 MHz en PC. - Incluye mastil de 6 metros para instalación de antena. - Incluye parte proporcional de pequeño material, soportes, cableados, conexiones, etc..., y puesta en marcha. Totalmente instalado, conectado y probado.										
MO003		3,000 Hr	Capataz	21,71	65,13								
MO008D		3,000 Hr	Oficial 1ª	20,96	62,88								
BT-TC_RADIOMO		1,000 Ud	Radiomodem Satel 1W 446 MHz completo	3.765,28	3.765,28								
BT-TC_ANTENA6		1,000 Ud	Mástil 6m y accesorios	97,00	97,00								
%00PCI03		3,000 %	Costes Indirectos	3.990,30	119,71								
TOTAL PARTIDA.....											4.110,00		

Asciende el precio total de la partida a la mencionada cantidad de CUATRO MIL CIENTO DIEZ EUROS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0062	BT048A	Ud	Control Unidad Remota Via Radio 4-4-2 Unidad Remota Radio consistente en: - Unidad Remota Radio con 4 entradas digitales y 2 entradas analógicas, IP66 funcionamiento mediante batería de 3 años de autonomía. Software completo de control y de comunicaciones; protección entradas. Con microcontrolador de 16 bits de bajo consumo con Watchdog, memoria Flash, Ram y EEprom con registro de acumulados. Alojado en cajas para carril DIN e instaladas en cajas con grado de protección IP66. alimentado mediante pack de 3 baterías de Ni-Mh con panel solar 5W - 1 Tarjeta con 1 entrada analógica 0/4-20 mA - 1 Antena Lambda/2 Exterior de 2 dB de ganancia, cable de 7m y conector - 1 Pack de pila de litio + conector para unidad Remota. - 1 Cable coaxial RG-213 10m N Macho - N Macho - 1 Latiguillo RG-58 1m TNC m - N h Incluye mastil de 6m para antena, colocación, ensayos y puesta en marcha.				0064	BT048F	Ud	Control Unidad Remota Via Radio 10-10-2 Unidad Remota Radio consistente en: - Unidad Remota Radio con 10 entradas digitales y 2 entradas analógicas, IP66 funcionamiento mediante batería de 3 años de autonomía. Software completo de control y de comunicaciones; protección entradas. Con microcontrolador de 16 bits de bajo consumo con Watchdog, memoria Flash, Ram y EEprom con registro de acumulados. Alojado en cajas para carril DIN e instaladas en cajas con grado de protección IP66. alimentado mediante pack de 3 baterías de Ni-Mh con panel solar 5W - 1 Tarjeta con 1 entrada analógica 0/4-20 mA - 1 Antena Lambda/2 Exterior de 2 dB de ganancia, cable de 7m y conector - 1 Pack de pila de litio + conector para unidad Remota. - 1 Cable coaxial RG-213 10m N Macho - N Macho - 1 Latiguillo RG-58 1m TNC m - N h Incluye mastil de 6m para antena, colocación, ensayos y puesta en marcha.			
MO003		1,000 Hr	Capataz	21,71	21,71		MO003		1,000 Hr	Capataz	21,71	21,71	
MO008D		1,000 Hr	Oficial 1ª	20,96	20,96		MO008D		1,000 Hr	Oficial 1ª	20,96	20,96	
BT-TC_REM4-42		1,000 Ud	Unidad Remota 4ED 2EA	630,00	630,00		BT-TC_REM10-2		1,000 Ud	Unidad Remota 10ED 2EA	820,00	820,00	
BT-TC_ANTENA4		1,000 Ud	Mástil 6m y accesorios de anclaje	77,00	77,00		BT-TC_ANTENA4		1,000 Ud	Mástil 6m y accesorios de anclaje	77,00	77,00	
BT-MOD EA		1,000 Ud	Tarjeta con 1 entrada analógica	80,00	80,00		BT-MOD EA		1,000 Ud	Tarjeta con 1 entrada analógica	80,00	80,00	
BT-ANT-UY10-1		1,000 Ud	Antena Lambda/2 Exterior 2db 7m	68,00	68,00		BT-ANT-UY10-1		1,000 Ud	Antena Lambda/2 Exterior 2db 7m	68,00	68,00	
BT-IRMT-PIL		20,400 Ud	Pack pila+panel 5W+conector	1,00	20,40		BT-IRMT-PIL		19,720 Ud	Pack pila+panel 5W+conector	1,00	19,72	
BT-CA-213-04		1,000 Ud	Cable Coaxial RG-213 10m	61,00	61,00		BT-CA-213-04		1,000 Ud	Cable Coaxial RG-213 10m	61,00	61,00	
BT-CA-058-04		1,000 Ud	Latiguillo RG-58 1m TNC	22,00	22,00		BT-CA-058-04		1,000 Ud	Latiguillo RG-58 1m TNC	22,00	22,00	
%00PCI03		3,000 %	Costes Indirectos	1.001,10	30,03		%00PCI03		3,000 %	Costes Indirectos	1.190,40	35,71	
TOTAL PARTIDA.....						1.031,10	TOTAL PARTIDA.....						1.226,10
Asciende el precio total de la partida a la mencionada cantidad de MIL TREINTA Y UN EUROS con DIEZ CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de MIL DOSCIENTOS VEINTISEIS EUROS con DIEZ CÉNTIMOS						
0063	BT048C	Ud	Concentradora Enlace Radiomodem 433 MHz Unidad Remota Radio consistente en: Suministro e instalación de unidad concentradora Enlace Radio (EAR) 12 VDC para la comunicación con los terminales de control remoto para un total de 60 módulos. Incluye radiomódem 433 MHz para comunicación entre EAR y Software Agrónic Net II con antena omnidireccional. Alimentación 12 Vdc con panel solar 75W, batería de 120 A/h y regulador. Estructura metálica con soporte panel solar y mástil de 6 mts altura y caseta prefabricada 1x1 para alojamiento equipamiento. Incluye colocación, ensayos y puesta en marcha.				0065	BT049	Ud	Instrumentación Suministro e instalación de la instrumentación de la balsa consistente en: - 1 Boya de Nivel máximo tensión 12Vcc, grado de protección IP68 con contacto NA/NC - 1 Sensor de presión hidrostático para medida de nivel, incluye 20m de cable especial para inmersión, salida analógica 4..20mA, Rango de temperaturas de funcionamiento de -20 a 50°C, sobrepresión máxima 2 en escala completa, IP 68, Rango de presión de 0 a 400 Bar, 12Vcc, - 1 Transductor de presión, tipo Sitrans P Serie Z, con gama de presión 0-16 Bar, conexión de presión G1/2, salida 4..20 mA., tensión de alimentación 10-36 Vcc, carcasa de acero inoxidable, IP65, temperatura ambiente -25 +85°, conexión 2 hilos - 1 Finales de carrera para control de apertura de válvulas previa conexión de equipos de bombeo. - Incluye pequeño material de montaje. Totalmente instalado y probado.			
MO015		3,000 Hr	Tecnico Especialista Telecomunicaciones	21,71	65,13		MO003		1,000 Hr	Capataz	21,71	21,71	
MO010		5,000 Hr	Peón	17,33	86,65		MO008D		1,000 Hr	Oficial 1ª	20,96	20,96	
BG7U1AR5		1,000 Ud	Enlace Via Radio 433 MHz 12V	1.200,00	1.200,00		BT-BOYNIVMAX		1,000 Ud	Boya de Nivel Máximo	85,00	85,00	
GEE54792X		1,000 Ud	Radiomódem 433 MHz Con Antena Directiv a UHF Conector	800,00	800,00		BT-FCARRERA		1,000 Ud	Final de Carrera para válvula	25,72	25,72	
BG7U1355		1,000 Ud	Placa Solar 75 W Con Soporte y Batería 120 A/H	670,00	670,00		BT-SENNIVHIDR		1,000 Ud	Sensor de Niv el Hidrostático	585,00	585,00	
%00PCI03		3,000 %	Costes Indirectos	2.821,80	84,65		BT-TRP016B		1,000 Ud	Transductor de presión 0-16 bar	127,40	127,40	
TOTAL PARTIDA.....						2.906,43	TOTAL PARTIDA.....						891,76
Asciende el precio total de la partida a la mencionada cantidad de DOS MIL NOVECIENTOS SEIS EUROS con CUARENTA Y TRES CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de OCHOCIENTOS NOVENTA Y UN EUROS con SETENTA Y SEIS CÉNTIMOS						

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0066	BT049B	Ud	Alarma Intrusión Suministro e instalación alarmas de intrusión en arquetas de hidrante para avisos de obertura y cierre puerta de acceso. Incluso microinterruptor de desconexión. Incluye pequeño material de montaje. Totalmente instalado y probado.				0070	BT052	m	Cable Tronic LiCY 2x2x1.5 Cable de datos de pares de 2x2x1.5 apantallado Rango de temperatura -30° a 80° Recubrimiento de PVC, conductores de cobre de alambre fino, conductores trenzados en pares, Pares trenzados, pantalla de cobre estañado-trenzado, cubierta de PVC resistente al aceite, a los productos químicos y no propagadora de llama. Totalmente montado, conectado y probado.			
	MO003	0,210 Hr	Capataz	21,71	4,56			MO003	0,160 Hr	Capataz	21,71	3,47	
	MO008D	0,450 Hr	Oficial 1ª	20,96	9,43			MO008D	0,040 Hr	Oficial 1ª	20,96	0,84	
	BT-TC_INTRUS	1,000 Ud	Alarma De Intrusión Tipo Imán	20,00	20,00			BT-TRY2X2X1.5	1,000 m.l.	Cable Tronic LiCY 2x2x1.5 Apantallado	1,16	1,16	
	%00PCI03	3,000 %	Costes Indirectos	34,00	1,02			%00PCI03	3,000 %	Costes Indirectos	5,50	0,17	
TOTAL PARTIDA.....						35,01	TOTAL PARTIDA.....						5,64
Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y CINCO EUROS con UN CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con SESENTA Y CUATRO CÉNTIMOS						
0067	BT049C	Ud	Trasductor de presión Suministro e instalación de Trasductor de presión, rango de 0-16 bar. Salida 4-20 mA. Colocado en red de riego y elementos principales de la red. Incluye cableado apantallado, conexiones y pequeño material de montaje. Totalmente instalado y probado.				0071	BT053	m	Cable Ethernet Cat 6 Suministro y montaje de cable UTP categoría 6 para transmisión de datos para red Ethernet y Modbus RTU. Totalmente montado e instalado.			
	MO003	0,100 Hr	Capataz	21,71	2,17			MO003	0,160 Hr	Capataz	21,71	3,47	
	MO008D	0,100 Hr	Oficial 1ª	20,96	2,10			MO008D	0,040 Hr	Oficial 1ª	20,96	0,84	
	BT-TC_TRASP	1,000 Ud	Trasductor de presión 0-16bar 4-20mA+conexiones	68,55	68,55			BT-CABETH	1,000 m.l.	Cable Ethernet Categoría 6	1,00	1,00	
	%00PCI03	3,000 %	Costes Indirectos	72,80	2,18			%00PCI03	3,000 %	Costes Indirectos	5,30	0,16	
TOTAL PARTIDA.....						75,00	TOTAL PARTIDA.....						5,47
Asciende el precio total de la partida a la mencionada cantidad de SETENTA Y CINCO EUROS							Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con CUARENTA Y SIETE CÉNTIMOS						
0068	BT050	m	Cable Tronic LiCy 3x2x1.5 Cable de datos de pares de 2x2x1.5 apantallado Rango de temperatura -30° a 80° Recubrimiento de PVC, conductores de cobre de alambre fino, conductores trenzados en pares, Pares trenzados, pantalla de cobre estañado-trenzado, cubierta de PVC resistente al aceite, a los productos químicos y no propagadora de llama. Totalmente instalado, conectado y probado				0072	BT056	m	ZANJA CABLES BT 0,6 MTS ANCHURA EN TIERRA VARIOS CIRCUITOS BT M.I. Realización de zanja en tierra con lecho de arena para cables de BT de 0,6 mts de anchura y 0,9 mts de profundidad, incluyendo rotura y reposición de pavimento existente, excavación con medios mecánicos, capa de arena fina de 30 cm, relleno de zanjas con zahorras mediante tongadas de 30 cm, malla de señalización (2 mts), placa de PVC de señalización (2 mts), así como medios mecánicos, retirada de tierras a vertedero, mano de obra especializada y pequeño material auxiliar necesario, medida la unidad terminada y ejecutada.			
	MO003	0,160 Hr	Capataz	21,71	3,47			MO015	0,055 Hr	Tecnico Especialista Telecomunicaciones	21,71	1,19	
	MO008D	0,040 Hr	Oficial 1ª	20,96	0,84			MAQ015	0,025 Hr	Excavadora línea subterránea	60,54	1,51	
	BT-TRY3X2X1.5	1,000 m.l.	Cable Tronic LiCY 3x2x1.5	1,35	1,35			MAQ009	0,200 Hr	Compactador vibratorio de conducción manual de 0,30 t	1,35	0,27	
	%00PCI03	3,000 %	Costes Indirectos	5,70	0,17			MAT014	0,150 m³	Arena de río (0-5mm)	14,83	2,22	
TOTAL PARTIDA.....						5,83		MAT500	1,000 m	Placa cubrecables PE protección y señalización	0,84	0,84	
Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con OCHENTA Y TRES CÉNTIMOS								%PCI03	3,000 %	Costes indirectos	6,00	0,18	
TOTAL PARTIDA.....						5,50	TOTAL PARTIDA.....						6,21
Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con CINCUENTA CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de SEIS EUROS con VEINTIUN CÉNTIMOS						
0069	BT051	m	Cable Tronic LiCy 1x2x1.5 Cable de datos de pares de 1x2x1.5 apantallado Rango de temperatura -30° a 80° Recubrimiento de PVC, conductores de cobre de alambre fino, conductores trenzados en pares, Pares trenzados, pantalla de cobre estañado-trenzado, cubierta de PVC resistente al aceite, a los productos químicos y no propagadora de llama. Totalmente instalado, conectado y probado										
	MO003	0,160 Hr	Capataz	21,71	3,47								
	MO008D	0,040 Hr	Oficial 1ª	20,96	0,84								
	BT-TRY1X2X1.5	1,000 m.l.	Cable Tronic LiCY 1x2x1.5	1,03	1,03								
	%00PCI03	3,000 %	Costes Indirectos	5,30	0,16								
TOTAL PARTIDA.....						5,50	TOTAL PARTIDA.....						6,21

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0073	BT058-1	m	Bandeja de PVC estanca de 150x60 mm Bandeja de PVC con tapa de PVC, con dimensiones 150x60mm. Incluso pequeño material, apoyos mediante perfiles metálicos y anclajes a paramentos verticales y horizontales, totalmente instalado y en servicio.				0077	BT065	m	Conductor Desnudo De Cobre De 50 mm2 Conductor de cobre desnudo de 50 mm2 de sección nominal por conducción de puesta a tierra enterrada, incluye pequeño material, excavación, instalación y parte proporcional de soldaduras aluminotérmica					
	MO003	0,025 Hr	Capataz	21,71	0,54			MO003	0,025 Hr	Capataz	21,71	0,54			
	MO008D	0,025 Hr	Oficial 1ª	20,96	0,52			MO008D	0,025 Hr	Oficial 1ª	20,96	0,52			
	BT-BGW2DB3D	0,200 Ud	Accesorios y elementos de acabado para bandejas met.	2,91	0,58			BT-PAT-CU50	1,000 m.l.	Conductor Desnudo de Cobre de 50mm2	3,24	3,24			
	BT-BGY2ABD1	0,200 Ud	Elementos de soportes de acero horizontales	3,10	0,62			%00PCI03	3,000 %	Costes Indirectos	4,30	0,13			
	BT-BNP150X60	1,000 Ud	Bandeja de PVC no perforada de 150x60 mm	9,15	9,15			TOTAL PARTIDA.....					4,43		
	BT-TNP150X60	1,000 Ud	Tapa para bandeja de PVC no perforada de 150x60 mm	4,58	4,58			Asciende el precio total de la partida a la mencionada cantidad de CUATRO EUROS con CUARENTA Y TRES CÉNTIMOS							
	%00PCI03	3,000 %	Costes Indirectos	16,00	0,48			0078	BT066-2	Ud	Pica AC-CU 2.000x14 mm Con Grapa M.I. Suministro y montaje de pica de acero-cobreado de 2.000x14 mm de dimensiones, incluida grapa de conexión, así como pequeño material y medios auxiliares necesarios, totalmente instalada.				
	TOTAL PARTIDA.....					16,47			MO003	0,025 Hr	Capataz	21,71	0,54		
	Asciende el precio total de la partida a la mencionada cantidad de DIECISEIS EUROS con CUARENTA Y SIETE CÉNTIMOS								MO008D	0,025 Hr	Oficial 1ª	20,96	0,52		
0074	BT059	m	Tubo Corrugado curvable D=50 mm M.I. Tubo corrugado de doble pared flexible de diámetro 50mm para instalaciones eléctricas, resistencia de compresión 750N, rigidez dieléctrica 2kV, Resistencia al impacto 2J, Resistencia eléctrica 100 Ohm bajo 500Vcc. Incluso pequeño material de montaje y union. Totalmente instalado y montado.					BT-PAT015	1,000 Ud	Pica Ac-Cu 2000x 14 mm con grapa	12,48	12,48			
	MO003	0,025 Hr	Capataz	21,71	0,54			%00PCI03	3,000 %	Costes Indirectos	13,50	0,41			
	MO008D	0,025 Hr	Oficial 1ª	20,96	0,52			TOTAL PARTIDA.....					13,95		
	BT-TUBCORD50	1,000 m.l.	Tubo corrugado de D=50mm	2,10	2,10			Asciende el precio total de la partida a la mencionada cantidad de TRECE EUROS con NOVENTA Y CINCO CÉNTIMOS							
	%00PCI03	3,000 %	Costes Indirectos	3,20	0,10			0079	BT067	Ud	Soldadura Aluminotérmica Entre Cable-Cable Ud. Suministro y montaje de soldadura aluminotérmica en te cable-cable, incluidos medios auxiliares para realizar la soldadura (molde, tenazas, pólvora, otros) y pequeño material, totalmente instalada.				
	TOTAL PARTIDA.....					3,26			MO003	0,025 Hr	Capataz	21,71	0,54		
	Asciende el precio total de la partida a la mencionada cantidad de TRES EUROS con VEINTISEIS CÉNTIMOS								MO008D	0,025 Hr	Oficial 1ª	20,96	0,52		
0075	BT059-18	m	TUBO CORRUGADO D=180 mm M.I. Tubo corrugado de doble pared flexible de diámetro 180mm para instalaciones eléctricas, resistencia de compresión 450N, rigidez dieléctrica 2kV, Resistencia al impacto 2J, Resistencia eléctrica 100 Ohm bajo 500Vcc. Incluso cinta de señalización de aviso de cableado, pequeño material de montaje y union. Totalmente instalado y montado.					BT-PAT03	1,000 Ud	Soldadura aluminotérmica en te cable-cable	19,00	19,00			
	MO005D	0,020 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	48,00	0,96			%00PCI03	3,000 %	Costes Indirectos	20,10	0,60			
	BT-TUBCORD18	1,000 M.l	Tubo corrugado de D=180mm	5,11	5,11			TOTAL PARTIDA.....					20,66		
	%PCI03	3,000 %	Costes indirectos	6,10	0,18			Asciende el precio total de la partida a la mencionada cantidad de VEINTE EUROS con SESENTA Y SEIS CÉNTIMOS							
	TOTAL PARTIDA.....					6,25			0080	BT068	Ud	Soldadura Aluminotérmica Entre Cable-Mallazo Ud. Suministro y montaje de soldadura aluminotérmica en te cable-mallazo, incluidos medios auxiliares para realizar la soldadura (molde, tenazas, pólvora, otros) y pequeño material, totalmente instalada.			
	Asciende el precio total de la partida a la mencionada cantidad de SEIS EUROS con VEINTICINCO CÉNTIMOS								MO003	0,025 Hr	Capataz	21,71	0,54		
0076	BT061	m	Construcción atarjea Ejecución de atarjea mediante ladrillo de gero revestido con mortero con dimensiones de 0,8 de anchura y hasta 0,8 m de profundidad. Incluida la excavación de zanja, ejecución de muros y solera (nivelada en dirección a punto de evacuación de aguas, tapa registrable de atarjea. Totalmente ejecutado.					BT-PAT04	1,000 Ud	Soldadura aluminotérmica en te cable-mallazo	20,80	20,80			
	MO008D	0,371 Hr	Oficial 1ª	20,96	7,78			%00PCI03	3,000 %	Costes Indirectos	21,90	0,66			
	BT-ATJ-TAP	1,000 m	Tapa para atarjea	7,50	7,50			TOTAL PARTIDA.....					22,52		
	BT-ATARJEA	2,000 m	Construcción pared para atarjea (con Ladrillo Gero)	7,84	15,68			Asciende el precio total de la partida a la mencionada cantidad de VEINTIDOS EUROS con CINCUENTA Y DOS CÉNTIMOS							
	%PCI03	3,000 %	Costes indirectos	31,00	0,93			TOTAL PARTIDA.....					31,89		
	Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y UN EUROS con OCHENTA Y NUEVE CÉNTIMOS														

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Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0081	BT069	Ud	Conexión A Tierra Estructura Metálica Ud. Suministro y montaje de conexión a tierra de estructura metálica, compuesta por:				0084	BT072	Ud	Conexión Equipos A Tierra Ud. Suministro y montaje de conexión a tierra de estructura metálica, compuesta por:			
			- 1 Ud. Soldadura aluminotérmica en te cable-cable.							- 1 Ud. Soldadura aluminotérmica en te cable-cable.			
			- 1 Ud. Placa de acero soldada a estructura.							- 1 Ud. Placa de acero soldada a bancada equipo.			
			- 1 Ud. Tornillo, tuercas y arandelas M20.							- 1 Ud. Tornillo, tuercas y arandelas M20.			
			- 1 Ud. Terminal en cobre a presión para cable de 35 mm2.							- 1 Ud. Terminal en cobre a presión para cable de 35 mm2.			
			- 3 M.I. Cable de cobre desnudo de 35 mm2 de sección nominal.							- 3 M.I. Cable de cobre desnudo de 35 mm2 de sección nominal.			
			- 1,5 M.I. Tubo de PVC enchufable M25, incluida p.p. de manguitos de unión, boquillas en sus extremos, curvas y elementos de sujección a viga o pared.							- 1,5 M.I. Tubo de PVC enchufable M25, incluida p.p. de manguitos de unión, boquillas en sus extremos, curvas y elementos de sujección a viga, pared o bancada.			
MO003		0,025 Hr	Capataz	21,71	0,54		MO003		0,025 Hr	Capataz	21,71	0,54	
MO008D		0,025 Hr	Oficial 1ª	20,96	0,52		MO008D		0,025 Hr	Oficial 1ª	20,96	0,52	
BT-PAT05		1,000 Ud	Conexión a tierra estructura	30,00	30,00		BT-PAT0005		1,000 Ud	Conexión a tierra equipos	48,00	48,00	
%00PCI03		3,000 %	Costes Indirectos	31,10	0,93		%00PCI03		3,000 %	Costes Indirectos	49,10	1,47	
TOTAL PARTIDA.....						31,99	TOTAL PARTIDA.....						50,53
Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y UN EUROS con NOVENTA Y NUEVE CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CINCUENTA EUROS con CINCUENTA Y TRES CÉNTIMOS						
0082	BT070	m	Conductor de cobre UNE H07V-K 1x16mm2 Conductor de cobre UNE H07V-K 1x16mm2 para interconexión de equipos a tierra, incluye parte proporcional de pequeño material, totalmente montado e conectado.				0085	BT073	m	Conductor Desnudo De Cobre De 35 mm2 M.I. Suministro y montaje de conductor desnudo de cobre de 1x35 mm2 de sección nominal en cobre, incluido pequeño material y accesorios, totalmente instalado.			
MO003		0,025 Hr	Capataz	21,71	0,54		MO003		0,025 Hr	Capataz	21,71	0,54	
MO008D		0,025 Hr	Oficial 1ª	20,96	0,52		MO008D		0,025 Hr	Oficial 1ª	20,96	0,52	
BT-PAT-16HOVK		1,000 m.l.	Conductor de cobre UNE H07V-K 1x16mm2 Verde/amarillo	2,16	2,16		BT-DT01PT0104		1,000 m.l.	Cable de cobre desnudo de 35 mm2 de sección nominal	1,68	1,68	
%00PCI03		3,000 %	Costes Indirectos	3,20	0,10		%00PCI03		3,000 %	Costes Indirectos	2,70	0,08	
TOTAL PARTIDA.....						3,32	TOTAL PARTIDA.....						2,82
Asciende el precio total de la partida a la mencionada cantidad de TRES EUROS con TREINTA Y DOS CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de DOS EUROS con OCHENTA Y DOS CÉNTIMOS						
0083	BT071	Ud	Barra Equipotencial De Puesta A Tierra Ud. Suministro y montaje de barra equipotencial de puesta a tierra, incluido pequeño material, totalmente instalada.				0086	BT_TC_COBERT	Ud	Estudio De Cobertura De La Instalación Estudio de coberturas de la instalación para la distribución de los distintos puntos de control de hidrante y de las concentradoras de programación y control, así como de los repetidores necesarios y elementos accesorios. Informe y justificación técnica, legalización de licencias y bandas de radiofrecuencia. Incluida la realización de proyectos, trámites y tasas para su legalización.			
MO003		0,025 Hr	Capataz	21,71	0,54		BT-TC_COBERT		1,000 Ud	Estudio coberturas, proyectos y trámites para su legalización	1.500,00	1.500,00	
MO008D		0,025 Hr	Oficial 1ª	20,96	0,52		%00PCI03		3,000 %	Costes Indirectos	1.500,00	45,00	
BT-PAT07		1,000 Ud	Barra equipotencial	16,00	16,00		TOTAL PARTIDA.....						1.545,00
%00PCI03		3,000 %	Costes Indirectos	17,10	0,51		Asciende el precio total de la partida a la mencionada cantidad de DIECISIETE EUROS con CINCUENTA Y SIETE CÉNTIMOS						
TOTAL PARTIDA.....						17,57	TOTAL PARTIDA.....						1.545,00
Asciende el precio total de la partida a la mencionada cantidad de MIL QUINIENTOS CUARENTA Y CINCO EUROS							0087	BT_TC_CONWEB	Ud	Portal Web Para Usuarios PROGRAMA PORTAL WEB. Programa de PC para la gestión desde Internet para cada usuario, según una contraseña dada por la Comunidad de Regantes. Será imprescindible que el usuario de acceso disponga de ADSL-Internet.			
							BT-TC_CONWEB		1,000 Ud	Portal Web para usuarios	4.127,18	4.127,18	
							%00PCI03		3,000 %	Costes Indirectos	4.127,20	123,82	
							TOTAL PARTIDA.....						4.251,00
Asciende el precio total de la partida a la mencionada cantidad de CUATRO MIL DOSCIENTOS CINCUENTA Y UN EUROS													

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0088	BT_TC_FORMACI	Ud	Formación Personal CR Formación que se realizará al personal asignado por la Comunidad para llevar la supervisión y gestión del tele-control para un completo conocimiento y aprovechamiento del sistema. Incluye manuales de utilización y mantenimiento para un correcto funcionamiento del sistema.				0091	C-12-1000	UD.	APOYO METÁLICO DE CELOSIA C-12-1000 Ud. Suministro y montaje apoyo metálico C-12-1000, galvanizado por inmersión en caliente, construido con acero A43 y A52 de celosía de acuerdo con la recomendación UNESA RU 6704 A, de 12 metros de altura y 1.000 Kg de esfuerzo en punta, totalmente instalado, colocado, incluido montaje, izado, transporte, acarreo, toma de tierra, placas de señalización, numeración de apoyo, vainas de polipropileno en puentes y pequeño material.			
	BT-TC_FORMACI	1,000 Ud	Formación personal CR	250,00	250,00			MO005D	8,000 h	Cuadrilla Eléctrica: Oficial de Primera, Ayudante y Peón	48,00	384,00	
	%00PCI03	3,000 %	Costes Indirectos	250,00	7,50			MAQ.2300	4,000 h	Grúa izado	53,50	214,00	
			TOTAL PARTIDA.....			257,50		EPAC.2X14	4,000 Ud	Pica de acero cobreado 2mx14mm	27,20	108,80	
Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS CINCUENTA Y SIETE EUROS con CINCUENTA CÉNTIMOS								ECCU.50	18,000 MI	Cable de cobre desnudo 50mm2 pp accesorios y puentes	2,23	40,14	
0089	BT_TC_PUEMARC	Ud	Puesta En Marcha Para la puesta en marcha del sistema, comprobación de todos elementos y de su correcto funcionamiento. Aplicación del protocolo de puesta en marcha para una correcta implantación del sistema.					VAINAS	1,000 ud	Vainas de polipropileno	310,29	310,29	
	BT-TC_CPUEMAR	1,000 Ud	Puesta en marcha	1.357,00	1.357,00			%PM..1	2,000 %	Pequeño Material	1.057,20	21,14	
	%00PCI03	3,000 %	Costes Indirectos	1.357,00	40,71			%MA..2	2,000 %	Medios aux il.y protecc.personales ordinarias	1.078,40	21,57	
			TOTAL PARTIDA.....			1.397,71		12-1000	1,000 ud	Apoyo celosia C-12-1000	530,00	530,00	
Asciende el precio total de la partida a la mencionada cantidad de MIL TRESCIENTOS NOVENTA Y SIETE EUROS con SETENTA Y UN CÉNTIMOS								%PCI03	3,000 %	Costes indirectos	1.629,90	48,90	
			TOTAL PARTIDA.....			1.397,71				TOTAL PARTIDA.....			1.678,84
Asciende el precio total de la partida a la mencionada cantidad de MIL TRESCIENTOS NOVENTA Y SIETE EUROS con SETENTA Y UN CÉNTIMOS								Asciende el precio total de la partida a la mencionada cantidad de MIL SEISCIENTOS SETENTA Y OCHO EUROS con OCHENTA Y CUATRO CÉNTIMOS					
0090	C-10-2000	UD.	APOYO METÁLICO DE CELOSIA C-10-2000 Ud. Suministro y montaje apoyo metálico C-10-2000, galvanizado por inmersión en caliente, construido con acero A43 y A52 de celosía de acuerdo con la recomendación UNESA RU 6704 A, de 10 metros de altura y 2.000 Kg de esfuerzo en punta, totalmente instalado, colocado, incluido montaje, izado, transporte, acarreo, toma de tierra, placas de señalización, numeración de apoyo, vainas de polipropileno en puentes y pequeño material.				0092	C-12-500	UD.	APOYO METÁLICO DE CELOSIA C-12-500 Ud. Suministro y montaje apoyo metálico C-12-500, galvanizado por inmersión en caliente, construido con acero A43 y A52 de celosía de acuerdo con la recomendación UNESA RU 6704 A, de 12 metros de altura y 500 Kg de esfuerzo en punta, totalmente instalado, colocado, incluido montaje, izado, transporte, acarreo, toma de tierra, placas de señalización, numeración de apoyo, vainas de polipropileno en puentes y pequeño material.			
	MO005D	8,000 h	Cuadrilla Eléctrica: Oficial de Primera, Ayudante y Peón	48,00	384,00			MO005D	8,000 h	Cuadrilla Eléctrica: Oficial de Primera, Ayudante y Peón	48,00	384,00	
	MAQ.2300	4,000 h	Grúa izado	53,50	214,00			MAQ.2300	4,000 h	Grúa izado	53,50	214,00	
	EPAC.2X14	4,000 Ud	Pica de acero cobreado 2mx14mm	27,20	108,80			EPAC.2X14	4,000 Ud	Pica de acero cobreado 2mx14mm	27,20	108,80	
	ECCU.50	16,000 MI	Cable de cobre desnudo 50mm2 pp accesorios y puentes	2,23	35,68			ECCU.50	18,000 MI	Cable de cobre desnudo 50mm2 pp accesorios y puentes	2,23	40,14	
	VAINAS	1,000 ud	Vainas de polipropileno	310,29	310,29			VAINAS	1,000 ud	Vainas de polipropileno	310,29	310,29	
	%PM..1	2,000 %	Pequeño Material	1.052,80	21,06			%PM..1	2,000 %	Pequeño Material	1.057,20	21,14	
	%MA..2	2,000 %	Medios aux il.y protecc.personales ordinarias	1.073,80	21,48			%MA..2	2,000 %	Medios aux il.y protecc.personales ordinarias	1.078,40	21,57	
	10-2000	1,000 ud	Apoyo celosia C-10-2000	650,00	650,00			12-500	1,000 ud	Apoyo celosia C-12-500	535,00	535,00	
	%PCI03	3,000 %	Costes indirectos	1.745,30	52,36			%PCI03	3,000 %	Costes indirectos	1.634,90	49,05	
			TOTAL PARTIDA.....			1.797,67				TOTAL PARTIDA.....			1.683,99
Asciende el precio total de la partida a la mencionada cantidad de MIL SETECIENTOS NOVENTA Y SIETE EUROS con SESENTA Y SIETE CÉNTIMOS								Asciende el precio total de la partida a la mencionada cantidad de MIL SEISCIENTOS OCHENTA Y TRES EUROS con NOVENTA Y NUEVE CÉNTIMOS					

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PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0093	C-14-1000		UD. APOYO METÁLICO DE CELOSIA C-14-1000 Ud. Suministro y montaje apoyo metálico C-14-1000, galvanizado por inmersión en caliente, construido con acero A43 y A52 de celosía de acuerdo con la recomendación UNESA RU 6704 A, de 14 metros de altura y 1.000 Kg de esfuerzo en punta, totalmente instalado, colocado, incluido montaje, izado, transporte, acarreos, toma de tierra, placas de señalización, numeración de apoyo, vainas de polipropileno en puentes y pequeño material.				0095	C-14-3000		UD. APOYO METÁLICO DE CELOSIA C-14-3000 Ud. Suministro y montaje apoyo metálico C-14-3000, galvanizado por inmersión en caliente, construido con acero A43 y A52 de celosía de acuerdo con la recomendación UNESA RU 6704 A, de 14 metros de altura y 3.000 Kg de esfuerzo en punta, totalmente instalado, colocado, incluido montaje, izado, transporte, acarreos, toma de tierra, placas de señalización, numeración de apoyo, vainas de polipropileno en puentes y pequeño material.			
	MO005D	8,000 h	Cuadrilla Eléctrica: Oficial de Primera, Ayudante y Peón	48,00	384,00			MO005D	8,000 h	Cuadrilla Eléctrica: Oficial de Primera, Ayudante y Peón	48,00	384,00	
	MAQ.2300	4,000 h	Grúa izado	53,50	214,00			MAQ.2300	4,000 h	Grúa izado	53,50	214,00	
	EPAC.2X14	4,000 Ud	Pica de acero cobreado 2mx 14mm	27,20	108,80			EPAC.2X14	4,000 Ud	Pica de acero cobreado 2mx 14mm	27,20	108,80	
	ECCU.50	20,000 MI	Cable de cobre desnudo 50mm2 pp accesorios y puentes	2,23	44,60			ECCU.50	20,000 MI	Cable de cobre desnudo 50mm2 pp accesorios y puentes	2,23	44,60	
	VAINAS	1,000 ud	Vainas de polipropileno	310,29	310,29			VAINAS	1,000 ud	Vainas de polipropileno	310,29	310,29	
	%PM..1	2,000 %	Pequeño Material	1.061,70	21,23			%PM..1	2,000 %	Pequeño Material	1.061,70	21,23	
	%MA..2	2,000 %	Medios aux.il.y protecc.personales ordinarias	1.082,90	21,66			%MA..2	2,000 %	Medios aux.il.y protecc.personales ordinarias	1.082,90	21,66	
	14-1000	1,000 ud	Apoyo celosia C-14-1000	650,00	650,00			14-3000	1,000 ud	Apoyo celosia C-14-3000	1.220,00	1.220,00	
	%PCI03	3,000 %	Costes indirectos	1.754,60	52,64			%PCI03	3,000 %	Costes indirectos	2.324,60	69,74	
TOTAL PARTIDA.....						1.807,22	TOTAL PARTIDA.....						2.394,32
Asciende el precio total de la partida a la mencionada cantidad de MIL OCHOCIENTOS SIETE EUROS con VEINTIDOS CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de DOS MIL TRESCIENTOS NOVENTA Y CUATRO EUROS con TREINTA Y DOS CÉNTIMOS						
0094	C-14-2000		UD. APOYO METÁLICO DE CELOSIA C-14-2000 Ud. Suministro y montaje apoyo metálico C-14-2000, galvanizado por inmersión en caliente, construido con acero A43 y A52 de celosía de acuerdo con la recomendación UNESA RU 6704 A, de 14 metros de altura y 2.000 Kg de esfuerzo en punta, totalmente instalado, colocado, incluido montaje, izado, transporte, acarreos, toma de tierra, placas de señalización, numeración de apoyo, vainas de polipropileno en puentes y pequeño material.				0096	C-14-500		UD. APOYO METÁLICO DE CELOSIA C-14-500 Ud. Suministro y montaje apoyo metálico C-14-500, galvanizado por inmersión en caliente, construido con acero A43 y A52 de celosía de acuerdo con la recomendación UNESA RU 6704 A, de 14 metros de altura y 500 Kg de esfuerzo en punta, totalmente instalado, colocado, incluido montaje, izado, transporte, acarreos, toma de tierra, placas de señalización, numeración de apoyo, vainas de polipropileno en puentes y pequeño material.			
	MO005D	8,000 h	Cuadrilla Eléctrica: Oficial de Primera, Ayudante y Peón	48,00	384,00			MO005D	8,000 h	Cuadrilla Eléctrica: Oficial de Primera, Ayudante y Peón	48,00	384,00	
	MAQ.2300	4,000 h	Grúa izado	53,50	214,00			MAQ.2300	4,000 h	Grúa izado	53,50	214,00	
	EPAC.2X14	4,000 Ud	Pica de acero cobreado 2mx 14mm	27,20	108,80			EPAC.2X14	4,000 Ud	Pica de acero cobreado 2mx 14mm	27,20	108,80	
	ECCU.50	20,000 MI	Cable de cobre desnudo 50mm2 pp accesorios y puentes	2,23	44,60			ECCU.50	20,000 MI	Cable de cobre desnudo 50mm2 pp accesorios y puentes	2,23	44,60	
	VAINAS	1,000 ud	Vainas de polipropileno	310,29	310,29			VAINAS	1,000 ud	Vainas de polipropileno	310,29	310,29	
	%PM..1	2,000 %	Pequeño Material	1.061,70	21,23			%PM..1	2,000 %	Pequeño Material	1.061,70	21,23	
	%MA..2	2,000 %	Medios aux.il.y protecc.personales ordinarias	1.082,90	21,66			%MA..2	2,000 %	Medios aux.il.y protecc.personales ordinarias	1.082,90	21,66	
	14-2000	1,000 ud	Apoyo celosia C-14-2000	940,00	940,00			14-500	1,000 ud	Apoyo celosia C-14-500	605,00	605,00	
	%PCI03	3,000 %	Costes indirectos	2.044,60	61,34			%PCI03	3,000 %	Costes indirectos	1.709,60	51,29	
TOTAL PARTIDA.....						2.105,92	TOTAL PARTIDA.....						1.760,87
Asciende el precio total de la partida a la mencionada cantidad de DOS MIL CIENTO CINCO EUROS con NOVENTA Y DOS CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de MIL SETECIENTOS SESENTA EUROS con OCHENTA Y SIETE CÉNTIMOS						

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0097	C-16-500		UD. APOYO METÁLICO DE CELOSIA C-16-500 Ud. Suministro y montaje apoyo metálico C-16-500, galvanizado por inmersión en caliente, construido con acero A43 y A52 de celosía de acuerdo con la recomendación UNESA RU 6704 A, de 16 metros de altura y 500 Kg de esfuerzo en punta, totalmente instalado, colocado, incluido montaje, izado, transporte, acarreo, toma de tierra, placas de señalización, numeración de apoyo, vainas de polipropileno en puentes y pequeño material.				0101	CHA1	m ²	Tapa de chapa acero galvanizado 2 mm Tapa de chapa acero galvanizado 2 mm de espesor soportada por perfiles huecos # 40.2 formando cuadros de 50 cm de lado, para una resistencia de 200 kg/m2, colocada, y puerta de hombre de acceso de 1m. * 1 m. provista de bisagras y candado			
	MO005D	8,000 h	Cuadrilla Eléctrica: Oficial de Primera, Ayudante y Peón	48,00	384,00			MO010	0,500 Hr	Peón	17,33	8,67	
	MAQ.2300	4,000 h	Grúa izado	53,50	214,00			MAT101	1,000 m ²	Tapa de acero galvanizado	49,95	49,95	
	EPAC.2X14	4,000 Ud	Pica de acero cobreado 2mx 14mm	27,20	108,80			MAT008	3,000 Kg	TUBO RECTANGULAR 80X60X3 MM.	1,00	3,00	
	ECCU.50	22,000 MI	Cable de cobre desnudo 50mm2 pp accesorios y puentes	2,23	49,06			MAT009	0,010 Kg	MINIO ELECTROLÍTICO	7,82	0,08	
	VAINAS	1,000 ud	Vainas de polipropileno	310,29	310,29			%00PCI03	3,000 %	Costes Indirectos	61,70	1,85	
	%PM..1	2,000 %	Pequeño Material	1.066,20	21,32								
	%MA..2	2,000 %	Medios aux.il.y protecc.personales ordinarias	1.087,50	21,75								
	16-500	1,000 ud	Apoyo celosia C-16-500	750,00	750,00								
	%PCI03	3,000 %	Costes indirectos	1.859,20	55,78								
			TOTAL PARTIDA.....			1.915,00							63,55
			Asciende el precio total de la partida a la mencionada cantidad de SESENTA Y TRES EUROS con CINCUENTA Y CINCO CÉNTIMOS										
0101	CHA1						0102	CINTBAL	m	Cinta de balizamiento Cinta de balizamiento			
								MO010	0,003 Hr	Peón	17,33	0,05	
								MAT601	1,000 m	Cinta de balizamiento	0,22	0,22	
								%00PCI03	3,000 %	Costes Indirectos	0,30	0,01	
			TOTAL PARTIDA.....										0,28
			Asciende el precio total de la partida a la mencionada cantidad de CERO EUROS con VEINTIOCHO CÉNTIMOS										
0098	C09001		Ud Apertura y tapado calicata hasta 2 m de profundidad Apertura y tapado de calicata hasta 2 m de profundidad				0103	COMPUR14X14	ud	COMPUERTA MURAL 1400x1400 estanca a 4 juntas y un sentido Compuerta metálica tipo mural motorizada con perfiles de refuerzo, para sección de canal de entrada de dimensiones de hoja de 1,40 x 1,40 m. Materiales: Cuerpo: acero S275 con tratamiento anticorrosivo conformado por tres capas de pintura; Tajadera: acero S275 con tratamiento anticorrosivo conformado por tres capas de pintura; Cierre: EPDM. Mecanismo mediante husillo no ascendente. Guía de polietileno con junta EPDM de estanqueidad en un sentido, con cierre hermético de 4 juntas. Tratamiento epoxi de 200 micras. Incluso plataforma para accionamiento, elementos de anclaje y p.p. de obra civil y de acondicionamiento de banda necesaria para tránsito de maquinaria en ejecución de los trabajos. Suministro e instalacion de actuador elctrico con motor de 320VAC, reductor conico 1:3,5. Con deteccion de intrusion. Acoplado sobre brida normalizada F14 y mecanizado de tuerca de arrastre para adaptacion a eje o husillo, ajuste y puesta en marcha. Con conexiones electricas de fuerza y automatismo con prensaestopas. Instalacion de tubo rigido electrico de acero galvanizado enchufable de diametro 32mm con codos y empalmes necesarios sujeto mediante grapas atomilladas. Colocada y probada. Medida la unidad instalada.			
	MO031	0,400 h	Titulado medio o grado de 3 a 5 años de experiencia	21,39	8,56			MO005	5,000 H	CUADRILLA 1	60,00	300,00	
	MAQ031	0,600 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	30,52			MAT200120B	1,000 Ud	Compuerta 1,40x1,40, 4 juntas y un sentido. AISI 304L + epoxy	5.500,00	5.500,00	
	MAQ060	0,200 Hr	Vehículo todoterreno, 86-110 CV, sin mano de obra	24,58	4,92			%PM.1	2,000 %	Pequeño material	5.800,00	116,00	
	O03044	0,050 Ud	Dieta completa dentro del territorio nacional	103,37	5,17			MAQ019	3,000 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	94,26	
	%00PCI03	3,000 %	Costes Indirectos	49,20	1,48			%PCI03	3,000 %	Costes indirectos	6.010,30	180,31	
			TOTAL PARTIDA.....			50,65							6.190,57
			Asciende el precio total de la partida a la mencionada cantidad de CINCUENTA EUROS con SESENTA Y CINCO CÉNTIMOS										
0099	C09002		Ud Descripción de calicata en estudios de suelos Descripción de calicata en estudios de suelos.										
	MO030	1,000 Hr	Titulado superior o máster de 5 a 10 años de experiencia	30,58	30,58								
	O03044	0,125 Ud	Dieta completa dentro del territorio nacional	103,37	12,92								
	MAQ060	0,200 Hr	Vehículo todoterreno, 86-110 CV, sin mano de obra	24,58	4,92								
	%00PCI03	3,000 %	Costes Indirectos	48,40	1,45								
			TOTAL PARTIDA.....			49,87							
			Asciende el precio total de la partida a la mencionada cantidad de CUARENTA Y NUEVE EUROS con OCHENTA Y SIETE CÉNTIMOS										
0100	CAD_AMA		Ud CADENA DE AMARRE 4 PLATOS U70/127 Ud. Suministro y montaje de cadena de amarre formada por 4 elementos aisladores de vidrio templado tipo U70/127, incluida horquilla de bola, grapas y todos elementos necesarios para un correcto montaje, totalmente montada, instalada y conexionada.										
	MO005D	0,500 h	Cuadrilla Eléctrica: Oficial de Primera, Ayudante y Peón	48,00	24,00								
	CAD-AMA	1,000 Ud	Cadena amarre 4 platos U70/127	100,00	100,00								
	%PM..1	2,000 %	Pequeño Material	124,00	2,48								
	%PCI03	3,000 %	Costes indirectos	126,50	3,80								
			TOTAL PARTIDA.....			130,28							
			Asciende el precio total de la partida a la mencionada cantidad de CIENTO TREINTA EUROS con VEINTIOCHO CÉNTIMOS										

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	
0104	CON2	Ud	CONTADOR TANGENCIAL 2" CON VALVULA CONTADOR DE AGUA TANGENCIAL CON EMISOR DE PULSOS, DE DIÁMETRO 2" Y 16 ATM DE PRESIÓN DE TRABAJO, INCLUSO VÁLVULA DE COMPUERTA DN50, CALDERERÍA, BRIDAS, JUNTAS, TORNILLERÍA PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA.				0106	CON4	Ud	CONTADOR TANGENCIAL 4" CON VALVULA CONTADOR DE AGUA TANGENCIAL CON EMISOR DE PULSOS, DE DIÁMETRO 4" Y 16 ATM DE PRESIÓN DE TRABAJO, INCLUSO VALVULA DE COMPUERTA DN100, CALDERERÍA, BRIDAS, JUNTAS, TORNILLERÍA PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA.				
	MTCHAC480	30,000 KG	CHAPA DE ACERO ST,37,2 NORMA DIN 2440,ESPESOR 4,50 MM.	1,88	56,40			MTCHAC480	42,350 KG	CHAPA DE ACERO ST,37,2 NORMA DIN 2440,ESPESOR 4,50 MM.	1,88	79,62		
	MT%PPDEPE	10,000 %	PP PIEZAS ESPECIALES, UNIONES CALDERERIA	56,40	5,64			MT%PPDEPE	10,000 %	PP PIEZAS ESPECIALES, UNIONES CALDERERIA	79,60	7,96		
	MAT4100B	1,000 Ud	Contador proporcional 2" PN16 con emisor de pulsos	105,00	105,00			MAT4100	1,000 Ud	Contador proporcional 4" PN16 con emisor de pulsos	188,50	188,50		
	P03VE402	1,000 ud	VÁLVULA DE ESFERA PARA ROSCAR DE 2", PN-16 ATMÓSFERAS	29,40	29,40			MAT364	1,000 Ud	Válvula compuerta bridas d=100 mm PN-16	116,54	116,54		
	MTCO4550	0,480 UD	CODO DE 45° EN CHAPA DE ACERO PARA Ø 50 MM	17,00	8,16			MTHM20	1,000 M3	HORMIGÓN HM-20/B/20/X0, en obra	55,00	55,00		
	MTHM20	0,100 M3	HORMIGÓN HM-20/B/20/X0, en obra	55,00	5,50			MO005A	0,170 UD	Cuadrilla Construcción; Oficial de Primera, Ayudante y Peón	57,37	9,75		
	MO005A	0,170 UD	Cuadrilla Construcción; Oficial de Primera, Ayudante y Peón	57,37	9,75			%PCI03	3,000 %	Costes indirectos	219,90	6,60		
	%PCI03	3,000 %	Costes indirectos	219,90	6,60			%PCI03	3,000 %	Costes indirectos	487,40	14,62		
TOTAL PARTIDA.....						226,45	TOTAL PARTIDA.....						501,99	
Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS VEINTISEIS EUROS con CUARENTA Y CINCO CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de QUINIENTOS UN EUROS con NOVENTA Y NUEVE CÉNTIMOS							
0105	CON3	Ud	CONTADOR TANGENCIAL 3" CON VALVULA CONTADOR DE AGUA TANGENCIAL CON EMISOR DE PULSOS, DE DIÁMETRO 3" Y 16 ATM DE PRESIÓN DE TRABAJO, INCLUSO VÁLVULA DE COMPUERTA DN80, CALDERERÍA, BRIDAS, JUNTAS, TORNILLERÍA PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA.				0107	CONIT	Ud	Sistema Analizador de Retornos de Riego y Control de Caudales Sistema Analizador de Retornos de Riego y Control de Caudales, consistente en: - Controlador inteligente con menús estructurados de operación del sensor, Controlador de CC: 24 V CC + 15 % - 20 % ; 2,5 A (carga máx. de sensores 20 W),Tensión máxima de conmutación: 30 V CA o 42 V CC, Corriente máxima de conmutación: 4 A resistiva/1 A inductiva, Potencia máxima de conmutación: 125 W resistiva/28 W inductiva, Cinco salidas analógicas de 0 - 20 mA o 4 - 20 mA en cada módulo analógico de salidas, Conectividad de red (LAN: dos conectores Ethernet (10/100 Mbps), Móvil: 4G externo y Wi-Fi), Puerto USB y compatible con tecnologías red GSM 3G/4G - Sonda de inmersión consiste en un fotómetro de absorbancia ultravioleta de doble haz con compensación efectiva de turbidez, Medida por absorción UV, sin reactivos, Con Rango de medida con soluciones estándar NO3-N: 0,1-100,0 mg/l NO2+3-N (1 mm), 0,1-50,0 mg/l NO2+3-N (2 mm), 0,1-25,0 mg/l NO2+3-N (5 mm), Con tolerancia de medida 3 % del valor medido (0,5 mg/l), con alimentación 24 V AC/DC ± 25 % , 800 mA - Set de montaje en acero inox. para sonda con escuadra 10 cm a pared, perliga 2 m. y acoplamiento de sonda a 90 -Medidor de nivel ultrasónico compacto de corto alcance.				
	MTCHAC480	35,260 KG	CHAPA DE ACERO ST,37,2 NORMA DIN 2440,ESPESOR 4,50 MM.	1,88	66,29			MO015	2,000 Hr	Tecnico Especialista Telecomunicaciones	21,71	43,42		
	MT%PPDEPE	10,000 %	PP PIEZAS ESPECIALES, UNIONES CALDERERIA	66,30	6,63			MO010	2,000 Hr	Peón	17,33	34,66		
	MAT4100A	1,000 Ud	Contador proporcional 3" PN16 con emisor de pulsos	160,00	160,00			MAT920	1,000 Ud	Controlador, 5 salidas 4-20 mA, 1 sensor digital	1.930,48	1.930,48		
	MAT367	1,000 Ud	Válvula compuerta bridas d=80 mm PN-16	70,00	70,00			MAT921	1,000 Ud	Analizador de Nitratos, rango 0,1-50 mg/l. NOx -N	15.772,74	15.772,74		
	MTCO4580	1,000 UD	CODO DE 45° EN CHAPA DE ACERO PARA Ø 80 MM	20,00	20,00			MAT922	1,000 Ud	Set de montaje en acero inox. para sonda	777,88	777,88		
	MTHM20	1,000 M3	HORMIGÓN HM-20/B/20/X0, en obra	55,00	55,00			MAT923	1,000 Ud	Medidor de nivel ultrasónico compacto de corto alcance	450,00	450,00		
	MO005A	0,170 UD	Cuadrilla Construcción; Oficial de Primera, Ayudante y Peón	57,37	9,75			%00PCI03	3,000 %	Costes Indirectos	19.009,20	570,28		
	%PCI03	3,000 %	Costes indirectos	387,70	11,63			TOTAL PARTIDA.....						19.579,46
Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS NOVENTA Y NUEVE EUROS con TREINTA CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de DIECINUEVE MIL QUINIENTOS SETENTA Y NUEVE EUROS con CUARENTA Y SEIS CÉNTIMOS							

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0108	CONV_A-S		UD. CONVERSIÓN AÉREO-SUBTERRÁNEA Ud. Conversión aéreo-subterránea completa con todos los elementos necesarios, como son: - 3 Ud. Pararrayos autovalvular 25 KV, 10 KA. - 3 Ud. Botellas unipolares de exterior para cable RH-Z1 18/30 KV de 150 mm2 Al. - 1 Ud. Herraje soporte en apoyo metálico para pararrayos y botellas. - 1 PA. Material auxiliar necesario: canalizaciones de protección bajante, cableados, etc. - 1 Ud. Puesta a tierra autoválvulas. - Incluido pequeño material y todos los accesorios para un correcto montaje, totalmente montada y conexas. MO005D 10,000 h Cuadrilla Eléctrica: Oficial de Primera, Ayudante y Peón 48,00 480,00 BOT-EXT 3,000 ud Botella conexión exterior 18/30 KV, 240 mm2 Al 89,17 267,51 CANAL 1,000 ud Canalización protección bajante 106,99 106,99 %PM..1 2,000 % Pequeño Material 854,50 17,09 %PCI03 3,000 % Costes indirectos 871,60 26,15 TOTAL PARTIDA..... 897,74 Asciende el precio total de la partida a la mencionada cantidad de OCHOCIENTOS NOVENTA Y SIETE EUROS con SETENTA Y CUATRO CÉNTIMOS				0112	C_G_IMPARTICI	ud	Curso general en BPA Incluye la impartición del propio curso y el desplazamiento O03013 28,000 h Consultor senior especialista 52,07 1.457,96 O03006 28,000 h Titulado medio o grado de más de 10 años de experiencia 28,91 809,48 O03044 8,000 Ud Dieta completa dentro del territorio nacional 103,37 826,96 TOTAL PARTIDA..... 3.094,40 Asciende el precio total de la partida a la mencionada cantidad de TRES MIL NOVENTA Y CUATRO EUROS con CUARENTA CÉNTIMOS			
							0113	C_G_PREPARACI	ud	Preparación de la documentación Preparación del curso. No incluye material divulgativo Elaboración de contenido para señal tipo CN-00 según el Manual de Señalización de Caminos Naturales. O03013 8,000 h Consultor senior especialista 52,07 416,56 O03006 10,000 h Titulado medio o grado de más de 10 años de experiencia 28,91 289,10 TOTAL PARTIDA..... 705,66 Asciende el precio total de la partida a la mencionada cantidad de SETECIENTOS CINCO EUROS con SESENTA Y SEIS CÉNTIMOS			
							0114	C_H_IMPARTICI	ud	Curso monitorización de calidad del agua entrante Incluye la impartición del propio curso y el desplazamiento O03013 16,000 h Consultor senior especialista 52,07 833,12 O03006 16,000 h Titulado medio o grado de más de 10 años de experiencia 28,91 462,56 O03044 2,000 Ud Dieta completa dentro del territorio nacional 103,37 206,74 M08003 16,000 h Ordenador portátil estándar 14" 0,16 2,56 TOTAL PARTIDA..... 1.504,98 Asciende el precio total de la partida a la mencionada cantidad de MIL QUINIENTOS CUATRO EUROS con NOVENTA Y OCHO CÉNTIMOS			
							0115	C_H_PREPARACI	ud	Preparación de la documentación Preparación del curso. No incluye material divulgativo O03013 6,000 h Consultor senior especialista 52,07 312,42 O03006 6,000 h Titulado medio o grado de más de 10 años de experiencia 28,91 173,46 M08003 12,000 h Ordenador portátil estándar 14" 0,16 1,92 TOTAL PARTIDA..... 487,80 Asciende el precio total de la partida a la mencionada cantidad de CUATROCIENTOS OCHENTA Y SIETE EUROS con OCHENTA CÉNTIMOS			
							0116	C_VF_IMPARTIC	ud	Curso de BPA para el sostenimiento de los agrosistemas y su país Incluye la impartición del propio curso y el desplazamiento O03013 16,000 h Consultor senior especialista 52,07 833,12 O03006 16,000 h Titulado medio o grado de más de 10 años de experiencia 28,91 462,56 O03044 2,000 Ud Dieta completa dentro del territorio nacional 103,37 206,74 M08003 16,000 h Ordenador portátil estándar 14" 0,16 2,56 TOTAL PARTIDA..... 1.504,98 Asciende el precio total de la partida a la mencionada cantidad de MIL QUINIENTOS CUATRO EUROS con NOVENTA Y OCHO CÉNTIMOS			
							0111	CSUMREJ	mI	Canal sumidero con rejilla Sistema de drenaje lineal formado por canal de hormigón polimérico de 100 mm de anchura libre y 200 mm de altura con marco zincado. Con rejilla de acero zincado y resistencia de carga al tráfico A15. Totalmente colocada, montada y probada. MO010 0,030 Hr Peón 17,33 0,52 MO008 0,030 Hr Oficial de primera 20,96 0,63 MAT325 1,000 m Canal con rejilla 100 X 200 mm 25,00 25,00 MAT231 0,025 m³ Mortero de cemento M-40 (1:6). 71,82 1,80 %00PCI03 3,000 % Costes Indirectos 28,00 0,84 TOTAL PARTIDA..... 28,79 Asciende el precio total de la partida a la mencionada cantidad de VEINTIOCHO EUROS con SETENTA Y NUEVE CÉNTIMOS			

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0117	C_VF_PREPARAC	ud	Preparación de la documentación				0120	D26FS001	ud	Fosa de acumulación horizontal 3.000 litros			
	M08003	12,000 h	Preparación del curso. No incluye material divulgativo	0,16	1,92					Fosa de acumulación de aguas residuales para su acumulación y posterior retirada mediante empresa autorizada. Deposito de forma cilíndrica realizado en polietileno con los refuerzos y estructura necesarios para soportar las cargas de tierras de hasta 0.5 m.			
	O03013	6,000 h	Ordenador portátil estándar 14"	52,07	312,42					Incluye la colocación en zanja con los apeos y apoyos necesarios, interconexión de tuberías de evacuación de las instalaciones, y conexión de tuberías de alivio en caso de llenado. instalación de tubería de DN110 o superior para aireación y salida de gases. Equipo en cumplimiento de la norma UNE-EN 12566-1. Totalmente instalado.			
	O03006	6,000 h	Consultor senior especialista	28,91	173,46								
			Titulado medio o grado de más de 10 años de experiencia										
			TOTAL PARTIDA.....			487,80	MO008	0,900 Hr	Oficial de primera		20,96	18,86	
Asciende el precio total de la partida a la mencionada cantidad de CUATROCIENTOS OCHENTA Y SIETE EUROS con OCHENTA CÉNTIMOS													
0118	D03AG004ME	m	Canalón acero lacado cuadrado rectangular				MO010	0,900 Hr	Peón		17,33	15,60	
			Canalón de acero lacado de 0,5 mm de espesor, en color a elegir, y con sección equivalente a un 10% extra del canalón de 250 mm de diámetro (C.TE). Tanto para instalación colgada como apoyado en unión de vertientes de cubiertas, adecuándose a las terminaciones y acabados de la cubierta del edificio a ejecutar. Incluso p.p. de piezas especiales, empalmes, conexiones, terminales, tornillería y juntas y elementos necesarios para su completa instalación y preparación para la conexión de bajantes de 110 mm de diámetro. Medida la unidad totalmente ejecutada e instalada				MO008E	1,000 H.	Oficial 1º fontanero		20,96	20,96	
							MAT01132	1,000 ud	Fosa acumulación 3000 litros, con accesorios		1.362,00	1.362,00	
							MAQ019	0,500 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t		31,42	15,71	
							%PCI03	3,000 %	Costes indirectos		1.433,10	42,99	
			TOTAL PARTIDA.....										1.476,12
Asciende el precio total de la partida a la mencionada cantidad de MIL CUATROCIENTOS SETENTA Y SEIS EUROS con DOCE CÉNTIMOS													
							0121	D26LD001	Ud	INODORO T. BAJO BLANCO			
										UD. INODORO DE TANQUE BAJO EN BLANCO, CON ASIENTO PINTADO EN BLANCO Y MECANISMOS, LLAVE DE ESCUADRA 1/2" CROMADA, LATIGUILLO FLEXIBLE DE 20 CM., EMPALME SIMPLE PVC DE 110 MM., TOTALMENTE INSTALADO, INCLUIDA LA ALBAÑILERIA ASOCIADA A LA INSTALACIÓN DEL EQUIPO Y SUS ACCESORIOS.			
							MO008E	1,500 H.	Oficial 1º fontanero		20,96	31,44	
							U27LD011	1,000 Ud	Inodoro Victoria t. bajo blan		150,00	150,00	
							U26AG001	1,000 Ud	Llave de escuadra 1/2" cromada		2,79	2,79	
							U26XA001	1,000 Ud	Latiguillo flexible de 20 cm.		2,80	2,80	
							U25AA005	0,700 MI	Tub. PVC evac. 90 mm. UNE EN 1329		2,04	1,43	
							U25DD005	1,000 Ud	Manguito unión h-h PVC 90 mm.		4,27	4,27	
							%PCI03	3,000 %	Costes indirectos		192,70	5,78	
			TOTAL PARTIDA.....			25,77							198,51
Asciende el precio total de la partida a la mencionada cantidad de VEINTICINCO EUROS con SETENTA Y SIETE CÉNTIMOS													
0119	D26FD001	Ud	LAVABO PEDESTAL BLANCO GRIF				0122	D26LD003	Ud	Plato de ducha acrílico			
			UD. LAVABO DE 52X41 CM O SIMILAR. CON PEDESTAL EN BLANCO, CON MEZCLADOR DE LAVABO, VÁLVULA DE DESAGÜE DE 32 MM., LLAVE DE ESCUADRA DE 1/2" CROMADA, SIFÓN INDIVIDUAL PVC 40 MM. Y LATIGUILLO FLEXIBLE DE 20 CM., TOTALMENTE INSTALADO, INCLUIDA LA ALBAÑILERIA ASOCIADA A LA INSTALACIÓN DEL EQUIPO Y SUS ACCESORIOS.							Plato de ducha acrílico, rectangular, color Blanco, de 900x700x40 mm, con fondo antideslizante y juego de desagüe, equipado con grifería monomando mural para ducha, con cartucho cerámico, acabado cromado, modelo Thesis. Incluso silicona para sellado de juntas, conducción desde tubería principal al elemento. grifería requerida. Totalmente ejecutado, incluida la albañilería asociada a la instalación del equipo y sus accesorios.			
	MO008E	1,000 H.	Oficial 1º fontanero	20,96	20,96		MO008E	1,500 H.	Oficial 1º fontanero		20,96	31,44	
	U27FD001	1,000 Ud	Lav. Victoria 52x41 ped.blan.	54,00	54,00		U27LD011	1,000 Ud	Inodoro Victoria t. bajo blan		150,00	150,00	
	U26GA323	1,000 Ud	Mezclador lavabo Victoria Plus	41,50	41,50		U26AG001	1,000 Ud	Llave de escuadra 1/2" cromada		2,79	2,79	
	U25XC101	1,000 Ud	Valv. recta lavado/bide c/tap.	2,50	2,50		U26XA001	1,000 Ud	Latiguillo flexible de 20 cm.		2,80	2,80	
	U26AG001	2,000 Ud	Llave de escuadra 1/2" cromada	2,79	5,58		U25AA005	0,700 MI	Tub. PVC evac. 90 mm. UNE EN 1329		2,04	1,43	
	U26XA001	1,000 Ud	Latiguillo flexible de 20 cm.	2,80	2,80		U25DD005	1,000 Ud	Manguito unión h-h PVC 90 mm.		4,27	4,27	
	U25XC401	1,000 Ud	Sifón tubular s/horizontal	3,94	3,94		%PCI03	3,000 %	Costes indirectos		192,70	5,78	
	U26XA011	1,000 Ud	Florón cadencia tapón	1,93	1,93								
	%PCI03	3,000 %	Costes indirectos	133,20	4,00								
			TOTAL PARTIDA.....			137,21							198,51
Asciende el precio total de la partida a la mencionada cantidad de CIENTO TREINTA Y SIETE EUROS con VEINTIUN CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0123	D27GA001	Ud	Toma tierra (pica) UD. Toma tierra con pica cobrizada de D=14,3 mm. y 2 m. de longitud, cable de cobre desnudo de 1x35 mm2. clavada a tierra y con el desmontaje incluido.				0126	D7408020-2	Ud	Hidrante COMPARTIDO de 3"cont reg lim, hasta 5 tomas Hidrante 3" con válvula hidráulica tipo serie 400, reductora de presión y limitador de caudal tipo paleta, con piloto de 3vías y solenoide tipo latch, filtro de mallas de paso recto tipo "CLA-VAL" con paso de 2 mm para aspersión, con toma accesoria roscada y tapón de 2" antes de filtro, con tomas manométricas antes y después del filtro y después de la válvula principal, incluida la válvula de conexión 1/4" en cada una de ellas, con conexión en lateral de filtro para válvula de 2" rosacada con adaptador para conexión con salida orientada hacia el exterior de arqueta tipo bazuca (incluida la válvula, el adaptador y salida tipo bazuca), válvulas de seccionamiento, ventosa 2" y calderería, de diámetro 3" y 16 Atm de presión de trabajo (posibilidad de instalación de tuberías de PEAD en sustitución de parte de la calderería (según tablas de planos)), incluso bridas, juntas, tornillería, perfiles de sujeción y elementos de unión, excavación, compactación y asiento y anclajes de hormigón. Completamente colocado y probado. Medida la unidad instalada.			
	MO008	0,216 Hr	Oficial de primera	20,96	4,53								
	MO002	0,251 Hr	Ayudante	19,08	4,79								
	U30GA010	1,000 Ud	Pica de tierra 2000/14,3 i/bri	3,60	3,60								
	BT-DT01PT0104	5,000 m.l.	Cable de cobre desnudo de 35 mm2 de sección nominal	1,68	8,40								
	%00PCI03	3,000 %	Costes Indirectos	21,30	0,64								
			TOTAL PARTIDA.....			21,96							
Asciende el precio total de la partida a la mencionada cantidad de VEINTIUN EUROS con NOVENTA Y SEIS CÉNTIMOS													
0124	D2EGA001	Ud	Interruptor diferencial 25 A. UD. Interruptor diferencial de 25 A. intensidad nominal, tetrapolar con sensibilidad de 0.3 A. Fijado a presión y con desmontaje incluido.										
	MO008	0,433 Hr	Oficial de primera	20,96	9,08								
	MO002	0,501 Hr	Ayudante	19,08	9,56								
	MAT800	1,000 Ud	Interruptor diferencial 25 A.	63,25	63,25								
	%00PCI03	3,000 %	Costes Indirectos	81,90	2,46								
			TOTAL PARTIDA.....			84,35							
Asciende el precio total de la partida a la mencionada cantidad de OCHENTA Y CUATRO EUROS con TREINTA Y CINCO CÉNTIMOS													
0125	D7408020	Ud	Hidrante COMPARTIDO de 2"cont reg lim, hasta 5 tomas Hidrante 2" con válvula hidráulica tipo serie 400, reductora de presión y limitador de caudal tipo paleta, con piloto de 3vías y solenoide tipo latch, filtro de mallas de paso recto tipo "CLA-VAL" con paso de 2 mm para aspersión, con toma accesoria roscada y tapón de 2" antes de filtro, con tomas manométricas antes y después del filtro y después de la válvula principal, incluida la válvula de conexión 1/4" en cada una de ellas, con conexión en lateral de filtro para válvula de 2" rosacada con adaptador para conexión con salida orientada hacia el exterior de arqueta tipo bazuca (incluida la válvula, el adaptador y salida tipo bazuca), válvulas de seccionamiento, ventosa 2" y calderería, de diámetro 2" y 16 Atm de presión de trabajo (posibilidad de instalación de tuberías de PEAD en sustitución de parte de la calderería (según tablas de planos)), incluso bridas, juntas, tornillería, perfiles de sujeción y elementos de unión, excavación, compactación y asiento y anclajes de hormigón. Completamente colocado y probado. Medida la unidad instalada.										
	MO008	7,433 Hr	Oficial de primera	20,96	155,80								
	MAT007	7,500 Kg	Acero Laminado Galvanizado En Perfil S 275 JR, En Obra	0,70	5,25								
	MAT006	6,000 Kg	Acero En Calderería	4,30	25,80								
	MAT178	0,800 m³	Hormigón HM-20/B/20/IIa+Qb EN OBRA	49,60	39,68								
	MAT406B	1,000 Ud	Ventosa trifuncional d=50 mm	50,00	50,00								
	MAT374	2,000 Ud	Válvula compuerta bridas d=50 mm PN-16	29,40	58,80								
	MAT813B	1,000 Ud	Filtro paso recto de Ø 50 mm Paso 4 mm	215,00	215,00								
	MAT173-2B	1,000 Ud	Válvula Hidráulica, red.presión, limit.caudal Ø 50 PN-16.	116,21	116,21								
	%00PCI03	3,000 %	Costes Indirectos	666,50	20,00								
			TOTAL PARTIDA.....			686,54							
Asciende el precio total de la partida a la mencionada cantidad de SEISCIENTOS OCHENTA Y SEIS EUROS con CINCUENTA Y CUATRO CÉNTIMOS													
			TOTAL PARTIDA.....										1.177,53
Asciende el precio total de la partida a la mencionada cantidad de MIL CIENTO SETENTA Y SIETE EUROS con CINCUENTA Y TRES CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0127	D7408020ABP	Ud	Hidrante 3"cont reg lim - DNfiltro=DNválvula Baja perdida Hidrante 3" de baja perdida con contador proporcional DN 80 con emisor de pulsos cada 1000 l, válvula hidráulica limitadora de caudal tipo paleta y limitadora de presión, con piloto de 3vías y solenoide tipo latch, filtro de mallas de paso recto tipo "CLA-VAL" con paso de 2 mm para aspersión, con toma accesoria roscada y tapón de 2" antes de filtro, con tomas manométricas antes y después del filtro y después de la válvula principal, incluida la válvula de conexión 1/4" en cada una de ellas, con conexión en lateral de filtro para válvula de 2" rosacada con adaptador para conexión con salida orientada hacia el exterior de arqueta tipo bazuca (incluida la válvula, el adaptador y salida tipo bazuca), válvulas de seccionamiento, ventosa 2" y calderería, de diámetro 3" y 16 Atm de presión de trabajo (posibilidad de instalación de tuberías de PEAD en sustitución de parte de la calderería (según tablas de planos)), incluso bridas, juntas, tornillería, perfiles de sujeción y elementos de unión, excavación, compactación y asiento y anclajes de hormigón, picaje con brida ciega para toma auxiliar y doble chapa de acero de 3 mm con pintura de protección con junta de neopreno colocada en la pared del hidrante para la tubería de salida horizontal. Incluida la conexión a instalación existente en su caso (mano de obra y material de unión). Completamente colocado y probado. Medida la unidad instalada.				0128	D7408020BBP	Ud	Hidrante 2"cont reg lim - DNfiltro=DNválvula Baja perdida Hidrante 2" de baja perdida con contador proporcional DN 50 con emisor de pulsos cada 1000 l, válvula hidráulica limitadora de caudal tipo paleta y limitadora de presión, con piloto de 3vías y solenoide tipo latch, filtro de mallas de paso recto tipo "CLA-VAL" con paso de 2 mm para aspersión, con toma accesoria roscada y tapón de 2" antes de filtro, con tomas manométricas antes y después del filtro y después de la válvula principal, incluida la válvula de conexión 1/4" en cada una de ellas, con conexión en lateral de filtro para válvula de 2" rosacada con adaptador para conexión con salida orientada hacia el exterior de arqueta tipo bazuca (incluida la válvula, el adaptador y salida tipo bazuca), válvulas de seccionamiento, ventosa 2" y calderería, de diámetro 2" y 16 Atm de presión de trabajo (posibilidad de instalación de tuberías de PEAD en sustitución de parte de la calderería (según tablas de planos)), incluso bridas, juntas, tornillería, perfiles de sujeción y elementos de unión, excavación, compactación y asiento y anclajes de hormigón, picaje con brida ciega para toma auxiliar y doble chapa de acero de 3 mm con pintura de protección con junta de neopreno colocada en la pared del hidrante para la tubería de salida horizontal. Incluida la conexión a instalación existente en su caso (mano de obra y material de unión). Completamente colocado y probado. Medida la unidad instalada.			
MO008		7,433 Hr	Oficial de primera	20,96	155,80		MO008		7,433 Hr	Oficial de primera	20,96	155,80	
MAT007		7,500 Kg	Acero Laminado Galvanizado En Perfil S 275 JR, En Obra	0,70	5,25		MAT007		7,500 Kg	Acero Laminado Galvanizado En Perfil S 275 JR, En Obra	0,70	5,25	
MAT006		6,000 Kg	Acero En Calderería	4,30	25,80		MAT006		6,000 Kg	Acero En Calderería	4,30	25,80	
MAT178		0,500 m³	Hormigón HM-20/B/20/Ila+Qb EN OBRA	49,60	24,80		MAT178		0,500 m³	Hormigón HM-20/B/20/Ila+Qb EN OBRA	49,60	24,80	
MAT367		1,000 Ud	Válvula compuerta bridas d=80 mm PN-16	70,00	70,00		MAT406B		1,000 Ud	Ventosa trifuncional d=50 mm	50,00	50,00	
MAT374		1,000 Ud	Válvula compuerta bridas d=50 mm PN-16	29,40	29,40		MAT374		2,000 Ud	Válvula compuerta bridas d=50 mm PN-16	29,40	58,80	
MAT406B		1,000 Ud	Ventosa trifuncional d=50 mm	50,00	50,00		MAT813B		1,000 Ud	Filtro paso recto de Ø 50 mm Paso 4 mm	215,00	215,00	
MAT813A		1,000 Ud	Filtro paso recto de Ø 80 mm Paso 4 mm	302,00	302,00		MAT173-2B		1,000 Ud	Válvula Hidráulica, red.presión, limit.caudal Ø 50 PN-16.	116,21	116,21	
MAT173-2A		1,000 Ud	Válvula Hidráulica, red.presión, limit.caudal Ø 80 PN-16.	337,78	337,78		MAT4100B		1,000 Ud	Contador proporcional 2" PN16 con emisor de pulsos	105,00	105,00	
MAT4100A		1,000 Ud	Contador proporcional 3" PN16 con emisor de pulsos	160,00	160,00		%00PCI03		3,000 %	Costes Indirectos	756,70	22,70	
%00PCI03		3,000 %	Costes Indirectos	1.160,80	34,82								
TOTAL PARTIDA.....											779,36		
TOTAL PARTIDA.....					1.195,65	Asciende el precio total de la partida a la mencionada cantidad de SETECIENTOS SETENTA Y NUEVE EUROS con TREINTA Y SEIS CÉNTIMOS							
Asciende el precio total de la partida a la mencionada cantidad de MIL CIENTO NOVENTA Y CINCO EUROS con SESENTA Y CINCO CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0129	D74080302-4	Ud	Hidrante COMPARTIDO de 4"cont reg lim, hasta 5 tomas Hidrante 4" con válvula hidráulica tipo serie 400, reductora de presión y limitador de caudal tipo paleta, con piloto de 3vías y solenoide tipo latch, filtro de mallas de paso recto tipo "CLA-VAL" con paso de 2 mm para aspersión, con toma accesoria roscada y tapón de 2" antes de filtro, con tomas manométricas antes y después del filtro y después de la válvula principal, incluida la válvula de conexión 1/4" en cada una de ellas, con conexión en lateral de filtro para válvula de 2" rosacada con adaptador para conexión con salida orientada hacia el exterior de arqueta tipo bazuca (incluida la válvula, el adaptador y salida tipo bazuca), válvulas de seccionamiento, ventosa 2" y calderería, de diámetro 4" y 16 Atm de presión de trabajo (posibilidad de instalación de tuberías de PEAD en sustitución de parte de la calderaría (según tablas de planos)), incluso bridas, juntas, tornillería, perfiles de sujeción y elementos de unión, excavación, compactación y asiento y anclajes de hormigón. Completamente colocado y probado. Medida la unidad instalada.				0131	D74080302BP	Ud	Hidrante 6"cont reg lim - DNfiltro=DNválvula Baja pérdida Hidrante de baja pérdida con contador proporcional DN 150 con emisor de pulsos cada 1000 l, válvula hidráulica limitadora de caudal tipo paleta y limitadora de presión, con piloto de 3vías y solenoide tipo latch, filtro de mallas de paso recto tipo "CLA-VAL" con paso de 2 mm para aspersión, con toma accesoria roscada y tapón de 2" antes de filtro, con tomas manométricas antes y después del filtro y después de la válvula principal, incluida la válvula de conexión 1/4" en cada una de ellas, con conexión en lateral de filtro para válvula de 2" rosacada con adaptador para conexión con salida orientada hacia el exterior de arqueta tipo bazuca (incluida la válvula, el adaptador y salida tipo bazuca), válvulas de seccionamiento, ventosa 2" y calderería, de diámetro 6" y 16 Atm de presión de trabajo (posibilidad de instalación de tuberías de PEAD en sustitución de parte de la calderaría (según tablas de planos)), incluso bridas, juntas, tornillería, perfiles de sujeción y elementos de unión, excavación, compactación y asiento y anclajes de hormigón, picaje con brida ciega para toma auxiliar y doble chapa de acero de 3 mm con pintura de protección con junta de neopreno colocada en la pared del hidrante para la tubería de salida horizontal. Incluida la conexión a instalación existente en su caso (mano de obra y material de unión). Completamente colocado y probado. Medida la unidad instalada.			
MO008		8,804 Hr	Oficial de primera	20,96	184,53		MO008		8,800 Hr	Oficial de primera	20,96	184,45	
MAT007		15,000 Kg	Acero Laminado Galvanizado En Perfil S 275 JR, En Obra	0,70	10,50		MAT007		15,000 Kg	Acero Laminado Galvanizado En Perfil S 275 JR, En Obra	0,70	10,50	
MAT006		45,000 Kg	Acero En Calderería	4,30	193,50		MAT006		45,000 Kg	Acero En Calderería	4,30	193,50	
MAT178		0,500 m³	Hormigón HM-20/B/20/Ila+Qb EN OBRA	49,60	24,80		MAT178		0,550 m³	Hormigón HM-20/B/20/Ila+Qb EN OBRA	49,60	27,28	
MAT364		1,000 Ud	Válvula compuerta bridas d=100 mm PN-16	116,54	116,54		MAT365		1,000 Ud	Válvula compuerta bridas d=150 mm PN-16	159,81	159,81	
MAT406B		1,000 Ud	Ventosa trifuncional d=50 mm	50,00	50,00		MAT406B		1,000 Ud	Ventosa trifuncional d=50 mm	50,00	50,00	
MAT374		1,000 Ud	Válvula compuerta bridas d=50 mm PN-16	29,40	29,40		MAT374		1,000 Ud	Válvula compuerta bridas d=50 mm PN-16	29,40	29,40	
MAT813		1,000 Ud	Filtro paso recto de Ø 100 mm Paso 4 mm	331,00	331,00		MAT812		1,000 Ud	Filtro paso recto de Ø 150 mm Paso 4mm	571,00	571,00	
MAT173-2		1,000 Ud	Válvula Hidráulica, red.presión, limit.caudal Ø 100 PN-16.	404,44	404,44		MAT173-3		1,000 Ud	Válvula hidráulica, red.presión, limit.caudal Ø 150 PN-16.	688,89	688,89	
%00PCI03		3,000 %	Costes Indirectos	1.344,70	40,34		MAT4101		1,000 Ud	Contador proporcional 6" PN16 con emisor de pulsos	225,00	225,00	
TOTAL PARTIDA.....					1.385,05		TOTAL PARTIDA.....					2.204,02	
Asciende el precio total de la partida a la mencionada cantidad de MIL TRESCIENTOS OCHENTA Y CINCO EUROS con CINCO CÉNTIMOS													
0130	D74080302-6	Ud	Hidrante COMPARTIDO de 6"cont reg lim, hasta 5 tomas Hidrante 6" con válvula hidráulica tipo serie 400, reductora de presión y limitador de caudal tipo paleta, con piloto de 3vías y solenoide tipo latch, filtro de mallas de paso recto tipo "CLA-VAL" con paso de 2 mm para aspersión, con toma accesoria roscada y tapón de 2" antes de filtro, con tomas manométricas antes y después del filtro y después de la válvula principal, incluida la válvula de conexión 1/4" en cada una de ellas, con conexión en lateral de filtro para válvula de 2" rosacada con adaptador para conexión con salida orientada hacia el exterior de arqueta tipo bazuca (incluida la válvula, el adaptador y salida tipo bazuca), válvulas de seccionamiento, ventosa 2" y calderería, de diámetro 6" y 16 Atm de presión de trabajo (posibilidad de instalación de tuberías de PEAD en sustitución de parte de la calderaría (según tablas de planos)), incluso bridas, juntas, tornillería, perfiles de sujeción y elementos de unión, excavación, compactación y asiento y anclajes de hormigón. Completamente colocado y probado. Medida la unidad instalada.				Asciende el precio total de la partida a la mencionada cantidad de DOS MIL DOSCIENTOS CUATRO EUROS con DOS CÉNTIMOS						
MO008		8,804 Hr	Oficial de primera	20,96	184,53								
MAT007		15,000 Kg	Acero Laminado Galvanizado En Perfil S 275 JR, En Obra	0,70	10,50								
MAT006		65,000 Kg	Acero En Calderería	4,30	279,50								
MAT178		0,500 m³	Hormigón HM-20/B/20/Ila+Qb EN OBRA	49,60	24,80								
MAT365		1,000 Ud	Válvula compuerta bridas d=150 mm PN-16	159,81	159,81								
MAT406B		1,000 Ud	Ventosa trifuncional d=50 mm	50,00	50,00								
MAT374		1,000 Ud	Válvula compuerta bridas d=50 mm PN-16	29,40	29,40								
MAT173-3		1,000 Ud	Válvula hidráulica, red.presión, limit.caudal Ø 150 PN-16.	688,89	688,89								
MAT812		1,000 Ud	Filtro paso recto de Ø 150 mm Paso 4mm	571,00	571,00								
%00PCI03		3,000 %	Costes Indirectos	1.998,40	59,95								
TOTAL PARTIDA.....					2.058,38								
Asciende el precio total de la partida a la mencionada cantidad de DOS MIL CINCUENTA Y OCHO EUROS con TREINTA Y OCHO CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0132	D74080303BP		Ud Hidrante 8"cont reg lim - DNfiltro=DNválvula Baja pérdida Hidrante de baja pérdida con contador proporcional DN 200 con emisor de pulsos cada 1000 l, válvula hidráulica limitadora de caudal tipo paleta y limitadora de presión, con piloto de 3 vías y solenoide tipo latch, filtro de mallas de paso recto tipo "CLA-VAL" con paso de 2 mm para aspersión, con toma accesoria roscada y tapón de 2" antes de filtro, tomas manométricas antes y después del filtro y después de la válvula principal, incluida la válvula de conexión 1/4" en cada una de ellas, con conexión en lateral de filtro para válvula de 2" roscada con adaptador para conexión con salida orientada hacia el exterior de arqueta tipo bazuca (incluida la válvula, el adaptador y salida tipo bazuca), válvulas de seccionamiento, ventosa 2" y calderería, de diámetro 6" y 16 Atm de presión de trabajo (posibilidad de instalación de tuberías de PEAD en sustitución de parte de la calderaría (según tablas de planos)), incluso bridas, juntas, tornillería, perfiles de sujeción y elementos de unión, excavación, compactación y asiento y anclajes de hormigón, picaje con brida ciega para toma auxiliar y doble chapa de acero de 3 mm con pintura de protección con junta de neopreno colocada en la pared del hidrante para la tubería de salida horizontal. Incluida la conexión a instalación existente en su caso (mano de obra y material de unión). Completamente colocado y probado. Medida la unidad instalada.				0133	D7408030BP		Ud Hidrante 4"cont reg lim - DNfiltro=DNválvula Baja pérdida Hidrante 4" de baja pérdida con contador proporcional DN 100 con emisor de pulsos cada 1000 l, válvula hidráulica limitadora de caudal tipo paleta y limitadora de presión, con piloto de 3vías y solenoide tipo latch, filtro de mallas de paso recto tipo "CLA-VAL" con paso de 2 mm para aspersión, con toma accesoria roscada y tapón de 2" antes de filtro, con tomas manométricas antes y después del filtro y después de la válvula principal, incluida la válvula de conexión 1/4" en cada una de ellas, con conexión en lateral de filtro para válvula de 2" roscada con adaptador para conexión con salida orientada hacia el exterior de arqueta tipo bazuca (incluida la válvula, el adaptador y salida tipo bazuca), válvulas de seccionamiento, ventosa 2" y calderería, de diámetro 4" y 16 Atm de presión de trabajo (posibilidad de instalación de tuberías de PEAD en sustitución de parte de la calderaría (según tablas de planos)), incluso bridas, juntas, tornillería, perfiles de sujeción y elementos de unión, excavación, compactación y asiento y anclajes de hormigón, picaje con brida ciega para toma auxiliar y doble chapa de acero de 3 mm con pintura de protección con junta de neopreno colocada en la pared del hidrante para la tubería de salida horizontal. Incluida la conexión a instalación existente en su caso (mano de obra y material de unión). Completamente colocado y probado. Medida la unidad instalada.			
MO008		9,100 Hr	Oficial de primera	20,96	190,74		MO008		7,450 Hr	Oficial de primera	20,96	156,15	
MAT007		18,000 Kg	Acero Laminado Galvanizado En Perfil S 275 JR, En Obra	0,70	12,60		MAT007		15,000 Kg	Acero Laminado Galvanizado En Perfil S 275 JR, En Obra	0,70	10,50	
MAT006		65,000 Kg	Acero En Calderería	4,30	279,50		MAT006		18,000 Kg	Acero En Calderería	4,30	77,40	
MAT178		0,600 m³	Hormigón HM-20/B/20/Ila+Qb EN OBRA	49,60	29,76		MAT178		0,500 m³	Hormigón HM-20/B/20/Ila+Qb EN OBRA	49,60	24,80	
MAT366		1,000 Ud	Válvula compuerta bridas d=200 mm PN-16	380,62	380,62		MAT364		1,000 Ud	Válvula compuerta bridas d=100 mm PN-16	116,54	116,54	
MAT406B		1,000 Ud	Ventosa trifuncional d=50 mm	50,00	50,00		MAT374		1,000 Ud	Válvula compuerta bridas d=50 mm PN-16	29,40	29,40	
MAT374		1,000 Ud	Válvula compuerta bridas d=50 mm PN-16	29,40	29,40		MAT406B		1,000 Ud	Ventosa trifuncional d=50 mm	50,00	50,00	
MAT4106		1,000 Ud	Filtro paso recto de Ø 200 mm Paso 4mm	1.046,00	1.046,00		MAT813		1,000 Ud	Filtro paso recto de Ø 100 mm Paso 4 mm	331,00	331,00	
MAT173-4		1,000 Ud	Válvula hidráulica, red.presión, limit.caudal Ø 200 PN-16.	1.305,00	1.305,00		MAT173-2		1,000 Ud	Válvula Hidráulica, red.presión, limit.caudal Ø 100 PN-16.	404,44	404,44	
MAT4105		1,000 Ud	Contador proporcional 8" PN16 con emisor de pulsos	300,00	300,00		MAT4100		1,000 Ud	Contador proporcional 4" PN16 con emisor de pulsos	188,50	188,50	
%00PCI03		3,000 %	Costes Indirectos	3.623,60	108,71		%00PCI03		3,000 %	Costes Indirectos	1.388,70	41,66	
TOTAL PARTIDA.....					3.732,33		TOTAL PARTIDA.....					1.430,39	

Asciende el precio total de la partida a la mencionada cantidad de TRES MIL SETECIENTOS TREINTA Y DOS EUROS con TREINTA Y TRES CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de MIL CUATROCIENTOS TREINTA EUROS con TREINTA Y NUEVE CÉNTIMOS

0134	DEMCOMP1		Ud Demolición completa instalaciones y construcciones zona granja Demolición completa de granja e instalaciones existentes en zona de influencia del vaso de la balsa de pie de canal. Realizada mediante pala giratoria sobre cadenas con cizalla y compresor neumático junto con labores de demolición elemento a elemento con medios manuales y mecánicos de edificio de aproximadamente 1100 m² de superficie total, junto con las instalaciones interiores y exteriores asociadas (silo metálico, tuberías, lonas balsas,...). Carga mecánica sobre camión o contenedor, aislado. El edificio presenta una estructura de hormigón y elementos metálicos. También incluye, la demolición de las láminas de las dos balsas de adyacentes, y la valla metálica perimetral que existen alrededor del edificio. Se incluye la separación de residuos y su posterior tratamiento, carga y transporte a vertedero o planta de tratamiento autorizado, incluidos cánones y tasas.										
	MO003		Capataz				MO003		70,000 Hr	Capataz	21,71	1.519,70	
	MO010		Peón				MO010		120,000 Hr	Peón	17,33	2.079,60	
	MAQ031		Retroexcavadora hidráulica sobre ruedas, de 21 t				MAQ031		60,000 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	3.052,20	
	MAQ010		Demolición, picado y cargado				MAQ010		30,000 Hr	Demolición, picado y cargado	11,00	330,00	
	MAQ026		Pala cargadora s/ruedas con bastidor articulado, de 2,5 m³				MAQ026		65,000 Hr	Pala cargadora s/ruedas con bastidor articulado, de 2,5 m³	61,58	4.002,70	
	MAQ049		Transporte a vertedero 30 Km				MAQ049		1,000 Ud	Transporte a vertedero 30 Km	5,00	5,00	
	MAQ012		Dumper de bastidor articulado 6 x 4, de 15 m³				MAQ012		120,000 Hr	Dumper de bastidor articulado 6 x 4, de 15 m³	68,36	8.203,20	
	VAR004		Tasas vertedero				VAR004		20,000 Ud	Tasas vertedero	14,00	280,00	
	%00PCI03		Costes Indirectos				%00PCI03		3,000 %	Costes Indirectos	19.472,40	584,17	
TOTAL PARTIDA.....							TOTAL PARTIDA.....					20.056,57	

Asciende el precio total de la partida a la mencionada cantidad de VEINTE MIL CINCUENTA Y SEIS EUROS con CINCUENTA Y SIETE CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0135	DEML_ACE	m³	Demolición, picado y cargado de acequias Demolición, picado y cargado de canales, acequias y elementos de hormigón, incluido su posterior transporte a vertedero o planta de tratamiento autorizado para su posterior reutilización, incluido tasas del mismo.				0140	DR001	m²	Lámina Geotextil 250 GR/M2; 2850 Ncbr Geotextil fabricado a base de fibras sintéticas de polipropileno 100%, no tejido, de filamentos continuos unidos mecánicamente por un proceso de agujado, de resistencia a perforación CBR no menor de 2850 n (Norma UNE-EN 12236), de perforación a caída libre de cono no mayor de 20 mm (norma EN 918), y peso no inferior a 250 g/m² (Norma UNE-EN 965), incluso solapes, totalmente colocado. Medida la superficie efectivamente colocada descontando solapes, recortes, etc.			
	MAQ010	1,000 Hr	Demolición, picado y cargado	11,00	11,00			MO010	0,005 Hr	Peón	17,33	0,09	
	MAQ049	1,000 Ud	Transporte a vertedero 30 Km	5,00	5,00			MO008	0,005 Hr	Oficial de primera	20,96	0,10	
	VAR004	1,000 Ud	Tasas vertedero	14,00	14,00			MAT452	1,050 m²	Geotextil fibra continua 250 gr	0,93	0,98	
	%00PCI03	3,000 %	Costes Indirectos	30,00	0,90			%00PCI03	3,000 %	Costes Indirectos	1,20	0,04	
TOTAL PARTIDA.....						30,90							
Asciende el precio total de la partida a la mencionada cantidad de TREINTA EUROS con NOVENTA CÉNTIMOS													
0136	DESTUAIRE	Ud	Estufa de aire Ud Estufa de aire caliente.				TOTAL PARTIDA.....						1,21
	UESTUAIRE	1,000 Ud	Estufa de aire caliente	30,00	30,00		Asciende el precio total de la partida a la mencionada cantidad de UN EUROS con VEINTIUN CÉNTIMOS						
	%00PCI03	3,000 %	Costes Indirectos	30,00	0,90		0141	DT02-ENS-RA	Ud	Ensayo cables MT según normas IdE Ensayo cables de MT instalados de forma subterránea según normas Cía Suministrada, según ensayo DMD00300.DOC "Procedimiento de ensayos para cables unipolares nuevos de MT hasta 30 KV" y pequeño material necesario para la adaptación de la instalación para realizar el ensayo			
TOTAL PARTIDA.....						30,90	MO013	1,900 Hr	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	57,37	109,00		
Asciende el precio total de la partida a la mencionada cantidad de TREINTA EUROS con NOVENTA CÉNTIMOS													
0137	DEXTINTABC	Ud	Extintor polvo 6Kg ABC Ud Extintor de polvo de 6 kg para fuegos de tipo ABC.				MAT522	1,000 Ud	Ensayo rigidez cables MT	713,31	713,31		
	L01054	1,000 ud	Extintor polvo ABC 6 kg	63,55	63,55		%PM..1	2,000 %	Pequeño Material	822,30	16,45		
	%00PCI03	3,000 %	Costes Indirectos	63,60	1,91		%00PCI03	3,000 %	Costes Indirectos	838,80	25,16		
TOTAL PARTIDA.....						65,46	TOTAL PARTIDA.....						863,92
Asciende el precio total de la partida a la mencionada cantidad de SESENTA Y CINCO EUROS con CUARENTA Y SEIS CÉNTIMOS													
0138	DEXTINTCO2	Ud	Extintor CO2 6 Kg Ud Extintor de CO2 de 6 kg				0142	DT02IE-BT0804	UD.	PICA AC-CU 2.000x14 mm CON GRAPA M.I. Suministro y montaje de pica de acero-cobreado de 2.000x14 mm de dimensiones, incluida grapa de conexión, así como pequeño material y medios auxiliares necesarios, totalmente instalada.			
	UEXTINTCO2	1,000 Ud	Extintor CO2 6 Kg	105,00	105,00		MO005D	0,300 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	48,00	14,40		
	%00PCI03	3,000 %	Costes Indirectos	105,00	3,15		PAT01	1,000 Ud.	Pica Ac-Cu 2000x 14 mm con grapa	14,00	14,00		
TOTAL PARTIDA.....						108,15	%PCI03	3,000 %	Costes indirectos	28,40	0,85		
Asciende el precio total de la partida a la mencionada cantidad de CIENTO OCHO EUROS con QUINCE CÉNTIMOS													
0139	DFORJ010	M2	FORJ.SEMIVIG. 17+5, B. 70 M2. FORJADO 17+5 CM., FORMADO A BASE DE SEMIVIGUETAS DE HORMIGÓN PRETENSADO, SEPARADAS 70 CM. ENTRE EJES, BOVEDILLA DE 60X25X17 CM. Y CAPA DE COMPRESIÓN DE 5 CM. DE HA-25/B/20/ IIA N/MM2, CON TAMAÑO MÁXIMO DEL ÁRIDO DE 20 MM., ELABORADO EN CENTRAL, CON P.P. DE ZUNCHOS, I/ARMADURA CON ACERO B-500 S EN REFUERZO DE ZONA DE NEGATIVOS. CONECTORES Y MALLAZO DE REPARTO, ENCOFRADO Y DESENCOFRADO, TOTALMENTE TERMINADO SEGÚN EHE.				TOTAL PARTIDA.....						29,25
	MO008	0,900 Hr	Oficial de primera	20,96	18,86		Asciende el precio total de la partida a la mencionada cantidad de VEINTINUEVE EUROS con VEINTICINCO CÉNTIMOS						
	MO010	0,900 Hr	Peón	17,33	15,60		0143	DT02IE-BT0808	UD.	CONEXIÓN A TIERRA ESTRUCTURA METÁLICA Ud. Suministro y montaje de conexión a tierra de estructura metálica, compuesta por: - 1 Ud. Soldadura aluminotérmica en te cable-cable. - 1 Ud. Placa de acero soldada a estructura. - 1 Ud. Tornillo, tuercas y arandelas M20. - 1 Ud. Terminal en cobre a presión para cable de 35 mm2. - 3 M.I. Cable de cobre desnudo de 35 mm2 de sección nominal. - 1,5 M.I. Tubo de PVC enchufable M25, incluida p.p. de manguitos de unión, boquillas en sus extremos, curvas y elementos de sujeción a viga o pared.			
	U08AA002	1,650 MI	Semiv.horm.pret. 17 cm. 4/5 m	2,25	3,71		MO005D	1,000 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	48,00	48,00		
	U08DA002	6,000 Ud	Bovedilla cerámica 60x25x18	0,84	5,04		PAT05	1,000 Ud.	Conexión a tierra estructura	60,00	60,00		
	MAT004	5,000 Kg	Acero Corrugado B-500 S	0,81	4,05		%PCI03	3,000 %	Costes indirectos	108,00	3,24		
	MAT177	0,007 m³	Hormigón HA-25/B/20/Ila+Qb EN OBRA	57,80	0,40		TOTAL PARTIDA.....						111,24
	MAT282	0,010 m³	Tablón pino 2,50/5,50x205x76	149,80	1,50		Asciende el precio total de la partida a la mencionada cantidad de CIENTO ONCE EUROS con VEINTICUATRO CÉNTIMOS						
	%PCI03	3,000 %	Costes indirectos	49,20	1,48		TOTAL PARTIDA.....						50,64
Asciende el precio total de la partida a la mencionada cantidad de CINCUENTA EUROS con SESENTA Y CUATRO CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0144	DT02OCEXCAP01		UD. EXCAVACION Y CIMENTACIÓN TIPO 1 APOYO METÁLICO Ud. Excavación y hormigonado Tipo 1 de apoyo metálico de celosía con cimentación monobloque, incluido transporte hormigón desde planta a obra, así como retirada de tierras a vertedero autorizado. Excavación aproximada para cimentación de apoyo 2,5 m3.				0148	E-2.3C	Ud	CUADRO SSAA EB Cuadro de servicios auxiliares en EB, envolventes compartidas con Automatismo bombeo, que incluye: - 2 Envolventes combinable metálica de 2000x1200x800, acorde a la norma IEC 62208, con IP 55, IK10, estructura realizada en acero galvanizado, Puerta de 2 hojas en acero plegado y soldado, apertura 120°, con zócalo lateral, frontal y trasero de 100 mm de elevación, incluso placa de montaje, iluminación interior por medio de lámpara de neón plana y compacta de 11W, interruptor de puerta, rejilla con filtro, elevación de techo para aireación, placa de ventilación para techo con 3 ventiladores de 170m3/h c/u, 220V, Maneta con inserto de forma y termostato. - Incluye 3 pletinas de cobre de 50x10 mm para embarrado, de 1.2m de largo cada una. - Soportes para embarrado. - 5 Relés 24 Vcc para mando. - 2 Interruptor Automático II 16 A P de C 10 kA - 14 Interruptor Automático II 16 A P de C 15 kA - 2 Interruptor automático II 10 A P de C 35 kA - 4 Interruptor Automático II 20 A P de C 35 kA - 1 Interruptor Automático II 25 A P de C 35 kA - 5 Interruptor Automático II 16 A P de C 50 kA - 1 Interruptor Automático II 16 A P de C 50 kA - 8 Interruptor Automático III 16 A P de C 50 kA - 12 Interruptor Automático IV 16 A P de C 50 kA - 1 Interruptor Automático IV 40 A P de C 50 kA - 1 Interruptor Automático IV 125 A P de C 50 kA - 1 Interruptor Diferencial IV 63A 300mA AC - 2 Interruptor Diferencial IV 40A 300mA AC - 6 Interruptor Diferencial IV 25A 300mA AC - 2 Interruptor Diferencial IV 25A 30mA AC - 6 Interruptor Diferencial II 25A 30mA AC - 3 Contactores III 16A con tensión en bobina de 230V - 14 Contactores II 16A con tensión en bobina de 230V - Incluye pilotos de señalización, pulsadores y selectores de 3 posiciones. - Incluye toma de corriente de 230V - Incluye cableado interior y material para canalización y conexión del mismo. - Pequeño material auxiliar y accesorios.			
	MAQ15B	2,500 m3	Excavación mecánica zanja y retirada de tierras	53,50	133,75								
	MAT178Iib	2,800 m³	Hormigón HM-20/B/20/X0 EN OBRA	49,60	138,88								
	MAQ016	0,500 Hr	Vibrador de agujas para morteros y hormigones, d=76 mm	2,78	1,39								
	%PCI03	3,000 %	Costes indirectos	274,00	8,22								
TOTAL PARTIDA.....						282,24							
Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS OCHENTA Y DOS EUROS con VEINTICUATRO CÉNTIMOS													
0145	DT02OCEXCAP02		UD. EXCAVACION Y CIMENTACIÓN TIPO 2 APOYO METÁLICO Ud. Excavación y hormigonado Tipo 2 de apoyo metálico de celosía con cimentación monobloque, incluido transporte hormigón desde planta a obra, así como retirada de tierras a vertedero autorizado. Excavación aproximada para cimentación de apoyo 3,0 m3.										
	MAQ15B	3,000 m3	Excavación mecánica zanja y retirada de tierras	53,50	160,50								
	MAT178Iib	3,300 m³	Hormigón HM-20/B/20/X0 EN OBRA	49,60	163,68								
	MAQ016	0,600 Hr	Vibrador de agujas para morteros y hormigones, d=76 mm	2,78	1,67								
	%PCI03	3,000 %	Costes indirectos	325,90	9,78								
TOTAL PARTIDA.....						335,63							
Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS TREINTA Y CINCO EUROS con SESENTA Y TRES CÉNTIMOS													
0146	DT02OCEXCAP06		UD. EXCAVACION Y CIMENTACIÓN TIPO 3 APOYO METÁLICO Ud. Excavación y hormigonado Tipo 3 de apoyo metálico de celosía con cimentación monobloque, incluido transporte hormigón desde planta a obra, así como retirada de tierras a vertedero autorizado. Excavación aproximada para cimentación de apoyo 3,2 m3.										
	MAQ15B	3,200 m3	Excavación mecánica zanja y retirada de tierras	53,50	171,20								
	MAT178Iib	3,500 m³	Hormigón HM-20/B/20/X0 EN OBRA	49,60	173,60								
	MAQ016	0,600 Hr	Vibrador de agujas para morteros y hormigones, d=76 mm	2,78	1,67								
	%PCI03	3,000 %	Costes indirectos	346,50	10,40								
TOTAL PARTIDA.....						356,87							
Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS CINCUENTA Y SEIS EUROS con OCHENTA Y SIETE CÉNTIMOS													
0147	DT02OCEXCAP08		UD. EXCAVACION Y CIMENTACIÓN TIPO 4 APOYO METÁLICO Ud. Excavación y hormigonado Tipo 4 de apoyo metálico de celosía con cimentación monobloque, incluido transporte hormigón desde planta a obra, así como retirada de tierras a vertedero autorizado. Excavación aproximada para cimentación de apoyo 4,1 m3.										
	MAQ15B	4,100 m3	Excavación mecánica zanja y retirada de tierras	53,50	219,35								
	MAT178Iib	4,500 m³	Hormigón HM-20/B/20/X0 EN OBRA	49,60	223,20								
	MAQ016	0,700 Hr	Vibrador de agujas para morteros y hormigones, d=76 mm	2,78	1,95								
	%PCI03	3,000 %	Costes indirectos	444,50	13,34								
TOTAL PARTIDA.....						457,84							
Asciende el precio total de la partida a la mencionada cantidad de CUATROCIENTOS CINCUENTA Y SIETE EUROS con OCHENTA Y CUATRO CÉNTIMOS													
							MO002A	40,000 H	Ayudante		19,08	763,20	
							MO008A	30,000 h	Oficial 1º		20,96	628,80	
							MAQ037B	1,000 h	Camión grúa de 12 Tm - 19 mts altura		96,00	96,00	
							ACCESOR02	1,500 Ud.	Pequeño material y accesorios		400,00	600,00	
							BT-ZOC100	2,000 Ud	Zócalo frontal y trasero de elevación de 100mm		82,15	164,30	
							BT-ZOCL100	2,000 Ud	Zócalo lateral de elevación de 100 mm		15,37	30,74	
							BT-LAM-ENV9W	1,000 Ud	Lámpara de Neón planade 11W 220V para env olv ente		180,64	180,64	
							BT-INT-ENV	2,000 Ud	Interruptor de puerta para Env olv ente		19,61	39,22	
							DT01VENT02	2,000 Ud.	Rejilla con filtro		35,00	70,00	
							BT-EMB-00250	3,600 m.l.	Pletina de cobre de 50x5		45,00	162,00	
							DT01BT-CE0801	2,000 Ud.	Aisladores soporte		75,00	150,00	
							TERM	1,000 Ud.	Termostato		15,00	15,00	
							BT-ENV-201208	2,000 Ud	Env olv ente metálica 2x1.2x0.8 con placa de montaje		1.602,54	3.205,08	
							REL-AUX-24V	5,000 Ud	Relé Auxiliar 24Vcc		25,00	125,00	
							BT-IA-2P16-06	2,000 Ud	Interruptor Automático II 16A PdeC 6kA		60,00	120,00	
							BT-IA-2P16-15	14,000 Ud	Interruptor Automático II 16A PdeC 15kA		145,00	2.030,00	

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	BT-IA-2P10-35	2,000 Ud	Interruptor Automático II 10A PdeC 35kA	165,00	330,00		0150	E28RA100	Ud	Semi mascara antipolvo 1filtro			
	BT-IA-2P20-35	4,000 Ud	Interruptor Automático II 20A PdeC 35kA	171,92	687,68			P31IA150	0,333 Ud	Semi-mascarilla 1 filtro	23,75	7,91	
	BT-IA-2P25-35	1,000 Ud	Interruptor Automático II 25A PdeC 35kA	185,00	185,00			%00PCI03	3,000 %	Costes Indirectos	7,90	0,24	
	BT-IA-2P16-50	5,000 Ud	Interruptor Automático II 16A PdeC 50kA	210,00	1.050,00								
	BT-IA-2P10-50	1,000 Ud	Interruptor Automático II 10A PdeC 50kA	200,00	200,00								
	BT-IA-3P16-50	8,000 Ud	Interruptor Automático III 16A PdeC 50kA	250,00	2.000,00								
	BT-IA-416-50	12,000 Ud	Interruptor Automático IV 16A PdeC 50kA	400,00	4.800,00		0151	ECCPMP	Ud	Ensayo de capacidad de campo y punto de marchitez permanente			
	BT-IA-440-50	1,000 Ud	Interruptor Automático IV 40A PdeC 50kA	500,00	500,00					Determinación en laboratorio del contenido hídrico de punto marchitez permanente(-1,5 MPa) y capacidad de campo (-0,033 MPa) se mide volumétricamente mediante placas extractoras a presión en un equipo de membrana Eijelkamp.			
	BT-IA-0125 IV	1,000 Ud	Interruptor Automático IV 125A PdeC 50kA	700,00	700,00			MAT854	1,000	Ensayo de capacidad de campo y punto de marchitez permanente	12,00	12,00	
	BT-ID-463-300	1,000 Ud	Interruptor Diferencial IV 63 A 300 mA	343,13	343,13			%00PCI03	3,000 %	Costes Indirectos	12,00	0,36	
	BT-ID-440-300	2,000 Ud	Interruptor Diferencial IV 40 A 300 mA	255,50	511,00								
	BT-ID-425-300	6,000 Ud	Interruptor Diferencial IV 25 A 300 mA	247,86	1.487,16								
	BT-ID-425-30	2,000 Ud	Interruptor Diferencial IV 25 A 30 mA	480,85	961,70								
	BT-ID-225-30	6,000 Ud	Interruptor Diferencial II 25 A 30 mA	159,23	955,38		0152	EG21271J	m	Tubo rígido de PVC, de 20 mm de diámetro nominal			
	BT-CT-3P-16A	3,000 Ud	Contactador III 16 A	43,20	129,60					Tubo rígido de PVC, de 20 mm de diámetro nominal, aislante y no propagador de la llama, con una resistencia al impacto de 2 J, resistencia a compresión de 1250 N y una rigidez dieléctrica de 2000 V, con unión enchufada y montado superficialmente			
	BT-CT-2P-16A	14,000 Ud	Contactador II 16 A	29,10	407,40			MO003	0,040 Hr	Capataz	21,71	0,87	
	DT01BT-CE0503	3,000 Ud.	Pulsador color verde	11,00	33,00			MO008D	0,040 Hr	Oficial 1ª	20,96	0,84	
	DT01BT-CE0504	3,000 Ud.	Pulsador color rojo	11,00	33,00			BG212710	1,000 m	Tubo rígido de PVC, de 20 mm de diámetro nominal	0,70	0,70	
	DT01BT-CE0506	3,000 Ud.	Selector tres posiciones	13,00	39,00			BGW21000	1,000 Ud	Parte proporcional de accesorios para tubos rígidos de PVC	0,14	0,14	
	DT01-TC	1,000 Ud.	Toma de corriente 230 V, 16 A	22,00	22,00			%PCI03	3,000 %	Costes indirectos	2,60	0,08	
	DT01BT-CE0501	3,000 Ud.	Piloto señalización color verde 230 V CA	12,00	36,00								
	DT01BT-CE0502	3,000 Ud.	Piloto señalización color rojo 230 V CA	12,00	36,00								
	%PCI03	3,000 %	Costes indirectos	23.827,00	714,81								
			TOTAL PARTIDA.....			24.541,84							
	Asciende el precio total de la partida a la mencionada cantidad de VEINTICUATRO MIL QUINIENTOS CUARENTA Y UN EUROS con OCHENTA Y CUATRO CÉNTIMOS												
0149	E15DRA040	m²	Reja barras acero 30x15x1,5 mm.							Tubo rígido de PVC, de 25 mm de diámetro nominal			
			Reja metálica realizada con barras de acero laminado en frío de 30x15x1,5 mm. en vertical y horizontal, separados 15 cm. en dos planos, con garras para recibir de 12 cm, elaborada en taller y montaje en obra. Completamente instalada.							Tubo rígido de PVC, de 25 mm de diámetro nominal, aislante y no propagador de la llama, con una resistencia al impacto de 2 J, resistencia a compresión de 1250 N y una rigidez dieléctrica de 2000 V, con unión enchufada y montado superficialmente			
	MO008	0,300 Hr	Oficial de primera	20,96	6,29			MO003	0,040 Hr	Capataz	21,71	0,87	
	MO002	0,300 Hr	Ayudante	19,08	5,72			MO008C	0,040 H	Oficial 1ª	20,96	0,84	
	MAT262	1,000 m²	Reja barra acero 30x15 mm.	68,04	68,04			BG212810	1,000 m	Tubo rígido de PVC, de 25 mm de diámetro nominal	1,02	1,02	
	%00PCI03	3,000 %	Costes Indirectos	80,10	2,40			BGW21000	1,000 Ud	Parte proporcional de accesorios para tubos rígidos de PVC	0,14	0,14	
			TOTAL PARTIDA.....					%PCI03	3,000 %	Costes indirectos	2,90	0,09	
			TOTAL PARTIDA.....			82,45							
	Asciende el precio total de la partida a la mencionada cantidad de OCHENTA Y DOS EUROS con CUARENTA Y CINCO CÉNTIMOS												

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0154	ELEC0228	MI	Tendido línea aérea cable LA-56 simple circuito (3 conductores) Línea aérea simple circuito, con cable de aluminio - acero, tipos LA-56, terminales de aluminio de conexionado. Tendido, tensado, regulado y conexionado. Transporte y acopio de materiales. (Incluirá p.p. de recortes, ajustes y flecha).				0158	ESCMALLA	m³	Gavión Enmallado de Cantos Rodados Gavión enmallado de cantos rodados seleccionados de préstamo, de 30 a 60 cm de diámetro			
	99092076	0,568 Kg	Cable de aluminio - acero tipo LA-56 (peso terna)	3,10	1,76			MO003	0,004 Hr	Capataz	21,71	0,09	
	MO008	0,110 Hr	Oficial de primera	20,96	2,31			MO010	0,020 Hr	Peón	17,33	0,35	
	MO010	0,110 Hr	Peón	17,33	1,91			MAQ031	0,020 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	1,02	
	%0000005	5,000 %	Elementos auxiliares	6,00	0,30			MAQ012	0,150 Hr	Dumper de bastidor articulado 6 x 4, de 15 m³	68,36	10,25	
			TOTAL PARTIDA.....			6,28		MAT018	1,000 m³	Escollera roca 30 a 60 cm	9,71	9,71	
								EMTVA04	4,000 m²	Vallado simple tors.ST50/14 gal	5,00	20,00	
								%00PCI03	3,000 %	Costes Indirectos	41,40	1,24	
										TOTAL PARTIDA.....		42,66	
Asciende el precio total de la partida a la mencionada cantidad de SEIS EUROS con VEINTIOCHO CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CUARENTA Y DOS EUROS con SESENTA Y SEIS CÉNTIMOS						
0155	ENSAYOS_PAT	Ud	Medición de puesta a tierra Medición de puesta a tierra, incluidos equipos necesarios, pequeño material necesario para la adaptación de la instalación para realizar el ensayo y elaboración de informe.				0159	ESTSOL18	ud	Estructura de acero galvanizado para 18 módulos FV 144cel,13-30° Suministro, colocación, montaje superficial o hincado de estructura de acero galvanizado biapoyada, EN AW 6063 T66, certificada y ajustada a Código Técnico de la Edificación y Código Estructural, para 18 módulos solares fotovoltaicos. Incluyendo el suministro de la estructura portante de ACERO GALVANIZADO y tornillería de acero inoxidable AISI 304 (A2-70), para los módulos solares fotovoltaicos e inclinación de entre 13° y 30 ° respecto a la proyección horizontal del módulo. La estructura, agrupará 18 módulos de 144 células, tamaño módulo 2279x1134x40 mm, en disposición vertical, elevada 30 cm con respecto al suelo. Totalmente instalada incluso anclajes y cimentación bajo nivel del suelo para amarrar los soportes al suelo. Incluidos los movimientos de tierra necesarios para la cimentación, excavación, carga y transporte a vertedero o preperforaciones necesarias para el hincado.			
	MO013	6,888 Hr	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	57,37	395,16					Triángulos premontados de fábrica, para un rápido montaje. Incluido el montaje de la estructura así como el montaje de los módulos sobre las misma. Incluido el montaje de la estructura así como el montaje de los módulos sobre la misma.			
	MAT525	1,000 Ud	Voltímetro para ensayo	319,45	319,45					Incluso el suministro, colocación y montaje de las bandejas metálica de varilla galvanizada en caliente con tapa de dimensiones 100x30 mm, para el alojamiento de los módulos, incluyendo canalización eléctrica, incluido accesorios y piezas especiales, totalmente montada, sin incluir cableado, según el Reglamento Electrotécnico de Baja Tensión.			
	%PM..1	2,000 %	Pequeño Material	714,60	14,29					Transporte y mano de obra incluidos.			
	%00PCI03	3,000 %	Costes Indirectos	728,90	21,87			MO003	1,000 Hr	Capataz	21,71	21,71	
			TOTAL PARTIDA.....			750,77		MO008	1,000 Hr	Oficial de primera	20,96	20,96	
								MO008D	1,000 Hr	Oficial 1º	20,96	20,96	
								MAQ031	0,200 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	10,17	
								MAQ002	0,350 Hr	Camión con caja basculante 4 x 4	55,70	19,50	
								MAQ019	0,350 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	11,00	
								ESTACSOL18	1,000 ud	Estructura atornillada ac. galv. biapoyada 1paneles 2,279x1,134	844,00	844,00	
								ESTACSOL218	9,000 ud	Suministro y montaje Bandeja metálica 3m	23,82	214,38	
								MTHM20	2,500 M3	HORMIGÓN HM-20/B/20/X0, en obra	55,00	137,50	
								MAQ016	1,500 Hr	Vibrador de agujas para morteros y hormigones, d=76 mm	2,78	4,17	
								%PCI03	3,000 %	Costes indirectos	1.304,40	39,13	
										TOTAL PARTIDA.....		1.343,48	
Asciende el precio total de la partida a la mencionada cantidad de SETECIENTOS CINCUENTA EUROS con SETENTA Y SIETE CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de MIL TRESCIENTOS CUARENTA Y TRES EUROS con CUARENTA Y OCHO CÉNTIMOS						
0156	ENSAYOS_RP	Ud	Ensayos cuadro relés de protección Ensayos de cuadros de relés de protección, incluidos equipos necesarios, pequeño material necesario para la adaptación de la instalación para realizar el ensayo y elaboración de informe.										
	MO013	3,800 Hr	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	57,37	218,01								
	MAT523	1,000 Ud	Equipo ensayos	891,64	891,64								
	%PM..1	2,000 %	Pequeño Material	1.109,70	22,19								
	%00PCI03	3,000 %	Costes Indirectos	1.131,80	33,95								
			TOTAL PARTIDA.....			1.165,79							
Asciende el precio total de la partida a la mencionada cantidad de MIL CIENTO SESENTA Y CINCO EUROS con SETENTA Y NUEVE CÉNTIMOS													
0157	ENSAYOS_TPC	Ud	Ensayos de tensiones de paso y contacto Ud. Ensayos de tensiones de paso y contacto, incluidos equipos necesarios pequeño material necesario para la adaptación de la instalación para realizar el ensayo y elaboración de informe.										
	MO013	3,800 Hr	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	57,37	218,01								
	MAT524	1,000 Ud	Ensayo tensiones paso y contacto	600,00	600,00								
	%PM..1	2,000 %	Pequeño Material	818,00	16,36								
	%00PCI03	3,000 %	Costes Indirectos	834,40	25,03								
			TOTAL PARTIDA.....			859,40							
Asciende el precio total de la partida a la mencionada cantidad de OCHOCIENTOS CINCUENTA Y NUEVE EUROS con CUARENTA CÉNTIMOS													

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0160	EXC03	m ³	Construcción escollera, roca 30-60cm Aporte y colocación de piedra o cantos rodados seleccionados de prestamos de 30 a 60 cm, a una distancia <25 km. Medida la unidad totalmente colocada.				0163	FIFMA6072-10	UD	FILTRO TIPO W PARA DN 1800 MM Filtro tipo W de malla autolimpiante para caudal hasta 4.140 l/s , con un paso de malla de 1,5x1,5mm, superficie filtrante 22.600cm2, DN 1800 mm PN10, conexión drenaje DN 350 y potencia eléctrica 5,2 kW. El filtro se compone de un cuerpo metálico en acero al carbono, corona rotativa en acero inoxidable, colector de desechos, válvula de apertura y grupo motoreductor para accionamiento de la corona rotativa y elementos de medición y control. Incluye cuadro eléctrico para su control y funcionamiento. Sistema de limpieza, compuesto por: - Boquillas de gran impacto, para la limpieza por contralavado de la malla filtrante. - Grupo de presión. - Estanqueidad de las tres cámaras mediante cerdas de nylon. Control del Sistema de posicionamiento de la corona filtrante y de la apertura y cierre de la válvula de limpieza por sectores. Cuadro de control y programador de la instalación. Incluye montaje, transporte y puesta en marcha.			
	MO010	0,015 Hr	Peón	17,33	0,26								
	MAQ036	0,015 Hr	Retroexcavadora Mediana	37,00	0,56								
	MAT018	1,000 m ³	Escollera roca 30 a 60 cm	9,71	9,71								
	%00PCI03	3,000 %	Costes Indirectos	10,50	0,32								
TOTAL PARTIDA.....						10,85							
Asciende el precio total de la partida a la mencionada cantidad de DIEZ EUROS con OCHENTA Y CINCO CÉNTIMOS													
0161	FAUNA1	m	Red salida animales en balsas Suministro e instalación de red de material sintético no plástico, tipo textil, con tamaño de malla máximo de 30x30mm, con cuerda de 5mm de espesor, ancho de 1 metro y longitud igual al talud de la balsa. Dispuesta sobre la lámina impermeabilizante y fijada en coronación y pie de talud de forma que permita la adherencia de la fauna que pueda caer al interior del vaso. Incluida la parte proporcional de soportes y elementos de fijación, incluidos los movimientos de tierras, cimentación y lastres de sujeción, así como la adecuación y acondicionamiento de la red. Unidad totalmente colocada.				MAT414B	1,000 UD	Filtro Tipo W para DN 1800 mm	93.000,00	93.000,00		
							MAT414_C	1,000 Ud	Cuadro control y programador de la instalación	2.000,00	2.000,00		
							MO008	24,000 Hr	Oficial de primera	20,96	503,04		
							MO010	24,000 Hr	Peón	17,33	415,92		
	MO010	1,936 Hr	Peón	17,33	33,55		MAQ018	8,000 Hr	Grúa hidráulica acoplable a vehículos de 20 t	39,20	313,60		
	FANU01	1,002 m	Red malla 30x30x5mm, nacho 1,0m	3,00	3,01		MAQ002	4,000 Hr	Camión con caja basculante 4 x 4	55,70	222,80		
	%00PCI03	3,000 %	Costes Indirectos	36,60	1,10		%PCI03	3,000 %	Costes indirectos	96.455,40	2.893,66		
TOTAL PARTIDA.....						37,66	TOTAL PARTIDA.....						99.349,02
Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y SIETE EUROS con SESENTA Y SEIS CÉNTIMOS													
0162	FAUNA2	Ud	Plataforma flotante en balsa Suministro e instalación de plataforma flotante en balsa apta para animales, compuesta por material plástico resistente a la radiación solar y adherencia adecuada para el acceso de animales, con dimensiones 1,0x1,0m, instalada en el centro de la balsa y fijada al fondo del embalse mediante lastre de arena. Incluida la parte proporcional de soportes y elementos de fijación, cimentación y lastres de sujeción, así como la adecuación y acondicionamiento de la plataforma. Unidad totalmente colocada.										
	MO010	2,000 Hr	Peón	17,33	34,66								
	FANU02	1,000 Ud	Plataforma flotante en balsa para animales, dimensiones 1,0x1,0m	290,35	290,35								
	%00PCI03	3,000 %	Costes Indirectos	325,00	9,75								
TOTAL PARTIDA.....						334,76							
Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS TREINTA Y CUATRO EUROS con SETENTA Y SEIS CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0164	FV_CC1_8E200A	ud	Cuadro secundario de corriente continua(8E/25A/200A-1500V) Suministro cuadros secundarios de corriente continua (Caja de cadenas/strings 1º nivel).8 entradas Realizado sobre un conjunto modular de doble aislamiento y construida conpoliester reforzado con fibra de vidrio y placa de montaje y tapas opacas del mismo material, no higroscopicas y resistentes a la corrosión con grado de protección IP-65 según UNE y rigidez dieléctrica superior a 5.000 V. Compuesto por: - Cuadro tipo Gemini tamaño 2 IP 68 completo, con prensaestopas y tuercas con paso métrico - IP 68 completo para la instalación de elementos - Interruptor magnetotérmico tipo OTDC200 - Protector contra sobretensiones tipo OVR PV 40 1500 P - Seccionador de fusibles tipo E 92/32, en cadenas/strings y sobretensiones - Fusibles tipo 10x85 mm 1500 V c.c. 25 A, en cadenas/strings - Fusibles 25 A tipo gR para protección del OVR - Bornas de tornillos de 2,5 a 240 mm 2, para tensiones hasta 1500 V - Regleta de puesta a tierra - Medidor de cadenas de módulos (U, I) autoalimentado con comunicación Ethernet. - Parte proporcional pequeña aparamenta y material soportes, embarrados, distribuidores de cables, protecciones, elementos de seguridad, prensaestopas, etc... Incluso transporte, y parte proporcional de soporte y fijación a estructura FV. Totalmente montada, conectada, instalada y probada.				0165	FV_CC2_3X2000	ud	Cuadro secundario CC2 en armario existente (1500V/3x2000A) Suministro cuadros General de corriente continua (Caja de 2º nivel). Realizado sobre un conjunto modular de doble aislamiento y construida conpoliester reforzado con fibra de vidrio y placa de montaje y tapas opacas del mismo material, no higroscopicas y resistentes a la corrosión con grado de protección IP-65 según UNE y rigidez dieléctrica superior a 5.000V. Compuesto por: * Envolverte hormigón armado tipo ALP * Entradas DCBox protegidas con fusibles de cuchilla de 200A, tipo fusible de lengüeta centrado 200A 1500V y base portafusibles. * Salida para líneas de 400 mm², protegida mediante interruptor automático de 2000A, 1500Vcc, tipo OT. * 3 Uds. Interruptor Automático Emax DC 2000A 1100Vcc * 3 Uds. Descargador sobretensiones. * 1 Ud. Regleta de puesta a tierra. * 5 Ud. Switch Ethernet * 1 Ud. Conversor de comunicaciones Ethernet/FO. Conversor de medios PoE 10/100 Base TX a 100 Base-FX * Medidores de aislamiento. * Indicadores luminosos Incluso Transporte. Totalmente montada, conectada, instalada y probada.			
MO008		1,500 Hr	Oficial de primera	20,96	31,44		MO005D	2,000 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	48,00	96,00		
MAQ002		0,150 Hr	Camión con caja basculante 4 x 4	55,70	8,36		MAQ002	0,200 Hr	Camión con caja basculante 4 x 4	55,70	11,14		
MAQ019		0,150 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	4,71		MAQ017	0,200 Hr	Grúa hidráulica acoplable a vehículos de 15 t	35,24	7,05		
FV_CC108E200A		1,000 Ud	Cuadro secundario de CC (8entradas/25A/200A-1500V)	1.800,00	1.800,00		BT-ACCESOR02	1,000 Ud	Pequeño material y accesorios	400,00	400,00		
FV_MEDIDOR8E		1,000 Ud	Medidor (U,I) en cadenas de módulos, 8 entradas. Ethernet	250,00	250,00		BT-ENV-PNT17	1,000 Ud	Envolverte hormigón armado tipo ALP 17-3P, 1700x1780x480	1.600,00	1.600,00		
%PCI03		3,000 %	Costes indirectos	2.094,50	62,84		FV_HN1_250A	60,000 Ud	Fusible y base portafusible tipo NH1 URM 200-250A gPV 1000Vdc	200,00	12.000,00		
TOTAL PARTIDA.....					2.157,35		BT-IA-2000 FV	3,000 Ud	Interruptor Automático Emax DC E 2000A 1100Vcc	6.400,00	19.200,00		
Asciende el precio total de la partida a la mencionada cantidad de DOS MIL CIENTO CINCUENTA Y SIETE EUROS con TREINTA Y CINCO CÉNTIMOS							BT-MED-AISL	1,000 Ud	Medidores de aislamiento	400,00	400,00		
							BT-IA-20 IV	3,000 Ud	Interruptor Automático Magnetotérmico modular IVx20 A PdeC 50kA	260,00	780,00		
							BT-LIM-40KA	3,000 Ud	Limitador de Sobretensiones IV clase I de 40 kA 1.2kV	740,00	2.220,00		
							BT-FOETHCONV	1,000 u	Fiber óptico/Ethernet conversor	200,00	200,00		
							BT-SW5ETHRJ45	5,000 Ud	Switch Ethernet Industrial 8 Puertos RJ45	200,00	1.000,00		
							%PCI03	3,000 %	Costes indirectos	37.914,20	1.137,43		
TOTAL PARTIDA.....											39.051,62		
Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y NUEVE MIL CINCUENTA Y UN EUROS con SESENTA Y DOS CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0166	FV_MODMONOPHC	Wp	Ud. de Wp en módulo fotovoltaico Mono-PERC Half-cut, Rto>20,5% uministro y colocación de Ud. de potencia pico (Wp) en módulo fotovoltaico de alta eficiencia baja LID Mono-PERC con tecnología Half-cut y Rto>21,5% , 144 (2x(6x12)) células, especificaciones mínimas de la tabla inferior y con dimensiones 2279x1134x40 mm suministrado por fabricante TIER1. Tensión de aislamiento de 1500V (IEC/UL), seguridad Clase II, resistencia al fuego UL tipo 1 o 2, toma de plástico (PPO), ventilada y con alivio de tensión, al menos IP65. Cable solar de 6 mm2 y 3m de longitud. Vidrio frontal templado de 3,2 mm con bajo contenido de hierro. Bastidor de aluminio anodizado estable en un diseño de sección hueca. Incluyendo medios auxiliares, totalmente instalado, fijado y cableado. TECNOLOGÍA Monocrystalino PERC Half-c Nº CELDAS (144(6x24)) TIPO EX550MB-144 Pmpp (Wp) 550 Umpp (V) 41,95 Impp (A) 13,12 Isc (A) 13,93 Uoc (V) 49,97 Rto. Módulo 21,50% Coef. Tº (V) -0,290% Coef. Tº (A) 0,040% Coef. Tº (P) -0,350% NOCT °C 43 Tensión (V) 1500 Corriente fusible (A) 25 Tº max 85 Tº min -40 Diodos by-pass 3				0168	FV_RV-K25	m	Cable Unipolar RV-K 0,6/1 KV de 25 mm2 Cu Suministro de cable unipolar de cobre 25mm². (proteccion solar) de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC. Cable de interconexión DCBox a DC_general, realizado con cable unipolar de cobre de 25 mm2 RV-K, según cálculos realizados, de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC. Incluyendo medios auxiliares, totalmente instalado.			
								MO003	0,010 Hr	Capataz	21,71	0,22	
								MO008C	0,010 H	Oficial 1ª	20,96	0,21	
								BT-RV-K-025	1,000 M.I	Cable Unipolar RV-K 0,6/1 KV de 25 mm2 Cu	3,02	3,02	
								%PCI03	3,000 %	Costes indirectos	3,50	0,11	
												TOTAL PARTIDA.....	3,56
Asciende el precio total de la partida a la mencionada cantidad de TRES EUROS con CINCUENTA Y SEIS CÉNTIMOS													
							0169	FV_RV-K35	m	Cable Unipolar RV-K 0,6/1 KV de 35 mm2 Cu Suministro de cable unipolar de cobre 35mm². (proteccion solar) de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC. Cable de interconexión DCBox a DC_general, realizado con cable unipolar de cobre de 35 mm2 RV-K, según cálculos realizados, de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC. Incluyendo medios auxiliares, totalmente instalado.			
								MO003	0,010 Hr	Capataz	21,71	0,22	
								MO008C	0,010 H	Oficial 1ª	20,96	0,21	
								BT-RV-K-035	1,000 M.I	Cable Unipolar RV-K 0,6/1 KV de 35 mm2 Cu	4,21	4,21	
								%PCI03	3,000 %	Costes indirectos	4,60	0,14	
												TOTAL PARTIDA.....	4,78
Asciende el precio total de la partida a la mencionada cantidad de CUATRO EUROS con SETENTA Y OCHO CÉNTIMOS													
							0170	FV_RV-K400AL	m	Cable Unipolar RV-K 0,6/1 KV de 400 mm2 Al Suministro de cable unipolar de aluminio 400mm² RV-K de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC. Incluyendo medios auxiliares, totalmente instalado.			
								MO003	0,010 Hr	Capataz	21,71	0,22	
								MO008D	0,010 Hr	Oficial 1ª	20,96	0,21	
								BT-RV-K-400	1,000 M.I	Cable Unipolar RV-K 0,6/1 KV de 400 mm2 Al	28,42	28,42	
								%PCI03	3,000 %	Costes indirectos	28,90	0,87	
												TOTAL PARTIDA.....	29,72
Asciende el precio total de la partida a la mencionada cantidad de VEINTINUEVE EUROS con SETENTA Y DOS CÉNTIMOS													
							0167	FV_RV-K120	m	Cable Unipolar RV-K 0,6/1 KV de 120 mm2 Cu Suministro de cable unipolar de cobre 120mm². (proteccion solar) de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC. Cable de interconexión DCBox a DC_general, realizado con cable unipolar de cobre de 120 mm2 RV-K, según cálculos realizados, de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC. Incluyendo medios auxiliares, totalmente instalado.			
								MO003	0,010 Hr	Capataz	21,71	0,22	
								MO008C	0,010 H	Oficial 1ª	20,96	0,21	
								BT-RV-K-120	1,000 M.I	Cable Unipolar RV-K 0,6/1 KV de 120 mm2 Cu	14,45	14,45	
								%PCI03	3,000 %	Costes indirectos	14,90	0,45	
												TOTAL PARTIDA.....	15,33
Asciende el precio total de la partida a la mencionada cantidad de QUINCE EUROS con TREINTA Y TRES CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	
0171	FV_RV-K50	m	Cable Unipolar RV-K 0,6/1 KV de 50 mm2 Cu Suministro de cable unipolar de cobre 50mm². (proteccion solar) de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC. Cable de interconexión DCBox a DC_general, realizado con cable unipolar de cobre de 50 mm2 RV-K, según cálculos realizados, de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC. Incluyendo medios auxiliares, totalmente instalado.				0174	FV_SUP2	ud	Suministro,montaje,puesta en marcha monitorización DC y Sensores Suministro, montaje y puesta en marcha monitorización DC, incluye: * Unidad de cuadro telemandable y gestionable desde PLC central. * Monitorizacion de energia por cada circuito de string * Sensores de: 1 uds. medición de intensidad (Shunt) 2 uds. sonda irradiancia (piranómetro) 2 uds. sonda temperatura ambiente PT100 2 uds. sonda temp. en superficie módulos. PT100 * 1 Ud. Conversor de comunicaciones Ethernet/FO. Conversor de medios PoE 10/100 Base TX a 100 Base-FX Totalmente instalados, incluidos los elementos de fijación, cableado, comunicación y parametrización de los equipos.				
	MO003	0,010 Hr	Capataz	21,71	0,22									
	MO008C	0,010 H	Oficial 1ª	20,96	0,21									
	BT-RV-K-050	1,000 M.I	Cable Unipolar RV-K 0,6/1 KV de 50 mm2 Cu	6,03	6,03									
	%PCI03	3,000 %	Costes indirectos	6,50	0,20									
TOTAL PARTIDA.....						6,66								
Asciende el precio total de la partida a la mencionada cantidad de SEIS EUROS con SESENTA Y SEIS CÉNTIMOS														
0172	FV_RV-K70	m	Cable Unipolar RV-K 0,6/1 KV de 70 mm2 Cu Suministro de cable unipolar de cobre 70mm². (proteccion solar) de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC. Cable de interconexión DCBox a DC_general, realizado con cable unipolar de cobre de 70 mm2 RV-K, según cálculos realizados, de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC. Incluyendo medios auxiliares, totalmente instalado.											
	MO003	0,010 Hr	Capataz	21,71	0,22		MO005D	3,000 h	Cuadrilla Eléctrica: Oficial de Primera, Ayudante y Peón	48,00	144,00			
	MO008C	0,010 H	Oficial 1ª	20,96	0,21		MO014	2,500 Hr	Especialista Informatico	21,71	54,28			
	BT-RV-K-070	1,000 M.I	Cable Unipolar RV-K 0,6/1 KV de 70 mm2 Cu	8,44	8,44		BT-TEMPPLACA	2,000 u	Sonda temperatura placa fotovoltaica	25,00	50,00			
	%PCI03	3,000 %	Costes indirectos	8,90	0,27		BT-TEMP	2,000 u	Sonda temperatura ambiente	21,76	43,52			
TOTAL PARTIDA.....						9,14		BT-IRRADIAN	2,000 Ud	Sensor irradiancia	120,00	240,00		
Asciende el precio total de la partida a la mencionada cantidad de NUEVE EUROS con CATORCE CÉNTIMOS														
0173	FV_RV-K95	m	Cable Unipolar RV-K 0,6/1 KV de 95 mm2 Cu Suministro de cable unipolar de cobre 95mm². (proteccion solar) de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC. Cable de interconexión DCBox a DC_general, realizado con cable unipolar de cobre de 95 mm2 RV-K, según cálculos realizados, de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC. Incluyendo medios auxiliares, totalmente instalado.											
	MO003	0,010 Hr	Capataz	21,71	0,22									
	MO008D	0,010 Hr	Oficial 1ª	20,96	0,21									
	BT-RV-K-095	1,000 M.I	Cable Unipolar RV-K 0,6/1 KV de 95 mm2 Cu	11,45	11,45									
	%PCI03	3,000 %	Costes indirectos	11,90	0,36									
TOTAL PARTIDA.....						12,24								
Asciende el precio total de la partida a la mencionada cantidad de DOCE EUROS con VEINTICUATRO CÉNTIMOS														
TOTAL PARTIDA.....												6.212,75		
Asciende el precio total de la partida a la mencionada cantidad de SEIS MIL DOSCIENTOS DOCE EUROS con SETENTA Y CINCO CÉNTIMOS														
0175	G04JU2345	m	Junta Hidroexpansiva JUNTA HIDROEXPANSIVA TIPO MASTERFLEX 610 20'5, INCLUSO PREPARACIÓN DE SUPERFICIES, TOTALMENTE COLOCADA.											
	MO008	0,150 Hr	Oficial de primera	20,96	3,14									
	MO010	0,100 Hr	Peón	17,33	1,73									
	MATE3LB123	1,010 m	JUNTA HIDROEXPANSIVA	1,80	1,82									
	MATE0VA001	1,000 Ud	PEQUEÑOS MATERIALES	0,47	0,47									
	%00PCI03	3,000 %	Costes Indirectos	7,20	0,22									
TOTAL PARTIDA.....												7,38		
Asciende el precio total de la partida a la mencionada cantidad de SIETE EUROS con TREINTA Y OCHO CÉNTIMOS														

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0176	GFG2A090	m	Tubería hormigón post camisa chapa acer, DN 900, PN 10, SR, Tubería de hormigón postesado con camina de chapa de acero de DN900mm y PN10 con hormigón sulfurresistente, para 3 m de altura máxima de tierras sobre la generatriz superior de la tubería, con cemento I/42,5 sr, junta de goma para unión entre tuberías y unión soldada con el resto de tuberías y piezas especiales, reforzado con armadura de acero, incluso todos los materiales necesarios para su montaje, puenteo para protección catódica, colocada y provada. Incluso p.p. de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), bridas, tornillería y juntas y elementos para su completa instalación. Incluida p.p de macizos de anclaje y contrarrestos. Medida la unidad totalmente colocada e instalada en zanja y probada.				0178	GFG2A100	m	Tubería hormigón post camisa chapa acer, DN 1000, PN 10, SR, Tubería de hormigón postesado con camina de chapa de acero de DN1000mm y PN10 con hormigón sulfurresistente, para 3 m de altura máxima de tierras sobre la generatriz superior de la tubería, con cemento I/42,5 sr, junta de goma para unión entre tuberías y unión soldada con el resto de tuberías y piezas especiales, reforzado con armadura de acero, incluso todos los materiales necesarios para su montaje, puenteo para protección catódica, colocada y provada. Incluso p.p. de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), bridas, tornillería y juntas y elementos para su completa instalación. Incluida p.p de macizos de anclaje y contrarrestos. Medida la unidad totalmente colocada e instalada en zanja y probada.			
	MO003	0,100 Hr	Capataz	21,71	2,17			MO003	0,100 Hr	Capataz	21,71	2,17	
	MO008	0,150 Hr	Oficial de primera	20,96	3,14			MO008	0,150 Hr	Oficial de primera	20,96	3,14	
	MO002	0,100 Hr	Ayudante	19,08	1,91			MO002	0,100 Hr	Ayudante	19,08	1,91	
	MO011	0,100 Hr	Peón especializado	18,19	1,82			MO011	0,100 Hr	Peón especializado	18,19	1,82	
	MAQ039	0,100 Hr	Grúa Autopropulsada 20t	42,00	4,20			MAQ039	0,100 Hr	Grúa Autopropulsada 20t	42,00	4,20	
	MAQ040	0,200 Hr	Equip+elem.aux.p/soldadura eléctrica	3,29	0,66			MAQ040	0,200 Hr	Equip+elem.aux.p/soldadura eléctrica	3,29	0,66	
	MAT4419	1,000 m	Tub horm. pot. camisa DN900mm y junta de goma, 10BAR, SR	228,00	228,00			MAT439-20	1,000 m	Tub horm. pot. camisa DN1000mm y junta de goma, 10BAR, SR	265,00	265,00	
	%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	241,90	12,10			%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	278,90	13,95	
	%00PCI03	3,000 %	Costes Indirectos	254,00	7,62			%00PCI03	3,000 %	Costes Indirectos	292,90	8,79	
TOTAL PARTIDA.....						261,62	TOTAL PARTIDA.....						301,64

Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS SESENTA Y UN EUROS con SESENTA Y DOS CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS UN EUROS con SESENTA Y CUATRO CÉNTIMOS

0177	GFG2A096	m	Tubería hormigón post camisa chapa acer, DN 900, PN 6, SR, Tubería de hormigón postesado con camina de chapa de acero de DN900mm y PN6 con hormigón sulfurresistente, para 3 m de altura máxima de tierras sobre la generatriz superior de la tubería, con cemento I/42,5 sr, junta de goma para unión entre tuberías y unión soldada con el resto de tuberías y piezas especiales, reforzado con armadura de acero, incluso todos los materiales necesarios para su montaje, puenteo para protección catódica, colocada y provada. Incluso p.p. de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), bridas, tornillería y juntas y elementos para su completa instalación. Incluida p.p de macizos de anclaje y contrarrestos. Medida la unidad totalmente colocada e instalada en zanja y probada.				0179	GFG2A106	m	Tubería hormigón post camisa chapa acer, DN 1000, PN 6, SR, Tubería de hormigón postesado con camina de chapa de acero de DN1000mm y PN6 con hormigón sulfurresistente, para 3 m de altura máxima de tierras sobre la generatriz superior de la tubería, con cemento I/42,5 sr, junta de goma para unión entre tuberías y unión soldada con el resto de tuberías y piezas especiales, reforzado con armadura de acero, incluso todos los materiales necesarios para su montaje, puenteo para protección catódica, colocada y provada. Incluso p.p. de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), bridas, tornillería y juntas y elementos para su completa instalación. Incluida p.p de macizos de anclaje y contrarrestos. Medida la unidad totalmente colocada e instalada en zanja y probada.			
	MO003	0,100 Hr	Capataz	21,71	2,17			MO003	0,100 Hr	Capataz	21,71	2,17	
	MO008	0,150 Hr	Oficial de primera	20,96	3,14			MO008	0,150 Hr	Oficial de primera	20,96	3,14	
	MO002	0,100 Hr	Ayudante	19,08	1,91			MO002	0,100 Hr	Ayudante	19,08	1,91	
	MO011	0,100 Hr	Peón especializado	18,19	1,82			MO011	0,100 Hr	Peón especializado	18,19	1,82	
	MAQ039	0,100 Hr	Grúa Autopropulsada 20t	42,00	4,20			MAQ039	0,100 Hr	Grúa Autopropulsada 20t	42,00	4,20	
	MAQ040	0,200 Hr	Equip+elem.aux.p/soldadura eléctrica	3,29	0,66			MAQ040	0,200 Hr	Equip+elem.aux.p/soldadura eléctrica	3,29	0,66	
	MAT438	1,000 m	Tub horm. pot. camisa DN900mm y junta de goma, 6BAR, SR	225,20	225,20			MAT439-2	1,000 m	Tub horm. pot. camisa DN1000mm y junta de goma, 6BAR, SR	252,50	252,50	
	%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	239,10	11,96			%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	266,40	13,32	
	%00PCI03	3,000 %	Costes Indirectos	251,10	7,53			%00PCI03	3,000 %	Costes Indirectos	279,70	8,39	
TOTAL PARTIDA.....						258,59	TOTAL PARTIDA.....						288,11

Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS CINCUENTA Y OCHO EUROS con CINCUENTA Y NUEVE CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS OCHENTA Y OCHO EUROS con ONCE CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0180	GFG2A116	m	Tubería hormigón post camisa chapa acer, DN 1100, PN 6, SR, Tubería de hormigón postesado con camina de chapa de acero de DN1200mm y PN6 con hormigón sulfurresistente, para 3 m de altura máxima de tierras sobre la generatriz superior de la tubería, con cemento I/42,5 sr, junta de goma para unión entre tuberías y unión soldada con el resto de tuberías y piezas especiales, reforzado con armadura de acero, incluso todos los materiales necesarios para su montaje, puenteo para protección catódica, colocada y provada. Incluso p.p. de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), bridas, tornillería y juntas y elementos para su completa instalación. Incluida p.p de macizos de anclaje y contrarrestos. Medida la unidad totalmente colocada e instalada en zanja y probada.				0182	GFG2A166	m	Tubería hormigón post camisa chapa acer, DN 1600, PN 6, SR, Tubería de hormigón postesado con camina de chapa de acero de DN1600mm y PN6 con hormigón sulfurresistente, para 3 m de altura máxima de tierras sobre la generatriz superior de la tubería, con cemento I/42,5 sr, junta de goma para unión entre tuberías y unión soldada con el resto de tuberías y piezas especiales, reforzado con armadura de acero, incluso todos los materiales necesarios para su montaje, puenteo para protección catódica, colocada y provada. Incluso p.p. de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), bridas, tornillería y juntas y elementos para su completa instalación. Incluida p.p de macizos de anclaje y contrarrestos. Medida la unidad totalmente colocada e instalada en zanja y probada.			
MO003		0,100 Hr	Capataz	21,71	2,17		MO003		0,150 Hr	Capataz	21,71	3,26	
MO008		0,150 Hr	Oficial de primera	20,96	3,14		MO008		0,200 Hr	Oficial de primera	20,96	4,19	
MO002		0,100 Hr	Ayudante	19,08	1,91		MO002		0,110 Hr	Ayudante	19,08	2,10	
MO011		0,100 Hr	Peón especializado	18,19	1,82		MO011		0,110 Hr	Peón especializado	18,19	2,00	
MAQ039		0,100 Hr	Grúa Autopropulsada 20t	42,00	4,20		MAQ039		0,110 Hr	Grúa Autopropulsada 20t	42,00	4,62	
MAQ040		0,200 Hr	Equip+elem.aux.p/soldadura eléctrica	3,29	0,66		MAQ040		0,210 Hr	Equip+elem.aux.p/soldadura eléctrica	3,29	0,69	
MAT439-22		1,000 m	Tub horm. pot. camisa DN1100mm y junta de goma, 6BAR, SR	277,30	277,30		MAT439-5		1,000 m	Tub horm. pot. camisa DN1600mm y junta de goma, 6BAR, SR	530,00	530,00	
%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	291,20	14,56		%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	546,90	27,35	
%00PCI03		3,000 %	Costes Indirectos	305,80	9,17		%00PCI03		3,000 %	Costes Indirectos	574,20	17,23	
TOTAL PARTIDA.....						314,93	TOTAL PARTIDA.....						591,44

Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS CATORCE EUROS con NOVENTA Y TRES CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de QUINIENTOS NOVENTA Y UN EUROS con CUARENTA Y CUATRO CÉNTIMOS

0181	GFG2A126	m	Tubería hormigón post camisa chapa acer, DN 1200, PN 6, SR, Tubería de hormigón postesado con camina de chapa de acero de DN1200mm y PN6 con hormigón sulfurresistente, para 3 m de altura máxima de tierras sobre la generatriz superior de la tubería, con cemento I/42,5 sr, junta de goma para unión entre tuberías y unión soldada con el resto de tuberías y piezas especiales, reforzado con armadura de acero, incluso todos los materiales necesarios para su montaje, puenteo para protección catódica, colocada y provada. Incluso p.p. de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), bridas, tornillería y juntas y elementos para su completa instalación. Incluida p.p de macizos de anclaje y contrarrestos. Medida la unidad totalmente colocada e instalada en zanja y probada.			
MO003		0,100 Hr	Capataz	21,71	2,17	
MO008		0,155 Hr	Oficial de primera	20,96	3,25	
MO002		0,105 Hr	Ayudante	19,08	2,00	
MO011		0,105 Hr	Peón especializado	18,19	1,91	
MAQ039		0,105 Hr	Grúa Autopropulsada 20t	42,00	4,41	
MAQ040		0,200 Hr	Equip+elem.aux.p/soldadura eléctrica	3,29	0,66	
MAT439-3		1,000 m	Tub horm. pot. camisa DN1200mm y junta de goma, 6BAR, SR	317,50	317,50	
%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	331,90	16,60	
%00PCI03		3,000 %	Costes Indirectos	348,50	10,46	
TOTAL PARTIDA.....						358,96

Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS CINCUENTA Y OCHO EUROS con NOVENTA Y SEIS CÉNTIMOS

0183	GFG2A186	m	Tubería hormigón post camisa chapa acer, DN 1800, PN 6, SR, Tubería de hormigón postesado con camina de chapa de acero de DN1800mm y PN6 con hormigón sulfurresistente, para 3 m de altura máxima de tierras sobre la generatriz superior de la tubería, con cemento I/42,5 sr, junta de goma para unión entre tuberías y unión soldada con el resto de tuberías y piezas especiales, reforzado con armadura de acero, incluso todos los materiales necesarios para su montaje, puenteo para protección catódica, colocada y provada. Incluso p.p. de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), bridas, tornillería y juntas y elementos para su completa instalación. Incluida p.p de macizos de anclaje y contrarrestos. Medida la unidad totalmente colocada e instalada en zanja y probada.			
MO003		0,160 Hr	Capataz	21,71	3,47	
MO008		0,200 Hr	Oficial de primera	20,96	4,19	
MO002		0,115 Hr	Ayudante	19,08	2,19	
MO011		0,115 Hr	Peón especializado	18,19	2,09	
MAQ039		0,115 Hr	Grúa Autopropulsada 20t	42,00	4,83	
MAQ040		0,220 Hr	Equip+elem.aux.p/soldadura eléctrica	3,29	0,72	
MAT439-6		1,000 m	Tub horm. pot. camisa DN1800mm y junta de goma, 6BAR, SR	660,00	660,00	
%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	677,50	33,88	
%00PCI03		3,000 %	Costes Indirectos	711,40	21,34	
TOTAL PARTIDA.....						732,71

Asciende el precio total de la partida a la mencionada cantidad de SETECIENTOS TREINTA Y DOS EUROS con SETENTA Y UN CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE		
0184	HIDARQ05C	UD	ARQUETA TIPO ARMARIO HORMIGÓN 3,7x2,25x2,3 Arqueta prefabricada, formada por armario prefabricado de dimensiones interiores 3,70x2,25x2,30 m, en HA-25, tratado con aditivo fluidificante, armado para resistir las solicitaciones propias a las que está destinado, con dos puertas de acero galvanizado de 1,5 mm con nervadura perimetral de refuerzo, rejilla de ventilación con mosquitera tanto en puertas como en parte trasera de arqueta, bisagras con pemo de pala, cerrojo reforzado tipo AZBE y candado central. Separación espacios CR-Uuario mediante lámina metálica. Incluye llave maestra para el gestor de la Comunidad de Regantes e individual para usuario y pletinas soldadas a la puerta (previo al galvanizado) para el cierre mediante candado. Incluye rotulación de arqueta con denominación del hidrante. Incluye rejillas tipo mosquitera en todos los agujeros de la caseta que comuniquen con el exterior. Incluye chapa de acero e=4 mm galvanizada (e medio 70 micras, e min 55 micras) de dimensiones 50 cm x 50 cm con agujero en el centro tal que permita el paso de la calderería de salida en el hidrante, con virola de la misma chapa de longitud al menos igual al espesor de la caseta, recubierta interiormente por junta de neopreno de e=1 cm para sujeción de la calderería de salida del hidrante. Tanto chapa como virola y junta estarán seccionadas por la mitad para poder abrazar la calderería de salida, pero se instalará uniendo las dos secciones. Incluye tortillería y taladros y todos los trabajos accesorios. Incluye rejuntado de la calderería de salida de la caseta con mortero resinado. Incluye relleno en gravillín 6/12 mm y solera en HM-20, compactaciones necesarias para una correcta estabilidad de la caseta y los posibles imprevistos por asientos de la caseta. Incluye fijación de los cables del telecontrol a la caseta mediante canaleta tipo UNEX atomillada sobre el interior de la caseta o similar y/o cable de PVC con alma de acero grapado en el interior de la caseta (en este caso la deflexión máxima del tubo de acero durante los dos primeros años permitida será de 1 cm). Incluye 3 metros de tubo corrugado de doble pared de PEAD DN 160 para protección de los microtubos del sistema de telecontrol desde el interior al exterior de la caseta. Incluye completo rejuntado con mortero resinado del mástil del telecontrol. Incluye apoyo del conjunto hidrante desde el carrete intermedio entre hidrante y filtro hasta solera mediante bordillo de hormigón o similar y pletinas metálicas. Incluye todos los medios necesarios e imprevistos. Totalmente colocada.				0187	I2R5PL00	Ud	Suministro de Bidón de 200 l para Residuos Especiales Suministro de bidón de 200 l para residuos especiales (P-4)					
							MAQ045	1,000 Ud	Transp. bidón 200 L		15,42	15,42			
							MAQ044	0,024 Hr	Minicargadora ruedas 31/70 CV		36,26	0,87			
							%00PCI03	3,000 %	Costes Indirectos		16,30	0,49			
												TOTAL PARTIDA.....	16,78		
Asciende el precio total de la partida a la mencionada cantidad de DIECISEIS EUROS con SETENTA Y OCHO CÉNTIMOS															
							0188	I2R650G0	m³	Carga + Transporte Contenedor a Centro de Tratamiento Autorizado Carga y transporte de residuos a centro de reciclaje, a monodépósito, a vertedero específico o a centro de recogida y transferencia, con contenedor, cargado con medios mecánicos.					
							MAQ043	1,000 m³	Transp. contenedor 4-6 m³		10,53	10,53			
							MAQ044	0,008 Hr	Minicargadora ruedas 31/70 CV		36,26	0,29			
							%00PCI03	3,000 %	Costes Indirectos		10,80	0,32			
												TOTAL PARTIDA.....	11,14		
Asciende el precio total de la partida a la mencionada cantidad de ONCE EUROS con CATORCE CÉNTIMOS															
							0189	I2RA6500	m³	Deposición controlada a centro Autorizado Residuos No Especiales Deposición controlada a centro de recogida autorizado y transferencia de residuos No especiales.					
	MO012	0,300 Hr	Cuadrilla Construcción; Oficial de Primera, Ayudante y Peón	57,37	17,21		B2RA6500	1,000 m³	Deposición controlada a centro Autorizado Residuos No Especiales		7,55	7,55			
	MAT5101C	1,000 ud	Arqueta para Hidrante, Tipo Armario Hormigón Arm. 3,70x2,25x2,30	2.500,00	2.500,00		%00PCI03	3,000 %	Costes Indirectos		7,60	0,23			
	MAT017	1,000 m³	Arido material granular 6-12 mm en obra	15,00	15,00								TOTAL PARTIDA.....	7,78	
	%PCI03	3,000 %	Costes indirectos	2.532,20	75,97	Asciende el precio total de la partida a la mencionada cantidad de SIETE EUROS con SETENTA Y OCHO CÉNTIMOS									
												TOTAL PARTIDA.....	2.608,18		
Asciende el precio total de la partida a la mencionada cantidad de DOS MIL SEISCIENTOS OCHO EUROS con DIECIOCHO CÉNTIMOS															
	0185	I2R24200	m³	Clasificación a Pie de Obra de Residuos Clasificación a pie de obra de residuos de la construcción en residuos inertes, no especiales y especiales con medios manuales.			0190	I2RA7360	m³	Deposición controlada a centro Autorizado Residuos Inertes Mezcl Deposición controlada a centro de recogida autorizado y transferencia de residuos Inertes Mezclados de la construcción					
							B2RA7360	1,000 m³	Deposición controlada a centro Autorizado Residuos Inertes Mezcl		7,24	7,24			
							%00PCI03	3,000 %	Costes Indirectos		7,20	0,22			
												TOTAL PARTIDA.....	7,46		
Asciende el precio total de la partida a la mencionada cantidad de SIETE EUROS con CUARENTA Y SEIS CÉNTIMOS															
							0191	I2RA8500	m³	Deposición controlada a centro Autorizado Residuos Inertes Deposición controlada a centro de recogida autorizado y transferencia de residuos Inertes.					
							B2RA8500	1,000 m³	Deposición controlada a centro Autorizado Residuos Inertes		6,00	6,00			
							%00PCI03	3,000 %	Costes Indirectos		6,00	0,18			
												TOTAL PARTIDA.....	6,18		
Asciende el precio total de la partida a la mencionada cantidad de SEIS EUROS con DIECIOCHO CÉNTIMOS															
	0186	I2R5K000	Ud	Transporte de Bidones de Residuos Especiales a Centro Autorizado Transporte de bidones de residuos especiales a centro de recogida y transferencia.			0192	I2RA8620	m³	Deposición controlada a centro Autorizado Residuos Especiales Deposición controlada a centro de recogida autorizado y transferencia de residuos especiales.					
							B2RA6501	1,000 m³	Deposición controlada a centro Autorizado Residuos Especiales		645,75	645,75			
							%00PCI03	3,000 %	Costes Indirectos		645,80	19,37			
							TOTAL PARTIDA.....						665,12		
												TOTAL PARTIDA.....	63,45		
Asciende el precio total de la partida a la mencionada cantidad de SESENTA Y TRES EUROS con CUARENTA Y CINCO CÉNTIMOS															

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	
0193	IM002	m²	Lámina Impermeabilizante PEAD 2,0 mm Lámina impermeabilizante en polietileno de alta densidad, fabricada mediante calandrado en 7,5 m de ancho sin soldaduras intermedias de 2,0 mm de espesor, totalmente instalada y probada, incluso solapes y anclajes mecánicos a obras de fabrica. Medida la superficie efectivamente colocada descontando solapes, recortes, etc.				0196	INNOURTAPPOZ	Ud	Marco y Tapa de Fundición Marco y tapa de fundición de 62,50 cm. de diámetro, incluso medios auxiliares y colocación.				
	MO008	0,007 Hr	Oficial de primera	20,96	0,15			MO002	0,180 Hr	Ayudante	19,08	3,43		
	MO010	0,014 Hr	Peón	17,33	0,24			MO010	0,180 Hr	Peón	17,33	3,12		
	MAT454	1,050 m²	Lámina PEAD 2mm de Espesor	4,64	4,87			MAT910	1,000 Ud	Tapa de fundición de 62.50 cm.	72,76	72,76		
	%00PCI03	3,000 %	Costes Indirectos	5,30	0,16			MAT911	1,000 Ud	Marco de fundición.	36,38	36,38		
								%00PCI03	3,000 %	Costes Indirectos	115,70	3,47		
			TOTAL PARTIDA.....			5,42				TOTAL PARTIDA.....			119,16	
Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con CUARENTA Y DOS CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CIENTO DIECINUEVE EUROS con DIECISEIS CÉNTIMOS							
0194	INNOURBASPOZ2	Ud	Base De Pozo Giro o Derivación, HA-25 In Situ 1,00x1,00 Base de pozo de registro, en HA-25 de 100 x100 cm interior, altura hasta 2,00 m, con tapa de reducción, realizada "in situ" incluso hormigón de limpieza y recibido de tubería y canal interior en el diámetro de la conducción, incluso en giros y saltos.				0197	INSFIBOPT		CABLE FIBRA OPTICA TENDIDO EN ZANJA Instalación y tendido en zanja de cable de fibra optica tipo monomodo 8FO G652D FV corrugado metal CPR-Fca PE NEGRO2 o similar entre Centros de transformacion de la planta solar y hasta estación de bombeo, incluyendo cinta de señalización, chapas de protección, accesorios y pequeño material.				
	MO002	0,800 Hr	Ayudante	19,08	15,26			FO1	1,000	CABLE SM 8 FO 1T HOLLGADA G652D FV, CORRU	0,95	0,95		
	MO003	0,800 Hr	Capataz	21,71	17,37			ENCARQIP67	0,005	ENCAPSULADO ARQUETA IP67 4P 12C(1X12) Ø8	69,85	0,35		
	MO010	0,800 Hr	Peón	17,33	13,86			PIGTAIL	0,080	PIGTAIL LC/UPC SM 9/125 G657A2 0,9MM LSZ	1,75	0,14		
	MAT178	0,250 m³	Hormigón HM-20/B/20/IIa+Qb EN OBRA	49,60	12,40			FUSFO	0,005	FUSION FIBRAS OPTICAS	272,73	1,36		
	MAT179	2,000 m³	Hormigón HA-25/B/15-20/IIa+Qb EN OBRA	57,80	115,60			%PM..1	2,000 %	Pequeño Material	2,80	0,06		
	MAT180	8,200 m²	Panel Fenólico	12,97	106,35			MO008A	0,150 h	Oficial 1º	20,96	3,14		
	MAT133	1,000 Ud	Desenclavante p/enclavado metálico	1,53	1,53			MO011	0,150 Hr	Peón especializado	18,19	2,73		
	MAT004	150,000 Kg	Acero Corrugado B-500 S	0,81	121,50			%PCI03	3,000 %	Costes indirectos	8,70	0,26		
	MAT181	1,000 Ud	Junta de goma para base de pozo de 150	6,44	6,44					TOTAL PARTIDA.....			8,99	
	%00PCI03	3,000 %	Costes Indirectos	410,30	12,31					Asciende el precio total de la partida a la mencionada cantidad de OCHO EUROS con NOVENTA Y NUEVE CÉNTIMOS				
			TOTAL PARTIDA.....			422,62		0198	IP10AAIDL2	Ud	A.a/2inod,ducha,lav.,termo Més de alquiler de caseta prefabricada para aseos de obra de 4.10x1.90 m. con dos inodoros, una ducha, un lavabo termo eléctrico de 50 litros de capacidad; con las mismas características que las oficinas. Suelo de contrachapado hidrófugo con capa fenólica antideslizante y resistente al desgaste. Piezas sanitarias de fibra de vidrio acabadas en Gel-Coat blanco y pintura antideslizante. Puertas interiores de madera en los compartimentos. Instalación de fontanería con tuberías de polibutileno e instalación eléctrica para corriente monofásica de 220 V. protegida con interruptor automático.			
Asciende el precio total de la partida a la mencionada cantidad de CUATROCIENTOS VEINTIDOS EUROS con SESENTA Y DOS CÉNTIMOS											204,50	204,50		
	MO002	1,196 Hr	Ayudante	19,08	22,82			ESS50	1,000 Ud	A.a/2inod,ducha,lav.,termo	204,50	204,50		
	MO010	1,196 Hr	Peón	17,33	20,73			%00PCI03	3,000 %	Costes Indirectos	204,50	6,14		
	MAQ019	0,200 Hr	Grúa hidráulica acoplable a vehiculos de 7,5 t	31,42	6,28					TOTAL PARTIDA.....			210,64	
	U17010	1,000 Ud	Cono asimétrico de hormigón armado	95,00	95,00					Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS DIEZ EUROS con SESENTA Y CUATRO CÉNTIMOS				
	%00PCI03	3,000 %	Costes Indirectos	144,80	4,34			0199	IP10ACPCOME	Ud	Alquiler caseta p.vestuarios. Més de alquiler de caseta prefabricada para vestuarios de obra de 6x2.35 m., con estructura metálica mediante perfiles conformados en frío y cerramiento chapa nervada y galvanizada con terminación de pintura prelacada. Aislamiento interior con lana de vidrio combinada con poliestireno expandido. Revestimiento de P.V.C. en suelos y tablero melaminado en paredes. Ventanas de aluminio anodizado, con persianas correderas de protección, incluso instalación eléctrica con distribución interior de alumbrado y fuerza con toma exterior a 220 V.			
			TOTAL PARTIDA.....			149,17					111,40	111,40		
Asciende el precio total de la partida a la mencionada cantidad de CIENTO CUARENTA Y NUEVE EUROS con DIECISIETE CÉNTIMOS											111,40	3,34		
								ESS30	1,000 Ud	Alquiler caseta p.vestuarios	111,40	111,40		
								%00PCI03	3,000 %	Costes Indirectos	111,40	3,34		
										TOTAL PARTIDA.....			114,74	
Asciende el precio total de la partida a la mencionada cantidad de CIENTO CATORCE EUROS con SETENTA Y CUATRO CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CIENTO CATORCE EUROS con SETENTA Y CUATRO CÉNTIMOS							

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0200	IP10ACPOFIC	Ud	Alquiler caseta prefa.comedor Ud. Más de alquiler de caseta prefabricada para comedor de obra de 6x2.35 m., con estructura metálica mediante perfiles conformados en frío y cerramiento chapa nervada y galvanizada con terminación de pintura prelacada. Aislamiento interior con lana de vidrio combinada con poliestireno expandido. Revestimiento de P.V.C. en suelos y tablero melaminado en paredes. Ventanas de aluminio anodizado, con persianas correderas de protección, incluso instalación eléctrica con distribución interior de alumbrado y fuerza con toma exterior a 220 V.				0206	IP30BP5P	Ud	Banco polipropileno 5 pers. Banco de polipropileno para 5 personas con soportes metálicos, colocado. (10 usos)			
	ESS20	1,000 Ud	Alquiler caseta prefa.comedor	102,14	102,14			MO010	0,200 Hr	Peón	17,33	3,47	
	%00PCI03	3,000 %	Costes Indirectos	102,10	3,06			ESS120	0,100 Ud	Banco polipropileno 5 pers.	175,68	17,57	
								%00PCI03	3,000 %	Costes Indirectos	21,00	0,63	
			TOTAL PARTIDA.....			105,20							21,67
			Asciende el precio total de la partida a la mencionada cantidad de VEINTIUN EUROS con SESENTA Y SIETE CÉNTIMOS										
0201	IP10TCPREF	Ud	Transporte caseta prefabricad Transporte de caseta prefabricada a obra, incluso descarga y posterior recogida.				0207	IP30CEVAC	Ud	Camilla portátil evacuaciones Ud. Camilla portátil para evacuaciones, colocada. (20 usos)			
	MO010	2,000 Hr	Peón	17,33	34,66			ESS210	0,050 Ud	Camilla portátil evacuaciones	129,22	6,46	
	ESS70	1,000 Ud	Transporte caseta prefabricad	176,43	176,43			%00PCI03	3,000 %	Costes Indirectos	6,50	0,20	
	%00PCI03	3,000 %	Costes Indirectos	211,10	6,33								6,66
			TOTAL PARTIDA.....			217,42							
			Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS DIECISIETE EUROS con CUARENTA Y DOS CÉNTIMOS										
0202	IP20APELECT	Ud	Acomet.prov.elect.a caseta. Acometida provisional de electricidad a caseta de obra, desde el cuadro general formada por manguera flexible de 4x4 mm2 de tensión nominal 750 V., incorporando conductor de tierra color verde y amarillo, fijada sobre apoyos intermedios cada 2,50 m. instalada.				0208	IP30DB800L	Ud	Deposito de basuras de 800 l. Ud. Deposito de basuras de 800 litros de capacidad realizado en polietileno inyectado, acero y bandas de caucho, con ruedas para su transporte, colocado. (10 usos)			
	ESS80	1,000 Ud	Acomet.prov.elect.a caseta.	93,71	93,71			MO010	0,050 Hr	Peón	17,33	0,87	
	%00PCI03	3,000 %	Costes Indirectos	93,70	2,81			ESS180	0,100 Ud	Deposito de basuras de 800 l.	163,63	16,36	
								%00PCI03	3,000 %	Costes Indirectos	17,20	0,52	
			TOTAL PARTIDA.....			96,52							17,75
			Asciende el precio total de la partida a la mencionada cantidad de DIECISIETE EUROS con SETENTA Y CINCO CÉNTIMOS										
0203	IP20APFONT	Ud	Acomet.prov.fontan.a caseta. Ud. Acometida provisional de fontanería a casetas de obra.				0209	IP30JINDUS	Ud	Jabonera industrial. Ud. Jabonera de uso industrial con dosificador de jabón, en acero inoxidable, colocada. (10 usos)			
	ESS90	1,000 Ud	Acomet.prov.fontan.a caseta.	75,00	75,00			MO010	0,200 Hr	Peón	17,33	3,47	
	%00PCI03	3,000 %	Costes Indirectos	75,00	2,25			ESS130	0,100 Ud	Jabonera industr.a.inoxidab.	23,20	2,32	
								%00PCI03	3,000 %	Costes Indirectos	5,80	0,17	
			TOTAL PARTIDA.....			77,25							5,96
			Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con NOVENTA Y SEIS CÉNTIMOS										
0204	IP20APSANEA	Ud	Acomet.prov.saneamt.a caseta. Ud. Acometida provisional de saneamiento a casetas de obra.				0210	IP30RBOTIQ	Ud	Reposicion de botiquin. Ud. Reposición de material de botiquin de obra.			
	ESS100	1,000 Ud	Acomet.prov.saneamt.a caseta.	65,00	65,00			L01060	1,000 ud	Reposición material sanitario	28,03	28,03	
	%00PCI03	3,000 %	Costes Indirectos	65,00	1,95			%00PCI03	3,000 %	Costes Indirectos	28,00	0,84	
			TOTAL PARTIDA.....			66,95							28,87
			Asciende el precio total de la partida a la mencionada cantidad de VEINTIOCHO EUROS con OCHENTA Y SIETE CÉNTIMOS										
0205	IP30BOBRA	Ud	Botiquin de obra. Ud. Botiquin de obra instalado.				0211	IP30TMINDIV	Ud	Taquilla metalica individual. Taquilla metálica individual con llave de 1.78 m. de altura colocada. (10 usos)			
	L01059	1,000 Ud	Botiquin portátil de obra	39,53	39,53			MO010	0,200 Hr	Peón	17,33	3,47	
	%00PCI03	3,000 %	Costes Indirectos	39,50	1,19			L01021	0,100 Ud	Taquilla metálica individual (1 ud x n° operarios punta x 1,20)	89,18	8,92	
								%00PCI03	3,000 %	Costes Indirectos	12,40	0,37	
			TOTAL PARTIDA.....			40,72							12,76
			Asciende el precio total de la partida a la mencionada cantidad de CUARENTA EUROS con SETENTA Y DOS CÉNTIMOS										

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PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0212	JTOMA1000	u	Jaula de desbaste para Toma de Fondo DN1000 Jaula de desbaste para Toma de Fondo en diámetro 1000 mm. En Acero Inoxidable AISI-316, con luz de paso de 20 mm entre barras verticales y altura mínima de 1,2 m. Incluye Pletinas, tornillería y pp. de pequeño material para anclaje a hormigón y con lámina plástica. Medida la unidad totalmente montada y probada.				0215	MAACD	Kg	Acero En Calderería Acero en Calderería, al carbono de tipo S-275-JR, con espesores de chapa según el diámetro de la tubería (En PN 16 atm: 4 mm hasta DN 300, 6,4 mm de DN 350 a DN 600 y 8 mm desde DN 700- En PN 25 atm: 6,4 mm hasta DN 300, 8 mm de DN 350 a DN 600, 10 mm de DN 700 a 1.000 y 12 mm de DN 1.100 a DN 1.500), con soldaduras realizadas bajo procedimiento homologado (Según Código ASME-sección IX), tratamiento de acabado mediante Granallado de superficie hasta rugosidad SA 2,5 (Según Norma SIS-05-900) y posterior recubrimiento de pintura de polvo Epoxy, interior de 300 micras y exterior de 200 micras. Incluso corte y elaboración en taller, montaje para unión mediante soldadura. Medido según peso nominal del colector. Peso de apoyos, pernos, tornillería y refuerzos incluido en el precio.			
	MO008A	1,000 h	Oficial 1ª	20,96	20,96								
	MO010A	2,000 h	Peón	17,33	34,66								
	MAQ034	1,000 Hr	Transporte y descarga con camión pluma	48,50	48,50								
	MAT451B	1,000 UD	Jaula Desbaste Toma de Fondo DN1000	1.700,00	1.700,00		MO010	0,038 Hr	Peón	17,33	0,66		
	%PCI03	3,000 %	Costes indirectos	1.804,10	54,12		MAT006	1,020 Kg	Acero En Calderería	4,30	4,39		
				TOTAL PARTIDA.....		1.858,24	%00PCI03	3,000 %	Costes Indirectos	5,10	0,15		
Asciende el precio total de la partida a la mencionada cantidad de MIL OCHOCIENTOS CINCUENTA Y OCHO EUROS con VEINTICUATRO CÉNTIMOS											TOTAL PARTIDA.....		5,20
0213	JTOMA1200	Ud	Jaula de desbaste para Toma de Fondo DN1200 Jaula de desbaste para Toma de Fondo en diámetro 1200 mm. En Acero Inoxidable AISI-316, con luz de paso de 30 mm entre barras verticales y altura mínima de 1,2 m. Incluye Pletinas, tornillería y pp. de pequeño material para anclaje a hormigón y con lámina plástica. Medida la unidad totalmente montada y probada.				0216	MAPCCII	Ud	Anodos protección catódica Sistema de protección catódica formada por ánodo de magnesio de 4,1 kg preempaquetado colocado y probado incluso parte proporcional de los siguientes elementos: - teja de acero curvada con 10 m. De cable Cu RV 0,6/1kv 1*6 mm2. - encapsulación para la soldadura cable-tubería de cinta elastomérica. - caja de toma de potencial de 200*200 mm en aleación de aluminio IP-65, placa de montaje con cuatro bornas y tubo soporte de acero galvanizado de 2" y 2 m. De longitud. - cable de Cu RV 0,6/1kv 1*6 mm2. - electrodo referencia permanente Cu/CuSO4.			
	MO008	1,200 Hr	Oficial de primera	20,96	25,15								
	MO010	2,400 Hr	Peón	17,33	41,59								
	MAQ034	1,200 Hr	Transporte y descarga con camión pluma	48,50	58,20								
	MAT1010	1,000 Ud	Jaula Desbaste Toma de Fondo DN1200	2.146,00	2.146,00		MO008	0,100 Hr	Oficial de primera	20,96	2,10		
	%00PCI03	3,000 %	Costes Indirectos	2.270,90	68,13		MO010	0,750 Hr	Peón	17,33	13,00		
				TOTAL PARTIDA.....		2.339,07	MAT296	0,100 Ud	Teja de acero curvada con 10 m. cable Cu RV/ 0.6/1 KV	19,02	1,90		
Asciende el precio total de la partida a la mencionada cantidad de DOS MIL TRESCIENTOS TREINTA Y NUEVE EUROS con SIETE CÉNTIMOS											TOTAL PARTIDA.....		106,40
0214	JTOMA1800	Ud	Jaula de desbaste para Toma de Fondo DN1800 Jaula de desbaste para Toma de Fondo en diámetro 1800 mm. En Acero Inoxidable AISI-316, con luz de paso de 30 mm entre barras verticales y altura mínima de 1,2 m. Incluye Pletinas, tornillería y pp. de pequeño material para anclaje a hormigón y con lámina plástica. Medida la unidad totalmente montada y probada.				MAT145	0,100 Ud	Encapsulación para soldadura cable-tubería de cint	6,10	0,61		
	MO008	1,800 Hr	Oficial de primera	20,96	37,73		MAT066	0,100 Ud	Caja toma potencial 200*200 mm	220,00	22,00		
	MO010	3,600 Hr	Peón	17,33	62,39		MAT012	1,000 Ud	Anodo de magnesio de 4,1 kg preempaquetado	48,00	48,00		
	MAQ034	1,800 Hr	Transporte y descarga con camión pluma	48,50	87,30		MAT142	0,100 Ud	Electrodo referencia permanente Cu/CuSO4	86,94	8,69		
	MAT1210	1,000 Ud	Jaula Desbaste Toma de Fondo DN1800	4.023,75	4.023,75		MAT065	10,000 m	Cable Cu TV 0,6/1 KV 1*6 mm2	0,70	7,00		
	%00PCI03	3,000 %	Costes Indirectos	4.211,20	126,34		%00PCI03	3,000 %	Costes Indirectos	103,30	3,10		
				TOTAL PARTIDA.....		4.337,51	Asciende el precio total de la partida a la mencionada cantidad de CIENTO SEIS EUROS con CUARENTA CÉNTIMOS						
Asciende el precio total de la partida a la mencionada cantidad de CUATRO MIL TRESCIENTOS TREINTA Y SIETE EUROS con CINCUENTA Y UN CÉNTIMOS											TOTAL PARTIDA.....		106,40

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PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	
0217	MAPG2-4T21	u	Puente Grúa Monorraíl 4 T y 21m, Camino rodadura IPE+40x30 e l.e Puente grúa monorraíl con polipasto carro monorraíl de 4 Tn, 21 m de luz y 6 m de recorrido del gancho, alimentado con 380 V/ 50 Hz. y una tensión de mando de 48 V/50 Hz. con botonera desplazable independiente del carro. La grúa irá provista de tomacorrientes. Incluida la instalación eléctrica de 60 m de longitud y viga carril 2x60m conformada por IPE y cuadradillo 40x30, apoyado sobre ménsulas. Transporte y montaje incluido, completamente instalado y probado.				0221	MO10LDC	Ud	Limpieza y desinfección caset. 24 Limpieza y desinfección de casetas de obra, considerando una limpieza por cada dos semanas.				
								ESS1160	1,000 Ud	Limpieza y desinfección caseta	30,00	30,00		
								%00PCI03	3,000 %	Costes Indirectos	30,00	0,90		
										TOTAL PARTIDA.....			30,90	
										Asciende el precio total de la partida a la mencionada cantidad de TREINTA EUROS con NOVENTA CÉNTIMOS				
								0222	MOTCOMP	ud	MOTORIZACIÓN DE COMPUERTA 250NM Suministro e instalación de actuador eléctrico con motor de 320VAC o 24 VDC, reductor conico 1:3.5. Con detección de intrusión. Acoplado sobre brida normalizada F14 y mecanizado de tuerca de arrastre para adaptación a eje o husillo, ajuste y puesta en marcha. Con conexiones eléctricas de fuerza y automatismo con prensaestopas. Instalación de tubo rígido eléctrico de acero galvanizado enchufable de diámetro 32mm con codos y empalmes necesarios sujeto mediante grapas atornilladas. Colocada y probada. Medida la unidad instalada.			
MO008		1,300 Hr	Oficial de primera	20,96	27,25			MO005	8,000 H	CUADRILLA 1	60,00	480,00		
MO010		1,500 Hr	Peón	17,33	26,00			ZMAT306	1,000 ud	Motorización 12VDC con herraje sencillo	2.500,00	2.500,00		
MAQ018		2,000 Hr	Grúa hidráulica acoplable a vehículos de 20 t	39,20	78,40			ZMAT307	8,000 m	Cableado RVK 2x6	14,97	119,76		
MAQ002		1,000 Hr	Camión con caja basculante 4 x 4	55,70	55,70			ZMAT308	8,000 m	Cableado YCY 16x0.5	20,10	160,80		
MAT12600C		1,000 Ud	Puente grúa monorraíl 4 Tn y 21 m luz, incluido carril y electr	22.000,00	22.000,00			ZMAT309	6,000 m	Entubado tubo corrugado PG21	23,28	139,68		
MAT01010-3		60,000 m	instalación eléctrica	33,53	2.011,80			%00PCI03	3,000 %	Costes Indirectos	3.400,20	102,01		
MAT01011-3		120,000 m	doble viga carril (IPE+40x30)	183,20	21.984,00					TOTAL PARTIDA.....			3.502,25	
%00PCI03		3,000 %	Costes Indirectos	46.183,20	1.385,50					Asciende el precio total de la partida a la mencionada cantidad de TRES MIL QUINIENTOS DOS EUROS con VEINTICINCO CÉNTIMOS				
										TOTAL PARTIDA.....			47.568,65	
										Asciende el precio total de la partida a la mencionada cantidad de CUARENTA Y SIETE MIL QUINIENTOS SESENTA Y OCHO EUROS con SESENTA Y CINCO CÉNTIMOS				
0218	MEDEIASIE	m²	Siembra a Voleo de Superficies y cuidados posteriores Siembra a voleo de superficies con especies locales (incluidas especies pertenecientes a los habitats comunitarios existentes en la zona, recogidos en el estudio de impacto ambiental), incluso aportación y extendido de tierra vegetal (aproximadamente 20 cm) e incluida la semilla, siembra, riego y cuidados posteriores para adecuada supervivencia de las especies implantadas.				0223	MREPREOBR	Ud	Mes de recurso preventivo en obra Formación de seguridad y salud en el trabajo, considerando una hora a la semana y realizada por un encargado.				
								MTRECPREOBR	1,000 Ud	Mes de recurso preventivo en obra	60,58	60,58		
MO010		0,010 Hr	Peón	17,33	0,17			%00PCI03	3,000 %	Costes Indirectos	60,60	1,82		
MAQ003		0,005 Hr	Camión con tanque para agua de 10 m³	44,00	0,22					TOTAL PARTIDA.....			62,40	
MAT651		1,000 m²	Mezcla Semillas para Siembra a Voleo	0,47	0,47					Asciende el precio total de la partida a la mencionada cantidad de SESENTA Y DOS EUROS con CUARENTA CÉNTIMOS				
%00PCI03		3,000 %	Costes Indirectos	0,90	0,03					TOTAL PARTIDA.....			0,89	
										Asciende el precio total de la partida a la mencionada cantidad de CERO EUROS con OCHENTA Y NUEVE CÉNTIMOS				
0219	MO10CSH	Hr	Reunión de Seguridad y Salud Reunión de Seguridad y Salud, compuesto por un técnico en materia de seguridad con categoría de encargado, dos trabajadores con categoría de oficial de 2ª, un ayudante y un vigilante de seguridad con categoría de oficial de 1ª, considerando una reunión como mínimo al mes.				0224	MT002-1	Pa	P.A. Redacción de Proyecto eléctrico MT, visados y trámites Partida Alzada a Justificar para redacción de proyectos eléctricos de MT necesarios para los condicionantes especificados por la compañía y que pudieran ser exigidos por los diferentes organismos, copias documentales, visados, incluidos todo tipo de trámites y tasas.				
								MT002-01	1,000 Pa	P.A. Redacción de Proyecto eléctrico MT, visados y trámites	1.000,00	1.000,00		
ESS1120		1,000 Hr	Comite de seguridad e higiene	51,22	51,22					TOTAL PARTIDA.....			1.000,00	
%00PCI03		3,000 %	Costes Indirectos	51,20	1,54					Asciende el precio total de la partida a la mencionada cantidad de MIL EUROS				
										TOTAL PARTIDA.....			52,76	
										Asciende el precio total de la partida a la mencionada cantidad de CINCUENTA Y DOS EUROS con SETENTA Y SEIS CÉNTIMOS				
0220	MO10ESE	Hr	Equipo de Señalización H. Equipo de limpieza y conservación de instalaciones provisionales de obra, considerando una hora diaria de oficial de 2ª y de ayudante. s/R.D. 485/97.											
MO008D		1,000 Hr	Oficial 1ª	20,96	20,96									
MO010		1,000 Hr	Peón	17,33	17,33									
%00PCI03		3,000 %	Costes Indirectos	38,30	1,15									
										TOTAL PARTIDA.....			39,44	
										Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y NUEVE EUROS con CUARENTA Y CUATRO CÉNTIMOS				

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	
0225	MT003	m	Canalización Eléctrica Directamente Enterrada Canalización eléctrica que consistente en una zanja de 90 cm de profundidad por 40 cm de anchura, con cama de arena de río de 5 cm para asiento de los conductores y relleno con una capa de 15 cm de la misma arena sobre los conductores. Sobre ésta va una hilada de rasillas cerámicas o placas de PE, que servirán de protección mecánica (20 j) y testigo. El relleno final de zanja se llevará a cabo por tongadas de 20 cm de tierra procedente de la excavación, compactada al 95 % del Próctor Normal. Totalmente terminada incluido excavación sobre cualquier clase de terreno, transporte a vertedero de la tierra sobrante y mantenimiento de los servicios existentes.				0228	MT005-PFU4	Ud	Caseta prefabricada tipo PFU-4 o similar Caseta prefabricada tipo PFU-4 o similar, monobloque, de hormigón armado, de 4460x2380x3045 mm, apto para contener un transformador y la aparamenta necesaria. Incluso transporte y descarga. Incluye excavación, cama de arena, rellenos laterales, cargas y transportes de materiales necesarios y excedentes, edificio y todos sus elementos exteriores según CEI 622171-202, transporte, montaje y accesorios. Totalmente instalado y terminado. Totalmente montado.				
	MO008	0,150 Hr	Oficial de primera	20,96	3,14			MO005D	4,000 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	48,00	192,00		
	MAQ030	0,100 Hr	Retroexcavadora hidráulica sobre cadenas, de 65 t	87,01	8,70			MAQ017	2,000 Hr	Grúa hidráulica acoplable a vehículos de 15 t	35,24	70,48		
	MAQ012	0,100 Hr	Dumper de bastidor articulado 6 x 4, de 15 m³	68,36	6,84			MAT510-3C	1,000 Ud	Edificio prefabricado modelo PFU-4 4.46x2.38x3.045	9.000,00	9.000,00		
	MAQ009	0,150 Hr	Compactador vibratorio de conducción manual de 0,30 t	1,35	0,20			MAT014	3,500 m³	Arena de río (0-5mm)	14,83	51,91		
	MAT500	1,000 m	Placa cubrecables PE protección y señalización	0,84	0,84			%PCI03	3,000 %	Costes indirectos	9.314,40	279,43		
	MAT014	0,200 m³	Arena de río (0-5mm)	14,83	2,97			TOTAL PARTIDA.....					9.593,82	
	%00PCI03	3,000 %	Costes Indirectos	22,70	0,68			Asciende el precio total de la partida a la mencionada cantidad de NUEVE MIL QUINIENTOS NOVENTA Y TRES EUROS con OCHENTA Y DOS CÉNTIMOS						
	TOTAL PARTIDA.....					23,37								
Asciende el precio total de la partida a la mencionada cantidad de VEINTITRES EUROS con TREINTA Y SIETE CÉNTIMOS								0229	MT005-PFU5	Ud	Caseta prefabricada tipo PFU-5 o similar +techo alto + vent.forz Caseta prefabricada tipo PFU-5 o similar, monobloque, de hormigón armado, de 6080x2380x3240 mm, apto para contener un transformador y la aparamenta necesaria. Incluso transporte y descarga. Incluye excavación, cama de arena, rellenos laterales, cargas y transportes de materiales necesarios y excedentes, edificio y todos sus elementos exteriores según CEI 622171-202, transporte, montaje y accesorios. Totalmente instalado y terminado. Totalmente montado.			
	MO013	0,280 Hr	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	57,37	16,06			MO005D	5,000 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	48,00	240,00		
	MAT530	1,003 m	Conductor rh-z1 18/30 kv 3x1x240 mm2	10,96	10,99			MAQ017	2,500 Hr	Grúa hidráulica acoplable a vehículos de 15 t	35,24	88,10		
	%PM..1	2,000 %	Pequeño Material	27,10	0,54			MAT510-3D	1,000 Ud	Edificio prefabricado modelo PFU-5 6.08x2.38x3.24	12.500,00	12.500,00		
	%00PCI03	3,000 %	Costes Indirectos	27,60	0,83			MAT014	4,800 m³	Arena de río (0-5mm)	14,83	71,18		
	TOTAL PARTIDA.....					28,42			%PCI03	3,000 %	Costes indirectos	12.899,30	386,98	
Asciende el precio total de la partida a la mencionada cantidad de VEINTIOCHO EUROS con CUARENTA Y DOS CÉNTIMOS								TOTAL PARTIDA.....					13.286,26	
Asciende el precio total de la partida a la mencionada cantidad de TRECE MIL DOSCIENTOS OCHENTA Y SEIS EUROS con VEINTISEIS CÉNTIMOS														
0227	MT005	Ud	Botella Unipolar Interior Para Cable RH-Z1 18/30 KV 240 mm2 AI Ud. Suministro y montaje de botella interior terminal unipolar de M.T. para cable seco 18/30 KV tipo RH-Z1 de 1x240 mm2 de sección nominal en aluminio, incluido terminal de conexión a presión para MT, pequeño material, medios auxiliares, totalmente montada.				0230	MTCELDAS001B	Ud	Celdas de protección CT Celdas de protección para Centro de Transformación, tipo Ormazabal, según desglose.				
	MAT504	1,000 Ud	Botella unipolar para cable seco 240 mm2 AI RH-Z1 18/30 KV	41,17	41,17					- 1 Celda modular de seccionamiento dispuesta de un interruptor-seccionador, aislamiento integro en SF6 de 24kV, 16kA y 400A.				
	MAT505	1,000 Ud	Terminal bimetalico a presión de 240 mm2	5,75	5,75					- 2 Conjunto de celdas tipo DeV, funciones 1R+1PA con aislamiento y corte en SF6 de 24kV, 16kA y 400A, integrando un circuito de alimentación directa con seccionador de p.a.t y una función de protección con interruptor automático de corte en vacío de 400A rele electrónico de protección y tres transformadores toroidales de intensidad, mando manual, seccionador de p.a.t para función protección, dispositivo de presencia de tensión y enclavamientos.				
	MO008	2,400 Hr	Oficial de primera	20,96	50,30					Se incluye el montaje, pasatapas y conexión.				
	MO011	2,750 Hr	Peón especializado	18,19	50,02			MO005D	2,000 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	48,00	96,00		
	%00PCI03	3,000 %	Costes Indirectos	147,20	4,42			MAT509	1,000 Ud	Conjunto de celda de Línea. Entrega	2.675,00	2.675,00		
	TOTAL PARTIDA.....					151,66			MAT510C	2,000 ud	Conjunto de celda de Protección general. Automático	15.500,00	31.000,00	
Asciende el precio total de la partida a la mencionada cantidad de CIENTO CINCUENTA Y UN EUROS con SESENTA Y SEIS CÉNTIMOS									%PCI03	3,000 %	Costes indirectos	33.771,00	1.013,13	
	TOTAL PARTIDA.....					34.784,13		Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y CUATRO MIL SETECIENTOS OCHENTA Y CUATRO EUROS con TRECE CÉNTIMOS						

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Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0231	MTCELDAS002	Ud	Celdas de protección y medida Celdas de protección para Centro de Transformación, tipo Ormazabal, según desglose.				0233	MTHAPAV35	m ²	Pavimento Cont. Hormigón Fratasado HA-25 e=20 cm armado Pavimento continuo de hormigón HA-25/B/20/XC2, de 20 cm. de espesor, armado con mallazo de acero 20x20x6, acabado superficial fratasado, i/preparación de la base, extendido, regleado, vibrado, fratasado, curado, aportación de mortero de cuarzo para acabado, corte de la solera en cuadrículas y en zona de apoyo de pilares, lámina plástica bajo losa contra RADÓN, y p.p. de juntas.			
			- 3 Celdas modulares de línea MOTORIZADAS dispuesta de un interruptor-seccionador de tres posiciones (conectado, seccionado y puesta a tierra), aislamiento integro en SF6 de 24kV, 20kA y 630A					MO012	0,120 Hr	Cuadrilla Construcción: Oficial de Primera, Ayudante y Peón	57,37	6,88	
			- 1 Celda de remonte					MAQ016	0,140 Hr	Vibrador de agujas para morteros y hormigones, d=76 mm	2,78	0,39	
			- 1 Conjunto de celdas tipo DeV, funciones 1R+1PA con aislamiento y corte en SF6 de 24kV, 16kA y 400A, integrando un circuito de alimentación directa con seccionador de p.a.t y una función de protección con interruptor automático de corte en vacío de 400A rele electrónico de protección y tres transformadores toroidales de intensidad, mando manual, seccionador de p.a.t para función protección, dispositivo de presencia de tensión y enclavamientos.					MAQ035	0,009 Hr	Bomba de hormigón sobre camión o semirremolque	91,90	0,83	
			- 1 Celda modular de Medida dispuesta en el interior los transformadores de medida de tensión e intensidad, de 24kV.					MAQ046	0,030 Hr	Equipo de corte de hormigón armado pot adecuada i/discos corte	36,00	1,08	
			Se incluye el montaje, pasatapas y conexión.					MAQ100B	0,015 Hr	Equipo Fratasado	4,17	0,06	
MO013	4,000 Hr		Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	57,37	229,48			MAT177Ib	0,200 m ³	Hormigón HA-25/B/20/XC2+XA3+SR EN OBRA	55,70	11,14	
MAT509M	3,000 ud		Conjunto de celda de Línea. Entrega MOTORIZADA	3.000,00	9.000,00			MAT004	2,720 Kg	Acero Corrugado B-500 S	0,81	2,20	
MAT510D	1,000 ud		Conjunto de celda de Remonte	2.000,00	2.000,00			MAT011	0,005 Kg	Alambre Atar 1,3 mm.	2,12	0,01	
MAT510C	1,000 ud		Conjunto de celda de Protección general. Automático	15.500,00	15.500,00			MAT274	0,150 Kg	Separadores para armaduras verticales u horizontales	0,12	0,02	
MAT507	1,000 Ud		Celda de Medida; 3 Trafos Tensión y 3 Trafos Intensidad	6.500,00	6.500,00			%00PCI03	3,000 %	Costes Indirectos	22,60	0,68	
%00PCI03	3,000 %		Costes Indirectos	33.229,50	996,89			TOTAL PARTIDA.....					23,29
TOTAL PARTIDA.....						34.226,37	Asciende el precio total de la partida a la mencionada cantidad de VEINTITRES EUROS con VEINTINUEVE CÉNTIMOS						
Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y CUATRO MIL DOSCIENTOS VEINTISEIS EUROS con TREINTA Y SIETE CÉNTIMOS							0234	MVTRE023	m ³	Terraplén seleccionado mat granular Z30 S/PG3 Material granular tipo ZA30 S/PG3 puesto en obra, extendido, humedecido y compactado al 98% del PM en capas de 10 cm de espesor en bases de obras singulares en viales			
								MO010	0,033 Hr	Peón	17,33	0,57	
								MAQ002	0,018 Hr	Camión con caja basculante 4 x 4	55,70	1,00	
								MAQ003	0,004 Hr	Camión con tanque para agua de 10 m ³	44,00	0,18	
								MAQ006	0,004 Hr	Compactador vibrante autopropulsado de un cilindro liso, de 15 t	42,29	0,17	
								MAT225	1,799 T	Material granular ZA-30 / PG3	11,29	20,31	
								%00PCI03	3,000 %	Costes Indirectos	22,20	0,67	
TOTAL PARTIDA.....							TOTAL PARTIDA.....					22,90	
Asciende el precio total de la partida a la mencionada cantidad de VEINTIDOS EUROS con NOVENTA CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de VEINTIDOS EUROS con NOVENTA CÉNTIMOS						
0232	MTCUADROBT	Ud	Cuadro BT-B2 trafo. Interruptor en carga + fusibles Cuadro de BT especialmente diseñado para esta aplicación con las siguientes características: - Interruptor manual de corte en carga de 1250 A. - Salidas formadas por bases portafusibles: 1 Salida - Tensión nominal: 440 V - Aislamiento: 10 kV - Dimensiones: Alto: 1820 mm Ancho: 580 mm Fondo: 300 mm				0235	OGB063	M2	SOL. GRES PORCEL. NATURAL 20X20C SOLADO DE BALDOSA DE GRES PORCELÁNICO NATURAL DE 20X20 CM., RECIBIDO CON MORTERO DE CEMENTO Y ARENA DE RÍO 1/6 (M-40), I/CAMA DE 2 CM. DE ARENA DE RÍO, REJUNTADO CON LECHADA DE CEMENTO BLANCO Y LIMPIEZA, S/NTE-RSR-2, MEDIDO EN SUPERFICIE REALMENTE EJECUTADA.			
			Puentes, conexiones y demás material y trabajos complementarios, incluidos. Medida la unidad totalmente terminada.					MO008	0,550 Hr	Oficial de primera	20,96	11,53	
MO013	2,000 Hr		Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	57,37	114,74			MO010	0,600 Hr	Peón	17,33	10,40	
MAT521	1,000 Ud		Cuadro BT-B2 trafo	2.000,00	2.000,00			P11GB061	1,050 m2	BAL.GRES PORCEL. NATURAL 20X20	13,14	13,80	
%00PCI03	3,000 %		Costes Indirectos	2.114,70	63,44			MAT231	0,030 m ³	Mortero de cemento M-40 (1:6).	71,82	2,15	
TOTAL PARTIDA.....						2.178,18		MAT014	0,020 m ³	Arena de río (0-5mm)	14,83	0,30	
Asciende el precio total de la partida a la mencionada cantidad de DOS MIL CIENTO SETENTA Y OCHO EUROS con DIECIOCHO CÉNTIMOS								MAQ026	0,002 Hr	Pala cargadora s/ruedas con bastidor articulado, de 2,5 m ³	61,58	0,12	
								MAT010	0,005 m ³	Agua En Obra	0,70	0,00	
								%PCI03	3,000 %	Costes indirectos	38,30	1,15	
TOTAL PARTIDA.....							TOTAL PARTIDA.....					39,45	
Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y NUEVE EUROS con CUARENTA Y CINCO CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y NUEVE EUROS con CUARENTA Y CINCO CÉNTIMOS						

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Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0236	OPA030	m	Barandilla Tubo 40x60/20x20 BARANDILLA DE 90 CM. DE ALTURA, CONSTRUIDA CON PERFILES DE TUBO HUECO DE ACERO LAMINADO EN FRÍO, CON PASAMANOS DE 60X40X1,5 MM. Y BARROTES VERTICALES DE 20X20X1,5 MM. CON PROLONGACIÓN PARA ANCLAJE A LA LOSA, SEPARADOS 10 CM., ELABORADA EN TALLER Y MONTAJE EN OBRA .				0239	OT03	ud	Reja de finos, paso 20 mm, ancho 4000 y pasamanos 4000 mm Reja de finos de 4000 x 4000 mm, y 20 mm de luz entre barrotes, de las siguientes características: - Pasamano de 60x6 mm. - Longitud del pasamano de 4000 mm - Existirán 3 zonas de apoyo de la reja: - Inferior: Perfil UPN en la que se ajustará la reja de finos. - Medio: Biga IPE fijada a las paredes del canal. - Superior: De obra sobre la cual se apoyará la reja. Totalmente terminada y probada.			
	MO008	0,200 Hr	Oficial de primera	20,96	4,19								
	MO010	0,200 Hr	Peón	17,33	3,47								
	MATBT030	1,000 m	BARANDILLA ESCA.TUBO 40X60/20X20	62,16	62,16								
	%00PCI03	3,000 %	Costes Indirectos	69,80	2,09								
TOTAL PARTIDA.....						71,91							
Asciende el precio total de la partida a la mencionada cantidad de SETENTA Y UN EUROS con NOVENTA Y UN CÉNTIMOS													
0237	OT01	ud	Máquina limpiarrejas automática, 4CV Máquina limpia rejás de un brazo accionada por sistema oleohidráulico, accionada por temporizador, con capacidad de carga en reja de 3.400 kg. Acabado con 2 capas de pintura (imprimación y acabado). incluido armario de control con grupo oleohidráulico y cuadro eléctrico (potencia 4 CV con neutro (220/380 V trifásico). Totalmente terminada y probada.										
	010101LIM	1,000 UD	Limpia rejás 2400 kg	25.900,00	25.900,00								
	MO008	35,000 Hr	Oficial de primera	20,96	733,60								
	MO010	35,000 Hr	Peón	17,33	606,55								
	MAQ018	16,000 Hr	Grúa hidráulica acoplable a vehículos de 20 t	39,20	627,20								
	MAQ002	8,000 Hr	Camión con caja basculante 4 x 4	55,70	445,60								
	%PCI03	3,000 %	Costes indirectos	28.313,00	849,39								
TOTAL PARTIDA.....						29.162,34							
Asciende el precio total de la partida a la mencionada cantidad de VEINTINUEVE MIL CIENTO SESENTA Y DOS EUROS con TREINTA Y CUATRO CÉNTIMOS													
0238	OT02	ud	Sistema expulsión máquina limpiarrejas Sistema de evacuación de residuos filtrados mediante pala accionada por cadena, de 8 m de carrera y 2 tolvas de almacenaje. Totalmente terminada y probada.										
	010101SEX	1,000 UD	Pala cadena 8 M	4.000,00	4.000,00								
	MO008	8,000 Hr	Oficial de primera	20,96	167,68								
	MO010	16,000 Hr	Peón	17,33	277,28								
	MAQ018	5,000 Hr	Grúa hidráulica acoplable a vehículos de 20 t	39,20	196,00								
	MAQ002	4,000 Hr	Camión con caja basculante 4 x 4	55,70	222,80								
	%PCI03	3,000 %	Costes indirectos	4.863,80	145,91								
TOTAL PARTIDA.....						5.009,67							
Asciende el precio total de la partida a la mencionada cantidad de CINCO MIL NUEVE EUROS con SESENTA Y SIETE CÉNTIMOS													
	010102REJ44	1,000 UD	Reja 4 x 4 m (20 mm)								6.534,00	6.534,00	
	MO008	16,000 Hr	Oficial de primera								20,96	335,36	
	MO010	16,000 Hr	Peón								17,33	277,28	
	MAQ018	8,000 Hr	Grúa hidráulica acoplable a vehículos de 20 t								39,20	313,60	
	MAQ002	4,000 Hr	Camión con caja basculante 4 x 4								55,70	222,80	
	%PCI03	3,000 %	Costes indirectos								7.683,00	230,49	
TOTAL PARTIDA.....													7.913,53
Asciende el precio total de la partida a la mencionada cantidad de SIETE MIL NOVECIENTOS TRECE EUROS con CINCUENTA Y TRES CÉNTIMOS													
0240	PANEL1	m²	Panel de cerramiento de cubierta tipo sandwich 30mm Cubierta completa formada por panel de 30 mm de espesor total conformado con doble chapa de acero de 0,5 mm de espesor perfil nervado, lacado al exterior y galvanizado el interior, con relleno intermedio de espuma de poliuretano; panel anclado a la estructura mediante tornillos autorroscantes, i/p.p. de tapajuntas, remates, piezas especiales de cualquier tipo, medios auxiliares, según NTE/QTG-7.										
	MO008	0,360 Hr	Oficial de primera								20,96	7,55	
	MAT265	0,200 m	Remata precalado e= 0,7mm y desarrollo de 750mm								6,90	1,38	
	MAT816	1,010 m²	Panel lacado con alma de poliuretano 30mm								34,30	34,64	
	%00PCI03	3,000 %	Costes Indirectos								43,60	1,31	
TOTAL PARTIDA.....													44,88
Asciende el precio total de la partida a la mencionada cantidad de CUARENTA Y CUATRO EUROS con OCHENTA Y OCHO CÉNTIMOS													
0241	PANIDIFAVI	Pa	P.A. Instalación de Nidos Artificiales. Aves Partida Alzada a Justificar para la instalación de nidos artificiales en diferentes puntos del ámbito de actuación (cajas nido y/o torres de nidificación), destinados a especies como la Lechuza Común (Tyto alba), el Mochuelo (Athene noctua) o el Cernicalo primilla (Falco naumanni) entre otras de la zona.										
	PANIDIFAVI-01	1,000 Pa	P.A. Instalación de Nidos Artificiales								4.500,00	4.500,00	
TOTAL PARTIDA.....													4.500,00
Asciende el precio total de la partida a la mencionada cantidad de CUATRO MIL QUINIENTOS EUROS													
0242	PANIDIFAVI2	Pa	P.A. Instalación de Nidos Artificiales. Quirópteros Partida Alzada a Justificar para la instalación de nidos artificiales en diferentes puntos del ámbito de actuación (cajas nido y/o torres de nidificación), destinados a quirópteros.										
	PANIDIFAVI-02	1,000 Pa	P.A. Instalación de Nidos Artificiales								2.000,00	2.000,00	
TOTAL PARTIDA.....													2.000,00
Asciende el precio total de la partida a la mencionada cantidad de DOS MIL EUROS													

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0253	PP10PA	Ud	Protectores auditivos. Ud. Protectores auditivos. Certificado CE. s/R.D. 773/97 y R.D. 1407/92.				0259	PP30C14P	m	Cuerda d=14mm poliamida Cuerda realizada en poliamida de alta tenacidad de D=14 mm. incluso barra argollas en extremo de polimidadas revestidas de PVC. Certificado CE Norma EN 361. s/R.D. 773/97 y R.D. 1407/92.			
	ESS450	1,000 Ud	Protectores auditivos.	7,51	7,51			ESS630	1,000 Ud	Cuerda poliam. para fre.p.caíd	4,96	4,96	
	%00PCI03	3,000 %	Costes Indirectos	7,50	0,23			%00PCI03	3,000 %	Costes Indirectos	5,00	0,15	
TOTAL PARTIDA.....						7,74							
Asciende el precio total de la partida a la mencionada cantidad de SIETE EUROS con SETENTA Y CUATRO CÉNTIMOS													
												TOTAL PARTIDA.....	5,11
0254	PP10SPSPS	Ud	Pant.segurid. para soldadura. Ud. Pantalla de seguridad para soldadura. Certificado CE. s/R.D. 773/97 y R.D. 1407/92.										
	ESS360	1,000 Ud	Pantalla seguri.para soldador	11,72	11,72		0260	PP30CAP	Ud	Cuerda amarre poliamida 1m UD. Cuerda de amarre de longitud 1,00 mt, realizado en poliamida de alta tenacidad de 14 mm de diámetro, i/ argollas en extremos de polimida revestidas de PVC. Certificado CE Norma EN 361. s/R.D. 773/97 y R.D. 1407/92.			
	%00PCI03	3,000 %	Costes Indirectos	11,70	0,35			ESS700	1,000 Ud	Amarre poliamida	8,41	8,41	
TOTAL PARTIDA.....						12,07							
Asciende el precio total de la partida a la mencionada cantidad de DOCE EUROS con SIETE CÉNTIMOS													
												TOTAL PARTIDA.....	8,66
0255	PP30ADC	Ud	Anticaidas deslizante cuerdas Ud. Anticaidas deslizante para cuerda de 14 mm, c/mosquetón. Certificado CE Norma EN 361. s/R.D. 773/97 y R.D. 1407/92.										
	ESS610	1,000 Ud	Anticaidas desliz.cuerda 14 m.	175,00	175,00			%00PCI03	3,000 %	Costes Indirectos	8,40	0,25	
TOTAL PARTIDA.....						180,25							
Asciende el precio total de la partida a la mencionada cantidad de CIENTO OCHENTA EUROS con VEINTICINCO CÉNTIMOS													
												TOTAL PARTIDA.....	21,67
0256	PP30AF	Ud	Aparato freno. Ud. Aparato de freno de paracaídas. Certificado CE Norma EN 361. s/R.D. 773/97 y R.D. 1407/92.										
	ESS620	1,000 Ud	Aparato freno paracaídas(arnés)	60,58	60,58		0262	PP30IMPERM	Ud	Impermeable. Ud. Impermeable de trabajo. Certificado CE. s/R.D. 773/97 y R.D. 1407/92.			
	%00PCI03	3,000 %	Costes Indirectos	60,60	1,82			ESS540	1,000 Ud	Impermeable.	9,02	9,02	
TOTAL PARTIDA.....						62,40							
Asciende el precio total de la partida a la mencionada cantidad de SESENTA Y DOS EUROS con CUARENTA CÉNTIMOS													
												TOTAL PARTIDA.....	9,29
0257	PP30ASCA	Ud	Cinturon seguridad clase a. Ud. Cinturón de seguridad clase A (sujección), con cuerda regulable de 1,8 m. con guarda cabos y 2 mosquetones. Certificado CE. s/R.D. 773/97 y R.D. 1407/92.										
	ESS580	1,000 Ud	Cinturón de seguridad homologado	63,71	63,71		0263	PP30MONOTRA	Ud	Mono de trabajo. Ud. Mono de trabajo. Certificado CE. s/R.D. 773/97 y R.D. 1407/92.			
	%00PCI03	3,000 %	Costes Indirectos	63,70	1,91			ESS530	1,000 Ud	Mono de trabajo.	15,63	15,63	
TOTAL PARTIDA.....						65,62							
Asciende el precio total de la partida a la mencionada cantidad de SESENTA Y CINCO EUROS con SESENTA Y DOS CÉNTIMOS													
												TOTAL PARTIDA.....	16,10
0258	PP30ASCC	Ud	Arnes de seguridad clase c Ud. Arnés de seguridad clase C (paracaídas), con cuerda de 1 m. y dos mosquetones, en bolsa de transporte. Certificado CE Norma EN 361. s/R.D. 773/97 y R.D. 1407/92.										
	ESS590	1,000 Ud	Arnés segur.homologado	75,73	75,73		0264	PP30MSS	Ud	Mandil soldador serraje Ud. Mandil de serraje para soldador grado A, 60x90 cm. Certificado CE. s/R.D. 773/97 y R.D. 1407/92.			
	%00PCI03	3,000 %	Costes Indirectos	75,70	2,27			ESS550	1,000 Ud	Mandil de cuero para soldador	14,00	14,00	
TOTAL PARTIDA.....						78,00							
Asciende el precio total de la partida a la mencionada cantidad de SETENTA Y OCHO EUROS													
												TOTAL PARTIDA.....	14,42
Asciende el precio total de la partida a la mencionada cantidad de CATORCE EUROS con CUARENTA Y DOS CÉNTIMOS													

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0265	PP30PRBA	Ud	Peto reflectante but./amar. Ud. Peto reflectante de seguridad personal en colores amarillo y rojo. Certificado CE. s/R.D. 773/97 y R.D. 1407/92.				0272	PP60PBSP	Ud	Par botas segur.punt.piel Ud. Par de botas de seguridad S3 piel negra con puntera y plantilla metálica. Certificado CE. s/R.D. 773/97 y R.D. 1407/92.			
	ESS570	1,000 Ud	Peto reflectante but./amar.	10,00	10,00			ESS870	1,000 Ud	Par de botas securi.con punt/plan.	35,50	35,50	
	%00PCI03	3,000 %	Costes Indirectos	10,00	0,30			%00PCI03	3,000 %	Costes Indirectos	35,50	1,07	
TOTAL PARTIDA.....						10,30	TOTAL PARTIDA.....						36,57
Asciende el precio total de la partida a la mencionada cantidad de DIEZ EUROS con TREINTA CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y SEIS EUROS con CINCUENTA Y SIETE CÉNTIMOS						
0266	PP50PGLA	Ud	Par guantes latex anticor. Ud. Par de guantes de latex rugoso anticorte. Certificado CE. s/R.D. 773/97 y R.D. 1407/92.				0273	PP60PBSPS	Ud	Par botas segur.punt.serr. Ud. Par de botas de seguridad S2 serraje/lona con puntera y metálicas. Certificado CE. s/R.D. 773/97 y R.D. 1407/92.			
	ESS780	1,000 Ud	Par guantes latex anticorte	2,70	2,70			ESS860	1,000 Ud	Par de botas securi.con punt.serr.	23,44	23,44	
	%00PCI03	3,000 %	Costes Indirectos	2,70	0,08			%00PCI03	3,000 %	Costes Indirectos	23,40	0,70	
TOTAL PARTIDA.....						2,78	TOTAL PARTIDA.....						24,14
Asciende el precio total de la partida a la mencionada cantidad de DOS EUROS con SETENTA Y OCHO CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de VEINTICUATRO EUROS con CATORCE CÉNTIMOS						
0267	PP50PGN	Ud	Par guantes nitrilo 100% Ud. Par de guantes de nitrilo alta-resistencia. 100% azultes. Certificado CE. s/R.D. 773/97 y R.D. 1407/92.				0274	PP60PPS	Ud	Par polainas soldador Ud. Par de polainas para soldador serraje grad A, homologadas CE.			
	ESS790	1,000 Ud	Par guantes de nitrilo	3,19	3,19			ESS890	1,000 Ud	Par de polainas para soldador	9,92	9,92	
	%00PCI03	3,000 %	Costes Indirectos	3,20	0,10			%00PCI03	3,000 %	Costes Indirectos	9,90	0,30	
TOTAL PARTIDA.....						3,29	TOTAL PARTIDA.....						10,22
Asciende el precio total de la partida a la mencionada cantidad de TRES EUROS con VEINTINUEVE CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de DIEZ EUROS con VEINTIDOS CÉNTIMOS						
0268	PP50PGS34C	Ud	Par guantes soldador 34 cm Ud. Par de guantes para soldador serraje forrado ignifugo, largo 34 cm., homologado CE.				0275	PROSPFAU	Pa	P.A. Control y Seguimiento Fauna Partida Alzada a Justificar de control y seguimiento de fauna, por técnico competente, incluyendo informe preope- racional, antes del inicio de la obra, con el objeto de identificar la presencia y vulnerabilidad de especies sensibles, con una dedicación mínima de 2 h/semanales			
	ESS800	1,000 Ud	Par de guantes para soldador.	7,51	7,51			PROSFAU-01	1,000 Pa	P.A. Control y Seguimiento Fauna	6.000,00	6.000,00	
	%00PCI03	3,000 %	Costes Indirectos	7,50	0,23		TOTAL PARTIDA.....						6.000,00
TOTAL PARTIDA.....						7,74	Asciende el precio total de la partida a la mencionada cantidad de SIETE EUROS con SETENTA Y CUATRO CÉNTIMOS						
0269	PP50PMSH	Ud	Par manguitos soldador h. Ud. Par de manguitos para soldador al hombro serraje grado A, homologado CE.				0276	PROSPFLOR	Pa	P.A. Control y Seguimiento Flora Partida Alzada a Justificar de control y seguimiento de flora, por técnico competente, con una dedicación mínima de 2 h/semanales			
	ESS820	1,000 Ud	Par de manguitos soldador	10,22	10,22			PROSFLOR-01	1,000 Pa	P.A. Control y Seguimiento Flora	6.000,00	6.000,00	
	%00PCI03	3,000 %	Costes Indirectos	10,20	0,31		TOTAL PARTIDA.....						6.000,00
TOTAL PARTIDA.....						10,53	Asciende el precio total de la partida a la mencionada cantidad de DIEZ EUROS con CINCUENTA Y TRES CÉNTIMOS						
0270	PP60PBA	Ud	Par botas aislantes. Ud. Par de botas aislantes para electricista hasta 5.000 V. de tensión. Certificado CE. s/R.D. 773/97 y R.D. 1407/92.				Asciende el precio total de la partida a la mencionada cantidad de SEIS MIL EUROS						
	ESS880	1,000 Ud	Par de botas aislantes elect.	24,94	24,94		TOTAL PARTIDA.....						6.000,00
	%00PCI03	3,000 %	Costes Indirectos	24,90	0,75		Asciende el precio total de la partida a la mencionada cantidad de SEIS MIL EUROS						
TOTAL PARTIDA.....						25,69	Asciende el precio total de la partida a la mencionada cantidad de VEINTICINCO EUROS con SESENTA Y NUEVE CÉNTIMOS						
0271	PP60PBAM	Ud	Par de botas de agua. Monocolor Ud. Par de botas de agua monocolor. Certificado CE. s/R.D. 773/97 y R.D. 1407/92.				Asciende el precio total de la partida a la mencionada cantidad de TRECE EUROS con NOVENTA Y SIETE CÉNTIMOS						
	ESS840	1,000 Ud	Par de botas de agua.	13,56	13,56		TOTAL PARTIDA.....						13,97
	%00PCI03	3,000 %	Costes Indirectos	13,60	0,41		Asciende el precio total de la partida a la mencionada cantidad de TRECE EUROS con NOVENTA Y SIETE CÉNTIMOS						
TOTAL PARTIDA.....						13,97	Asciende el precio total de la partida a la mencionada cantidad de TRECE EUROS con NOVENTA Y SIETE CÉNTIMOS						

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0277	PRO_FN	ud	PROTECCIONES FIN DE LÍNEA Protección de fin de línea a instalar en el último apoyo: Consiste en la instalación de pararrayos - autoválvulas. Totalmente instalado.				0278	PUL1HID	Ud	Punto carga equipos pulverización agrícola Punto de carga de equipo de pulverización agrícola conformado por: - Preparación de terreno y compactación de 50 m2 (plataforma para vehículo) - Excavación requerida para zapata, y preparación de terreno a compactar. - Cimiento de 0,75x0.75x0.4 m con armadura B-500S de 12 mm de diámetro cada 15 cm en ambas dirección de la cara inferior (incluida patilla lateral de 15 cm) - Estructura metálica mediante pilar de perfil IPE 140 de 5 m de altura mastil realizado con IPE 100 de 2 m de longitud y refuerzo angular mediante IPE 80. la unión entre los elementos horizontales y el pilar se realizará mediante una unión articulada en el eje horizontal, tipo bisagra (tubular-bulon) que permita el giro de la estructura formando un semicírculo respecto al eje vertical del pilar (incluida la ejecución de la unión con acero) elementos imprimados y con dos capas de pintura de acabado. - Tubería de PEAD DN 50 PN10 PE100 desde conexión de hidrante proximo a extremo de estructura, incluida la calderería de piezas especiales uniones, y adecuación del hidrante. - Manguera flexible tipo Arin flat Reforzada o similar, de PVC DN 50 mm reforzada con doble capa de fibra tratada, ubicada en el punto de giro de la estructura y colgada para adecuación a equipo de carga. - Instalación de válvula de compuerta DN 50mm - Instalación de contador DN 50mm - Armario/envolvente metálica para exterior (IP55) con estructura y tornillería de anclaje al pilar metálico, y puerta batiente de una hoja con bisagras y cierre (cerradura integrada o candado).			
	MO005D	1,000 h	Cuadrilla Eléctrica: Oficial de Primera, Ayudante y Peón	48,00	48,00								
	EATHERRAUT	1,000 ud	HERRAJE SOPORTE PARA AUTOVÁLVULAS	76,36	76,36								
	EATPARARR	3,000 ud	PARARRAYOS AUTOVÁLVULAS	155,60	466,80								
	EATTIERRA	1,000 ud	PUESTA A TIERRA AUTOVÁLVULA Y HERRAJES	254,52	254,52								
	%PM..1	2,000 %	Pequeño Material	845,70	16,91								
	%PCI03	3,000 %	Costes indirectos	862,60	25,88								
TOTAL PARTIDA.....						888,47							
Asciende el precio total de la partida a la mencionada cantidad de OCHOCIENTOS OCHENTA Y OCHO EUROS con CUARENTA Y SIETE CÉNTIMOS													
										Totalmente ejecutado, y probado			
							MO008	6,000 Hr	Oficial de primera		20,96	125,76	
							MO010	12,000 Hr	Peón		17,33	207,96	
							MAT007	104,500 Kg	Acero Laminado Galvanizado En Perfil S 275 JR, En Obra		0,70	73,15	
							MAT150	1,000 Kg	Esmalte sintético para pintado de estructuras metálicas, en obra		5,75	5,75	
							MAT182	0,500 Kg	Imprimación antioxidante para pintado de estructuras metálicas		11,28	5,64	
							MAT006	33,600 Kg	Acero En Calderería		4,30	144,48	
							MAT374	1,000 Ud	Válvula compuerta bridas d=50 mm PN-16		29,40	29,40	
							MAT176-10	1,000 Ud	Contador "Woltman" 2".		198,70	198,70	
							MAT177	0,240 m³	Hormigón HA-25/B/20/Ila+Qb EN OBRA		57,80	13,87	
							MAT004	9,000 Kg	Acero Corrugado B-500 S		0,81	7,29	
							MAT011	0,063 Kg	Alambre Atar 1,3 mm.		2,12	0,13	
							MAT274	0,900 Kg	Separadores para armaduras verticales u horizontales		0,12	0,11	
							MAT281	1,200 m²	Tablero Metálico encofrar de 26 mm		1,59	1,91	
							MAT133	0,264 Ud	Desencofrante p/encofrado metálico		1,53	0,40	
							MAT301	4,000 m	Manguera flexible tipo Arin Flat Reforzada PVC DN 50		2,00	8,00	
							MAT3002	8,500 m	Tubería PEAD DN50 PN10 PE100		1,43	12,16	
							MAT3011	1,000 Ud	Envolvente metálica IP 55 800x400x400 mm con soporte y candado		115,00	115,00	
							MAQ022	1,500 Hr	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA		18,60	27,90	
							MAQ019	1,400 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t		31,42	43,99	
							MAQ014	1,500 Hr	Equipo de soldadura eléctrica manual (T)		22,20	33,30	
							MAQ036	0,999 Hr	Retroexcavadora Mediana		37,00	36,96	
							MAQ016	0,301 Hr	Vibrador de agujas para morteros y hormigones, d=76 mm		2,78	0,84	
							MAQ028	1,300 Hr	Pequeño rodillo vibrante de dos cilindros, 0,60 t		17,15	22,30	
							%00PCI03	3,000 %	Costes Indirectos		1.115,00	33,45	

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TOTAL PARTIDA.....						1.148,45	0281	PVC160P10	m	Tubería de PVC DN 160 mm, 10 BAR, Instalada en Zanja			
<p>Asciende el precio total de la partida a la mencionada cantidad de MIL CIENTO CUARENTA Y OCHO EUROS con CUARENTA Y CINCO CÉNTIMOS</p>													
0279	PVC110-RAN	m	Drenaje Tubería Ranurada PVC DN 110mm, Relleno Mat. Filtrante Conjunto Zanja Drenaje, mediante tubo drenante perforado de PVC DN 110 mm de doble pared, colocado en zanja de sección 0,50 m. de anchura y profundidad media inferior a 1,0 m., envuelta ésta en filtro dren a base de geotextil de 150 gr/m2 y rellena la zanja con material granular 6/12 mm hasta 20 cm por encima del dren envuelto en geotextil. Incluida pp de pequeño material y elementos de conexión a colectores. Medida la longitud total finalmente instalada y probada.										
	MO008	0,020 Hr	Oficial de primera	20,96	0,42			MO008	0,090 Hr	Oficial de primera	20,96	1,89	
	MO010	0,020 Hr	Peón	17,33	0,35			MO010	0,090 Hr	Peón	17,33	1,56	
	MAT458B	1,000 m	TUBO PVC 110mm, DOBLE PARED	3,31	3,31			MAQ019	0,004 Hr	Grúa hidráulica acoplable a vehiculos de 7,5 t	31,42	0,13	
	B7B1U010	2,000 m²	FILTRO POLIPROPILENO P=>150G/M2	0,25	0,50			MAT474	1,000 m	TUBO DE PVC DN 160 MM, 10 BAR,P/UNIÓN ELAST.	7,30	7,30	
	%MAT TUBERÍAS	2,000 %	Mat. Necesario Montaje Tub. Plásticas (Lubricante, juntas,etc)	4,60	0,09			%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	10,90	0,55	
	MAQ019	0,010 Hr	Grúa hidráulica acoplable a vehiculos de 7,5 t	31,42	0,31			%MAT TUBERÍAS	2,000 %	Mat. Necesario Montaje Tub. Plásticas (Lubricante, juntas,etc)	11,40	0,23	
	MAT017	0,220 m³	Arido material granular 6-12 mm en obra	15,00	3,30			%00PCI03	3,000 %	Costes Indirectos	11,70	0,35	
	%00PCI03	3,000 %	Costes Indirectos	8,30	0,25			TOTAL PARTIDA.....					12,01
<p>Asciende el precio total de la partida a la mencionada cantidad de DOCE EUROS con UN CÉNTIMOS</p>													
TOTAL PARTIDA.....						8,53	0282	PVC250P10	m	Tubería de PVC DN 250 mm, 10 BAR, Instalada en Zanja			
<p>Asciende el precio total de la partida a la mencionada cantidad de OCHO EUROS con CINCUENTA Y TRES CÉNTIMOS</p>													
0280	PVC160-RAN	m	Drenaje Tubería Ranurada PVC DN 160mm, Relleno Mat. Filtrante Conjunto Zanja Drenaje, mediante tubo drenante perforado de PVC DN 160 mm de doble pared, colocado en zanja de sección 0,50 m. de anchura y profundidad media inferior a 1,0 m., envuelta ésta en filtro dren a base de geotextil de 150 gr/m2 y rellena la zanja con material granular 6/12 mm hasta 20 cm por encima del dren envuelto en geotextil. Incluida pp de pequeño material y elementos de conexión a colectores. Medida la longitud total finalmente instalada y probada.										
	MO008	0,020 Hr	Oficial de primera	20,96	0,42			MO010	0,100 Hr	Peón	17,33	1,73	
	MO010	0,020 Hr	Peón	17,33	0,35			MO008	0,100 Hr	Oficial de primera	20,96	2,10	
	MAT458	1,000 m	TUBO PVC 160mm, DOBLE PARED	5,76	5,76			MAQ019	0,004 Hr	Grúa hidráulica acoplable a vehiculos de 7,5 t	31,42	0,13	
	B7B1U010	2,100 m²	FILTRO POLIPROPILENO P=>150G/M2	0,25	0,53			MAT476	1,000 m	TUBO DE PVC DN 250 MM,10 BAR,P/UNIÓN ELAST.	23,95	23,95	
	%MAT TUBERÍAS	2,000 %	Mat. Necesario Montaje Tub. Plásticas (Lubricante, juntas,etc)	7,10	0,14			%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	27,90	1,40	
	MAQ019	0,010 Hr	Grúa hidráulica acoplable a vehiculos de 7,5 t	31,42	0,31			%MAT TUBERÍAS	2,000 %	Mat. Necesario Montaje Tub. Plásticas (Lubricante, juntas,etc)	29,30	0,59	
	MAT017	0,220 m³	Arido material granular 6-12 mm en obra	15,00	3,30			%00PCI03	3,000 %	Costes Indirectos	29,90	0,90	
	%00PCI03	3,000 %	Costes Indirectos	10,80	0,32			TOTAL PARTIDA.....					30,80
<p>Asciende el precio total de la partida a la mencionada cantidad de TREINTA EUROS con OCHENTA CÉNTIMOS</p>													
TOTAL PARTIDA.....						11,13							
<p>Asciende el precio total de la partida a la mencionada cantidad de ONCE EUROS con TRECE CÉNTIMOS</p>													

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0288	R01FIR018	m ³	Construcción base material granular con zahorra natural ZN(40) Construcción de sub-bases o bases granulares con Zahorra Natural seleccionada a huso ZN(40) según PG3/ O.M 31-07-86. Obtenido el material mediante criba de zahorra natural, incluyendo legalización del préstamo, canon, arranque, cribado, carga, transporte hasta la obra. O bien, también incluido, la adquisición de los materiales de planta y su transporte desde planta de áridos hasta la obra. Incluida en la unidad la extensión del material en obra y compactación hasta el 98% PM con aporte externo de agua hasta la humedad óptima, todo ello en tongadas con un espesor máximo de 20 cm. Medida la unidad realmente ejecutada.				0290	R01RE030	m ³	Relleno Seleccionado Compactado 95% PN Relleno seleccionado con diámetro máximo de 25 mm y compactado de tierras, realizado mecánicamente, con vertido en tongadas de 25 cm de espesor máximo antes de compactar, incluso regado, tendido y compactado al 95% del Proctor Normal. Incluida la traida del material dentro de la obra, si el de la excavación no es adecuado e incluso su cribado al tamaño indicado y el transporte a vertedero del material rechazado. Medido el volumen de tierras una vez compactadas sobre el perfil final ejecutado y teniendo en cuenta el perfil teórico de proyecto.			
	MO010	0,015 Hr	Peón	17,33	0,26			MO003	0,004 Hr	Capataz	21,71	0,09	
	MO01OB210	0,010 h.	Oficial 2ª especialista	19,51	0,20			MO010	0,040 Hr	Peón	17,33	0,69	
	EZN010	1,050 m ³	Zahorra natural ZN(40) s/ PG-3 O.M. 31-7-86 extracción o planta	7,70	8,09			MAQ026	0,004 Hr	Pala cargadora s/ruedas con bastidor articulado, de 2,5 m ³	61,58	0,25	
	MAQ003	0,011 Hr	Camión con tanque para agua de 10 m ³	44,00	0,48			MAQ002	0,001 Hr	Camión con caja basculante 4 x 4	55,70	0,06	
	MAQ006	0,012 Hr	Compactador vibrante autopropulsado de un cilindro liso, de 15 t	42,29	0,51			MAQ009	0,040 Hr	Compactador vibratorio de conducción manual de 0,30 t	1,35	0,05	
	MAQ023	0,012 Hr	Motoniveladora de bastidor articulado de 203 kw	72,18	0,87			MAQ003	0,002 Hr	Camión con tanque para agua de 10 m ³	44,00	0,09	
	MAQ012	0,036 Hr	Dumper de bastidor articulado 6 x 4, de 15 m ³	68,36	2,46			%00PCI03	3,000 %	Costes Indirectos	1,20	0,04	
	MAQ031B	0,022 h	Retroexcavadora hidráulica sobre cadenas, de 30 t	62,00	1,36								
	%PCI03	3,000 %	Costes indirectos	14,20	0,43								
			TOTAL PARTIDA.....			14,66							1,27
			Asciende el precio total de la partida a la mencionada cantidad de UN EUROS con VEINTISIETE CÉNTIMOS										
							0291	R01RE400	m ³	Asiento y Relleno Material Granular 6/12 MM Cama y relleno de material granular tamaño 6/12 mm para asiento de tubería procedente de préstamos, con árido natural rodado puesta en obra con un tamaño de partícula menor de 12 mm y mayor a 6 mm, con reparto mecánico y extendido manual, incluido el rasanteo para el apoyo correcto de la tubería y tapado. Medido el volumen de material una vez compactadas sobre el perfil final ejecutado y teniendo en cuenta el perfil teórico de proyecto.			
								MO003	0,028 Hr	Capataz	21,71	0,61	
								MO010	0,043 Hr	Peón	17,33	0,75	
								MAT017	1,020 m ³	Arido material granular 6-12 mm en obra	15,00	15,30	
								MAQ002	0,015 Hr	Camión con caja basculante 4 x 4	55,70	0,84	
								MAQ003	0,015 Hr	Camión con tanque para agua de 10 m ³	44,00	0,66	
								MAQ031	0,025 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	1,27	
								%00PCI03	3,000 %	Costes Indirectos	19,40	0,58	
													20,01
			TOTAL PARTIDA.....			0,54							
			Asciende el precio total de la partida a la mencionada cantidad de CERO EUROS con CINCUENTA Y CUATRO CÉNTIMOS										

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0292	R02TB020-1	m	TUBERÍA DE ACERO HELICOIDAL ø508 mm e=6,4 mm Tubería de acero al carbono soldada helicoidalmente, de 711 mm de diámetro y 6,4 mm de espesor PN máx 20 Atm en acero S235 JR G2 según Norma de Fabricación UNE EN 10025:1994, con doble cordón de soldadura interior y exterior, por el procedimiento de arco sumergido tipo Unión-Melt. Protección interior mediante aplicación de pintura Epoxi agua potable de 300 micras y exterior mediante aplicación de PE extruido en caliente y procedimiento tres capas, previo granallado de la superficie en ambas caras hasta el grado SA-2 1/2 de la Norma SIS-055900/67. Incluso P.P. de piezas especiales (Codos, Tés, Derivaciones, etc.) y P.P. de macizos de anclaje y contrarrestos. Medida la longitud soldada en perfil, colocada y probada.				0294	R02TB064	m	TUBERÍA DE ACERO HELICOIDAL ø1620 mm e=12,7 mm Tubería de acero al carbono soldada helicoidalmente, de 1620 mm de diámetro y 12,7 mm de espesor PN máx 10 Atm en acero S235 JR G2 según Norma de Fabricación UNE EN 10025:2006, con doble cordón de soldadura interior y exterior, por el procedimiento de arco sumergido tipo Unión-Melt. Protección interior mediante aplicación de pintura Epoxi agua potable de 300 micras y exterior mediante aplicación de PE extruido en caliente y procedimiento tres capas, previo granallado de la superficie en ambas caras hasta el grado SA-2 1/2 de la Norma SIS-055900/67. Medida la longitud en perfil colocada y probada.			
MO003	0,060 Hr	Capataz	21,71	1,30		MO003	0,250 Hr	Capataz	21,71	5,43			
MO008	0,130 Hr	Oficial de primera	20,96	2,72		MO008A	0,700 h	Oficial 1ª	20,96	14,67			
MO002	0,130 Hr	Ayudante	19,08	2,48		MO002A	0,700 H	Ayudante	19,08	13,36			
MAQ022	0,204 Hr	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	3,79		P02TB064	1,000 m	Tubería. acero helicisol. 1620/12,7 S 235 JR G2	636,00	636,00			
MAQ020	0,130 Hr	Grupo de soldadura eléctrica	22,08	2,87		MAQ022B	0,800 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	14,88			
MAQ019	0,101 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	3,17		MAQ020B	0,800 h	Grupo de soldadura eléctrica	22,08	17,66			
MAT348-1	1,000 m	Tubería acero helicisol. 508/6,4	132,60	132,60		MAQ019B	0,250 h	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	7,86			
%00PCI03	3,000 %	Costes Indirectos	148,90	4,47		%PCI03	3,000 %	Costes indirectos	709,90	21,30			
TOTAL PARTIDA.....						153,40	TOTAL PARTIDA.....						731,16
Asciende el precio total de la partida a la mencionada cantidad de CIENTO CINCUENTA Y TRES EUROS con CUARENTA CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de SETECIENTOS TREINTA Y UN EUROS con DIECISEIS CÉNTIMOS						
0293	R02TB060	m	TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm Tubería de acero al carbono soldada helicoidalmente, de 610 mm de diámetro y 6,4 mm de espesor PN máx 20 Atm en acero S235 JR G2 según Norma de Fabricación UNE EN 10025:1994, con doble cordón de soldadura interior y exterior, por el procedimiento de arco sumergido tipo Unión-Melt. Protección interior mediante aplicación de pintura Epoxi agua potable de 300 micras y exterior mediante aplicación de PE extruido en caliente y procedimiento tres capas, previo granallado de la superficie en ambas caras hasta el grado SA-2 1/2 de la Norma SIS-055900/67. Incluso P.P. de piezas especiales (Codos, Tés, Derivaciones, etc.) y P.P. de macizos de anclaje y contrarrestos. Medida la longitud soldada en perfil, colocada y probada.				0295	R02TB070	m	TUBERÍA DE ACERO HELICOIDAL ø711 mm e=7,9 mm Tubería de acero al carbono soldada helicoidalmente, de 711 mm de diámetro y 7,9 mm de espesor PN máx 20 Atm en acero S275JR según Norma de Fabricación UNE EN 10025:1994, con doble cordón de soldadura interior y exterior, por el procedimiento de arco sumergido tipo Unión-Melt. Protección interior mediante aplicación de pintura Epoxi agua potable de 300 micras y exterior mediante aplicación de PE extruido en caliente y procedimiento tres capas, previo granallado de la superficie en ambas caras hasta el grado SA-2 1/2 de la Norma SIS-055900/67. Medida la longitud en perfil colocada y probada.			
MO003	0,070 Hr	Capataz	21,71	1,52		MO003	0,090 Hr	Capataz	21,71	1,95			
MO008	0,140 Hr	Oficial de primera	20,96	2,93		MO008	0,150 Hr	Oficial de primera	20,96	3,14			
MO002	0,140 Hr	Ayudante	19,08	2,67		MO002	0,150 Hr	Ayudante	19,08	2,86			
MAQ022	0,213 Hr	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	3,96		MAQ022	0,205 Hr	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	3,81			
MAQ020	0,142 Hr	Grupo de soldadura eléctrica	22,08	3,14		MAQ020	0,150 Hr	Grupo de soldadura eléctrica	22,08	3,31			
MAQ019	0,100 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	3,14		MAQ019	0,110 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	3,46			
MAT350-3	1,000 m	Tubería acero helicisol. 610/6,4	142,53	142,53		MAT1012	1,000 m	Tubería acero helicisol. 711/7,9	121,90	121,90			
%00PCI03	3,000 %	Costes Indirectos	159,90	4,80		%00PCI03	3,000 %	Costes Indirectos	140,40	4,21			
TOTAL PARTIDA.....						164,69	TOTAL PARTIDA.....						144,64
Asciende el precio total de la partida a la mencionada cantidad de CIENTO SESENTA Y CUATRO EUROS con SESENTA Y NUEVE CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CIENTO CUARENTA Y CUATRO EUROS con SESENTA Y CUATRO CÉNTIMOS						

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0296	R02TB080	m	TUBERÍA DE ACERO HELICOIDAL ø813 mm e=7,9 mm Tubería de acero al carbono soldada helicoidalmente, de 813 mm de diámetro y 7,9 mm de espesor PN máx 20 Atm en acero S275JR según Norma de Fabricación UNE EN 10025:1994, con doble cordón de soldadura interior y exterior, por el procedimiento de arco sumergido tipo Unión-Melt. Protección interior mediante aplicación de pintura Epoxi agua potable de 300 micras y exterior mediante aplicación de PE extruido en caliente y procedimiento tres capas, previo granallado de la superficie en ambas caras hasta el grado SA-2 1/2 de la Norma SIS-055900/67. Medida la longitud en perfil colocada y probada.				0298	R02TB090	m	TUBERÍA DE ACERO HELICOIDAL ø914 mm e=7,9 mm Tubería de acero al carbono soldada helicoidalmente, de 914 mm de diámetro y 7,9 mm de espesor PN máx 20 Atm en acero S275JR según Norma de Fabricación UNE EN 10025:2006, con doble cordón de soldadura interior y exterior, por el procedimiento de arco sumergido tipo Unión-Melt. Protección interior mediante aplicación de pintura Epoxi agua potable de 300 micras y exterior mediante aplicación de PE extruido en caliente y procedimiento tres capas, previo granallado de la superficie en ambas caras hasta el grado SA-2 1/2 de la Norma SIS-055900/67. Medida la longitud en perfil colocada y probada.			
MO003		0,090 Hr	Capataz	21,71	1,95		MO003		0,100 Hr	Capataz	21,71	2,17	
MO008		0,160 Hr	Oficial de primera	20,96	3,35		MO008A		0,170 h	Oficial 1ª	20,96	3,56	
MO002		0,160 Hr	Ayudante	19,08	3,05		MO002A		0,170 H	Ayudante	19,08	3,24	
MAQ022		0,223 Hr	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	4,15		MAT346-2		1,000 m	Tubería acero helicosa. 914/7,9	206,80	206,80	
MAQ020		0,162 Hr	Grupo de soldadura eléctrica	22,08	3,58		MAQ022		0,240 Hr	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	4,46	
MAQ019		0,100 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	3,14		MAQ020		0,170 Hr	Grupo de soldadura eléctrica	22,08	3,75	
MAT346-1		1,000 m	Tubería acero helicosa. 813/7,9	249,73	249,73		MAQ019		0,060 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	1,89	
%00PCI03		3,000 %	Costes Indirectos	269,00	8,07		%PCI03		3,000 %	Costes indirectos	225,90	6,78	

TOTAL PARTIDA..... 277,02

TOTAL PARTIDA..... 232,65

Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS SETENTA Y SIETE EUROS con DOS CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS TREINTA Y DOS EUROS con SESENTA Y CINCO CÉNTIMOS

0297	R02TB082	m	TUBERÍA DE ACERO HELICOIDAL ø1820 mm e=12,7 mm Tubería de acero al carbono soldada helicoidalmente, de 1820 mm de diámetro y 12,7 mm de espesor PN máx 10 Atm en acero S235 JR G2 según Norma de Fabricación UNE EN 10025:2006, con doble cordón de soldadura interior y exterior, por el procedimiento de arco sumergido tipo Unión-Melt. Protección interior mediante aplicación de pintura Epoxi agua potable de 300 micras y exterior mediante aplicación de PE extruido en caliente y procedimiento tres capas, previo granallado de la superficie en ambas caras hasta el grado SA-2 1/2 de la Norma SIS-055900/67. Medida la longitud en perfil colocada y probada.				0299	R02TB100	m	TUBERÍA DE ACERO HELICOIDAL ø1016 mm e=10 mm Tubería de acero al carbono soldada helicoidalmente, de 1016 mm de diámetro y 10,0 mm de espesor PN máx 20 Atm en acero S275JR según Norma de Fabricación UNE EN 10025:1994, con doble cordón de soldadura interior y exterior, por el procedimiento de arco sumergido tipo Unión-Melt. Protección interior mediante aplicación de pintura Epoxi agua potable de 300 micras y exterior mediante aplicación de PE extruido en caliente y procedimiento tres capas, previo granallado de la superficie en ambas caras hasta el grado SA-2 1/2 de la Norma SIS-055900/67. Medida la longitud en perfil colocada y probada.			
MO003		0,250 Hr	Capataz	21,71	5,43		MO003		0,110 Hr	Capataz	21,71	2,39	
MO008A		0,700 h	Oficial 1ª	20,96	14,67		MO008		0,180 Hr	Oficial de primera	20,96	3,77	
MO002A		0,700 H	Ayudante	19,08	13,36		MO002		0,180 Hr	Ayudante	19,08	3,43	
P02TB082		1,000 m	Tubería. acero helicosa. 1820/12,7 S 235 JR G2	717,00	717,00		MAQ022		0,244 Hr	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	4,54	
MAQ022B		0,800 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	14,88		MAQ020		0,180 Hr	Grupo de soldadura eléctrica	22,08	3,97	
MAQ020B		0,800 h	Grupo de soldadura eléctrica	22,08	17,66		MAQ019		0,140 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	4,40	
MAQ019B		0,250 h	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	7,86		MAT418		1,000 m	Tubería acero helicosa. 1016/10,0	369,59	369,59	
%PCI03		3,000 %	Costes indirectos	790,90	23,73		%00PCI03		3,000 %	Costes Indirectos	392,10	11,76	

TOTAL PARTIDA..... 814,59

TOTAL PARTIDA..... 403,85

Asciende el precio total de la partida a la mencionada cantidad de OCHOCIENTOS CATORCE EUROS con CINCUENTA Y NUEVE CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de CUATROCIENTOS TRES EUROS con OCHENTA Y CINCO CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0300	R02TB120	m	TUBERÍA DE ACERO HELICOIDAL ø1219 mm e=10,3 mm Tubería de acero al carbono soldada helicoidalmente, de 1219 mm de diámetro y 10,3 mm de espesor PN máx 20 Atm en acero S275JR según Norma de Fabricación UNE EN 10025:1994, con doble cordón de soldadura interior y exterior, por el procedimiento de arco sumergido tipo Unión-Melt. Protección interior mediante aplicación de pintura Epoxi agua potable de 300 micras y exterior mediante aplicación de PE extruido en caliente y procedimiento tres capas, previo granallado de la superficie en ambas caras hasta el grado SA-2 1/2 de la Norma SIS-055900/67. Medida la longitud en perfil colocada y probada.				0302	R02TE09D	m	TUBERÍA PEAD PN-16 DN-90 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 90 mm de diámetro nominal y una presión de trabajo de 16 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
MO003		0,150 Hr	Capataz	21,71	3,26		MO008A	0,020 h	Oficial 1ª	20,96	0,42		
MO008		0,220 Hr	Oficial de primera	20,96	4,61		MO010A	0,020 h	Peón	17,33	0,35		
MO002		0,220 Hr	Ayudante	19,08	4,20		P02TE09h	1,000 m	Tubería PEAD d=90 mm, 16 atmósferas, soldada	6,70	6,70		
MAQ022		0,258 Hr	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	4,80		MAQ022B	0,010 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,19		
MAQ020		0,210 Hr	Grupo de soldadura eléctrica	22,08	4,64		MAQ020C	0,010 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,22		
MAQ019		0,150 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	4,71		%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	7,90	0,40		
MAT1011		1,000 m	Tubería acero helicisol. 1219/10.3	380,82	380,82		%PCI03	3,000 %	Costes indirectos	8,30	0,25		
%00PCI03		3,000 %	Costes Indirectos	407,00	12,21								
TOTAL PARTIDA.....												8,53	
TOTAL PARTIDA.....						419,25	Asciende el precio total de la partida a la mencionada cantidad de OCHO EUROS con CINCUENTA Y TRES CÉNTIMOS						
Asciende el precio total de la partida a la mencionada cantidad de CUATROCIENTOS DIECINUEVE EUROS con VEINTICINCO CÉNTIMOS													
0301	R02TE09C	m	TUBERÍA PEAD PN-10 DN-90 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 90 mm de diámetro nominal y una presión de trabajo de 10 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0303	R02TE11C	m	TUBERÍA PEAD PN-10 DN-110 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 110 mm de diámetro nominal y una presión de trabajo de 10 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
MO008A		0,020 h	Oficial 1ª	20,96	0,42		MO008A	0,025 h	Oficial 1ª	20,96	0,52		
MO010		0,020 Hr	Peón	17,33	0,35		MO010	0,025 Hr	Peón	17,33	0,43		
P02TE09g		1,000 m	Tubería PEAD d=90 mm, 10 atmósferas, soldada	3,60	3,60		P02TE11g	1,000 m	Tubería PEAD d=110 mm, 10 atmósferas, soldada	5,07	5,07		
MAQ022B		0,010 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,19		MAQ020C	0,015 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,33		
MAQ020C		0,010 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,22		MAQ022B	0,015 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,28		
%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	4,80	0,24		%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	6,60	0,33		
%PCI03		3,000 %	Costes indirectos	5,00	0,15		%PCI03	3,000 %	Costes indirectos	7,00	0,21		
TOTAL PARTIDA.....												7,17	
TOTAL PARTIDA.....						5,17	Asciende el precio total de la partida a la mencionada cantidad de SIETE EUROS con DIECISIETE CÉNTIMOS						
Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con DIECISIETE CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0304	R02TE11D	m	TUBERÍA PEAD PN-16 DN-110 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 110 mm de diámetro nominal y una presión de trabajo de 16 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0306	R02TE12D	m	TUBERÍA PEAD PN-16 DN-125 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 125 mm de diámetro nominal y una presión de trabajo de 16 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
	MO008A	0,025 h	Oficial 1ª	20,96	0,52			MO008A	0,030 h	Oficial 1ª	20,96	0,63	
	MO010A	0,025 h	Peón	17,33	0,43			MO010A	0,030 h	Peón	17,33	0,52	
	P02TE11h	1,000 m	Tubería PEAD d=110 mm, 16 atmósferas, con juntas	7,35	7,35			P02TE12D	1,000 m	Tubería PEAD d=125 mm, 16 atmósferas, soldada	9,38	9,38	
	MAQ022B	0,015 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,28			MAQ022B	0,022 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,41	
	MAQ020C	0,015 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,33			MAQ020C	0,022 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,49	
	%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	8,90	0,45			%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	11,40	0,57	
	%PCI03	3,000 %	Costes indirectos	9,40	0,28			%PCI03	3,000 %	Costes indirectos	12,00	0,36	
TOTAL PARTIDA.....						9,64	TOTAL PARTIDA.....						12,36
Asciende el precio total de la partida a la mencionada cantidad de NUEVE EUROS con SESENTA Y CUATRO CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de DOCE EUROS con TREINTA Y SEIS CÉNTIMOS						
0305	R02TE12C	m	TUBERÍA PEAD PN-10 DN-125 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 125 mm de diámetro nominal y una presión de trabajo de 10 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0307	R02TE14C	m	TUBERÍA PEAD PN-10 DN-140 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 140 mm de diámetro nominal y una presión de trabajo de 10 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
	MO008A	0,027 h	Oficial 1ª	20,96	0,57			MO008A	0,032 h	Oficial 1ª	20,96	0,67	
	MO010	0,027 Hr	Peón	17,33	0,47			MO010	0,032 Hr	Peón	17,33	0,55	
	P02TE12g	1,000 m	Tubería PEAD d=125 mm, 10 atmósferas, soldada	6,39	6,39			P02TE14g	1,000 m	Tubería PEAD d=140 mm, 10 atmósferas, soldada	7,99	7,99	
	MAQ022B	0,020 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,37			MAQ022B	0,030 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,56	
	MAQ020C	0,020 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,44			MAQ020C	0,030 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,66	
	%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	8,20	0,41			%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	10,40	0,52	
	%PCI03	3,000 %	Costes indirectos	8,70	0,26			%PCI03	3,000 %	Costes indirectos	11,00	0,33	
TOTAL PARTIDA.....						8,91	TOTAL PARTIDA.....						11,28
Asciende el precio total de la partida a la mencionada cantidad de OCHO EUROS con NOVENTA Y UN CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de ONCE EUROS con VEINTIOCHO CÉNTIMOS						

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0308	R02TE14D	m	TUBERÍA PEAD PN-16 DN-140 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 140 mm de diámetro nominal y una presión de trabajo de 16 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, tés, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0310	R02TE16D	m	TUBERÍA PEAD PN-16 DN-160 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 160 mm de diámetro nominal y una presión de trabajo de 16 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, tés, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
	MO008A	0,032 h	Oficial 1ª	20,96	0,67			MO008A	0,042 h	Oficial 1ª	20,96	0,88	
	MO010A	0,032 h	Peón	17,33	0,55			MO010A	0,042 h	Peón	17,33	0,73	
	P02TE14D	1,000 m	Tubería PEAD d=140 mm, 16 atmósferas, soldada	11,71	11,71			P02TE16D	1,000 m	Tubería PEAD d=160 mm, 16 atmósferas, soldada	15,22	15,22	
	MAQ022B	0,030 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,56			MAQ022B	0,032 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,60	
	MAQ020C	0,030 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,66			MAQ020C	0,032 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,71	
	%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	14,20	0,71			%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	18,10	0,91	
	%PCI03	3,000 %	Costes indirectos	14,90	0,45			%PCI03	3,000 %	Costes indirectos	19,10	0,57	
TOTAL PARTIDA.....						15,31	TOTAL PARTIDA.....						19,62
Asciende el precio total de la partida a la mencionada cantidad de QUINCE EUROS con TREINTA Y UN CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de DIECINUEVE EUROS con SESENTA Y DOS CÉNTIMOS						
0309	R02TE16C	m	TUBERÍA PEAD PN-10 DN-160 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 160 mm de diámetro nominal y una presión de trabajo de 10 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, tés, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0311	R02TE18C	m	TUBERÍA PEAD PN-10 DN-180 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 180 mm de diámetro nominal y una presión de trabajo de 10 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, tés, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
	MO008A	0,040 h	Oficial 1ª	20,96	0,84			MO008A	0,046 h	Oficial 1ª	20,96	0,96	
	MO010	0,040 Hr	Peón	17,33	0,69			MO010A	0,069 h	Peón	17,33	1,20	
	P02TE16g	1,000 m	Tubería PEAD d=160 mm, 10 atmósferas, soldada	10,36	10,36			P02TE18g	1,000 m	Tubería PEAD d=180 mm, 10 atmósferas, soldada	13,13	13,13	
	MAQ022B	0,030 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,56			MAQ022B	0,030 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,56	
	MAQ020C	0,030 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,66			MAQ020C	0,030 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,66	
	%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	13,10	0,66			%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	16,50	0,83	
	%PCI03	3,000 %	Costes indirectos	13,80	0,41			%PCI03	3,000 %	Costes indirectos	17,30	0,52	
TOTAL PARTIDA.....						14,18	TOTAL PARTIDA.....						17,86
Asciende el precio total de la partida a la mencionada cantidad de CATORCE EUROS con DIECIOCHO CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de DIECISIETE EUROS con OCHENTA Y SEIS CÉNTIMOS						

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0312	R02TE18D	m	TUBERÍA PEAD PN-16 DN-180 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 180 mm de diámetro nominal y una presión de trabajo de 16 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, tés, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0314	R02TE20D	m	TUBERÍA PEAD PN-16 DN-200 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 200 mm de diámetro nominal y una presión de trabajo de 16 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, tés, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
	MO008A	0,046 h	Oficial 1ª	20,96	0,96			MO008A	0,048 h	Oficial 1ª	20,96	1,01	
	MO010A	0,069 h	Peón	17,33	1,20			MO010A	0,071 h	Peón	17,33	1,23	
	P02TE18h	1,000 m	Tubería PEAD d=180 mm, 16 atmósferas, con juntas	19,23	19,23			P02TE20D	1,000 m	Tubería PEAD d=200 mm, 16 atmósferas, soldada	23,54	23,54	
	MAQ022B	0,030 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,56			MAQ022B	0,032 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,60	
	MAQ020C	0,030 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,66			MAQ020C	0,032 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,71	
	%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	22,60	1,13			%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	27,10	1,36	
	%PCI03	3,000 %	Costes indirectos	23,70	0,71			%PCI03	3,000 %	Costes indirectos	28,50	0,86	
TOTAL PARTIDA.....						24,45	TOTAL PARTIDA.....						29,31

Asciende el precio total de la partida a la mencionada cantidad de VEINTICUATRO EUROS con CUARENTA Y CINCO CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de VEINTINUEVE EUROS con TREINTA Y UN CÉNTIMOS

0313	R02TE20C	m	TUBERÍA PEAD PN-10 DN-200 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 200 mm de diámetro nominal y una presión de trabajo de 10 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, tés, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0315	R02TE22C	m	TUBERÍA PEAD PN-10 DN-225 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 225 mm de diámetro nominal y una presión de trabajo de 10 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, tés, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
	MO008A	0,046 h	Oficial 1ª	20,96	0,96			MO008A	0,080 h	Oficial 1ª	20,96	1,68	
	MO010A	0,069 h	Peón	17,33	1,20			MO010A	0,140 h	Peón	17,33	2,43	
	P02TE20g	1,000 m	Tubería PEAD d=200 mm, 10 atmósferas, soldada	16,09	16,09			P02TE22g	1,000 m	Tubería PEAD d=225 mm, 10 atmósferas, con juntas	20,28	20,28	
	MAQ022B	0,030 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,56			MAQ022B	0,040 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,74	
	MAQ020C	0,030 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,66			MAQ020C	0,040 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,88	
	%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	19,50	0,98			%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	26,00	1,30	
	%PCI03	3,000 %	Costes indirectos	20,50	0,62			%PCI03	3,000 %	Costes indirectos	27,30	0,82	
TOTAL PARTIDA.....						21,07	TOTAL PARTIDA.....						28,13

Asciende el precio total de la partida a la mencionada cantidad de VEINTIUN EUROS con SIETE CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de VEINTIOCHO EUROS con TRECE CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0316	R02TE22D	m	TUBERÍA PEAD PN-16 DN-225 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 225 mm de diámetro nominal y una presión de trabajo de 16 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0318	R02TE25D	m	TUBERÍA PEAD PN-16 DN-250 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 250 mm de diámetro nominal y una presión de trabajo de 16 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
MO008A		0,082 h	Oficial 1ª	20,96	1,72		MO008A		0,082 h	Oficial 1ª	20,96	1,72	
MO010A		0,142 h	Peón	17,33	2,46		MO010A		0,142 h	Peón	17,33	2,46	
P02TE22D		1,000 m	Tubería PEAD d=225 mm, 16 atmósferas, con juntas	29,61	29,61		P02TE25D		1,000 m	Tubería PEAD d=250 mm, 16 atmósferas, con juntas	36,48	36,48	
MAQ022B		0,042 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,78		MAQ022B		0,042 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,78	
MAQ020C		0,042 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,93		MAQ020C		0,042 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,93	
%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	35,50	1,78		%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	42,40	2,12	
%PCI03		3,000 %	Costes indirectos	37,30	1,12		%PCI03		3,000 %	Costes indirectos	44,50	1,34	
TOTAL PARTIDA.....						38,40	TOTAL PARTIDA.....						45,83
Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y OCHO EUROS con CUARENTA CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CUARENTA Y CINCO EUROS con OCHENTA Y TRES CÉNTIMOS						
0317	R02TE25C	m	TUBERÍA PEAD PN-10 DN-250 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 250 mm de diámetro nominal y una presión de trabajo de 10 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0319	R02TE31C	m	TUBERÍA PEAD PN-10 DN-315 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 315 mm de diámetro nominal y una presión de trabajo de 10 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
MO008A		0,080 h	Oficial 1ª	20,96	1,68		MO008A		0,089 h	Oficial 1ª	20,96	1,87	
MO010A		0,140 h	Peón	17,33	2,43		MO010A		0,156 h	Peón	17,33	2,70	
P02TE25g		1,000 m	Tubería PEAD d=250 mm, 10 atmósferas, con juntas	24,89	24,89		P02TE31g		1,000 m	Tubería PEAD d=315 mm, 10 atmósferas, con juntas	39,38	39,38	
MAQ022B		0,040 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,74		MAQ019		0,044 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	1,38	
MAQ020C		0,040 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,88		MAQ022B		0,050 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,93	
%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	30,60	1,53		MAQ020C		0,050 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	1,10	
%PCI03		3,000 %	Costes indirectos	32,20	0,97		%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	47,40	2,37	
TOTAL PARTIDA.....						33,12	TOTAL PARTIDA.....						51,22
Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y TRES EUROS con DOCE CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CINCUENTA Y UN EUROS con VEINTIDOS CÉNTIMOS						

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0320	R02TE31D	m	TUBERÍA PEAD PN-16 DN-315 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 315 mm de diámetro nominal y una presión de trabajo de 16 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0322	R02TE35D	m	TUBERÍA PEAD PN-16 DN-355 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 355 mm de diámetro nominal y una presión de trabajo de 16 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
MO008A		0,082 h	Oficial 1ª	20,96	1,72		MO008A		0,082 h	Oficial 1ª	20,96	1,72	
MO010A		0,142 h	Peón	17,33	2,46		MO010A		0,142 h	Peón	17,33	2,46	
P02TE31D		1,000 m	Tubería PEAD d=315 mm, 16 atmósferas, con juntas	57,55	57,55		P02TE35D		1,000 m	Tubería PEAD d=355 mm, 16 atmósferas, con juntas	73,61	73,61	
MAQ022B		0,042 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,78		MAQ022B		0,042 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,78	
MAQ020C		0,042 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,93		MAQ020C		0,042 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,93	
%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	63,40	3,17		%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	79,50	3,98	
%PCI03		3,000 %	Costes indirectos	66,60	2,00		%PCI03		3,000 %	Costes indirectos	83,50	2,51	
TOTAL PARTIDA.....						68,61	TOTAL PARTIDA.....						85,99

Asciende el precio total de la partida a la mencionada cantidad de SESENTA Y OCHO EUROS con SESENTA Y UN CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de OCHENTA Y CINCO EUROS con NOVENTA Y NUEVE CÉNTIMOS

0321	R02TE35C	m	TUBERÍA PEAD PN-10 DN-355 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 355 mm de diámetro nominal y una presión de trabajo de 10 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0323	R02TE40C	m	TUBERÍA PEAD PN-10 DN-400 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 400 mm de diámetro nominal y una presión de trabajo de 10 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
MO008A		0,089 h	Oficial 1ª	20,96	1,87		MO008A		0,089 h	Oficial 1ª	20,96	1,87	
MO010A		0,156 h	Peón	17,33	2,70		MO010A		0,156 h	Peón	17,33	2,70	
P02TE35g		1,000 m	Tubería PEAD d=355 mm, 10 atmósferas, con juntas	50,53	50,53		P02TE40g		1,000 m	Tubería PEAD d=400 mm, 10 atmósferas, con juntas	63,12	63,12	
MAQ019		0,044 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	1,38		MAQ019		0,044 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	1,38	
MAQ022B		0,060 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	1,12		MAQ022B		0,060 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	1,12	
MAQ020C		0,060 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	1,32		MAQ020C		0,060 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	1,32	
%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	58,90	2,95		%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	71,50	3,58	
%PCI03		3,000 %	Costes indirectos	61,90	1,86		%PCI03		3,000 %	Costes indirectos	75,10	2,25	
TOTAL PARTIDA.....						63,73	TOTAL PARTIDA.....						77,34

Asciende el precio total de la partida a la mencionada cantidad de SESENTA Y TRES EUROS con SETENTA Y TRES CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de SETENTA Y SIETE EUROS con TREINTA Y CUATRO CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0324	R02TE812C	m	TUBERÍA PEAD PN-8 DN-125 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 125 mm de diámetro nominal y una presión de trabajo de 8 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0326	R02TE816C	m	TUBERÍA PEAD PN-8 DN-160 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 160 mm de diámetro nominal y una presión de trabajo de 8 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
	MO008A	0,027 h	Oficial 1ª	20,96	0,57			MO008A	0,040 h	Oficial 1ª	20,96	0,84	
	MO010A	0,027 h	Peón	17,33	0,47			MO010A	0,040 h	Peón	17,33	0,69	
	P02TE812g	1,000 m	Tubería PEAD d=125 mm, 8 atmósferas, soldada	5,27	5,27			P02TE816g	1,000 m	Tubería PEAD d=160 mm, 8 atmósferas, soldada	8,56	8,56	
	MAQ022B	0,020 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,37			MAQ022B	0,020 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,37	
	MAQ020C	0,020 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,44			MAQ020C	0,020 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,44	
	%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	7,10	0,36			%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	10,90	0,55	
	%PCI03	3,000 %	Costes indirectos	7,50	0,23			%PCI03	3,000 %	Costes indirectos	11,50	0,35	
TOTAL PARTIDA.....						7,71	TOTAL PARTIDA.....						11,80

Asciende el precio total de la partida a la mencionada cantidad de SIETE EUROS con SETENTA Y UN CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de ONCE EUROS con OCHENTA CÉNTIMOS

0325	R02TE814C	m	TUBERÍA PEAD PN-8 DN-140 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 140 mm de diámetro nominal y una presión de trabajo de 8 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0327	R02TE818C	m	TUBERÍA PEAD PN-8 DN-180 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 180 mm de diámetro nominal y una presión de trabajo de 8 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
	MO008A	0,027 h	Oficial 1ª	20,96	0,57			MO008A	0,046 h	Oficial 1ª	20,96	0,96	
	MO010A	0,027 h	Peón	17,33	0,47			MO010A	0,069 h	Peón	17,33	1,20	
	P02TE814g	1,000 m	Tubería PEAD d=140 mm, 8 atmósferas, soldada	6,57	6,57			P02TE818g	1,000 m	Tubería PEAD d=180 mm, 8 atmósferas, soldada	10,79	10,79	
	MAQ022B	0,020 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,37			MAQ022B	0,030 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,56	
	MAQ020C	0,020 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,44			MAQ020C	0,030 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,66	
	%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	8,40	0,42			%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	14,20	0,71	
	%PCI03	3,000 %	Costes indirectos	8,80	0,26			%PCI03	3,000 %	Costes indirectos	14,90	0,45	
TOTAL PARTIDA.....						9,10	TOTAL PARTIDA.....						15,33

Asciende el precio total de la partida a la mencionada cantidad de NUEVE EUROS con DIEZ CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de QUINCE EUROS con TREINTA Y TRES CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0328	R02TE820g	m	TUBERÍA PEAD PN-8 DN-200 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 200 mm de diámetro nominal y una presión de trabajo de 8 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0330	R02TE831C	m	TUBERÍA PEAD PN-8 DN-315 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 315 mm de diámetro nominal y una presión de trabajo de 8 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
	MO008A	0,053 h	Oficial 1ª	20,96	1,11			MO008A	0,089 h	Oficial 1ª	20,96	1,87	
	MO010A	0,080 h	Peón	17,33	1,39			MO010A	0,156 h	Peón	17,33	2,70	
	P02TE820g	1,000 m	Tubería PEAD d=200 mm, 8 atmósferas, soldada	13,28	13,28			P02TE831g	1,000 m	Tubería PEAD d=315 mm, 8 atmósferas, con juntas	30,60	30,60	
	MAQ022B	0,030 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,56			MAQ019	0,044 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	1,38	
	MAQ020C	0,030 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,66			MAQ022B	0,050 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,93	
	%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	17,00	0,85			MAQ020C	0,050 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	1,10	
	%PCI03	3,000 %	Costes indirectos	17,90	0,54			%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	38,60	1,93	
								%PCI03	3,000 %	Costes indirectos	40,50	1,22	
TOTAL PARTIDA.....						18,39	TOTAL PARTIDA.....						41,73

Asciende el precio total de la partida a la mencionada cantidad de DIECIOCHO EUROS con TREINTA Y NUEVE CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de CUARENTA Y UN EUROS con SETENTA Y TRES CÉNTIMOS

0329	R02TE825C	m	TUBERÍA PEAD PN-8 DN-250 Tubería de polietileno alta densidad PE100, MRS 10 N/mm2, EN 12201:2000 y EN 13244:1998, de 250 mm de diámetro nominal y una presión de trabajo de 8 kg/cm2. Incluso unión por soldadura a tope y parte proporcional de piezas especiales de acero para calderería (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
	MO008A	0,080 h	Oficial 1ª	20,96	1,68	
	MO010A	0,140 h	Peón	17,33	2,43	
	P02TE825g	1,000 m	Tubería PEAD d=250 mm, 8 atmósferas, con juntas	19,50	19,50	
	MAQ022B	0,040 h	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,74	
	MAQ020C	0,040 h	Grupo de soldadura para PEAD completo en bancada para obra	22,08	0,88	
	%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	25,20	1,26	
	%PCI03	3,000 %	Costes indirectos	26,50	0,80	
TOTAL PARTIDA.....						27,29

Asciende el precio total de la partida a la mencionada cantidad de VEINTISIETE EUROS con VEINTINUEVE CÉNTIMOS

0331	R02TL05a	m	TUBO POLIÉSTER ø500 mm PN-6 SN-5000 Tubería de poliéster reforzado con fibra de vidrio de 500 mm de diámetro nominal, presión nominal de 6 kg/cm2 y rigidez SN=5 KN/m2, incluso p.p. piezas especiales de unión con manguito flexible con junta de goma (piezas especiales en nudos, reducciones, té, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
	MO008	0,080 Hr	Oficial de primera	20,96	1,68	
	MO010	0,080 Hr	Peón	17,33	1,39	
	MATP02TL05a	1,000 m	Tubería poliéster centrifugado d=500 mm, SN-5, P-6	69,19	69,19	
	%MAT PRFV	2,000 %	Material necesario montaje tuberías PRFV(manguito,junta,etc)	72,30	1,45	
	MAQ031	0,030 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	1,53	
	MAQ019	0,080 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	2,51	
	%PESP-ANCL	5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	77,80	3,89	
	%PCI03	3,000 %	Costes indirectos	81,60	2,45	
TOTAL PARTIDA.....						84,09

Asciende el precio total de la partida a la mencionada cantidad de OCHENTA Y CUATRO EUROS con NUEVE CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0332	R02TL05b	m	TUBO POLIÉSTER ø500 mm PN-10 SN-5000 Tubería de poliéster reforzado con fibra de vidrio de 500 mm de diámetro nominal, presión nominal de 10 kg/cm2 y rigidez SN=5 KN/m2, incluso p.p. piezas especiales de unión con manguito flexible con junta de goma (piezas especiales en nudos, reducciones, tés, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0334	R02TL06b	m	TUBO POLIÉSTER ø600 mm PN-10 SN-5000 Tubería de poliéster reforzado con fibra de vidrio de 600 mm de diámetro nominal, presión nominal de 10 kg/cm2 y rigidez SN=5 KN/m2, incluso p.p. piezas especiales de unión con manguito flexible con junta de goma (piezas especiales en nudos, reducciones, tés, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
MO008		0,080 Hr	Oficial de primera	20,96	1,68		MO008		0,100 Hr	Oficial de primera	20,96	2,10	
MO010		0,080 Hr	Peón	17,33	1,39		MO010		0,100 Hr	Peón	17,33	1,73	
MATP02TL05b		1,000 m	Tubería poliéster centrifugado d=500 mm, SN-5, P-10	71,62	71,62		MATP02TL06b		1,000 m	Tubería poliéster centrifugado d=600 mm, SN-5, P-10	78,21	78,21	
%MAT PRFV		2,000 %	Material necesario montaje tuberías PRFV(manguito,junta,etc)	74,70	1,49		%MAT PRFV		2,000 %	Material necesario montaje tuberías PRFV(manguito,junta,etc)	82,00	1,64	
MAQ019		0,080 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	2,51		MAQ019		0,100 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	3,14	
MAQ031		0,030 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	1,53		MAQ031		0,030 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	1,53	
%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	80,20	4,01		%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	88,40	4,42	
%PCI03		3,000 %	Costes indirectos	84,20	2,53		%PCI03		3,000 %	Costes indirectos	92,80	2,78	
TOTAL PARTIDA.....						86,76	TOTAL PARTIDA.....						95,55
Asciende el precio total de la partida a la mencionada cantidad de OCHENTA Y SEIS EUROS con SETENTA Y SEIS CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de NOVENTA Y CINCO EUROS con CINCUENTA Y CINCO CÉNTIMOS						
0333	R02TL06a	m	TUBO POLIÉSTER ø600 mm PN-6 SN-5000 Tubería de poliéster reforzado con fibra de vidrio de 600 mm de diámetro nominal, presión nominal de 6 kg/cm2 y rigidez SN=5 KN/m2, incluso p.p. piezas especiales de unión con manguito flexible con junta de goma (piezas especiales en nudos, reducciones, tés, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0335	R02TL07a	m	TUBO POLIÉSTER ø700 mm PN-6 SN-5000 Tubería de poliéster reforzado con fibra de vidrio de 700 mm de diámetro nominal, presión nominal de 6 kg/cm2 y rigidez SN=5 KN/m2, incluso p.p. piezas especiales de unión con manguito flexible con junta de goma (piezas especiales en nudos, reducciones, tés, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
MO008		0,100 Hr	Oficial de primera	20,96	2,10		MO008		0,114 Hr	Oficial de primera	20,96	2,39	
MO010		0,100 Hr	Peón	17,33	1,73		MO010		0,114 Hr	Peón	17,33	1,98	
MATP02TL06a		1,000 m	Tubería poliéster centrifugado d=600 mm, SN-5, P-6	88,48	88,48		MATP02TL07a		1,000 m	Tubería poliéster centrifugado d=700 mm, SN-5, P-6	110,50	110,50	
%MAT PRFV		2,000 %	Material necesario montaje tuberías PRFV(manguito,junta,etc)	92,30	1,85		%MAT PRFV		2,000 %	Material necesario montaje tuberías PRFV(manguito,junta,etc)	114,90	2,30	
MAQ019		0,100 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	3,14		MAQ031		0,040 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	2,03	
MAQ031		0,030 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	1,53		MAQ019		0,114 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	3,58	
%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	98,80	4,94		%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	122,80	6,14	
%PCI03		3,000 %	Costes indirectos	103,80	3,11		%PCI03		3,000 %	Costes indirectos	128,90	3,87	
TOTAL PARTIDA.....						106,88	TOTAL PARTIDA.....						132,79
Asciende el precio total de la partida a la mencionada cantidad de CIENTO SEIS EUROS con OCHENTA Y OCHO CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CIENTO TREINTA Y DOS EUROS con SETENTA Y NUEVE CÉNTIMOS						

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0336	R02TL07b	m	TUBO POLIÉSTER ø700 mm PN-10 SN-5000 Tubería de poliéster reforzado con fibra de vidrio de 700 mm de diámetro nominal, presión nominal de 10 kg/cm2 y rigidez SN=5 KN/m2, incluso p.p. piezas especiales de unión con manguito flexible con junta de goma (piezas especiales en nudos, reducciones, tés, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0338	R02TL08b	m	TUBO POLIÉSTER ø800 mm PN-10 SN-5000 Tubería de poliéster reforzado con fibra de vidrio de 800 mm de diámetro nominal, presión nominal de 10 kg/cm2 y rigidez SN=5 KN/m2, incluso p.p. piezas especiales de unión con manguito flexible con junta de goma (piezas especiales en nudos, reducciones, tés, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.			
MO008		0,114 Hr	Oficial de primera	20,96	2,39		MO008		0,133 Hr	Oficial de primera	20,96	2,79	
MO010		0,114 Hr	Peón	17,33	1,98		MO010		0,133 Hr	Peón	17,33	2,30	
MATP02TL07b		1,000 m	Tubería poliéster centrifugado d=700 mm, SN-5, P-10	114,87	114,87		MATP02TL08b		1,000 m	Tubería poliéster centrifugado d=800 mm, SN-5, P-10	135,70	135,70	
%MAT PRFV		2,000 %	Material necesario montaje tuberías PRFV(manguito,junta,etc)	119,20	2,38		%MAT PRFV		2,000 %	Material necesario montaje tuberías PRFV(manguito,junta,etc)	140,80	2,82	
MAQ019		0,114 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	3,58		MAQ019		0,133 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	4,18	
MAQ031		0,040 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	2,03		MAQ031		0,040 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	2,03	
%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	127,20	6,36		%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	149,80	7,49	
%PCI03		3,000 %	Costes indirectos	133,60	4,01		%PCI03		3,000 %	Costes indirectos	157,30	4,72	
TOTAL PARTIDA.....						137,60	TOTAL PARTIDA.....						162,03
Asciende el precio total de la partida a la mencionada cantidad de CIENTO TREINTA Y SIETE EUROS con SESENTA CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CIENTO SESENTA Y DOS EUROS con TRES CÉNTIMOS						
0337	R02TL08a	m	TUBO POLIÉSTER ø800 mm PN-6 SN-5000 Tubería de poliéster reforzado con fibra de vidrio de 800 mm de diámetro nominal, presión nominal de 6 kg/cm2 y rigidez SN=5 KN/m2, incluso p.p. piezas especiales de unión con manguito flexible con junta de goma (piezas especiales en nudos, reducciones, tés, codos, empalmes, conexiones, terminales, etc.), macizos de anclaje, bridas, tornillería y juntas y elementos necesarios para su completa instalación. Medida la unidad totalmente ejecutada e instalada en zanja sobre cama material granular y probada.				0339	R02TM11eA	m	Bajante PVC Sanitario DN110 mm Junta elástica Tubería de PVC sanitaria serie C, de 110 mm de diámetro y 4.0 mm. de espesor, unión por adhesivo, color gris, colocada en bajantes y red de saneamiento horizontal colgada. Incluso p.p. de piezas especiales, empalmes, conexiones, terminales, tornillería y juntas y elementos necesarios para su completa instalación según nte-iss-49, une 53114, iso-dis-3633. Medida la unidad totalmente ejecutada e instalada			
MO008		0,133 Hr	Oficial de primera	20,96	2,79		MO008		0,038 Hr	Oficial de primera	20,96	0,80	
MO010		0,133 Hr	Peón	17,33	2,30		MO010		0,038 Hr	Peón	17,33	0,66	
MATP02TL08a		1,000 m	Tubería poliéster centrifugado d=800 mm, SN-5, P-6	134,37	134,37		MAT460		1,000 m	Tubo PVC Sanitario DN 110 mm junta elástica	2,63	2,63	
%MAT PRFV		2,000 %	Material necesario montaje tuberías PRFV(manguito,junta,etc)	139,50	2,79		MAT215		0,020 Kg	Lubricante para tuberías	0,83	0,02	
MAQ031		0,040 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	2,03		%MAT TUBERÍAS		2,000 %	Mat. Necesario Montaje Tub. Plásticas (Lubricante, juntas,etc)	4,10	0,08	
MAQ019		0,133 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	4,18		%00PCI03		3,000 %	Costes Indirectos	4,20	0,13	
%PESP-ANCL		5,000 %	P.P De Piezas Especiales Y Macizos De Anclaje	148,50	7,43		TOTAL PARTIDA.....						4,32
%PCI03		3,000 %	Costes indirectos	155,90	4,68		Asciende el precio total de la partida a la mencionada cantidad de CUATRO EUROS con TREINTA Y DOS CÉNTIMOS						
TOTAL PARTIDA.....						160,57	0340	R03VE002	Ud	Ventosa trifuncional ø50 PN-16 Ventosa metálica trifuncional embreada de fundición GGG-40 o GGG-50 de 50 mm de DN y 16 Atm de PN, según norma AWWA C 512. Incluido válvula de esfera para rosca DN 50 mm PN-16 sobre tubería de acero del mismo diámetro S-235 JRG2, con tratamiento anticorrosión epoxy-poliéster alimentario 300 micras interior y 200 micras exterior. Incluido también juntas y accesorios para su colocación. Conjunto completamente instalado con parte proporcional de bridas, juntas, tornillería y calderería en acero S-235 JRG2 con el mismo tratamiento indicado y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.			
Asciende el precio total de la partida a la mencionada cantidad de CIENTO SESENTA EUROS con CINCUENTA Y SIETE CÉNTIMOS							MO008		1,100 Hr	Oficial de primera	20,96	23,06	
							MAT406		1,000 Ud	Ventosa trifuncional d=50 mm PN-16	205,68	205,68	
							MAT374		1,000 Ud	Válvula compuerta bridas d=50 mm PN-16	29,40	29,40	
							MAT006		0,500 Kg	Acero En Calderería	4,30	2,15	
							MAT003		1,500 Ud	Accesorios De Unión A Tubería, Juntas Y Tornillería	2,10	3,15	
							%00PCI03		3,000 %	Costes Indirectos	263,40	7,90	
TOTAL PARTIDA.....							TOTAL PARTIDA.....						271,34
Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS SETENTA Y UN EUROS con TREINTA Y CUATRO CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS SETENTA Y UN EUROS con TREINTA Y CUATRO CÉNTIMOS						

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0341	R03VE004		Ud Ventosa trifuncional ø80 PN-16 Ventosa metálica trifuncional embreada de fundición GGG-40 o GGG-50 de 80 mm de DN y 16 Atm de PN, según norma AWWA C 512. Incluido válvula de compuerta DN 80 mm y PN-16 atm con cierre con asiento elástico y embreada para unión a tubería de acero del mismo diámetro S-235 JRG2, con tratamiento anticorrosión epoxy-poliéster alimentario 300 micras interior y 200 micras exterior. Incluido también juntas y accesorios para su colocación. Conjunto completamente instalado con parte proporcional de bridas, juntas, tornillería y piezas de calderería especiales en acero S-235 JRG2 con el mismo tratamiento indicado y accesorios para unión a la tubería. Medida la unidad instalada ejecutada y probada.				0343	R03VE006		Ud Ventosa trifuncional ø150 PN-16 Ventosa metálica trifuncional embreada de fundición GGG-40 o GGG-50 de 150 mm de DN y 16 Atm de PN, según norma AWWA C 512. Incluido válvula de compuerta DN 150 mm y PN-16 atm con cierre con asiento elástico y embreada para unión a tubería de acero del mismo diámetro S-235 JRG2, con tratamiento anticorrosión epoxy-poliéster alimentario 300 micras interior y 200 micras exterior. Incluido también juntas y accesorios para su colocación. Conjunto completamente instalado con parte proporcional de bridas, juntas, tornillería y piezas de calderería especiales en acero S-235 JRG2 con el mismo tratamiento indicado y accesorios para unión a la tubería. Medida la unidad instalada ejecutada y probada.			
	MO008	1,100 Hr	Oficial de primera	20,96	23,06			MO008	1,970 Hr	Oficial de primera	20,96	41,29	
	MAT407	1,000 Ud	Ventosa trifuncional d=80 mm PN-16	446,81	446,81			MAT405	1,000 Ud	Ventosa trifuncional d=150 mm PN-16	1.304,84	1.304,84	
	MAT367	1,000 Ud	Válvula compuerta bridas d=80 mm PN-16	70,00	70,00			MAT365	1,000 Ud	Válvula compuerta bridas d=150 mm PN-16	159,81	159,81	
	MAT006	4,700 Kg	Acero En Calderería	4,30	20,21			MAT006	0,900 Kg	Acero En Calderería	4,30	3,87	
	MAT003	1,500 Ud	Accesorios De Unión A Tubería, Juntas Y Tornillería	2,10	3,15			MAT003	6,000 Ud	Accesorios De Unión A Tubería, Juntas Y Tornillería	2,10	12,60	
	%00PCI03	3,000 %	Costes Indirectos	563,20	16,90			%00PCI03	3,000 %	Costes Indirectos	1.522,40	45,67	
TOTAL PARTIDA.....						580,13	TOTAL PARTIDA.....						1.568,08
Asciende el precio total de la partida a la mencionada cantidad de QUINIENTOS OCHENTA EUROS con TRECE CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de MIL QUINIENTOS SESENTA Y OCHO EUROS con OCHO CÉNTIMOS						
0342	R03VE005		Ud Ventosa trifuncional ø100 PN-16 Ventosa metálica trifuncional embreada de fundición GGG-40 o GGG-50 de 100 mm de DN y 16 Atm de PN, según norma AWWA C 512. Incluido válvula de compuerta DN 100 mm y PN-16 atm con cierre con asiento elástico y embreada para unión a tubería de acero del mismo diámetro S-235 JRG2, con tratamiento anticorrosión epoxy-poliéster alimentario 300 micras interior y 200 micras exterior. Incluido también juntas y accesorios para su colocación. Conjunto completamente instalado con parte proporcional de bridas, juntas, tornillería y piezas de calderería especiales en acero S-235 JRG2 con el mismo tratamiento indicado y accesorios para unión a la tubería. Medida la unidad instalada ejecutada y probada.				0344	R03VE008		Ud Ventosa trifuncional ø200 PN-16 Ventosa metálica trifuncional embreada de fundición GGG-40 o GGG-50 de 200 mm de DN y 16 Atm de PN, según norma AWWA C 512. Incluido válvula de compuerta DN 200 mm y PN-16 atm con cierre con asiento elástico y embreada para unión a tubería de acero del mismo diámetro S-235 JRG2, con tratamiento anticorrosión epoxy-poliéster alimentario 300 micras interior y 200 micras exterior. Incluido también juntas y accesorios para su colocación. Conjunto completamente instalado con parte proporcional de bridas, juntas, tornillería y piezas de calderería especiales en acero S-235 JRG2 con el mismo tratamiento indicado y accesorios para unión a la tubería. Medida la unidad instalada ejecutada y probada.			
	MO008	1,450 Hr	Oficial de primera	20,96	30,39			MO008	1,333 Hr	Oficial de primera	20,96	27,94	
	MAT404	1,000 Ud	Ventosa trifuncional d=100 mm PN-16	605,55	605,55			MAT1110	1,000 Ud	Ventosa trifuncional d=200 mm, PN-16 atmósferas	1.789,22	1.789,22	
	MAT364	1,000 Ud	Válvula compuerta bridas d=100 mm PN-16	116,54	116,54			MAT366	1,000 Ud	Válvula compuerta bridas d=200 mm PN-16	380,62	380,62	
	MAT006	6,500 Kg	Acero En Calderería	4,30	27,95			MAT006	4,000 Kg	Acero En Calderería	4,30	17,20	
	MAT003	3,500 Ud	Accesorios De Unión A Tubería, Juntas Y Tornillería	2,10	7,35			P03VE500	8,000 Ud	Accesorios De Unión A Tubería	2,10	16,80	
	%00PCI03	3,000 %	Costes Indirectos	787,80	23,63			%00PCI03	3,000 %	Costes Indirectos	2.231,80	66,95	
TOTAL PARTIDA.....						811,41	TOTAL PARTIDA.....						2.298,73
Asciende el precio total de la partida a la mencionada cantidad de OCHOCIENTOS ONCE EUROS con CUARENTA Y UN CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de DOS MIL DOSCIENTOS NOVENTA Y OCHO EUROS con SETENTA Y TRES CÉNTIMOS						

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Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0345	R04AR010	m ³	Excavación en Desmonte Todo Tipo de Terreno, Tte D=10 Km Excavación en desmonte con medios mecánicos de terrenos de cualquier naturaleza o consistencia, incluidas las capas de roca ripables con potencias iguales a D10 o similar (447/538 kW), incluido el uso de martillo rompedor para facilitar el ripado o arranque, con presencia por la totalidad de la zona de excavación, adicionalmente roca de mayor dureza hasta un porcentaje máximo de un 10% sobre el volumen total excavado medido sobre terreno inalterado en base a perfiles de taludes y fondo de balsa, incluso terrenos de consistencia blanda. Incluida la excavación selectiva de los materiales para el terraplén (según estudio geotécnico), con la preparación del fondo de la excavación según las especificaciones recogidas por el estudio geotécnico recogido en el anejo 6 del proyecto, labrado o ripado del fondo de excavación, con posterior humectación y compactación energética del terreno una vez alcanzada la cota de fondo, en toda la zona de actuación. Incluso ripado previo según características indicadas, carga y transporte a terraplén, caballete a lugar de empleo o vertedero autorizado (incluido cánon y/o tasas), a distancia inferior a 10 km. Incluido el extendido y perfilado de taludes, entibado y agotamiento, apilado y traslado en obra de productos de excavación a zonas de utilización con separación de elementos gruesos, aportación de riegos con cuba para minimizar la emisión de partículas de polvo a la atmósfera. Medido el volumen sobre perfil natural con el perfil final y con el perfil teórico de proyecto.				0347	R04ARV10-2	m	Formación de cuneta no revestida de 1.2 m y 0.75 m de alto Formación de cuneta en lateral de camino con una anchura de 1,2m y con una profundidad de hasta 0,75 m. perfilado de taludes, interior y exterior y adecuación de pendientes según el terreno y según los puntos de evacuación de agua proximos. Carga y transporte al lugar de empleo o a vertedero para su posterior reutilización, a una distancia inferior a 5 km incluido el canon y autorizaciones de vertido necesarias e la tierra extraida de la formación de cuneta.			
	MO003	0,003 Hr	Capataz	21,71	0,07		MO003	0,010 Hr	Capataz	21,71	0,22		
	MO010	0,005 Hr	Peón	17,33	0,09		MO010	0,070 Hr	Peón	17,33	1,21		
	MAQ030	0,008 Hr	Retroexcavadora hidráulica sobre cadenas, de 65 t	87,01	0,70		MAQ002	0,020 Hr	Camión con caja basculante 4 x 4	55,70	1,11		
	MAQ031	0,005 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	0,25		MAQ023	0,010 Hr	Motoniveladora de bastidor articulado de 203 kw	72,18	0,72		
	MAQ012	0,005 Hr	Dumper de bastidor articulado 6 x 4, de 15 m ³	68,36	0,34		MAQ031	0,020 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	1,02		
	MAQ032	0,003 Hr	Tractor s/cadenas con convertidor de par de 66 kw (empujador)	39,98	0,12		%PCI03	3,000 %	Costes indirectos	4,30	0,13		
	MAT010	0,006 m ³	Agua En Obra	0,70	0,00								
	%REP	2,500 %	Reposicion de Servicios Afectados	1,60	0,04								
	%00PCI03	3,000 %	Costes Indirectos	1,60	0,05								
			TOTAL PARTIDA.....			1,66							4,41
			Asciende el precio total de la partida a la mencionada cantidad de CUATRO EUROS con CUARENTA Y UN CÉNTIMOS										
							0348	R04EM010	m	Cerramiento Valla Galvanizada h=2 m Cerramiento de valla galvanizada de 2,00 m de altura con postes metálicos cada 3,00 m y poste principal cada 30 m, incluso cimientos de hormigón y parte proporcional de puerta y piezas especiales, incluida la parte proporcional de viga riostra en todo el perímetro para sujeción de malla, quedando totalmente cosida al terreno (excavación, retirada de tierras, encofrados, ferralla y hormigón. Medida la unidad ejecutada.			
							MO003	0,003 Hr	Capataz	21,71	0,07		
							MO008	0,050 Hr	Oficial de primera	20,96	1,05		
							MO010	0,050 Hr	Peón	17,33	0,87		
							MAT093	1,000 m	Cerramiento malla de alambre de acero galvanizado, en obra h=2m	12,79	12,79		
							MAQ016	0,035 Hr	Vibrador de agujas para morteros y hormigones, d=76 mm	2,78	0,10		
							MAQ035	0,005 Hr	Bomba de hormigón sobre camión o semirremolque	91,90	0,46		
							MAT178IIB	0,015 m ³	Hormigón HM-20/B/20/X0 EN OBRA	49,60	0,74		
							%00PCI03	3,000 %	Costes Indirectos	16,10	0,48		
			TOTAL PARTIDA.....										16,56
			Asciende el precio total de la partida a la mencionada cantidad de DIECISEIS EUROS con CINCUENTA Y SEIS CÉNTIMOS										
							0349	R04EM010-A	m	Cerramiento Valla Galvanizada h=1 m Cerramiento de valla galvanizada de 1,00 m de altura con postes metálicos cada 3,00 m y poste principal cada 30 m, incluso cimientos de hormigón y parte proporcional de puerta y piezas especiales, incluida la parte proporcional de viga riostra en todo el perímetro para sujeción de malla, quedando totalmente cosida al terreno (excavación, retirada de tierras, encofrados, ferralla y hormigón. Medida la unidad ejecutada.			
							MO003	0,003 Hr	Capataz	21,71	0,07		
							MO008	0,035 Hr	Oficial de primera	20,96	0,73		
							MO010	0,035 Hr	Peón	17,33	0,61		
							MAQ016	0,035 Hr	Vibrador de agujas para morteros y hormigones, d=76 mm	2,78	0,10		
							MAQ035	0,004 Hr	Bomba de hormigón sobre camión o semirremolque	91,90	0,37		
							MAT093-A	1,000 m	Cerramiento malla de alambre de acero galvanizado, en obra h=1m	6,08	6,08		
							MAT178IIB	0,080 m ³	Hormigón HM-20/B/20/X0 EN OBRA	49,60	3,97		
							%00PCI03	3,000 %	Costes Indirectos	11,90	0,36		
			TOTAL PARTIDA.....			1,07							12,29
			Asciende el precio total de la partida a la mencionada cantidad de UN EUROS con SIETE CÉNTIMOS										

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Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0350	R05DE100A		Ud Desagüe de 100 mm PN-16 y conexión. Desagüe de 100 mm de diámetro interior, sobre tubería de presión de cualquier diámetro, comprendiendo válvula de compuerta con cierre elástico de 100 mm de diámetro nominal, 16 Atm de presión nominal provista de volante y bridas, con cuerpo y tapa de fundición nodular revestida de neopreno y husillo de acero inoxidable. Incluido el eje de extensión de tipo telescópico y prolongador de acero todo en galvanizado hasta una altura de 3 metros, con todos los materiales necesarios para la completa maniobra de la válvula enterrada. Se incluye además piezas especiales en calderería (tés, codos, bridas, etc) y accesorios de DN-100 PN-16, para la conexión con tubería de PVC DN 110 PN6, a los desagües existentes o a arqueta de achique. Incluido también los anclajes, contrarrestos, obras de tierra y fábrica complementarias, colocación y prueba de toda la unidad.				0351	R05DE200A		Ud Desagüe de 200 mm PN-16 y conexión. Desagüe de 200 mm de diámetro interior, sobre tubería de presión de cualquier diámetro, comprendiendo válvula de compuerta con cierre elástico de 200 mm de diámetro nominal, 16 Atm de presión nominal provista de volante y bridas, con cuerpo y tapa de fundición nodular revestida de neopreno y husillo de acero inoxidable. Incluido el eje de extensión de tipo telescópico y prolongador de acero todo en galvanizado hasta una altura de 3 metros, con todos los materiales necesarios para la completa maniobra de la válvula enterrada. Se incluye además piezas especiales en calderería (tés, codos, bridas, etc) y accesorios de DN-200PN-16, para la conexión con tubería de PVC DN 200 PN6, a los desagües existentes o a arqueta de achique. Incluido también los anclajes, contrarrestos, obras de tierra y fábrica complementarias, colocación y prueba de toda la unidad.			
	MO008	1,600 Hr	Oficial de primera	20,96	33,54			MO008	2,000 Hr	Oficial de primera	20,96	41,92	
	MO011	3,800 Hr	Peón especializado	18,19	69,12			MO011	4,708 Hr	Peón especializado	18,19	85,64	
	MO010	3,800 Hr	Peón	17,33	65,85			MO010	4,708 Hr	Peón	17,33	81,59	
	MAT364	1,000 Ud	Válvula compuerta bridas d=100 mm PN-16	116,54	116,54			MAT366	1,000 Ud	Válvula compuerta bridas d=200 mm PN-16	380,62	380,62	
	MAT361	5,000 m	Tubo PVC 110 mm PN-6 Atm	2,00	10,00			MAT362	18,000 m	Tubo PVC 200 mm PN- 6 Atm	6,46	116,28	
	%MAT TUBERÍAS	2,000 %	Mat. Necesario Montaje Tub. Plásticas (Lubricante, juntas,etc)	295,10	5,90			%MAT TUBERÍAS	2,000 %	Mat. Necesario Montaje Tub. Plásticas (Lubricante, juntas,etc)	706,10	14,12	
	%CALDER001	4,000 %	Piezas Especiales En Acero Para Caldererías Montadas Obra	301,00	12,04			%CALDER001	4,000 %	Piezas Especiales En Acero Para Caldererías Montadas Obra	720,20	28,81	
	MAT178Ib	0,050 m³	Hormigón HM-20/B/20/X0 EN OBRA	49,60	2,48			MAT178Ib	0,050 m³	Hormigón HM-20/B/20/X0 EN OBRA	49,60	2,48	
	MAQ027	0,350 Hr	Pala cargadora s/ruedas con bastidor rígido, de 1,2 m³	39,62	13,87			MAQ027	0,360 Hr	Pala cargadora s/ruedas con bastidor rígido, de 1,2 m³	39,62	14,26	
	MAQ008	3,000 Hr	Compactador de pata de cabra, remolcable, de 3 t	1,99	5,97			MAQ008	3,000 Hr	Compactador de pata de cabra, remolcable, de 3 t	1,99	5,97	
	%00PCI03	3,000 %	Costes Indirectos	335,30	10,06			%00PCI03	3,000 %	Costes Indirectos	771,70	23,15	
TOTAL PARTIDA.....						345,37	TOTAL PARTIDA.....						794,84

Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS CUARENTA Y CINCO EUROS con TREINTA Y SIETE CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de SETECIENTOS NOVENTA Y CUATRO EUROS con OCHENTA Y CUATRO CÉNTIMOS

0352	R05EM03		Ud Medidor ultrasónico DN200 - DN4000 PN-10/16 Equipo de medida de caudal por ultrasonidos, para diámetro entre 200 y 4000 mm, formado por dos sondas y caudalímetro ultrasónico montado a la tubería, electrónica de tratamiento de señal 4-20 mA, convertidor de señales, sensores, y protecciones sobretensiones, cable triaxial, incluido suministro, instalación y pruebas de funcionamiento.										
	MO008	1,500 Hr	Oficial de primera	20,96	31,44								
	MO010	2,500 Hr	Peón	17,33	43,33								
	P09REV11	2,000 Ud	Sonda para inserción en tubería, 15/25	596,10	1.192,20								
	P09REV02	35,000 m	Cable triaxial por unión entre sondas	1,86	65,10								
	P09REV04	1,000 Ud	Protecciones para sobretensiones con señal de salida de 4 - 20	2.227,90	2.227,90								
	P09REV03	1,000 Ud	Caudalímetro ultrasonico DN 200-4000 PN 10/16	430,69	430,69								
	%00PCI03	3,000 %	Costes Indirectos	3.990,70	119,72								
TOTAL PARTIDA.....												4.110,38	

Asciende el precio total de la partida a la mencionada cantidad de CUATRO MIL CIENTO DIEZ EUROS con TREINTA Y OCHO CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0353	R05TM100	Ud	Carrete desmontaje PN-16 DN-100 Carrete telescópico de desmontaje de 100 mm de diámetro nominal y 16 Atm de presión nominal. Con una sola brida DIN central de igual tamaño y características a la de los extremos, para el alojamiento de la junta de estanqueidad de sección piramidal y de goma EPDM siendo el montaje siempre con tornillos cincados con calidad 8,8 pasantes entre ambas caras del carrete a través de la brida central. Provisto de la parte proporcional de piezas especiales en juntas, tornillería y calderería y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.				0356	R05TM112	Ud	Carrete desmontaje PN-10/16 DN-250 Carrete telescópico de desmontaje de 250 mm de diámetro nominal y 10/16 Atm de presión nominal. Con una sola brida DIN central de igual tamaño y características a la de los extremos, para el alojamiento de la junta de estanqueidad de sección piramidal y de goma EPDM siendo el montaje siempre con tornillos cincados con calidad 8,8 pasantes entre ambas caras del carrete a través de la brida central. Provisto de la parte proporcional de piezas especiales en juntas, tornillería y calderería y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.			
	MO008	0,400 Hr	Oficial de primera	20,96	8,38			MO008	0,541 Hr	Oficial de primera	20,96	11,34	
	MO010	0,500 Hr	Peón	17,33	8,67			MO010	0,577 Hr	Peón	17,33	10,00	
	MAT10311	1,000 Ud	Carrete de desmontaje brida-brida DN100, PN16	135,00	135,00			MAQ019	0,485 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	15,24	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	152,10	4,56			MAT078	1,000 Ud	Carrete de desmontaje brida-brida DN-250, PN-16	295,53	295,53	
	%00PCI03	3,000 %	Costes Indirectos	156,60	4,70			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	332,10	9,96	
								%00PCI03	3,000 %	Costes Indirectos	342,10	10,26	
			TOTAL PARTIDA.....			161,31				TOTAL PARTIDA.....			352,33
Asciende el precio total de la partida a la mencionada cantidad de CIENTO SESENTA Y UN EUROS con TREINTA Y UN CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS CINCUENTA Y DOS EUROS con TREINTA Y TRES CÉNTIMOS						
0354	R05TM111	Ud	Carrete desmontaje PN-10/16 DN-150 Carrete telescópico de desmontaje de 150 mm de diámetro nominal y 10/16 Atm de presión nominal. Con una sola brida DIN central de igual tamaño y características a la de los extremos, para el alojamiento de la junta de estanqueidad de sección piramidal y de goma EPDM siendo el montaje siempre con tornillos cincados con calidad 8,8 pasantes entre ambas caras del carrete a través de la brida central. Provisto de la parte proporcional de piezas especiales en juntas, tornillería y calderería y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.				0357	R05TM113	Ud	Carrete desmontaje PN-10/16 DN-300 Carrete telescópico de desmontaje de 300 mm de diámetro nominal y 10/16 Atm de presión nominal. Con una sola brida DIN central de igual tamaño y características a la de los extremos, para el alojamiento de la junta de estanqueidad de sección piramidal y de goma EPDM siendo el montaje siempre con tornillos cincados con calidad 8,8 pasantes entre ambas caras del carrete a través de la brida central. Provisto de la parte proporcional de piezas especiales en juntas, tornillería y calderería y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.			
	MO008	0,400 Hr	Oficial de primera	20,96	8,38			MO008	0,500 Hr	Oficial de primera	20,96	10,48	
	MO010	0,500 Hr	Peón	17,33	8,67			MO010	0,620 Hr	Peón	17,33	10,74	
	MAT077	1,000 Ud	Carrete de desmontaje brida-brida DN-150, PN-16	149,50	149,50			MAQ019	0,971 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	30,51	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	166,60	5,00			MAT079	1,000 Ud	Carrete de desmontaje brida-brida DN-300, PN-16	341,95	341,95	
	%00PCI03	3,000 %	Costes Indirectos	171,60	5,15			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	393,70	11,81	
								%00PCI03	3,000 %	Costes Indirectos	405,50	12,17	
			TOTAL PARTIDA.....			176,70				TOTAL PARTIDA.....			417,66
Asciende el precio total de la partida a la mencionada cantidad de CIENTO SETENTA Y SEIS EUROS con SETENTA CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CUATROCIENTOS DIECISIETE EUROS con SESENTA Y SEIS CÉNTIMOS						
0355	R05TM111-1	Ud	Carrete desmontaje PN-10/16 DN-200 Carrete telescópico de desmontaje de 200 mm de diámetro nominal y 10/16 Atm de presión nominal. Con una sola brida DIN central de igual tamaño y características a la de los extremos, para el alojamiento de la junta de estanqueidad de sección piramidal y de goma EPDM siendo el montaje siempre con tornillos cincados con calidad 8,8 pasantes entre ambas caras del carrete a través de la brida central. Provisto de la parte proporcional de piezas especiales en juntas, tornillería y calderería y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.				0358	R05TM1135	Ud	Carrete desmontaje PN-10/16 DN-350 Carrete telescópico de desmontaje de 350 mm de diámetro nominal y 16 Atm de presión nominal. Con una sola brida DIN central de igual tamaño y características a la de los extremos, para el alojamiento de la junta de estanqueidad de sección piramidal y de goma EPDM siendo el montaje siempre con tornillos cincados con calidad 8,8 pasantes entre ambas caras del carrete a través de la brida central. Provisto de la parte proporcional de piezas especiales en juntas, tornillería y calderería y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.			
	MO008	0,400 Hr	Oficial de primera	20,96	8,38			MO008	0,500 Hr	Oficial de primera	20,96	10,48	
	MO010	0,500 Hr	Peón	17,33	8,67			MO010	0,620 Hr	Peón	17,33	10,74	
	MAT077-1	1,000 Ud	Carrete de desmontaje brida-brida DN-200, PN-16	236,19	236,19			MAQ019	0,971 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	30,51	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	253,20	7,60			MAT11305	1,000 Ud	Carrete de desmontaje brida-brida DN-350, PN-16	491,70	491,70	
	%00PCI03	3,000 %	Costes Indirectos	260,80	7,82			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	543,40	16,30	
								%00PCI03	3,000 %	Costes Indirectos	559,70	16,79	
			TOTAL PARTIDA.....			268,66				TOTAL PARTIDA.....			576,52
Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS SESENTA Y OCHO EUROS con SESENTA Y SEIS CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de QUINIENTOS SETENTA Y SEIS EUROS con CINCUENTA Y DOS CÉNTIMOS						

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0359	R05TM115	Ud	Carrete desmontaje PN-10/16 DN-400 Carrete telescópico de desmontaje de 400 mm de diámetro nominal y 10/16 Atm de presión nominal. Con una sola brida DIN central de igual tamaño y características a la de los extremos, para el alojamiento de la junta de estanqueidad de sección piramidal y de goma EPDM siendo el montaje siempre con tornillos cincados con calidad 8,8 pasantes entre ambas caras del carrete a través de la brida central. Provisto de la parte proporcional de piezas especiales en juntas, tornillería y calderería y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.				0362	R05TM117D	ud	Carrete desmontaje PN-10/16 DN-700 Carrete telescópico de desmontaje de 700 mm de diámetro nominal y 10/16 Atm de presión nominal. Con una sola brida DIN central de igual tamaño y características a la de los extremos, para el alojamiento de la junta de estanqueidad de sección piramidal y de goma EPDM siendo el montaje siempre con tornillos cincados con calidad 8,8 pasantes entre ambas caras del carrete a través de la brida central. Provisto de la parte proporcional de piezas especiales en juntas, tornillería y calderería y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.			
	MO008	1,000 Hr	Oficial de primera	20,96	20,96			MO008A	1,500 h	Oficial 1ª	20,96	31,44	
	MO010	1,436 Hr	Peón	17,33	24,89			MO010A	2,000 h	Peón	17,33	34,66	
	MAQ019	1,944 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	61,08			MAT086	1,000 ud	Carrete de desmontaje brida-brida DN-700, PN-16	1.200,00	1.200,00	
	MAT081	1,000 Ud	Carrete de desmontaje brida-brida DN-400, PN-16	459,68	459,68			MAQ019	1,500 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	47,13	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	566,60	17,00			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	1.313,20	39,40	
	%00PCI03	3,000 %	Costes Indirectos	583,60	17,51			%PCI03	3,000 %	Costes indirectos	1.352,60	40,58	
TOTAL PARTIDA.....						601,12	TOTAL PARTIDA.....						1.393,21
Asciende el precio total de la partida a la mencionada cantidad de SEISCIENTOS UN EUROS con DOCE CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de MIL TRESCIENTOS NOVENTA Y TRES EUROS con VEINTIUN CÉNTIMOS						
0360	R05TM116	Ud	Carrete desmontaje PN-10/16 DN-500 Carrete telescópico de desmontaje de 500 mm de diámetro nominal y 10/16 Atm de presión nominal. Con una sola brida DIN central de igual tamaño y características a la de los extremos, para el alojamiento de la junta de estanqueidad de sección piramidal y de goma EPDM siendo el montaje siempre con tornillos cincados con calidad 8,8 pasantes entre ambas caras del carrete a través de la brida central. Provisto de la parte proporcional de piezas especiales en juntas, tornillería y calderería y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.				0363	R05TM118	Ud	Carrete desmontaje PN-10/16 DN-800 Carrete telescópico de desmontaje de 800 mm de diámetro nominal y 10/16 Atm de presión nominal. Con una sola brida DIN central de igual tamaño y características a la de los extremos, para el alojamiento de la junta de estanqueidad de sección piramidal y de goma EPDM siendo el montaje siempre con tornillos cincados con calidad 8,8 pasantes entre ambas caras del carrete a través de la brida central. Provisto de la parte proporcional de piezas especiales en juntas, tornillería y calderería y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.			
	MO008	1,113 Hr	Oficial de primera	20,96	23,33			MO008	1,500 Hr	Oficial de primera	20,96	31,44	
	MO010	1,503 Hr	Peón	17,33	26,05			MO010	2,000 Hr	Peón	17,33	34,66	
	MAQ019	1,940 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	60,95			MAQ019	2,912 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	91,50	
	MAT084	1,000 Ud	Carrete de desmontaje brida-brida DN-500, PN-16	575,00	575,00			MAT087	1,000 Ud	Carrete de desmontaje brida-brida DN-800, PN-16	1.500,00	1.500,00	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	685,30	20,56			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	1.657,60	49,73	
	%00PCI03	3,000 %	Costes Indirectos	705,90	21,18			%00PCI03	3,000 %	Costes Indirectos	1.707,30	51,22	
TOTAL PARTIDA.....						727,07	TOTAL PARTIDA.....						1.758,55
Asciende el precio total de la partida a la mencionada cantidad de SETECIENTOS VEINTISIETE EUROS con SIETE CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de MIL SETECIENTOS CINCUENTA Y OCHO EUROS con CINCUENTA Y CINCO CÉNTIMOS						
0361	R05TM117	Ud	Carrete desmontaje PN-10/16 DN-600 Carrete telescópico de desmontaje de 600 mm de diámetro nominal y 10/16 Atm de presión nominal. Con una sola brida DIN central de igual tamaño y características a la de los extremos, para el alojamiento de la junta de estanqueidad de sección piramidal y de goma EPDM siendo el montaje siempre con tornillos cincados con calidad 8,8 pasantes entre ambas caras del carrete a través de la brida central. Provisto de la parte proporcional de piezas especiales en juntas, tornillería y calderería y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.				0364	R05TM119	Ud	Carrete desmontaje PN-10/16 DN-900 Carrete telescópico de desmontaje de 900 mm de diámetro nominal y 10/16 Atm de presión nominal. Con una sola brida DIN central de igual tamaño y características a la de los extremos, para el alojamiento de la junta de estanqueidad de sección piramidal y de goma EPDM siendo el montaje siempre con tornillos cincados con calidad 8,8 pasantes entre ambas caras del carrete a través de la brida central. Provisto de la parte proporcional de piezas especiales en juntas, tornillería y calderería y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.			
	MO008	1,000 Hr	Oficial de primera	20,96	20,96			MO008	1,500 Hr	Oficial de primera	20,96	31,44	
	MO010	1,949 Hr	Peón	17,33	33,78			MO010	2,000 Hr	Peón	17,33	34,66	
	MAQ019	2,912 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	91,50			MAQ019	2,912 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	91,50	
	MAT085	1,000 Ud	Carrete de desmontaje brida-brida DN-600, PN-16	900,00	900,00			MAT088	1,000 Ud	Carrete de desmontaje brida-brida DN-900, PN-16	1.850,00	1.850,00	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	1.046,20	31,39			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	2.007,60	60,23	
	%00PCI03	3,000 %	Costes Indirectos	1.077,60	32,33			%00PCI03	3,000 %	Costes Indirectos	2.067,80	62,03	
TOTAL PARTIDA.....						1.109,96	TOTAL PARTIDA.....						2.129,86
Asciende el precio total de la partida a la mencionada cantidad de MIL CIENTO NUEVE EUROS con NOVENTA Y SEIS CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de DOS MIL CIENTO VEINTINUEVE EUROS con OCHENTA Y SEIS CÉNTIMOS						

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0365	R05TM120	Ud	Carrete desmontaje PN-10/16 DN-1000 Carrete telescópico de desmontaje de 1000 mm de diámetro nominal y 10/16 Atm de presión nominal. Con una sola brida DIN central de igual tamaño y características a la de los extremos, para el alojamiento de la junta de estanqueidad de sección piramidal y de goma EPDM siendo el montaje siempre con tornillos cincados con calidad 8,8 pasantes entre ambas caras del carrete a través de la brida central. Provisto de la parte proporcional de piezas especiales en juntas, tornillería y calderería y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.				0368	R05VC116-1	Ud	Válvula compuerta ø100 mm PN-16 Válvula de compuerta con cierre elástico de 100 mm de diámetro nominal y 16 Atm de presión nominal provista de volante y bridas con cuerpo y tapa de fundición nodular, compuerta de fundición nodular revestida de neopreno y husillo de acero inoxidable. Incluido el eje de extensión de tipo telescópico y prolongador de acero todo en galvanizado hasta una altura de 3 metros, con todos los materiales necesarios para la completa maniobra de la válvula enterrada, con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.			
	MO008	1,800 Hr	Oficial de primera	20,96	37,73			MO008	0,750 Hr	Oficial de primera	20,96	15,72	
	MO010	2,200 Hr	Peón	17,33	38,13			MO010	1,000 Hr	Peón	17,33	17,33	
	MAQ019	2,912 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	91,50			MAT364	1,000 Ud	Válvula compuerta bridas d=100 mm PN-16	116,54	116,54	
	MAT089	1,000 Ud	Carrete de desmontaje brida-brida DN-1000, PN-16	2.200,00	2.200,00			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	149,60	4,49	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	2.367,40	71,02			%00PCI03	3,000 %	Costes Indirectos	154,10	4,62	
	%00PCI03	3,000 %	Costes Indirectos	2.438,40	73,15			TOTAL PARTIDA.....					158,70
TOTAL PARTIDA.....						2.511,53	Asciende el precio total de la partida a la mencionada cantidad de CIENTO CINCUENTA Y OCHO EUROS con SETENTA CÉNTIMOS						
0366	R05TM125	Ud	Carrete desmontaje PN-10/16 DN-1200 Carrete telescópico de desmontaje de 1200 mm de diámetro nominal y 10/16 Atm de presión nominal. Con una sola brida DIN central de igual tamaño y características a la de los extremos, para el alojamiento de la junta de estanqueidad de sección piramidal y de goma EPDM siendo el montaje siempre con tornillos cincados con calidad 8,8 pasantes entre ambas caras del carrete a través de la brida central. Provisto de la parte proporcional de piezas especiales en juntas, tornillería y calderería y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.				0369	R05VC123	Ud	Válvula compuerta ø150 mm PN-16 Válvula de compuerta con cierre elástico de 150 mm de diámetro nominal y 16 Atm de presión nominal provista de volante y bridas con cuerpo y tapa de fundición nodular, compuerta de fundición nodular revestida de neopreno y husillo de acero inoxidable. Incluido el eje de extensión de tipo telescópico y prolongador de acero todo en galvanizado hasta una altura de 3 metros, con todos los materiales necesarios para la completa maniobra de la válvula enterrada, con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.			
	MO008	2,101 Hr	Oficial de primera	20,96	44,04			MO008	0,792 Hr	Oficial de primera	20,96	16,60	
	MO010	2,395 Hr	Peón	17,33	41,51			MO010	1,000 Hr	Peón	17,33	17,33	
	MAQ019	2,829 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	88,89			MAT365	1,000 Ud	Válvula compuerta bridas d=150 mm PN-16	159,81	159,81	
	P_1200	1,000 Ud	Carrete de desmontaje Ø 1200 mm ; PN-16 (p.o.)	3.500,00	3.500,00			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	193,70	5,81	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	3.674,40	110,23			%00PCI03	3,000 %	Costes Indirectos	199,60	5,99	
	%00PCI03	3,000 %	Costes Indirectos	3.784,70	113,54			TOTAL PARTIDA.....					205,54
TOTAL PARTIDA.....						3.898,21	Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS CINCO EUROS con CINCUENTA Y CUATRO CÉNTIMOS						
0367	R05TM1805	Ud	Carrete desmontaje PN-10 DN 1800 Carrete telescópico de desmontaje de 1800 mm de diámetro nominal y 10 Atm de presión nominal. Con una sola brida DIN central de igual tamaño y características a la de los extremos, para el alojamiento de la junta de estanqueidad de sección piramidal y de goma EPDM siendo el montaje siempre con tornillos cincados con calidad 8,8 o superior pasantes entre ambas caras del carrete a través de la brida central. Provisto de la parte proporcional de piezas especiales en juntas, tornillería y calderería y accesorios de unión a la tubería. Medida la unidad instalada ejecutada y probada.				0370	R05VC124	Ud	Válvula compuerta ø200 mm PN-16 Válvula de compuerta con cierre elástico de 250 mm de diámetro nominal y 16 Atm de presión nominal provista de volante y bridas con cuerpo y tapa de fundición nodular, compuerta de fundición nodular revestida de neopreno y husillo de acero inoxidable. Incluido el eje de extensión de tipo telescópico y prolongador de acero todo en galvanizado hasta una altura de 3 metros, con todos los materiales necesarios para la completa maniobra de la válvula enterrada, con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.			
	MO008	3,500 Hr	Oficial de primera	20,96	73,36			MO008	0,501 Hr	Oficial de primera	20,96	10,50	
	MO010	4,000 Hr	Peón	17,33	69,32			MO010	0,624 Hr	Peón	17,33	10,81	
	MAQ019	3,883 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	122,00			MAQ019	0,489 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	15,36	
	MATZ11800	1,000 Ud	Carrete desmontaje DN 1800, PN 10	5.500,00	5.500,00			MAT366	1,000 Ud	Válvula compuerta bridas d=200 mm PN-16	380,62	380,62	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	5.764,70	172,94			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	417,30	12,52	
	%00PCI03	3,000 %	Costes Indirectos	5.937,60	178,13			%00PCI03	3,000 %	Costes Indirectos	429,80	12,89	
	TOTAL PARTIDA.....					6.115,75	TOTAL PARTIDA.....						442,70
TOTAL PARTIDA.....						6.115,75	Asciende el precio total de la partida a la mencionada cantidad de CUATROCIENTOS CUARENTA Y DOS EUROS con SETENTA CÉNTIMOS						
TOTAL PARTIDA.....						6.115,75	Asciende el precio total de la partida a la mencionada cantidad de SEIS MIL CIENTO QUINCE EUROS con SETENTA Y CINCO CÉNTIMOS						

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0371	R05VC125		Ud Válvula compuerta ø250 mm PN-16 Válvula de compuerta con cierre elástico de 250 mm de diámetro nominal y 16 Atm de presión nominal provista de volante y bridas con cuerpo y tapa de fundición nodular, compuerta de fundición nodular revestida de neopreno y husillo de acero inoxidable. Incluido el eje de extensión de tipo telescópico y prolongador de acero todo en galvanizado hasta una altura de 3 metros, con todos los materiales necesarios para la completa maniobra de la válvula enterrada, con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.				0374	R05VM012		Ud Válvula mariposa embreadada DN 1200 PN-10 Válvula de mariposa embreadada 1200 mm de diámetro nominal y 10 Atm de presión nominal con reductor desmultiplicador manual para cierre lento provisto de volante y bridas. Con cuerpo de fundición nodular, con bridas, con eje de acero superior e inferior de acero inoxidable AISI 431, lenteja de acero inoxidable AISI 431, asiento EPDM o NBR vulcanizada al cuerpo y juntas EPDM o NBR. Estanqueidad superior e inferior según pliego de condiciones. Unidad montada con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.			
	MO008	1,034 Hr	Oficial de primera	20,96	21,67			MO008	5,002 Hr	Oficial de primera	20,96	104,84	
	MO010	2,002 Hr	Peón	17,33	34,69			MO010	7,002 Hr	Peón	17,33	121,34	
	MAQ019	0,486 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	15,27			MAQ019	6,030 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	189,46	
	MAT370	1,000 Ud	Válvula compuerta bridas d=250 mm PN-16	532,38	532,38			P05VM012	1,000 ud	Válvula mariposa embreadada d=1200 mm, PN-10, incluso accesorios	18.000,00	18.000,00	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	604,00	18,12			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	18.415,60	552,47	
	%00PCI03	3,000 %	Costes Indirectos	622,10	18,66			%00PCI03	3,000 %	Costes Indirectos	18.968,10	569,04	
TOTAL PARTIDA.....						640,79	TOTAL PARTIDA.....						19.537,15
Asciende el precio total de la partida a la mencionada cantidad de SEISCIENTOS CUARENTA EUROS con SETENTA Y NUEVE CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de DIECINUEVE MIL QUINIENTOS TREINTA Y SIETE EUROS con QUINCE CÉNTIMOS						
0372	R05VC130		Ud Válvula compuerta ø300 mm PN-16 Válvula de compuerta con cierre elástico de 300 mm de diámetro nominal y 16 Atm de presión nominal provista de volante y bridas con cuerpo y tapa de fundición nodular, compuerta de fundición nodular revestida de neopreno y husillo de acero inoxidable. Incluido el eje de extensión de tipo telescópico y prolongador de acero todo en galvanizado hasta una altura de 3 metros, con todos los materiales necesarios para la completa maniobra de la válvula enterrada, con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.				0375	R05VM104		Ud Válvula mariposa embreadada DN-400 PN-16 Válvula de mariposa embreadada 400 mm de diámetro nominal y 16 Atm de presión nominal con reductor desmultiplicador manual para cierre lento provisto de volante y bridas. Con cuerpo de fundición nodular, con bridas, con eje de acero superior e inferior de acero inoxidable AISI 431, lenteja de acero inoxidable AISI 431, asiento EPDM o NBR vulcanizada al cuerpo y juntas EPDM o NBR. Estanqueidad superior e inferior según pliego de condiciones. Unidad montada con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.			
	MO008	1,283 Hr	Oficial de primera	20,96	26,89			MO008	1,334 Hr	Oficial de primera	20,96	27,96	
	MO010	2,001 Hr	Peón	17,33	34,68			MO010	1,996 Hr	Peón	17,33	34,59	
	MAQ019	0,679 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	21,33			MAQ019	1,885 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	59,23	
	MAT371	1,000 Ud	Válvula compuerta bridas d=300 mm PN-16	718,57	718,57			MAT383	1,000 Ud	Válvula mariposa embreadada d=400 mm PN-16	1.191,40	1.191,40	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	801,50	24,05			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	1.313,20	39,40	
	%00PCI03	3,000 %	Costes Indirectos	825,50	24,77			%00PCI03	3,000 %	Costes Indirectos	1.352,60	40,58	
TOTAL PARTIDA.....						850,29	TOTAL PARTIDA.....						1.393,16
Asciende el precio total de la partida a la mencionada cantidad de OCHOCIENTOS CINCUENTA EUROS con VEINTINUEVE CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de MIL TRESCIENTOS NOVENTA Y TRES EUROS con DIECISEIS CÉNTIMOS						
0373	R05VC135		Ud Válvula compuerta ø350 mm PN-16 Válvula de compuerta con cierre elástico de 350 mm de diámetro nominal y 16 Atm de presión nominal provista de volante y bridas con cuerpo y tapa de fundición nodular, compuerta de fundición nodular revestida de neopreno y husillo de acero inoxidable. Incluido el eje de extensión de tipo telescópico y prolongador de acero todo en galvanizado hasta una altura de 3 metros, con todos los materiales necesarios para la completa maniobra de la válvula enterrada, con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.										
	MO008	1,283 Hr	Oficial de primera	20,96	26,89								
	MO010	2,001 Hr	Peón	17,33	34,68								
	MAQ019	0,679 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	21,33								
	MAT11302	1,000 Ud	Válvula compuerta bridas d=350 mm PN-16	1.700,60	1.700,60								
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	1.783,50	53,51								
	%00PCI03	3,000 %	Costes Indirectos	1.837,00	55,11								
TOTAL PARTIDA.....						1.892,12							
Asciende el precio total de la partida a la mencionada cantidad de MIL OCHOCIENTOS NOVENTA Y DOS EUROS con DOCE CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0376	R05VM105	Ud	Válvula mariposa embridada DN-500 PN-16 Válvula de mariposa embridada 500 mm de diámetro nominal y 16 Atm de presión nominal con reductor desmultiplicador manual para cierre lento provisto de volante y bridas. Con cuerpo de fundición nodular, con bridas, con eje de acero superior e inferior de acero inoxidable AISI 431, lenteja de acero inoxidable AISI 431, asiento EPDM o NBR vulcanizada al cuerpo y juntas EPDM o NBR. Estanqueidad superior e inferior según pliego de condiciones. Unidad montada con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.				0379	R05VM1082	Ud	Válvula mariposa embridada DN-800 PN-16 Válvula de mariposa embridada 800 mm de diámetro nominal y 16 Atm de presión nominal con reductor desmultiplicador manual para cierre lento provisto de volante y bridas. Con cuerpo de fundición nodular, con bridas, con eje de acero superior e inferior de acero inoxidable AISI 431, lenteja de acero inoxidable AISI 431, asiento EPDM o NBR vulcanizada al cuerpo y juntas EPDM o NBR. Estanqueidad superior e inferior según pliego de condiciones. Unidad montada con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.			
	MO008	5,018 Hr	Oficial de primera	20,96	105,18			MO008	3,004 Hr	Oficial de primera	20,96	62,96	
	MO010	5,284 Hr	Peón	17,33	91,57			MO010	3,019 Hr	Peón	17,33	52,32	
	MAQ019	1,881 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	59,10			MAQ019	4,712 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	148,05	
	MAT385	1,000 Ud	Válvula mariposa embridada d=500 mm PN-16	2.568,86	2.568,86			MAT388	1,000 Ud	Válvula mariposa embridada d=800 mm PN-16	6.049,60	6.049,60	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	2.824,70	84,74			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	6.312,90	189,39	
	%00PCI03	3,000 %	Costes Indirectos	2.909,50	87,29			%00PCI03	3,000 %	Costes Indirectos	6.502,30	195,07	
TOTAL PARTIDA.....						2.996,74	TOTAL PARTIDA.....						6.697,39
Asciende el precio total de la partida a la mencionada cantidad de DOS MIL NOVECIENTOS NOVENTA Y SEIS EUROS con SETENTA Y CUATRO CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de SEIS MIL SEISCIENTOS NOVENTA Y SIETE EUROS con TREINTA Y NUEVE CÉNTIMOS						
0377	R05VM106	Ud	Válvula mariposa embridada DN-600 PN-16 Válvula de mariposa embridada 600 mm de diámetro nominal y 16 Atm de presión nominal con reductor desmultiplicador manual para cierre lento provisto de volante y bridas. Con cuerpo de fundición nodular, con bridas, con eje de acero superior e inferior de acero inoxidable AISI 431, lenteja de acero inoxidable AISI 431, asiento EPDM o NBR vulcanizada al cuerpo y juntas EPDM o NBR. Estanqueidad superior e inferior según pliego de condiciones. Unidad montada con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.				0380	R05VM1083	ud	Válvula mariposa embridada DN-900 PN-16 Válvula de mariposa embridada 900 mm de diámetro nominal y 16 Atm de presión nominal con reductor desmultiplicador manual para cierre lento provisto de volante y bridas. Con cuerpo de fundición nodular, con bridas, con eje de acero superior e inferior de acero inoxidable AISI 431, lenteja de acero inoxidable AISI 431, asiento EPDM o NBR vulcanizada al cuerpo y juntas EPDM o NBR. Estanqueidad superior e inferior según pliego de condiciones. Unidad montada con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.			
	MO008	2,292 Hr	Oficial de primera	20,96	48,04			MO008A	3,000 h	Oficial 1ª	20,96	62,88	
	MO010	3,000 Hr	Peón	17,33	51,99			MO010A	3,023 h	Peón	17,33	52,39	
	MAQ019	1,884 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	59,20			MAT389	1,000 ud	Válvula mariposa embridada d=900 mm PN-16	8.700,00	8.700,00	
	MAT386	1,000 Ud	Válvula mariposa embridada d=600 mm PN-16	2.833,99	2.833,99			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	8.815,30	264,46	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	2.993,20	89,80			MAQ019	2,500 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	78,55	
	%00PCI03	3,000 %	Costes Indirectos	3.083,00	92,49			%PCI03	3,000 %	Costes indirectos	9.158,30	274,75	
TOTAL PARTIDA.....						3.175,51	TOTAL PARTIDA.....						9.433,03
Asciende el precio total de la partida a la mencionada cantidad de TRES MIL CIENTO SETENTA Y CINCO EUROS con CINCUENTA Y UN CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de NUEVE MIL CUATROCIENTOS TREINTA Y TRES EUROS con TRES CÉNTIMOS						
0378	R05VM1081	ud	Válvula mariposa embridada DN-700 PN-16 Válvula de mariposa embridada 700 mm de diámetro nominal y 16 Atm de presión nominal con reductor desmultiplicador manual para cierre lento provisto de volante y bridas. Con cuerpo de fundición nodular, con bridas, con eje de acero superior e inferior de acero inoxidable AISI 431, lenteja de acero inoxidable AISI 431, asiento EPDM o NBR vulcanizada al cuerpo y juntas EPDM o NBR. Estanqueidad superior e inferior según pliego de condiciones. Unidad montada con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.				0381	R05VM1084	Ud	Válvula mariposa embridada DN-1000 PN-16 Válvula de mariposa embridada 1000 mm de diámetro nominal y 16 Atm de presión nominal con reductor desmultiplicador manual para cierre lento provisto de volante y bridas. Con cuerpo de fundición nodular, con bridas, con eje de acero superior e inferior de acero inoxidable AISI 431, lenteja de acero inoxidable AISI 431, asiento EPDM o NBR vulcanizada al cuerpo y juntas EPDM o NBR. Estanqueidad superior e inferior según pliego de condiciones. Unidad montada con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.			
	MO008A	3,000 h	Oficial 1ª	20,96	62,88			MO008	4,000 Hr	Oficial de primera	20,96	83,84	
	MO010A	3,023 h	Peón	17,33	52,39			MO010	4,450 Hr	Peón	17,33	77,12	
	MAT387	1,000 ud	Válvula mariposa embridada d=700 mm PN-16	4.630,81	4.630,81			MAQ019	4,737 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	148,84	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	4.746,10	142,38			MAT390	1,000 Ud	Válvula mariposa embridada d=1000 mm PN-16	11.212,50	11.212,50	
	MAQ019	2,500 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	78,55			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	11.522,30	345,67	
	%PCI03	3,000 %	Costes indirectos	4.967,00	149,01			%00PCI03	3,000 %	Costes Indirectos	11.868,00	356,04	
TOTAL PARTIDA.....						5.116,02	TOTAL PARTIDA.....						12.224,01
Asciende el precio total de la partida a la mencionada cantidad de CINCO MIL CIENTO DIECISEIS EUROS con DOS CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de DOCE MIL DOSCIENTOS VEINTICUATRO EUROS con UN CÉNTIMOS						

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0382	R05VM1085		Ud Válvula mariposa embridada DN-1000 PN-16 Motorizada Válvula de mariposa embridada, 1000 mm de diámetro nominal y 16 Atm de presión nominal, con reductor desmultiplicador motorizado tipo AUMA o similar para apertura y cierre regulable, total o parcial (NO TODO o NADA), con accionamiento manual adicional, para cierre lento provisto de volante y bridas. Con cuerpo de fundición nodular, con bridas, con eje de acero superior e inferior de acero inoxidable AISI 431, lenteja de acero inoxidable AISI 431, asiento EPDM o NBR vulcanizada al cuerpo y juntas EPDM o NBR. Estanqueidad superior e inferior según pliego de condiciones. Unidad montada con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.				0384	R05VMM012		Ud Válvula mariposa embridada DN-1200 PN-10 Motorizada Válvula de mariposa embridada, de 1200 mm de diámetro nominal, y 10 Atm de presión nominal. Con cuerpo de fundición nodular, con bridas, eje de acero inoxidable AISI 431, lenteja de acero inoxidable AISI431 y asiento EPDM o NBR vulcanizada al cuerpo y juntas EPDM o NBR. Estanqueidad superior e inferior según pliego. Equipada de actuador eléctrico con motor de 24VDV con reductor para entregar 100Nm PAR max., acoplado sobre brida normalizada a válvula. Incluye parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Ajuste y puesta en marcha de motorización. Totalmente instalada y probada.			
	MO008	4,000 Hr	Oficial de primera	20,96	83,84			MO008	5,002 Hr	Oficial de primera	20,96	104,84	
	MO010	4,325 Hr	Peón	17,33	74,95			MO010	7,002 Hr	Peón	17,33	121,34	
	MAQ019	4,799 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	150,78			MAQ019	6,030 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	189,46	
	MAT391	1,000 Ud	Válvula mariposa embridada d=1000 mm PN-16 motorizada	15.170,80	15.170,80			P05VMM012	1,000 ud	Valv. mariposa Ø 1200 mm, 1,0 Mpa. motor reductor (p.o.)	20.200,00	20.200,00	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	15.480,40	464,41			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	20.615,60	618,47	
	%00PCI03	3,000 %	Costes Indirectos	15.944,80	478,34			%00PCI03	3,000 %	Costes Indirectos	21.234,10	637,02	
TOTAL PARTIDA.....						16.423,12	TOTAL PARTIDA.....						21.871,13
Asciende el precio total de la partida a la mencionada cantidad de DIECISEIS MIL CUATROCIENTOS VEINTITRES EUROS con DOCE CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de VEINTIUN MIL OCHOCIENTOS SETENTA Y UN EUROS con TRECE CÉNTIMOS						
0383	R05VM1810		Ud Válvula mariposa embridada DN-1800 PN-10 Válvula de mariposa embridada 1800 mm de diámetro nominal y 10 Atm de presión nominal con reductor desmultiplicador manual para cierre lento provisto de volante y bridas. Con cuerpo de fundición nodular, con bridas, con eje de acero superior e inferior de acero inoxidable AISI 431, lenteja de acero inoxidable AISI 431, asiento EPDM o NBR vulcanizada al cuerpo y juntas EPDM o NBR. Estanqueidad superior e inferior según pliego de condiciones. Unidad montada con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada.				0385	R05VMM1810		Ud Válvula mariposa embridada DN-1800 PN-10 Motorizada Válvula de mariposa embridada, de 1800 mm de diámetro nominal, y 10 Atm de presión nominal. Con cuerpo de fundición nodular, con bridas, eje de acero inoxidable AISI 431, lenteja de acero inoxidable AISI431 y asiento EPDM o NBR vulcanizada al cuerpo y juntas EPDM o NBR. Estanqueidad superior e inferior según pliego. Equipada de actuador eléctrico con motor de 320Vca con reductor para entregar, acoplado sobre brida normalizada a válvula. Incluye parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Ajuste y puesta en marcha de motorización. Totalmente instalada y probada.			
	MO008	7,000 Hr	Oficial de primera	20,96	146,72			MO008	7,000 Hr	Oficial de primera	20,96	146,72	
	MO010	14,000 Hr	Peón	17,33	242,62			MO010	14,000 Hr	Peón	17,33	242,62	
	MAQ019	10,367 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	325,73			MAQ019	10,367 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	325,73	
	MAT1810-1	1,000 Ud	Válvula mariposa embridada d=1800 mm PN-10	57.501,58	57.501,58			MAT1810-1M	1,000 Ud	Válvula mariposa embridada d=1800 mm PN-10, motorizada, accesorio	62.500,00	62.500,00	
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	58.216,70	1.746,50			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	63.215,10	1.896,45	
	%00PCI03	3,000 %	Costes Indirectos	59.963,20	1.798,90			%00PCI03	3,000 %	Costes Indirectos	65.111,50	1.953,35	
TOTAL PARTIDA.....						61.762,05	TOTAL PARTIDA.....						67.064,87
Asciende el precio total de la partida a la mencionada cantidad de SESENTA Y UN MIL SETECIENTOS SESENTA Y DOS EUROS con CINCO CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de SESENTA Y SIETE MIL SESENTA Y CUATRO EUROS con OCHENTA Y SIETE CÉNTIMOS						
							0386	R05VR2291-5		ud Válvula Retención Discos concéntricos DN500 PN-16 Válvula de retención de discos concéntricos tipo classar de 500 mm de diámetro nominal y 16 Atm de presión nominal, mecanismos en acero inoxidable. Montada y probada con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada en obra.			
								MO008A	5,260 h	Oficial 1ª	20,96	110,25	
								MO010A	8,000 h	Peón	17,33	138,64	
								MAT380	1,000 ud	Válvula de Retención Discos concéntricos DN500 PN16	9.600,00	9.600,00	
								%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	9.848,90	295,47	
								MAQ019	1,000 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	31,42	
								%PCI03	3,000 %	Costes indirectos	10.175,80	305,27	
TOTAL PARTIDA.....							TOTAL PARTIDA.....						10.481,05
Asciende el precio total de la partida a la mencionada cantidad de DIEZ MIL CUATROCIENTOS OCHENTA Y UN EUROS con CINCO CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de DIEZ MIL CUATROCIENTOS OCHENTA Y UN EUROS con CINCO CÉNTIMOS						

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0387	R05VR2291-6	ud	Válvula Retención Discos concéntricos DN600 PN-16 Válvula de retención de discos concéntricos tipo classar de 600 mm de diámetro nominal y 16 Atm de presión nominal, mecanismos en acero inoxidable. Montada y probada con parte proporcional de juntas, tornillería y calderería y accesorios de unión a la tubería. Unidad totalmente montada ejecutada y probada en obra.				0389	R07AT060B	m	Paso Hinca Camisa Acero 600 mm, escudo abierto Paso bajo carretera o ferrocarril mediante hinca tipo escudo abierto para paso de tuberías, ejecutado en roca con resistencia a compresión simple >=175 kg/cm2 mediante tubería de acero de 610x6,4 mm, a una profundidad mínima de 1,5 metros de la generatriz superior de la tubería a la superficie de la carretera o ferrocarril y de 0,75 m de cunetas, respetando una distancia mínima desde las zonas de actuación (pozo de ataque y pozo de salida) hasta la carretera de 8 m. El precio unitario incluye el desplazamiento del equipo a la obra, tubería, perforación, soldadura con todos los medios auxiliares necesarios, prueba de estanqueidad, movimientos de tierras para la ejecución del foso de ataque y foso de salida, hormigones y ferrallas, retirada del material extraído y achique de agua si fuera necesario, estabilización de los terrenos, ayuda topográfica para fijar orientaciones y sistema de ventilación e iluminación. Medida la unidad completamente ejecutada y probada.			
	MO008A	5,500 h	Oficial 1ª	20,96	115,28								
	MO010A	9,000 h	Peón	17,33	155,97								
	MAT380B	1,000 ud	Válvula de Retención Discos concéntricos DN600 PN16	24.500,00	24.500,00								
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	24.771,30	743,14								
	MAQ019	1,000 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	31,42		MO008B	1,050 h	Oficial 1ª ferrallista	20,96	22,01		
	%PCI03	3,000 %	Costes indirectos	25.545,80	766,37		MO008A	1,550 h	Oficial 1ª	20,96	32,49		
			TOTAL PARTIDA.....			26.312,18	MO010	1,600 Hr	Peón	17,33	27,73		
Asciende el precio total de la partida a la mencionada cantidad de VEINTISEIS MIL TRESCIENTOS DOCE EUROS con DIECIOCHO CÉNTIMOS							MAT350-3	1,010 m	Tubería acero helicokol. 610/6,4	142,53	143,96		
0388	R07AT040B	m	Paso Hinca Camisa Acero 400 mm, escudo abierto Paso bajo carretera o ferrocarril mediante hinca tipo escudo abierto para paso de tuberías, ejecutado en roca con resistencia a compresión simple >=175 kg/cm2 mediante tubería de acero de 406x6,4 mm, a una profundidad mínima de 1,5 metros de la generatriz superior de la tubería a la superficie de la carretera o ferrocarril y de 0,75 m de cunetas, respetando una distancia mínima desde las zonas de actuación (pozo de ataque y pozo de salida) hasta la carretera de 8 m. El precio unitario incluye el desplazamiento del equipo a la obra, tubería, perforación, soldadura con todos los medios auxiliares necesarios, prueba de estanqueidad, movimientos de tierras para la ejecución del foso de ataque y foso de salida, hormigones y ferrallas, retirada del material extraído y achique de agua si fuera necesario, estabilización de los terrenos, ayuda topográfica para fijar orientaciones y sistema de ventilación e iluminación. Medida la unidad completamente ejecutada y probada.				MAQ004B	1,800 h	Perforación escudo abierto	280,00	504,00		
							MAQ004	1,600 Hr	Carro perforador neumático sobre cadenas, martillo de fondo	33,25	53,20		
							MAQ029	1,100 Hr	Retroexcavadora hidráulica sobre cadenas, de 42 t	69,57	76,53		
							%PCI03	3,000 %	Costes indirectos	859,90	25,80		
			TOTAL PARTIDA.....						TOTAL PARTIDA.....		885,72		
Asciende el precio total de la partida a la mencionada cantidad de OCHOCIENTOS OCHENTA Y CINCO EUROS con SETENTA Y DOS CÉNTIMOS							0390	R07AT080B	m	Paso Hinca Camisa Acero 800 mm, escudo abierto Paso bajo carretera o ferrocarril mediante hinca tipo escudo abierto para paso de tuberías, ejecutado en roca con resistencia a compresión simple >=175 kg/cm2 mediante tubería de acero de 813x7,9 mm, a una profundidad mínima de 1,5 metros de la generatriz superior de la tubería a la superficie de la carretera o ferrocarril y de 0,75 m de cunetas, respetando una distancia mínima desde las zonas de actuación (pozo de ataque y pozo de salida) hasta la carretera de 8 m. El precio unitario incluye el desplazamiento del equipo a la obra, tubería, perforación, soldadura con todos los medios auxiliares necesarios, prueba de estanqueidad, movimientos de tierras para la ejecución del foso de ataque y foso de salida, hormigones y ferrallas, retirada del material extraído y achique de agua si fuera necesario, estabilización de los terrenos, ayuda topográfica para fijar orientaciones y sistema de ventilación e iluminación. Medida la unidad completamente ejecutada y probada.			
	MO008B	1,050 h	Oficial 1ª ferrallista	20,96	22,01								
	MO008A	1,350 h	Oficial 1ª	20,96	28,30								
	MO010	1,500 Hr	Peón	17,33	26,00								
	MAT350-3B	1,010 m	Tubería acero helicokol. 406	74,00	74,74		MO008B	1,000 h	Oficial 1ª ferrallista	20,96	20,96		
	MAQ004B	1,500 h	Perforación escudo abierto	280,00	420,00		MO008A	1,500 h	Oficial 1ª	20,96	31,44		
	MAQ004	1,500 Hr	Carro perforador neumático sobre cadenas, martillo de fondo	33,25	49,88		MO010	1,800 Hr	Peón	17,33	31,19		
	MAQ029	1,100 Hr	Retroexcavadora hidráulica sobre cadenas, de 42 t	69,57	76,53		MAT346-1	1,000 m	Tubería acero helicokol. 813/7,9	249,73	249,73		
	%PCI03	3,000 %	Costes indirectos	697,50	20,93		MAQ004B	1,800 h	Perforación escudo abierto	280,00	504,00		
			TOTAL PARTIDA.....			718,39	MAQ004	1,800 Hr	Carro perforador neumático sobre cadenas, martillo de fondo	33,25	59,85		
Asciende el precio total de la partida a la mencionada cantidad de SETECIENTOS DIECIOCHO EUROS con TREINTA Y NUEVE CÉNTIMOS							MAQ029	1,500 Hr	Retroexcavadora hidráulica sobre cadenas, de 42 t	69,57	104,36		
							%PCI03	3,000 %	Costes indirectos	1.001,50	30,05		
			TOTAL PARTIDA.....						TOTAL PARTIDA.....		1.031,58		
Asciende el precio total de la partida a la mencionada cantidad de MIL TREINTA Y UN EUROS con CINCUENTA Y OCHO CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0391	R07AT100B	m	Paso Hinca Camisa Acero 1000 mm, escudo abierto Paso bajo carretera o ferrocarril mediante hinca tipo escudo abierto para paso de tuberías, ejecutado en roca con resistencia a compresión simple >=175 kg/cm2 mediante tubería de acero de 1016x10,3 mm, a una profundidad mínima de 1,5 metros de la generatriz superior de la tubería a la superficie de la carretera o ferrocarril y de 0,75 m de cunetas, respetando una distancia mínima desde las zonas de actuación (pozo de ataque y pozo de salida) hasta la carretera de 8 m. El precio unitario incluye el desplazamiento del equipo a la obra, tubería, perforación, soldadura con todos los medios auxiliares necesarios, prueba de estanqueidad, movimientos de tierras para la ejecución del foso de ataque y foso de salida, hormigones y ferrallas, retirada del material extraído y achique de agua si fuera necesario, estabilización de los terrenos, ayuda topográfica para fijar orientaciones y sistema de ventilación e iluminación. Medida la unidad completamente ejecutada y probada.				0393	R07AT140B	m	Paso Hinca Camisa Acero 1400 mm, escudo abierto Paso bajo carretera o ferrocarril mediante hinca tipo escudo abierto para paso de tuberías, ejecutado en roca con resistencia a compresión simple >=175 kg/cm2 mediante tubería de acero de 1420x12,5 mm, a una profundidad mínima de 1,5 metros de la generatriz superior de la tubería a la superficie de la carretera o ferrocarril y de 0,75 m de cunetas, respetando una distancia mínima desde las zonas de actuación (pozo de ataque y pozo de salida) hasta la carretera de 8 m. El precio unitario incluye el desplazamiento del equipo a la obra, tubería, perforación, soldadura con todos los medios auxiliares necesarios, prueba de estanqueidad, movimientos de tierras para la ejecución del foso de ataque y foso de salida, hormigones y ferrallas, retirada del material extraído y achique de agua si fuera necesario, estabilización de los terrenos, ayuda topográfica para fijar orientaciones y sistema de ventilación e iluminación. Medida la unidad completamente ejecutada y probada.			
	MO008B	1,000 h	Oficial 1ª ferrallista	20,96	20,96			MO008B	1,500 h	Oficial 1ª ferrallista	20,96	31,44	
	MO008	1,000 Hr	Oficial de primera	20,96	20,96			MO008A	3,000 h	Oficial 1ª	20,96	62,88	
	MO010	2,000 Hr	Peón	17,33	34,66			MO010A	5,000 h	Peón	17,33	86,65	
	MAT418	1,000 m	Tubería acero helicokol. 1016/10,0	369,59	369,59			MAT420	1,000 m	Tubería acero helicokol. 1420/12,5	499,46	499,46	
	MAQ004B	2,000 h	Perforación escudo abierto	280,00	560,00			MAQ004B	2,500 h	Perforación escudo abierto	280,00	700,00	
	MAQ004	2,000 Hr	Carro perforador neumático sobre cadenas, martillo de fondo	33,25	66,50			MAQ004	5,000 Hr	Carro perforador neumático sobre cadenas, martillo de fondo	33,25	166,25	
	MAQ029	1,500 Hr	Retroexcavadora hidráulica sobre cadenas, de 42 t	69,57	104,36			MAQ029	2,500 Hr	Retroexcavadora hidráulica sobre cadenas, de 42 t	69,57	173,93	
	%00PCI03	3,000 %	Costes Indirectos	1.177,00	35,31			%PCI03	3,000 %	Costes indirectos	1.720,60	51,62	
TOTAL PARTIDA.....						1.212,34	TOTAL PARTIDA.....						1.772,23

Asciende el precio total de la partida a la mencionada cantidad de MIL DOSCIENTOS DOCE EUROS con TREINTA Y CUATRO CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de MIL SETECIENTOS SETENTA Y DOS EUROS con VEINTITRES CÉNTIMOS

0392	R07AT120B	m	Paso Hinca Camisa Acero 1200 mm, escudo abierto Paso bajo carretera o ferrocarril mediante hinca tipo escudo abierto para paso de tuberías, ejecutado en roca con resistencia a compresión simple >=175 kg/cm2 mediante tubería de acero de 1220x10,3 mm, a una profundidad mínima de 1,5 metros de la generatriz superior de la tubería a la superficie de la carretera o ferrocarril y de 0,75 m de cunetas, respetando una distancia mínima desde las zonas de actuación (pozo de ataque y pozo de salida) hasta la carretera de 8 m. El precio unitario incluye el desplazamiento del equipo a la obra, tubería, perforación, soldadura con todos los medios auxiliares necesarios, prueba de estanqueidad, movimientos de tierras para la ejecución del foso de ataque y foso de salida, hormigones y ferrallas, retirada del material extraído y achique de agua si fuera necesario, estabilización de los terrenos, ayuda topográfica para fijar orientaciones y sistema de ventilación e iluminación. Medida la unidad completamente ejecutada y probada.			
	MO008B	1,500 h	Oficial 1ª ferrallista	20,96	31,44	
	MO008	2,000 Hr	Oficial de primera	20,96	41,92	
	MO010	4,000 Hr	Peón	17,33	69,32	
	MAT1011	1,000 m	Tubería acero helicokol. 1219/10.3	380,82	380,82	
	MAQ004B	2,200 h	Perforación escudo abierto	280,00	616,00	
	MAQ004	4,000 Hr	Carro perforador neumático sobre cadenas, martillo de fondo	33,25	133,00	
	MAQ029	2,000 Hr	Retroexcavadora hidráulica sobre cadenas, de 42 t	69,57	139,14	
	%00PCI03	3,000 %	Costes Indirectos	1.411,60	42,35	
TOTAL PARTIDA.....						1.453,99

Asciende el precio total de la partida a la mencionada cantidad de MIL CUATROCIENTOS CINCUENTA Y TRES EUROS con NOVENTA Y NUEVE CÉNTIMOS

0394	R07BE06	Ud	Anillado metálico pletina acero Anillado metálico para escaleras de mano o pates realizado mediante pletina de acero con anillo cada 70 cm de altura. Unidad totalmente acabada.			
	MO003	0,400 Hr	Capataz	21,71	8,68	
	MO008	0,400 Hr	Oficial de primera	20,96	8,38	
	MAT007	4,700 Kg	Acero Laminado Galvanizado En Perfil S 275 JR, En Obra	0,70	3,29	
	%00PCI03	3,000 %	Costes Indirectos	20,40	0,61	
TOTAL PARTIDA.....						20,96
Asciende el precio total de la partida a la mencionada cantidad de VEINTE EUROS con NOVENTA Y SEIS CÉNTIMOS						
0395	R07CA130	m²	Puerta doble chapa acero Puerta de doble chapa lisa de acero de 1 mm de espesor, galvanizada y protección interior y exterior con epoxy, engatillada, realizada en dos bandejas, con rigidizadores de tubo rectangular, i/patillas para recibir en fábricas, y herrajes de colgar y de seguridad.			
	MO008	0,010 Hr	Oficial de primera	20,96	0,21	
	MO002	0,019 Hr	Ayudante	19,08	0,36	
	MAT259	1,000 m²	Puerta doble chapa lisa ciega	81,42	81,42	
	%00PCI03	3,000 %	Costes Indirectos	82,00	2,46	
TOTAL PARTIDA.....						84,45

Asciende el precio total de la partida a la mencionada cantidad de OCHENTA Y CUATRO EUROS con CUARENTA Y CINCO CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0396	R07CA310	m²	Ventanal fijo de aluminio Ventanal fijo de aluminio anodizado en color a determinar de 13 micras, perfil 50x40 mm y 1,5 mm de espesor, con junquillos para fijación del vidrio. Totalmente colocado en el Panel prefabricado de hormigón.				0400	R07CR119	m2	Muro de carga de fábrica de bloque cerámico aligerado Muro de carga de 19 cm de espesor de fábrica de bloque cerámico aligerado machihembrado, 30x19x19 cm, para revestir, resistencia a compresión 10 N/mm², recibida con mortero de cemento confeccionado en obra, con 300 kg/m³ de cemento, color gris, dosificación 1:5, suministrado en sacos, con piezas especiales tales como medios bloques, bloques de esquina y bloques de terminación. El precio no incluye los zunchos horizontales ni la formación de los dinteles de los huecos del paramento.			
	MO008	1,570 Hr	Oficial de primera	20,96	32,91			MO008	0,369 Hr	Oficial de primera	20,96	7,73	
	MO002	1,000 Hr	Ayudante	19,08	19,08			MO010	0,540 Hr	Peón	17,33	9,36	
	MAT400	1,000 m²	Ventanal fijo vid. alum.	60,52	60,52			MAT010	0,004 m³	Agua En Obra	0,70	0,00	
	%00PCI03	3,000 %	Costes Indirectos	112,50	3,38			MAT014	0,027 m³	Arena de río (0-5mm)	14,83	0,40	
				TOTAL PARTIDA.....		115,89							
Asciende el precio total de la partida a la mencionada cantidad de CIENTO QUINCE EUROS con OCHENTA Y NUEVE CÉNTIMOS													
0397	R07CB010	m²	Cerramiento de bloque prefabricado Tipo "Split" Visto Cerramiento compuesto por fábrica de bloque prefabricado de hormigón tipo "split", hidrófugo, de color, de medidas 40x20x20 cm, ejecutado a una cara vista y enfoscado por el interior, recibido con mortero de cemento y arena de río, incluso parte proporcional de piezas especiales, zuncho, roturas, aplomado, nivelado, llagueado y limpieza, totalmente terminado.				B051E301	0,005 T	Cemento portland blanco compuesto BL II 32,5, en sacos	159,25	0,80		
	MO008	0,512 Hr	Oficial de primera	20,96	10,73			MAT01020	13,160 ud	Bloque cerámico 30x19x19 cm para revestir, incluidas piezas	0,39	5,13	
	MO010	0,900 Hr	Peón	17,33	15,60			MAQ100	0,012 h	Hormigonera	1,60	0,02	
	MAT047	14,000 Ud	Bloque hueco hormigón tipo Split 40x20x20 cm	1,47	20,58			%PCI03	3,000 %	Costes indirectos	23,40	0,70	
	MAT231	0,024 m³	Mortero de cemento M-40 (1:6).	71,82	1,72		TOTAL PARTIDA.....						
	%00PCI03	3,000 %	Costes Indirectos	48,60	1,46		24,14						
Asciende el precio total de la partida a la mencionada cantidad de VEINTICUATRO EUROS con CATORCE CÉNTIMOS													
0401	R07CR120	m²	Enfoscado, maestrado y fratasado Enfoscado maestrado y fratasado con mortero de cemento II-Z/35A y arena de río 1/4 (M-80) en paramentos verticales de 20 mm de espesor, i/regleado, sacado de aristas y rincones con maestras cada 3 m y andamiaje, s/NTE-RPE-7, medido deduciendo huecos superiores a 1 m².				MO008	0,240 Hr	Oficial de primera	20,96	5,03		
	MO010	0,500 Hr	Peón	17,33	8,67			MO010	0,500 Hr	Peón	17,33	8,67	
	MAT231	0,025 m³	Mortero de cemento M-40 (1:6).	71,82	1,80			MAT231	0,025 m³	Mortero de cemento M-40 (1:6).	71,82	1,80	
	%00PCI03	3,000 %	Costes Indirectos	15,50	0,47		TOTAL PARTIDA.....						
15,97													
Asciende el precio total de la partida a la mencionada cantidad de QUINCE EUROS con NOVENTA Y SIETE CÉNTIMOS													
0402	R07CV015	m²	Climalit 4/6, 8 ó 12 mm Climalit con dos lunas incoloras de 4 mm y cámara de aire de 6,8 ó 12 mm con junta plástica, colocado sobre madera, aluminio o hierro y sellado con silicona incolora.				MO008	0,739 Hr	Oficial de primera	20,96	15,49		
	MO008	0,739 Hr	Oficial de primera	20,96	15,49			MAT129	1,006 m²	Doble cristal Climalit 4/6	18,91	19,02	
	MAT129	1,006 m²	Doble cristal Climalit 4/6	18,91	19,02			MAT271	7,000 m	Sellado con silicona neutra	0,98	6,86	
	MAT250	0,400 Kg	Pintura plástica blanca	2,71	1,08			MAT242	1,500 Ud	Pequeño material para Ventana	1,44	2,16	
	%00PCI03	3,000 %	Costes Indirectos	8,00	0,24		TOTAL PARTIDA.....						
44,84													
Asciende el precio total de la partida a la mencionada cantidad de CUARENTA Y CUATRO EUROS con OCHENTA Y CUATRO CÉNTIMOS													
0399	R07CR118	m2	Falso techo registrable de placas de yeso laminado Falso techo registrable situado a una altura menor de 4 m, decorativo, formado por placas de yeso laminado, lisas, acabado con vinilo blanco, de 600x600x9,5 mm, con perfilera vista. El precio incluye la resolución de encuentros y puntos singulares.				MO008	0,230 Hr	Oficial de primera	20,96	4,82		
	MO008	0,230 Hr	Oficial de primera	20,96	4,82			MO010	0,230 Hr	Peón	17,33	3,99	
	MO010	0,230 Hr	Peón	17,33	3,99			MAT01003	1,020 m2	Placa de yeso laminado, lisa, acabado vinilo blanco 60x60x9.5 cm	9,12	9,30	
	MAT01003	1,020 m2	Placa de yeso laminado, lisa, acabado vinilo blanco 60x60x9.5 cm	9,12	9,30			MAT01004	0,840 ud	Perfileria, fijaciones, tornilleria, y anclajes	4,13	3,47	
	MAT01004	0,840 ud	Perfileria, fijaciones, tornilleria, y anclajes	4,13	3,47		TOTAL PARTIDA.....						
	%PCI03	3,000 %	Costes indirectos	21,60	0,65		22,23						
Asciende el precio total de la partida a la mencionada cantidad de VEINTIDOS EUROS con VEINTITRES CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0403	R07EM001	Kg	Acero B-500-S Acero de dureza natural, en barras corrugadas, tipo B-500 S para elementos de cimentación, muros y esperas de estructura, incluso corte, doblado, colocación con atado con alambre, incluso separadores, estribos, etc, colocado y montado en obra y ayudas para su hormigonado posterior, solapes, etc, según EHE. Medido el peso nominal teórico de proyecto.				0405	R07EN020	m ²	Encofrado/Desencofrado metálico para hormigón visto Encofrado con paneles metálicos a una cara para dejar a buena vista, incluso berenjenos, entibaciones, apuntalado y separadores, para un perfecto aplomado, incluso limpieza y humedecido, aplicación desencofrante, parte proporcional de elementos complementarios para su estabilidad y adecuada ejecución, posterior desencofrado y repaso de paramentos			
	MO008	0,005 Hr	Oficial de primera	20,96	0,10			MO003	0,110 Hr	Capataz	21,71	2,39	
	MO002	0,005 Hr	Ayudante	19,08	0,10			MO008	0,380 Hr	Oficial de primera	20,96	7,96	
	MAQ019	0,002 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	0,06			MO002	0,380 Hr	Ayudante	19,08	7,25	
	MAT004	1,000 Kg	Acero Corrugado B-500 S	0,81	0,81			MAT281	1,000 m ²	Tablero Metálico encofrar de 26 mm	1,59	1,59	
	MAT011	0,007 Kg	Alambre Atar 1,3 mm.	2,12	0,01			MAT282	0,010 m ³	Tablón pino 2,50/5,50x205x76	149,80	1,50	
	MAT274	0,100 Kg	Separadores para armaduras verticales u horizontales	0,12	0,01			MAT133	0,200 Ud	Desencofrante p/encofrado metálico	1,53	0,31	
	%00PCI03	3,000 %	Costes Indirectos	1,10	0,03			MAT260	0,018 Kg	Puntas acero 20x100	6,50	0,12	
TOTAL PARTIDA.....						1,12		%00PCI03	3,000 %	Costes Indirectos	21,10	0,63	
Asciende el precio total de la partida a la mencionada cantidad de UN EUROS con DOCE CÉNTIMOS							TOTAL PARTIDA..... 21,75						
0404	R07EM020	Kg	Acero S275 JR Para Estructuras Acero S275 JR para estructuras y refuerzos en perfiles laminados o planchas, incluso tratamiento anticorrosivo mediante chorreado abrasivo, con una capa de imprimación antioxidante y dos de esmalte sintético, incluso parte proporcional de radiografías de las soldaduras, colocado en obra.				0406	R07EN050	m ²	Encofrado/Desencofrado metálico para hormigón oculto Encofrado y desencofrado recto para dejar hormigón oculto, mediante la utilización de paneles metálicos a una cara, incluso entibaciones, apuntalado y separadores, para un perfecto aplomado, incluso limpieza y humedecido, aplicación desencofrante, parte proporcional de elementos complementarios para su estabilidad y adecuada ejecución, posterior desencofrado y repaso de paramentos.			
	MO003	0,010 Hr	Capataz	21,71	0,22			MO003	0,100 Hr	Capataz	21,71	2,17	
	MO008	0,010 Hr	Oficial de primera	20,96	0,21			MO008	0,150 Hr	Oficial de primera	20,96	3,14	
	MO010	0,031 Hr	Peón	17,33	0,54			MO002	0,173 Hr	Ayudante	19,08	3,30	
	MAQ022	0,005 Hr	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	0,09			MAT281	1,000 m ²	Tablero Metálico encofrar de 26 mm	1,59	1,59	
	MAQ019	0,002 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	0,06			MAT282	0,015 m ³	Tablón pino 2,50/5,50x205x76	149,80	2,25	
	MAQ014	0,005 Hr	Equipo de soldadura eléctrica manual (T)	22,20	0,11			MAT133	0,200 Ud	Desencofrante p/encofrado metálico	1,53	0,31	
	MAT007	1,000 Kg	Acero Laminado Galvanizado En Perfil S 275 JR, En Obra	0,70	0,70			MAT260	0,020 Kg	Puntas acero 20x100	6,50	0,13	
	MAT150	0,003 Kg	Esmalte sintético para pintado de estructuras metálicas, en obra	5,75	0,02			%00PCI03	3,000 %	Costes Indirectos	12,90	0,39	
	MAT182	0,006 Kg	Imprimación antioxidante para pintado de estructuras metálicas	11,28	0,07			TOTAL PARTIDA..... 13,28					
TOTAL PARTIDA.....						2,08	Asciende el precio total de la partida a la mencionada cantidad de TRECE EUROS con VEINTIOCHO CÉNTIMOS						
Asciende el precio total de la partida a la mencionada cantidad de DOS EUROS con OCHO CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	
0407	R07FS001	ud	Acometida de agua para aseos Insalatación de acometida de agua para los elementos de aseos (lavabo, inodoros y ducha) desde la tubería del colector de entrada a la balsa, conexión entre el filtro y la válvula de seccionamiento de la tubería de presión natural. incluye: - Tubería de conexión hasta sala de aseos (hasta 12 m) - Tuberías de distribución para abastecimiento de cada punto de consumo (hasta 10 m), realizadas en PEX - Piezas especiales, accesorios,... para conexiones, codos, Tes,... - Llaves de corte principal, mediante válvula de esfera, tanto en conexión a la tubería principal como a la entrada en la sala de aseos. - Llaves individuales en cada elementos, en su punto de conexión. - Calentador de agua (ACS) de 30 litros colocado en paramento vertical, conectado a la red, y la red de abastecimiento a lavabo y ducha. - Albañilería, y actuaciones para el soterrado de la conducción principal, y el embebido de las tuberías de distribución a elementos en las paredes mediante roza y revestido. - Medios auxiliares para la ejecución Totalmente instalado y probado.				0409	R07HO020SR	m³	Hormigón HM-20/B/15-20/IIa+Qb en obra Hormigón en masa HM-20/B/15-20/IIa+Qb, con árido rodado de tamaño máximo de 20 mm y consistencia plástica, fabricado con cemento I-32,5/SR, puesto en obra, incluso parte proporcional de limpieza de fondos, vibrado y curado				
							MO003	0,252	Hr	Capataz	21,71	5,47		
							MO008	0,602	Hr	Oficial de primera	20,96	12,62		
							MAQ016	0,500	Hr	Vibrador de agujas para morteros y hormigones, d=76 mm	2,78	1,39		
							MAT178	1,020	m³	Hormigón HM-20/B/20/IIa+Qb EN OBRA	49,60	50,59		
							%00PCI03	3,000	%	Costes Indirectos	70,10	2,10		
								TOTAL PARTIDA.....				72,17		
							Asciende el precio total de la partida a la mencionada cantidad de SETENTA Y DOS EUROS con DIECISIETE CÉNTIMOS							
							0410	R07HO025A	m³	Hormigón HA-25/B/20/XC2+XA3+SR en obra Hormigón HA-25/B/20/XC2+XA3+SR, con árido rodado de tamaño máximo de 20 mm y consistencia blanda, fabricado con cemento I-32,5, puesto en obra, incluso parte proporcional de limpieza de fondos, sellado de uniones entre paramentos, vibrado y curado				
	MO008	2,000	Hr	Oficial de primera	20,96	41,92		MO003	0,250	Hr	Capataz	21,71	5,43	
	MO010	4,000	Hr	Peón	17,33	69,32		MO008	0,605	Hr	Oficial de primera	20,96	12,68	
	MO015	4,000	Hr	Tecnico Especialista Telecomunicaciones	21,71	86,84		MAQ016	0,765	Hr	Vibrador de agujas para morteros y hormigones, d=76 mm	2,78	2,13	
	MAT1401	1,000	ud	conjunto llaves de seccionamiento principales	210,00	210,00		MAQ035	0,060	Hr	Bomba de hormigón sobre camión o semirremolque	91,90	5,51	
	MAT1402	4,000	ud	Llave de seccionamiento elementos	14,00	56,00		MAT177Iib	1,020	m³	Hormigón HA-25/B/20/XC2+XA3+SR EN OBRA	55,70	56,81	
	MAT1403	1,000	ud	Tuberías de diametros 20-25 PEX y accesorios (8m)	50,00	50,00		%00PCI03	3,000	%	Costes Indirectos	82,60	2,48	
	MAT1404	1,000	ud	Tubería principal (12m)	60,00	60,00								
	MAQ022	0,100	Hr	Grupo electrógeno con motor Diesel, sobre patines, 150 kVA	18,60	1,86								
	MAT1445	1,000	ud	Calentador 30 litros	41,00	41,00								
	%PCI03	3,000	%	Costes indirectos	616,90	18,51								
								TOTAL PARTIDA.....				85,04		
							Asciende el precio total de la partida a la mencionada cantidad de OCHENTA Y CINCO EUROS con CUATRO CÉNTIMOS							
							0411	R07MP510	Ud	Arqueta prefabricada ø100cm Arqueta prefabricada formada por anillos de hormigón en masa machihembrados de ø100 cm cerrada con tapa de chapa lagrimada de 3/5 mm pintada galvanizada en caliente, de 250 microm de espesor y provista de varilla pasante y candado. Incluso relleno con material granular hasta arqueta y compactado posterior del trasdós de la arqueta.				
								MO008D	0,950	Hr	Oficial 1º	20,96	19,91	
								MO010	2,000	Hr	Peón	17,33	34,66	
								MAT360	1,000	m	Tubo machiembrado 100 cm	70,00	70,00	
								MAT240	1,000	Ud	Pasador, varilla pasante ø16 mm y candado	12,00	12,00	
								MAT283	0,500	m²	Tapa chapa lagrimada 3 mm 250 micras con epoxy	50,00	25,00	
								MAT017	0,100	m³	Arido material granular 6-12 mm en obra	15,00	1,50	
								MAQ002	0,021	Hr	Camión con caja basculante 4 x 4	55,70	1,17	
								MAQ019	0,200	Hr	Grúa hidráulica acoplable a vehiculos de 7,5 t	31,42	6,28	
								%00PCI03	3,000	%	Costes Indirectos	170,50	5,12	
								TOTAL PARTIDA.....				175,64		
							Asciende el precio total de la partida a la mencionada cantidad de CIENTO SETENTA Y CINCO EUROS con SESENTA Y CUATRO CÉNTIMOS							
0408	R07HO020A	m³	Hormigón HM-20/B/20/X0 en obra Hormigón en masa HM-20/B/15-20/X0, con árido rodado de tamaño máximo de 20 mm y consistencia blanda, fabricado con cemento I-32,5, puesto en obra, incluso parte proporcional de limpieza de fondos, vibrado y curado											
	MO003	0,252	Hr	Capataz	21,71	5,47								
	MO008	0,602	Hr	Oficial de primera	20,96	12,62								
	MAQ016	0,500	Hr	Vibrador de agujas para morteros y hormigones, d=76 mm	2,78	1,39								
	MAT178Iib	1,020	m³	Hormigón HM-20/B/20/X0 EN OBRA	49,60	50,59								
	%00PCI03	3,000	%	Costes Indirectos	70,10	2,10								
								TOTAL PARTIDA.....				72,17		
							Asciende el precio total de la partida a la mencionada cantidad de SETENTA Y DOS EUROS con DIECISIETE CÉNTIMOS							

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

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0412	R07MP510-2	Ud	Arqueta prefabricada ø100cm. Solo en pozo archique desagüe Tipo2 Arqueta prefabricada formada por anillos de hormigón en masa machihembrados de ø100 cm cerrada con tapa de chapa lagrimada de 3/5 mm pintada galvanizada en caliente, de 250 mm de espesor y provista de varilla pasante y candado. Incluso relleno con material granular hasta arqueta y compactado posterior del trasdós de la arqueta.				0414	R07MP515	Ud	Arqueta prefabricada ø150cm Arqueta prefabricada formada por anillos de hormigón en masa machihembrados de ø100 cm cerrada con tapa de chapa lagrimada de 3/5 mm pintada galvanizada en caliente, de 250 mm de espesor y provista de varilla pasante y candado. Incluso relleno con material granular hasta arqueta y compactado posterior del trasdós de la arqueta.			
	MO008D	2,502 Hr	Oficial 1ª	20,96	52,44			MO008D	1,050 Hr	Oficial 1ª	20,96	22,01	
	MO010	3,251 Hr	Peón	17,33	56,34			MO010	2,100 Hr	Peón	17,33	36,39	
	MAQ002	0,021 Hr	Camión con caja basculante 4 x 4	55,70	1,17			MAQ002	0,038 Hr	Camión con caja basculante 4 x 4	55,70	2,12	
	MAQ019	1,000 Hr	Grúa hidráulica acoplable a vehiculos de 7,5 t	31,42	31,42			MAQ019	0,699 Hr	Grúa hidráulica acoplable a vehiculos de 7,5 t	31,42	21,96	
	MAT360	3,000 m	Tubo machiembado 100 cm	70,00	210,00			MAT360-2	1,000 m	Tubo machiembado 150 cm	111,61	111,61	
	MAT240	1,000 Ud	Pasador, varilla pasante ø16 mm y candado	12,00	12,00			MAT240	1,000 Ud	Pasador, varilla pasante ø16 mm y candado	12,00	12,00	
	MAT283	0,500 m²	Tapa chapa lagrimada 3 mm 250 micras con epoxy	50,00	25,00			MAT283	2,000 m²	Tapa chapa lagrimada 3 mm 250 micras con epoxy	50,00	100,00	
	MAT017	0,100 m³	Arido material granular 6-12 mm en obra	15,00	1,50			MAT017	0,180 m³	Arido material granular 6-12 mm en obra	15,00	2,70	
	%00PCI03	3,000 %	Costes Indirectos	389,90	11,70			%00PCI03	3,000 %	Costes Indirectos	308,80	9,26	
TOTAL PARTIDA.....						401,57	TOTAL PARTIDA.....						318,05
Asciende el precio total de la partida a la mencionada cantidad de CUATROCIENTOS UN EUROS con CINCUENTA Y SIETE CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS DIECIOCHO EUROS con CINCO CÉNTIMOS						
0413	R07MP510B	ud	Arqueta prefabricada ø120cm Arqueta prefabricada formada por anillos de hormigón en masa machihembrados de ø120 cm cerrada con tapa de chapa lagrimada de 3/5 mm pintada galvanizada en caliente, de 250 microm de espesor y provista de varilla pasante y candado. Incluso relleno con material granular hasta arqueta y compactado posterior del trasdós de la arqueta.				0415	R07PC040	m	Paso Camino Camisa Hormigón 400 Paso bajo camino con tubería de hormigón con enchufe de campana y junta de goma de 400 mm. Zanja de anchura en la base 1,0 metros, profundidad variable, taludes 1/5 en paredes, cama de arena de 15 cm de espesor, relleno con material granular y finalizando con 10 centímetros de zahorras compactadas. Incluso entibaciones y agotamientos. Completamente ejecutada.			
	MO008D	0,950 Hr	Oficial 1ª	20,96	19,91			MO003	0,200 Hr	Capataz	21,71	4,34	
	MO010	2,000 Hr	Peón	17,33	34,66			MO008	0,800 Hr	Oficial de primera	20,96	16,77	
	MAT360B	1,000 m	Tubo machiembado 120 cm	55,00	55,00			MO010	1,800 Hr	Peón	17,33	31,19	
	MAT240	1,200 Ud	Pasador, varilla pasante ø16 mm y candado	12,00	14,40			MAQ023	0,030 Hr	Motoniv eladora de bastidor articulado de 203 kw	72,18	2,17	
	MAT283	1,130 m²	Tapa chapa lagrimada 3 mm 250 micras con epoxy	50,00	56,50			MAQ006	0,020 Hr	Compactador vibrante autopropulsado de un cilindro liso, de 15 t	42,29	0,85	
	MAT017	0,150 m³	Arido material granular 6-12 mm en obra	15,00	2,25			MAQ031	0,500 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	25,44	
	MAQ002	0,030 Hr	Camión con caja basculante 4 x 4	55,70	1,67			MAQ002	0,010 Hr	Camión con caja basculante 4 x 4	55,70	0,56	
	MAQ019	0,220 Hr	Grúa hidráulica acoplable a vehiculos de 7,5 t	31,42	6,91			MAQ003	0,001 Hr	Camión con tanque para agua de 10 m³	44,00	0,04	
	%PCI03	3,000 %	Costes indirectos	191,30	5,74			MAT300-4	1,000 m	Tubería de hormigón armado vibrocomp. 400 mm.	12,72	12,72	
TOTAL PARTIDA.....						197,04		MAT410	0,200 m³	Zahorra natural Z-40 PG-3	9,72	1,94	
Asciende el precio total de la partida a la mencionada cantidad de CIENTO NOVENTA Y SIETE EUROS con CUATRO CÉNTIMOS								MAT017	0,430 m³	Arido material granular 6-12 mm en obra	15,00	6,45	
								%00PCI03	3,000 %	Costes Indirectos	102,50	3,08	
TOTAL PARTIDA.....												105,55	
Asciende el precio total de la partida a la mencionada cantidad de CIENTO CINCO EUROS con CINCUENTA Y CINCO CÉNTIMOS													

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PROYECTO MODERNIZACIÓN C.R. LANAJA

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0416	R07PC040-90	m	Tubo Hormigón Armado Tipo C-90 DN 400 Tubería de hormigón clase C-90 o similar, con enchufe de campana y junta de goma de 400 mm puesto en zanja, incluidas las juntas y parte proporcional para conexiones y accesorios. Completamente ejecutada y probada.				0419	R07PC060-90	m	Tubo Hormigón Armado Tipo C-90 DN 600 Tubería de hormigón clase C-90 o similar, con enchufe de campana y junta de goma de 600 mm puesto en zanja, incluidas las juntas y parte proporcional para conexiones y accesorios. Completamente ejecutada y probada.			
	MO003	0,100 Hr	Capataz	21,71	2,17			MO003	0,100 Hr	Capataz	21,71	2,17	
	MO008	0,200 Hr	Oficial de primera	20,96	4,19			MO008	0,200 Hr	Oficial de primera	20,96	4,19	
	MO010	0,500 Hr	Peón	17,33	8,67			MO010	0,500 Hr	Peón	17,33	8,67	
	MAQ031	0,050 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	2,54			MAQ031	0,050 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	2,54	
	MAT300-4	1,000 m	Tubería de hormigón armado vibrocomp. 400 mm.	12,72	12,72			MAT300-6	1,000 m	Tubería de hormigón armado vibrocomp. 600 mm.	21,34	21,34	
	%00PCI03	3,000 %	Costes Indirectos	30,30	0,91			%00PCI03	3,000 %	Costes Indirectos	38,90	1,17	
TOTAL PARTIDA.....						31,20	TOTAL PARTIDA.....						40,08
Asciende el precio total de la partida a la mencionada cantidad de TREINTA Y UN EUROS con VEINTE CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CUARENTA EUROS con OCHO CÉNTIMOS						
0417	R07PC060	m	Paso Camino Camisa Hormigón 600 Paso bajo camino con tubería de hormigón con enchufe de campana y junta de goma de 600 mm. Zanja de anchura en la base 1,2 metros, profundidad variable, taludes 1/5 en paredes, cama de arena de 15 cm de espesor, relleno con material granular y finalizando con 10 centímetros de zahorras compactadas. Incluso entibaciones y agotamientos. Completamente ejecutada.				0420	R07PC080	m	Paso Camino Camisa Hormigón 800 Paso bajo camino con tubería de hormigón con enchufe de campana y junta de goma de 800 mm. Zanja de anchura en la base 1,4 metros, profundidad variable, taludes 1/5 en paredes, cama de arena de 15 cm de espesor, relleno con material granular y finalizando con 10 centímetros de zahorras compactadas. Incluso entibaciones y agotamientos. Completamente ejecutada.			
	MO003	0,200 Hr	Capataz	21,71	4,34			MO003	0,200 Hr	Capataz	21,71	4,34	
	MO008	1,000 Hr	Oficial de primera	20,96	20,96			MO008	1,250 Hr	Oficial de primera	20,96	26,20	
	MO010	2,500 Hr	Peón	17,33	43,33			MO010	3,000 Hr	Peón	17,33	51,99	
	MAQ023	0,040 Hr	Motoniveladora de bastidor articulado de 203 kw	72,18	2,89			MAQ023	0,040 Hr	Motoniveladora de bastidor articulado de 203 kw	72,18	2,89	
	MAQ006	0,020 Hr	Compactador vibrante autopropulsado de un cilindro liso, de 15 t	42,29	0,85			MAQ006	0,020 Hr	Compactador vibrante autopropulsado de un cilindro liso, de 15 t	42,29	0,85	
	MAQ031	0,800 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	40,70			MAQ031	0,800 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	40,70	
	MAQ002	0,010 Hr	Camión con caja basculante 4 x 4	55,70	0,56			MAQ002	0,010 Hr	Camión con caja basculante 4 x 4	55,70	0,56	
	MAQ003	0,001 Hr	Camión con tanque para agua de 10 m³	44,00	0,04			MAQ003	0,001 Hr	Camión con tanque para agua de 10 m³	44,00	0,04	
	MAT410	0,250 m³	Zahorra natural Z-40 PG-3	9,72	2,43			MAT410	0,300 m³	Zahorra natural Z-40 PG-3	9,72	2,92	
	MAT300-6	1,000 m	Tubería de hormigón armado vibrocomp. 600 mm.	21,34	21,34			MAT300-8	1,000 m	Tubería de hormigón armado vibrocomp. 800 mm.	39,81	39,81	
	MAT017	0,850 m³	Arido material granular 6-12 mm en obra	15,00	12,75			MAT017	1,100 m³	Arido material granular 6-12 mm en obra	15,00	16,50	
	%00PCI03	3,000 %	Costes Indirectos	150,20	4,51			%00PCI03	3,000 %	Costes Indirectos	186,80	5,60	
TOTAL PARTIDA.....						154,70	TOTAL PARTIDA.....						192,40
Asciende el precio total de la partida a la mencionada cantidad de CIENTO CINCUENTA Y CUATRO EUROS con SETENTA CÉNTIMOS							Asciende el precio total de la partida a la mencionada cantidad de CIENTO NOVENTA Y DOS EUROS con CUARENTA CÉNTIMOS						
0418	R07PC060-135	m	Tubo Hormigón Armado Tipo C-135 DN 600 Tubería de hormigón clase C-135 o similar, con enchufe de campana y junta de goma de 600 mm puesto en zanja, incluidas las juntas y parte proporcional para conexiones y accesorios. Completamente ejecutada y probada.										
	MO003	0,100 Hr	Capataz	21,71	2,17								
	MO008	0,200 Hr	Oficial de primera	20,96	4,19								
	MO010	0,500 Hr	Peón	17,33	8,67								
	MAQ031	0,050 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	2,54								
	MAT300-6135	1,000 m	Tubería de hormigón armado vibrocomp. 600 mm. C135	23,50	23,50								
	%00PCI03	3,000 %	Costes Indirectos	41,10	1,23								
TOTAL PARTIDA.....						42,30							
Asciende el precio total de la partida a la mencionada cantidad de CUARENTA Y DOS EUROS con TREINTA CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	
0421	R07PC100	m	Paso Camino Camisa Hormigón 1000 Paso bajo camino con tubería de hormigón con enchufe de campana y junta de goma de 1000 mm. Zanja de anchura en la base 1,4 metros, profundidad variable, taludes 1/5 en paredes, cama de arena de 15 cm de espesor, relleno con material granular y finalizando con 10 centímetros de zahorras compactadas. Incluso entibaciones y agotamientos. Completamente ejecutada.				0423	R07PC120-135	m	Tubo Hormigón Armado Tipo C-135 DN 1200 Tubería de hormigón clase C-135 o similar, con enchufe de campana y junta de goma de 1.200 mm puesto en zanja, incluidas las juntas y parte proporcional para conexiones y accesorios. Completamente ejecutada y probada.				
	MO003	0,200 Hr	Capataz	21,71	4,34			MO003	0,200 Hr	Capataz	21,71	4,34		
	MO008	2,500 Hr	Oficial de primera	20,96	52,40			MO008	0,500 Hr	Oficial de primera	20,96	10,48		
	MO010	3,500 Hr	Peón	17,33	60,66			MO010	1,000 Hr	Peón	17,33	17,33		
	MAQ023	0,060 Hr	Motoniveladora de bastidor articulado de 203 kw	72,18	4,33			MAQ031	0,100 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	5,09		
	MAQ006	0,020 Hr	Compactador vibrante autopulsado de un cilindro liso, de 15 t	42,29	0,85			MAT300-12135	1,000 m	Tubería de hormigón armado vibrocomp. 1200 mm. C135	70,00	70,00		
	MAQ031	1,200 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	61,04			%00PCI03	3,000 %	Costes Indirectos	107,20	3,22		
	MAQ002	0,010 Hr	Camión con caja basculante 4 x 4	55,70	0,56			TOTAL PARTIDA.....					110,46	
	MAQ003	0,001 Hr	Camión con tanque para agua de 10 m³	44,00	0,04			Asciende el precio total de la partida a la mencionada cantidad de CIENTO DIEZ EUROS con CUARENTA Y SEIS CÉNTIMOS						
	MAT410	0,350 m³	Zahorra natural Z-40 PG-3	9,72	3,40		0424	R07PC140	m	Paso Camino Camisa Hormigón 1400 Paso bajo camino con tubería de hormigón con enchufe de campana y junta de goma de 1400 mm. Zanja de anchura en la base 2,0 metros, profundidad variable, taludes 1/5 en paredes, cama de arena de 20 cm de espesor, relleno con material granular y finalizando con 10 centímetros de zahorras compactadas. Incluso entibaciones y agotamientos. Completamente ejecutada.				
	MAT017	1,450 m³	Arido material granular 6-12 mm en obra	15,00	21,75				MO003	0,500 Hr	Capataz	21,71	10,86	
	MAT300-10	1,000 m	Tubería de hormigón armado vibrocomp. 1000 mm	54,23	54,23				MO008	3,000 Hr	Oficial de primera	20,96	62,88	
	%00PCI03	3,000 %	Costes Indirectos	263,60	7,91				MO010	4,000 Hr	Peón	17,33	69,32	
	TOTAL PARTIDA.....					271,51			MAQ023	0,085 Hr	Motoniveladora de bastidor articulado de 203 kw	72,18	6,14	
	Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS SETENTA Y UN EUROS con CINCUENTA Y UN CÉNTIMOS								MAQ006	0,045 Hr	Compactador vibrante autopulsado de un cilindro liso, de 15 t	42,29	1,90	
0422	R07PC120	m	Paso Camino Camisa Hormigón 1200 Paso bajo camino con tubería de hormigón con enchufe de campana y junta de goma de 1200 mm. Zanja de anchura en la base 1,8 metros, profundidad variable, taludes 1/5 en paredes, cama de arena de 20 cm de espesor, relleno con material granular y finalizando con 10 centímetros de zahorras compactadas. Incluso entibaciones y agotamientos. Completamente ejecutada.						MAQ031	1,500 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	76,31	
	MO003	0,200 Hr	Capataz	21,71	4,34				MAQ002	0,025 Hr	Camión con caja basculante 4 x 4	55,70	1,39	
	MO008	2,500 Hr	Oficial de primera	20,96	52,40				MAQ003	0,004 Hr	Camión con tanque para agua de 10 m³	44,00	0,18	
	MO010	3,500 Hr	Peón	17,33	60,66				MAT410	0,500 m³	Zahorra natural Z-40 PG-3	9,72	4,86	
	MAQ023	0,080 Hr	Motoniveladora de bastidor articulado de 203 kw	72,18	5,77				MAT017	1,850 m³	Arido material granular 6-12 mm en obra	15,00	27,75	
	MAQ006	0,040 Hr	Compactador vibrante autopulsado de un cilindro liso, de 15 t	42,29	1,69				MAT300-14	1,000 m	Tubería de hormigón armado vibrocomp. 1400 mm	99,00	99,00	
	MAQ031	1,400 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	71,22				%00PCI03	3,000 %	Costes Indirectos	360,60	10,82	
	MAQ002	0,020 Hr	Camión con caja basculante 4 x 4	55,70	1,11				TOTAL PARTIDA.....					371,41
	MAQ003	0,002 Hr	Camión con tanque para agua de 10 m³	44,00	0,09				Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS SETENTA Y UN EUROS con CUARENTA Y UN CÉNTIMOS					
	MAT410	0,400 m³	Zahorra natural Z-40 PG-3	9,72	3,89									
	MAT017	1,850 m³	Arido material granular 6-12 mm en obra	15,00	27,75									
	MAT300-12	1,000 m	Tubería de hormigón armado vibrocomp. 1200 mm	65,35	65,35									
	%00PCI03	3,000 %	Costes Indirectos	294,30	8,83									
	TOTAL PARTIDA.....					303,10								
	Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS TRES EUROS con DIEZ CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

N°	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	N°	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0425	R07PC160	m	Paso Camino Camisa Hormigón 1600 Paso bajo camino con tubería de hormigón con enchufe de campana y junta de goma de 1600 mm. Zanja de anchura en la base 2,2 metros, profundidad variable, taludes 1/5 en paredes, cama de arena de 20 cm de espesor, relleno con material granular y finalizando con 10 centímetros de zahorras compactadas. Incluso entibaciones y agotamientos. Completamente ejecutada.				0427	R07PCA100	m	Paso Camino Asfaltado, Camisa 1000 Paso bajo camino asfaltado, mediante la instalación de camisa a base de tubería de hormigón con enchufe de campana y junta de goma de 1000 mm. Zanja de anchura en la base 1,6 metros, profundidad variable, taludes 1/5 en paredes, relleno con hormigón HM 20 hasta una altura de 0,10m por encima de la clave superior del tubo de hormigón, completándose con zahorra natural compactada al 98% P.M. hasta los últimos 0,3 m, que se rellenará con hormigón HM-20 hasta alcanzar la cota del camino, terminación con mezcla bituminosa en caliente debidamente compactada y riego asfáltico de adherencia. Incluso excavación con rompedor en caso necesario. Incluso entibaciones y agotamientos. Completamente ejecutada.			
	MO003	0,570 Hr	Capataz	21,71	12,37			MO003	0,500 Hr	Capataz	21,71	10,86	
	MO008	3,300 Hr	Oficial de primera	20,96	69,17			MO008	1,500 Hr	Oficial de primera	20,96	31,44	
	MO010	4,560 Hr	Peón	17,33	79,02			MO010	3,200 Hr	Peón	17,33	55,46	
	MAQ023	0,100 Hr	Motoniveladora de bastidor articulado de 203 kw	72,18	7,22			MAQ019	0,433 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	13,60	
	MAQ006	0,051 Hr	Compactador vibrante autopulsado de un cilindro liso, de 15 t	42,29	2,16			MAQ031	1,000 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	50,87	
	MAQ031	1,700 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	86,48			MAQ006	0,050 Hr	Compactador vibrante autopulsado de un cilindro liso, de 15 t	42,29	2,11	
	MAQ002	0,029 Hr	Camión con caja basculante 4 x 4	55,70	1,62			MAQ005	0,004 Hr	Bituminadora automotriz para riego asfáltico	31,69	0,13	
	MAQ003	0,004 Hr	Camión con tanque para agua de 10 m³	44,00	0,18			MAT300-10	1,000 m	Tubería de hormigón armado vibrocomp. 1000 mm	54,23	54,23	
	MAT410	0,570 m³	Zahorra natural Z-40 PG-3	9,72	5,54			MAT178	1,000 m³	Hormigón HM-20/B/20/Ila+Qb EN OBRA	49,60	49,60	
	MAT017	2,110 m³	Arido material granular 6-12 mm en obra	15,00	31,65			MAT410	1,300 m³	Zahorra natural Z-40 PG-3	9,72	12,64	
	MAT300-16	1,000 m	Tubería de hormigón armado vibrocomp. 1600 mm	149,02	149,02			MAT028	0,006 T	Ligante hidrocarbonado, según PG-3	29,00	0,17	
	%00PCI03	3,000 %	Costes Indirectos	444,40	13,33			MAT027	0,120 T	Mezcla bituminosa en caliente BBTM11A o AC-Semidensa	29,00	3,48	
			TOTAL PARTIDA.....			457,76		%00PCI03	3,000 %	Costes Indirectos	284,60	8,54	
Asciende el precio total de la partida a la mencionada cantidad de CUATROCIENTOS CINCUENTA Y SIETE EUROS con SETENTA Y SEIS CÉNTIMOS							TOTAL PARTIDA.....						293,13
0426	R07PCA040	m	Paso Camino Asfaltado, Camisa 400 Paso bajo camino asfaltado, mediante la instalación de camisa a base de tubería de hormigón con enchufe de campana y junta de goma de 400 mm. Zanja de anchura en la base 1,0 metros, profundidad variable, taludes 1/5 en paredes, relleno con hormigón HM 20 hasta una altura de 0,10m por encima de la clave superior del tubo de hormigón, completándose con zahorra natural compactada al 98% P.M. hasta los últimos 0,3 m, que se rellenará con hormigón HM-20 hasta alcanzar la cota del camino, terminación con mezcla bituminosa en caliente debidamente compactada y riego asfáltico de adherencia. Incluso excavación con rompedor en caso necesario. Incluso entibaciones y agotamientos. Completamente ejecutada.				Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS NOVENTA Y TRES EUROS con TRECE CÉNTIMOS						
	MO003	0,500 Hr	Capataz	21,71	10,86								
	MO008	1,500 Hr	Oficial de primera	20,96	31,44								
	MO010	3,200 Hr	Peón	17,33	55,46								
	MAQ019	0,433 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	13,60								
	MAQ031	1,000 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	50,87								
	MAQ006	0,040 Hr	Compactador vibrante autopulsado de un cilindro liso, de 15 t	42,29	1,69								
	MAQ005	0,004 Hr	Bituminadora automotriz para riego asfáltico	31,69	0,13								
	MAT300-4	1,000 m	Tubería de hormigón armado vibrocomp. 400 mm.	12,72	12,72								
	MAT178	0,550 m³	Hormigón HM-20/B/20/Ila+Qb EN OBRA	49,60	27,28								
	MAT410	1,000 m³	Zahorra natural Z-40 PG-3	9,72	9,72								
	MAT028	0,004 T	Ligante hidrocarbonado, según PG-3	29,00	0,12								
	MAT027	0,080 T	Mezcla bituminosa en caliente BBTM11A o AC-Semidensa	29,00	2,32								
	%00PCI03	3,000 %	Costes Indirectos	216,20	6,49								
			TOTAL PARTIDA.....			222,70							
Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS VEINTIDOS EUROS con SETENTA CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0428	R07PCA140	m	Paso Camino Asfaltado, Camisa 1400 Paso bajo camino asfaltado, mediante la instalación de camisa a base de tubería de hormigón con enchufe de campana y junta de goma de 1400 mm. Zanja de anchura en la base 2,0 metros, profundidad variable, taludes 1/5 en paredes, relleno con hormigón HM 20 hasta una altura de 0,10m por encima de la clave superior del tubo de hormigón, completándose con zahorra natural compactada al 98% P.M. hasta los últimos 0,3 m, que se rellenará con hormigón HM-20 hasta alcanzar la cota del camino, terminación con mezcla bituminosa en caliente debidamente compactada y riego asfáltico de adherencia. Incluso excavación con rompedor en caso necesario. Incluso entibaciones y agotamientos. Completamente ejecutada.				0429	R07PCA160	m	Paso Camino Asfaltado, Camisa 1600 Paso bajo camino asfaltado, mediante la instalación de camisa a base de tubería de hormigón con enchufe de campana y junta de goma de 1600 mm. Zanja de anchura en la base 2,2 metros, profundidad variable, taludes 1/5 en paredes, relleno con hormigón HM 20 hasta una altura de 0,10m por encima de la clave superior del tubo de hormigón, completándose con zahorra natural compactada al 98% P.M. hasta los últimos 0,3 m, que se rellenará con hormigón HM-20 hasta alcanzar la cota del camino, terminación con mezcla bituminosa en caliente debidamente compactada y riego asfáltico de adherencia. Incluso excavación con rompedor en caso necesario. Incluso entibaciones y agotamientos. Completamente ejecutada.			
MO003		0,500 Hr	Capataz	21,71	10,86		MO003		0,571 Hr	Capataz	21,71	12,40	
MO008		1,500 Hr	Oficial de primera	20,96	31,44		MO008		1,712 Hr	Oficial de primera	20,96	35,88	
MO010		3,200 Hr	Peón	17,33	55,46		MO010		3,651 Hr	Peón	17,33	63,27	
MAQ019		0,433 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	13,60		MAQ019		0,493 Hr	Grúa hidráulica acoplable a vehículos de 7,5 t	31,42	15,49	
MAQ031		1,000 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	50,87		MAQ031		1,141 Hr	Retroexcavadora hidráulica sobre ruedas, de 21 t	50,87	58,04	
MAQ006		0,050 Hr	Compactador vibrante autopropulsado de un cilindro liso, de 15 t	42,29	2,11		MAQ006		0,057 Hr	Compactador vibrante autopropulsado de un cilindro liso, de 15 t	42,29	2,41	
MAQ005		0,004 Hr	Bituminadora automotriz para riego asfáltico	31,69	0,13		MAQ005		0,004 Hr	Bituminadora automotriz para riego asfáltico	31,69	0,13	
MAT300-14		1,000 m	Tubería de hormigón armado vibrocomp. 1400 mm	99,00	99,00		MAT178		1,500 m³	Hormigón HM-20/B/20/IIa+Qb EN OBRA	49,60	74,40	
MAT178		1,300 m³	Hormigón HM-20/B/20/IIa+Qb EN OBRA	49,60	64,48		MAT410		3,000 m³	Zahorra natural Z-40 PG-3	9,72	29,16	
MAT410		2,200 m³	Zahorra natural Z-40 PG-3	9,72	21,38		MAT028		0,011 T	Ligante hidrocarbonado, según PG-3	29,00	0,32	
MAT028		0,100 T	Ligante hidrocarbonado, según PG-3	29,00	2,90		MAT027		0,228 T	Mezcla bituminosa en caliente BBTM11A o AC-Semidensa	29,00	6,61	
MAT027		0,200 T	Mezcla bituminosa en caliente BBTM11A o AC-Semidensa	29,00	5,80		MAT300-16		1,000 m	Tubería de hormigón armado vibrocomp. 1600 mm	149,02	149,02	
%00PCI03		3,000 %	Costes Indirectos	358,00	10,74		%00PCI03		3,000 %	Costes Indirectos	447,10	13,41	
TOTAL PARTIDA.....						368,77	TOTAL PARTIDA.....						460,54

Asciende el precio total de la partida a la mencionada cantidad de TRESCIENTOS SESENTA Y OCHO EUROS con SETENTA Y SIETE CÉNTIMOS

Asciende el precio total de la partida a la mencionada cantidad de CUATROCIENTOS SESENTA EUROS con CINCUENTA Y CUATRO CÉNTIMOS

0430	RED_TT_HER_CS	ud	Red de Tierras de Herrajes CS Instalación para toma de tierra de aparellaje: 4 picas de 2m y 14mm de diámetro, 20 m de conductor de Cu desnudo S=50 mm2										
	MO005D	3,000 h	Cuadrilla Eléctrica: Oficial de Primera, Ayudante y Peón	48,00	144,00								
	MAT513	1,000 Ud	Seccionador tierras	25,47	25,47								
	BT-PAT015	4,000 Ud	Pica Ac-Cu 2000x 14 mm con grapa	12,48	49,92								
	MAT515	20,000 m	Conductor cobre desnudo de 50 mm2	9,95	199,00								
	%PM..1	2,000 %	Pequeño Material	418,40	8,37								
	%PCI03	3,000 %	Costes indirectos	426,80	12,80								
TOTAL PARTIDA.....												439,56	

Asciende el precio total de la partida a la mencionada cantidad de CUATROCIENTOS TREINTA Y NUEVE EUROS con CINCUENTA Y SEIS CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0431	RED_TT_HER_CT	Ud	Red de Tierras de Herrajes y Neutro CT Instalación para toma de tierra de aparellaje: 8 picas de 2m y 14mm de diámetro, 20 m de conductor de Cu desnudo S=50 mm2				0435	RTOMA1000	Ud	Reja de Desbaste para Toma 1,0 m Reja de desbaste para Toma de 1,00m, sobre guías para facilitar su limpieza y mantenimiento. En Acero Inoxidable AISI-316, con luz de paso máxima de 50 con refuerzos cada 150 mm y altura mínima de 1,5 m. Incluye Plei-nas, tornillería y pp. de pequeño material para anclaje a hormigón y con lámina plástica. Medida la unidad total-mente montada y probada.			
			Instalación de puesta a tierra de neutro: 3 picas de 2m y 14mm de diámetro, 30m de conductor de Cu desnudo S=50mm2										
			Pequeño material necesario como tornillos, arandelas, anclajes ... para su colocación										
MO013		3,000 Hr	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	57,37	172,11		MO008	1,000 Hr	Oficial de primera		20,96	20,96	
MAT513		1,000 Ud	Seccionador tierras	25,47	25,47		MO010	2,000 Hr	Peón		17,33	34,66	
MAT514		11,000 Ud	Picas acero cobrizado 2 mts/14mm	18,32	201,52		MAQ034	1,000 Hr	Transporte y descarga con camión pluma		48,50	48,50	
MAT515		50,000 m	Conductor cobre desnudo de 50 mm2	9,95	497,50		MAT446-3	1,000 Ud	Jaula Desbaste Toma en acequia 1.00m		864,00	864,00	
%PM..1		2,000 %	Pequeño Material	896,60	17,93		%00PCI03	3,000 %	Costes Indirectos		968,10	29,04	
%00PCI03		3,000 %	Costes Indirectos	914,50	27,44								
TOTAL PARTIDA.....						941,97							997,16
Asciende el precio total de la partida a la mencionada cantidad de NOVECIENTOS NOVENTA Y SIETE EUROS con DIECISEIS CÉNTIMOS													
0432	REIGOSUL	Hr	Riego de suelo con cisterna Riego de suelo con cisterna				0436	SA100HP	m	Canaleta Prefabricada de Hormigón Polímero Canaleta prefabricada de hormigón polímero, 127 mm de ancho exterior, 100 mm de ancho interior y 95 mm de altura, con rejilla nervada de acero galvanizado, clase A-15 según UNE-EN 124, con sistema de fijación rápida por presión, colocada sobre solera de hormigón en masa HM-20/B/20/IIa de 10 cm de espesor. Incluso accesorios de montaje, piezas especiales y elementos de sujeción. Medida la unidad totalmente ejecutada e instalada			
MO010		0,250 Hr	Peón	17,33	4,33		MO010	0,040 Hr	Peón		17,33	0,69	
MAQ003		1,000 Hr	Camión con tanque para agua de 10 m³	44,00	44,00		MO008	0,040 Hr	Oficial de primera		20,96	0,84	
%00PCI03		3,000 %	Costes Indirectos	48,30	1,45		MAT178IIB	0,040 m³	Hormigón HM-20/B/20/X0 EN OBRA		49,60	1,98	
TOTAL PARTIDA.....						49,78	MAT350	1,000 Ud	Canaleta prefabricada de hormigón polímero		14,73	14,73	
Asciende el precio total de la partida a la mencionada cantidad de CUARENTA Y NUEVE EUROS con SETENTA Y OCHO CÉNTIMOS													
TOTAL PARTIDA.....						49,78	MAT351	1,000 Ud	Kit de accesorios de montaje (Tornillería, Piezas Especiales,...)		3,14	3,14	
TOTAL PARTIDA.....						49,78	%00PCI03	3,000 %	Costes Indirectos		21,40	0,64	
TOTAL PARTIDA.....						49,78	TOTAL PARTIDA.....						22,02
0433	REJ	m²	Rejilla en fachadas Rejilla en fachadas				Asciende el precio total de la partida a la mencionada cantidad de VEINTIDOS EUROS con DOS CÉNTIMOS						
MO008		0,400 Hr	Oficial de primera	20,96	8,38		0437	SE10BOYA	Ud	Boya intermitente con célula Boya intermitente con célula fotoeléctrica para señalización nocturna. Colocada. s/R.D. 485/97.			
MO002		0,468 Hr	Ayudante	19,08	8,93		MO008	0,350 Hr	Oficial de primera		20,96	7,34	
MAT261		1,000 m²	Rejilla	35,65	35,65		MO010	0,200 Hr	Peón		17,33	3,47	
%00PCI03		3,000 %	Costes Indirectos	53,00	1,59		BOYA	1,000 Ud	Boya intermitente con célula		40,00	40,00	
TOTAL PARTIDA.....						54,55	%00PCI03	3,000 %	Costes Indirectos		50,80	1,52	
TOTAL PARTIDA.....						54,55	TOTAL PARTIDA.....						52,33
0434	REST	m²	Restauración suelo labor Restauración suelo labor				Asciende el precio total de la partida a la mencionada cantidad de CINCUENTA Y DOS EUROS con TREINTA Y TRES CÉNTIMOS						
MO010		0,006 Hr	Peón	17,33	0,10		0438	SE10CIRIS	Ud	Cartel indicat. riesgo con soporte Ud. Cartel indicativo de riesgo de 0,30x0,30 m. con soporte metálico de hierro galvanizado 80x40x2 mm. y 1,3 m. de altura, incluso apertura de pozo, hormigonado, colocación y desmontado. s/R.D. 485/97.			
MAQ042		0,002 Hr	TRACTOR ORUGA 285 CV	56,43	0,11		MO010	0,350 Hr	Peón		17,33	6,07	
MAQ037		0,001 Hr	Camión de 12 Tm	27,00	0,03		L01048	1,000 Ud	Cartel indicativo de riesgo con soporte		12,41	12,41	
MAQ036		0,002 Hr	Retroexcavadora Mediana	37,00	0,07		%00PCI03	3,000 %	Costes Indirectos		18,50	0,56	
%00PCI03		3,000 %	Costes Indirectos	0,30	0,01		TOTAL PARTIDA.....						19,04
TOTAL PARTIDA.....						0,32	TOTAL PARTIDA.....						19,04
Asciende el precio total de la partida a la mencionada cantidad de CERO EUROS con TREINTA Y DOS CÉNTIMOS													
Asciende el precio total de la partida a la mencionada cantidad de DIECINUEVE EUROS con CUATRO CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0439	SE10CIRSS	Ud	Cartel indicat.riesgo sin soporte Ud. Cartel indicativo de riesgo de 0,30x0,30 m., sin soporte metálico, incluso colocación y desmontado. s/R.D. 485/97.				0444	SISFV	Ud	Sist. Autónomo de alimentación Alimentación eléctrica mediante instalación solar fotovoltaica formada por: - Conjunto de 12 vasos libres de mantenimiento, de 2V cada uno y 200Ah - Regulador de carga 12/24V 20A. - Panel solar de aprox. (según disponibilidad comercial) 24V 120W con detección de intrusión sobre mástil existente en soporte orientable, colocado sobre zapata y esperas existentes insertadas en obra civil. - Mástil tubular/trococónico de 8m de altura y 4mm de pared con ventana de conexionado, sobre zapata y esperas existentes insertadas en obra civil. - Cable tipo RVK 4x4 por tubo - Arqueta para alojamiento de las baterías Regulador, consistente en caseta prefabricada de hormigón con base integrada o presolera de hormigón HM-20, con unas dimensiones interiores útiles de 2,00x1,00x1,900, con apertura en eje vertical de doble hoja, puertas en galvanizado 1,5 mm, nervadura perimetral de refuerzo, rejilla de ventilación con mosquitera en puertas, bisagras con perno de pala, cerrojo reforzado tipo AZBE. Incluido soportes, y candado, incluidos todos los medios auxiliares para su colocación y cimentación para mástil consistente en hormigón en masa de 0,8x0,8x1,2m y 4 pernos de 16 mm de diametro de acero B-500S. Incluidos tubo de PE corrugado con guía para cableado a los elementos (válvulas y caudalímetros, dos tubos por elemnto), y el desbroce o preparación de terreno para la presolera. Totalmente instalado, conexionado, conectado y en funcionamiento. Incluyendo el alquiler de vehículos y/o medios necesarios para el transporte y levantamiento de mástil junto con panel solar y otros elementos sobre éstos.			
	MO010	0,050 Hr	Peón	17,33	0,87								
	L01047	1,000 Ud	Cartel indicativo riesgo sin soporte	2,21	2,21								
	%00PCI03	3,000 %	Costes Indirectos	3,10	0,09								
TOTAL PARTIDA.....						3,17							
Asciende el precio total de la partida a la mencionada cantidad de TRES EUROS con DIECISIETE CÉNTIMOS													
0440	SE10CPRIENT	Ud	Cartel provisional riesgo entrada obra/EPI's Cartel provisional de riesgo entrada obra/EPI's. Incluso apertura de pozo, hormigonado, colocación y desmontado. s/R.D. 485/97.										
	MO010	0,715 Hr	Peón	17,33	12,39								
	MAQ048	0,400 Hr	Vibrador hormigón o regla vibrante	22,23	8,89								
	ESS300	1,000 Ud	Cartel indic. entrada Obra 2.00x1.50 m	15,00	15,00								
	ESS230	0,500 Ud	Soporte metálico para señal	14,69	7,35		MO015	2,000 Hr	Tecnico Especialista Telecomunicaciones	21,71	43,42		
	P03016	1,200 m³	Hormigón en masa HM-20/sp/20, sulforresistente, planta D<= 15km	73,09	87,71		MO010	2,000 Hr	Peón	17,33	34,66		
	%00PCI03	3,000 %	Costes Indirectos	131,30	3,94		MAQ018	1,000 Hr	Grúa hidráulica acoplable a vehiculos de 20 t	39,20	39,20		
TOTAL PARTIDA.....						135,28	MAQ002	1,000 Hr	Camión con caja basculante 4 x 4	55,70	55,70		
Asciende el precio total de la partida a la mencionada cantidad de CIENTO TREINTA Y CINCO EUROS con VEINTIOCHO CÉNTIMOS													
0441	SE10SSIS	Ud	Señal Stop con soporte Señal de stop tipo octogonal de D=600 mm. normalizada, con soporte metálico de hierro galvanizado 80x40x2 mm. y 1,3 m. de altura incluso parte proporcional de apertura de pozo, hormigonado, colocación y desmontado. (3 usos) . s/R.D. 485/97.										
	MO010	0,350 Hr	Peón	17,33	6,07		MAT023	1,000 Ud	Arqueta para Hidrante, Tipo Armario Hormigón Arm. 2.00x1.00x1.40	760,00	760,00		
	L01046	1,000 Ud	Señal normalizada tráfico con soporte	69,05	69,05		MAT535-1	1,000 Ud	Conjunto baterías Gel 24V 200 Ah	850,00	850,00		
	%00PCI03	3,000 %	Costes Indirectos	75,10	2,25		MAT536-1	1,000 Ud	Regulador solar de carga 12/24 20A	82,00	82,00		
							MAT537-1	1,000 Ud	Mástil tubular	142,00	142,00		
							MAT538-1	1,000 m	Cableado	158,00	158,00		
							MAT539-1	1,000 m	Panel solar 24V 120W con soporte	36,00	36,00		
							%00PCI03	3,000 %	Costes Indirectos	2.201,00	66,03		
TOTAL PARTIDA.....						77,37	TOTAL PARTIDA.....						2.267,01
Asciende el precio total de la partida a la mencionada cantidad de SETENTA Y SIETE EUROS con TREINTA Y SIETE CÉNTIMOS													
0442	SE20CB	m	Cinta de balizamiento r/b. MI. Cinta corrida de balizamiento plástica pintada a dos colores roja y blanca, incluso colocación y desmontado. s/R.D. 485/97.				0445	SOL_DCBOX10	m	Cable Unipolar Interconexion módulo ZZ-F o ZZ-F DUAL 10 mm2 Cu Suministro de cable unipolar de cobre de 10 mm2 Cu. (proteccion solar) de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC. Montaje e instalacion de cable unipolar de cobre de 6 mm2 Cu. (proteccion solar) de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC, colocado en el interior de tubo corrugado de polietileno doble pared flexible para instalaciones eléctricas de diametro 50 mm (si procede) . Incluso conexionado a módulos fotovoltaicos mediante empalmes y punteras terminales. Incluyendo medios auxiliares, totalmente instalado.			
	MO010	0,010 Hr	Peón	17,33	0,17								
	ESS290	1,000 m.l.	Cinta de balizamiento reflec.	0,12	0,12		MO003	0,020 Hr	Capataz	21,71	0,43		
	%00PCI03	3,000 %	Costes Indirectos	0,30	0,01		MO008D	0,020 Hr	Oficial 1º	20,96	0,42		
TOTAL PARTIDA.....						0,30	SOL-RV-K-DC10	1,000 M.l	Cable Unipolar Interconexion módulo ZZ-F o ZZ-F DUAL 10 mm2 Cu	1,21	1,21		
Asciende el precio total de la partida a la mencionada cantidad de CERO EUROS con TREINTA CÉNTIMOS													
0443	SE20VCP	Ud	Valla contencion peatones. Ud. Valla autónoma metálica de 2,5 m. de longitud para contención de peatones normalizada, incluso colocación y desmontaje. (20 usos). s/R.D. 485/97.										
	ESS270	0,050 m.l.	Valla contención peatones	50,80	2,54		%PCI03	3,000 %	Costes indirectos	2,10	0,06		
	%00PCI03	3,000 %	Costes Indirectos	2,50	0,08		TOTAL PARTIDA.....						2,12
TOTAL PARTIDA.....						2,62	Asciende el precio total de la partida a la mencionada cantidad de DOS EUROS con DOCE CÉNTIMOS						
Asciende el precio total de la partida a la mencionada cantidad de DOS EUROS con SESENTA Y DOS CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE		
0446	SOL_DCBOX6	m	Cable Unipolar Interconexion módulo ZZ-F o ZZ-F DUAL 6 mm2 Cu Suministro de cable unipolar de cobre de 6 mm2 Cu. (proteccion solar) de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC. Montaje e instalacion de cable unipolar de cobre de 6 mm2 Cu. (proteccion solar) de tensión asignada 0.6/1KV, flexibilidad clase 5 con aislamiento de polietileno reticulado y cubierta de PVC, colocado en el interior de tubo corrugado de polietileno doble pared flexible para instalaciones eléctricas de diametro 50 mm (si procede) . Incluso conexionado a módulos fotovoltaicos mediante empalmes y punteras terminales. Incluyendo medios auxiliares, totalmente instalado.				0450	SYS04	Ud	Pértico de limitación de altura libre de 5 m, Pértico de limitación de altura libre de 5 m, para protección de líneas eléctricas aéreas, compuesto por 2 rollizos de madera de 15/20 cm de diámetro, hincados en el terreno, separados entre sí 6 m, amortizables en 5 usos y unidos en su parte superior mediante cable tensado de acero de 10 mm de diámetro, sobre el que se suspenderá un cordón de balizamiento con guirnalda reflectantes de plástico, color rojo y blanco.					
	MO003	0,020 Hr	Capataz	21,71	0,43					ESS256	10,000 m	Rollizo de madera, de 15 a 20 cm de diámetro.	3,78	37,80	
	MO008D	0,020 Hr	Oficial 1ª	20,96	0,42					ESS257	1,000 Ud	Señal provisional de obra de chapa de acero galvanizado	29,50	29,50	
	SOL-RV-K-DC6	1,000 M.I	Cable Unipolar Interconexion módulo ZZ-F o ZZ-F DUAL 6 mm2 Cu	0,73	0,73					ESS258	10,000 m	Cable de acero de 10 mm de diámetro.	2,01	20,10	
	%PCI03	3,000 %	Costes indirectos	1,60	0,05					ESS259	1,000 Ud	Cordón de balizamiento con guirnalda	0,93	0,93	
TOTAL PARTIDA.....						1,63				MAQ200	0,100 Hr	Miniretroexcavadora sobre neumáticos, de 37,5 kW	38,24	3,82	
Asciende el precio total de la partida a la mencionada cantidad de UN EUROS con SESENTA Y TRES CÉNTIMOS															
0447	SYS01	Ud	Barrera New Jersey Barrera de seguridad portátil tipo New Jersey de polietileno de alta densidad, de 1,20x0,60x0,40 m, con capacidad de lastrado de 150 l, color rojo o blanco, amortizable en 20 usos.							MAQ251	0,400 Hr	Camión con grúa de hasta 6 t	42,52	17,01	
										MO008	0,500 Hr	Oficial de primera	20,96	10,48	
	ESS250	1,000 Ud	Barrera New Jersey	5,24	5,24					MO010	0,500 Hr	Peón	17,33	8,67	
	%00PCI03	3,000 %	Costes Indirectos	5,20	0,16					%00PCI03	3,000 %	Costes Indirectos	128,30	3,85	
TOTAL PARTIDA.....						5,40				TOTAL PARTIDA.....				132,16	
Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con CUARENTA CÉNTIMOS															
0448	SYS02	Ud	Faja de protección lumbar Faja de protección lumbar con amplio soporte abdominal y sujeción regulable mediante velcro, amortizable en 4 usos							0451	SYS05	Ud	Caja de 50 mascarillas quirúrgicas de un solo uso Caja de 50 mascarillas quirúrgicas de un solo uso, tipo I, de 17,5x9,5 cm, formadas por tres capas, las capas interior y exterior de poliéster y la capa intermedia de polipropileno, con puente nasal de aluminio para mejorar el ajuste al contorno de la nariz y cintas elásticas para sujeción de la mascarilla a la cabeza.		
	ESS251	1,000 Ud	Faja de protección lumbar	4,90	4,90					ESS260	1,000 Ud	Caja de 50 mascarillas quirúrgicas de un solo uso	28,50	28,50	
	%00PCI03	3,000 %	Costes Indirectos	4,90	0,15					%00PCI03	3,000 %	Costes Indirectos	28,50	0,86	
TOTAL PARTIDA.....						5,05				TOTAL PARTIDA.....				29,36	
Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con CINCO CÉNTIMOS															
0449	SYS03	m	Protección frente a la caída de camiones en bordes de excavación Protección frente a la caída de camiones en bordes de excavación, durante los trabajos de descarga directa de hormigón o materiales de relleno, formada por tope compuesto por 1 tabloncillos de madera de pino de 0,20x0x20 cm, amortizables en 4 usos y perfiles de acero UNE-EN 10025 S275JR, laminado en caliente, de la serie IPN 200, galvanizado en caliente, de 1 m de longitud, hincados en el terreno cada 2,0 m, amortizables en 150 usos. Incluso elementos de acero para el ensamble de los tabloncillos.							0452	SYS06	I	Gel hidroalcohólico virucida Gel hidroalcohólico, bactericida y virucida, para la desinfección de manos.		
	ESS254	1,000 Ud	Tablón de madera de pino 1x0,20x0,20	3,32	3,32					ESS262	1,000 I	Gel hidroalcohólico, bactericida y virucida	5,49	5,49	
	ESS255	0,300 m	Perfil de acero UNE-EN 10025 S275JR, serie IPN 200	44,55	13,37					%00PCI03	3,000 %	Costes Indirectos	5,50	0,17	
	%00PCI03	3,000 %	Costes Indirectos	16,70	0,50					TOTAL PARTIDA.....				5,66	
TOTAL PARTIDA.....						17,19				Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con SESENTA Y SEIS CÉNTIMOS					
Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con CINCO CÉNTIMOS															
0453	SYS07	Ud	Juego de orejeras con atenuación acústica de 15 dB Juego de orejeras, estándar, compuesto por un casquete diseñado para producir presión sobre la cabeza mediante un arnés y ajuste con almohadillado central, con atenuación acústica de 15 dB.							0454	SYS08	UD	Muñequeras Antivibratorias Juegos de muñequeras antivibratorias		
	ESS263	1,000 Ud	Juego de orejeras con atenuación acústica de 15 dB	9,85	9,85					ESS265	2,000	Muñequeras Antivibratorias	2,74	5,48	
	%00PCI03	3,000 %	Costes Indirectos	9,90	0,30					%00PCI03	3,000 %	Costes Indirectos	5,50	0,17	
TOTAL PARTIDA.....						10,15				TOTAL PARTIDA.....				10,15	
Asciende el precio total de la partida a la mencionada cantidad de DIECISIETE EUROS con DIECINUEVE CÉNTIMOS															
Asciende el precio total de la partida a la mencionada cantidad de DIEZ EUROS con QUINCE CÉNTIMOS															
Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con CINCO CÉNTIMOS															

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0455	SYS28	Ud	Crema solar				0457	TAJ-50X80	Ud	Tajadera Simple 0,50 x 0,80 m, Cierre 3 Juntas			
	ESS365	1,000 ud	Bote de 1 l o superior capacidad de crema solar de protección factor 50. para protección frente a los rayos solares. crema solar	50,00	50,00					Tajadera metálica con accionamiento manual mediante volante con reductor situado en el bastidor superior, con husillo simple de tipo ascendete y rosca trapecial, paso estandarizado, realizado en acero AISI 304 de diametro 40 mm o superior (acorde a la presión y fricción de la compuerta). Tablero de compuerta de unas dimensiones de 0,6x0.8(h) m realizado en acero al carbono S-275-JR, estructura del bastidor realizado con perfiles conformados mediante plegado y refuerzos en acero S-275-JR, con puente superior de apoyo del volante desmontable para extracción de hoja de compuerta, y bastidor con una altura suficiente para asegurar una altura del volante de 1,2m sobre el terreno o coronación del cajero exterior de la acequia. Cierre hermetico a 3 juntas unidireccional mediante juntas de goma de EPDM o neopreno, con forma y tipología acorde a la forma de la hoja y bastidor. Instalación de guías deslizantes en puntos de unión vertical entre bastidor y tablero realizadas mediante piezas de polietileno o nylon, con unión fácilmente sustituible. Tornillería en acero inoxidable calidad 8.8 o superior. Todas las piezas realizadas en acero S-275 dispondrán de tratamiento mediante granallado, desengrasado de superficies, recubrimiento de pintura epoxi rica en zinc (50 micras), recubrimiento de epoxi poliamida de 100 micras y recubrimiento de pintura de poliuretano alifatico de 50 micras. Incluso plataforma para accionamiento, elementos de anclaje y pequeño material para obra civil y de acondicionamiento de banda necesaria para tránsito de maquinaria en ejecución de los trabajos. Colocada y probada. Medida la unidad instalada y probada.			
	%00PCI03	3,000 %	Costes Indirectos	50,00	1,50								
TOTAL PARTIDA.....						51,50							
Asciende el precio total de la partida a la mencionada cantidad de CINCUENTA Y UN EUROS con CINCUENTA CÉNTIMOS													
0456	TAJ-50X50	Ud	Tajadera Simple 0,50 x 0,50 m, Cierre 3 Juntas										
			Tajadera metálica con accionamiento manual mediante volante con reductor situado en el bastidor superior, con husillo simple de tipo ascendete y rosca trapecial, paso estandarizado, realizado en acero AISI 304 de diametro 40 mm o superior (acorde a la presión y fricción de la compuerta). Tablero de compuerta de unas dimensiones de 0,4x0.8(h) m realizado en acero al carbono S-275-JR, estructura del bastidor realizado con perfiles conformados mediante plegado y refuerzos en acero S-275-JR, con puente superior de apoyo del volante desmontable para extracción de hoja de compuerta, y bastidor con una altura suficiente para asegurar una altura del volante de 1,2m sobre el terreno o coronación del cajero exterior de la acequia. Cierre hermetico a 3 juntas unidireccional mediante juntas de goma de EPDM o neopreno, con forma y tipología acorde a la forma de la hoja y bastidor. Instalación de guías deslizantes en puntos de unión vertical entre bastidor y tablero realizadas mediante piezas de polietileno o nylon, con unión fácilmente sustituible. Tornillería en acero inoxidable calidad 8.8 o superior. Todas las piezas realizadas en acero S-275 dispondrán de tratamiento mediante granallado, desengrasado de superficies, recubrimiento de pintura epoxi rica en zinc (50 micras), recubrimiento de epoxi poliamida de 100 micras y recubrimiento de pintura de poliuretano alifatico de 50 micras. Incluso plataforma para accionamiento, elementos de anclaje y pequeño material para obra civil y de acondicionamiento de banda necesaria para tránsito de maquinaria en ejecución de los trabajos. Colocada y probada. Medida la unidad instalada y probada.										
	MO012	2,000 Hr	Cuadrilla Construcción; Oficial de Primera, Ayudante y Peón	57,37	114,74		MO012	2,000 Hr		Cuadrilla Construcción; Oficial de Primera, Ayudante y Peón	57,37	114,74	
	MAQ019	0,468 Hr	Grúa hidráulica acoplable a vehiculos de 7,5 t	31,42	14,70		MAQ019	0,468 Hr		Grúa hidráulica acoplable a vehiculos de 7,5 t	31,42	14,70	
	MAT097-2	1,000 Ud	Tajadera Simple 0,50x0,50 m	500,00	500,00		MAT097-3	1,000 Ud		Tajadera Simple 0,50x0,80 m	800,00	800,00	
	%PM..1	2,000 %	Pequeño Material	629,40	12,59		%PM..1	2,000 %		Pequeño Material	929,40	18,59	
	%00PCI03	3,000 %	Costes Indirectos	642,00	19,26		%00PCI03	3,000 %		Costes Indirectos	948,00	28,44	
TOTAL PARTIDA.....						661,29	TOTAL PARTIDA.....						976,47
Asciende el precio total de la partida a la mencionada cantidad de SEISCIENTOS SESENTA Y UN EUROS con VEINTINUEVE CÉNTIMOS													
							0458	TEX005	m²	Refino De Taludes			
										Refino y perfilado de taludes interiores y exteriores de terraplén según planos, incluso con la utilización de medios manuales si son precisos, asegurando la eliminación total de elementos gruesos vistos en superficie con un tamaño mayor a 2 cm o de forma angulosa. En el caso de no poder realizar esta eliminación se incluye además la extensión, colocación y compactación de una capa de 15 cm de material fino seleccionado y cribado obtenido del movimiento de tierras de los taludes y acopiado durante su ejecución previa para tal fin. Medida la superficie finalizada y ejecutada final.			
							MO010	0,003 Hr		Peón	17,33	0,05	
							MAQ038	0,003 Hr		Motoniv eladora de Tamaño Pequeño	33,00	0,10	
							MAQ036	0,003 Hr		Retroexcavadora Mediana	37,00	0,11	
							MAQ037	0,002 Hr		Camión de 12 Tm	27,00	0,05	
							%00PCI03	3,000 %		Costes Indirectos	0,30	0,01	
TOTAL PARTIDA.....							TOTAL PARTIDA.....						0,32
Asciende el precio total de la partida a la mencionada cantidad de CERO EUROS con TREINTA Y DOS CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0459	TRAF-2000		UD. TRANSFORMADOR DE POTENCIA SECO 2000 KVA, 15.000/400 V Ud. Transformador de potencia de 2000 kVA, servicio interior, aislamiento seco, relación de transformación 15 kV / 400 V, +-2,5+-5% ,+10% conexión Dyn11, pantalla electrostática, centralita de temperaturas y rele fotovoltaico incluidos medios auxiliares necesarios, instalado, montado y trasladado.				0463	VARTF_CS2	ud	Varios CS Varios equipos conexión instalación en CS consistentes en: - Equipo de Medida Auxiliar consistente en: -1 Contador de Energía Reactiva -1 Contador de Energía Activa -1 Modem GSM - 1 comunicaciones y accionamiento remoto celdas motorizadas			
	MO005D	4,000 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón	48,00	192,00								
	MAQ_GRUA	3,000 H	Grua pluma 10 Tm	85,14	255,42								
	%PM..1	2,000 %	Pequeño Material	447,40	8,95								
	2000 KVA	1,000 Ud	Trafo 2000 kVA	16.400,00	16.400,00		MO005D	2,000 h	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón		48,00	96,00	
	%PCI03	3,000 %	Costes indirectos	16.856,40	505,69		MAT518	1,000 ud	Equipo de Medida Auxiliar		2.500,00	2.500,00	
			TOTAL PARTIDA.....			17.362,06	MAT520	1,000 ud	Puente de Cables Celda Medida-Celda Protección		762,00	762,00	
							%PCI03	3,000 %	Costes indirectos		3.358,00	100,74	
													TOTAL PARTIDA..... 3.458,74
							Asciende el precio total de la partida a la mencionada cantidad de DIECISIETE MIL TRESCIENTOS SESENTA Y DOS EUROS con SEIS CÉNTIMOS						
0460	TRAMEX		m² Rejilla Tipo TrameX De 30x30 mm Colocada CELOSÍA METÁLICA "TRAMEX", FORMADA POR MALLA DE ACERO 30X30 MM. Y PLETINA 40.3, Y BASTIDOR CON UNIONES ELECTROSOLDADAS, I/SOLDADURA Y AJUSTE A OTROS ELEMENTOS, ESTRUCTURA AUXILIAR DE APOYO Y ANCLAJE.										
	MO008	0,200 Hr	Oficial de primera	20,96	4,19		0464	VARTF_CT	Ud	Varios CT Varios equipos conexión instalación en CT consistentes en: - Termómetro 1" con 2 contactos para control de Tª de Transformador - Puente de cables MT Conector 400 A. KIT TERMINAL 3x1x95mm2 AI de celda de Protección a Transformador, 8m			
	MO010	0,200 Hr	Peón	17,33	3,47								
	MATMEX1	1,020 m²	REJILLA TIPO TRAMEX DE 30X30 MM COLOCADA	41,97	42,81		MO013	2,000 Hr	Cuadrilla Eléctrica; Oficial de Primera, Ayudante y Peón		57,37	114,74	
	%00PCI03	3,000 %	Costes Indirectos	50,50	1,52		MAT517	1,000 Ud	Termómetro1" con 2 contactos		250,00	250,00	
			TOTAL PARTIDA.....			51,99	MAT519	1,000 Ud	Puente de Cables Celda - Trafo		643,20	643,20	
							%00PCI03	3,000 %	Costes Indirectos		1.007,90	30,24	
													TOTAL PARTIDA..... 1.038,18
							Asciende el precio total de la partida a la mencionada cantidad de CINCuenta Y UN EUROS con NOVENTA Y NUEVE CÉNTIMOS						
0461	UNIDAD2A		Kg Barras Postinstaladas De Anclaje ø12 Barras postinstaladas de anclaje, formadas por barras de Ø12 mm HIT RE 500 ó similar, con taladros de 150 mm de longitud en hormigón existente, incluido cepillado del hormigón para mejorar las adherencia mediante cepillado de la junta hasta alcanzar una rugosidad tipo B según norma ACI, suministro de las barras, ejecución del taladro, limpieza del mismo con aire, colocación de las barras y relleno con resina de tensión de rotura media de adherencia de 16,6 N/mm².										
	MO008	0,080 Hr	Oficial de primera	20,96	1,68		0465	VASP002	ud	Válvula de alivio de sobre presión DN 250 PN-16 Ud. de válvula de alivio de sobre presión de acción directa, de diámetro nominal 250 mm y presión nominal 16 atmósferas, de paso recto y actuación eléctrica, incluso p.p. de piezas especiales, TE de unión a colector de impulsión, transporte, instalación y montaje.			
	MO011	0,140 Hr	Peón especializado	18,19	2,55		EVAl25016	1,000 u	Válv. alivio rápido c/bridás Ø 250 PN-16		8.285,00	8.285,00	
	MAT004	1,050 Kg	Acero Corrugado B-500 S	0,81	0,85		%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería		8.285,00	248,55	
	RES125	0,050 Kg	Resina epoxi 16.6 N/mm2	5,24	0,26		%&u0199010	2,000 %	MANO DE OBRA AUXILIAR.		8.533,60	170,67	
	%00PCI03	3,000 %	Costes Indirectos	5,30	0,16		%&u0199015	3,000 %	MANO DE OBRA INDIRECTA.		8.704,20	261,13	
			TOTAL PARTIDA.....			5,50	%PCI03	3,000 %	Costes indirectos		8.965,40	268,96	
													TOTAL PARTIDA..... 9.234,31
							Asciende el precio total de la partida a la mencionada cantidad de CINCO EUROS con CINCUENTA CÉNTIMOS						
0462	VA001		Ud Elemento Seguridad Balsa ELEMENTO DE SEGURIDAD EN LA Balsa, FORMADO POR CABLE DE NYLON DE 12 MM. DE DIAMETRO CON FLOTADOR Y SUJETO A POSTE ANCLADO EN CORONACION DE Balsa, INCLUSO SUMINISTRO, COLOCACION Y SUJECIONES.										
	MO010	0,100 Hr	Peón	17,33	1,73		0466	VIGAMB	Pa	P.A. Vigilancia Ambiental Partida Alzada a Justificar de vigilancia ambiental general con una dedicación mínima de 6 h/semanales			
	MO008	0,100 Hr	Oficial de primera	20,96	2,10		VIGAMB-01	1,000 Pa	P.A. Vigilancia Ambiental		15.000,00	15.000,00	
	MAT600	1,000 Ud	ELEMENTO SEGURIDAD EN Balsa	254,00	254,00								
	%00PCI03	3,000 %	Costes Indirectos	257,80	7,73								
			TOTAL PARTIDA.....			265,56							TOTAL PARTIDA..... 15.000,00
							Asciende el precio total de la partida a la mencionada cantidad de QUINCE MIL EUROS						

Asciende el precio total de la partida a la mencionada cantidad de DOSCIENTOS SESENTA Y CINCO EUROS con CINCUENTA Y SEIS CÉNTIMOS

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0467	YSB060	Ud	Cono de balizamiento Cono de balizamiento reflectante de 75 cm de altura, de 1 pieza de polietileno con lastre de arena, con 2 bandas reflectantes de 150 mm de anchura y retrorreflectancia nivel 1 (E.G.), amortizable en 10 usos. Incluso arena utilizada para el lastrado de las piezas, mantenimiento en condiciones seguras durante todo el periodo de tiempo que se requiera y desmontaje.				0470	ZZ024-160	Ud	MOTOBOMBA HORIZONTAL CÁMARA PARTIDA 160 KW Ud. Grupo motobomba centrífuga horizontal de cámara partida para un caudal de 352,45 l/s y 33,63 m.c.a., rendimiento a 1490 rpm del 85,3% o superior, eje de acero al carbono, impulsor de bronce, motor eléctrico en hierro fundido a 1490 rpm, potencia de 160 kW y tensión de 400 v/50 Hz preparado para variador de frecuencia, protección IP55, resist. caldeo, 3 sondas PT 100 en devanados, 2 sondas PT 100 en cojinetes y refrigeración interna mediante impulsor interno. Incluso descarga y montaje. Completamente instalada, conexiónada ,conos de ampliación y reducción, incluso pruebas presenciales en fábrica, pruebas de funcionamiento y puesta en marcha una vez colocada.			
	MO010	0,051 Hr	Peón	17,33	0,88								
	ESS935	0,100 Ud	Cono de balizamiento reflectante 75 cm de altura	16,80	1,68								
	MAT014	0,001 m³	Arena de río (0-5mm)	14,83	0,01			ZZ024_2F	1,000 ud	Motobo hor. cám. partida 160KW	43.302,40	43.302,40	
	%00PCI03	3,000 %	Costes Indirectos	2,60	0,08			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	43.302,40	1.299,07	
			TOTAL PARTIDA.....			2,65		MO003	4,000 Hr	Capataz	21,71	86,84	
			Asciende el precio total de la partida a la mencionada cantidad de DOS EUROS con SESENTA Y CINCO CÉNTIMOS										
0468	Z005	Ud	Panel de 2,1x1,5 m., en chapa galvanizada Elaboración y colocación de placas permanentes informativas de la eventual financiación de la obra por el PRTR, solo aplicable en el caso de que el proyecto acabe siendo elegido para su financiación en el marco del PRTR, en chapa galvanizada de 2,10 x 1,50 m. Diseño según Pliego de Prescripciones Técnicas. En caso de que el proyecto no resulte finalmente seleccionado, esta unidad de obra no se ejecutará.					MO008	4,000 Hr	Oficial de primera	20,96	83,84	
	MO010	2,500 Hr	Peón	17,33	43,33			MO010	4,000 Hr	Peón	17,33	69,32	
	MO008	2,500 Hr	Oficial de primera	20,96	52,40			MAQ017	2,000 Hr	Grúa hidráulica acoplable a vehículos de 15 t	35,24	70,48	
	MAQ016	2,000 Hr	Vibrador de agujas para morteros y hormigones, d=76 mm	2,78	5,56			PRUEPR	1,000 ud	Pruebas presenciadas, funcionam. y puesta en marcha	1.250,00	1.250,00	
	MAT178	2,000 m³	Hormigón HM-20/B/20/Ila+Qb EN OBRA	49,60	99,20			%PM..1	2,000 %	Pequeño Material	46.162,00	923,24	
	ZM005	1,000 Ud	Panel de 2,1x1,5 m Chapa	395,00	395,00			%PCI03	3,000 %	Costes indirectos	47.085,20	1.412,56	
	%00PCI03	3,000 %	Costes Indirectos	595,50	17,87								
			TOTAL PARTIDA.....			613,36							48.497,75
			Asciende el precio total de la partida a la mencionada cantidad de SEISCIENTOS TRECE EUROS con TREINTA Y SEIS CÉNTIMOS										
0469	Z019	Ud	Panel cuadrado de 0,42 x 0,42 m en metacrilato Elaboración y colocación de placas permanentes informativas de la eventual financiación de la obra por el PRTR solo aplicable en el caso de que el proyecto acabe siendo elegido para su financiación en el marco del PRTR, en chapa galvanizada de 0,42 x 0,42 m. Diseño según Pliego de Prescripciones Técnicas. En caso de que el proyecto no resulte finalmente seleccionado, esta unidad de obra no se ejecutará.					ZZ024_2G	1,000 ud	Motobo hor. cám. partida 200KW	61.495,00	61.495,00	
	MO010	1,500 Hr	Peón	17,33	26,00			%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	61.495,00	1.844,85	
	MO008	1,500 Hr	Oficial de primera	20,96	31,44			MO003	4,000 Hr	Capataz	21,71	86,84	
	ZM019	1,000 Ud	Panel cuadrado de 0,42 x 0,42 m en metacrilato	50,20	50,20			MO008	4,000 Hr	Oficial de primera	20,96	83,84	
	%00PCI03	3,000 %	Costes Indirectos	107,60	3,23			MO010	4,000 Hr	Peón	17,33	69,32	
			TOTAL PARTIDA.....			110,87		MAQ017	2,000 Hr	Grúa hidráulica acoplable a vehículos de 15 t	35,24	70,48	
			Asciende el precio total de la partida a la mencionada cantidad de CIENTO DIEZ EUROS con OCHENTA Y SIETE CÉNTIMOS										
								PRUEPR	1,000 ud	Pruebas presenciadas, funcionam. y puesta en marcha	1.250,00	1.250,00	
								%PM..1	2,000 %	Pequeño Material	64.900,30	1.298,01	
								%PCI03	3,000 %	Costes indirectos	66.198,30	1.985,95	
													68.184,29
			Asciende el precio total de la partida a la mencionada cantidad de SESENTA Y OCHO MIL CIENTO OCHENTA Y CUATRO EUROS con VEINTINUEVE CÉNTIMOS										

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE	Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0472	ZZ024-250	Ud	MOTOBOMBA HORIZONTAL CÁMARA PARTIDA 250 KW U.d. Grupo motobomba centrífuga horizontal de cámara partida para un caudal de 229,38 l/s y 69,81 m.c.a., rendimiento a 1490 rpm del 83,2% o superior, eje de acero al carbono, impulsor de bronce, motor eléctrico en hierro fundido a 1490 rpm, potencia de 250 kW y tensión de 400 v/50 Hz preparado para variador de frecuencia, protección IP55, resist. caldeo, 3 sondas PT 100 en devanados, 2 sondas PT 100 en cojinetes y refrigeración interna mediante impulsor interno. Incluso descarga y montaje. Completamente instalada, conexiónada ,conos de ampliación y reducción, incluso pruebas presenciales en fábrica, pruebas de funcionamiento y puesta en marcha una vez colocada.				0473	ZZ0801B	Ud	Sist. Autónomo de alimentación y Automata control, 275Ah y 24V Alimentación eléctrica mediante instalación solar fotovoltaica y autómata de control con pantalla 12" táctil y Scada intalado en armario formada por: - 1 Conjunto de 12 vasos libres de mantenimiento de 2V cada uno y 275h, es decir 24V y 275Ah. - 1 Regulador de carga 12/24V (24V; >1300W), 45A In carga, 50A Iccmáx., Vcc. 16,2-150V, Factor de potencia >=98% . - 2 Panel solar de aprox. (según disponibilidad comercial) de 445Wp/ud (monocrystalino, TIER1, PERC, Half-cut tech) con detección de intrusión sobre mástil existente en soporte orientable, colocado sobre zapata y esperas existentes insertadas en obra civil. - 1 Mástil tubular/trococónico de 8m de altura y 4mm de pared con ventana de conexiónado, sobre zapata y esperas existentes insertadas en obra civil. - Protecciones - Cable tipo RVK 4x4 por tubo previamente instalado. Totalmente instalado, conexiónado, conectado y en funcionamiento. Incluyendo el alquiler de vehiculos y/o medios necesarios para el transporte y levantamiento de mástil junto con panel solar y otros elementos sobre éstos. Autómata de control: Unidad PLC con pantalla 12" y SCADA para control de válvula motorizada y válvulas hidráulicas de regulación en función de lectura de caudalímetro y trasductor de presión y niv en balsa, consistente en: -1xCPU. Memoria interna y enlace RJ45, con interfaz RS232/RS485 para protocolo Modbus RTU. puerto Ethernet integrado y USB de programación. Módulos de conexión ED/SD, EA/SA, Alimentación 24 VDC, borneros enchufables. En envolvente IP67. - Incluye programa y programación del PLC. - Incluye Puesta en marcha del PLC y de todo el Sistema de Automatización. - Incluye pequeño material auxiliar y de montaje. Totalmente instalado, conexiónado, configurado, conectado y probado.			
	ZZ024_2H	1,000 ud	Motobo hor. cám. partida 250KW	68.245,00	68.245,00								
	%PIEZESP	3,000 %	Accesorios Unión A Tubería, Juntas Y Tornillería	68.245,00	2.047,35								
	MO003	4,000 Hr	Capataz	21,71	86,84								
	MO008	4,000 Hr	Oficial de primera	20,96	83,84								
	MO010	4,000 Hr	Peón	17,33	69,32								
	MAQ017	2,000 Hr	Grúa hidráulica acoplable a vehiculos de 15 t	35,24	70,48								
	PRUEPR	1,000 ud	Pruebas presenciadas, funcionam. y puesta en marcha	1.250,00	1.250,00								
	%PM..1	2,000 %	Pequeño Material	71.852,80	1.437,06								
	%PCI03	3,000 %	Costes indirectos	73.289,90	2.198,70								
TOTAL PARTIDA.....						75.488,59							
Asciende el precio total de la partida a la mencionada cantidad de SETENTA Y CINCO MIL CUATROCIENTOS OCHENTA Y OCHO EUROS con CINCUENTA Y NUEVE CÉNTIMOS													
							MO010	8,000 Hr	Peón	17,33	138,64		
							MO008	3,500 Hr	Oficial de primera	20,96	73,36		
							MAQ018	10,000 Hr	Grúa hidráulica acoplable a vehiculos de 20 t	39,20	392,00		
							MAQ002	10,000 Hr	Camión con caja basculante 4 x 4	55,70	557,00		
							MAT535	1,000 Ud	Conjunto baterías Gel 24V 275Ah, sportes y cableados	4.181,65	4.181,65		
							MAT536	1,000 Ud	Regulador solar de carga	115,00	115,00		
							MAT537	1,000 Ud	Masil tubular/troncocónico 8 m 4 mm	1.225,00	1.225,00		
							MAT538	20,000 m	Cableado RVK 4x4	10,00	200,00		
							MAT539	2,000 m	Panel solar 445Wp con soporte	1.535,00	3.070,00		
							MAT540	1,000 m	Autómata programable con pantalla táctil 12" + SCADA	1.750,00	1.750,00		
							OTROS	1,000 Ud	Pequeño material para Automata	18,00	18,00		
							%00PCI03	3,000 %	Costes Indirectos	11.720,70	351,62		
TOTAL PARTIDA.....												12.072,27	
Asciende el precio total de la partida a la mencionada cantidad de DOCE MIL SETENTA Y DOS EUROS con VEINTISIETE CÉNTIMOS													

CUADRO DE PRECIOS 2

PROYECTO MODERNIZACIÓN C.R. LANAJA

Nº	CÓDIGO	CANTIDAD UD	DESCRIPCIÓN	PRECIO	SUBTOTAL	IMPORTE
0474	ZZ0802	m ³	Relleno bolos m3. relleno de fondo de zanja a base de árido tipo bolo, no procedente de cantera, de tamaño mayor de 100 mm, para estabilización y saneo de zanjas en zona de lodos. Incluso adquisición, extracción, clasificación, carga, transporte, extendido y compactación. Totalmente colocado y rasanteado, incluso agotamiento.			
	MO010	0,032 Hr	Peón	17,33	0,55	
	MAQ042	0,005 Hr	TRACTOR ORUGA 285 CV	56,43	0,28	
	MAQ029	0,005 Hr	Retroexcavadora hidráulica sobre cadenas, de 42 t	69,57	0,35	
	MAQ012	0,005 Hr	Dúmper de bastidor articulado 6 x 4, de 15 m ³	68,36	0,34	
	MAQ006	0,005 Hr	Compactador vibrante autopropulsado de un cilindro liso, de 15 t	42,29	0,21	
	MAT019	1,800 T	Bolos, no procedente de cantera, tamaño >100mm	7,50	13,50	
	%00PCI03	3,000 %	Costes Indirectos	15,20	0,46	
TOTAL PARTIDA.....						15,69

Asciede el precio total de la partida a la mencionada cantidad de QUINCE EUROS con SESENTA Y NUEVE CÉNTIMOS

Zaragoza, julio de 2023

D. Néstor Moré Coloma

Colegiado Nº 1.649 del Colegio Oficial de Ingenieros

Agrónomos de Aragón, Navarra y País Vasco

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
SUBCAPÍTULO 01.02 TUBERÍAS										SUBCAPÍTULO 01.03 OBRA CIVIL											
GFG2A126	m Tubería hormigón post camisa chapa acer, DN 1200, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1200MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUNTEO PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA. TRAMO 1. ENTRE TOMA Y LIMPIARREJAS	2					12,000	6,000	12,000	R07H0020A	m³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO ZONA CANAL AQUETA LIMPIARREJAS ARQUETA CAUDALÍMETRO	1	6,300	6,000	0,100		3,780				
							12,00	358,96	4.307,52	R07H0025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO ZONA CANAL AQUETA LIMPIARREJAS ARQUETA CAUDALÍMETRO	1	6,300	6,000	0,350		13,230				
GFG2A166	m Tubería hormigón post camisa chapa acer, DN 1600, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1600MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUNTEO PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA. TRAMO 2. ENTRE LIMPIARREJAS Y ENTRADA Balsa A DEDUCIR TRAMO INICIAL A DEDUCIR TRAMO ACERO A DEDUCIR TRAMO PASO DIQUE	1				302,739	302,739	302,739	R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO. ARQUETA (75 KG/M3)	1	81,800	75,000			6.135,000					
							237,73	591,44	140.603,03								81,80	85,04	6.956,27		
R02TB064	m TUBERÍA DE ACERO HELICOIDAL ø1620 mm e=12,7 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1620 MM DE DIÁMETRO Y 12,7 MM DE ESPESOR PN MÁX 10 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:2006, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA. TRAMO 3. CAUDALÍMETRO Y PASO DIQUE	1				10,00	10,00	10,00	R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS ZONA CANAL AQUETA LIMPIARREJAS ARQUETA CAUDALÍMETRO	1	24,500		0,350		8,575					
							10,00	731,16	7.311,60								6.135,00	1,12	6.871,20		
TOTAL SUBCAPÍTULO 01.02 TUBERÍAS.....									152.222,15								344,86	21,75	7.500,71		

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PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE						
OT03	ud Reja de finos, paso 20 mm, ancho 4000 y pasamanos 4000 mm REJA DE FINOS DE 4000 X 4000 MM, Y 20 MM DE LUZ ENTRE BARROTES, DE LAS SIGUIENTES CARACTERÍSTICAS: - PASAMANO DE 60X6 MM. - LONGITUD DEL PASAMANO DE 4000 MM - EXISTIRÁN 3 ZONAS DE APOYO DE LA REJA: - INFERIOR: PERFIL UPN EN LA QUE SE AJUSTARÁ LA REJA DE FINOS. - MEDIO: BIGA IPE FIJADA A LAS PAREDES DEL CANAL. - SUPERIOR: DE OBRA SOBRE LA CUAL SE APOYARÁ LA REJA. TOTALMENTE TERMINADA Y PROBADA.	1				1,00				DEMCOMP1	Ud Demolición completa instalaciones y construcciones zona granja DEMOLICIÓN COMPLETA DE GRANJA E INSTALACIONES EXISTENTES EN ZONA DE INFLUENCIA DEL VASO DE LA Balsa de Pie de Canal. REALIZADA MEDIANTE PALA GIRATORIA SOBRE CADENAS CON CIZALLA Y COMPRESOR NEUMÁTICO JUNTO CON LABORES DE DEMOLICIÓN ELEMENTO A ELEMENTO CON MEDIOS MANUALES Y MECÁNICOS DE EDIFICIO DE APROXIMADAMENTE 1100 M² DE SUPERFICIE TOTAL, JUNTO CON LAS INSTALACIONES INTERIORES Y EXTERIORES ASOCIADAS (SILO METALICO, TUBERIAS, LONAS BALSAS,...). CARGA MECÁNICA SOBRE CAMIÓN O CONTENEDOR, AISLADO. EL EDIFICIO PRESENTA UNA ESTRUCTURA DE HORMIGÓN Y ELEMENTOS METÁLICOS. TAMBIÉN INCLUYE, LA DEMOLICIÓN DE LAS LÁMINAS DE LAS DOS BALSAS DE ADYACENTES, Y LA VALLA METÁLICA PERIMETRAL QUE EXISTEN ALREDEDOR DEL EDIFICIO. SE INCLUYE LA SEPARACIÓN DE RESIDUOS Y SU POSTERIOR TRATAMIENTO, CARGA Y TRANSPORTE A VERTEDERO O PLANTA DE TRATAMIENTO AUTORIZADO, INCLUIDOS CÁNONES Y TASAS.														
OPA030	m Barandilla Tubo 40x60/20x20 BARANDILLA DE 90 CM. DE ALTURA, CONSTRUIDA CON PERFILES DE TUBO HUECO DE ACERO LAMINADO EN FRÍO, CON PASAMANOS DE 60X40X1,5 MM. Y BARROTES VERTICALES DE 20X20X1,5 MM. CON PROLONGACIÓN PARA ANCLAJE A LA LOSA, SEPARADOS 10 CM., ELABORADA EN TALLER Y MONTAJE EN OBRA . EN PROTECCIÓN ARQUETA LIMPIARREJAS	1	9,500			9,500				R01DM040	m² Desbroce Y Limpieza Todo Tipo De Terreno Con Transporte DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 30 CM, INCLUIDO LA EXCAVACIÓN, INCLUSO DEFORESTACIÓN Y TALA DE ARBUSTOS Y DE ÁRBOLES DE CUALQUIER TIPO Y DIMENSIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA. DESBROCE Balsa	1				1,00	20.056,57	20.056,57							
R05EM03	Ud Medidor ultrasónico DN200 - DN4000 PN-10/16 EQUIPO DE MEDIDA DE CAUDAL POR ULTRASONIDOS, PARA DIÁMETRO ENTRE 200 Y 4000 MM, FORMADO POR DOS SONDAS Y CAUDALÍMETRO ULTRASÓNICO MONTADO A LA TUBERÍA, ELECTRÓNICA DE TRATAMIENTO DE SEÑAL 4-20 MA, CONVERTIDOR DE SEÑALES, SENSORES, Y PROTECCIONES SOBRETENSIONES, CABLE TRIAXIAL, INCLUIDO SUMINISTRO, INSTALACIÓN Y PRUEBAS DE FUNCIONAMIENTO.	1				1,000				R04AR010	m³ Excavación en Desmonte Todo Tipo de Terreno, Tte D=10 Km EXCAVACIÓN EN DESMONTE CON MEDIOS MECÁNICOS DE TERRENOS DE CUALQUIER NATURALEZA O CONSISTENCIA, INCLUIDAS LAS CAPAS DE ROCA RIPABLES CON POTENCIAS IGUALES A D10 O SIMILAR (447/538 KW), INCLUIDO EL USO DE MARTILLO ROMPEDOR PARA FACILITAR EL RIPADO O ARRANQUE, CON PRESENCIA POR LA TOTALIDAD DE LA ZONA DE EXCAVACIÓN, ADICIONALMENTE ROCA DE MAYOR DUREZA HASTA UN PORCENTAJE MÁXIMO DE UN 10% SOBRE EL VOLUMEN TOTAL EXCAVADO MEDIDO SOBRE TERRENO INALTERADO EN BASE A PERFILES DE TALUDES Y FONDO DE Balsa, INCLUSO TERRENOS DE CONSISTENCIA BLANDA. INCLUIDA LA EXCAVACIÓN SELECTIVA DE LOS MATERIALES PARA EL TERRAPLENADO (SEGÚN ESTUDIO GEOTÉCNICO), CON LA PREPARACIÓN DEL FONDO DE LA EXCAVACIÓN SEGÚN LAS ESPECIFICACIONES RECOGIDAS POR EL ESTUDIO GEOTÉCNICO RECOGIDO EN EL ANEJO 6 DEL PROYECTO, LABRADO O RIPADO DEL FONDO DE EXCAVACIÓN, CON POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENÉRGICA DEL TERRENO UNA VEZ ALCANZADA LA COTA DE FONDO, EN TODA LA ZONA DE ACTUACIÓN. INCLUSO RIPADO PREVIO SEGÚN CARACTERÍSTICAS INDICADAS, CARGA Y TRANSPORTE A TERRAPLÉN, CABALLEO A LUGAR DE EMPLEO O VERTEDERO AUTORIZADO (INCLUIDO CÁNON Y/O TASAS), A DISTANCIA INFERIOR A 10 KM. INCLUIDO EL EXTENDIDO Y PERFILADO DE TALUDES, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN A ZONAS DE UTILIZACIÓN CON SEPARACIÓN DE ELEMENTOS GRUESOS, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO. FONDO DIQUE SANEAMIENTO APOYO CIMENTACIÓN	1	142.447,000			142.447,000							142.447,00	0,39	55.554,33
							1,00	4.110,38	4.110,38																
							TOTAL SUBCAPÍTULO 01.04 ELEMENTOS			66.264,71															
							TOTAL CAPÍTULO 01 OBRA DE TOMA Y LLENADO Balsa PIE CANAL			267.083,22															
CAPÍTULO 02 Balsa PIE DE CANAL (BPC)																									
												692.574,85	1,66	1.149.674,25											

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CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE							
R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación																									
	MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98% PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.									R01EX010	m³ Excavación a cielo abierto en Zanjas y Vaciados															
	DIQUE	1						46.549,458	46.549,458		EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.															
	SANEO MEJORA APOYO CIMENTACIÓN	1		980,000	32,000	1,000			31.360,000		DADO	1	4,000	3,500	3,500				49,000							
		1		300,000	32,000	1,000			9.600,000		VIGA FONDO	1	57,400		61,800				3.547,320							
											ARQUETA VALVULAS	1	18,400	19,200	6,200				2.190,336							
							87.509,46	1,07	93.635,12								5.786,66	1,68	9.721,59							
TEX005	m² Refino De Taludes																									
	REFINO Y PERFILADO DE TALUDES INTERIORES Y EXTERIORES DE TERRAPLÉN SEGÚN PLANOS, INCLUSO CON LA UTILIZACIÓN DE MEDIOS MANUALES SI SON PRECISOS, ASEGURANDO LA ELIMINACIÓN TOTAL DE ELEMENTOS GRUESOS VISTOS EN SUPERFICIE CON UN TAMAÑO MAYOR A 2 CM O DE FORMA ANGULOSA. EN EL CASO DE NO PODER REALIZAR ESTA ELIMINACIÓN SE INCLUYE ADEMÁS LA EXTENSIÓN, COLOCACIÓN Y COMPACTACIÓN DE UNA CAPA DE 15 CM DE MATERIAL FINO SELECCIONADO Y CRIBADO OBTENIDO DEL MOVIMIENTO DE TIERRAS DE LOS TALUDES Y ACOPIADO DURANTE SU EJECUCIÓN PREVIA PARA TAL FIN. MEDIDA LA SUPERFICIE FINALIZADA Y EJECUTADA FINAL.									R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación															
	FONDO	1						88.979,000	88.979,000		MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98% PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.															
	TALUD INTERIOR	1		2.063,500	16,700				34.460,450		VIGA FONDO	1	57,000		61,800				3.522,600							
	TALUD EXTERIOR	0,5		2.143,500	11,000				11.789,250			-1	30,000	4,600	2,400				-331,200							
							135.228,70	0,32	43.273,18			-1	30,000	1,250	0,750				-28,125							
	TOTAL SUBCAPÍTULO 02.01 MOVIMIENTOS DE TIERRAS.....								1.362.193,45		ARQUETA VALVULAS	1	18,400	19,200	6,200				2.190,336							
												-1	11,000	10,200	6,200				-695,640							
																	4.657,97	1,07	4.984,03							
											TOTAL APARTADO 02.02.01 MOVIMIENTO DE TIERRAS								14.705,62							

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CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE								
APARTADO 02.02.02 TUBERÍAS Y VALVULERÍA																											
R02TB082	m TUBERÍA DE ACERO HELICOIDAL ø1820 mm e=12,7 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1820 MM DE DIÁMETRO Y 12,7 MM DE ESPESOR PN MÁX 10 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:2006, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA. VIGA DE FONDO	1				57,40		57,40		R05TM111-1	Ud Carrete desmontaje PN-10/16 DN-200 CARRETE TELESCÓPICO DE DESMONTAJE DE 200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. BY-PASS	1				1,000											
							57,40	814,59	46.757,47								1,00	268,66	268,66								
R02TB120	m TUBERÍA DE ACERO HELICOIDAL ø1219 mm e=10,3 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1219 MM DE DIÁMETRO Y 10,3 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA. DESAGÜE FONDO DIQUE	1				57,400		57,400		R03VE006	Ud Ventosa trifuncional ø150 PN-16 VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. TOMA DE FONDO EN DESAGÜE	4 1				4,000 1,000											
							57,40	419,25	24.064,95																		
R05TM1805	Ud Carrete desmontaje PN-10 DN 1800 CARRETE TELESCÓPICO DE DESMONTAJE DE 1800 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 O SUPERIOR PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. TOMA DE FONDO	1				1,000		1,000		R05VMM1810	Ud Válvula mariposa embridada DN-1800 PN-10 Motorizada VÁLVULA DE MARIPOSA EMBRIDADA, DE 1800 MM DE DIÁMETRO NOMINAL, Y 10 ATM DE PRESIÓN NOMINAL. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, EJE DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI431 Y ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO. EQUIPADA DE ACTUADOR ELÉCTRICO CON MOTOR DE 320VCA CON REDUCTOR PARA ENTREGAR, ACOPLADO SOBRE BRIDA NORMALIZADA A VÁLVULA. INCLUYE PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. AJUSTE Y PUESTA EN MACHA DE MOTORIZACIÓN. TOTALMENTE INSTALADA Y PROBADA. TOMA DE FONDO	1				1,000											
							1,00	6.115,75	6.115,75																		
R05TM125	Ud Carrete desmontaje PN-10/16 DN-1200 CARRETE TELESCÓPICO DE DESMONTAJE DE 1200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. DESAGÜE FONDO DIQUE	2				2,000		2,000		R05VM012	Ud Valvula mariposa embridada DN 1200 PN-10 VÁLVULA DE MARIPOSA EMBRIDADA 1200 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. DESAGÜE FONDO DIQUE	4				4,000											
							2,00	3.898,21	7.796,42																		
																	4,00	19.537,15	78.148,60								

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE						
R07EN020	m ² Encofrado/Desencofrado metálico para hormigón visto									ACEQUIA2	Ud Cruce acequia CHE. Con o sin reposición														
	ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DE ENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DE ENCOFRADO Y REPASO DE PARAMENTOS										CRUCE Y REPOSICIÓN DE ACEQUIA CHE EXISTENTE O EQUIVALENTE MEDIANTE PASO INFERIOR SIN ALTERAR EL CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGON DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA, SUJECCIÓN DEL CAJERO Y RELLENO DE HM-20 HASTA LA BASE DEL CAJERO. O CRUCE MEDIANTE CORTE DE CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGON DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA Y HM-20 HASTA LA BASE Y REPOSICIÓN DEL CAJERO, DEBIDAMENTE SELLADO. INLCUIDO TODOS LOS COSTES DE GESTIÓN DE RESIDUOS, EXCAVACIONES, CARGAS Y TRANSPORTES NECESARIOS.COMPLETAMENTE EJECUTADO														
	VIGA FONDO	2	4,600		2,400				22,080																
		2	0,750		0,750				1,125																
	DADO	1	4,000		3,300				13,200																
		2	3,500		3,300				23,100																
	ARQUETA VALVULAS	2	11,000		6,100				134,200																
		2	10,200		6,100				124,440																
		2	10,200		5,700				116,280																
		2	9,400		5,700				107,160																
	DRENES	2	2,700		2,000				10,800																
		2	2,500		2,000				10,000																
								562,39	21,75																
PATES	Ud Pate de polipropileno colocado									R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciados														
	PATE DE POLIPROPILENO DE 30 CM * 25 CM COLOCADO.										EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.														
	ARQUETA VALVULAS	3	19,000						57,000																
								57,00	3,79																
CHA1	m ² Tapa de chapa acero galvanizado 2 mm										ARQUETA TOMA FONDO EN VASO	1	7,050	4,320	2,000				60,912						
	TAPA DE CHAPA ACERO GALVANIZADO 2 MM DE ESPESOR SOPORTADA POR PERFILES HUECOS # 40.2 FORMANDO CUADROS DE 50 CM DE LADO, PARA UNA RESISTENCIA DE 200 KG/M2, COLOCADA, Y PUERTA DE HOMBRE DE ACCESO DE 1M. * 1 M. PROVISTA DE BISAGRAS Y CANDADO										VIGA FONDO	1	27,000		65,000	1,755,000									
	ARQUETA VALVULAS	1	11,200	10,400					116,480		ARQUETA VALVULAS	1	16,000	15,100	7,500	1.812,000									
								116,48	63,55																
R07EM020	Kg Acero S275 JR Para Estructuras																								
	ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA.																								
	REFUERZO ESTRUCTURA TAPA	11	9,800		30,700				3.309,460																
	ANCLAJES, REFUERZOS,...	0,1	3.309,460						330,946																
								3.640,41	2,08																
R07BE06	Ud Anillado metálico pletina acero																								
	ANILLADO METÁLICO PARA ESCALERAS DE MANO O PATES REALIZADO MEDIANTE PLETINA DE ACERO CON ANILLO CADA 70 CM DE ALTURA. UNIDAD TOTALMENTE ACABADA.																3.627,91	1,68	6.094,89						
	ARQUETA TOMA	3	3,700						11,100																
								11,10	20,96																

TOTAL APARTADO 02.02.04 OBRA CIVIL 93.085,83

TOTAL SUBCAPÍTULO 02.02 TOMA DE FONDO (EB)..... 421.322,34

SUBCAPÍTULO 02.03 TOMA DE FONDO (RED PN)

APARTADO 02.03.01 MOVIMIENTO DE TIERRAS

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE								
SUBCAPÍTULO 02.04 DESAGÜE DE FONDO										R01RE010	m³ Relleno Ordinario de Tierras Compactado 85% PN																
APARTADO 02.04.01 MOVIMIENTO DE TIERRAS																											
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciados																										
EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.																											
MEDICIONES AUXILIARES		1					3,043,100	3,043,100																			
EN ADECUACIÓN COLECTOR SALIDA HASTA DESAGÜE NATURAL		1	405,624	3,300	1,240		1,659,813																				
							4,702,91	1,68	7,900,89																		
R01RE400	m ³ Asiento y Relleno Material Granular 6/12 MM																										
CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.																											
MEDICIONES AUXILIARES		1					139,460	139,460																			
		1					88,610	88,610																			
							228,07	20,01	4,563,68																		
R01RE030	m ³ Relleno Seleccionado Compactado 95% PN																										
RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.																											
MEDICIONES AUXILIARES		1					722,010	722,010																			
							722,01	1,27	916,95																		
										R01RE010																	
										TOTAL APARTADO 02.04.01 MOVIMIENTO DE TIERRAS																	
										14.328,40																	
										APARTADO 02.04.02 TUBERÍAS Y VALVULERÍA																	
R07PC120-135	m Tubo Hormigón Armado Tipo C-135 DN 1200																										
TUBERÍA DE HORMIGÓN CLASE C-135 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1.200 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.																											
DESAGÜE FONDO		1					382,270	382,270																			
							382,27	110,46	42.225,54																		
										TOTAL APARTADO 02.04.02 TUBERÍAS Y VALVULERÍA.....																	
										42.225,54																	
										APARTADO 02.04.03 CALDERERÍA Y PROTECCIÓN CATÓDICA																	
										MAACD	Kg Acero En Calderería																
ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM; 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.																											
DESAGÜE CODO. INICIO Y FINAL		2					2,500	307,000	1.535,000																		
								1.535,00	5,20	7.982,00																	
										MAPCCII	Ud Anodos protección catódica																
SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PREEMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:																											
- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2.																											
- ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA.																											
- CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD.																											
- CABLE DE CU RV 0,6/1KV 1*6 MM2.																											
- ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.																											
										2					2,000												
															2,00	106,40	212,80										
										TOTAL APARTADO 02.04.03 CALDERERÍA Y PROTECCIÓN CATÓDICA																	
										8.194,80																	

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
APARTADO 02.04.04 OBRA CIVIL										EXC03	m³ Construcción escollera, roca 30-60cm									
R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra	HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO																		
	HORMIGÓN LIMPIEZA																			
	ARQUETA DESCARGA	1	12,200	5,800	0,100	7,076														
							7,08	72,17	510,96											
R07HO025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra	HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO																		
	ARQUETA DESCARGA	1	12,000	5,600	0,200	13,440														
		2	15,000	0,200	2,240	13,440														
		1	2,500	0,850	0,200	0,425														
		1	12,000	5,600	0,300	20,160														
							47,47	85,04	4.036,85											
R07EM001	Kg Acero B-500-S	ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.																		
	ARQUETA (75 KG/M3)	1	47,470	75,000	3.560,250															
							3.560,25	1,12	3.987,48											
R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto	ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS																		
	ARQUETA DESCARGA	2	15,000	2,440		73,200														
		2	15,000	2,240		67,200														
		1	12,000	5,600		67,200														
							207,60	21,75	4.515,30											
R07EM020	Kg Acero S275 JR Para Estructuras	ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA.																		
	REJA	150	150,000																	
							150,00	2,08	312,00											
										TOTAL APARTADO 02.04.04 OBRA CIVIL										14.339,09
										TOTAL SUBCAPÍTULO 02.04 DESAGÜE DE FONDO.....										79.087,83
SUBCAPÍTULO 02.05 ALIVIADERO																				
APARTADO 02.05.01 MOVIMIENTO DE TIERRAS																				
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vaciados	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.																		
	PASO DIQUE	1	12,739	2,700	2,500	85,988														
							85,99	1,68	144,46											
R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación	MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98% PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.																		
	PASO DIQUE	1	12,739	2,700	2,500	85,988														
		-1	12,739	2,700	2,200	-75,670														
							10,32	1,07	11,04											

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
TOTAL APARTADO 02.05.01 MOVIMIENTO DE TIERRAS																			155,50			
APARTADO 02.05.02 TUBERÍAS																						
R02TB064	m TUBERÍA DE ACERO HELICOIDAL ø1620 mm e=12,7 mm									R07HO020A	m ³ Hormigón HM-20/B/20/X0 en obra											
	TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1620 MM DE DIÁMETRO Y 12,7 MM DE ESPESOR PN MÁX 10 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:2006, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.										HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO											
	HORMIGÓN LIMPIEZA																					
	TRAMO 4. PASO DIQUE	1	12,74						12,74		VIGA	1	12,739	2,200	0,100				2,803			
							12,74	731,16	9.314,98		ALVIADERO	1	15,400	1,400	0,100				2,156			
											CONEXIÓN CON DESAGÜE FONDO BP1	1	3,000	2,000	2,000				12,000			
											LOSAS PROTECCIÓN VERTIDO	1	11,650	10,000	0,100				11,650			
												1	4,400	10,000	0,100				4,400			
																	33,01	72,17	2.382,33			
TOTAL APARTADO 02.05.02 TUBERÍAS																				9.314,98		
APARTADO 02.05.03 CALDERERÍA Y PROTECCIÓN CATÓDICA																						
MAPCCII	Ud Anodos protección catódica									R07HO025A	m ³ Hormigón HA-25/B/20/XC2+XA3+SR en obra											
	SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PREEMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:										HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO											
	- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2.										VIGA DIQUE	1	12,739	2,700	2,200				75,670			
	- ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA.											-1	12,739	2,010					-25,605			
	- CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD.											1	15,400	1,400	0,200				4,312			
	- CABLE DE CU RV 0,6/1KV 1*6 MM2.											1	15,000	0,200	1,500				4,500			
	- ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.											1	15,000	0,200	2,060				6,180			
		4							4,000			2	1,400	0,200	2,530				1,417			
												1	11,650	10,000	0,200				23,300			
												1	4,400	10,000	0,200				8,800			
																	98,57	85,04	8.382,39			
										R07EM001	Kg Acero B-500-S											
							4,00	106,40	425,60		ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.											
											VIGA Y ARQUETA (50 KG/M3)	1	98,574	50,000					4.928,700			
											CONEXIÓN CON DESAGÜE FONDO	1	12,000	20,000					240,000			
																	5.168,70	1,12	5.788,94			
MAACD	Kg Acero En Calderería									R07EN020	m ² Encofrado/Desencofrado metálico para hormigón visto											
	ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM; 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.										ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS											
	CONEXIÓN CON DESAGÜE FONDO Balsa BP1	1	250,000						250,000		EN VIGA PASO DIQUE	2	2,700		2,200				11,880			
											ALVIADERO	1	15,400		1,700				26,180			
												1	15,400		2,260				34,804			
												1	15,000		1,500				22,500			
												1	15,000		2,060				30,900			
												2	1,400		2,730				7,644			
												2	1,000		2,530				5,060			
												2	11,650		0,200				4,660			
												1	10,000		0,200				2,000			
											LOSAS PROTECCIÓN VERTIDO											
																	145,63	21,75	3.167,45			
TOTAL APARTADO 02.05.03 CALDERERÍA Y PROTECCIÓN CATÓDICA																				1.725,60		

PRESUPUESTO**PROYECTO MODERNIZACIÓN C.R. LANAJA**

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
G04JU2345	m Junta Hidroexpansiva JUNTA HIDROEXPANSIVA TIPO MASTERFLEX 610 20*5, INCLUSO PREPARACIÓN DE SUPERFICIES, TOTALMENTE COLOCADA. EN ALIVIADERO	2	15,200				30,400			DR001	m ² Lámina Geotextil 250 GR/M2; 2850 Ncbr GEOTEXTIL FABRICADO A BASE DE FIBRAS SINTÉTICAS DE POLIPROPILENO 100% , NO TEJIDO, DE FILAMENTOS CONTINUOS UNIDOS MECÁNICAMENTE POR UN PROCESO DE AGUJADO, DE RESISTENCIA A PERFORACIÓN CBR NO MENOR DE 2850 N (NORMA UNE-EN 12236), DE PERFORACIÓN A CAÍDA LIBRE DE CONO NO MAYOR DE 20 MM (NORMA EN 918), Y PESO NO INFERIOR A 250 G/M ² (NORMA UNE-EN 965), INCLUSO SOLAPES, TOTALMENTE COLOCADO. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.										
		2	1,200				2,400				FONDO	1	88.979,000				88.979,000				
											TALUD INTERIOR	1	2.063,500	16,700			34.460,450				
											ANCLAJE LAMINA	1	2.112,000	2,150			4.540,800				
							32,80	7,38	242,06												
																	127.980,25	1,21	154.856,10		
											FONDO	1	88.979,000				88.979,000				
											TALUD INTERIOR	1	2.063,500	16,700			34.460,450				
											ANCLAJE LAMINA	1	2.112,000	2,150			4.540,800				
											EN ANCLAJE PIE DE TALUD	1	2.015,000	1,200			2.418,000				
																	130.398,25	5,42	706.758,52		
	TOTAL APARTADO 02.05.04 OBRA CIVIL								19.963,17												
	TOTAL SUBCAPÍTULO 02.05 ALIVIADERO								31.159,25												
SUBCAPÍTULO 02.06 IMPERMEABILIZACIÓN																					
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vacios EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.									IM002	m ² Lámina Impermeabilizante PEAD 2,0 mm LÁMINA IMPERMEABILIZANTE EN POLIETILENO DE ALTA DENSIDAD, FABRICADA MEDIANTE CALANDRADO EN 7,5 M DE ANCHO SIN SOLDADURAS INTERMEDIAS DE 2,0 MM DE ESPESOR, TOTALMENTE INSTALADA Y PROBADA, INCLUSO SOLAPES Y ANCLAJES MECÁNICOS A OBRAS DE FABRICA. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.										
											FONDO	1	88.979,000				88.979,000				
											TALUD INTERIOR	1	2.063,500	16,700			34.460,450				
											ANCLAJE LAMINA	1	2.112,000	2,150			4.540,800				
											EN ANCLAJE PIE DE TALUD	1	2.015,000	1,200			2.418,000				
																	4.030,00	10,08	40.622,40		
							633,60	1,68	1.064,45												
	TOTAL SUBCAPÍTULO 02.06 IMPERMEABILIZACIÓN																			920.981,02	
R01RE030	m ³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO.MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.									ANCLAJECOR2	m Anclaje Coronación; Bordillo Tipo T-2 ANCLAJE DE CORONACIÓN EN BALSAS, MEDIANTE LA INSTALACIÓN DE LÍNEA DE BORDILLO TIPO T-2, DE PIEZAS PREFABRICADAS DE HORMIGÓN RECTAS Y CURVAS, COLOCADAS CON MORTERO DE CEMENTO 1:4 ELABORADO EN LA OBRA CON HORMIGONERA DE 165 L. INCLUIDO TRANSPORTE Y PUESTA EN OBRA EN CORONACIÓN DE Balsa, EXCAVACIÓN, LA BASE DE HORMIGÓN HM-20 Y TODAS LAS FAENAS PERTINENTES.TOTALMENTE COLOCADO.										
											ANCLAJE CORONACIÓN	1	2.112,000				2.112,000				
																	2.112,00	7,99	16.874,88		
							633,60	1,27	804,67												

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
APARTADO 02.07.02 TUBERÍAS										PVC160P10	m	Tubería de PVC DN 160 mm, 10 BAR, Instalada en Zanja										
PVC160-RAN	m Drenaje Tubería Ranurada PVC DN 160mm, Relleno Mat. Filtrante										TUBO DE PVC NO PLASTIFICADO, DE ESPECIFICACIONES TÉCNICAS SEGÚN NORMA UNE 1452 DE DN. EXTERIOR 160 MM, Y 10 BAR DE PRESIÓN. UNIÓN TIPO FLEXIBLE MEDIANTE JUNTA ENCHUFE CON ANILLA ELASTOMÉRICA DE ESTANQUIDAD DE EPDM LUBRICADA SEGÚN NORMA UNE-EN 681. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.											
	CONJUNTO ZANJA DRENAJE, MEDIANTE TUBO DRENANTE PERFORADO DE PVC DN 160 MM DE DOBLE PARED, COLOCADO EN ZANJA DE SECCIÓN 0,50 M. DE ANCHURA Y PROFUNDIDAD MEDIA INFERIOR A 1,0 M., ENVUELTA ÉSTA EN FILTRO DREN A BASE DE GETEXTIL DE 150 GR/M2 Y RELLENA LA ZANJA CON MATERIAL GRANULAR 6/12 MM HASTA 20 CM POR ENCIMA DEL DREN ENVUELTO EN GEOTEXTIL INCLUIDA PP DE PEQUEÑO MATERIAL Y ELEMENTOS DE CONEXIÓN A COLECTORES. MEDIDA LA LONGITUD TOTAL FINALMENTE INSTALADA Y PROBADA.										SALIDA EB:											
	SALIDA EB:										PERIMETRAL NORTE	1	209,000									
	PERIMETRAL NORTE	1	209,000																			
	PERIMETRAL SUR	1	245,000								PERIMETRAL SUR	1	287,000									
	PERIMETRAL SUR	1	287,000								PERIMETRAL NORTE	1	70,000									
	CENTRAL	2	423,000																			
	SALIDA PN:										PERIMETRAL SUR	1	70,000									
	PERIMETRAL NORTE	1	251,000																			
	PERIMETRAL NORTE	1	225,000								PERIMETRAL SUR	1	70,000									
	PERIMETRAL SUR	1	281,000								CENTRAL	2	70,000									
	PERIMETRAL SUR	1	272,000								SALIDA PN:											
	CENTRAL	2	465,000								PERIMETRAL NORTE	1	225,000									
							3,758,00	11,13	41.826,54		PERIMETRAL SUR	1	272,000									
											PERIMETRAL NORTE	1	38,000									
											PERIMETRAL NORTE	1	38,000									
											PERIMETRAL SUR	1	38,000									
											CENTRAL	2	38,000									
																	1,644,00	12,01	19.744,44			
PVC110-RAN	m Drenaje Tubería Ranurada PVC DN 110mm, Relleno Mat. Filtrante									PVC250P10	m	Tubería de PVC DN 250 mm, 10 BAR, Instalada en Zanja										
	CONJUNTO ZANJA DRENAJE, MEDIANTE TUBO DRENANTE PERFORADO DE PVC DN 110 MM DE DOBLE PARED, COLOCADO EN ZANJA DE SECCIÓN 0,50 M. DE ANCHURA Y PROFUNDIDAD MEDIA INFERIOR A 1,0 M., ENVUELTA ÉSTA EN FILTRO DREN A BASE DE GETEXTIL DE 150 GR/M2 Y RELLENA LA ZANJA CON MATERIAL GRANULAR 6/12 MM HASTA 20 CM POR ENCIMA DEL DREN ENVUELTO EN GEOTEXTIL INCLUIDA PP DE PEQUEÑO MATERIAL Y ELEMENTOS DE CONEXIÓN A COLECTORES. MEDIDA LA LONGITUD TOTAL FINALMENTE INSTALADA Y PROBADA.										TUBO DE PVC NO PLASTIFICADO, DE ESPECIFICACIONES TÉCNICAS SEGÚN NORMA UNE 1452 DE DN. EXTERIOR 250 MM, Y 10 BAR DE PRESIÓN. UNIÓN TIPO FLEXIBLE MEDIANTE JUNTA ENCHUFE CON ANILLA ELASTOMÉRICA DE ESTANQUIDAD DE EPDM LUBRICADA SEGÚN NORMA UNE-EN 681. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.											
	SALIDA EB:										EVACUACIÓN ARQUETA DESAGÜE PN	1	61,209									
	AUXILIARES	1	82,000								EVACUACIÓN ARQUETA DESAGÜE EB	1	30,000									
	SALIDA PN:																					
	AUXILIARES	1	104,000																			
	AUXILIARES	1	92,500																			
							278,50	8,53	2.375,61								91,21	30,80	2.809,27			
										ACEQUIA2	Ud	Cruce acequia CHE. Con o sin reposición										
											CRUCE ACEQUIA	1	1,000									
																	1,00	790,50	790,50			
											TOTAL APARTADO 02.07.02 TUBERÍAS										67.546,36	

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE										
TOTAL SUBCAPÍTULO 02.07 DRENAJE.....																			74.752,31										
SUBCAPÍTULO 02.08 VIALES																													
MVTRE023	m³ Terraplén seleccionado mat granular Z30 S/PG3 MATERIAL GRANULAR TIPO ZA30 S/PG3 PUESTO EN OBRA, EXTENDIDO, HUMEDECIDO Y COMPACTADO AL 98% DEL PM EN CAPAS DE 10 CM DE ESPESOR EN BASES DE OBRAS SINGULARES EN VIALES CORONACIÓN	1	2.127,500	4,000	0,200		1.702,00	22,90	38.975,80	R01EX010	m³ Excavación a cielo abierto en Zanjas y Vaciados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.	1	12,739	2,700	2,500		85,988												
TOTAL SUBCAPÍTULO 02.08 VIALES																					38.975,80								
SUBCAPÍTULO 02.09 VARIOS																													
R04EM010	m Cerramiento Valla Galvanizada h=2 m CERRAMIENTO DE VALLA GALVANIZADA DE 2,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMIENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA. EN CORONACIÓN	1	2.143,500				2.143,50	16,56	35.496,36		PASO DIQUE	1	12,739	2,700	2,500		85,99	1,68	144,46										
VA001	Ud Elemento Seguridad Balsa ELEMENTO DE SEGURIDAD EN LA Balsa, FORMADO POR CABLE DE NYLON DE 12 MM. DE DIAMETRO CON FLOTADOR Y SUJETO A POSTE ANCLADO EN CORONACIÓN DE Balsa, INCLUSO SUMINISTRO, COLOCACION Y SUJECIONES. EN CORONACIÓN	6					6,00	265,56	1.593,36	R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO. PASO DIQUE	1	12,739	2,700	2,500		85,988												
R04EM010-A	m Cerramiento Valla Galvanizada h=1 m CERRAMIENTO DE VALLA GALVANIZADA DE 1,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMIENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA. ARQUETAS	1	90,000				90,00	12,29	1.106,10		PASO DIQUE	-1	12,739	2,700	2,200		-75,670												
TOTAL SUBCAPÍTULO 02.09 VARIOS.....																					38.195,82								
TOTAL APARTADO 02.05.01 MOVIMIENTO DE TIERRAS																	10,32	1,07	11,04	155,50									

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
APARTADO 02.05.02 TUBERÍAS										APARTADO 02.05.04 OBRA CIVIL										
R02TB064	m TUBERÍA DE ACERO HELICOIDAL ø1620 mm e=12,7 mm									R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra									
	TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1620 MM DE DIÁMETRO Y 12,7 MM DE ESPESOR PN MÁX 10 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:2006, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.										HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO									
	TRAMO 4. PASO DIQUE	1	12,74								HORMIGÓN LIMPIEZA									
							12,74	731,16	9.314,98		VIGA	1	12,739	2,200	0,100		2,803			
TOTAL APARTADO 02.05.02 TUBERÍAS.....									9.314,98		ALVIADERO	1	15,400	1,400	0,100		2,156			
											CONEXIÓN CON DESAGÜE FONDO BP1	1	3,000	2,000	2,000		12,000			
											LOSAS PROTECCIÓN VERTIDO	1	11,650	10,000	0,100		11,650			
												1	4,400	10,000	0,100		4,400			
																	33,01	72,17	2.382,33	
APARTADO 02.05.03 CALDERERÍA Y PROTECCIÓN CATÓDICA										R07HO025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra									
MAPCCII	Ud Anodos protección catódica										HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO									
	SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PREEMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:										VIGA DIQUE	1	12,739	2,700	2,200		75,670			
	- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2.											-1	12,739	2,010			-25,605			
	- ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA.										ALVIADERO	1	15,400	1,400	0,200		4,312			
	- CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD.											1	15,000	0,200	1,500		4,500			
	- CABLE DE CU RV 0,6/1KV 1*6 MM2.											1	15,000	0,200	2,060		6,180			
	- ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.											2	1,400	0,200	2,530		1,417			
											LOSAS PROTECCIÓN VERTIDO	1	11,650	10,000	0,200		23,300			
												1	4,400	10,000	0,200		8,800			
																	98,57	85,04	8.382,39	
		4						4,000		R07EM001	Kg Acero B-500-S									
							4,00	106,40	425,60		ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.									
											VIGA Y ARQUETA (50 KG/M3)	1	98,574	50,000			4.928,700			
											CONEXIÓN CON DESAGÜE FONDO	1	12,000	20,000			240,000			
																	5.168,70	1,12	5.788,94	
MAACD	Kg Acero En Calderería									R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto									
	ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM; 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR, PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.										ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS									
	CONEXIÓN CON DESAGÜE FONDO Balsa BP1	1	250,000								EN VIGA PASO DIQUE	2	2,700		2,200		11,880			
											ALVIADERO	1	15,400		1,700		26,180			
												1	15,400		2,260		34,804			
												1	15,000		1,500		22,500			
												1	15,000		2,060		30,900			
												2	1,400		2,730		7,644			
												2	1,000		2,530		5,060			
											LOSAS PROTECCIÓN VERTIDO	2	11,650		0,200		4,660			
												1	10,000		0,200		2,000			
																	145,63	21,75	3.167,45	
TOTAL APARTADO 02.05.03 CALDERERÍA Y PROTECCIÓN CATÓDICA.....									1.725,60											

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
R07HO020A	m ³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO BADÉN EN CAMINO	1	10,000	5,000	0,200	10,000	10,00	72,17	721,70	R01RE400	m ³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. MEDICIONES AUXILIARES CAMA RELLENO EN ZONA EXPLANADA BOMBEO	1 1 1	137,760 123,210 25,000	4,590	137,760 123,210 114,750	375,72	20,01	7.518,16		
R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO. BADÉN EN CAMINO	1	10,000	20,000		200,000	200,00	1,12	224,00	R01RE030	m ³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. MEDICIONES AUXILIARES EN ZONA EXPLANADA BOMBEO	1 1 -1	877,620 25,000 25,000	9,000 4,590	877,620 225,000 -114,750	987,87	1,27	1.254,59		
R07EN020	m ² Encofrado/Desencofrado metálico para hormigón visto ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS BADÉN EN CAMINO	2 2	10,000 5,000	0,200 0,200	4,000 2,000	6,00	21,75	130,50	R01RE010	m ³ Relleno Ordinario de Tierras Compactado 85% PN RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. MEDICIONES AUXILIARES	1	2.561,460		2.561,460	2.561,46	0,54	1.383,19			
TOTAL SUBCAPÍTULO 02.11 REPOSICIÓN CAMINO.....									14.463,94											
TOTAL CAPÍTULO 02 Balsa Pie de Canal (BPC).....									3.146.871,01											
CAPÍTULO 03 TUBERÍA ADMISIÓN BOMBEO																				
SUBCAPÍTULO 03.01 MOVIMIENTO DE TIERRAS																				
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO. MEDICIONES AUXILIARES	1	4.403,690		4.403,690	4.403,69	1,68	7.398,20	TOTAL SUBCAPÍTULO 03.01 MOVIMIENTO DE TIERRAS 17.554,14											

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
SUBCAPÍTULO 03.02 TUBERÍAS										R04AR010	m ³ Excavación en Desmonte Todo Tipo de Terreno, Tte D=10 Km										
GFG2A186	m Tubería hormigón post camisa chapa acer, DN 1800, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1800MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUNTEO PARA PROTÉCCION CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.										EXCAVACIÓN EN DESMONTE CON MEDIOS MECÁNICOS DE TERRENOS DE CUALQUIER NATURALEZA O CONSISTENCIA, INCLUIDAS LAS CAPAS DE ROCA RIPABLES CON POTENCIAS IGUALES A D10 O SIMILAR (447/538 KW), INCLUIDO EL USO DE MARTILLO ROMPEDOR PARA FACILITAR EL RIPADO O ARRANQUE, CON PRESENCIA POR LA TOTALIDAD DE LA ZONA DE EXCAVACIÓN, ADICIONALMENTE ROCA DE MAYOR DUREZA HASTA UN PORCENTAJE MÁXIMO DE UN 10% SOBRE EL VOLUMEN TOTAL EXCAVADO MEDIDO SOBRE TERRENO INALTERADO EN BASE A PERFILES DE TALUDES Y FONDO DE Balsa, INCLUSO TERRENOS DE CONSISTENCIA BLANDA. INCLUIDA LA EXCAVACIÓN SELECTIVA DE LOS MATERIALES PARA EL TERRAPLENADO (SEGÚN ESTUDIO GEOTÉCNICO), CON LA PREPARACIÓN DEL FONDO DE LA EXCAVACIÓN SEGÚN LAS ESPECIFICACIONES RECOGIDAS POR EL ESTUDIO GEOTÉCNICO RECOGIDO EN EL ANEJO 6 DEL PROYECTO, LABRADO O RIPADO DEL FONDO DE EXCAVACIÓN, CON POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA DEL TERRENO UNA VEZ ALCANZADA LA COTA DE FONDO, EN TODA LA ZONA DE ACTUACIÓN. INCLUSO RIPADO PREVIO SEGÚN CARACTERÍSTICAS INDICADAS, CARGA Y TRANSPORTE A TERRAPLÉN, CABALLEO A LUGAR DE EMPLEO O VERTEDERO AUTORIZADO (INCLUIDO CÁNON Y/O TASAS), A DISTANCIA INFERIOR A 10 KM. INCLUIDO EL EXTENDIDO Y PERFILEADO DE TALUDES, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN A ZONAS DE UTILIZACIÓN CON SEPARACIÓN DE ELEMENTOS GRUESOS, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.										
	TUBERÍA ADMISIÓN BOMBEO	1						282,296	282,296		FONDO	1	199.875,231						199.875,231		
	A DEDUCIR TRAMO ACERO EN CALDERERÍA EB (CUELLO CISNE)	-1						7,296	-7,296		DIQUE	1	50.633,822						50.633,822		
											SANEO FONDO ZONA GRAVAS, MEJORA DRENES	1	4.300,000	0,200					860,000		
							275,00	732,71	201.495,25								251.369,05	1,66	417.272,62		
	TOTAL SUBCAPÍTULO 03.02 TUBERÍAS.....								201.495,25												
	TOTAL CAPÍTULO 03 TUBERÍA ADMISIÓN BOMBEO.....								219.049,39												
CAPÍTULO 04 Balsa INTERMEDIA (BP1)																					
SUBCAPÍTULO 04.01 MOVIMIENTOS DE TIERRAS																					
R01DM040	m ² Desbroce Y Limpieza Todo Tipo De Terreno Con Transporte DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 30 CM, INCLUIDO LA EXCAVACIÓN, INCLUSO DEFORESTACIÓN Y TALA DE ARBUSTOS Y DE ÁRBOLES DE CUALQUIER TIPO Y DIMENSIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.									R04AR030	m ³ Formación Terraplén Compactado Mat. Procedente de Excavación MEZCLA, EXTENDIDO, COMPACTADO Y PERFILEADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.										
	DESBROCE Balsa	1	45.438,000					45.438,000			DIQUE	1	332,145						332,145		
							45.438,00	0,39	17.720,82		SANEO FONDO ZONA GRAVAS, MEJROA DRENES	1	4.300,000	0,200					860,000		
																	1.192,15	1,07	1.275,60		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
TEX005	m² Refino De Taludes REFINO Y PERFILADO DE TALUDES INTERIORES Y EXTERIORES DE TERRAPLÉN SEGÚN PLANOS, INCLUSO CON LA UTILIZACIÓN DE MEDIOS MANUALES SI SON PRECISOS, ASEGURANDO LA ELIMINACIÓN TOTAL DE ELEMENTOS GRUESOS VISTOS EN SUPERFICIE CON UN TAMAÑO MAYOR A 2 CM O DE FORMA ANGULOSA. EN EL CASO DE NO PODER REALIZAR ESTA ELIMINACIÓN SE INCLUYE ADEMÁS LA EXTENSIÓN, COLOCACIÓN Y COMPACTACIÓN DE UNA CAPA DE 15 CM DE MATERIAL FINO SELECCIONADO Y CRIBADO OBTENIDO DEL MOVIMIENTO DE TIERRAS DE LOS TALUDES Y ACOPIADO DURANTE SU EJECUCIÓN PREVIA PARA TAL FIN. MEDIDA LA SUPERFICIE FINALIZADA Y EJECUTADA FINAL.									R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.											
	FONDO	1	30,818,000						30,818,000													
	TALUD INTERIOR	1	771,000	13,460					10,377,660													
									41,195,66		0,32								13,182,61			
																				449,451,65		
	TOTAL SUBCAPÍTULO 04.01 MOVIMIENTOS DE TIERRAS.....																			449,451,65		
	SUBCAPÍTULO 04.02 TOMA DE FONDO																					
	APARTADO 04.02.01 MOVIMIENTO DE TIERRAS																					
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vacidados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CANTAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLÚMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.									R02TB120	m TUBERÍA DE ACERO HELICOIDAL ø1219 mm e=10,3 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1219 MM DE DIÁMETRO Y 10,3 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.											
	DADO	1	8,100	4,320	2,000				69,984													
	VIGA FONDO	1	24,000						74,000										1,776,000			
	ARQUETA VALVULAS	1	17,000	17,500	7,500				2,231,250													
									4,077,23		1,68								6,849,75			
																				3,400,34		
																			1,07	3,638,36		
																				10,488,11		
	TOTAL APARTADO 04.02.01 MOVIMIENTO DE TIERRAS.....																			10,488,11		
	APARTADO 04.02.02 TUBERÍAS Y VALVULERÍA																					
R02TB120	m TUBERÍA DE ACERO HELICOIDAL ø1219 mm e=10,3 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1219 MM DE DIÁMETRO Y 10,3 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.									R02TB060	m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.											
	VIGA DE FONDO	1	48,000						48,000											48,00		
																				419,25		
																				20,124,00		
																				32,000		
																				32,00		
																				164,69		
																				5,270,08		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE					
R05TM125	<p>Ud Carrete desmontaje PN-10/16 DN-1200</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 1200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p>									R03VE005	<p>Ud Ventosa trifuncional ø100 PN-16</p> <p>VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 100 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 100 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p>													
	TOMA FONDO	1				1,000					DESAGÜE FONDO	1				1,000								
							1,00	3.898,21	3.898,21															
R05TM117	<p>Ud Carrete desmontaje PN-10/16 DN-600</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 600 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p>									R05VMM012	<p>Ud Valvula mariposa embridada DN-1200 PN-10 Motorizada</p> <p>VÁLVULA DE MARIPOSA EMBRIDADA, DE 1200 MM DE DIÁMETRO NOMINAL, Y 10 ATM DE PRESIÓN NOMINAL. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, EJE DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI431 Y ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO. EQUIPADA DE ACTUADOR ELÉCTRICO CON MOTOR DE 24VDV CON REDUCTOR PARA ENTREGAR 100NM PAR MAX, ACOPLADO SOBRE BRIDA NORMALIZADA A VÁLVULA. INCLUYE PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. AJUSTE Y PUESTA EN MACHA DE MOTORIZACIÓN. TOTALMENTE INSTALADA Y PROBADA.</p>													
	BY-PASS	1				1,000					TOMA FONDO	1				1,000								
	DESAGÜE FONDO	1				1,000											1,00	811,41	811,41					
							2,00	1.109,96	2.219,92															
R05TM111	<p>Ud Carrete desmontaje PN-10/16 DN-150</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 150 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p>									R05VM106	<p>Ud Válvula mariposa embridada DN-600 PN-16</p> <p>VÁLVULA DE MARIPOSA EMBRIDADA 600 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p>													
	BY-PASS	1				1,000					BY-PASS	2				2,000								
							1,00	176,70	176,70		DESAGÜE FONDO	2				2,000								
																	4,00	3.175,51	12.702,04					
R03VE006	<p>Ud Ventosa trifuncional ø150 PN-16</p> <p>VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p>									R05VC123	<p>Ud Válvula compuerta ø150 mm PN-16</p> <p>VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 150 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p>													
	TOMA FONDO	1				1,000					BY-PASS	1				1,000								
							1,00	1.568,08	1.568,08								1,00	205,54	205,54					

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
R05EM03	Ud Medidor ultrasónico DN200 - DN4000 PN-10/16 EQUIPO DE MEDIDA DE CAUDAL POR ULTRASONIDOS, PARA DIÁMETRO ENTRE 200 Y 4000 MM, FORMADO POR DOS SONDAS Y CAUDALÍMETRO ULTRASONICO MONTADO A LA TUBERÍA, ELECTRÓNICA DE TRATAMIENTO DE SEÑAL 4-20 MA, CONVERTIDOR DE SEÑALES, SENSORES, Y PROTECCIONES SOBRETENSIONES, CABLE TRIAXIAL, INCLUIDO SUMINISTRO, INSTALACIÓN Y PRUEBAS DE FUNCIONAMIENTO. TOMA FONDO	1				1,000	1,00	4.110,38	4.110,38	R07HO020A	APARTADO 04.02.04 OBRA CIVIL m ³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO	1	24,000	2,900	0,100	6,960				
											VIGA FONDO	1	24,000	2,900	0,100	6,960				
											DRENAJES	1	24,000	1,410	0,100	3,384				
											DADO	1	6,520	2,740	0,100	1,786				
												1	8,100	1,650	0,100	1,337				
											ARQUETA VALVULAS	1	7,500	8,200	0,100	6,150				
											APOYOS-MACIZOS	2	1,000	0,400	0,600	0,480				
											ARQUETA CAUDALIMETRO	1	3,800	3,800	0,100	1,444				
																	21,54	72,17	1.554,54	
	TOTAL APARTADO 04.02.02 TUBERÍAS Y VALVULERÍA.....								72.957,49											
	APARTADO 04.02.03 CALDERERÍA Y PROTECCIÓN CATÓDICA																			
MAACD	Kg Acero En Calderería ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM; 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO. TOMA DE FONDO ARQUETA POR APOYOS Y DEMÁS +10%	1				4.111,300	0,1	4.111,300	411,130	R07HO025A	m ³ Hormigón HA-25/B/20/XC2+XA3+SR en obra HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO	1	24,000	3,260	1,800	140,832				
											DRENAJES	1	24,000	1,560	0,750	28,080				
												-1	24,000	1,130		-27,120				
												-1	24,000	0,283		-6,792				
												-6	24,000	0,020		-2,880				
											ARQUETA TOMA FONDO EN VASO	1	8,100	1,650	0,300	4,010				
												1	8,100	0,300	1,500	3,645				
												1	6,520	2,740	0,300	5,359				
												0,5	2,740	0,200	1,500	0,411				
											ARQUETA VALVULAS	1	7,300	8,000	7,400	432,160				
												-1	6,500	7,200	7,000	-327,600				
											ARQUETA DRENES	1	2,700	0,200	2,220	1,199				
											APOYOS-MACIZOS	2	1,000	0,400	0,600	0,480				
											ARQUETA CAUDALIMETRO	1	3,600	3,600	4,800	62,208				
												-1	3,000	3,000	4,500	-40,500				
																	273,49	85,04	23.257,59	
MAPCCII	Ud Anodos protección catódica SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PREEMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS: - TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2. - ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA. - CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD. - CABLE DE CU RV 0,6/1KV 1*6 MM2. - ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.	8				8,000	8,00	106,40	851,20	R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO. VIGA DE FONDO (50 KG/M3) ARQUETA (75 KG/M3)	1	145,545	50,000		7.277,250				
												1	127,947	75,000		9.596,025				
																	16.873,28	1,12	18.898,07	
	TOTAL APARTADO 04.02.03 CALDERERÍA Y PROTECCIÓN CATÓDICA.....								24.367,84											

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
SUBCAPÍTULO 04.03 DESAGÜE DE FONDO																					
APARTADO 04.03.01 MOVIMIENTO DE TIERRAS																					
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciados									R01RE010	m ³ Relleno Ordinario de Tierras Compactado 85% PN										
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.										RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.										
	MEDICIONES AUXILIARES	1						1.847,750	1.847,750		MEDICIONES AUXILIARES	1						1.190,660	1.190,660		
							1.847,75	1,68	3.104,22								1.190,66	0,54	642,96		
											TOTAL APARTADO 04.03.01 MOVIMIENTO DE TIERRAS									7.154,17	
APARTADO 04.03.02 TUBERÍAS Y VALVULERÍA																					
										R02TB060	m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm										
											TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.										
											DESAGÜE FONDO (TRAMO BAJO FV)	1						125,000	125,000		
																	125,00	164,69	20.586,25		
										R07PC060-90	m Tubo Hormigón Armado Tipo C-90 DN 600										
											TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.										
											DESAGÜE FONDO	1						377,264	377,264		
											A DEDUCIR POR ACERO	-1						125,000	-125,000		
							144,72	20,01	2.895,85								252,26	40,08	10.110,58		
											TOTAL APARTADO 04.03.02 TUBERÍAS Y VALVULERÍA.....									30.696,83	
R01RE030	m ³ Relleno Seleccionado Compactado 95% PN																				
	RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.																				
	MEDICIONES AUXILIARES	1						402,470	402,470												
							402,47	1,27	511,14												

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
APARTADO 04.03.03 CALDERERÍA Y PROTECCIÓN CATÓDICA										APARTADO 04.03.04 OBRA CIVIL											
MAACD	Kg Acero En Caldereria									R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra										
	ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM; 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.										HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO										
	DESAGÜE CODO										HORMIGÓN MACIZO CONEXIÓN	1	3,000	3,000	3,000			27,000			
	600	1						2,500	77,580										27,00	72,17	1.948,59
	CONEXIÓN CON LLENADO	1						500,000	500,000	R07EM001	Kg Acero B-500-S										
											ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.										
											HORMIGÓN MACIZO CONEXIÓN (20 KG/M3)	1	27,000	20,000				540,000			
							693,95	5,20	3.608,54												
MAPCCII	Ud Anodos protección catódica																				
	SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PREEMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:									R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto										
	- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2.										ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS										
	- ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA.										HORMIGÓN MACIZO CONEXIÓN	1	4,000	3,000	3,000			36,000			
	- CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD.																		36,00	21,75	783,00
	- CABLE DE CU RV 0,6/1KV 1*6 MM2.																				
	- ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.																				
		4							4,000												
							4,00	106,40	425,60												
	TOTAL APARTADO 04.03.03 CALDERERÍA Y PROTECCIÓN CATÓDICA								4.034,14												
											TOTAL APARTADO 04.03.04 OBRA CIVIL									3.336,39	
											TOTAL SUBCAPÍTULO 04.03 DESAGÜE DE FONDO									45.221,53	
											SUBCAPÍTULO 04.04 ALIVIADERO										
											APARTADO 04.04.01 MOVIMIENTO DE TIERRAS										

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
R01EX010	<p>m³ Excavación a cielo abierto en Zanjas y Vaciados</p> <p>EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.</p> <p>VIGA 1 8,000 2,000 16,000</p> <p>MEDICIONES AUXILIARES 1 166,410 166,410</p>						182,41	1,68	306,45	R01RE010	<p>m³ Relleno Ordinario de Tierras Compactado 85% PN</p> <p>RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.</p> <p>MEDICIONES AUXILIARES 1 86,390 86,390</p>						86,39	0,54	46,65			
										TOTAL APARTADO 04.04.01 MOVIMIENTO DE TIERRAS 789,52												
APARTADO 04.04.02 TUBERÍAS																						
R02TB060	<p>m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm</p> <p>TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.</p> <p>VIGA-DIQUE 2 8,000 16,000</p>									R07PC060-90	<p>m Tubo Hormigón Armado Tipo C-90 DN 600</p> <p>TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.</p> <p>ALMIADERO 2 29,000 58,000</p> <p>VIGA-DIQUE -2 8,000 -16,000</p>									16,00	164,69	2.635,04
R01RE400	<p>m³ Asiento y Relleno Material Granular 6/12 MM</p> <p>CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.</p> <p>MEDICIONES AUXILIARES 1 13,550 13,550</p> <p>1 5,380 5,380</p>						18,93	20,01	378,79													
R01RE030	<p>m³ Relleno Seleccionado Compactado 95% PN</p> <p>RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.</p> <p>MEDICIONES AUXILIARES 1 45,380 45,380</p>						45,38	1,27	57,63													
										TOTAL APARTADO 04.04.02 TUBERÍAS 4.318,40												

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE					
SUBCAPÍTULO 04.05 IMPERMEABILIZACIÓN										IM002	m ² Lámina Impermeabilizante PEAD 2,0 mm													
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vacios										LÁMINA IMPERMEABILIZANTE EN POLIETILENO DE ALTA DENSIDAD, FABRICADA MEDIANTE CALANDRADO EN 7,5 M DE ANCHO SIN SOLDADURAS INTERMEDIAS DE 2,0MM DE ESPESOR, TOTALMENTE INSTALADA Y PROBADA, INCLUSO SOLAPES Y ANCLAJES MECÁNICOS A OBRAS DE FABRICA. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.													
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.										FONDO	1	30.818,000					30.818,000						
											TALUD INTERIOR	1	733,000	13,460					9.866,180					
											ANCLAJE LAMINA	1	771,000	2,150					1.657,650					
											EN ANCLAJE PIE DE TALUD	1	695,000	1,200					834,000					
																			43.175,83	5,42	234.013,00			
										AFBPEADC2	m Anclaje de fondo balsa con lámina PEAD rellenos de grava 6/12													
											ANCLAJES DE FONDO A BASE DE FUELLES CONFORMADOS CON LÁMINA DE PEAD DE 2 MM DE ESPESOR Y SECCIÓN CON PERIMETRO 1,45 M. DE PESO NO INFERIOR A 175 KG/ML. RELLENOS CON ÁRIDO NATURAL LAVADO 6/12 MM. TOTALMENTE COLOCADO. INCLUIDA LA INSTALACIÓN SOBRE LAMINA DE PEAD DE FONDO DE BALSA Y MEDIOS AUXILIARES.													
											EN ANCLAJE PIE DE TALUD	1	695,000	2,000					1.390,000					
																			1.390,00	10,08	14.011,20			
										ANCLAJECOR2	m Anclaje Coronación; Bordillo Tipo T-2													
											ANCLAJE DE CORONACIÓN EN BALSAS, MEDIANTE LA INSTALACIÓN DE LÍNEA DE BORDILLO TIPO T-2, DE PIEZAS PREFABRICADAS DE HORMIGÓN RECTAS Y CURVAS, COLOCADAS CON MORTERO DE CEMENTO 1:4 ELABORADO EN LA OBRA CON HORMIGONERA DE 165 L. INCLUIDO TRANSPORTE Y PUESTA EN OBRA EN CORONACIÓN DE BALSA, EXCAVACIÓN, LA BASE DE HORMIGÓN HM-20 Y TODAS LAS FAENAS PERTINENTES.TOTALMENTE COLOCADO.													
											ANCLAJE CORONACIÓN	1	771,000						771,000					
																			771,00	7,99	6.160,29			
											TOTAL SUBCAPÍTULO 04.05 IMPERMEABILIZACIÓN.....												308.221,08	
SUBCAPÍTULO 04.06 DRENAJE																								
APARTADO 04.06.01 MOVIMIENTO DE TIERRAS																								
R01RE030	m ³ Relleno Seleccionado Compactado 95% PN										RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRÁIDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO.MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.													
	ANCLAJE LAMINA CORONACIÓN	1						771,000	0,500	0,600	231,300													
																				231,30	1,68	388,58		
DR001	m ² Lámina Geotextil 250 GR/M2; 2850 Ncbr										GEOTEXTIL FABRICADO A BASE DE FIBRAS SINTÉTICAS DE POLIPROPILENO 100% , NO TEJIDO, DE FILAMENTOS CONTINUOS UNIDOS MECÁNICAMENTE POR UN PROCESO DE AGUJADO, DE RESISTENCIA A PERFORACIÓN CBR NO MENOR DE 2850 N (NORMA UNE-EN 12236), DE PERFORACIÓN A CAÍDA LIBRE DE CONO NO MAYOR DE 20 MM (NORMA EN 918), Y PESO NO INFERIOR A 250 G/M ² (NORMA UNE-EN 965), INCLUSO SOLAPES, TOTALMENTE COLOCADO. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.													
	FONDO	1						30.818,000			30.818,000													
	TALUD INTERIOR	1						733,000	13,460		9.866,180													
	ANCLAJE LAMINA	1						771,000	2,150		1.657,650													
		1						695,000	1,800		1.251,000													
	SANEO FONDO ZONA GRAVAS, MEJORA DRENES	1						132,000	3,800		501,600													
																				44.094,43	1,21	53.354,26		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.									PVC160-RAN	m Drenaje Tubería Ranurada PVC DN 160mm, Relleno Mat. Filtrante CONJUNTO ZANJA DRENAJE, MEDIANTE TUBO DRENANTE PERFORADO DE PVC DN 160 MM DE DOBLE PARED, COLOCADO EN ZANJA DE SECCIÓN 0,50 M. DE ANCHURA Y PROFUNDIDAD MEDIA INFERIOR A 1,0 M., ENVUELTA ÉSTA EN FILTRO DREN A BASE DE GETEXTIL DE 150 GR/M2 Y RELLENA LA ZANJA CON MATERIAL GRANULAR 6/12 MM HASTA 20 CM POR ENCIMA DEL DREN ENVUELTO EN GEOTEXTIL. INCLUIDA PP DE PEQUEÑO MATERIAL Y ELEMENTOS DE CONEXIÓN A COLECTORES. MEDIDA LA LONGITUD TOTAL FINALMENTE INSTALADA Y PROBADA.											
	PERIMETRAL NORTE	1	142,000	0,500	1,250	88,750					PERIMETRAL NORTE	1	142,000			142,000						
		2	171,000	0,500	1,250	213,750						1	171,000			171,000						
	PERIMETRAL SUR	2	187,000	0,500	1,250	233,750					PERIMETRAL SUR	1	187,000			187,000						
		1	157,000	0,500	1,250	98,125						1	157,000			157,000						
	CENTRAL	2	227,000	0,500	1,250	283,750					CENTRAL	2	227,000			454,000						
							918,13	1,68	1.542,46								1.111,00	11,13	12.365,43			
										PVC110-RAN	m Drenaje Tubería Ranurada PVC DN 110mm, Relleno Mat. Filtrante CONJUNTO ZANJA DRENAJE, MEDIANTE TUBO DRENANTE PERFORADO DE PVC DN 110 MM DE DOBLE PARED, COLOCADO EN ZANJA DE SECCIÓN 0,50 M. DE ANCHURA Y PROFUNDIDAD MEDIA INFERIOR A 1,0 M., ENVUELTA ÉSTA EN FILTRO DREN A BASE DE GETEXTIL DE 150 GR/M2 Y RELLENA LA ZANJA CON MATERIAL GRANULAR 6/12 MM HASTA 20 CM POR ENCIMA DEL DREN ENVUELTO EN GEOTEXTIL. INCLUIDA PP DE PEQUEÑO MATERIAL Y ELEMENTOS DE CONEXIÓN A COLECTORES. MEDIDA LA LONGITUD TOTAL FINALMENTE INSTALADA Y PROBADA.											
											CENTRALES:											
											AUXILIARES	1	111,000			111,000						
												1	105,000			105,000						
																	216,00	8,53	1.842,48			
R01RE030	m ³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.									PVC160P10	m Tubería de PVC DN 160 mm, 10 BAR, Instalada en Zanja TUBO DE PVC NO PLASTIFICADO, DE ESPECIFICACIONES TÉCNICAS SEGÚN NORMA UNE 1452 DE DN. EXTERIOR 160 MM, Y 10 BAR DE PRESIÓN. UNIÓN TIPO FLEXIBLE MEDIANTE JUNTA ENCHUFE CON ANILLA ELASTOMÉRICA DE ESTANQUIDAD DE EPDM LUBRICADA SEGÚN NORMA UNE-EN 681. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.											
	PERIMETRAL NORTE	1	171,000	0,500	1,250	106,875					PERIMETRAL NORTE	2	30,000			60,000						
	PERIMETRAL SUR	1	187,000	0,500	1,250	116,875					PERIMETRAL SUR	2	30,000			60,000						
							223,75	1,27	284,16		CENTRAL	2	30,000			60,000						
											PERIMETRAL NORTE	1	171,000			171,000						
											PERIMETRAL SUR	1	187,000			187,000						
																	538,00	12,01	6.461,38			
	TOTAL APARTADO 04.06.01 MOVIMIENTO DE TIERRAS								1.826,62													
										PVC250P10	m Tubería de PVC DN 250 mm, 10 BAR, Instalada en Zanja TUBO DE PVC NO PLASTIFICADO, DE ESPECIFICACIONES TÉCNICAS SEGÚN NORMA UNE 1452 DE DN. EXTERIOR 250 MM, Y 10 BAR DE PRESIÓN. UNIÓN TIPO FLEXIBLE MEDIANTE JUNTA ENCHUFE CON ANILLA ELASTOMÉRICA DE ESTANQUIDAD DE EPDM LUBRICADA SEGÚN NORMA UNE-EN 681. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.											
											EVACUACIÓN ARQUETA DESAGÜE	1	76,000			76,000						
																	76,00	30,80	2.340,80			

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
TOTAL APARTADO 04.06.02 TUBERÍAS.....									23.010,09													
TOTAL SUBCAPÍTULO 04.06 DRENAJE.....									24.836,71	R01DM040	CAPÍTULO 05 Balsa Elevada (BP2)											
SUBCAPÍTULO 04.07 VIALES											SUBCAPÍTULO 05.01 MOVIMIENTOS DE TIERRAS											
MVTRE023	m ³ Terraplén seleccionado mat granular Z30 S/PG3										m ² Desbroce Y Limpieza Todo Tipo De Terreno Con Transporte											
	MATERIAL GRANULAR TIPO ZA30 S/PG3 PUESTO EN OBRA, EXTENDIDO, HUMEDECIDO Y COMPACTADO AL 98% DEL PM EN CAPAS DE 10 CM DE ESPESOR EN BASES DE OBRAS SINGULARES EN VIALES										DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 30 CM, INCLUIDO LA EXCAVACIÓN, INCLUSO DEFORESTACIÓN Y TALA DE ARBUSTOS Y DE ÁRBOLES DE CUALQUIER TIPO Y DIMENSIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.											
	CORONACIÓN	1	786,500	4,000	0,200		629,20	22,90	14.408,68		DESBROCE Balsa											
											1	32.977,000						32.977,000				
											1	274,000	5,000					1.370,000				
TOTAL SUBCAPÍTULO 04.07 VIALES.....									14.408,68											34.347,00	0,39	13.395,33
SUBCAPÍTULO 04.08 VARIOS											R04AR010											
R04EM010	m Cerramiento Valla Galvanizada h=2 m										m ³ Excavación en Desmote Todo Tipo de Terreno, Tte D=10 Km											
	CERRAMIENTO DE VALLA GALVANIZADA DE 2,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMIENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.										EXCAVACIÓN EN DESMONTE CON MEDIOS MECÁNICOS DE TERRENOS DE CUALQUIER NATURALEZA O CONSISTENCIA, INCLUIDAS LAS CAPAS DE ROCA RIPABLES CON POTENCIAS IGUALES A D10 O SIMILAR (447/538 KW), INCLUIDO EL USO DE MARTILLO ROMPEDOR PARA FACILITAR EL RIPADO O ARRANQUE, CON PRESENCIA POR LA TOTALIDAD DE LA ZONA DE EXCAVACIÓN, ADICIONALMENTE ROCA DE MAYOR DUREZA HASTA UN PORCENTAJE MÁXIMO DE UN 10% SOBRE EL VOLUMEN TOTAL EXCAVADO MEDIDO SOBRE TERRENO INALTERADO EN BASE A PERFILES DE TALUDES Y FONDO DE Balsa, INCLUSO TERRENOS DE CONSISTENCIA BLANDA. INCLUIDA LA EXCAVACIÓN SELECTIVA DE LOS MATERIALES PARA EL TERRAPLENADO (SEGÚN ESTUDIO GEOTÉCNICO), CON LA PREPARACIÓN DEL FONDO DE LA EXCAVACIÓN SEGÚN LAS ESPECIFICACIONES RECOGIDAS POR EL ESTUDIO GEOTÉCNICO RECOGIDO EN EL ANEJO 6 DEL PROYECTO, LABRADO O RIPADO DEL FONDO DE EXCAVACIÓN, CON POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENÉRGICA DEL TERRENO UNA VEZ ALCANZADA LA COTA DE FONDO, EN TODA LA ZONA DE ACTUACIÓN. INCLUSO RIPADO PREVIO SEGÚN CARACTERÍSTICAS INDICADAS, CARGA Y TRANSPORTE A TERRAPLÉN, CABALLEO A LUGAR DE EMPLEO O VERTEDERO AUTORIZADO (INCLUIDO CÁNON Y/O TASAS), A DISTANCIA INFERIOR A 10 KM. INCLUIDO EL EXTENDIDO Y PERFILADO DE TALUDES, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN A ZONAS DE UTILIZACIÓN CON SEPARACIÓN DE ELEMENTOS GRUESOS, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.											
	EN CORONACIÓN	1	802,500				802,50	16,56	13.289,40		FONDO											
											1	37.746,019						37.746,019				
											1	28.744,881						28.744,881				
											1	454,724						454,724				
											1	70,000	50,000	2,000				7.000,000				
											CIMENTACIÓN											
TOTAL SUBCAPÍTULO 04.08 VARIOS.....									15.457,74											73.945,62	1,66	122.749,73
TOTAL CAPÍTULO 04 Balsa Intermedia (BP1).....									1.044.140,76													

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE				
R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación																						
	MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98% PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.									R01EX010	m³ Excavación a cielo abierto en Zanjas y Vaciados												
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.																						
	DIQUE	1						41.246,870	41.246,870		DADO	1	3,500	2,800	2,100				20,580				
	CAMINO ACCESO DIQUE	1						346,830	346,830		VIGA FONDO	1	52,000		10,510				546,520				
	SANEAMIENTO APOYO	1	70,000	50,000	2,000			7.000,000	7.000,000		ARQUETA VALVULAS	1	12,500	13,200	3,400				561,000				
	CIMENTACIÓN										ARQUETA CAUDALÍMETRO	1	9,000	9,000	3,400				275,400				
																	1.403,50	1,68	2.357,88				
								48.593,70	1,07	51.995,26													
TEX005	m² Refino De Taludes																						
	REFINO Y PERFILADO DE TALUDES INTERIORES Y EXTERIORES DE TERRAPLÉN SEGÚN PLANOS, INCLUSO CON LA UTILIZACIÓN DE MEDIOS MANUALES SI SON PRECISOS, ASEGURANDO LA ELIMINACIÓN TOTAL DE ELEMENTOS GRUESOS VISTOS EN SUPERFICIE CON UN TAMAÑO MAYOR A 2 CM O DE FORMA ANGULOSA. EN EL CASO DE NO PODER REALIZAR ESTA ELIMINACIÓN SE INCLUYE ADEMÁS LA EXTENSIÓN, COLOCACIÓN Y COMPACTACIÓN DE UNA CAPA DE 15 CM DE MATERIAL FINO SELECCIONADO Y CRIBADO OBTENIDO DEL MOVIMIENTO DE TIERRAS DE LOS TALUDES Y ACOPIADO DURANTE SU EJECUCIÓN PREVIA PARA TAL FIN. MEDIDA LA SUPERFICIE FINALIZADA Y EJECUTADA FINAL.									R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación												
	FONDO	1						11.045,000	11.045,000		MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98% PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.												
	TALUD INTERIOR	1	639,075	24,230				15.484,787	15.484,787		VIGA FONDO	1	52,000		10,510				546,520				
	TALUD EXTERIOR	0,5	739,000	20,130				7.438,035	7.438,035		-1	52,000		2,450				-127,400					
											ARQUETA VALVULAS	1	12,500	13,200	3,400				561,000				
											-1	7,800	7,100	3,400				-188,292					
											ARQUETA CAUDALÍMETRO	1	9,000	9,000	3,400				275,400				
											-1	3,600	3,600	3,400				-44,064					
																	1.023,16	1,07	1.094,78				
								33.967,82	0,32	10.869,70													
	TOTAL SUBCAPÍTULO 05.01 MOVIMIENTOS DE TIERRAS.....										TOTAL APARTADO 05.02.01 MOVIMIENTO DE TIERRAS									3.452,66			

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE				
APARTADO 05.02.02 TUBERÍAS Y VALVULERÍA										R05TM111	Ud Carrete desmontaje PN-10/16 DN-150												
R02TB100	m TUBERÍA DE ACERO HELICOIDAL ø1016 mm e=10 mm										CARRETE TELESCÓPICO DE DESMONTAJE DE 150 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.												
	VIGA DE FONDO	1						74,000			BY-PASS	1							1,000				
																				1,00			
																				176,70			
																				176,70			
							74,00	403,85	29.884,90	R03VE006	Ud Ventosa trifuncional ø150 PN-16												
R02TB060	m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm										VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.												
	VIGA-DIQUE	1						60,000			TOMA FONDO	1							1,000				
																				1,00			
																				1.568,08			
																				1.568,08			
							60,00	164,69	9.881,40	R03VE005	Ud Ventosa trifuncional ø100 PN-16												
R05TM120	Ud Carrete desmontaje PN-10/16 DN-1000										VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 100 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 100 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.												
	TOMA DE FONDO	1						1,000			DESAGÜE FONDO	1							1,000				
																				1,00			
																				811,41			
																				811,41			
							1,00	2.511,53	2.511,53	R05VM1085	Ud Válvula mariposa embridada DN-1000 PN-16 Motorizada												
R05TM117	Ud Carrete desmontaje PN-10/16 DN-600										VÁLVULA DE MARIPOSA EMBRIDADA, 1000 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL, CON REDUCTOR DESMULTIPLICADOR MOTORIZADO TIPO AUMA O SIMILAR PARA APERTURA Y CIERRE REGULABLE, TOTAL O PARCIAL (NO TODO O NADA), CON ACCIONAMIENTO MANUAL ADICIONAL, PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.												
	BY-PASS	1						1,000			TOMA DE FONDO	1							1,000				
	DESAGÜE FONDO	1						1,000												1,00			
																				811,41			
																				811,41			
							2,00	1.109,96	2.219,92											16.423,12			
																				16.423,12			

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE					
R05VM106	<p>Ud Válvula mariposa embridada DN-600 PN-16</p> <p>VÁLVULA DE MARIPOSA EMBRIDADA 600 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>BY-PASS 2 2,000</p> <p>DESAGÜE FONDO 2 2,000</p>						4,00	3.175,51	12.702,04	MAACD	<p>APARTADO 05.02.03 CALDERERÍA Y PROTECCIÓN CATÓDICA</p> <p>Kg Acero En Caldereria</p> <p>ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM; 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.</p> <p>TOMA DE FONDO ARQUETA 1 4.128,300 4.128,300</p> <p>POR APOYOS Y DEMÁS +10% 0,1 4.128,300 412,830</p>													
R05VC123	<p>Ud Válvula compuerta ø150 mm PN-16</p> <p>VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 150 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.</p> <p>BY-PASS 1 1,000</p>						1,00	205,54	205,54	MAPCCII	<p>Ud Anodos protección catódica</p> <p>SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PREEMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:</p> <ul style="list-style-type: none"> - TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2. - ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA. - CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD. - CABLE DE CU RV 0,6/1KV 1*6 MM2. - ELECTRODO REFERENCIA PERMANENTE CU/CUSO4. 													
JTOMA1000	<p>u Jaula de desbaste para Toma de Fondo DN1000</p> <p>JAULA DE DESBASTE PARA TOMA DE FONDO EN DIÁMETRO 1000 MM. EN ACERO INOXIDABLE AISI-316, CON LUZ DE PASO DE 20 MM ENTRE BARRAS VERTICALES Y ALTURA MÍNIMA DE 1,2 M. INCLUYE PLETINAS, TORNILLERÍA Y PP. DE PEQUEÑO MATERIAL PARA ANCLAJE A HORMIGÓN Y CON LÁMINA PLÁSTICA. MEDIDA LA UNIDAD TOTALMENTE MONTADA Y PROBADA.</p> <p>TOMA DE FONDO 1 1,000</p>						1,00	1.858,24	1.858,24															
R05EM03	<p>Ud Medidor ultrasónico DN200 - DN4000 PN-10/16</p> <p>EQUIPO DE MEDIDA DE CAUDAL POR ULTRASONIDOS, PARA DIÁMETRO ENTRE 200 Y 4000 MM, FORMADO POR DOS SONDAS Y CAUDALÍMETRO ULTRASÓNICO MONTADO A LA TUBERÍA, ELECTRÓNICA DE TRATAMIENTO DE SEÑAL 4-20 MA, CONVERTIDOR DE SEÑALES, SENSORES, Y PROTECCIONES SOBRETENSIONES, CABLE TRIAXIAL, INCLUIDO SUMINISTRO, INSTALACIÓN Y PRUEBAS DE FUNCIONAMIENTO.</p> <p>TOMA FONDO 1 1,000</p>						1,00	4.110,38	4.110,38															
									<p>TOTAL APARTADO 05.02.03 CALDERERÍA Y PROTECCIÓN CATÓDICA</p> <p>8 8,000 8,00 106,40 851,20</p> <p>24.465,08</p>															
									<p>TOTAL APARTADO 05.02.02 TUBERÍAS Y VALVULERÍA..... 82.353,26</p>															

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
APARTADO 05.02.04 OBRA CIVIL										R07EN020	m ² Encofrado/Desencofrado metálico para hormigón visto										
R07HO020A	m ³ Hormigón HM-20/B/20/X0 en obra										ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VIS- TA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PA- RA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS										
	HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO										VIGA FONDO	1	3,080		1,400		4,312				
	VIGA FONDO	1	50,000	2,800	0,100	14,000					DADO	1	1,550		0,750		1,163				
	DRENAJES	1	50,000	1,400	0,100	7,000					DADO	1	2,800		2,000		5,600				
	DADO	1	3,500	2,800	0,100	0,980					APOYOS-MACIZOS	2	3,800		2,000		15,200				
	ARQUETA VALVULAS	1	8,000	8,000	0,100	6,400					ARQUETA VALVULAS	2	7,800		3,300		51,480				
	APOYOS-MACIZOS	2	1,000	0,400	0,600	0,480						2	7,100		3,300		46,860				
	ARQUETA CAUDALÍMETRO	1	3,800	3,800	0,100	1,444						2	7,200		3,000		43,200				
							30,30	72,17	2.186,75			2	6,500		3,000		39,000				
R07HO025A	m ³ Hormigón HA-25/B/20/XC2+XA3+SR en obra										ARQUETA DRENES	1	2,500		1,500		3,750				
	HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO											1	2,900		1,500		4,350				
	VIGA FONDO	1	50,000	3,080	1,400	215,600					APOYOS-MACIZOS	4	1,000		0,600		2,400				
	DRENAJES	1	50,000	1,550	1,400	108,500						4	0,400		0,600		0,960				
											ARQUETA CAUDALÍMETRO	4	3,600		3,300		47,520				
												4	3,000		3,000		36,000				
																	301,80	21,75	6.564,15		
										PATES	Ud Pate de polipropileno colocado										
											PATE DE POLIPROPILENO DE 30 CM * 25 CM COLOCADO.										
											ARQUETA VALVULAS	3	10,000				30,000				
											ARQUETA CAUDALÍMETRO	1	10,000				10,000				
																	40,00	3,79	151,60		
										CHA1	m ² Tapa de chapa acero galvanizado 2 mm										
											TAPA DE CHAPA ACERO GALVANIZADO 2 MM DE ESPESOR SOPORTADA POR PER- FILES HUECOS # 40.2 FORMANDO CUADROS DE 50 CM DE LADO, PARA UNA RESIS- TENCIA DE 200 KG/M2, COLOCADA, Y PUERTA DE HOMBRE DE ACCESO DE 1M. * 1 M. PROVISTA DE BISAGRAS Y CANDADO										
											ARQUETA VALVULAS	1	7,300	8,000			58,400				
											ARQUETA CAUDALÍMETRO	1	3,800	3,800			14,440				
																	72,84	63,55	4.628,98		
										R07EM020	Kg Acero S275 JR Para Estructuras										
											ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADU- RAS, COLOCADO EN OBRA.										
											REFUERZO ESTRUCTURA TAPA	8	6,900		30,700		1.694,640				
											ANCLAJES, REFUERZOS,...	0,1	1.694,640				169,464				
																	1.864,10	2,08	3.877,33		
R07EM001	Kg Acero B-500-S																				
	ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELE- MENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO COR- TE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADO- RES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HOR- MIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.																				
	VIGA DE FONDO (50 KG/M3)	1	282,629	50,000		14.131,450															
	ARQUETA (75 KG/M3)	1	58,932	75,000		4.419,900															
							18.551,35	1,12	20.777,51												

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
ARQAUTO1	Ud Arqueta para automata, caseta Hormigón Pref. 2x1x2,1									R01RE030	m³ Relleno Seleccionado Compactado 95% PN										
	ARQUETA PARA ALOJAMIENTO DE AUTOMATA TELECONTROL Y BATERIAS DEL SEC-CIONAMIENTO, CONSISTENTE EN CASETA PREFABRICADA DE HORMIGÓN CON BASE INTEGRADA O PRESOLERA DE HORMIGÓN HM-20, CON UNAS DIMENSIONES INTERIORES ÚTILES DE 2,00X1,00X2,10, CON APERTURA EN EJE VERTICAL DE DOBLE HOJA, PUERTAS EN GALVANIZADO 1,5 MM, NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA EN PUERTAS, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE. INCLUIDO SOPORTES, Y CANDADO, INCLUIDOS TODOS LOS MEDIOS AUXILIARES PARA SU COLOCACIÓN Y CIMENTACIÓN PARA MASTIL CONSISTENTE EN HORMIGÓN EN MASA DE 0,8X0,8X1,2M Y 4 PERNOS DE 16 MM DE DIAMETRO DE ACERO B-500S. INCLUIDOS TUBO DE PE CORRUGADO CON GUÍA PARA CABLEADO A LOS ELEMENTOS (VALVULAS Y CAUDALIMETROS, DOS TUBOS POR ELEMNTO), Y EL DESBROCE O PREPARACIÓN DE TERRENO PARA LA PRESOLERA. TOTALMENTE COLOCADA										RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO.MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.										
	AUTOMATIZACIÓN SALIDA BP2	1					1,000				MEDICIONES AUXILIARES	1	638,350						638,350		
								1,00	1.075,60										638,35	1,27	810,70
	TOTAL APARTADO 05.02.04 OBRA CIVIL.....								68.308,18												
	TOTAL SUBCAPÍTULO 05.02 TOMA DE FONDO.....								178.579,18												
	SUBCAPÍTULO 05.03 DESAGÜE DE FONDO																				
	APARTADO 05.03.01 MOVIMIENTO DE TIERRAS																				
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vacados									R01RE010	m³ Relleno Ordinario de Tierras Compactado 85% PN										
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.										RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.										
	MEDICIONES AUXILIARES	1					2.300,560		2.300,560		MEDICIONES AUXILIARES	1	1.307,660						1.307,660		
								2.300,56	1,68										1.307,66	0,54	706,14
											TOTAL APARTADO 05.03.01 MOVIMIENTO DE TIERRAS.....										10.024,30
											APARTADO 05.03.02 TUBERÍAS Y VALVULERÍA										
										R07PC060-90	m Tubo Hormigón Armado Tipo C-90 DN 600										
											TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.										
											DESAGÜE FONDO	1	493,376						493,376		
											A DEDUCIR POR C135	-1	70,000						-70,000		
												-1	51,376					-51,376			
																			372,00	40,08	14.909,76
										R07PC060-135	m Tubo Hormigón Armado Tipo C-135 DN 600										
											TUBERÍA DE HORMIGÓN CLASE C-135 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.										
											DESAGÜE FONDO	1	70,000						70,000		
												1	51,376					51,376			
																			121,38	42,30	5.134,37
											TOTAL APARTADO 05.03.02 TUBERÍAS Y VALVULERÍA.....										20.044,13
R01RE400	m³ Asiento y Relleno Material Granular 6/12 MM																				
	CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.																				
	MEDICIONES AUXILIARES	1					168,260		168,260												
		1					63,750		63,750												
								232,01	20,01										4.642,52		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
APARTADO 05.03.03 CALDERERÍA Y PROTECCIÓN CATÓDICA										APARTADO 05.03.04 OBRA CIVIL												
MAACD	Kg Acero En Caldereria ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM; 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO. DESAGÜE CODO 600	1	2,500	77,580	193,950			193,95	5,20	1.008,54	R07H0020A	m³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO HORMIGÓN LIMPIEZA ARQUETA DESCARGA	1	2,850	1,250	0,100	0,356			0,36	72,17	25,98
										R07H0025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO ARQUETA DESCARGA	1 2 1	2,200 0,800 2,650	0,200 0,200 0,850	1,050 0,450 0,200	0,462 0,144 0,451			1,06	85,04	90,14	
MAPCCII	Ud Anodos protección catódica SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PREEMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS: - TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2. - ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA. - CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD. - CABLE DE CU RV 0,6/1KV 1*6 MM2. - ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.									R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO. VIGA Y ARQUETA (50 KG/M3)	1	1,060	50,000	53,000			53,00	1,12	59,36		
										R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VISTA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFADO Y REPASO DE PARAMENTOS ARQUETA DESCARGA	1 1 2 2 1 1 2	2,200 1,600 0,800 0,800 2,300 3,300 1,050	1,050 0,850 0,700 0,500 0,200 0,200 0,200	2,310 1,360 1,120 0,800 0,460 0,660 0,420			7,13	21,75	155,08		
		4					4,00	106,40	425,60	R07EM020	Kg Acero S275 JR Para Estructuras ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA. REJA	100			100,000			100,00	2,08	208,00		
TOTAL APARTADO 05.03.03 CALDERERÍA Y PROTECCIÓN CATÓDICA									1.434,14													

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE					
EXC03	m ³ Construcción escollera, roca 30-60cm APORTE Y COLOCACIÓN DE PIEDRA O CANTOS RODADOS SELECCIONADOS DE PRESTAMOS DE 30 A 60 CM, A UNA DISTANCIA <25 KM. MEDIDA LA UNIDAD TOTALMENTE COLOCADA. DESCARGA ALIVIO	1	5,000	4,000	0,600	12,000	12,00	10,85	130,20	R01RE030	m ³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO.MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. MEDICIONES AUXILIARES	1	113,690				113,690	113,69	1,27	144,39				
TOTAL APARTADO 05.03.04 OBRA CIVIL									668,76															
TOTAL SUBCAPÍTULO 05.03 DESAGÜE DE FONDO.....									32.171,33															
SUBCAPÍTULO 05.04 ALIVIADERO																								
APARTADO 05.04.01 MOVIMIENTO DE TIERRAS																								
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vacados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO. VIGA MEDICIONES AUXILIARES	1	10,000	2,000	1,000	20,000	1	374,480	374,480		R01RE010	m ³ Relleno Ordinario de Tierras Compactado 85% PN RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. MEDICIONES AUXILIARES	1	174,050				174,050	174,05	0,54	93,99			
TOTAL APARTADO 05.04.01 MOVIMIENTO DE TIERRAS									1.849,98															
APARTADO 05.04.02 TUBERÍAS																								
R02TB060	m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA. VIGA-DIQUE	2	10,000			20,000			20,00	164,69	3.293,80	R02TB060	m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA. VIGA-DIQUE	2	70,745			141,490	-2	10,000	-20,000	121,49	40,08	4.869,32
R07PC060-90	m Tubo Hormigón Armado Tipo C-90 DN 600 TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA. ALVIADERO VIGA-DIQUE	2	70,745			141,490	-2	10,000	-20,000	R07PC060-90	m Tubo Hormigón Armado Tipo C-90 DN 600 TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA. ALVIADERO VIGA-DIQUE	2	70,745			141,490	-2	10,000	-20,000	121,49	40,08	4.869,32		
R01RE400	m ³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. MEDICIONES AUXILIARES	1	33,940			33,940	1	13,480	13,480	R01RE400	m ³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. MEDICIONES AUXILIARES	1	33,940			33,940	1	13,480	13,480	47,42	20,01	948,87		
TOTAL APARTADO 05.04.02 TUBERÍAS.....									8.163,12															

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
APARTADO 05.04.03 CALDERERÍA Y PROTECCIÓN CATÓDICA										R07EN020	m ² Encofrado/Desencofrado metálico para hormigón visto										
MAPCCII	Ud Anodos protección catódica									<p>SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PREEMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:</p> <p>- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2.</p> <p>- ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA.</p> <p>- CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD.</p> <p>- CABLE DE CU RV 0,6/1KV 1*6 MM2.</p> <p>- ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.</p>											
		4				4,000			4,00	106,40	425,60										
TOTAL APARTADO 05.04.03 CALDERERÍA Y PROTECCIÓN									425,60												
APARTADO 05.04.04 OBRA CIVIL																					
R07HO020A	m ³ Hormigón HM-20/B/20/X0 en obra									<p>HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO</p> <p>HORMIGÓN LIMPIEZA</p>											
		VIGA	1	10,000	1,800	0,100	1,800														
		ALIVIADERO	1	9,400	1,400	0,100	1,316														
		ARQUETA DESCARGA	1	3,000	1,250	0,100	0,375														
				3,49	72,17	251,87															
											G04JU2345	m Junta Hidroexpansiva									
												<p>JUNTA HIDROEXPANSIVA TIPO MASTERFLEX 610 20*5, INCLUSO PREPARACIÓN DE SUPERFICIES, TOTALMENTE COLOCADA.</p>									
		EN ALIVIADERO	2	9,200			18,400														
			2	1,200			2,400														
				20,80	7,38	153,50															
R07HO025A	m ³ Hormigón HA-25/B/20/XC2+XA3+SR en obra									<p>HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO</p>											
		VIGA DIQUE	1	10,000	2,000	1,200	24,000														
			-2	10,000	0,280		-5,600														
		ALIVIADERO	1	9,400	1,400	0,200	2,632														
			1	9,000	0,200	1,000	1,800														
			1	9,000	0,200	1,560	2,808														
			2	1,400	0,200	1,280	0,717														
		ARQUETA DESCARGA	1	3,000	0,200	1,050	0,630														
			2	0,800	0,200	0,450	0,144														
			1	2,650	0,850	0,200	0,451														
				27,58	85,04	2.345,40															
R07EM001	Kg Acero B-500-S									<p>ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC. COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.</p>											
		VIGA Y ARQUETA (50 KG/M3)	1	27,580	50,000			1.379,000													
				1.379,00	1,12	1.544,48															
											TOTAL APARTADO 05.04.04 OBRA CIVIL								6.168,78		
											TOTAL SUBCAPÍTULO 05.04 ALIVIADERO.....								16.607,48		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
SUBCAPÍTULO 05.05 IMPERMEABILIZACIÓN										IM002	m ² Lámina Impermeabilizante PEAD 2,0 mm											
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vacios										LÁMINA IMPERMEABILIZANTE EN POLIETILENO DE ALTA DENSIDAD, FABRICADA MEDIANTE CALANDRADO EN 7,5 M DE ANCHO SIN SOLDADURAS INTERMEDIAS DE 2,0MM DE ESPESOR, TOTALMENTE INSTALADA Y PROBADA, INCLUSO SOLAPES Y ANCLAJES MECÁNICOS A OBRAS DE FABRICA. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.											
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.										FONDO	1	11.045,000				11.045,000					
											TALUD INTERIOR	1	639,060	24,230			15.484,424					
											ANCLAJE LAMINA	1	707,550	2,150			1.521,233					
											EN ANCLAJE PIE DE TALUD	1	570,600	1,800			1.027,080					
																	29.077,74	5,42	157.601,35			
							212,27	1,68	356,61	AFBPEADC2	m Anclaje de fondo balsa con lámina PEAD rellenos de grava 6/12											
											ANCLAJES DE FONDO A BASE DE FUELLES CONFORMADOS CON LÁMINA DE PEAD DE 2 MM DE ESPESOR Y SECCIÓN CON PERIMETRO 1,45 M. DE PESO NO INFERIOR A 175 KG/ML. RELLENOS CON ÁRIDO NATURAL LAVADO 6/12 MM. TOTALMENTE COLOCADO. INCLUIDA LA INSTALACIÓN SOBRE LAMINA DE PEAD DE FONDO DE BALSA Y MEDIOS AUXILIARES.											
											EN ANCLAJE PIE DE TALUD	1	570,600	3,000			1.711,800					
																	1.711,80	10,08	17.254,94			
										ANCLAJECOR2	m Anclaje Coronación; Bordillo Tipo T-2											
											ANCLAJE DE CORONACIÓN EN BALSAS, MEDIANTE LA INSTALACIÓN DE LÍNEA DE BORDILLO TIPO T-2, DE PIEZAS PREFABRICADAS DE HORMIGÓN RECTAS Y CURVAS, COLOCADAS CON MORTERO DE CEMENTO 1:4 ELABORADO EN LA OBRA CON HORMIGONERA DE 165 L. INCLUIDO TRANSPORTE Y PUESTA EN OBRA EN CORONACIÓN DE BALSA, EXCAVACIÓN, LA BASE DE HORMIGÓN HM-20 Y TODAS LAS FAENAS PERTINENTES. TOTALMENTE COLOCADO.											
											ANCLAJE CORONACIÓN	1	707,550				707,550					
																	707,55	7,99	5.653,32			
											TOTAL SUBCAPÍTULO 05.05 IMPERMEABILIZACIÓN.....								216.618,14			
SUBCAPÍTULO 05.06 DRENAJE																						
APARTADO 05.06.01 MOVIMIENTO DE TIERRAS																						
DR001	m ² Lámina Geotextil 250 GR/M2; 2850 Ncbr										GEOTEXTIL FABRICADO A BASE DE FIBRAS SINTÉTICAS DE POLIPROPILENO 100% , NO TEJIDO, DE FILAMENTOS CONTINUOS UNIDOS MECÁNICAMENTE POR UN PROCESO DE AGUJADO, DE RESISTENCIA A PERFORACIÓN CBR NO MENOR DE 2850 N (NORMA UNE-EN 12236), DE PERFORACIÓN A CAÍDA LIBRE DE CONO NO MAYOR DE 20 MM (NORMA EN 918), Y PESO NO INFERIOR A 250 G/M ² (NORMA UNE-EN 965), INCLUSO SOLAPES, TOTALMENTE COLOCADO. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.											
											FONDO	1	11.045,000				11.045,000					
											TALUD INTERIOR	1	639,060	24,230			15.484,424					
											ANCLAJE LAMINA	1	707,550	2,150			1.521,233					
												1	707,550	1,800			1.273,590					
																	29.324,25	1,21	35.482,34			

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE				
PVC250P10	m Tubería de PVC DN 250 mm, 10 BAR, Instalada en Zanja TUBO DE PVC NO PLASTIFICADO, DE ESPECIFICACIONES TÉCNICAS SEGÚN NORMA UNE 1452 DE DN. EXTERIOR 250 MM, Y 10 BAR DE PRESIÓN. UNIÓN TIPO FLEXIBLE MEDIANTE JUNTA ENCHUFE CON ANILLA ELASTOMÉRICA DE ESTANQUIDAD DE EPDM LUBRICADA SEGÚN NORMA UNE-EN 681. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.																						
	EVACUACIÓN ARQUETA DESAGÜE	1						270,000															
									270,00										30,80	8.316,00			
	TOTAL APARTADO 05.06.02 TUBERÍAS.....																			22.411,94			
	TOTAL SUBCAPÍTULO 05.06 DRENAJE.....																			23.387,26			
	SUBCAPÍTULO 05.07 VIALES																						
MVTRE023	m³ Terraplén seleccionado mat granular Z30 S/PG3 MATERIAL GRANULAR TIPO ZA30 S/PG3 PUESTO EN OBRA, EXTENDIDO, HUMEDECIDO Y COMPACTADO AL 98% DEL PM EN CAPAS DE 10 CM DE ESPESOR EN BASES DE OBRAS SINGULARES EN VIALES																						
	CORONACIÓN	1						723,260	4,000	0,200										578,608			
	CAMINO ACCESO	1						274,000	4,000	0,200										219,200			
																				797,81	22,90	18.269,85	
	TOTAL SUBCAPÍTULO 05.07 VIALES.....																				18.269,85		
	SUBCAPÍTULO 05.08 VARIOS																						
R04EM010	m Cerramiento Valla Galvanizada h=2 m CERRAMIENTO DE VALLA GALVANIZADA DE 2,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMIENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.																						
	EN CORONACIÓN	1						739,000													739,000		
																					739,00	16,56	12.237,84
VA001	Ud Elemento Seguridad Balsa ELEMENTO DE SEGURIDAD EN LA Balsa, FORMADO POR CABLE DE NYLON DE 12 MM. DE DIAMETRO CON FLOTADOR Y SUJETO A POSTE ANCLADO EN CORONACIÓN DE Balsa, INCLUSO SUMINISTRO, COLOCACION Y SUJECIONES.																						
	EN CORONACIÓN	3						3,000													3,00	265,56	796,68
R04EM010-A	m Cerramiento Valla Galvanizada h=1 m CERRAMIENTO DE VALLA GALVANIZADA DE 1,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMIENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.																						
	ARQUETAS	1						90,000													90,00	12,29	1.106,10
	TOTAL SUBCAPÍTULO 05.08 VARIOS.....																						14.140,62
	TOTAL CAPÍTULO 05 Balsa ELEVADA (BP2).....																					698.783,88	
	CAPÍTULO 06 Balsa ELEVADA (BP3)																						
	SUBCAPÍTULO 06.01 MOVIMIENTOS DE TIERRAS																						
R01DM040	m² Desbroce Y Limpieza Todo Tipo De Terreno Con Transporte DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 30 CM, INCLUIDO LA EXCAVACIÓN, INCLUSO DEFORESTACIÓN Y TALA DE ARBUSTOS Y DE ÁRBOLES DE CUALQUIER TIPO Y DIMENSIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.																						
	DESBROCE Balsa	1						43.306,000													43.306,000		
	CAMINO ACCESO DIQUE	1						526,000	5,000												2.630,000		
																					45.936,00	0,39	17.915,04
R04AR010	m³ Excavación en Desmonte Todo Tipo de Terreno, Tte D=10 Km EXCAVACIÓN EN DESMONTE CON MEDIOS MECÁNICOS DE TERRENOS DE CUALQUIER NATURALEZA O CONSISTENCIA, INCLUIDAS LAS CAPAS DE ROCA RIPABLES CON POTENCIAS IGUALES A D10 O SIMILAR (447/538 KW), INCLUIDO EL USO DE MARTILLO ROMPEDOR PARA FACILITAR EL RIPADO O ARRANQUE, CON PRESENCIA POR LA TOTALIDAD DE LA ZONA DE EXCAVACIÓN, ADICIONALMENTE ROCA DE MAYOR DUREZA HASTA UN PORCENTAJE MÁXIMO DE UN 10% SOBRE EL VOLUMEN TOTAL EXCAVADO MEDIDO SOBRE TERRENO INALTERADO EN BASE A PERFILES DE TALUDES Y FONDO DE Balsa, INCLUSO TERRENOS DE CONSISTENCIA BLANDA. INCLUIDA LA EXCAVACIÓN SELECTIVA DE LOS MATERIALES PARA EL TERRAPLENADO (SEGÚN ESTUDIO GEOTÉCNICO), CON LA PREPARACIÓN DEL FONDO DE LA EXCAVACIÓN SEGÚN LAS ESPECIFICACIONES RECOGIDAS POR EL ESTUDIO GEOTÉCNICO RECOGIDO EN EL ANEJO 6 DEL PROYECTO, LABRADO O RIPADO DEL FONDO DE EXCAVACIÓN, CON POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENÉRGICA DEL TERRENO UNA VEZ ALCANZADA LA COTA DE FONDO, EN TODA LA ZONA DE ACTUACIÓN. INCLUSO RIPADO PREVIO SEGÚN CARACTERÍSTICAS INDICADAS, CARGA Y TRANSPORTE A TERRAPLÉN, CABALLEO A LUGAR DE EMPLEO O VERTEDERO AUTORIZADO (INCLUIDO CÁNON Y/O TASAS), A DISTANCIA INFERIOR A 10 KM. INCLUIDO EL EXTENDIDO Y PERFILADO DE TALUDES, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN A ZONAS DE UTILIZACIÓN CON SEPARACIÓN DE ELEMENTOS GRUESOS, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.																						
	FONDO	1						138.798,580													138.798,580		
	DIQUE	1						30.816,620													30.816,620		
	CAMINO ACCESO DIQUE	1						83,580													83,580		
	SANEAMIENTO APOYO CIMENTACIÓN	1						100,000	45,000	2,000											9.000,000		
																					178.698,78	1,66	296.639,97

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.																			
	FONDO	1						10.850,280	10.850,280											
	DIQUE	1						30.878,600	30.878,600											
	CAMINO ACCESO DIQUE	1						3.088,040	3.088,040											
	SANEAMIENTO APOYO CIMENTACIÓN	1	100,000	45,000	2,000			9.000,000												
									53.816,92									1,07		57.584,10
TEX005	m² Refino De Taludes REFINO Y PERFILADO DE TALUDES INTERIORES Y EXTERIORES DE TERRAPLÉN SEGÚN PLANOS, INCLUSO CON LA UTILIZACIÓN DE MEDIOS MANUALES SI SON PRECISOS, ASEGURANDO LA ELIMINACIÓN TOTAL DE ELEMENTOS GRUESOS VISTOS EN SUPERFICIE CON UN TAMAÑO MAYOR A 2 CM O DE FORMA ANGULOSA. EN EL CASO DE NO PODER REALIZAR ESTA ELIMINACIÓN SE INCLUYE ADEMÁS LA EXTENSIÓN, COLOCACIÓN Y COMPACTACIÓN DE UNA CAPA DE 15 CM DE MATERIAL FINO SELECCIONADO Y CRIBADO OBTENIDO DEL MOVIMIENTO DE TIERRAS DE LOS TALUDES Y ACOPIADO DURANTE SU EJECUCIÓN PREVIA PARA TAL FIN. MEDIDA LA SUPERFICIE FINALIZADA Y EJECUTADA FINAL.																			
	FONDO	1						27.011,000	27.011,000											
	TALUD INTERIOR	1						702,750	9.487,125											
	TALUD EXTERIOR	0,5						771,000	5.204,250											
									41.702,38										0,32	13.344,76
	TOTAL SUBCAPÍTULO 06.01 MOVIMIENTOS DE TIERRAS.....																			385.483,87
											SUBCAPÍTULO 06.02 TOMA DE FONDO									
											APARTADO 06.02.01 MOVIMIENTO DE TIERRAS									
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vaciados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.																			
	DADO	1						3.500	2.900	2.700										27,405
	VIGA FONDO	1						29,000			19,250									558,250
	ARQUETA VALVULAS	1						16,700	15,400	4,700										1.208,746
	ARQUETA CAUDALÍMETRO	1						9,000	9,000	4,000										324,000
																				2.118,40
																			1,68	3.558,91
R04AR030	m³ Formación Terraplén Compactado Mat. Procedente de Excavación MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.																			
	VIGA FONDO	1						29,000			19,250									558,250
		-1						29,000			9,200									-266,800
	ARQUETA VALVULAS	1						16,700	15,400	4,700										1.208,746
		-1						7,300	8,700	4,700										-298,497
	ARQUETA CAUDALÍMETRO	1						9,000	9,000	4,000										324,000
		-1						3,600	3,600	4,000										-51,840
																				1.473,86
																			1,07	1.577,03
	TOTAL APARTADO 06.02.01 MOVIMIENTO DE TIERRAS																			5.135,94

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE				
APARTADO 06.02.02 TUBERÍAS Y VALVULERÍA										R05TM111	Ud Carrete desmontaje PN-10/16 DN-150												
R02TB120	m TUBERÍA DE ACERO HELICOIDAL ø1219 mm e=10,3 mm										CARRETE TELESCÓPICO DE DESMONTAJE DE 150 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.												
	VIGA DE FONDO	1						55,000	55,000		BY-PASS	1							1,000				
																				1,00			
																				176,70			
																				176,70			
							55,00	419,25	23.058,75	R03VE006	Ud Ventosa trifuncional ø150 PN-16												
R02TB060	m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm										VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.												
	VIGA-DIQUE	1						35,000	35,000		VIGA DE FONDO	1							1,000				
																				1,00			
																				1.568,08			
																				1.568,08			
							35,00	164,69	5.764,15	R03VE005	Ud Ventosa trifuncional ø100 PN-16												
R05TM125	Ud Carrete desmontaje PN-10/16 DN-1200										VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 100 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 100 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.												
	VIGA DE FONDO	1							1,000		DESAGÜE FONDO	1							1,000				
																				1,00			
																				811,41			
																				811,41			
							1,00	3.898,21	3.898,21	R05VMM012	Ud Valvula mariposa embridada DN-1200 PN-10 Motorizada												
R05TM117	Ud Carrete desmontaje PN-10/16 DN-600										VÁLVULA DE MARIPOSA EMBRIDADA, DE 1200 MM DE DIÁMETRO NOMINAL, Y 10 ATM DE PRESIÓN NOMINAL. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, EJE DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI431 Y ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO. EQUIPADA DE ACTUADOR ELÉCTRICO CON MOTOR DE 24VDV CON REDUCTOR PARA ENTREGAR 100NM PAR MAX, ACOPLADO SOBRE BRIDA NORMALIZADA A VÁLVULA. INCLUYE PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. AJUSTE Y PUESTA EN MACHA DE MOTORIZACIÓN. TOTALMENTE INSTALADA Y PROBADA.												
	BY-PASS	1							1,000		VIGA DE FONDO	1							1,000				
	DESAGÜE FONDO	1							1,000											1,00			
																				21.871,13			
																				21.871,13			
							2,00	1.109,96	2.219,92														

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
APARTADO 06.02.04 OBRA CIVIL										R07EN020	m ² Encofrado/Desencofrado metálico para hormigón visto										
R07H0020A	m ³ Hormigón HM-20/B/20/X0 en obra										ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VIS- TA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PA- RA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS										
	HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO										VIGA FONDO	1	3,260		1,800				5,868		
	VIGA FONDO	1	29,000	2,900	0,100				8,410		DADO	1	2,000		0,500				1,000		
	DRENAJES	1	29,000	1,900	0,100				5,510		DADO	1	3,200		2,600				8,320		
	DADO	1	3,200	3,700	0,100				1,184		ARQUETA VALVULAS	2	3,213		2,600				16,708		
	ARQUETA VALVULAS	1	7,500	8,900	0,100				6,675		ARQUETA VALVULAS	2	7,300		4,600				67,160		
	ARQUETA DRENES	1	2,200	1,000	1,500				3,300			2	8,700		4,600				80,040		
	APOYOS-MACIZOS	2	1,000	0,400	0,600				0,480			2	6,500		4,200				54,600		
	ARQUETS CAUDALIMETRO	1	3,800	3,800	0,100				1,444			2	7,900		4,200				66,360		
							27,00	72,17	1.948,59		ARQUETA DRENES	1	3,200		2,900				9,280		
R07H0025A	m ³ Hormigón HA-25/B/20/XC2+XA3+SR en obra										ARQUETA DRENES	1	3,600		2,900				10,440		
	HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO										APOYOS-MACIZOS	4	1,000		0,600				2,400		
	VIGA FONDO	1	29,000	3,260	1,800				170,172			4	0,400		0,600				0,960		
	DRENAJES	1	29,000	2,000	0,500				29,000		ARQUETA CAUDALIMETRO	4	3,600		3,900				56,160		
		-1	29,000	1,130					-32,770			4	3,000		3,600				43,200		
		-1	29,000	0,283					-8,207								422,50	21,75	9.189,38		
		-5	29,000	0,020					-2,900		PATES										
	DADO	1	3,200	3,700	2,600				30,784		Ud Pate de polipropileno colocado										
		-1	2,500	1,130					-2,825		PATE DE POLIPROPILENO DE 30 CM * 25 CM COLOCADO.										
		-1	2,000	0,283					-0,566		ARQUETA VALVULAS	3	13,000						39,000		
	ARQUETA VALVULAS	1	7,300	8,700	4,600				292,146		CAUDALÍMERO	1	10,000						10,000		
		-1	6,500	7,900	4,200				-215,670										49,00	3,79	185,71
	ARQUETA DRENES	1	2,200	0,200	2,900				1,276		CHA1										
		1	1,200	0,200	2,900				0,696		m ² Tapa de chapa acero galvanizado 2 mm										
	APOYOS-MACIZOS	2	1,000	0,400	0,600				0,480		TAPA DE CHAPA ACERO GALVANIZADO 2 MM DE ESPESOR SOPORTADA POR PER- FILES HUECOS # 40.2 FORMANDO CUADROS DE 50 CM DE LADO, PARA UNA RESIS- TENCIA DE 200 KG/M2, COLOCADA, Y PUERTA DE HOMBRE DE ACCESO DE 1M. * 1 M. PROVISTA DE BISAGRAS Y CANDADO										
	ARQUETS CAUDALIMETRO	1	3,600	3,600	3,900				50,544		ARQUETA VALVULAS	1	7,500	8,900					66,750		
		-1	3,000	3,000	3,600				-32,400		CAUDALÍMERO	1	3,800	3,800					14,440		
							279,76	85,04	23.790,79										81,19	63,55	5.159,62
R07EM001	Kg Acero B-500-S																				
	ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELE- MENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO COR- TE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADO- RES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HOR- MIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.										R07EM020	Kg Acero S275 JR Para Estructuras									
	VIGA DE FONDO (50 KG/M3)	1	182,690	50,000					9.134,500			ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADU- RAS, COLOCADO EN OBRA.									
	ARQUETA (75 KG/M3)	1	97,072	75,000					7.280,400			REFUERZO ESTRUCTURA TAPA	8	6,900	30,700				1.694,640		
							16.414,90	1,12	18.384,69			ANCLAJES, REFUERZOS,...	0,1	1.694,640					169,464		
																			1.864,10	2,08	3.877,33
											R07BE06	Ud Anillado metálico pletina acero									
												ANILLADO METÁLICO PARA ESCALERAS DE MANO O PATES REALIZADO MEDIANTE PLETINA DE ACERO CON ANILLO CADA 70 CM DE ALTURA. UNIDAD TOTALMENTE ACABADA.									
												ARQUETA TOMA	3	2,200					6,600		
																			6,60	20,96	138,34

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE										
ARQAUTO1	Ud Arqueta para automata, caseta Hormigón Pref. 2x1x2,1 ARQUETA PARA ALOJAMIENTO DE AUTOMATA TELECONTROL Y BATERIAS DEL SECCIONAMIENTO, CONSISTENTE EN CASETA PREFABRICADA DE HORMIGÓN CON BASE INTEGRADA O PRESOLERA DE HORMIGÓN HM-20, CON UNAS DIMENSIONES INTERIORES ÚTILES DE 2,00X1,00X2,10, CON APERTURA EN EJE VERTICAL DE DOBLE HOJA, PUERTAS EN GALVANIZADO 1,5 MM, NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA EN PUERTAS, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE. INCLUIDO SOPORTES, Y CANDADO, INCLUIDOS TODOS LOS MEDIOS AUXILIARES PARA SU COLOCACIÓN Y CIMENTACIÓN PARA MASTIL CONSISTENTE EN HORMIGÓN EN MASA DE 0,8X0,8X1,2M Y 4 PERNOS DE 16 MM DE DIAMETRO DE ACERO B-500S. INCLUIDOS TUBO DE PE CORRUGADO CON GUÍA PARA CABLEADO A LOS ELEMENTOS (VALVULAS Y CAUDALIMETROS, DOS TUBOS POR ELEMNTO), Y EL DESBROCE O PREPARACIÓN DE TERRENO PARA LA PRESOLERA. TOTALMENTE COLOCADA									R01RE030	m³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO.MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.																		
	AUTOMATIZACIÓN SALIDA BP3	1				1,000					MEDICIONES AUXILIARES	1	222,540			222,540													
							1,00	1.075,60	1.075,60								222,54	1,27	282,63										
	TOTAL APARTADO 06.02.04 OBRA CIVIL								63.750,05																				
	TOTAL SUBCAPÍTULO 06.02 TOMA DE FONDO.....								177.142,08																				
	SUBCAPÍTULO 06.03 DESAGÜE DE FONDO																												
	APARTADO 06.03.01 MOVIMIENTO DE TIERRAS																												
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vaciados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.										R01RE010	m³ Relleno Ordinario de Tierras Compactado 85% PN RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.																	
	MEDICIONES AUXILIARES	1				657,200			657,200		MEDICIONES AUXILIARES	1	333,180			333,180													
							657,20	1,68	1.104,10								333,18	0,54	179,92										
											TOTAL APARTADO 06.03.01 MOVIMIENTO DE TIERRAS																		
											3.199,87																		
	APARTADO 06.03.02 TUBERÍAS Y VALVULERÍA																												
										R07PC060-90	m Tubo Hormigón Armado Tipo C-90 DN 600 TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.																		
											DESAGÜE FONDO	1	140,480			140,480													
																	140,48	40,08	5.630,44										
											TOTAL APARTADO 06.03.02 TUBERÍAS Y VALVULERÍA.....																		
											5.630,44																		
R01RE400	m³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.																												
	MEDICIONES AUXILIARES	1	58,720			58,720																							
		1	22,900			22,900																							
							81,62	20,01	1.633,22																				

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
EXC03	m ³ Construcción escollera, roca 30-60cm APORTE Y COLOCACIÓN DE PIEDRA O CANTOS RODADOS SELECCIONADOS DE PRESTAMOS DE 30 A 60 CM, A UNA DISTANCIA <25 KM. MEDIDA LA UNIDAD TOTALMENTE COLOCADA.									R01RE030	m ³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO.MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.											
	DESCARGA ALIVIO	1	5,000	4,000	0,600		12,00	10,85	130,20		MEDICIONES AUXILIARES	1	87,990				87,99	1,27	111,75			
	TOTAL APARTADO 06.03.04 OBRA CIVIL								668,76													
	TOTAL SUBCAPÍTULO 06.03 DESAGÜE DE FONDO.....								10.933,21													
	SUBCAPÍTULO 06.04 ALIVIADERO																					
	APARTADO 06.04.01 MOVIMIENTO DE TIERRAS																					
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MARGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.									R01RE010	m ³ Relleno Ordinario de Tierras Compactado 85% PN RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.											
	MEDICIONES AUXILIARES	1	208,350				228,35	1,68	383,63		MEDICIONES AUXILIARES	1	71,530				71,53	0,54	38,63			
	VIGA	1	10,000	2,000	1,000																	
	TOTAL APARTADO 06.04.01 MOVIMIENTO DE TIERRAS								1.268,38													
											APARTADO 06.04.02 TUBERÍAS											
R01RE400	m ³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.									R02TB060	m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.											
	MEDICIONES AUXILIARES	1	26,270								VIGA-DIQUE	2	22,000				44,00	164,69	7.246,36			
		1	10,430																			
							36,70	20,01	734,37								66,05	40,08	2.647,28			
	TOTAL APARTADO 06.04.02 TUBERÍAS.....								9.893,64													

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
APARTADO 06.04.03 CALDERERÍA Y PROTECCIÓN CATÓDICA																						
MAPCCII	Ud Anodos protección catódica SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PREEMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS: - TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2. - ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRI-CA. - CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVA-NIZADO DE 2" Y 2 M. DE LONGITUD. - CABLE DE CU RV 0,6/1KV 1*6 MM2. - ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.									R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VIS-TA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PA-RA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS EN VIGA PASO DIQUE ALIVIADERO ARQUETA DESCARGA											
		4				4,000					2	2,000		1,000		4,000						
							4,00	106,40	425,60		1	10,400		1,760		18,304						
											1	10,400		1,200		12,480						
											1	10,000		1,560		15,600						
											1	10,000		1,000		10,000						
											2	1,400		1,480		4,144						
											2	1,000		1,280		2,560						
											1	2,600		1,250		3,250						
											1	2,200		1,050		2,310						
											2	0,800		0,700		1,120						
											2	0,800		0,500		0,800						
											1	2,300		0,200		0,460						
											1	3,300		0,200		0,660						
											2	1,050		0,200		0,420						
																76,11	21,75	1.655,39				
APARTADO 06.04.04 OBRA CIVIL																						
R07HO020A	m³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO HORMIGÓN LIMPIEZA VIGA ALIVIADERO ARQUETA DESCARGA									G04JU2345	m Junta Hidroexpansiva JUNTA HIDROEXPANSIVA TIPO MASTERFLEX 610 20*5, INCLUSO PREPARACIÓN DE SUPERFICIES, TOTALMENTE COLOCADA. EN ALIVIADERO											
		1	8,000	1,800	0,100	1,440					2	10,200				20,400						
		1	10,400	1,400	0,100	1,456					2	1,200				2,400						
		1	3,000	1,250	0,100	0,375											22,80	7,38	168,26			
									3,27	72,17	236,00											
R07HO025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO VIGA DIQUE ALIVIADERO ARQUETA DESCARGA									R07EM020	Kg Acero S275 JR Para Estructuras ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADU-RAS, COLOCADO EN OBRA. REJA											
		1	8,000	2,000	1,200	19,200					100					100,000						
		-2	8,000	0,280		-4,480											100,00	2,08	208,00			
		1	10,400	1,400	0,200	2,912																
		1	10,000	0,200	1,000	2,000																
		1	10,000	0,200	1,560	3,120																
		2	1,400	0,200	1,280	0,717																
		1	3,000	0,200	1,050	0,630																
		2	0,800	0,200	0,450	0,144																
		1	2,650	0,850	0,200	0,451											12,00	10,85	130,20			
									24,69	85,04	2.099,64											
R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELE-MENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO COR-TE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADO-RES, ESTRIBOS, ETC. COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HOR-MIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO. VIGA Y ARQUETA (50 KG/M3)									EXC03	m³ Construcción escollera, roca 30-60cm APORTE Y COLOCACIÓN DE PIEDRA O CANTOS RODADOS SELECCIONADOS DE PRESTAMOS DE 30 A 60 CM, A UNA DISTANCIA <25 KM. MEDIDA LA UNIDAD TOTAL-MENTE COLOCADA. DESCARGA ALVIO											
																12,00	10,85	130,20				
																TOTAL APARTADO 06.04.04 OBRA CIVIL			5.880,13			
																TOTAL SUBCÁPITULO 06.04 ALIVIADERO			17.467,75			
									1.234,50	1,12	1.382,64											

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
SUBCAPÍTULO 06.05 IMPERMEABILIZACIÓN										IM002	m ² Lámina Impermeabilizante PEAD 2,0 mm											
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vacados									LÁMINA IMPERMEABILIZANTE EN POLIETILENO DE ALTA DENSIDAD, FABRICADA MEDIANTE CALANDRADO EN 7,5 M DE ANCHO SIN SOLDADURAS INTERMEDIAS DE 2,0MM DE ESPESOR, TOTALMENTE INSTALADA Y PROBADA, INCLUSO SOLAPES Y ANCLAJES MECÁNICOS A OBRAS DE FABRICA. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.												
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.									FONDO	1	27.011,000						27.011,000				
										TALUD INTERIOR	1	702,780	13,500						9.487,530			
										ANCLAJE LAMINA	1	739,550	2,150						1.590,033			
										ANCLAJE PIE TALUD	1	666,000	1,200						799,200			
																				38.887,76	5,42	210.771,66
	ANCLAJE LAMINA CORONACIÓN	1	739,550	0,500	0,600			221,865														
										221,87	1,68	372,74										
R01RE030	m ³ Relleno Seleccionado Compactado 95% PN									AFBPEADC2	m Anclaje de fondo balsa con lámina PEAD rellenos de grava 6/12											
	RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRÁIDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO.MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.									ANCLAJES DE FONDO A BASE DE FUELLES CONFORMADOS CON LÁMINA DE PEAD DE 2 MM DE ESPESOR Y SECCIÓN CON PERIMETRO 1,45 M. DE PESO NO INFERIOR A 175 KG/ML. RELLENOS CON ÁRIDO NATURAL LAVADO 6/12 MM. TOTALMENTE COLOCADO. INCLUIDA LA INSTALACIÓN SOBRE LAMINA DE PEAD DE FONDO DE BALSA Y MEDIOS AUXILIARES.												
										EN ANCLAJE PIE DE TALUD	1	666,000	2,000						1.332,000			
																				1.332,00	10,08	13.426,56
	ANCLAJE LAMINA CORONACIÓN	1	739,550	0,500	0,600			221,865														
										221,87	1,27	281,77										
R01RE030	m ³ Relleno Seleccionado Compactado 95% PN									ANCLAJECOR2	m Anclaje Coronación; Bordillo Tipo T-2											
	RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRÁIDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO.MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.									ANCLAJE DE CORONACIÓN EN BALSAS, MEDIANTE LA INSTALACIÓN DE LÍNEA DE BORDILLO TIPO T-2, DE PIEZAS PREFABRICADAS DE HORMIGÓN RECTAS Y CURVAS, COLOCADAS CON MORTERO DE CEMENTO 1:4 ELABORADO EN LA OBRA CON HORMIGONERA DE 165 L. INCLUIDO TRANSPORTE Y PUESTA EN OBRA EN CORONACIÓN DE BALSA, EXCAVACIÓN, LA BASE DE HORMIGÓN HM-20 Y TODAS LAS FAENAS PERTINENTES.TOTALMENTE COLOCADO.												
										ANCLAJE CORONACIÓN	1	739,550							739,550			
																				739,55	7,99	5.909,00
	ANCLAJE LAMINA CORONACIÓN	1	739,550	0,500	0,600			221,865														
										221,87	1,27	281,77										
DR001	m ² Lámina Geotextil 250 GR/M2; 2850 Ncbr									TOTAL SUBCAPÍTULO 06.05 IMPERMEABILIZACIÓN.....											278.299,44	
	GEOTEXTIL FABRICADO A BASE DE FIBRAS SINTÉTICAS DE POLIPROPILENO 100% , NO TEJIDO, DE FILAMENTOS CONTINUOS UNIDOS MECÁNICAMENTE POR UN PROCESO DE AGUJADO, DE RESISTENCIA A PERFORACIÓN CBR NO MENOR DE 2850 N (NORMA UNE-EN 12236), DE PERFORACIÓN A CAÍDA LIBRE DE CONO NO MAYOR DE 20 MM (NORMA EN 918), Y PESO NO INFERIOR A 250 G/M ² (NORMA UNE-EN 965), INCLUSO SOLAPES, TOTALMENTE COLOCADO. MEDIDA LA SUPERFICIE EFECTIVAMENTE COLOCADA DESCONTANDO SOLAPES, RECORTES, ETC.									SUBCAPÍTULO 06.06 DRENAJE												
										APARTADO 06.06.01 MOVIMIENTO DE TIERRAS												
										FONDO	1	27.011,000									27.011,000	
										TALUD INTERIOR	1	702,780	13,500							9.487,530		
										ANCLAJE LAMINA	1	739,550	2,150						1.590,033			
										ANCLAJE PIE TALUD	1	666,000	1,800						1.198,800			
																				39.287,36	1,21	47.537,71

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
SUBCAPÍTULO 06.07 VIALES										CAPÍTULO 07 ESTACIÓN DE BOMBEO											
MVTRE023	m ³ Terraplén seleccionado mat granular Z30 S/PG3									R01DM040	m ² Desbroce Y Limpieza Todo Tipo De Terreno Con Transporte										
	MATERIAL GRANULAR TIPO ZA30 S/PG3 PUESTO EN OBRA, EXTENDIDO, HUMEDECIDO Y COMPACTADO AL 98% DEL PM EN CAPAS DE 10 CM DE ESPESOR EN BASES DE OBRAS SINGULARES EN VIALES										DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 30 CM, INCLUIDO LA EXCAVACIÓN, INCLUSO DEFORESTACIÓN Y TALA DE ARBUSTOS Y DE ÁRBOLES DE CUALQUIER TIPO Y DIMENSIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.										
	CORONACIÓN	1	755,260	4,000	0,200			604,208			EXPLANADA	1	4.240,000				4.240,000				
	CAMINO ACCESO	1	526,000	4,000	0,200			420,800										4.240,00	0,39	1.653,60	
							1.025,01	22,90	23.472,73												
	TOTAL SUBCAPÍTULO 06.07 VIALES								23.472,73												
SUBCAPÍTULO 06.08 VARIOS										SUBCAPÍTULO 07.01 MOVIMIENTO DE TIERRAS											
R04EM010	m Cerramiento Valla Galvanizada h=2 m									R04AR010	m ³ Excavación en Desmote Todo Tipo de Terreno, Tte D=10 Km										
	CERRAMIENTO DE VALLA GALVANIZADA DE 2,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMIENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.										EXCAVACIÓN EN DESMONTE CON MEDIOS MECÁNICOS DE TERRENOS DE CUALQUIER NATURALEZA O CONSISTENCIA, INCLUIDAS LAS CAPAS DE ROCA RIPABLES CON POTENCIAS IGUALES A D10 O SIMILAR (447/538 KW), INCLUIDO EL USO DE MARTILLO ROMPEDOR PARA FACILITAR EL RIPADO O ARRANQUE, CON PRESENCIA POR LA TOTALIDAD DE LA ZONA DE EXCAVACIÓN, ADICIONALMENTE ROCA DE MAYOR DUREZA HASTA UN PORCENTAJE MÁXIMO DE UN 10% SOBRE EL VOLUMEN TOTAL EXCAVADO MEDIDO SOBRE TERRENO INALTERADO EN BASE A PERFILES DE TALUDES Y FONDO DE Balsa, INCLUSO TERRENOS DE CONSISTENCIA BLANDA. INCLUIDA LA EXCAVACIÓN SELECTIVA DE LOS MATERIALES PARA EL TERRAPLENADO (SEGÚN ESTUDIO GEOTÉCNICO), CON LA PREPARACIÓN DEL FONDO DE LA EXCAVACIÓN SEGÚN LAS ESPECIFICACIONES RECOGIDAS POR EL ESTUDIO GEOTÉCNICO RECOGIDO EN EL ANEJO 6 DEL PROYECTO, LABRADO O RIPADO DEL FONDO DE EXCAVACIÓN, CON POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA DEL TERRENO UNA VEZ ALCANZADA LA COTA DE FONDO, EN TODA LA ZONA DE ACTUACIÓN. INCLUSO RIPADO PREVIO SEGÚN CARACTERÍSTICAS INDICADAS, CARGA Y TRANSPORTE A TERRAPLÉN, CABALLEO A LUGAR DE EMPLEO O VERTEDERO AUTORIZADO (INCLUIDO CÁNON Y/O TASAS), A DISTANCIA INFERIOR A 10 KM. INCLUIDO EL EXTENDIDO Y PERFILADO DE TALUDES, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN A ZONAS DE UTILIZACIÓN CON SEPARACIÓN DE ELEMENTOS GRUESOS, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.										
	EN CORONACIÓN	1	771,000					771,000			EXPLANADA	1	564,548				564,548				
							771,00	16,56	12.767,76									564,55	1,66	937,15	
	TOTAL SUBCAPÍTULO 06.08 VARIOS.....								14.670,54	R04AR030	m ³ Formación Terraplén Compactado Mat. Procedente de Excavación										
											MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO.										
	ARQUETAS	1	90,000					90,000			EXPLANADA	1	1.220,126				1.220,126				
							90,00	12,29	1.106,10									1.220,13	1,07	1.305,54	
	TOTAL SUBCAPÍTULO 06.08 VARIOS.....								14.670,54												
	TOTAL CAPÍTULO 06 Balsa ELEVADA (BP3)								930.261,22												

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
R01EX010	m³ Excavación a cielo abierto en Zanjas y Vacidados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CANTAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.									R01RE400	m³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.										
	ZAPATAS TIPO 1	4	2,000	2,000	2,000				32,000	ALIVIO	1	64,000	0,400	0,100					2,560		
	ZAPATAS TIPO 2	18	2,200	3,400	2,000				269,280		1	15,000	0,400	0,100					0,600		
	ZAPATAS TIPO 3	4	2,400	1,600	2,000				30,720		1	3,000	0,400	0,100					0,120		
	RIOSTRAS	16	3,800	0,400	0,500				12,160	DESAGÜE FILTRO	1	57,000	0,400	0,100					2,280		
		4	3,900	0,400	0,500				3,120	DRENAJES	1	17,000	0,400	0,100					0,680		
		4	5,200	0,400	0,500				4,160		1	12,000	0,400	0,100					0,480		
		2	5,400	0,400	0,500				2,160	COLECTOR EVACUACIÓN ARQUETA DRENES	1	41,000	0,600	0,100					2,460		
	ALIVIO	1	64,000	0,400	0,400				10,240								9,18	20,01	183,69		
		1	15,000	0,400	0,400				2,400	R01RE030	m³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.										
		1	3,000	0,400	0,400				0,480	DRENES DN 110	1	50,000	0,400	0,300					6,000		
	DESAGÜE FILTRO	1	57,000	0,400	0,600				13,680	ALIVIO	1	64,000	0,400	0,300					7,680		
	DRENAJES	1	17,000	0,400	0,400				2,720		1	15,000	0,400	0,300					1,800		
		1	12,000	0,400	0,400				1,920		1	3,000	0,400	0,300					0,360		
	COLECTOR EVACUACIÓN ARQUETA DRENES	1	41,000	0,600	1,500				36,900	DESAGÜE FILTRO	1	57,000	0,400	0,500					11,400		
							421,94	1,68	708,86	DRENAJES	1	17,000	0,400	0,300					2,040		
											1	12,000	0,400	0,300					1,440		
										COLECTOR EVACUACIÓN ARQUETA DRENES	1	41,000	0,600	1,400					34,440		
																	65,16	1,27	82,75		
MVTRE023	m³ Terraplén seleccionado mat granular Z30 S/PG3 MATERIAL GRANULAR TIPO ZA30 S/PG3 PUESTO EN OBRA, EXTENDIDO, HUMEDECIDO Y COMPACTADO AL 98% DEL PM EN CAPAS DE 10 CM DE ESPESOR EN BASES DE OBRAS SINGULARES EN VIALES																			TOTAL SUBCAPÍTULO 07.01 MOVIMIENTO DE TIERRAS 18.519,99	
	CAPA ACABADO	1	4.240,000		0,200				848,000												
		-1	60,000	21,000	0,200				-252,000												
							596,00	22,90	13.648,40												

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
SUBCAPÍTULO 07.02 ESTRUCTURAS										R07H0025A	m³ Hormigón HA-25/B/20/XC2+XA3+SR en obra									
R07EM020	kg Acero S275 JR Para Estructuras									HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO										
	ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA.									ZAPATAS TIPO 1 4 2,000 2,000 1,000 16,000										
	ESTRUCTURA EDIFICIO									ZAPATAS TIPO 2 18 2,200 3,400 1,000 134,640										
	PILARES ESQUINA HEB200	4	6,000	61,300																
	PILARES HASTIALES HEB200	4	6,700	61,300																
	PILARES CENTRALES HEB300	18	6,000	117,000																
	MENSULAS PUENTE IPE200	22	0,500	28,500																
	DINTELES IPE220	4	10,550	26,200																
	IPE360	18	10,550	57,100																
	CARTELAS IPE220	4	0,600	26,200	0,500															
	IPE360	18	3,100	57,100	0,500															
	RIGIDIZADORES	18	6,000	0,900	4,000															
	ARRIOSTRADOS	2	8,000	0,600	4,000															
	IPE160	5	60,000	15,800																
	R20	3	100,000	2,550																
	PLACAS ANCLAJE									SOLERA NAVE 2 13,000 0,200 5,200										
	TIPO 1	4	11,540																	
	TIPO 2	18	28,620																	
	TIPO 3	4	11,540																	
	CORREAS CF 225X3.0	22	60,400	8,210	10,909,448															
	PASARELA E.B	40	50,000	2,000	4,000,000															
									51.086,13	2,08	106.259,15									
	TOTAL SUBCAPÍTULO 07.02 ESTRUCTURAS									106.259,15										
SUBCAPÍTULO 07.03 CIMENTACIÓN Y SOLERAS										R07EN050	m² Encofrado/Desencofrado metálico para hormigón oculto									
R07H0020A	m ³ Hormigón HM-20/B/20/X0 en obra									ENCOFRADO Y DESENCOFRADO RECTO PARA DEJAR HORMIGÓN OCULTO, MEDIANTE LA UTILIZACIÓN DE PANELES METÁLICOS A UNA CARA, INCLUSO ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS.										
	HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO									SOLERA NAVE 2 13,000 0,200 5,200										
	HORMIGÓN LIMPIEZA RIOSTRAS									ZAPATAS TIPO 1 4 2,000 2,000 1,000 16,000										
	ZAPATAS TIPO 1	4	2,000	2,000	1,000															
	ZAPATAS TIPO 2	18	2,200	3,400	1,000															
	ZAPATAS TIPO 3	4	2,400	1,600	1,000															
	RIOSTRAS	16	3,800	0,400	0,100															
		4	3,900	0,400	0,100															
		4	5,200	0,400	0,100															
		2	5,400	0,400	0,100															
	ZOCALO PERIMETRAL	2	60,500	0,300	0,200															
		2	21,500	0,300	0,200															
									180,16	72,17	13.002,15									
										ZAPATAS TIPO 1 4 2,000 2,000 1,000 16,000										
										ZAPATAS TIPO 2 18 2,200 3,400 1,000 134,640										
										ZAPATAS TIPO 3 4 2,400 1,600 1,000 15,360										
										RIOSTRAS 16 3,800 0,400 0,100 2,432										
										4 3,900 0,400 0,100 0,624										
										4 5,200 0,400 0,100 0,832										
										2 5,400 0,400 0,100 0,432										
										ZOCALO PERIMETRAL 2 60,500 0,300 0,200 7,260										
										2 21,500 0,300 0,200 2,580										
										183,28	85,04	15.586,13								
										SOLERA NAVE 2 13,000 0,200 5,200										
										ZAPATAS TIPO 1 4 2,000 2,000 1,000 16,000										
										ZAPATAS TIPO 2 18 2,200 2,000 1,000 79,200										
										ZAPATAS TIPO 3 4 2,400 2,000 1,000 19,200										
										RIOSTRAS 16 3,800 2,000 0,400 48,640										
										4 3,900 2,000 0,400 12,480										
										4 5,200 2,000 0,400 16,640										
										2 5,400 2,000 0,400 8,640										
										ZOCALO PERIMETRAL 2 60,500 0,200 24,200										
										2 21,500 0,200 8,600										
										393,20	13,28	5.221,70								

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
SUBCAPÍTULO 07.05 ALBAÑILERÍA Y CARPINTERÍA										R07CR119	m2 Muro de carga de fábrica de bloque cerámico aligerado											
R07CA130	m ² Puerta doble chapa acero										MURO DE CARGA DE 19 CM DE ESPESOR DE FÁBRICA DE BLOQUE CERÁMICO ALIGERADO MACHIHEMRADO, 30X19X19 CM, PARA REVESTIR, RESISTENCIA A COMPRESIÓN 10 N/MM ² , RECIBIDA CON MORTERO DE CEMENTO CONFECCIONADO EN OBRA, CON 300 KG/M ³ DE CEMENTO, COLOR GRIS, DOSIFICACIÓN 1:5, SUMINISTRADO EN SACOS, CON PIEZAS ESPECIALES TALES COMO MEDIOS BLOQUES, BLOQUES DE ESQUINA Y BLOQUES DE TERMINACIÓN. EL PRECIO NO INCLUYE LOS ZUNCHOS HORIZONTALES NI LA FORMACIÓN DE LOS DINTELES DE LOS HUECOS DEL PARAMENTO.											
	PUERTA	2	4,000	4,000																		
							32,00	84,45	2.702,40													
R07CA310	m ² Ventanal fijo de aluminio										SALA OFICINA	1	21,00		3,00			63,00				
	VENTANAL FIJO DE ALUMINIO ANODIZADO EN COLOR A DETERMINAR DE 13 MICRAS, PERFIL 50X40 MM Y 1,5 MM DE ESPESOR, CON JUNQUILLOS PARA FIJACIÓN DEL VIDRIO. TOTALMENTE COLOCADO EN EL PANEL PREFABRICADO DE HORMIGÓN.											1	5,00		3,00			15,00				
	VENTANAS	14	2,000		1,000							1	4,90		3,00			14,70				
		3	2,000		0,500							1	3,00		3,00			9,00				
		13	1,000		1,000							1	1,95		3,00			5,85				
							44,00	115,89	5.099,16			1	2,00		3,00			6,00				
											HUECOS PUERTA	-1	1,20		2,50			-3,00				
												-2	0,80		2,10			-3,36				
												-2	0,70		2,10			-2,94				
											VENTANAS	-1	1,50		1,50			-2,25				
											REJA	-1	1,20		2,50			-3,00				
																	99,00	24,14	2.389,86			
R07CV015	m ² Climalit 4/6, 8 ó 12 mm									DFORJ010	M2 FORJ.SEMIVIG. 17+5, B. 70											
	CLIMALIT CON DOS LUNAS INCOLORAS DE 4 MM Y CÁMARA DE AIRE DE 6,8 Ó 12 MM CON JUNTA PLÁSTICA, COLOCADO SOBRE MADERA, ALUMINIO O HIERRO Y SELLADO CON SILICONA INCOLORA.										M2. FORJADO 17+5 CM., FORMADO A BASE DE SEMIVIGUETAS DE HORMIGÓN PRE-TENSADO, SEPARADAS 70 CM. ENTRE EJES, BOVEDILLA DE 60X25X17 CM. Y CAPA DE COMPRESIÓN DE 5 CM. DE HA-25/B/20/ IIA N/MM2, CON TAMAÑO MÁXIMO DEL ÁRIDO DE 20 MM., ELABORADO EN CENTRAL, CON P.P. DE ZUNCHOS, I/ARMADURA CON ACERO B-500 S EN REFUERZO DE ZONA DE NEGATIVOS. CONECTORES Y MALLAZO DE REPARTO, ENCOFRADO Y DESENCOFRADO, TOTALMENTE TERMINADO SEGÚN EHE.											
	VENTANAS	14	2,000		1,000							SALA CUADROS-ASEOS-OFICINA	1	22,00	5,10			112,20				
		3	2,000		1,000													112,20	50,64	5.681,81		
		13	1,000		1,000																	
							47,00	44,84	2.107,48													
REJ	m ² Rejilla en fachadas									R07CR118	m2 Falso techo registrable de placas de yeso laminado											
	REJILLA EN FACHADAS										FALSO TECHO REGISTRABLE SITUADO A UNA ALTURA MENOR DE 4 M, DECORATIVO, FORMADO POR PLACAS DE YESO LAMINADO, LISAS, ACABADO CON VINOLO BLANCO, DE 600X600X9,5 MM, CON PERFILERÍA VISTA. EL PRECIO INCLUYE LA RESOLUCIÓN DE ENCUENTROS Y PUNTOS SINGULARES.											
	REJILLAS	10	1,000		0,500							SALA CUADROS-ASEOS-OFICINA	1	22,00	5,10			112,20				
		1	1,200		2,500													112,20	22,23	2.494,21		
							8,00	54,55	436,40													
E15DRA040	m ² Reja barras acero 30x15x1,5 mm.									OGB063	M2 SOL. GRES PORCEL. NATURAL 20X20C											
	REJA METÁLICA REALIZADA CON BARRAS DE ACERO LAMINADO EN FRÍO DE 30X15X1,5 MM. EN VERTICAL Y HORIZONTAL, SEPARADOS 15 CM. EN DOS PLANOS, CON GARRAS PARA RECIBIR DE 12 CM, ELABORADA EN TALLER Y MONTAJE EN OBRA. COMPLETAMENTE INSTALADA.										SOLADO DE BALDOSA DE GRES PORCELÁNICO NATURAL DE 20X20 CM., RECIBIDO CON MORTERO DE CEMENTO Y ARENA DE RÍO 1/6 (M-40), I/CAMA DE 2 CM. DE ARENA DE RÍO, REJUNTADO CON LECHADA DE CEMENTO BLANCO Y LIMPIEZA, S/NTE-RSR-2, MEDIDO EN SUPERFICIE REALMENTE EJECUTADA.											
	VENTANAS	14	2,000		1,000							OFICINA	1	3,00	2,85			8,55				
		3	2,000		0,500							ASEOS	1	3,00	1,95			5,85				
		13	1,000		1,000																	
							44,00	82,45	3.627,80													
																		14,40	39,45	568,08		
										TOTAL SUBCAPÍTULO 07.05 ALBAÑILERÍA Y CARPINTERÍA.....										25.107,20		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
SUBCAPÍTULO 07.06 SANEAMIENTOS Y ACABADOS										D26LD001	Ud INODORO T. BAJO BLANCO										
D03AG004ME	m Canalón acero lacado cuadrado rectangular CANALÓN DE ACERO LACADO DE 0,5 MM DE ESPESOR, EN COLOR A ELEGIR, Y CON SECCIÓN EQUIVALENTE A UN 10% EXTRA DEL CANALÓN DE 250 MM DE DIÁMETRO (CTE). TANTO PARA INSTALACIÓN COLGADA COMO APOYADO EN UNIÓN DE VERTIENTES DE CUBIERTAS, ADECUÁNDOSE A LAS TERMINACIONES Y ACABADOS DE LA CUBIERTA DEL EDIFICIO A EJECUTAR. INCLUSO P.P. DE PIEZAS ESPECIALES, EMPALMES, CONEXIONES, TERMINALES, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN Y PREPARACIÓN PARA LA CONEXIÓN DE BAJANTES DE 110 MM DE DIÁMETRO. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA										UD. INODORO DE TANQUE BAJO EN BLANCO, CON ASIEN TO PINTADO EN BLANCO Y MECANISMOS, LLAVE DE ESCUADRA 1/2" CROMADA, LATIGUILLO FLEXIBLE DE 20 CM., EMPALME SIMPLE PVC DE 110 MM., TOTALMENTE INSTALADO, INCLUIDA LA ALBAÑILERÍA ASOCIADA A LA INSTALACIÓN DEL EQUIPO Y SUS ACCESORIOS.										
	EN CUBIERTA	2	60,500						121,000		ASEO	1					1,00	198,51	198,51		
							121,00	25,77	3.118,17	D26LD003	Ud Plato de ducha acrílico										
											PLATO DE DUCHA ACRÍLICO, RECTANGULAR, COLOR BLANCO, DE 900X700X40 MM, CON FONDO ANTIDESLIZANTE Y JUEGO DE DESAGÜE, EQUIPADO CON GRIFERÍA MONOMANDO MURAL PARA DUCHA, CON CARTUCHO CERÁMICO, ACABADO CROMADO, MODELO THESIS. INCLUSO SILICONA PARA SELLADO DE JUNTAS, CONDUCCIÓN DESDE TUBERÍA PRINCIPAL AL ELEMENTO. GRIFERÍA REQUERIDA. TOTALMENTE EJECUTADO, INCLUIDA LA ALBAÑILERÍA ASOCIADA A LA INSTALACIÓN DEL EQUIPO Y SUS ACCESORIOS.										
											ASEO	1					1,00	198,51	198,51		
R02TM11eA	m Bajante PVC Sanitario DN110 mm Junta elástica TUBERÍA DE PVC SANITARIA SERIE C, DE 110 MM DE DIÁMETRO Y 4.0 MM. DE ESPESOR, UNIÓN POR ADHESIVO, COLOR GRIS, COLOCADA EN BAJANTES Y RED DE SANEAMIENTO HORIZONTAL COLGADA. INCLUSO P.P. DE PIEZAS ESPECIALES, EMPALMES, CONEXIONES, TERMINALES, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN SEGÚN NTE-ISS-49, UNE 53114, ISO-DIS-3633. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA									D26FS001	ud Fosa de acumulación horizontal 3.000 litros										
	EN ESQUINAS	8	6,000						48,000		FOSA DE ACUMULACIÓN DE AGUAS RESIDUALES PARA SU ACUMULACIÓN Y POSTERIOR RETIRADA MEDIANTE EMPRESA AUTORIZADA. DEPOSITO DE FORMA CILINDRICA REALIZADO EN POLIETILENO CON LOS REFUERZOS Y ESTRUCTURA NECESARIOS PARA SOPORTAR LAS CARGAS DE TIERRAS DE HASTA 0.5 M. INCLUYE LA COLOCACIÓN EN ZANJA CON LOS APEOS Y APOYOS NECESARIOS, INTERCONEXIÓN DE TUBERÍAS DE EVACUACIÓN DE LAS INSTALACIONES, Y CONEXIÓN DE TUBERÍAS DE ALIVIO EN CASO DE LLENADO. INSTALACIÓN DE TUBERÍA DE DN110 O SUPERIOR PARA AIREACIÓN Y SALIDA DE GASES. EQUIPO EN CUMPLIMIENTO DE LA NORMA UNE-EN 12566-1. TOTALMENTE INSTALADO.										
							48,00	4,32	207,36		FOSA EB	1					1,00	1.476,12	1.476,12		
R07CR050	m ² Pintura plástica blanca PINTURA PLÁSTICA LISA BLANCA EN PARAMENTOS VERTICALES Y HORIZONTALES, LAVABLE DOS MANOS, I/LIJADO Y EMLASTECIDO.									R07FS001	ud Acometida de agua para aseos										
	FACHADA INTERIOR	2	60,000	6,000					720,000		INSATALACIÓN DE ACOMETIDA DE AGUA PARA LOS ELEMENTOS DE ASEOS (LAVABO, INODOROS Y DUCHA) DESDE LA TUBERÍA DEL COLECTOR DE ENTRADA A LA Balsa, CONEXIÓN ENTRE EL FILTRO Y LA VALVULA DE SECCIONAMIENTO DE LA TUBERÍA DE PRESIÓN NATURAL INCLUYE:										
		2	21,000	6,000					252,000		- TUBERIA DE CONEXIÓN HASTA SALA DE ASEOS (HASTA 12 M)										
	SALA CUADROS, ASEOS Y OFICINA	2	22,000	3,000					132,000		- TUBERIAS DE DISTRIBUCIÓN PARA ABASTECIMIENTO DE CADA PUNTO DE CONSUMO (HASTA 10 M), REALIZADAS EN PEX										
		6	5,000	3,000					90,000		- PIEZAS ESPECIALES, ACCESORIOS,... PARA CONEXIONES, CODOS, TES,...										
		1	3,000	3,000					9,000		- LLAVES DE CORTE PRINCIPAL, MEDIANTE VALVULA DE ESFERA, TANTO EN CONEXIÓN A LA TUBERÍA PRINCIPAL COMO A LA ENTRADA EN LA SALA DE ASEOS.										
		1	2,000	3,000					6,000		- LLAVES INDIVIDUALES EN CADA ELEMENTOS, EN SU PUNTO DE CONEXIÓN.										
		1	2,000	3,000					6,000		- CALENTADOR DE AGUA (ACS) DE 30 LITROS COLOCADO EN PARAMENTO VERTICAL, CONECTADO A LA RED, Y LA RED DE ABASTECIMIENTO A LAVABO Y DUCHA.										
							1.215,00	8,24	10.011,60		- ALBAÑILERÍA, Y ACTUACIONES PARA EL SOTERRADO DE LA CONDUCCIÓN PRINCIPAL, Y EL EMBEBIDO DE LAS TUBERIAS DE DISTRIBUCIÓN A ELEMENTOS EN LAS PAREDES MEDIANTE ROZA Y REVESTIDO.										
											- MEDIOS AUXILIARES PARA LA EJECUCIÓN TOTALMENTE INSTALADO Y PROBADO.										
											ACOMETIDA ASEOS	1					1,00	635,45	635,45		
CSUMREJ	ml Canal sumidero con rejilla SISTEMA DE DRENAJE LINEAL FORMADO POR CANAL DE HORMIGÓN POLIMÉRICO DE 100 MM DE ANCHURA LIBRE Y 200 MM DE ALTURA CON MARCO ZINCADO. CON REJILLA DE ACERO ZINCADO Y RESISTENCIA DE CARGA AL TRÁFICO A15. TOTALMENTE COLOCADA, MONTADA Y PROBADA.																				
	EN NAVE	1	21,000						21,000												
		1	43,000						43,000												
							64,00	28,79	1.842,56												
D26FD001	Ud LAVABO PEDESTAL BLANCO GRIF UD. LAVABO DE 52X41 CM O SIMILAR. CON PEDESTAL EN BLANCO, CON MEZCLADOR DE LAVABO, VÁLVULA DE DESAGÜE DE 32 MM., LLAVE DE ESCUADRA DE 1/2" CROMADA, SIFÓN INDIVIDUAL PVC 40 MM. Y LATIGUILLO FLEXIBLE DE 20 CM., TOTALMENTE INSTALADO, INCLUIDA LA ALBAÑILERÍA ASOCIADA A LA INSTALACIÓN DEL EQUIPO Y SUS ACCESORIOS.																				
	ASEO	1							1,00												
							1,00	137,21	137,21												
										TOTAL SUBCAPÍTULO 07.06 SANEAMIENTOS Y ACABADOS.....											
										17.825,49											

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE				
SUBCAPÍTULO 07.07 GRUPOS DE BOMBEO										SUBCAPÍTULO 07.08 CALDERERÍA													
ZZ024-160	Ud MOTOBOMBA HORIZONTAL CÁMARA PARTIDA 160 KW UD. GRUPO MOTOBOMBA CENTRÍFUGA HORIZONTAL DE CÁMARA PARTIDA PARA UN CAUDAL DE 352,45 L/S Y 33,63 M.C.A., RENDIMIENTO A 1490 RPM DEL 85,3% O SUPERIOR, EJE DE ACERO AL CARBONO, IMPULSOR DE BRONCE, MOTOR ELÉCTRICO EN HIERRO FUNDIDO A 1490 RPM, POTENCIA DE 160 KW Y TENSIÓN DE 400 V/50 HZ PREPARADO PARA VARIADOR DE FRECUENCIA, PROTECCIÓN IP55, RESIST. CALDEO, 3 SONDAS PT 100 EN DEVANADOS, 2 SONDAS PT 100 EN COJINETES Y REFRIGERACIÓN INTERNA MEDIANTE IMPULSOR INTERNO. INCLUSO DESCARGA Y MONTAJE. COMPLETAMENTE INSTALADA, CONEXIONADA ,CONOS DE AMPLIACIÓN Y REDUCCIÓN, INCLUSO PRUEBAS PRESENCIALES EN FÁBRICA, PRUEBAS DE FUNCIONAMIENTO Y PUESTA EN MARCHA UNA VEZ COLOCADA.						5,00	48.497,75	242.488,75	MAACD	Kg Acero En Caldereria ACERO EN CALDERERÍA, AL CARBONO DE TIPO S-275-JR, CON ESPESORES DE CHAPA SEGÚN EL DIÁMETRO DE LA TUBERÍA (EN PN 16 ATM; 4 MM HASTA DN 300, 6,4 MM DE DN 350 A DN 600 Y 8 MM DESDE DN 700- EN PN 25 ATM; 6,4 MM HASTA DN 300, 8 MM DE DN 350 A DN 600, 10 MM DE DN 700 A 1.000 Y 12 MM DE DN 1.100 A DN 1.500), CON SOLDADURAS REALIZADAS BAJO PROCEDIMIENTO HOMOLOGADO (SEGÚN CÓDIGO ASME-SECCIÓN IX), TRATAMIENTO DE ACABADO MEDIANTE GRANALLADO DE SUPERFICIE HASTA RUGOSIDAD SA 2,5 (SEGÚN NORMA SIS-05-900) Y POSTERIOR RECUBRIMIENTO DE PINTURA DE POLVO EPOXY, INTERIOR DE 300 MICRAS Y EXTERIOR DE 200 MICRAS. INCLUSO CORTE Y ELABORACIÓN EN TALLER, MONTAJE PARA UNIÓN MEDIANTE SOLDADURA. MEDIDO SEGÚN PESO NOMINAL DEL COLECTOR. PESO DE APOYOS, PERNOS, TORNILLERÍA Y REFUERZOS INCLUIDO EN EL PRECIO.												
											S/IMEDICIONES AUXILIARES	1	89.321,700						89.321,700				
											10% APOYOS Y AJUSTES	0,1	89.321,700						8.932,170				
																				98.253,87	5,20	510.920,12	
ZZ024-200	Ud MOTOBOMBA HORIZONTAL CÁMARA PARTIDA 200 KW UD. GRUPO MOTOBOMBA CENTRÍFUGA HORIZONTAL DE CÁMARA PARTIDA PARA UN CAUDAL DE 255,66 L/S Y 53,18 M.C.A., RENDIMIENTO A 1490 RPM DEL 84% O SUPERIOR, EJE DE ACERO AL CARBONO, IMPULSOR DE BRONCE, MOTOR ELÉCTRICO EN HIERRO FUNDIDO A 1490 RPM, POTENCIA DE 200 KW Y TENSIÓN DE 400 V/50 HZ PREPARADO PARA VARIADOR DE FRECUENCIA, PROTECCIÓN IP55, RESIST. CALDEO, 3 SONDAS PT 100 EN DEVANADOS, 2 SONDAS PT 100 EN COJINETES Y REFRIGERACIÓN INTERNA MEDIANTE IMPULSOR INTERNO. INCLUSO DESCARGA Y MONTAJE. COMPLETAMENTE INSTALADA, CONEXIONADA ,CONOS DE AMPLIACIÓN Y REDUCCIÓN, INCLUSO PRUEBAS PRESENCIALES EN FÁBRICA, PRUEBAS DE FUNCIONAMIENTO Y PUESTA EN MARCHA UNA VEZ COLOCADA.						4,00	68.184,29	272.737,16	R07EM020	Kg Acero S275 JR Para Estructuras ACERO S275 JR PARA ESTRUCTURAS Y REFUERZOS EN PERFILES LAMINADOS O PLANCHAS, INCLUSO TRATAMIENTO ANTICORROSIVO MEDIANTE CHORREADO ABRASIVO, CON UNA CAPA DE IMPRIMACIÓN ANTIOXIDANTE Y DOS DE ESMALTE SINTÉTICO, INCLUSO PARTE PROPORCIONAL DE RADIOGRAFÍAS DE LAS SOLDADURAS, COLOCADO EN OBRA.												
											APOYOS CALDERERÍA	3	5,000		50,000				750,000				
												1	10,000		120,000				1.200,000				
											ESCALERAS Y BARANDILLAS	1	40,000		150,000				6.000,000				
												10	5,000		100,000				5.000,000				
											OTROS	0,1	11.000,000						1.100,000				
																				14.050,00	2,08	29.224,00	
ZZ024-250	Ud MOTOBOMBA HORIZONTAL CÁMARA PARTIDA 250 KW UD. GRUPO MOTOBOMBA CENTRÍFUGA HORIZONTAL DE CÁMARA PARTIDA PARA UN CAUDAL DE 229,38 L/S Y 69,81 M.C.A., RENDIMIENTO A 1490 RPM DEL 83,2% O SUPERIOR, EJE DE ACERO AL CARBONO, IMPULSOR DE BRONCE, MOTOR ELÉCTRICO EN HIERRO FUNDIDO A 1490 RPM, POTENCIA DE 250 KW Y TENSIÓN DE 400 V/50 HZ PREPARADO PARA VARIADOR DE FRECUENCIA, PROTECCIÓN IP55, RESIST. CALDEO, 3 SONDAS PT 100 EN DEVANADOS, 2 SONDAS PT 100 EN COJINETES Y REFRIGERACIÓN INTERNA MEDIANTE IMPULSOR INTERNO. INCLUSO DESCARGA Y MONTAJE. COMPLETAMENTE INSTALADA, CONEXIONADA ,CONOS DE AMPLIACIÓN Y REDUCCIÓN, INCLUSO PRUEBAS PRESENCIALES EN FÁBRICA, PRUEBAS DE FUNCIONAMIENTO Y PUESTA EN MARCHA UNA VEZ COLOCADA.						5,00	75.488,59	377.442,95	TRAMEX	m² Rejilla Tipo Tramex De 30x30 mm Colocada CELOSÍA METÁLICA "TRAMEX", FORMADA POR MALLA DE ACERO 30X30 MM. Y PLETINA 40.3, Y BASTIDOR CON UNIONES ELECTROSOLDADAS, I/SOLDADURA Y AJUSTE A OTROS ELEMENTOS, ESTRUCTURA AUXILIAR DE APOYO Y ANCLAJE.												
											PASARELA	1	40,000		2,000				80,000				
												10	5,000		1,000				50,000				
																				130,00	51,99	6.758,70	
											TOTAL SUBCAPÍTULO 07.08 CALDERERÍA.....										546.902,82		
											TOTAL SUBCAPÍTULO 07.07 GRUPOS DE BOMBEO.....										892.668,86		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
SUBCAPÍTULO 07.09 VALVULERÍA																			
R05VM1810	Ud Válvula mariposa embridada DN-1800 PN-10 VÁLVULA DE MARIPOSA EMBRIDADA 1800 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. COLECTOR ADMISIÓN	1				1,000	1,00	61.762,05	61.762,05	R05VM106	Ud Válvula mariposa embridada DN-600 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 600 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. EN IMPULSIÓN A BP1	2	5,000			10,000	10,00	3.175,51	31.755,10
R05VM012	Ud Válvula mariposa embridada DN 1200 PN-10 VÁLVULA DE MARIPOSA EMBRIDADA 1200 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. EN IMPULSIÓN A BP1	1				1,000	1,00	19.537,15	19.537,15	R05VM105	Ud Válvula mariposa embridada DN-500 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 500 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. EN IMPULSIÓN A BP2 EN IMPULSIÓN A BP3	2 2	4,000 5,000			8,000 10,000	18,00	2.996,74	53.941,32
R05VM1084	Ud Válvula mariposa embridada DN-1000 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 1000 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. EN IMPULSIÓN A BP3	1				1,000	1,00	12.224,01	12.224,01	R05VM104	Ud Válvula mariposa embridada DN-400 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 400 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. BY-PASS: EN IMPULSIÓN A BP1 EN IMPULSIÓN A BP2 EN IMPULSIÓN A BP3	2 2 2				2,000 2,000 2,000	6,00	1.393,16	8.358,96
R05VM1083	ud Válvula mariposa embridada DN-900 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 900 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. EN IMPULSIÓN A BP2	1				1,000	1,00	9.433,03	9.433,03	R05VC125	Ud Válvula compuerta ø250 mm PN-16 VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 250 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. ALVIO: EN IMPULSIÓN A BP1 EN IMPULSIÓN A BP2 EN IMPULSIÓN A BP3	1 1 1				1,000 1,000 1,000	3,00	640,79	1.922,37

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE						
R05VC123	Ud Válvula compuerta ø150 mm PN-16 VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 150 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. EN BY-PASS: EN IMPULSIÓN A BP1 1 1,000 EN IMPULSIÓN A BP2 1 1,000 EN IMPULSIÓN A BP3 1 1,000									R05TM119	Ud Carrete desmontaje PN-10/16 DN-900 CARRETE TELESCÓPICO DE DESMONTAJE DE 900 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. EN IMPULSIÓN A BP2 1 1,000														
							3,00	205,54	616,62	R05TM117	Ud Carrete desmontaje PN-10/16 DN-600 CARRETE TELESCÓPICO DE DESMONTAJE DE 600 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. EN IMPULSIÓN A BP1 2 5,000														
R05TM1805	Ud Carrete desmontaje PN-10 DN 1800 CARRETE TELESCÓPICO DE DESMONTAJE DE 1800 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 O SUPERIOR PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. COLECTOR ADMISIÓN 1 1,000						1,00	6.115,75	6.115,75	R05TM116	Ud Carrete desmontaje PN-10/16 DN-500 CARRETE TELESCÓPICO DE DESMONTAJE DE 500 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. EN IMPULSIÓN A BP2 2 4,000 8,000 EN IMPULSIÓN A BP3 2 5,000 10,000														
R05TM125	Ud Carrete desmontaje PN-10/16 DN-1200 CARRETE TELESCÓPICO DE DESMONTAJE DE 1200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. EN IMPULSIÓN A BP1 1 1,000						1,00	3.898,21	3.898,21	R05TM115	Ud Carrete desmontaje PN-10/16 DN-400 CARRETE TELESCÓPICO DE DESMONTAJE DE 400 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. BY-PASS: EN IMPULSIÓN A BP1 1 1,000 EN IMPULSIÓN A BP2 1 1,000 EN IMPULSIÓN A BP3 1 1,000														
R05TM120	Ud Carrete desmontaje PN-10/16 DN-1000 CARRETE TELESCÓPICO DE DESMONTAJE DE 1000 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. EN IMPULSIÓN A BP3 1 1,000						1,00	2.511,53	2.511,53								3,00	601,12	1.803,36						

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE																		
R05TM112	<p>Ud Carrete desmontaje PN-10/16 DN-250</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 250 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p> <p>ALIVIO:</p> <p>EN IMPULSIÓN A BP1 1 1,000</p> <p>EN IMPULSIÓN A BP2 1 1,000</p> <p>EN IMPULSIÓN A BP3 1 1,000</p>									VASP002	<p>ud Válvula de alivio de sobre presión DN 250 PN-16</p> <p>UD. DE VÁLVULA DE ALIVIO DE SOBREPRESIÓN DE ACCIÓN DIRECTA, DE DIÁMETRO NOMINAL 250 MM Y PRESIÓN NOMINAL 16 ATMÓSFERAS, DE PASO RECTO Y ACTUACIÓN ELÉCTRICA, INCLUSO P.P. DE PIEZAS ESPECIALES, TE DE UNIÓN A COLECTOR DE IMPULSIÓN, TRANSPORTE, INSTALACIÓN Y MONTAJE.</p> <p>EN IMPULSIÓN A BP1 1 1,00</p> <p>EN IMPULSIÓN A BP2 1 1,00</p> <p>EN IMPULSIÓN A BP3 1 1,00</p>																										
							3,00	352,33	1.056,99	R03VE008	<p>Ud Ventosa trifuncional ø200 PN-16</p> <p>VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 200 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 200 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p> <p>EN IMPULSIÓN A BP1 3 3,000</p> <p>EN ADMISIÓN 4 4,000</p>																										
																	7,00	2.298,73	16.091,11																		
R05TM111	<p>Ud Carrete desmontaje PN-10/16 DN-150</p> <p>CARRETE TELESCÓPICO DE DESMONTAJE DE 150 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p> <p>EN BY-PASS:</p> <p>EN IMPULSIÓN A BP1 1 1,000</p> <p>EN IMPULSIÓN A BP2 1 1,000</p> <p>EN IMPULSIÓN A BP3 1 1,000</p>									R03VE006	<p>Ud Ventosa trifuncional ø150 PN-16</p> <p>VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.</p> <p>EN IMPULSIÓN A BP2 3 3,000</p> <p>EN IMPULSIÓN A BP3 3 3,000</p>																										
							3,00	176,70	530,10																												
R05VR2291-6	<p>ud Válvula Retención Discos concéntricos DN600 PN-16</p> <p>VÁLVULA DE RETENCIÓN DE DE DISCOS CONCENTRICOS TIPO CLASSAR DE 600 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL, MECANISMOS EN ACERO INOXIDABLE. MONTADA Y PROBADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA EN OBRA.</p> <p>EN IMPULSIÓN A BP1 1 5,000</p>																																				
							5,00	26.312,18	131.560,90																												
																	6,00	1.568,08	9.408,48																		
R05VR2291-5	<p>ud Válvula Retención Discos concéntricos DN500 PN-16</p> <p>VÁLVULA DE RETENCIÓN DE DE DISCOS CONCENTRICOS TIPO CLASSAR DE 500 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL, MECANISMOS EN ACERO INOXIDABLE. MONTADA Y PROBADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA EN OBRA.</p> <p>EN IMPULSIÓN A BP2 4 4,000</p> <p>EN IMPULSIÓN A BP3 5 5,000</p>									R05EM03	<p>Ud Medidor ultrasónico DN200 - DN4000 PN-10/16</p> <p>EQUIPO DE MEDIDA DE CAUDAL POR ULTRASONIDOS, PARA DIÁMETRO ENTRE 200 Y 4000 MM, FORMADO POR DOS SONDAS Y CAUDALÍMETRO ULTRASÓNICO MONTADO A LA TUBERÍA, ELECTRÓNICA DE TRATAMIENTO DE SEÑAL 4-20 MA, CONVERTIDOR DE SEÑALES, SENSORES, Y PROTECCIONES SOBRETENSIONES, CABLE TRIAXIAL, INCLUIDO SUMINISTRO, INSTALACIÓN Y PRUEBAS DE FUNCIONAMIENTO.</p> <p>EN IMPULSIÓN A BP1 1 1,000</p> <p>EN IMPULSIÓN A BP2 1 1,000</p> <p>EN IMPULSIÓN A BP3 1 1,000</p>																										
							9,00	10.481,05	94.329,45																												
																	3,00	4.110,38	12.331,14																		
TOTAL SUBCAPÍTULO 07.09 VALVULERÍA.....																																					533.207,28

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE				
R07H0025A	m ³ Hormigón HA-25/B/20/XC2+XA3+SR en obra HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO									CHA1	m ² Tapa de chapa acero galvanizado 2 mm TAPA DE CHAPA ACERO GALVANIZADO 2 MM DE ESPESOR SOPORTADA POR PERFILES HUECOS # 40.2 FORMANDO CUADROS DE 50 CM DE LADO, PARA UNA RESISTENCIA DE 200 KG/M2, COLOCADA, Y PUERTA DE HOMBRE DE ACCESO DE 1M. * 1 M. PROVISTA DE BISAGRAS Y CANDADO												
	ARQUETA RECOGIDA DRENES:	1	2,400	1,400	1,700	5,712					ARQUETA VALVULAS	1	8,200	7,500		61,500							
		-1	2,000	1,000	1,500	-3,000					ARQUETA CAUDALÍMETRO	2	3,800	3,800		28,880							
	ARQUETA CAUDALÍMETRO	2	3,600	3,600	4,000	103,680						1	4,800	3,800		18,240							
		-2	3,000	3,000	3,700	-66,600											108,62	63,55	6.902,80				
		1	4,600	3,600	4,000	66,240				R04ARV10-2	m Formación de cuneta no revestida de 1.2 m y 0.75 m de alto FORMACIÓN DE CUNETA EN LATERAL DE CAMINO CON UNA ANCHURA DE 1,2M Y CON UNA PROFUNDIDAD DE HASTA 0,75 M. PERFILADO DE TALUDES, INTERIOR Y EXTERIOR Y ADECUACIÓN DE PENDIENTES SEGÚN EL TERRENO Y SEGÚN LOS PUNTOS DE EVACUACIÓN DE AGUA PROXIMOS. CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS E LA TIERRA EXTRAIDA DE LA FORMACIÓN DE CUNETA.												
		-1	4,000	3,000	3,700	-44,400					PERÍMETRO EXPLANADA	1	76,00			76,00							
							61,63	85,04	5.241,02			1	31,00			31,00							
R07EN050	m ² Encofrado/Desencofrado metálico para hormigón oculto ENCOFRADO Y DEENCOFRADO RECTO PARA DEJAR HORMIGÓN OCULTO, MEDIANTE LA UTILIZACIÓN DE PANELES METÁLICOS A UNA CARA, INCLUSO ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DEENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DEENCOFRADO Y REPASO DE PARAMENTOS.											1	43,00			43,00							
	ARQUETA RECOGIDA DRENES:	2	2,400		1,700	8,160						1	23,00			23,00							
		2	1,400		1,700	4,760											173,00	4,41	762,93				
		2	2,000		1,500	6,000																	
		2	1,000		1,500	3,000																	
	ARQUETA CAUDALÍMETRO	8	3,600		4,000	115,200				R07PC040-90	m Tubo Hormigón Armado Tipo C-90 DN 400 TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 400 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.												
		8	3,000		3,700	88,800					PASO CUNETA ENTRADA	1	10,000			10,000							
		2	4,600		4,000	36,800					EXPLANADA												
		2	3,600		4,000	28,800					EVACUACIÓN ARQUETA DRENES A	1	42,000			42,000							
		2	4,000		3,700	29,600					COLECTOR												
		2	3,000		3,700	22,200											52,00	31,20	1.622,40				
							343,32	13,28	4.559,29														
R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC. COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.																						
	ARQUETA RECOGIDA DRENES:	1	61,830	75,000		4.637,250																	
							4.637,25	1,12	5.193,72														
TRAMEX	m ² Rejilla Tipo Tramex De 30x30 mm Colocada CELOSÍA METÁLICA "TRAMEX", FORMADA POR MALLA DE ACERO 30X30 MM. Y PLETINA 40.3, Y BASTIDOR CON UNIONES ELECTROSOLDADAS, I/SOLDADURA Y AJUSTE A OTROS ELEMENTOS, ESTRUCTURA AUXILIAR DE APOYO Y ANCLAJE.																						
	ARQUETA RECOGIDA DRENES:	1	2,100	1,100		2,310																	
							2,31	51,99	120,10														
PATES	Ud Pate de polipropileno colocado PATE DE POLIPROPILENO DE 30 CM * 25 CM COLOCADO.																						
	ARQUETA VALVULAS	3	23,000			69,000																	
	ARQUETA CAUDALÍMETRO	3	12,000			36,000																	
							105,00	3,79	397,95														
TOTAL SUBCAPÍTULO 07.11 URBANIZACIÓN																						34.993,96	
TOTAL CAPÍTULO 07 ESTACIÓN DE BOMBEO																						2.527.469,03	

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE									
CAPÍTULO 08 TUBERÍA DE IMPULSIÓN A Balsa (BP1)										R01RE010	m ³ Relleno Ordinario de Tierras Compactado 85% PN																	
SUBCAPÍTULO 08.01 MOVIMIENTO DE TIERRAS										R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vacados																	
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.																											
	MEDICIONES AUXILIARES	1						5.936,180												1.703,110								
																				1.703,11								
																				0,54								
																				919,68								
										TOTAL SUBCAPÍTULO 08.01 MOVIMIENTO DE TIERRAS 16.208,18																		
SUBCAPÍTULO 08.02 TUBERÍAS										GFG2A126	m Tubería hormigón post camisa chapa acer, DN 1200, PN 6, SR,																	
	TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1200MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.																											
	IMPULSIÓN A Balsa BP1	1						782,348												782,348								
	A DEDUCIR TRAMO BAJO	-1						50,000												-50,000								
	TERRAPLÉN FV																											
	TRAMO EN TOMA FONDO, DE PK0+48 A FINAL	1						4,550												4,550								
																				736,90								
																				358,96								
																				264.517,62								
										R02TB120	m TUBERÍA DE ACERO HELICOIDAL ø1219 mm e=10,3 mm																	
	TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1219 MM DE DIÁMETRO Y 10,3 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA.																											
	IMPULSIÓN A Balsa BP1 (TRAMO BAJO TERRAPLÉN FV)	1						50,000												50,000								
																				50,00								
																				419,25								
																				20.962,50								
										TOTAL SUBCAPÍTULO 08.02 TUBERÍAS..... 285.480,12																		
R01RE400	m ³ Asiento y Relleno Material Granular 6/12 MM																											
	CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.																											
	MEDICIONES AUXILIARES																											
	CAMA	1						143,000												143,000								
	RELLENO	1						89,100												89,100								
																				232,10								
																				20,01								
																				4.644,32								
R01RE030	m ³ Relleno Seleccionado Compactado 95% PN																											
	RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO.MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.																											
	MEDICIONES AUXILIARES	1						528,660												528,660								
																				528,66								
																				1,27								
																				671,40								

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
SUBCAPÍTULO 08.03 ELEMENTOS ELECTROMECÁNICOS										R05VC123	Ud Válvula compuerta ø150 mm PN-16										
R03VE008	Ud Ventosa trifuncional ø200 PN-16 VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 200 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 200 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.										VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 150 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.										
	EN IMPULSIÓN	1						1,000			BY-PASS	1							1,000		
	EN SECCIONAMIENTO	1						1,000													
							2,00	2.298,73	4.597,46	MAPCCII											
R05TM125	Ud Carrete desmontaje PN-10/16 DN-1200 CARRETE TELESCÓPICO DE DESMONTAJE DE 1200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.										Ud Anodos protección catódica SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PREEMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS: - TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2. - ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA. - CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD. - CABLE DE CU RV 0,6/1KV 1*6 MM2. - ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.										
	EN IMPULSIÓN A BP1	1						1,000			PASO DESAGÜE										
							1,00	3.898,21	3.898,21		ELEMENTOS RED	1							1,000		
R05VM012	Ud Valvula mariposa embridada DN 1200 PN-10 VÁLVULA DE MARIPOSA EMBRIDADA 1200 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA.										DERIVACIONES	1							1,000		
	EN IMPULSIÓN A BP1	1						1,000			CODOS	9							9,000		
							1,00	19.537,15	19.537,15										11,00		
																			106,40		
																			1.170,40		
											TOTAL SUBCAPÍTULO 08.04 CALDERERÍA Y PROTECCIÓN CATÓDICA									1.170,40	
R05TM111	Ud Carrete desmontaje PN-10/16 DN-150 CARRETE TELESCÓPICO DE DESMONTAJE DE 150 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.																				
	BY-PASS	1						1,000													
							1,00	176,70	176,70												

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
SUBCAPÍTULO 08.05 OBRA CIVIL										SUBCAPÍTULO 08.06 OBRAS ESPECIALES										
R07MP510B	ud Arqueta prefabricada ø120cm ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHEMBROS DE Ø120 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MICROM DE ESPESOR Y PROVIS- TA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANU- LAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA. EN VENTOSAS	1	1,000			1,000	1,00	197,04	197,04	ACEQUIA2	Ud Cruce acequia CHE. Con o sin reposición CRUCE Y REPOSICIÓN DE ACEQUIA CHE EXISTENTE O EQUIVALENTE MEDIANTE PASO INFERIOR SIN ALTERAR EL CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGON DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA, SUJECCIÓN DEL CAJE- RO Y RELLENO DE HM-20 HASTA LA BASE DEL CAJERO. O CRUCE MEDIANTE COR- TE DE CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGON DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA Y HM-20 HASTA LA BASE Y REPOSICIÓN DEL CAJE- RO, DEBIDAMENTE SELLADO. INLCUIDO TODOS LOS COSTES DE GESTIÓN DE RESI- DUOS, EXCAVACIONES, CARGAS Y TRANSPORTES NECESARIOS.COMPLETAME- NET EJECUTADO PASO ACEQUIA DE ORILLENA	1				1,000		1,00	790,50	790,50
R07H0020A	m³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO LOSA PROTECCIÓN EN CRUCE TUBERÍA LLENADO	1	5,000	4,000	0,250	5,000	5,00	72,17	360,85											
R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELE- MENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO COR- TE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADO- RES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HOR- MIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO. LOSA PROTECCIÓN EN CRUCE TUBERÍA LLENADO	1	5,000	20,000		100,000	100,00	1,12	112,00	R01EX010	m³ Excavación a cielo abierto en Zanjas y Vaciados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, IN- CLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILA- DO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIE- GOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA AT- MÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREA- CIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAES- TRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECU- CIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARA- CIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALA- TES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE REN- DIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTE- RIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VO- LUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO. MEDICIONES AUXILIARES	1	12.482,690			12.482,690	1	550,820	550,820	
R07EN020	m² Encofrado/Desencofrado metálico para hormigón visto ENCOFRADO CON PANELES METÁLICOS A UNA CARA PARA DEJAR A BUENA VIS- TA, INCLUSO BERENJENOS, ENTIBACIONES, APUNTALADO Y SEPARADORES, PA- RA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS LOSA PROTECCIÓN EN CRUCE TUBERÍA LLENADO	2	5,000		0,250	2,500	2	4,000	2,000											
TOTAL SUBCAPÍTULO 08.05 OBRA CIVIL.....									767,77	TOTAL SUBCAPÍTULO 08.06 OBRAS ESPECIALES										790,50
										TOTAL CAPÍTULO 08 TUBERÍA DE IMPULSIÓN A Balsa (BP1).....										332.832,03
CAPÍTULO 09 TUBERÍA DE IMPULSIÓN A Balsa (BP2)																				
SUBCAPÍTULO 09.01 MOVIMIENTO DE TIERRAS																				
													13.033,51	1,68	21.896,30					

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
SUBCAPÍTULO 09.02 TUBERÍAS																					
R01RE400	m ³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. MEDICIONES AUXILIARES CAMA RELLENO	1 1 1 1	643,490 24,420 321,590 13,330			643,490 24,420 321,590 13,330				GFG2A090	m Tubería hormigón post camisa chapa acer, DN 900, PN 10, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN900MM Y PN10 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRÍZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTÉCCION CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA. IMPULSIÓN A Balsa BP2, DE PK0 A PK 0+320	1								320,000	320,000
							1.002,83	20,01	20.066,63								320,00	261,62	83.718,40		
R01RE030	m ³ Relleno Seleccionado Compactado 95% PN RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. MEDICIONES AUXILIARES TRAZADO BAJO CAMINO, PK 1+855 A PK 1+890	1 1 1	2.912,190 115,990 160,000			2.912,190 115,990 160,000				GFG2A096	m Tubería hormigón post camisa chapa acer, DN 900, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN900MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRÍZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTÉCCION CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA. IMPULSIÓN A Balsa BP2, DE PK0+320 A PK 2+089,242 CRUCE CANAL, HINCA	1 -1								1.769,242 47,000	1.769,242 -47,000
							3.188,18	1,27	4.048,99								1.722,24	258,59	445.354,04		
R01RE010	m ³ Relleno Ordinario de Tierras Compactado 85% PN RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. MEDICIONES AUXILIARES TRAZADO BAJO CAMINO, PK 1+855 A PK 1+890	1 1 -1	7.276,300 338,590 160,000			7.276,300 338,590 -160,000				GFG2A106	m Tubería hormigón post camisa chapa acer, DN 1000, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1000MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRÍZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTÉCCION CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA. IMPULSIÓN BP2. TRAMO EN TOMA FONDO, CONEXIÓN Balsa	1								80,500	80,500
							7.454,89	0,54	4.025,64								80,50	288,11	23.192,86		
	TOTAL SUBCAPÍTULO 09.01 MOVIMIENTO DE TIERRAS								50.037,56												

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
R02TB090	m TUBERÍA DE ACERO HELICOIDAL ø914 mm e=7,9 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 914 MM DE DIÁMETRO Y 7,9 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:2006, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA. CRUCE CANAL, HINCA	1				47,000		47,00	232,65	10.934,55	R05VM1083	ud Válvula mariposa embreada DN-900 PN-16 VÁLVULA DE MARIPOSA EMBREADA 900 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. NUDO PK 0+000 NUDO PK 2+089	2 1				2,000 1,000					
TOTAL SUBCAPÍTULO 09.02 TUBERÍAS										563.199,85								3,00	9.433,03	28.299,09		
SUBCAPÍTULO 09.03 ELEMENTOS ELECTROMECAÑICOS																						
R03VE006	Ud Ventosa trifuncional ø150 PN-16 VENTOSA METÁLICA TRIFUNCIONAL EMBREADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBREADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. EN IMPULSIÓN A BP2 NUDO PK 0+000 NUDO PK 2+089	3 2 1				3,000 2,000 1,000		6,00	1.568,08	9.408,48	R05VC116-1	Ud Válvula compuerta ø100 mm PN-16 VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 100 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. BY-PASS	3				3,000					
TOTAL SUBCAPÍTULO 09.03 ELEMENTOS ELECTROMECAÑICOS																		3,00	158,70	476,10		
R05DE200A	Ud Desagüe de 200 mm PN-16 y conexión. DESAGÜE DE 200 MM DE DIÁMETRO INTERIOR, SOBRE TUBERÍA DE PRESIÓN DE CUALQUIER DIÁMETRO, COMPRENDIENDO VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 200 MM DE DIÁMETRO NOMINAL, 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS, CON CUERPO Y TAPA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA. SE INCLUYE ADEMÁS PIEZAS ESPECIALES EN CALDERERÍA (TÉS, CODOS, BRIDAS, ETC) Y ACCESORIOS DE DN-200PN-16, PARA LA CONEXIÓN CON TUBERÍA DE PVC DN 200 PN6, A LOS DESAGÜES EXISTENTES O A ARQUETA DE ACHIQUE. INCLUIDO TAMBIÉN LOS ANCLAJES, CONTRARRESTOS, OBRAS DE TIERRA Y FÁBRICA COMPLEMENTARIAS, COLOCACIÓN Y PRUEBA DE TODA LA UNIDAD. EN IMPULSIÓN A BP2	2				2,000		2,00	794,84	1.589,68	R05TM119	Ud Carrete desmontaje PN-10/16 DN-900 CARRETE TELESCÓPICO DE DESMONTAJE DE 900 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. NUDO PK 0+000 NUDO PK 2+089	2 1				2,000 1,000					
TOTAL SUBCAPÍTULO 09.03 ELEMENTOS ELECTROMECAÑICOS																		3,00	2.129,86	6.389,58		
TOTAL SUBCAPÍTULO 09.03 ELEMENTOS ELECTROMECAÑICOS																				46.646,86		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
SUBCAPÍTULO 09.04 CALDERERÍA Y PROTECCIÓN CATÓDICA										SUBCAPÍTULO 09.06 OBRAS ESPECIALES									
MAPCCII	Ud Anodos protección catódica									R07AT100B	m Paso Hinca Camisa Acero 1000 mm, escudo abierto								
	SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PREEMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS:										PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 1016X10,3 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAÍDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.								
	- TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2.										CRUCE CANAL								
	- ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA.										1 45,000 45,000								
	- CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD.																		
	- CABLE DE CU RV 0,6/1KV 1*6 MM2.																		
	- ELECTRODO REFERENCIA PERMANENTE CU/CUSO4.																		
	PASO DESAGÜE	2							2,000										
	ELEMENTOS RED	5							5,000										
	DERIVACIONES	2							2,000										
	CODOS	11							11,000										
							20,00	106,40	2.128,00	ACEQUIA2	Ud Cruce acequia CHE. Con o sin reposición						45,00	1.212,34	54.555,30
	TOTAL SUBCAPÍTULO 09.04 CALDERERÍA Y PROTECCIÓN										TOTAL SUBCAPÍTULO 09.06 OBRAS ESPECIALES								
									2.128,00										59.892,30
SUBCAPÍTULO 09.05 OBRA CIVIL																			
R07MP510	Ud Arqueta prefabricada ø100cm										Ud Cruce acequia CHE. Con o sin reposición								
	ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHEMBROS DE Ø100 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MICROM DE ESPESOR Y PROVISITA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA.										CRUCE Y REPOSICIÓN DE ACEQUIA CHE EXISTENTE O EQUIVALENTE MEDIANTE PASO INFERIOR SIN ALTERAR EL CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGÓN DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA, SUJECCIÓN DEL CAJERO Y RELLENO DE HM-20 HASTA LA BASE DEL CAJERO. O CRUCE MEDIANTE CORTE DE CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGÓN DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA Y HM-20 HASTA LA BASE Y REPOSICIÓN DEL CAJERO, DEBIDAMENTE SELLADO. INLCUIDO TODOS LOS COSTES DE GESTIÓN DE RESIDUOS, EXCAVACIONES, CARGAS Y TRANSPORTES NECESARIOS.COMPLETAMENTE EJECUTADO								
	VENTOSAS	3							3,000		CRUCE ACEQUIA	1							1,000
	DESAGÜES	2							2,000										1,00 790,50 790,50
							5,00	175,64	878,20	R07PC120	m Paso Camino Camisa Hormigón 1200								
	ARQUETA PARA ALOJAMIENTO DE VÁLVULAS DE SECCIONAMIENTO, CONSTRUIDA "IN SITU", DE 4,00 X 3,00 METROS DE DIMENSIONES INTERIORES Y ALTURA VARIABLE, INFERIOR A 2,50 METROS. CON SOLERA DE 0,30 METROS HORMIGÓN HA-35 CON CEMENTO SR, PAREDES DE HORMIGÓN ARMADO HA-35 DE 0,25 M DE ESPESOR, ARMADURA EN SOLERA Y PAREDES A BASE DE MALLAZO DE DIÁMETRO 12 MM CADA 15 CENTÍMETROS POR 15 CENTÍMETROS, INCLUSO POZO DE ACHIQUE O SALIDA A DESAGÜE CON CONEXIÓN DE CALDERERÍA INCLUIDA. TAPA METÁLICA DE ACERO DE 3 MM DE ESPESOR Y ESTRUCTURA CON TRATAMIENTO ANTICORROSIVO, MARCO DE SUJECCIÓN Y CANDADO. PATES DE ACCESO TOTALMENTE INSTALADOS Y FIJADOS EN MURO. COMPLETAMENTE EJECUTADA.										PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1200 MM. ZANJA DE ANCHURA EN LA BASE 1,8 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 20 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTÍMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.								
	NUDO PK 0+000	1							1,000		CRUCE CAMINO	3	5,000						15,000
	NUDO PK 2+089	1							1,000										15,00 303,10 4.546,50
							2,00	4.328,88	8.657,76		TOTAL SUBCAPÍTULO 09.06 OBRAS ESPECIALES								
	TOTAL SUBCAPÍTULO 09.05 OBRA CIVIL										TOTAL SUBCAPÍTULO 09.06 OBRAS ESPECIALES								
									9.535,96										59.892,30
											TOTAL CAPÍTULO 09 TUBERÍA DE IMPULSIÓN A Balsa (BP2)								
											731.440,53								

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
CAPÍTULO 10 TUBERÍA DE IMPULSIÓN A Balsa (BP3)										R01RE010	m ³ Relleno Ordinario de Tierras Compactado 85% PN											
SUBCAPÍTULO 10.01 MOVIMIENTO DE TIERRAS																						
R01EX010	m ³ Excavación a cielo abierto en Zanjas y Vaciados										RELLENO ORDINARIO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON APORTACIÓN DE MATERIAL PROCEDENTE DE LA PROPIA OBRA, SIN APORTACIÓN DE TIERRAS DE PRÉSTAMOS, AUNQUE SI SE INCLUYE EL TRANSPORTE DENTRO DE LA PROPIA OBRA, COMPACTADO A UN 85 % DEL PROCTOR NORMAL, INCLUYENDO SEPARACIÓN DE TIERRA VEGETAL, SALVO LA ZONA DE REPOSICIÓN DE TIERRA VEGETAL MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.											
	EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO.										MEDICIONES AUXILIARES	1		12.448,630				12.448,630				
											TRAZADO BAJO CAMINO, PK 1+855 A PK 1+890	-1		160,000				-160,000				
											TRAZADO BAJO CAMINO, PK 2+243 A PK 2+410	-1		1.205,000				-1.205,000				
																	11.083,63	0,54	5.985,16			
											TOTAL SUBCAPÍTULO 10.01 MOVIMIENTO DE TIERRAS									99.328,94		
SUBCAPÍTULO 10.02 TUBERÍAS																						
										GFG2A100	m Tubería hormigón post camisa chapa acer, DN 1000, PN 10, SR,											
											TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1000MM Y PN10 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.											
											IMPULSIÓN A Balsa BP3, DE PK0 A PK 0+788,28	1		788,280				788,280				
											CRUCE CANAL, HINCA	-1		47,000				-47,000				
																	741,28	301,64	223.599,70			
										GFG2A106	m Tubería hormigón post camisa chapa acer, DN 1000, PN 6, SR,											
											TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1000MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.											
											IMPULSIÓN A Balsa BP3, DE PK788,28 A PK 2+089,242	1		1.300,962				1.300,962				
																	1.300,96	288,11	374.819,59			
R01RE400	m ³ Asiento y Relleno Material Granular 6/12 MM										CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.											
	CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.										MEDICIONES AUXILIARES											
											CAMA	1		1.317,940				1.317,940				
											RELLENO	1		775,730				775,730				
																	2.093,67	20,01	41.894,34			
R01RE030	m ³ Relleno Seleccionado Compactado 95% PN										RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.											
	RELLENO SELECCIONADO CON DIÁMETRO MÁXIMO DE 25 MM Y COMPACTADO DE TIERRAS, REALIZADO MECÁNICAMENTE, CON VERTIDO EN TONGADAS DE 25 CM DE ESPESOR MÁXIMO ANTES DE COMPACTAR, INCLUSO REGADO, TENDIDO Y COMPACTADO AL 95% DEL PROCTOR NORMAL. INCLUIDA LA TRAÍDA DEL MATERIAL DENTRO DE LA OBRA, SI EL DE LA EXCAVACIÓN NO ES ADECUADO E INCLUSO SU CRIBADO AL TAMAÑO INDICADO Y EL TRANSPORTE A VERTEDERO DEL MATERIAL RECHAZADO. MEDIDO EL VOLUMEN DE TIERRAS UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO.										MEDICIONES AUXILIARES	1		6.528,970				6.528,970				
											TRAZADO BAJO CAMINO, PK 1+855 A PK 1+890	1		160,000				160,000				
											TRAZADO BAJO CAMINO, PK 2+243 A PK 2+410	1		1.205,000				1.205,000				
																	7.893,97	1,27	10.025,34			

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE						
GFG2A126	m Tubería hormigón post camisa chapa acer, DN 1200, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1200MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTECCIÓN CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA. IMPULSIÓN A Balsa BP3, DE PK2+089,242 A PK 3+809,037 IMPULSIÓN BP3. TRAMO EN TOMA FONDO, CONEXIÓN Balsa	1	1.719,795			1.719,795				R03VE006	Ud Ventosa trifuncional ø150 PN-16 VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 150 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 150 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. EN IMPULSIÓN A BP3 NUDO PK 0+612 NUDO PK 2+089	3				3,000									
																	6,00	1.568,08	9.408,48						
							1.725,80	358,96	619.493,17	R05DE200A	Ud Desagüe de 200 mm PN-16 y conexión. DESAGÜE DE 200 MM DE DIÁMETRO INTERIOR, SOBRE TUBERÍA DE PRESIÓN DE CUALQUIER DIÁMETRO, COMPRENDIENDO VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 200 MM DE DIÁMETRO NOMINAL, 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS, CON CUERPO Y TAPA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA. SE INCLUYE ADEMÁS PIEZAS ESPECIALES EN CALDERERÍA (TÉS, CODOS, BRIDAS, ETC) Y ACCESORIOS DE DN-200PN-16, PARA LA CONEXIÓN CON TUBERÍA DE PVC DN 200 PN6, A LOS DESAGÜES EXISTENTES O A ARQUETA DE ACHIQUE. INCLUIDO TAMBIÉN LOS ANCLAJES, CONTRARRESTOS, OBRAS DE TIERRA Y FÁBRICA COMPLEMENTARIAS, COLOCACIÓN Y PRUEBA DE TODA LA UNIDAD. EN IMPULSIÓN A BP3	6				6,000									
R02TB100	m TUBERÍA DE ACERO HELICOIDAL ø1016 mm e=10 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1016 MM DE DIÁMETRO Y 10,0 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA. CRUCE CANAL, HINCA	1	47,000			47,000																			
							47,00	403,85	18.980,95																
							TOTAL SUBCAPÍTULO 10.02 TUBERÍAS..... 1.236.893,41																		
	SUBCAPÍTULO 10.03 ELEMENTOS ELECTROMECAÑICOS																								
R03VE008	Ud Ventosa trifuncional ø200 PN-16 VENTOSA METÁLICA TRIFUNCIONAL EMBRIDADA DE FUNDICIÓN GGG-40 O GGG-50 DE 200 MM DE DN Y 16 ATM DE PN, SEGÚN NORMA AWWA C 512. INCLUIDO VÁLVULA DE COMPUERTA DN 200 MM Y PN-16 ATM CON CIERRE CON ASIENTO ELÁSTICO Y EMBRIDADA PARA UNIÓN A TUBERÍA DE ACERO DEL MISMO DIÁMETRO S-235 JRG2, CON TRATAMIENTO ANTICORROSIÓN EPOXY-POLIESTER ALIMENTARIO 300 MICRAS INTERIOR Y 200 MICRAS EXTERIOR. INCLUIDO TAMBIÉN JUNTAS Y ACCESORIOS PARA SU COLOCACIÓN. CONJUNTO COMPLETAMENTE INSTALADO CON PARTE PROPORCIONAL DE BRIDAS, JUNTAS, TORNILLERÍA Y PIEZAS DE CALDERERÍA ESPECIALES EN ACERO S-235 JRG2 CON EL MISMO TRATAMIENTO INDICADO Y ACCESORIOS PARA UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA. EN IMPULSIÓN A BP3	5				5,000				R05VM1084	Ud Válvula mariposa embridada DN-1000 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 1000 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. NUDO PK 0+612 NUDO PK 2+089	2				2,000									
																	3,00	12.224,01	36.672,03						
							5,00	2.298,73	11.493,65																

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
ARQVALVU	Ud Arqueta para válvulas DN<800, HA-35									ACEQUIA2	Ud Cruce acequia CHE. Con o sin reposición									
	ARQUETA PARA ALOJAMIENTO DE VÁLVULAS DE SECCIONAMIENTO, CONSTRUIDA "IN SITU", DE 1,50 X 1,50 METROS DE DIMENSIONES INTERIORES Y ALTURA VARIABLE, INFERIOR A 2,50 METROS. CON SOLERA DE 0,25 METROS HORMIGÓN HA-35 CON CEMENTO SR, PAREDES DE HORMIGÓN ARMADO HA-35 DE 0,20 M DE ESPESOR, ARMADURA EN SOLERA Y PAREDES A BASE DE MALLAZO DE DIÁMETRO 12 MM CADA 15 CENTÍMETROS POR 15 CENTÍMETROS, INCLUSO POZO DE ACHIQUE O SALIDA A DESAGÜE CON CONEXIÓN DE CALDERERÍA INCLUIDA. TAPA METÁLICA DE ACERO DE 3 MM DE ESPESOR Y ESTRUCTURA CON TRATAMIENTO ANTICORROSIVO, MARCO DE SUJECIÓN Y CANDADO. PATES DE ACCESO TOTALMENTE INSTALADOS Y FIJADOS EN MURO. COMPLETAMENTE EJECUTADA.										CRUCE ACEQUIA	1					1,000			
	SECCIONAMIENTOS	1																		
																	1,00	790,50	790,50	
ARQVALVU3	Ud Arqueta para válvulas DN>=800, HA-35 (4x3 m interior)									R07PC160	m Paso Camino Camisa Hormigón 1600									
	ARQUETA PARA ALOJAMIENTO DE VÁLVULAS DE SECCIONAMIENTO, CONSTRUIDA "IN SITU", DE 4,00 X 3,00 METROS DE DIMENSIONES INTERIORES Y ALTURA VARIABLE, INFERIOR A 2,50 METROS. CON SOLERA DE 0,30 METROS HORMIGÓN HA-35 CON CEMENTO SR, PAREDES DE HORMIGÓN ARMADO HA-35 DE 0,25 M DE ESPESOR, ARMADURA EN SOLERA Y PAREDES A BASE DE MALLAZO DE DIÁMETRO 12 MM CADA 15 CENTÍMETROS POR 15 CENTÍMETROS, INCLUSO POZO DE ACHIQUE O SALIDA A DESAGÜE CON CONEXIÓN DE CALDERERÍA INCLUIDA. TAPA METÁLICA DE ACERO DE 3 MM DE ESPESOR Y ESTRUCTURA CON TRATAMIENTO ANTICORROSIVO, MARCO DE SUJECIÓN Y CANDADO. PATES DE ACCESO TOTALMENTE INSTALADOS Y FIJADOS EN MURO. COMPLETAMENTE EJECUTADA.										PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1600 MM. ZANJA DE ANCHURA EN LA BASE 2,2 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 20 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTÍMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.									
	NUDO PK 0+612	1									CRUCE CAMINO	3	5,000							
	NUDO PK 2+089	1																		
							2,00	4.328,88	8.657,76								15,00	457,76	6.866,40	
TOTAL SUBCAPÍTULO 10.05 OBRA CIVIL.....									15.159,75											
SUBCAPÍTULO 10.06 OBRAS ESPECIALES																				
R07AT120B	m Paso Hinca Camisa Acero 1200 mm, escudo abierto																			
	PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 1220X10,3 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAIDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.																			
	CRUCE CANAL, HINCA	1	45,000																	
							45,00	1.453,99	65.429,55											
															TOTAL SUBCAPÍTULO 10.06 OBRAS ESPECIALES					78.657,60
															TOTAL CAPÍTULO 10 TUBERÍA DE IMPULSIÓN A BALSA (BP3).....					1.504.256,21

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE				
GFG2A116	m Tubería hormigón post camisa chapa acer, DN 1100, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1200MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTÉCCION CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.	R-2	1	272,426		272,426				GFG2A090	m Tubería hormigón post camisa chapa acer, DN 900, PN 10, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN900MM Y PN10 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTÉCCION CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.	R-4	1	1.769,831		1.769,831							
							272,43	314,93	85.796,38								1.769,83	261,62	463.022,92				
GFG2A106	m Tubería hormigón post camisa chapa acer, DN 1000, PN 6, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1000MM Y PN6 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTÉCCION CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.	R-2-3	1	1.020,000		1.020,000				R02TL08a	m TUBO POLIÉSTER ø800 mm PN-6 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 800 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 6 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	R-1	1	1.726,25		1.726,25							
							1.020,00	288,11	293.872,20			R-1-1	1	1.170,86		1.170,86							
												R-6	1	1.046,35		1.046,35							
																	3.943,46	160,57	633.201,37				
GFG2A100	m Tubería hormigón post camisa chapa acer, DN 1000, PN 10, SR, TUBERÍA DE HORMIGÓN POSTESADO CON CAMINA DE CHAPA DE ACERO DE DN1000MM Y PN10 CON HORMIGÓN SULFORRESISTENTE, PARA 3 M DE ALTURA MÁXIMA DE TIERRAS SOBRE LA GENERATRIZ SUPERIOR DE LA TUBERÍA, CON CEMENTO I/42,5 SR, JUNTA DE GOMA PARA UNIÓN ENTRE TUBERÍAS Y UNIÓN SOLDADA CON EL RESTO DE TUBERÍAS Y PIEZAS ESPECIALES, REFORZADO CON ARMADURA DE ACERO, INCLUSO TODOS LOS MATERIALES NECESARIOS PARA SU MONTAJE, PUENTE PARA PROTÉCCION CATÓDICA, COLOCADA Y PROVADA. INCLUSO P.P. DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS PARA SU COMPLETA INSTALACIÓN. INCLUIDA P.P DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA UNIDAD TOTALMENTE COLOCADA E INSTALADA EN ZANJA Y PROBADA.	R-4	1	1.998,329		1.998,329				R02TL07a	m TUBO POLIÉSTER ø700 mm PN-6 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 700 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 6 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	R-6	1	570,01		570,01							
												R-2	1	674,19		674,19							
																	1.244,20	132,79	165.217,32				
												R02TL06a	m TUBO POLIÉSTER ø600 mm PN-6 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 600 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 6 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.	R-1-1	1	1.841,13		1.841,13					
												R-4	1	347,81		347,81							
												R-6	1	827,91		827,91							
												R-6	1	311,48		311,48							
							2.437,79	301,64	735.334,98								3.328,33	106,88	355.731,91				
	A DEDUCIR PASOS HINCAS, TRAMO ACERO: CTRA A-129, R-4, PK1+256		-1	27,000		-27,000																	

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE				
R02TL05a	m TUBO POLIÉSTER ø500 mm PN-6 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 500 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 6 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.									R02TL06b	m TUBO POLIÉSTER ø600 mm PN-10 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 600 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 10 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.												
	R-1-1	1	459,03			459,03					R-1	1	1.922,87			1.922,87							
	R-2-3-1	1	1.143,70			1.143,70					R-4	1	216,04			216,04							
	R-4	1	391,73			391,73					R-6	1	121,24			121,24							
	R-2-1	1	574,32			574,32					R-1	1	1.091,28			1.091,28							
	R-6-9	1	304,38			304,38					R-2	1	133,61			133,61							
	R-2-1	1	776,17			776,17					R-2-3	1	543,41			543,41							
							3.649,33	84,09	306.872,16		R-2-3-1	1	1.579,73			1.579,73							
											R-2-1	1	2.267,54			2.267,54							
R02TL08b	m TUBO POLIÉSTER ø800 mm PN-10 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 800 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 10 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.										R-3	1	644,43			644,43							
	R-1	1	212,44			212,44					R-3-4	1	564,08			564,08							
	R-3	1	505,97			505,97					R-6	1	306,62			306,62							
	A DEDUCIR PASOS HINCAS, TRAMO ACERO:										R-6-9	1	453,74			453,74							
	CTRA A-129, R-3, PK0+484	-1	31,00			-31,00					A DEDUCIR PASOS HINCAS, TRAMO ACERO:												
	CTRA A-129, R-1, PK3+071	-1	27,00			-27,00					CTRA A-129, R-1, PK3+071	-1	27,00			-27,00							
											CTRA A-1220 R-2, PK3+245	-1	27,00			-27,00							
											CTRA A-1221 R-6-9, PK0+140	-1	23,00			-23,00							
																	9.767,59	95,55	933.293,22				
										R02TL05b	m TUBO POLIÉSTER ø500 mm PN-10 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 500 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 10 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.												
							660,41	162,03	107.006,23		R-1-1	1	164,09			164,09							
R02TL07b	m TUBO POLIÉSTER ø700 mm PN-10 SN-5000 TUBERÍA DE POLIÉSTER REFORZADO CON FIBRA DE VIDRIO DE 700 MM DE DIÁMETRO NOMINAL, PRESIÓN NOMINAL DE 10 KG/CM2 Y RIGIDEZ SN=5 KN/M2, INCLUSO P.P. PIEZAS ESPECIALES DE UNIÓN CON MANGUITO FLEXIBLE CON JUNTA DE GOMA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.										R-4	1	274,56			274,56							
	R-4	1	775,80			775,80					R-5	1	398,66			398,66							
	R-1	1	734,34			734,34					R-6	1	4.148,66			4.148,66							
	R-6	1	1.985,70			1.985,70					R-2-1	1	1.104,26			1.104,26							
	R-2	1	908,37			908,37					R-6-9-2	1	177,16			177,16							
	R-2-3	1	870,21			870,21					R-1-6	1	1.791,39			1.791,39							
											R-1-6-2	1	1.308,29			1.308,29							
											R-2-3	1	1.286,22			1.286,22							
											R-2-3-1	1	947,92			947,92							
																	11.601,21	86,76	1.006.520,98				
							5.274,42	137,60	725.760,19														

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
R02TE18C	m TUBERÍA PEAD PN-10 DN-180 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 180 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.									R02TE22C	m TUBERÍA PEAD PN-10 DN-225 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 225 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.									
	R-6-9	1	136,92								R-6-9-1	1	369,03							
	R-6-8	1	121,69								R-4-14	1	18,25							
	R-4-12-2	1	226,63								R-2-3-1-1	1	524,87							
	R-4-12	1	286,73								R-2-1	1	58,70							
	R-3-4	1	20,44								R-2-1	1	54,25							
	R-2-5	1	222,58								R-1-6-2-1	1	134,88							
	R-2-3-1-5	1	32,71																	
	R-2-3-1-2	1	18,77														1.159,98	28,13	32.630,24	
	R-2-3-1-1-2	1	62,48							R02TE25C	m TUBERÍA PEAD PN-10 DN-250 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 250 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.									
	R-2-1-6	1	64,91								R-3-1	1	228,93							
	R-2-1-4	1	90,80								R-3	1	207,12							
	R-2-1	1	20,07								R-2-3-4	1	580,75							
	R-1-4	1	582,79								R-2-1-3	1	19,08							
	R-1-3	1	502,90								R-2-1-12	1	261,17							
	R-1-16	1	104,84								R-2-1	1	200,44							
	R-1-14	1	491,59								R-1-6-6	1	265,26							
	R-1-1	1	492,14								R-1-6-4	1	244,40							
	DERIVACION A H24 Y H28	1	24,58								R-1-10	1	59,08							
	DERIVACION A H270	1	20,60								R-1	1	851,86							
							3.524,17	17,86	62.941,68											
R02TE20C	m TUBERÍA PEAD PN-10 DN-200 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 200 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 10 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.																			
	R-6-9	1	213,04																	
	R-6	1	319,65																	
	R-4-14	1	132,30																	
	R-4-12-1	1	96,46																	
	R-4-12	1	348,39																	
	R-3-1	1	22,42																	
	R-2-3-1-6	1	293,83																	
	R-2-1	1	252,35																	
	DERIVACION A H224	1	23,89																	
							1.702,33	21,07	35.868,09											

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
R02TE12D	m TUBERÍA PEAD PN-16 DN-125 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 125 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.									R02TE16D	m TUBERÍA PEAD PN-16 DN-160 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 160 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.									
	R-6-4	1	24,86			24,86					R-6-9-1	1	145,02			145,02				
	R-6-10	1	227,54			227,54					R-6-8	1	114,82			114,82				
	R-4-2	1	75,32			75,32					R-6-12	1	284,43			284,43				
	R-2-3	1	167,43			167,43					R-2-6	1	99,30			99,30				
	R-2-1	1	74,12			74,12					R-2-3-10	1	691,53			691,53				
	R-2	1	284,90			284,90					R-1-6-2	1	118,39			118,39				
	R-1-6-6	1	368,84			368,84					R-1-6	1	23,26			23,26				
	R-1	1	380,62			380,62					R-1-14	1	231,69			231,69				
	DERIVACION A H304	1	33,24			33,24												1.708,44	19,62	33.519,59
	DERIVACION A H305	1	31,95			31,95														
	DERIVACION A H307	1	26,13			26,13				R02TE18D	m TUBERÍA PEAD PN-16 DN-180 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 180 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.									
	DERIVACION A H328	1	45,54			45,54					R-6-8	1	160,85			160,85				
	DERIVACION A H44	1	7,18			7,18					R-6-4	1	529,40			529,40				
							1.747,67	12,36	21.601,20		R-6-3-2	1	504,34			504,34				
R02TE14D	m TUBERÍA PEAD PN-16 DN-140 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 140 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.										R-6-3	1	183,59			183,59				
	R-6-3-2	1	108,33			108,33					R-6-2	1	190,24			190,24				
	R-4-14	1	498,56			498,56					R-6-11	1	16,78			16,78				
	R-1-12	1	170,34			170,34					R-4-2	1	142,98			142,98				
	DERIVACION A H317	1	38,42			38,42					R-2-6	1	199,21			199,21				
							815,65	15,31	12.487,60		R-1-9	1	155,97			155,97				
											R-1-6-2	1	265,14			265,14				
											R-1-12	1	92,11			92,11				
																		2.440,61	24,45	59.672,91

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
R02TE20D	m TUBERÍA PEAD PN-16 DN-200 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 200 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.									R02TE25D	m TUBERÍA PEAD PN-16 DN-250 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 250 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.										
	R-6-3	1	592,18					592,18			R-6-9-3	1	399,66					399,66			
	R-6	1	420,81					420,81			R-6-9	1	276,42					276,42			
	R-2-3-4	1	297,64					297,64			R-6	1	230,06					230,06			
	R-2-1-10	1	72,06					72,06			R-4	1	300,71					300,71			
	R-2	1	218,46					218,46			R-2-3-8	1	35,77					35,77			
	R-1-6-2	1	324,55					324,55			R-2-3	1	544,21					544,21			
							1.925,70	29,31	56.442,27			R-2-1-2	1	811,15				811,15			
											R-2-1-12	1	134,80					134,80			
											R-2-1	1	221,88					221,88			
											R-1-6-6	1	114,29					114,29			
											R-1-6-2-1	1	277,09					277,09			
											R-1	1	792,02					792,02			
																	4.138,06	45,83	189.647,29		
R02TE22D	m TUBERÍA PEAD PN-16 DN-225 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 225 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.									R02TE31D	m TUBERÍA PEAD PN-16 DN-315 TUBERÍA DE POLIETILENO ALTA DENSIDAD PE100, MRS 10 N/MM2, EN 12201:2000 Y EN 13244:1998, DE 315 MM DE DIÁMETRO NOMINAL Y UNA PRESIÓN DE TRABAJO DE 16 KG/CM2. INCLUSO UNIÓN POR SOLDADURA A TOPE Y PARTE PROPORCIONAL DE PIEZAS ESPECIALES DE ACERO PARA CALDERERÍA (PIEZAS ESPECIALES EN NUDOS, REDUCCIONES, TÉS, CODOS, EMPALMES, CONEXIONES, TERMINALES, ETC.), MACIZOS DE ANCLAJE, BRIDAS, TORNILLERÍA Y JUNTAS Y ELEMENTOS NECESARIOS PARA SU COMPLETA INSTALACIÓN. MEDIDA LA UNIDAD TOTALMENTE EJECUTADA E INSTALADA EN ZANJA SOBRE CAMA MATERIAL GRANULAR Y PROBADA.										
	R-6-3-2	1	158,11					158,11			R-6-9-3	1	301,12					301,12			
	R-6-11	1	17,25					17,25			R-6-9	1	539,76					539,76			
	R-4-2	1	561,55					561,55			R-6-3	1	218,39					218,39			
	R-2-6	1	21,61					21,61			R-6-12	1	533,00					533,00			
	R-2-3-10	1	535,57					535,57			R-3-2	1	480,26					480,26			
	R-2	1	38,32					38,32			R-2-6	1	33,98					33,98			
	R-1-9	1	410,03					410,03			R-2-3-6	1	506,56					506,56			
	R-1-6-2-1	1	236,97					236,97			R-2-3-3	1	28,90					28,90			
	R-1-6	1	599,25					599,25			R-2-3	1	906,88					906,88			
							2.578,66	38,40	99.020,54			R-2	1	201,09				201,09			
																	3.749,94	68,61	257.283,38		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
R05DE200A	Ud Desagüe de 200 mm PN-16 y conexión. DESAGÜE DE 200 MM DE DIÁMETRO INTERIOR, SOBRE TUBERÍA DE PRESIÓN DE CUALQUIER DIÁMETRO, COMPRENDIENDO VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 200 MM DE DIÁMETRO NOMINAL, 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS, CON CUERPO Y TAPA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA. SE INCLUYE ADEMÁS PIEZAS ESPECIALES EN CALDERERÍA (TÉS, CODOS, BRIDAS, ETC) Y ACCESORIOS DE DN-200PN-16, PARA LA CONEXIÓN CON TUBERÍA DE PVC DN 200 PN6, A LOS DESAGÜES EXISTENTES O A ARQUETA DE ACHIQUE. INLCUIDO TAMBIÉN LOS ANCLAJES, CONTRARRESTOS, OBRAS DE TIERRA Y FÁBRICA COMPLEMENTARIAS, COLOCACIÓN Y PRUEBA DE TODA LA UNIDAD.									R05TM119	Ud Carrete desmontaje PN-10/16 DN-900 CARRETE TELESCÓPICO DE DESMONTAJE DE 900 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.									
	EN REDES	63				63,000					SECCIONAMIENTOS	1				1,000				
							63,00	794,84	50.074,92								1,00	2.129,86	2.129,86	
R05DE100A	Ud Desagüe de 100 mm PN-16 y conexión. DESAGÜE DE 100 MM DE DIÁMETRO INTERIOR, SOBRE TUBERÍA DE PRESIÓN DE CUALQUIER DIÁMETRO, COMPRENDIENDO VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 100 MM DE DIÁMETRO NOMINAL, 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS, CON CUERPO Y TAPA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA. SE INCLUYE ADEMÁS PIEZAS ESPECIALES EN CALDERERÍA (TÉS, CODOS, BRIDAS, ETC) Y ACCESORIOS DE DN-100PN-16, PARA LA CONEXIÓN CON TUBERÍA DE PVC DN 110 PN6, A LOS DESAGÜES EXISTENTES O A ARQUETA DE ACHIQUE. INLCUIDO TAMBIÉN LOS ANCLAJES, CONTRARRESTOS, OBRAS DE TIERRA Y FÁBRICA COMPLEMENTARIAS, COLOCACIÓN Y PRUEBA DE TODA LA UNIDAD.									R05TM118	Ud Carrete desmontaje PN-10/16 DN-800 CARRETE TELESCÓPICO DE DESMONTAJE DE 800 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.									
	EN REDES	89				89,000					SECCIONAMIENTOS	2				2,000				
							89,00	345,37	30.737,93								2,00	1.758,55	3.517,10	
R05TM125	Ud Carrete desmontaje PN-10/16 DN-1200 CARRETE TELESCÓPICO DE DESMONTAJE DE 1200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.									R05TM117D	ud Carrete desmontaje PN-10/16 DN-700 CARRETE TELESCÓPICO DE DESMONTAJE DE 700 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.									
	EN IMPULSIÓN A BP1	1				1,000					SECCIONAMIENTOS	2				2,000				
							1,00	3.898,21	3.898,21								2,00	1.393,21	2.786,42	
R05TM120	Ud Carrete desmontaje PN-10/16 DN-1000 CARRETE TELESCÓPICO DE DESMONTAJE DE 1000 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.									R05TM117	Ud Carrete desmontaje PN-10/16 DN-600 CARRETE TELESCÓPICO DE DESMONTAJE DE 600 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.									
	SECCIONAMIENTOS	2				2,000					SECCIONAMIENTOS	7				7,000				
							2,00	2.511,53	5.023,06								7,00	1.109,96	7.769,72	

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
R05TM116	Ud Carrete desmontaje PN-10/16 DN-500 CARRETE TELESCÓPICO DE DESMONTAJE DE 500 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.									R05TM112	Ud Carrete desmontaje PN-10/16 DN-250 CARRETE TELESCÓPICO DE DESMONTAJE DE 250 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.									
	SECCIONAMIENTOS	9						9,00				2						2,00		
							9,00	727,07	6.543,63								2,00	352,33	704,66	
R05TM115	Ud Carrete desmontaje PN-10/16 DN-400 CARRETE TELESCÓPICO DE DESMONTAJE DE 400 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.									R05TM111-1	Ud Carrete desmontaje PN-10/16 DN-200 CARRETE TELESCÓPICO DE DESMONTAJE DE 200 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.									
	SECCIONAMIENTOS	1						1,00				1						1,00		
							1,00	601,12	601,12								1,00	268,66	268,66	
R05TM1135	Ud Carrete desmontaje PN-10/16 DN-350 CARRETE TELESCÓPICO DE DESMONTAJE DE 350 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.									R05TM111	Ud Carrete desmontaje PN-10/16 DN-150 CARRETE TELESCÓPICO DE DESMONTAJE DE 150 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.									
	SECCIONAMIENTOS	2						2,00				3						3,00		
							2,00	576,52	1.153,04								3,00	176,70	530,10	
R05TM113	Ud Carrete desmontaje PN-10/16 DN-300 CARRETE TELESCÓPICO DE DESMONTAJE DE 300 MM DE DIÁMETRO NOMINAL Y 10/16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.									R05TM100	Ud Carrete desmontaje PN-16 DN-100 CARRETE TELESCÓPICO DE DESMONTAJE DE 100 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL. CON UNA SOLA BRIDA DIN CENTRAL DE IGUAL TAMAÑO Y CARACTERÍSTICAS A LA DE LOS EXTREMOS, PARA EL ALOJAMIENTO DE LA JUNTA DE ESTANQUEIDAD DE SECCIÓN PIRAMIDAL Y DE GOMA EPDM SIENDO EL MONTAJE SIEMPRE CON TORNILLOS CINCADOS CON CALIDAD 8,8 PASANTES ENTRE AMBAS CARAS DEL CARRETE A TRAVÉS DE LA BRIDA CENTRAL. PROVISTO DE LA PARTE PROPORCIONAL DE PIEZAS ESPECIALES EN JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. MEDIDA LA UNIDAD INSTALADA EJECUTADA Y PROBADA.									
	SECCIONAMIENTOS	5						5,00				1						1,00		
							5,00	417,66	2.088,30			21						21,000		
																	22,00	161,31	3.548,82	

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
R05VM012	Ud Válvula mariposa embridada DN 1200 PN-10 VÁLVULA DE MARIPOSA EMBRIDADA 1200 MM DE DIÁMETRO NOMINAL Y 10 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. EN IMPULSIÓN A BP1	1				1,000				R05VM081	ud Válvula mariposa embridada DN-700 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 700 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. SECCIONAMIENTOS	2				2,000					
							1,00	19.537,15	19.537,15								2,00	5.116,02	10.232,04		
R05VM1084	Ud Válvula mariposa embridada DN-1000 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 1000 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. SECCIONAMIENTOS	2				2,000				R05VM106	Ud Válvula mariposa embridada DN-600 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 600 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. SECCIONAMIENTOS	7				7,000					
							2,00	12.224,01	24.448,02								7,00	3.175,51	22.228,57		
R05VM1083	ud Válvula mariposa embridada DN-900 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 900 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. SECCIONAMIENTOS	1				1,000				R05VM105	Ud Válvula mariposa embridada DN-500 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 500 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. SECCIONAMIENTOS	9				9,000					
							1,00	9.433,03	9.433,03								9,00	2.996,74	26.970,66		
R05VM1082	Ud Válvula mariposa embridada DN-800 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 800 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. SECCIONAMIENTOS	2				2,000				R05VM104	Ud Válvula mariposa embridada DN-400 PN-16 VÁLVULA DE MARIPOSA EMBRIDADA 400 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL CON REDUCTOR DESMULTIPLICADOR MANUAL PARA CIERRE LENTO PROVISTO DE VOLANTE Y BRIDAS. CON CUERPO DE FUNDICIÓN NODULAR, CON BRIDAS, CON EJE DE ACERO SUPERIOR E INFERIOR DE ACERO INOXIDABLE AISI 431, LENTEJA DE ACERO INOXIDABLE AISI 431, ASIENTO EPDM O NBR VULCANIZADA AL CUERPO Y JUNTAS EPDM O NBR. ESTANQUEIDAD SUPERIOR E INFERIOR SEGÚN PLIEGO DE CONDICIONES. UNIDAD MONTADA CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. SECCIONAMIENTOS	1				1,000					
							2,00	6.697,39	13.394,78								1,00	1.393,16	1.393,16		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE							
R05VC135	Ud Válvula compuerta ø350 mm PN-16 VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 350 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. SECCIONAMIENTOS	2				2,000				R05VC123	Ud Válvula compuerta ø150 mm PN-16 VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 150 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. BY-PASS SECCIONAMIENTOS DN>=1000	3				3,000										
							2,00	1.892,12	3.784,24								3,00	205,54	616,62							
R05VC130	Ud Válvula compuerta ø300 mm PN-16 VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 300 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. SECCIONAMIENTOS	5				5,000				R05VC116-1	Ud Válvula compuerta ø100 mm PN-16 VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 100 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. SECCIONAMIENTOS BY-PASS SECCIONAMIENTOS 500<=DN<1000	1 21				1,000 21,000										
							5,00	850,29	4.251,45								22,00	158,70	3.491,40							
R05VC125	Ud Válvula compuerta ø250 mm PN-16 VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 250 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. SECCIONAMIENTOS	2				2,000				D7408020BBP	Ud Hidrante 2"cont reg lim - DNfiltro=DNválvula Baja perdida HIDRANTE 2" DE BAJA PERDIDA CON CONTADOR PROPORCIONAL DN 50 CON EMISOR DE PULSOS CADA 1000 L, VÁLVULA HIDRÁULICA LIMITADORA DE CAUDAL TIPO PALETA Y LIMITADORA DE PRESIÓN, CON PILOTO DE 3VIAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTADOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 2" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARIA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECCIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN, PICAJE CON BRIDA CIEGA PARA TOMA AUXILIAR Y DOBLE CHAPA DE ACERO DE 3 MM CON PINTURA DE PROTECCIÓN CON JUNTA DE NEOPRENO COLOCADA EN LA PARED DEL HIDRANTE PARA LA TUBERÍA DE SALIDO HORIZONTAL. INCLUIDA LA CONEXIÓN A INSTALACIÓN EXISTENTE EN SU CASO (MANO DE OBRA Y MATERIAL DE UNIÓN). COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA. HIDRANTES INDIVIDUALES ZONA BOMBEO ZONA PRESIÓN NATURAL A DEDUCIR POR COMPARTIDOS: ZONA BOMBEO ZONA PRESIÓN NATURAL															
							2,00	640,79	1.281,58																	
R05VC124	Ud Válvula compuerta ø200 mm PN-16 VÁLVULA DE COMPUERTA CON CIERRE ELÁSTICO DE 250 MM DE DIÁMETRO NOMINAL Y 16 ATM DE PRESIÓN NOMINAL PROVISTA DE VOLANTE Y BRIDAS CON CUERPO Y TAPA DE FUNDICIÓN NODULAR, COMPUERTA DE FUNDICIÓN NODULAR REVESTIDA DE NEOPRENO Y HUSILLO DE ACERO INOXIDABLE. INCLUIDO EL EJE DE EXTENSIÓN DE TIPO TELESCÓPICO Y PROLONGADOR DE ACERO TODO EN GALVANIZADO HASTA UNA ALTURA DE 3 METROS, CON TODOS LOS MATERIALES NECESARIOS PARA LA COMPLETA MANIOBRA DE LA VÁLVULA ENTERRADA, CON PARTE PROPORCIONAL DE JUNTAS, TORNILLERÍA Y CALDERERÍA Y ACCESORIOS DE UNIÓN A LA TUBERÍA. UNIDAD TOTALMENTE MONTADA EJECUTADA Y PROBADA. SECCIONAMIENTOS	1				1,000																				
							1,00	442,70	442,70																	
																	6,00	779,36	4.676,16							

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE																								
D7408020ABP	<p>Ud Hidrante 3"cont reg lim - DNfiltro=DNválvula Baja perdida</p> <p>HIDRANTE 3" DE BAJA PERDIDA CON CONTADOR PROPORCIONAL DN 80 CON EMISOR DE PULSOS CADA 1000 L, VÁLVULA HIDRÁULICA LIMITADORA DE CAUDAL TIPO PALETA Y LIMITADORA DE PRESIÓN, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSCADA CON ADAPTADOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERIA, DE DIÁMETRO 3" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARIA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERIA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN, PICAJE CON BRIDA CIEGA PARA TOMA AUXILIAR Y DOBLE CHAPA DE ACERO DE 3 MM CON PINTURA DE PROTECCIÓN CON JUNTA DE NEOPRENO COLOCADA EN LA PARED DEL HIDRANTE PARA LA TUBERIA DE SALIDO HORIZONTAL. INCLUIDA LA CONEXIÓN A INSTALACIÓN EXISTENTE EN SU CASO (MANO DE OBRA Y MATERIAL DE UNIÓN). COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p> <p>HIDRANTES INDIVIDUALES</p> <table border="0"> <tr> <td>ZONA BOMBEO</td> <td>54</td> <td>54,000</td> </tr> <tr> <td>ZONA PRESIÓN NATURAL</td> <td>13</td> <td>13,000</td> </tr> </table> <p>A DEDUCIR POR COMPARTIDOS:</p> <table border="0"> <tr> <td>ZONA BOMBEO</td> <td>-26</td> <td>-26,000</td> </tr> <tr> <td>ZONA PRESIÓN NATURAL</td> <td>-2</td> <td>-2,000</td> </tr> </table>	ZONA BOMBEO	54	54,000	ZONA PRESIÓN NATURAL	13	13,000	ZONA BOMBEO	-26	-26,000	ZONA PRESIÓN NATURAL	-2	-2,000									D74080302BP	<p>Ud Hidrante 6"cont reg lim - DNfiltro=DNválvula Baja perdida</p> <p>HIDRANTE DE BAJA PERDIDA CON CONTADOR PROPORCIONAL DN 150 CON EMISOR DE PULSOS CADA 1000 L, VÁLVULA HIDRÁULICA LIMITADORA DE CAUDAL TIPO PALETA Y LIMITADORA DE PRESIÓN, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSCADA CON ADAPTADOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERIA, DE DIÁMETRO 6" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARIA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERIA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN, PICAJE CON BRIDA CIEGA PARA TOMA AUXILIAR Y DOBLE CHAPA DE ACERO DE 3 MM CON PINTURA DE PROTECCIÓN CON JUNTA DE NEOPRENO COLOCADA EN LA PARED DEL HIDRANTE PARA LA TUBERIA DE SALIDO HORIZONTAL. INCLUIDA LA CONEXIÓN A INSTALACIÓN EXISTENTE EN SU CASO (MANO DE OBRA Y MATERIAL DE UNIÓN). COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p> <p>HIDRANTES INDIVIDUALES</p> <table border="0"> <tr> <td>ZONA BOMBEO</td> <td>49</td> <td>49,000</td> </tr> <tr> <td>ZONA PRESIÓN NATURAL</td> <td>6</td> <td>6,000</td> </tr> </table> <p>A DEDUCIR POR COMPARTIDOS:</p> <table border="0"> <tr> <td>ZONA BOMBEO</td> <td>-4</td> <td>-4,000</td> </tr> <tr> <td>ZONA PRESIÓN NATURAL</td> <td>-1</td> <td>-1,000</td> </tr> </table>	ZONA BOMBEO	49	49,000	ZONA PRESIÓN NATURAL	6	6,000	ZONA BOMBEO	-4	-4,000	ZONA PRESIÓN NATURAL	-1	-1,000								
ZONA BOMBEO	54	54,000																																									
ZONA PRESIÓN NATURAL	13	13,000																																									
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ZONA BOMBEO	-4	-4,000																																									
ZONA PRESIÓN NATURAL	-1	-1,000																																									
							39,00	1.195,65	46.630,35								50,00	2.204,02	110.201,00																								
D7408030BP	<p>Ud Hidrante 4"cont reg lim - DNfiltro=DNválvula Baja perdida</p> <p>HIDRANTE 4" DE BAJA PERDIDA CON CONTADOR PROPORCIONAL DN 100 CON EMISOR DE PULSOS CADA 1000 L, VÁLVULA HIDRÁULICA LIMITADORA DE CAUDAL TIPO PALETA Y LIMITADORA DE PRESIÓN, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSCADA CON ADAPTADOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERIA, DE DIÁMETRO 4" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARIA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERIA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN, PICAJE CON BRIDA CIEGA PARA TOMA AUXILIAR Y DOBLE CHAPA DE ACERO DE 3 MM CON PINTURA DE PROTECCIÓN CON JUNTA DE NEOPRENO COLOCADA EN LA PARED DEL HIDRANTE PARA LA TUBERIA DE SALIDO HORIZONTAL. INCLUIDA LA CONEXIÓN A INSTALACIÓN EXISTENTE EN SU CASO (MANO DE OBRA Y MATERIAL DE UNIÓN). COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p> <p>HIDRANTES INDIVIDUALES</p> <table border="0"> <tr> <td>ZONA BOMBEO</td> <td>132</td> <td>132,000</td> </tr> <tr> <td>ZONA PRESIÓN NATURAL</td> <td>28</td> <td>28,000</td> </tr> </table> <p>A DEDUCIR POR COMPARTIDOS:</p> <table border="0"> <tr> <td>ZONA BOMBEO</td> <td>-44</td> <td>-44,000</td> </tr> <tr> <td>ZONA PRESIÓN NATURAL</td> <td>-11</td> <td>-11,000</td> </tr> </table>	ZONA BOMBEO	132	132,000	ZONA PRESIÓN NATURAL	28	28,000	ZONA BOMBEO	-44	-44,000	ZONA PRESIÓN NATURAL	-11	-11,000									D74080303BP	<p>Ud Hidrante 8"cont reg lim - DNfiltro=DNválvula Baja perdida</p> <p>HIDRANTE DE BAJA PERDIDA CON CONTADOR PROPORCIONAL DN 200 CON EMISOR DE PULSOS CADA 1000 L, VÁLVULA HIDRÁULICA LIMITADORA DE CAUDAL TIPO PALETA Y LIMITADORA DE PRESIÓN, CON PILOTO DE 3 VÍAS Y SOLENOIDE TIPO LATCH, FFILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSCADA CON ADAPTADOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERIA, DE DIÁMETRO 6" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERARIA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERIA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN, PICAJE CON BRIDA CIEGA PARA TOMA AUXILIAR Y DOBLE CHAPA DE ACERO DE 3 MM CON PINTURA DE PROTECCIÓN CON JUNTA DE NEOPRENO COLOCADA EN LA PARED DEL HIDRANTE PARA LA TUBERIA DE SALIDO HORIZONTAL. INCLUIDA LA CONEXIÓN A INSTALACIÓN EXISTENTE EN SU CASO (MANO DE OBRA Y MATERIAL DE UNIÓN). COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p> <p>HIDRANTES INDIVIDUALES</p> <table border="0"> <tr> <td>ZONA BOMBEO</td> <td>35</td> <td>35,000</td> </tr> <tr> <td>ZONA PRESIÓN NATURAL</td> <td>12</td> <td>12,000</td> </tr> </table> <p>A DEDUCIR POR COMPARTIDOS:</p> <table border="0"> <tr> <td>ZONA BOMBEO</td> <td></td> <td></td> </tr> <tr> <td>ZONA PRESIÓN NATURAL</td> <td></td> <td></td> </tr> </table>	ZONA BOMBEO	35	35,000	ZONA PRESIÓN NATURAL	12	12,000	ZONA BOMBEO			ZONA PRESIÓN NATURAL										
ZONA BOMBEO	132	132,000																																									
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ZONA PRESIÓN NATURAL	12	12,000																																									
ZONA BOMBEO																																											
ZONA PRESIÓN NATURAL																																											
							105,00	1.430,39	150.190,95								47,00	3.732,33	175.419,51																								

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE												
D7408020	<p>Ud Hidrante COMPARTIDO de 2"cont reg lim, hasta 5 tomas</p> <p>HIDRANTE 2" CON VÁLVULA HIDRÁULICA TIPO SERIE 400, REDUCTORA DE PRESIÓN Y LIMITADOR DE CAUDAL TIPO PALETA, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTADOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 2" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERERÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN. COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p> <p>HIDRANTES 2"</p> <table border="0"> <tr> <td>ZONA BOMBEO</td> <td>5</td> <td>5,000</td> </tr> <tr> <td>ZONA PRESIÓN NATURAL</td> <td>1</td> <td>1,000</td> </tr> </table>	ZONA BOMBEO	5	5,000	ZONA PRESIÓN NATURAL	1	1,000									D74080302-4	<p>Ud Hidrante COMPARTIDO de 4"cont reg lim, hasta 5 tomas</p> <p>HIDRANTE 4" CON VÁLVULA HIDRÁULICA TIPO SERIE 400, REDUCTORA DE PRESIÓN Y LIMITADOR DE CAUDAL TIPO PALETA, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTADOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 4" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERERÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN. COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p> <p>HIDRANTES 4"</p> <table border="0"> <tr> <td>ZONA BOMBEO</td> <td>44</td> <td>44,000</td> </tr> <tr> <td>ZONA PRESIÓN NATURAL</td> <td>11</td> <td>11,000</td> </tr> </table>	ZONA BOMBEO	44	44,000	ZONA PRESIÓN NATURAL	11	11,000								
ZONA BOMBEO	5	5,000																													
ZONA PRESIÓN NATURAL	1	1,000																													
ZONA BOMBEO	44	44,000																													
ZONA PRESIÓN NATURAL	11	11,000																													
							6,00	686,54	4.119,24																						
D7408020-2	<p>Ud Hidrante COMPARTIDO de 3"cont reg lim, hasta 5 tomas</p> <p>HIDRANTE 3" CON VÁLVULA HIDRÁULICA TIPO SERIE 400, REDUCTORA DE PRESIÓN Y LIMITADOR DE CAUDAL TIPO PALETA, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTADOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 3" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERERÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN. COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p> <p>HIDRANTES 3"</p> <table border="0"> <tr> <td>ZONA BOMBEO</td> <td>26</td> <td>26,000</td> </tr> <tr> <td>ZONA PRESIÓN NATURAL</td> <td>2</td> <td>2,000</td> </tr> </table>	ZONA BOMBEO	26	26,000	ZONA PRESIÓN NATURAL	2	2,000								D74080302-6	<p>Ud Hidrante COMPARTIDO de 6"cont reg lim, hasta 5 tomas</p> <p>HIDRANTE 6" CON VÁLVULA HIDRÁULICA TIPO SERIE 400, REDUCTORA DE PRESIÓN Y LIMITADOR DE CAUDAL TIPO PALETA, CON PILOTO DE 3VÍAS Y SOLENOIDE TIPO LATCH, FILTRO DE MALLAS DE PASO RECTO TIPO "CLA-VAL" CON PASO DE 2 MM PARA ASPERSIÓN, CON TOMA ACCESORIA ROSCADA Y TAPÓN DE 2" ANTES DE FILTRO, CON TOMAS MANOMÉTRICAS ANTES Y DESPUÉS DEL FILTRO Y DESPUÉS DE LA VÁLVULA PRINCIPAL, INCLUIDA LA VÁLVULA DE CONEXIÓN 1/4" EN CADA UNA DE ELLAS, CON CONEXIÓN EN LATERAL DE FILTRO PARA VÁLVULA DE 2" ROSACADA CON ADAPTADOR PARA CONEXIÓN CON SALIDA ORIENTADA HACIA EL EXTERIOR DE ARQUETA TIPO BAZUCA (INCLUIDA LA VÁLVULA, EL ADAPTADOR Y SALIDA TIPO BAZUCA), VÁLVULAS DE SECCIONAMIENTO, VENTOSA 2" Y CALDERERÍA, DE DIÁMETRO 6" Y 16 ATM DE PRESIÓN DE TRABAJO (POSIBILIDAD DE INSTALACIÓN DE TUBERIAS DE PEAD EN SUSTITUCIÓN DE PARTE DE LA CALDERERÍA (SEGÚN TABLAS DE PLANOS)), INCLUSO BRIDAS, JUNTAS, TORNILLERÍA, PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, EXCAVACION, COMPACTACIÓN Y ASIENTO Y ANCLAJES DE HORMIGÓN. COMPLETAMENTE COLOCADO Y PROBADO. MEDIDA LA UNIDAD INSTALADA.</p> <p>HIDRANTES 6 "</p> <table border="0"> <tr> <td>ZONA BOMBEO</td> <td>4</td> <td>4,000</td> </tr> <tr> <td>ZONA PRESIÓN NATURAL</td> <td>1</td> <td>1,000</td> </tr> </table>	ZONA BOMBEO	4	4,000	ZONA PRESIÓN NATURAL	1	1,000									
ZONA BOMBEO	26	26,000																													
ZONA PRESIÓN NATURAL	2	2,000																													
ZONA BOMBEO	4	4,000																													
ZONA PRESIÓN NATURAL	1	1,000																													
							28,00	1.177,53	32.970,84								55,00	1.385,05	76.177,75												
										CON2	<p>Ud CONTADOR TANGENCIAL 2" CON VALVULA</p> <p>CONTADOR DE AGUA TANGENCIAL CON EMISOR DE PULSOS, DE DIÁMETRO 2" Y 16 ATM DE PRESIÓN DE TRABAJO, INCLUSO VÁLVULA DE COMPUERTA DN50, CALDERERÍA, BRIDAS, JUNTAS, TORNILLERÍA PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA.</p> <p>EN HIDRANTES COMPARTIDOS:</p> <table border="0"> <tr> <td>ZONA BOMBEO</td> <td>6</td> <td>6,000</td> </tr> <tr> <td>ZONA PRESIÓN NATURAL</td> <td>27</td> <td>27,000</td> </tr> </table>	ZONA BOMBEO	6	6,000	ZONA PRESIÓN NATURAL	27	27,000														
ZONA BOMBEO	6	6,000																													
ZONA PRESIÓN NATURAL	27	27,000																													
																	33,00	226,45	7.472,85												

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
											APARTADO 11.01.04 OBRA CIVIL									
CON3	Ud CONTADOR TANGENCIAL 3" CON VALVULA CONTADOR DE AGUA TANGENCIAL CON EMISOR DE PULSOS, DE DIÁMETRO 3" Y 16 ATM DE PRESIÓN DE TRABAJO, INCLUSO VÁLVULA DE COMPUERTA DN80, CALDERERÍA, BRIDAS, JUNTAS, TORNILLERÍA PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA. EN HIDRANTES COMPARTIDOS: ZONA BOMBEO 24 24,0000 ZONA PRESIÓN NATURAL 181 181,0000						205,00	399,30	81.856,50											
CON4	Ud CONTADOR TANGENCIAL 4" CON VALVULA CONTADOR DE AGUA TANGENCIAL CON EMISOR DE PULSOS, DE DIÁMETRO 4" Y 16 ATM DE PRESIÓN DE TRABAJO, INCLUSO VALVULA DE COMPUERTA DN100, CALDERERÍA, BRIDAS, JUNTAS, TORNILLERÍA PERFILES DE SUJECIÓN Y ELEMENTOS DE UNIÓN, COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA. EN HIDRANTES COMPARTIDOS: ZONA BOMBEO 2 2,0000 ZONA PRESIÓN NATURAL 4 4,0000						6,00	501,99	3.011,94											
MAPCCII	Ud Anodos protección catódica SISTEMA DE PROTECCIÓN CATÓDICA FORMADA POR ÁNODO DE MAGNESIO DE 4,1 KG PREEMPAQUETADO COLOCADO Y PROBADO INCLUSO PARTE PROPORCIONAL DE LOS SIGUIENTES ELEMENTOS: - TEJA DE ACERO CURVADA CON 10 M. DE CABLE CU RV 0,6/1KV 1*6 MM2. - ENCAPSULACIÓN PARA LA SOLDADURA CABLE-TUBERÍA DE CINTA ELASTOMÉRICA. - CAJA DE TOMA DE POTENCIAL DE 200*200 MM EN ALEACIÓN DE ALUMINIO IP-65, PLACA DE MONTAJE CON CUATRO BORNAS Y TUBO SOPORTE DE ACERO GALVANIZADO DE 2" Y 2 M. DE LONGITUD. - CABLE DE CU RV 0,6/1KV 1*6 MM2. - ELECTRODO REFERENCIA PERMANENTE CU/CUSO4. PASO DESAGÜE 7 7,000 SECCIONAMIENTOS 37 37,000 VT Y DG 93 93,000 HIDRANTES 321 321,000 DERIVACIONES 116 116,000 CODOS 131 131,000						705,00	106,40	75.012,00											
								TOTAL APARTADO 11.01.03 ELEMENTOS	1.210.535,90											

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
ARQHIDRANTE1B Ud Arqueta para Hidrante, Tipo Armario Hormigón Arm. 2,00x1,00x1,40										ARQHIDRANTE2 Ud Arqueta para Hidrante, Tipo Armario Hormigón Arm. 2,50x1,50x2,20									
ARQUETA PARA ALOJAMIENTO DE HIDRANTE DE 3" Y 4", FORMADA POR ARMARIO PREFABRICADO DE DIMENSIONES INTERIORES 2,00X1,00X1,40 M, EN HA-25, TRATADO CON ADITIVO FLUIDIFICANTE, ARMADO PARA RESISTIR LAS SOLICITACIONES PROPIAS A LAS QUE ESTÁ DESTINADO, CON DOS PUERTAS DE ACERO GALVANIZADO DE 1,5 MM CON NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA TANTO EN PUERTAS COMO EN PARTE TRASERA DE ARQUETA, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE Y CANDADO CENTRAL. SEPARACIÓN ESPACIOS CR-USUARIO MEDIANTE LÁMINA METÁLICA. INCLUYE LLAVE MAESTRA PARA EL GESTOR DE LA COMUNIDAD DE REGANTES E INDIVIDUAL PARA USUARIO Y PLETINAS SOLDADAS A LA PUERTA (PREVIO AL GALVANIZADO) PARA EL CIERRE MEDIANTE CANDADO. INCLUYE ROTULACIÓN DE ARQUETA CON DENOMINACIÓN DEL HIDRANTE. INCLUYE REJILLAS TIPO MOSQUITERA EN TODOS LOS AGUJEROS DE LA CASETA QUE COMUNIQUEN CON EL EXTERIOR. INCLUYE CHAPA DE ACERO E=4 MM GALVANIZADA (E MEDIO 70 MICRAS, E MIN 55 MICRAS) DE DIMENSIONES 50 CM X 50 CM CON AGUJERO EN EL CENTRO TAL QUE PERMITA EL PASO DE LA CALDERERÍA DE SALIDA EN EL HIDRANTE, CON VIROLA DE LA MISMA CHAPA DE LONGITUD AL MENOS IGUAL AL ESPESOR DE LA CASETA, RECUBIERTA INTERIORMENTE POR JUNTA DE NEOPRENO DE E=1 CM PARA SUJECIÓN DE LA CALDERERÍA DE SALIDA DEL HIDRANTE. TANTO CHAPA COMO VIROLA Y JUNTA ESTARÁN SECCIONADAS POR LA MITAD PARA PODER ABRAZAR LA CALDERERÍA DE SALIDA, PERO SE INSTALARÁ UNIENDO LAS DOS SECCIONES. INCLUYE TORTILLERÍA Y TALADROS Y TODOS LOS TRABAJOS ACCESORIOS. INCLUYE REJUNTADO DE LA CALDERERÍA DE SALIDA DE LA CASETA CON MORTERO RESINADO. INCLUYE RELLENO EN GRAVILLÍN 6/12 MM Y SOLERA EN HM-20, COMPACTACIONES NECESARIAS PARA UNA CORRECTA ESTABILIDAD DE LA CASETA Y LOS POSIBLES IMPREVISTOS POR ASIENTOS DE LA CASETA. INCLUYE FIJACIÓN DE LOS CABLES DEL TELECONTROL A LA CASETA MEDIANTE CANALITA TIPO UNEX ATORNILLADA SOBRE EL INTERIOR DE LA CASETA O SIMILAR Y/O CABLE DE PVC CON ALMA DE ACERO GRAPADO EN EL INTERIOR DE LA CASETA (EN ESTE CASO LA DEFLEXIÓN MÁXIMA DEL TUBO DE ACERO DURANTE LOS DOS PRIMEROS AÑOS PERMITIDA SERÁ DE 1 CM). INCLUYE 3 METROS DE TUBO CORRUGADO DE DOBLE PARED DE PEAD DN 160 PARA PROTECCIÓN DE LOS MICROTUBOS DEL SISTEMA DE TELECONTROL DESDE EL INTERIOR AL EXTERIOR DE LA CASETA. INCLUYE COMPLETO REJUNTADO CON MORTERO RESINADO DEL MÁSTIL DEL TELECONTROL. INCLUYE APOYO DEL CONJUNTO HIDRANTE DESDE EL CARRETE INTERMEDIO ENTRE HIDRANTE Y FILTRO HASTA SOLERA MEDIANTE BORDILLO DE HORMIGÓN O SIMILAR Y PLETINAS METÁLICAS. INCLUYE TODOS LOS MEDIOS NECESARIOS E IMPREVISTOS. TOTALMENTE COLOCADA.										ARQUETA ARA ALOJAMIENTO DE HIDRANTE DE 6" Y 8", FORMADA POR ARMARIO PREFABRICADO DE DIMENSIONES INTERIORES 2,50X1,50X2,20M, EN HA-25, TRATADO CON ADITIVO FLUIDIFICANTE, ARMADO PARA RESISTIR LAS SOLICITACIONES PROPIAS A LAS QUE ESTÁ DESTINADO, CON DOS PUERTAS DE ACERO GALVANIZADO DE 1,5 MM CON NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA TANTO EN PUERTAS COMO EN PARTE TRASERA DE ARQUETA, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE Y CANDADO CENTRAL. SEPARACIÓN ESPACIOS CR-USUARIO MEDIANTE LÁMINA METÁLICA. INCLUYE LLAVE MAESTRA PARA EL GESTOR DE LA COMUNIDAD DE REGANTES E INDIVIDUAL PARA USUARIO Y PLETINAS SOLDADAS A LA PUERTA (PREVIO AL GALVANIZADO) PARA EL CIERRE MEDIANTE CANDADO. INCLUYE ROTULACIÓN DE ARQUETA CON DENOMINACIÓN DEL HIDRANTE. INCLUYE REJILLAS TIPO MOSQUITERA EN TODOS LOS AGUJEROS DE LA CASETA QUE COMUNIQUEN CON EL EXTERIOR. INCLUYE CHAPA DE ACERO E=4 MM GALVANIZADA (E MEDIO 70 MICRAS, E MIN 55 MICRAS) DE DIMENSIONES 50 CM X 50 CM CON AGUJERO EN EL CENTRO TAL QUE PERMITA EL PASO DE LA CALDERERÍA DE SALIDA EN EL HIDRANTE, CON VIROLA DE LA MISMA CHAPA DE LONGITUD AL MENOS IGUAL AL ESPESOR DE LA CASETA, RECUBIERTA INTERIORMENTE POR JUNTA DE NEOPRENO DE E=1 CM PARA SUJECIÓN DE LA CALDERERÍA DE SALIDA DEL HIDRANTE. TANTO CHAPA COMO VIROLA Y JUNTA ESTARÁN SECCIONADAS POR LA MITAD PARA PODER ABRAZAR LA CALDERERÍA DE SALIDA, PERO SE INSTALARÁ UNIENDO LAS DOS SECCIONES. INCLUYE TORTILLERÍA Y TALADROS Y TODOS LOS TRABAJOS ACCESORIOS. INCLUYE REJUNTADO DE LA CALDERERÍA DE SALIDA DE LA CASETA CON MORTERO RESINADO. INCLUYE RELLENO EN GRAVILLÍN 6/12 MM Y SOLERA EN HM-20, COMPACTACIONES NECESARIAS PARA UNA CORRECTA ESTABILIDAD DE LA CASETA Y LOS POSIBLES IMPREVISTOS POR ASIENTOS DE LA CASETA. INCLUYE FIJACIÓN DE LOS CABLES DEL TELECONTROL A LA CASETA MEDIANTE CANALITA TIPO UNEX ATORNILLADA SOBRE EL INTERIOR DE LA CASETA O SIMILAR Y/O CABLE DE PVC CON ALMA DE ACERO GRAPADO EN EL INTERIOR DE LA CASETA (EN ESTE CASO LA DEFLEXIÓN MÁXIMA DEL TUBO DE ACERO DURANTE LOS DOS PRIMEROS AÑOS PERMITIDA SERÁ DE 1 CM). INCLUYE 3 METROS DE TUBO CORRUGADO DE DOBLE PARED DE PEAD DN 160 PARA PROTECCIÓN DE LOS MICROTUBOS DEL SISTEMA DE TELECONTROL DESDE EL INTERIOR AL EXTERIOR DE LA CASETA. INCLUYE COMPLETO REJUNTADO CON MORTERO RESINADO DEL MÁSTIL DEL TELECONTROL. INCLUYE APOYO DEL CONJUNTO HIDRANTE DESDE EL CARRETE INTERMEDIO ENTRE HIDRANTE Y FILTRO HASTA SOLERA MEDIANTE BORDILLO DE HORMIGÓN O SIMILAR Y PLETINAS METÁLICAS. INCLUYE TODOS LOS MEDIOS NECESARIOS E IMPREVISTOS. TOTALMENTE COLOCADA.									
2"										6"									
HIDRANTES INDIVIDUALES Y COMPARTIDOS										HIDRANTES INDIVIDUALES Y COMPARTIDOS									
ZONA BOMBEO										ZONA BOMBEO									
ZONA PRESIÓN NATURAL										ZONA PRESIÓN NATURAL									
3"										3"									
HIDRANTES INDIVIDUALES										HIDRANTES COMPARTIDOS									
ZONA BOMBEO										ZONA BOMBEO									
ZONA PRESIÓN NATURAL										ZONA PRESIÓN NATURAL									
A DEDUCIR POR COMPARTIDOS:										A DEDUCIR POR DOBLES:									
ZONA BOMBEO										ZONA BOMBEO									
ZONA PRESIÓN NATURAL										ZONA PRESIÓN NATURAL									
4"										4"									
HIDRANTES INDIVIDUALES										HIDRANTES COMPARTIDOS									
ZONA BOMBEO										ZONA BOMBEO									
ZONA PRESIÓN NATURAL										ZONA PRESIÓN NATURAL									
A DEDUCIR POR COMPARTIDOS:										A DEDUCIR POR TRIPLES:									
ZONA BOMBEO										ZONA BOMBEO									
ZONA PRESIÓN NATURAL										ZONA PRESIÓN NATURAL									
HIDRANTES COMPARTIDOS										A DEDUCIR POR CUÁDRUPLES:									
ZONA BOMBEO										ZONA BOMBEO									
							156,00	857,34	133.745,04										

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
	ZONA PRESIÓN NATURAL						130,00	1.387,93	180.430,90	HIDARQ05C	UD ARQUETA TIPO ARMARIO HORMIGÓN 3,7x2,25x2,3								
											ARQUETA PREFABRICADA, FORMADA POR ARMARIO PREFABRICADO DE DIMENSIONES INTERIORES 3,70X2,25X2,30 M, EN HA-25, TRATADO CON ADITIVO FLUIDIFICANTE, ARMADO PARA RESISTIR LAS SOLICITACIONES PROPIAS A LAS QUE ESTÁ DESTINADO, CON DOS PUERTAS DE ACERO GALVANIZADO DE 1,5 MM CON NERVADURA PERIMETRAL DE REFUERZO, REJILLA DE VENTILACIÓN CON MOSQUITERA TANTO EN PUERTAS COMO EN PARTE TRASERA DE ARQUETA, BISAGRAS CON PERNO DE PALA, CERROJO REFORZADO TIPO AZBE Y CANDADO CENTRAL. SEPARACIÓN ESPACIOS CR-USUARIO MEDIANTE LÁMINA METÁLICA. INCLUYE LLAVE MAESTRA PARA EL GESTOR DE LA COMUNIDAD DE REGANTES E INDIVIDUAL PARA USUARIO Y PLETINAS SOLDADAS A LA PUERTA (PREVIO AL GALVANIZADO) PARA EL CIERRE MEDIANTE CANDADO. INCLUYE ROTULACIÓN DE ARQUETA CON DENOMINACIÓN DEL HIDRANTE. INCLUYE REJILLAS TIPO MOSQUITERA EN TODOS LOS AGUJEROS DE LA CASETA QUE COMUNIQUEN CON EL EXTERIOR. INCLUYE CHAPA DE ACERO E=4 MM GALVANIZADA (E MEDIO 70 MICRAS, E MIN 55 MICRAS) DE DIMENSIONES 50 CM X 50 CM CON AGUJERO EN EL CENTRO TAL QUE PERMITA EL PASO DE LA CALDERERÍA DE SALIDA EN EL HIDRANTE, CON VIROLA DE LA MISMA CHAPA DE LONGITUD AL MENOS IGUAL AL ESPESOR DE LA CASETA, RECUBIERTA INTERIORMENTE POR JUNTA DE NEOPRENO DE E=1 CM PARA SUJECIÓN DE LA CALDERERÍA DE SALIDA DEL HIDRANTE. TANTO CHAPA COMO VIROLA Y JUNTA ESTARÁN SECCIONADAS POR LA MITAD PARA PODER ABRAZAR LA CALDERERÍA DE SALIDA, PERO SE INSTALARÁ UNIENDO LAS DOS SECCIONES. INCLUYE TORTILLERÍA Y TALADROS Y TODOS LOS TRABAJOS ACCESORIOS. INCLUYE REJUNTADO DE LA CALDERERÍA DE SALIDA DE LA CASETA CON MORTERO RESINADO. INCLUYE RELLENO EN GRAVILLÍN 6/12 MM Y SOLERA EN HM-20, COMPACTACIONES NECESARIAS PARA UNA CORRECTA ESTABILIDAD DE LA CASETA Y LOS POSIBLES IMPREVISTOS POR ASIENTOS DE LA CASETA. INCLUYE FIJACIÓN DE LOS CABLES DEL TELECONTROL A LA CASETA MEDIANTE CANALETA TIPO UNEX ATORNILLADA SOBRE EL INTERIOR DE LA CASETA O SIMILAR Y/O CABLE DE PVC CON ALMA DE ACERO GRAPADO EN EL INTERIOR DE LA CASETA (EN ESTE CASO LA DEFLEXIÓN MÁXIMA DEL TUBO DE ACERO DURANTE LOS DOS PRIMEROS AÑOS PERMITIDA SERÁ DE 1 CM). INCLUYE 3 METROS DE TUBO CORRUGADO DE DOBLE PARED DE PEAD DN 160 PARA PROTECCIÓN DE LOS MICROTUBOS DEL SISTEMA DE TELECONTROL DESDE EL INTERIOR AL EXTERIOR DE LA CASETA. INCLUYE COMPLETO REJUNTADO CON MORTERO RESINADO DEL MÁSTIL DEL TELECONTROL. INCLUYE APOYO DEL CONJUNTO HIDRANTE DESDE EL CARRETE INTERMEDIO ENTRE HIDRANTE Y FILTRO HASTA SOLERA MEDIANTE BORDILLO DE HORMIGÓN O SIMILAR Y PLETINAS METÁLICAS. INCLUYE TODOS LOS MEDIOS NECESARIOS E IMPREVISTOS. TOTALMENTE COLOCADA.								
											6" DOBLES								
											HIDRANTES INDIVIDUALES Y COMPARTIDOS								
											ZONA BOMBEO	4					4,00		
											ZONA PRESIÓN NATURAL								
											8"								
											HIDRANTES INDIVIDUALES								
											ZONA BOMBEO	35					35,00		
											ZONA PRESIÓN NATURAL	12					12,00		
											A DEDUCIR POR DOBLES:								
											ZONA BOMBEO	-5					-5,00		
											ZONA PRESIÓN NATURAL	-2					-2,00		
											A DEDUCIR POR TRIPLES:								
											ZONA BOMBEO	-2					-2,00		
											ZONA PRESIÓN NATURAL	-1					-1,00		
											A DEDUCIR POR CUÁDRUPLES:								
											ZONA BOMBEO	-2					-2,00		
											ZONA PRESIÓN NATURAL								
																	39,00	2.608,18	101.719,02

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE						
R07MP515	Ud Arqueta prefabricada ø150cm ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHembrados DE Ø100 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MM DE ESPESOR Y PROVISTA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA. VENTOSAS	7				7,000	7,00	318,05	2.226,35	ARQVALVU2	Ud Arqueta para válvulas DN>=800, HA-35 ARQUETA PARA ALOJAMIENTO DE VÁLVULAS DE SECCIONAMIENTO, CONSTRUIDA "IN SITU", DE 2,50 X 2,50 METROS DE DIMENSIONES INTERIORES Y ALTURA VARIABLE, INFERIOR A 2,50 METROS. CON SOLERA DE 0,30 METROS HORMIGÓN HA-35 CON CEMENTO SR, PAREDES DE HORMIGÓN ARMADO HA-35 DE 0,25 M DE ESPESOR, ARMADURA EN SOLERA Y PAREDES A BASE DE MALLAZO DE DIÁMETRO 12 MM CADA 15 CENTÍMETROS POR 15 CENTÍMETROS, INCLUSO POZO DE ACHIQUE O SALIDA A DESAGÜE CON CONEXIÓN DE CALDERERÍA INCLUIDA. TAPA METÁLICA DE ACERO DE 3 MM DE ESPESOR Y ESTRUCTURA CON TRATAMIENTO ANTICORROSIVO, MARCO DE SUJECIÓN Y CANDADO. PATES DE ACCESO TOTALMENTE INSTALADOS Y FIJADOS EN MURO. COMPLETAMENTE EJECUTADA. EN SECCIONAMIENTOS DOS VÁLVULAS EN UNA MISMA ARQUETA	6 -3				6,000 -3,000									
R07MP510	Ud Arqueta prefabricada ø100cm ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHembrados DE Ø100 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MICROM DE ESPESOR Y PROVISTA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA. VENTOSAS DESAGÜES	20 66 26 83 63 89				20,000 66,000 26,000 83,000 63,000 89,000	347,00	175,64	60.947,08	ARQVALVU3	Ud Arqueta para válvulas DN>=800, HA-35 (4x3 m interior) ARQUETA PARA ALOJAMIENTO DE VÁLVULAS DE SECCIONAMIENTO, CONSTRUIDA "IN SITU", DE 4,00 X 3,00 METROS DE DIMENSIONES INTERIORES Y ALTURA VARIABLE, INFERIOR A 2,50 METROS. CON SOLERA DE 0,30 METROS HORMIGÓN HA-35 CON CEMENTO SR, PAREDES DE HORMIGÓN ARMADO HA-35 DE 0,25 M DE ESPESOR, ARMADURA EN SOLERA Y PAREDES A BASE DE MALLAZO DE DIÁMETRO 12 MM CADA 15 CENTÍMETROS POR 15 CENTÍMETROS, INCLUSO POZO DE ACHIQUE O SALIDA A DESAGÜE CON CONEXIÓN DE CALDERERÍA INCLUIDA. TAPA METÁLICA DE ACERO DE 3 MM DE ESPESOR Y ESTRUCTURA CON TRATAMIENTO ANTICORROSIVO, MARCO DE SUJECIÓN Y CANDADO. PATES DE ACCESO TOTALMENTE INSTALADOS Y FIJADOS EN MURO. COMPLETAMENTE EJECUTADA. DOS VÁLVULAS EN UNA MISMA ARQUETA	13				13,000									
R07MP510-2	Ud Arqueta prefabricada ø100cm. Solo en pozo archique desagüe Tipo2 ARQUETA PREFABRICADA FORMADA POR ANILLOS DE HORMIGÓN EN MASA MACHIHembrados DE Ø100 CM CERRADA CON TAPA DE CHAPA LAGRIMADA DE 3/5 MM PINTADA GALVANIZADA EN CALIENTE, DE 250 MM DE ESPESOR Y PROVISTA DE VARILLA PASANTE Y CANDADO. INCLUSO RELLENO CON MATERIAL GRANULAR HASTA ARQUETA Y COMPACTADO POSTERIOR DEL TRASDÓS DE LA ARQUETA. DOBLE POZO. TIPO II.	41				41,000	41,00	401,57	16.464,37								13,00	4.328,88	56.275,44						
ARQVALVU	Ud Arqueta para válvulas DN<800, HA-35 ARQUETA PARA ALOJAMIENTO DE VÁLVULAS DE SECCIONAMIENTO, CONSTRUIDA "IN SITU", DE 1,50 X 1,50 METROS DE DIMENSIONES INTERIORES Y ALTURA VARIABLE, INFERIOR A 2,50 METROS. CON SOLERA DE 0,25 METROS HORMIGÓN HA-35 CON CEMENTO SR, PAREDES DE HORMIGÓN ARMADO HA-35 DE 0,20 M DE ESPESOR, ARMADURA EN SOLERA Y PAREDES A BASE DE MALLAZO DE DIÁMETRO 12 MM CADA 15 CENTÍMETROS POR 15 CENTÍMETROS, INCLUSO POZO DE ACHIQUE O SALIDA A DESAGÜE CON CONEXIÓN DE CALDERERÍA INCLUIDA. TAPA METÁLICA DE ACERO DE 3 MM DE ESPESOR Y ESTRUCTURA CON TRATAMIENTO ANTICORROSIVO, MARCO DE SUJECIÓN Y CANDADO. PATES DE ACCESO TOTALMENTE INSTALADOS Y FIJADOS EN MURO. COMPLETAMENTE EJECUTADA. EN SECCIONAMIENTOS DOS VÁLVULAS EN UNA MISMA ARQUETA	31 -10				31,000 -10,000	21,00	2.204,40	46.292,40	R07AT140B	m Paso Hinca Camisa Acero 1400 mm, escudo abierto PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 1420X12,5 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAIDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA. CTRA A-129, R-1, PK0+140 CTRA A-129, R-2, PK1+126 CTRA A-1220, R-1, PK2+245	1 1 1				28,000 28,000 25,000									
TOTAL APARTADO 11.01.04 OBRA CIVIL																			607.649,39						
APARTADO 11.01.05 OBRAS ESPECIALES																									
																	81,00	1.772,23	143.550,63						

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
R07AT120B	m Paso Hinca Camisa Acero 1200 mm, escudo abierto PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 1220X10,3 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAIDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.	1	25,000			25,000				R07AT060B	m Paso Hinca Camisa Acero 600 mm, escudo abierto PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 610X6,4 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAIDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.	1	34,000			34,000					
	CTRA A-129, R-4, PK1+256										CTRA A-129 R-1-7-1, PK0+020										
							25,00	1.453,99	36.349,75								34,00	885,72	30.114,48		
R07AT100B	m Paso Hinca Camisa Acero 1000 mm, escudo abierto PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 1016X10,3 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAIDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.	1	29,000			29,000				R07AT040B	m Paso Hinca Camisa Acero 400 mm, escudo abierto PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 406X6,4 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAIDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.	1	21,000			21,000					
	CTRA A-129, R-3, PK0+484										CTRA A-1221 R-1-9-2, PK1+649										
	CTRA A-129, R-1, PK3+071																				
							54,00	1.212,34	65.466,36								21,00	718,39	15.086,19		
R07AT080B	m Paso Hinca Camisa Acero 800 mm, escudo abierto PASO BAJO CARRETERA O FERROCARRIL MEDIANTE HINCA TIPO ESCUDO ABIERTO PARA PASO DE TUBERÍAS, EJECUTADO EN ROCA CON RESISTENCIA A COMPRESIÓN SIMPLE >=175 KG/CM2 MEDIANTE TUBERÍA DE ACERO DE 813X7,9 MM, A UNA PROFUNDIDAD MÍNIMA DE 1,5 METROS DE LA GENERATRIZ SUPERIOR DE LA TUBERÍA A LA SUPERFICIE DE LA CARRETERA O FERROCARRIL Y DE 0,75 M DE CUNETAS, RESPETANDO UNA DISTANCIA MÍNIMA DESDE LAS ZONAS DE ACTUACIÓN (POZO DE ATAQUE Y POZO DE SALIDA) HASTA LA CARRETERA DE 8 M. EL PRECIO UNITARIO INCLUYE EL DESPLAZAMIENTO DEL EQUIPO A LA OBRA, TUBERÍA, PERFORACIÓN, SOLDADURA CON TODOS LOS MEDIOS AUXILIARES NECESARIOS, PRUEBA DE ESTANQUEIDAD, MOVIMIENTOS DE TIERRAS PARA LA EJECUCIÓN DEL FOSO DE ATAQUE Y FOSO DE SALIDA, HORMIGONES Y FERRALLAS, RETIRADA DEL MATERIAL EXTRAIDO Y ACHIQUE DE AGUA SI FUERA NECESARIO, ESTABILIZACIÓN DE LOS TERRENOS, AYUDA TOPOGRÁFICA PARA FIJAR ORIENTACIONES Y SISTEMA DE VENTILACIÓN E ILUMINACIÓN. MEDIDA LA UNIDAD COMPLETAMENTE EJECUTADA Y PROBADA.	1	25,000			25,000				R07PCA160	m Paso Camino Asfaltado, Camisa 1600 PASO BAJO CAMINO ASFALTADO, MEDIANTE LA INSTALACIÓN DE CAMISA A BASE DE TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1600 MM. ZANJA DE ANCHURA EN LA BASE 2,2 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, RELLENO CON HORMIGÓN HM 20 HASTA UNA ALTURA DE 0,10M POR ENCIMA DE LA CLAVE SUPERIOR DEL TUBO DE HORMIGÓN, COMPLETÁNDOSE CON ZAHORRA NATURAL COMPACTADA AL 98% P.M. HASTA LOS ÚLTIMOS 0,3 M, QUE SE RELLENARÁ CON HORMIGÓN HM-20 HASTA ALCANZAR LA COTA DEL CAMINO, TERMINACIÓN CON MEZCLA BITUMINOSA EN CALIENTE DEBIDAMENTE COMPACTADA Y RIEGO ASFÁLTICO DE ADHERENCIA. INCLUSO EXCAVACIÓN CON ROMPEDOR EN CASO NECESARIO. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	1	10,000			10,000					
	CTRA A-129, R-1, PK3+071										CA ASFALTADO-1200										
	CTRA A-1220 R-2, PK3+245																				
	CTRA A-1221 R-6-9, PK0+140																				
							71,00	1.031,58	73.242,18								10,00	460,54	4.605,40		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
R07PCA140	m Paso Camino Asfaltado, Camisa 1400 PASO BAJO CAMINO ASFALTADO, MEDIANTE LA INSTALACIÓN DE CAMISA A BASE DE TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1400 MM. ZANJA DE ANCHURA EN LA BASE 2,0 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, RELLENO CON HORMIGÓN HM 20 HASTA UNA ALTURA DE 0,10M POR ENCIMA DE LA CLAVE SUPERIOR DEL TUBO DE HORMIGÓN, COMPLETÁNDOSE CON ZAHORRA NATURAL COMPACTADA AL 98% P.M. HASTA LOS ÚLTIMOS 0,3 M, QUE SE RELLENARÁ CON HORMIGÓN HM-20 HASTA ALCANZAR LA COTA DEL CAMINO, TERMINACIÓN CON MEZCLA BITUMINOSA EN CALIENTE DEBIDAMENTE COMPACTADA Y RIEGO ASFÁLTICO DE ADHERENCIA. INCLUSO EXCAVACIÓN CON ROMPEDOR EN CASO NECESARIO. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	CA ASFALTADO-1000	1	10,000		10,000				R07PC140	m Paso Camino Camisa Hormigón 1400 PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1400 MM. ZANJA DE ANCHURA EN LA BASE 2,0 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 20 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	CA-1000	4	6,000		24,000				
							10,00	368,77	3.687,70								24,00	371,41	8.913,84	
R07PCA100	m Paso Camino Asfaltado, Camisa 1000 PASO BAJO CAMINO ASFALTADO, MEDIANTE LA INSTALACIÓN DE CAMISA A BASE DE TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1000 MM. ZANJA DE ANCHURA EN LA BASE 1,6 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, RELLENO CON HORMIGÓN HM 20 HASTA UNA ALTURA DE 0,10M POR ENCIMA DE LA CLAVE SUPERIOR DEL TUBO DE HORMIGÓN, COMPLETÁNDOSE CON ZAHORRA NATURAL COMPACTADA AL 98% P.M. HASTA LOS ÚLTIMOS 0,3 M, QUE SE RELLENARÁ CON HORMIGÓN HM-20 HASTA ALCANZAR LA COTA DEL CAMINO, TERMINACIÓN CON MEZCLA BITUMINOSA EN CALIENTE DEBIDAMENTE COMPACTADA Y RIEGO ASFÁLTICO DE ADHERENCIA. INCLUSO EXCAVACIÓN CON ROMPEDOR EN CASO NECESARIO. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	CA ASFALTADO-600	2	10,000		20,000				R07PC120	m Paso Camino Camisa Hormigón 1200 PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1200 MM. ZANJA DE ANCHURA EN LA BASE 1,8 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 20 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	CA-800	7	6,000		42,000				
		CA ASFALTADO-700	2	10,000		20,000						CA-900	2	6,000		12,000				
							40,00	293,13	11.725,20								54,00	303,10	16.367,40	
R07PCA040	m Paso Camino Asfaltado, Camisa 400 PASO BAJO CAMINO ASFALTADO, MEDIANTE LA INSTALACIÓN DE CAMISA A BASE DE TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 400 MM. ZANJA DE ANCHURA EN LA BASE 1,0 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, RELLENO CON HORMIGÓN HM 20 HASTA UNA ALTURA DE 0,10M POR ENCIMA DE LA CLAVE SUPERIOR DEL TUBO DE HORMIGÓN, COMPLETÁNDOSE CON ZAHORRA NATURAL COMPACTADA AL 98% P.M. HASTA LOS ÚLTIMOS 0,3 M, QUE SE RELLENARÁ CON HORMIGÓN HM-20 HASTA ALCANZAR LA COTA DEL CAMINO, TERMINACIÓN CON MEZCLA BITUMINOSA EN CALIENTE DEBIDAMENTE COMPACTADA Y RIEGO ASFÁLTICO DE ADHERENCIA. INCLUSO EXCAVACIÓN CON ROMPEDOR EN CASO NECESARIO. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	CA ASFALTADO-110	1	10,000		10,000				R07PC100	m Paso Camino Camisa Hormigón 1000 PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1000 MM. ZANJA DE ANCHURA EN LA BASE 1,4 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 15 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	CA-600	18	6,000		108,000				
		CA ASFALTADO-140	1	10,000		10,000						CA-700	14	6,000		84,000				
		CA ASFALTADO-250	1	10,000		10,000											192,00	271,51	52.129,92	
		CA ASFALTADO-315	1	10,000		10,000														
							40,00	222,70	8.908,00											
R07PC160	m Paso Camino Camisa Hormigón 1600 PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 1600 MM. ZANJA DE ANCHURA EN LA BASE 2,2 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 20 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	CA-1100	1	6,000		6,000				R07PC080	m Paso Camino Camisa Hormigón 800 PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 800 MM. ZANJA DE ANCHURA EN LA BASE 1,4 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 15 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	CA-500	19	6,000		114,000				
		CA-1200	2	6,000		12,000											114,00	192,40	21.933,60	
							18,00	457,76	8.239,68											
										R07PC060	m Paso Camino Camisa Hormigón 600 PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 600 MM. ZANJA DE ANCHURA EN LA BASE 1,2 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 15 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.	CA-225	7	6,000		42,000				
												CA-250	12	6,000		72,000				
												CA-315	16	6,000		96,000				
												CA-355	9	6,000		54,000				
												CA-400	4	6,000		24,000				
																	288,00	154,70	44.553,60	

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE					
R07PC040	m Paso Camino Camisa Hormigón 400 PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 400 MM. ZANJA DE ANCHURA EN LA BASE 1,0 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 15 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTIMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.									R07HO020SR	m ³ Hormigón HM-20/B/15-20/IIa+Qb en obra HORMIGÓN EN MASA HM-20/B/15-20/IIA+QB, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA PLÁSTICA, FABRICADO CON CEMENTO I-32,5/SR, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO													
	CA-90	3	6,000			18,000				R02TB020-1	m TUBERÍA DE ACERO HELICOIDAL ø508 mm e=6,4 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 711 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.													
	CA-110	12	6,000			72,000					CRUCE DESAGÜES	7	12,000	4,500	0,150	56,700								
	CA-125	23	6,000			138,000											56,70	72,17	4.092,04					
	CA-140	4	6,000			24,000																		
	CA-160	12	6,000			72,000																		
	CA-180	15	6,000			90,000																		
	CA-200	9	6,000			54,000																		
							468,00	105,55	49.397,40															
ACEQUIA	Ud Cruce acequias riego. HM, HA o prefabricada CRUCE Y REPOSICIÓN DE ACEQUIA EXISTENTE. INCLUIDO EL CORTE, LA DEMOLICIÓN, ASÍ COMO LA RETIRADA Y GESTIÓN DE RESIDUOS. INCLUIDO LA REALIZACIÓN DE OBRAS COMPLEMENTARIAS PARA EL MANTENIMIENTO DEL SERVICIO EN LA ACEQUIA. COMPLETAMENTE EJECUTADO																							
	CRUCE ACEQUIAS																							
	AC-90	2				2,000																		
	AC-110	7				7,000																		
	AC-125	10				10,000																		
	AC-140	7				7,000																		
	AC-160	8				8,000																		
	AC-180	9				9,000																		
	AC-200	8				8,000																		
	AC-225	4				4,000																		
	AC-250	8				8,000																		
	AC-315	10				10,000																		
	AC-355	8				8,000																		
	AC-400	2				2,000																		
	AC-500	16				16,000																		
	AC-600	17				17,000																		
							116,00	133,04	15.432,64															
ACEQUIA2	Ud Cruce acequia CHE. Con o sin reposición CRUCE Y REPOSICIÓN DE ACEQUIA CHE EXISTENTE O EQUIVALENTE MEDIANTE PASO INFERIOR SIN ALTERAR EL CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGÓN DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA, SUJECCIÓN DEL CAJERO Y RELLENO DE HM-20 HASTA LA BASE DEL CAJERO. O CRUCE MEDIANTE CORTE DE CAJERO ACTUAL, COLOCACIÓN DE CAMISA DE HORMIGÓN DE DIÁMETRO SUPERIOR AL DE LA TUBERÍA Y HM-20 HASTA LA BASE Y REPOSICIÓN DEL CAJERO, DEBIDAMENTE SELLADO. INCLUIDO TODOS LOS COSTES DE GESTIÓN DE RESIDUOS, EXCAVACIONES, CARGAS Y TRANSPORTES NECESARIOS.COMPLETAMENTE EJECUTADO																							
	CRUCE ACEQUIAS																							
	AC-700	15				15,000																		
	AC-800	1				1,000																		
	AC-900	1				1,000																		
	AC-1000	7				7,000																		
	AC-1100	1				1,000																		
	AC-1200	2				2,000																		
							27,00	790,50	21.343,50															
										R02TB060	m TUBERÍA DE ACERO HELICOIDAL ø610 mm e=6,4 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 610 MM DE DIÁMETRO Y 6,4 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S235 JR G2 SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. INCLUSO P.P. DE PIEZAS ESPECIALES (CODOS, TÉS, DERIVACIONES, ETC.) Y P.P. DE MACIZOS DE ANCLAJE Y CONTRARRESTOS. MEDIDA LA LONGITUD SOLDADA EN PERFIL, COLOCADA Y PROBADA.													
											RED DE RIEGO EN TRAMO HINCAS:													
											CTRA A-129, R-1, PK3+071	1	27,000							27,000				
											CTRA A-1220 R-2, PK3+245	1	27,000							27,000				
											CTRA A-1221 R-6-9, PK0+140	1	23,000							23,000				
											CRUCE DESAGÜES													
											R-1, PK 0+6245,5	1	10,000							10,000				
																				87,00				
																				164,69				
																				14.328,03				

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE																				
R02TB070	m TUBERÍA DE ACERO HELICOIDAL ø711 mm e=7,9 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 711 MM DE DIÁMETRO Y 7,9 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA. CRUCE DESAGÜES R-6, PK 0+2738 R-6, PK 0+2738						1 1	10,000 10,000	10,000 10,000	R07EM001	Kg Acero B-500-S ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO. CRUCE DESAGÜES (50 KG/M3)	56,7	50,000				2.835,000																						
																			2.835,00	1,12	3.175,20																		
																		TOTAL APARTADO 11.01.05 OBRAS ESPECIALES										725.117,40											
																		TOTAL SUBCAPÍTULO 11.01 RED PRIMARIA.....										13.173.552,77											
R02TB080	m TUBERÍA DE ACERO HELICOIDAL ø813 mm e=7,9 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 813 MM DE DIÁMETRO Y 7,9 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA. RED DE RIEGO EN TRAMO HINCAS: CTRA A-129, R-3, PK0+484 CTRA A-129, R-1, PK3+071						1 1	31,000 27,000	31,000 27,000	R01EX010	m³ Excavación a cielo abierto en Zanjas y Vaciados EXCAVACIÓN A CIELO ABIERTO REALIZADA CON MEDIOS MECÁNICOS HASTA UNA PROFUNDIDAD MÁXIMA DE 6 M, INCLUIDO UN 10% DE EXCAVACIÓN EN ROCA, INCLUSO PERFILADO DE LATERALES Y FONDOS, ENTIBADO Y AGOTAMIENTO, APILADO Y TRASLADO EN OBRA DE PRODUCTOS DE EXCAVACIÓN, APORTACIÓN DE RIEGOS CON CUBA PARA MINIMIZAR LA EMISIÓN DE PARTÍCULAS DE POLVO A LA ATMÓSFERA. INCLUSO LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CREACIÓN DE NICHOS, CATAS PARA LA LOCALIZACIÓN DE INSTALACIONES O INFRAESTRUCTURAS, ASÍ COMO TRABAJOS Y MATERIALES PARA LA REALIZACIÓN DE PISTA DE SERVICIO PARALELA A LA PROPIA ZANJA Y LOS NECESARIOS PARA LA EJECUCIÓN DE TODOS LOS ACCESOS NECESARIOS. INCLUSO TAMBIÉN LA REPARACIÓN Y REPOSICIÓN DE CAMINOS Y VIALES EXISTENTES, SERVICIOS AFECTADOS (CABLES ELÉCTRICOS, INSTALACIONES DE RIEGO, CONDUCCIONES, ETC.), BALATES Y MÁRGENES EXISTENTES ANTES DE LA EXCAVACIÓN Y LA PÉRDIDA DE RENDIMIENTO POR LA PRESENCIA DE SERVICIOS. INCLUIDAS LAS OPERACIONES DE CARGA Y TRANSPORTE A LUGAR DE ACOPIO TEMPORAL PARA SU REUTILIZACIÓN, ASÍ COMO LAS OPERACIONES DE CARGA Y TRANSPORTE AL LUGAR DE ORIGEN. INCLUIDO LA SEPARACIÓN Y ACOPIO DE LA TIERRA VEGETAL PARA SU POSTERIOR REUTILIZACIÓN EN EL CASO QUE NO EXISTA DESBROCE. INCLUSO CARGA Y TRANSPORTE A LUGAR DE EMPLEO, DISTANCIA MÁXIMA DE 2 KM. MEDIDO EL VOLUMEN SOBRE PERFIL NATURAL CON EL PERFIL FINAL Y CON EL PERFIL TEÓRICO DE PROYECTO. TERCIARIAS ZONA BOMBEOS ZONA PRESIÓN NATURAL							1 1	31,000 27,000	31,000 27,000																			
																			58,00	277,02																			
																		TOTAL APARTADO 11.02.01 MOVIMIENTO DE TIERRAS																					
R02TB100	m TUBERÍA DE ACERO HELICOIDAL ø1016 mm e=10 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1016 MM DE DIÁMETRO Y 10,0 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA. RED DE RIEGO EN TRAMO HINCAS: CTRA A-129, R-4, PK1+256						1	27,000	27,000	R01RE400	m³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. TERCIARIAS ZONA BOMBEOS ZONA PRESIÓN NATURAL								1	27,000	27,000																		
																			27,00	403,85																			
																		TOTAL APARTADO 11.02.02 RED SECUNDARIA																					
R02TB120	m TUBERÍA DE ACERO HELICOIDAL ø1219 mm e=10,3 mm TUBERÍA DE ACERO AL CARBONO SOLDADA HELICOIDALMENTE, DE 1219 MM DE DIÁMETRO Y 10,3 MM DE ESPESOR PN MÁX 20 ATM EN ACERO S275JR SEGÚN NORMA DE FABRICACIÓN UNE EN 10025:1994, CON DOBLE CORDÓN DE SOLDADURA INTERIOR Y EXTERIOR, POR EL PROCEDIMIENTO DE ARCO SUMERGIDO TIPO UNIÓN-MELT. PROTECCIÓN INTERIOR MEDIANTE APLICACIÓN DE PINTURA EPOXI AGUA POTABLE DE 300 MICRAS Y EXTERIOR MEDIANTE APLICACIÓN DE PE EXTRUÍDO EN CALIENTE Y PROCEDIMIENTO TRES CAPAS, PREVIO GRANALLADO DE LA SUPERFICIE EN AMBAS CARAS HASTA EL GRADO SA-2 1/2 DE LA NORMA SIS-055900/67. MEDIDA LA LONGITUD EN PERFIL COLOCADA Y PROBADA. RED DE RIEGO EN TRAMO HINCAS: CTRA A-129, R-1, PK0+140 CTRA A-129, R-2, PK1+126 CTRA A-1220, R-1, PK2+245						1 1 1	30,000 30,000 27,000	30,000 30,000 27,000		m³ Asiento y Relleno Material Granular 6/12 MM CAMA Y RELLENO DE MATERIAL GRANULAR TAMAÑO 6/12 MM PARA ASIENTO DE TUBERÍA PROCEDENTE DE PRÉSTAMOS, CON ÁRIDO NATURAL RODADO PUESTA EN OBRA CON UN TAMAÑO DE PARTÍCULA MENOR DE 12 MM Y MAYOR A 6 MM, CON REPARTO MECÁNICO Y EXTENDIDO MANUAL, INCLUIDO EL RASANTEO PARA EL APOYO CORRECTO DE LA TUBERÍA Y TAPADO. MEDIDO EL VOLUMEN DE MATERIAL UNA VEZ COMPACTADAS SOBRE EL PERFIL FINAL EJECUTADO Y TENIENDO EN CUENTA EL PERFIL TEÓRICO DE PROYECTO. TERCIARIAS ZONA BOMBEOS ZONA PRESIÓN NATURAL								1 1 1	30,000 30,000 27,000	30,000 30,000 27,000																		
																			87,00	419,25																			
																		TOTAL APARTADO 11.02.03 RED SECUNDARIA																					

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
APARTADO 11.02.03 OBRAS ESPECIALES																						
R07PC040	m Paso Camino Camisa Hormigón 400									C-10-2000	UD. APOYO METÁLICO DE CELOSIA C-10-2000											
	PASO BAJO CAMINO CON TUBERÍA DE HORMIGÓN CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 400 MM. ZANJA DE ANCHURA EN LA BASE 1,0 METROS, PROFUNDIDAD VARIABLE, TALUDES 1/5 EN PAREDES, CAMA DE ARENA DE 15 CM DE ESPESOR, RELLENO CON MATERIAL GRANULAR Y FINALIZANDO CON 10 CENTÍMETROS DE ZAHORRAS COMPACTADAS. INCLUSO ENTIBACIONES Y AGOTAMIENTOS. COMPLETAMENTE EJECUTADA.										UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-10-2000, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSÍA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 10 METROS DE ALTURA Y 2.000 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL.											
	PASOS CAMINOS CON RED TERCARIA	23	6,000						138,000			TRAMO 1	1						1,00			
												TRAMO 2	1						1,00			
									138,00										2,00	1.797,67	3.595,34	
	TOTAL APARTADO 11.02.03 OBRAS ESPECIALES								14.565,90	C-14-1000	UD. APOYO METÁLICO DE CELOSIA C-14-1000											
	TOTAL SUBCAPÍTULO 11.02 RED SECUNDARIA.....								193.431,50		UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-14-1000, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSÍA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 14 METROS DE ALTURA Y 1.000 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL.											
	TOTAL CAPÍTULO 11 RED DE RIEGO.....								13.366.984,27			TRAMO 1										
												TRAMO 2	1						1,00			
																			1,00	1.807,22	1.807,22	
CAPÍTULO 12 MEDIA TENSIÓN																						
SUBCAPÍTULO 12.01 LÍNEA AÉREA DE MEDIA TENSIÓN																						
ELEC0228	MI Tendido línea aérea cable LA-56 simple circuto (3 conductores)									C-12-1000	UD. APOYO METÁLICO DE CELOSIA C-12-1000											
	LÍNEA AÉREA SIMPLE CIRCUITO, CON CABLE DE ALUMINIO - ACERO, TIPOS LA-56, TERMINALES DE ALUMINO DE CONEXIONADO. TENDIDO, TENSADO, REGULADO Y CONEXIONADO. TRANSPORTE Y ACOPIO DE MATERIALES. (INCLUIRÁ P.P. DE RECORTES, AJUSTES Y FLECHA).										UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-12-1000, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSÍA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 12 METROS DE ALTURA Y 1.000 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL.											
	TRAMO 1	1	2.784,62						2.784,62			TRAMO 1										
	TRAMO 2	1	1.689,10						1.689,10			TRAMO 2	1						1,00			
									4.473,72											6,28	28.094,96	
C-14-3000	UD. APOYO METÁLICO DE CELOSIA C-14-3000									C-14-3000	UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-14-3000, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSÍA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 14 METROS DE ALTURA Y 3.000 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL.											
	TRAMO 1											TRAMO 1										
	TRAMO 2	1							1,00			TRAMO 2	1						1,00			
																			1,00	1.678,84	1.678,84	
C-14-2000	UD. APOYO METÁLICO DE CELOSIA C-14-2000									C-16-500	UD. APOYO METÁLICO DE CELOSIA C-16-500											
	UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-14-2000, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSÍA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 14 METROS DE ALTURA Y 2.000 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL.										UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-16-500, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSÍA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 16 METROS DE ALTURA Y 500 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL.											
	TRAMO 1	2										TRAMO 1	2						2,00			
	TRAMO 2	1										TRAMO 2	1						1,00			
																			3,00	1.915,00	5.745,00	
									3,00											2.105,92	6.317,76	

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
C-14-500	UD. APOYO METÁLICO DE CELOSIA C-14-500 UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-14-500, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSÍA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 14 METROS DE ALTURA Y 500 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL. TRAMO 1 TRAMO 2	19 6					19,00 6,00			CONV_A-S	UD. CONVERSIÓN AÉREO-SUBTERRÁNEA UD. CONVERSIÓN AÉREO-SUBTERRÁNEA COMPLETA CON TODOS LOS ELEMENTOS NECESARIOS, COMO SON: - 3 UD. PARARRAYOS AUTOVALVULAR 25 KV, 10 KA. - 3 UD. BOTELLAS UNIPOLARES DE EXTERIOR PARA CABLE RH-Z1 18/30 KV DE 150 MM2 AL. - 1 UD. HERRAJE SOPORTE EN APOYO METÁLICO PARA PARARRAYOS Y BOTELLAS. - 1 PA. MATERIAL AUXILIAR NECESARIO: CANALIZACIONES DE PROTECCIÓN BAJANTE, CABLEADOS, ETC. - 1 UD. PUESTA A TIERRA AUTOVÁLVULAS. - INCLUIDO PEQUEÑO MATERIAL Y TODOS LOS ACCESORIOS PARA UN CORRECTO MONTAJE, TOTALMENTE MONTADA Y CONEXIONADA. INICIO Y FIN LINEA	2					2,00					
							25,00	1.760,87	44.021,75								2,00	897,74	1.795,48			
C-12-500	UD. APOYO METÁLICO DE CELOSIA C-12-500 UD. SUMINISTRO Y MONTAJE APOYO METÁLICO C-12-500, GALVANIZADO POR INMERSIÓN EN CALIENTE, CONSTRUIDO CON ACERO A43 Y A52 DE CELOSÍA DE ACUERDO CON LA RECOMENDACIÓN UNESA RU 6704 A, DE 12 METROS DE ALTURA Y 500 KG DE ESFUERZO EN PUNTA, TOTALMENTE INSTALADO, COLOCADO, INCLUIDO MONTAJE, IZADO, TRANSPORTE, ACARREOS, TOMA DE TIERRA, PLACAS DE SEÑALIZACIÓN, NUMERACIÓN DE APOYO, VAINAS DE POLIPROPILENO EN PUENTES Y PEQUEÑO MATERIAL. TRAMO 1 TRAMO 2	1					1,00			PRO_FN	ud PROTECCIONES FIN DE LÍNEA PROTECCIÓN DE FIN DE LÍNEA A INSTALAR EN EL ÚLTIMO APOYO: CONSISTE EN LA INSTALACIÓN DE PARARRAYOS - AUTOVÁLVULAS. TOTALMENTE INSTALADO.											
							1,00	1.683,99	1.683,99								1,00	888,47	888,47			
ARM-H3	UD. ARMADO HORIZONTAL H3 UD. SUMINISTRO Y MONTAJE DE ARMADO HORIZONTAL TIPO H3 EN ACERO GALVANIZADO EN CALIENTE PARA APOYOS METÁLICOS, TOTALMENTE INSTALADA Y COLOCADA, INCLUYENDO MEDIOS AUXILIARES DE MONTAJE Y ELEVACIÓN Y PEQUEÑO MATERIAL. TRAMO 1 TRAMO 2	5 6					5,00 6,00			DT020CEXCAP01	UD. EXCAVACION Y CIMENTACIÓN TIPO 1 APOYO METÁLICO UD. EXCAVACIÓN Y HORMIGONADO TIPO 1 DE APOYO METÁLICO DE CELOSÍA CON CIMENTACIÓN MONOBLOQUE, INCLUIDO TRANSPORTE HORMIGÓN DESDE PLANTA A OBRA, ASÍ COMO RETIRADA DE TIERRAS A VERTEDERO AUTORIZADO. EXCAVACIÓN APROXIMADA PARA CIMENTACIÓN DE APOYO 2,5 M3. TRAMO 1 TRAMO 2	1 8					1,00 8,00					
							11,00	359,43	3.953,73								9,00	282,24	2.540,16			
ARM-TB3	UD. ARMADO TRESBOLILLO TB3 UD. SUMINISTRO Y MONTAJE DE ARMADO EN TRESBOLILLO TIPO TB3 EN ACERO GALVANIZADO EN CALIENTE PARA APOYOS METÁLICOS, TOTALMENTE INSTALADA Y COLOCADA, INCLUYENDO MEDIOS AUXILIARES DE MONTAJE Y ELEVACIÓN Y PEQUEÑO MATERIAL. TRAMO 1 TRAMO 2	19 7					19,00 7,00			DT020CEXCAP02	UD. EXCAVACION Y CIMENTACIÓN TIPO 2 APOYO METÁLICO UD. EXCAVACIÓN Y HORMIGONADO TIPO 2 DE APOYO METÁLICO DE CELOSÍA CON CIMENTACIÓN MONOBLOQUE, INCLUIDO TRANSPORTE HORMIGÓN DESDE PLANTA A OBRA, ASÍ COMO RETIRADA DE TIERRAS A VERTEDERO AUTORIZADO. EXCAVACIÓN APROXIMADA PARA CIMENTACIÓN DE APOYO 3,0 M3. TRAMO 1 TRAMO 2	19 1					19,00 1,00					
							26,00	513,93	13.362,18								20,00	335,63	6.712,60			
CAD_AMA	Ud CADENA DE AMARRE 4 PLATOS U70/127 UD. SUMINISTRO Y MONTAJE DE CADENA DE AMARRE FORMADA POR 4 ELEMENTOS AISLADORES DE VIDRIO TEMPLADO TIPO U70/127, INCLUIDA HORQUILLA DE BOLA, GRAPAS Y TODOS ELEMENTOS NECESARIOS PARA UN CORRECTO MONTAJE, TOTALMENTE MONTADA, INSTALADA Y CONEXIONADA. TRAMO 1 EN APOYOS TRAMO 2 EN APOYOS	23 1 12 1	3,00 3,00	2,00 1,00			138,00 3,00 72,00 3,00			DT020CEXCAP06	UD. EXCAVACION Y CIMENTACIÓN TIPO 3 APOYO METÁLICO UD. EXCAVACIÓN Y HORMIGONADO TIPO 3 DE APOYO METÁLICO DE CELOSÍA CON CIMENTACIÓN MONOBLOQUE, INCLUIDO TRANSPORTE HORMIGÓN DESDE PLANTA A OBRA, ASÍ COMO RETIRADA DE TIERRAS A VERTEDERO AUTORIZADO. EXCAVACIÓN APROXIMADA PARA CIMENTACIÓN DE APOYO 3,2 M3. TRAMO 1 TRAMO 2	2 2					2,00 2,00					
							216,00	130,28	28.140,48								4,00	356,87	1.427,48			

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
DT020CEXCAP08UD. EXCAVACION Y CIMENTACIÓN TIPO 4 APOYO METÁLICO										SUBCAPÍTULO 12.03 CENTRO DE SECCIONAMIENTO												
	UD. EXCAVACIÓN Y HORMIGONADO TIPO 4 DE APOYO METÁLICO DE CELOSÍA CON CIMENTACIÓN MONOBLOQUE, INCLUIDO TRANSPORTE HORMIGÓN DESDE PLANTA A OBRA, ASÍ COMO RETIRADA DE TIERRAS A VERTEDERO AUTORIZADO. EXCAVACIÓN APROXIMADA PARA CIMENTACIÓN DE APOYO 4,1 M3.									MT005-PFU4	Ud Caseta prefabricada tipo PFU-4 o similar											
	TRAMO 1	2						2,00			CASETA PREFABRICADA TIPO PFU-4 O SIMILAR, MONOBLOQUE, DE HORMIGÓN ARMADO, DE 4460X2380X3045 MM, APTO PARA CONTENER UN TRANSFORMADOR Y LA APARAMENTA NECESARIA. INCLUSO TRANSPORTE Y DESCARGA. INCLUYE EXCAVACIÓN, CAMA DE ARENA, RELLENOS LATERALES, CARGAS Y TRANSPORTES DE MATERIALES NECESARIOS Y EXCEDENTES, EDIFICIO Y TODOS SUS ELEMENTOS EXTERIORES SEGÚN CEI 622171-202, TRANSPORTE, MONTAJE Y ACCESORIOS. TOTALMENTE INSTALADO Y TERMINADO. TOTALMENTE MONTADO.											
	TRAMO 2	2						2,00		CS	1					1,00						
							4,00	457,84	1.831,36								1,00	9.593,82	9.593,82			
BAL_SALV	UD. BALIZA SEÑALIZACIÓN ANTIPÁJAROS									MTCELDAS002	Ud Celdas de protección y medida											
	BANDAS DE BALIZAMIENTO NEOPRENO EN "X" CON UNAS DIMENSIONES DE 8 CM DE ANCHURA Y 30 CM DE LONGITUD MÍNIMA PARA CADA BRAZO, DISPUESTAS "AL TRESBOLILLO" DE MANERA QUE LA SEPARACIÓN EFECTIVA ENTRE BANDAS CONSECUTIVAS SEA COMO MÁXIMO DE 10 M. Y DISPOSICIÓN DE PROTECCIÓN AISLANTE DE LA SERIE 56 KV, TIPO RETRÁCTIL EN LOS DOS PRIMEROS METROS DE CONDUCTOR A CADA LADO DE LAS CRUCETAS, TOTALMENTE INSTALADAS.										CELDA DE PROTECCIÓN PARA CENTRO DE TRANSFORMACIÓN, TIPO ORMAZABAL, SEGÚN DESGLOSE.											
	BANDAS SALVAPÁJAROS										- 3 CELDAS MODULARES DE LÍNEA MOTORIZADAS DISPUESTA DE UN INTERRUPTOR-SECCIONADOR DE TRES POSICIONES (CONECTADO, SECCIONADO Y PUESTA A TIERRA), AISLAMIENTO INTEGRADO EN SF6 DE 24KV, 20KA Y 630A											
	TRAMO 1	3	2.784,62	0,10				835,39			- 1 CELDA DE REMONTE											
	TRAMO 2	3	1.689,10	0,10				506,73			- 1 CONJUNTO DE CELDAS TIPO DEV, FUNCIONES 1R+1PA CON AISLAMIENTO Y CORTE EN SF6 DE 24KV, 16KA Y 400A, INTEGRANDO UN CIRCUITO DE ALIMENTACIÓN DIRECTA CON SECCIONADOR DE P.A.T Y UNA FUNCIÓN DE PROTECCIÓN CON INTERRUPTOR AUTOMÁTICO DE CORTE EN VACÍO DE 400A RELE ELECTRÓNICO DE PROTECCIÓN Y TRES TRANSFORMADORES TOROIDALES DE INTENSIDAD, MANDO MANUAL, SECCIONADOR DE P.A.T PARA FUNCIÓN PORTECCIÓN, DISPOSITIVO DE PRESENCIA DE TENSIÓN Y ENCLAVAMIENTOS.											
	REDONDEO	1	0,88					0,88			- 1 CELDA MODULAR DE MEDIDA DISPUESTA EN EL INTERIOR LOS TRANSFORMADORES DE MEDIDA DE TENSIÓN E INTENSIDAD, DE 24KV. SE INCLUYE EL MONTAJE, PASATAPAS Y CONEXIÓN.											
							1.343,00	7,78	10.448,54													
	TOTAL SUBCAPÍTULO 12.01 LÍNEA AÉREA DE MEDIA TENSION								166.439,66													
SUBCAPÍTULO 12.02 LÍNEA SUBTERRANEA DE MEDIA TENSION																						
MT003	m Canalización Eléctrica Directamente Enterrada																					
	CANALIZACIÓN ELÉCTRICA QUE CONSISTENTE EN UNA ZANJA DE 90 CM DE PROFUNDIDAD POR 40 CM DE ANCHURA, CON CAMA DE ARENA DE RÍO DE 5 CM PARA ASIENTO DE LOS CONDUCTORES Y RELLENO CON UNA CAPA DE 15 CM DE LA MISMA ARENA SOBRE LOS CONDUCTORES. SOBRE ÉSTA VA UNA HILADA DE RASILLAS CERÁMICAS O PLACAS DE PE, QUE SERVIRÁN DE PROTECCIÓN MECÁNICA (20 J) Y TESTIGO. EL RELLENO FINAL DE ZANJA SE LLEVARÁ A CABO POR TONGADAS DE 20 CM DE TIERRA PROCEDENTE DE LA EXCAVACIÓN, COMPACTADA AL 95 % DEL PRÓCTOR NORMAL. TOTALMENTE TERMINADA INCLUIDO EXCAVACIÓN SOBRE CUALQUIER CLASE DE TERRENO, TRANSPORTE A VERTEDERO DE LA TIERRA SOBRANTE Y MANTENIMIENTO DE LOS SERVICIOS EXISTENTES.																					
	CS A APOYO 1	1	10,000					10,000														
	APOYO 37 A CT	1	10,000					10,000														
							20,00	23,37	467,40													
MT004A	m Cable MT RH-Z1 18/30 KV DE 3x1x240 mm2 AI S/LECHO ARENA																					
	M.L. SUMINISTRO Y TENDIDO DE CABLE UNIPOLAR DE M.T. EN LECHO DE ARENA, DE AISLAMIENTO SECO RH-Z1 18/30 KV DE 3X1X240 MM2 DE SECCIÓN NOMINAL EN ALUMINIO, INCLUIDO PEQUEÑO MATERIAL PARA EL TENDIDO TENDIDO COMO RODILLOS, CINTURILLAS, ASÍ COMO MEDIOS MECÁNICOS NECESARIOS.																					
	CS A APOYO 1	1	20,000					20,000														
	APOYO 37 A CT	1	20,000					20,000														
	APROXIMACIÓN	2	5,000					10,000														
							50,00	28,42	1.421,00													
MT005	Ud Botella Unipolar Interior Para Cable RH-Z1 18/30 KV 240 mm2 AI																					
	UD. SUMINISTRO Y MONTAJE DE BOTELLA INTERIOR TERMINAL UNIPOLAR DE M.T. PARA CABLE SECO 18/30 KV TIPO RH-Z1 DE 1X240 MM2 DE SECCIÓN NOMINAL EN ALUMINIO, INCLUIDO TERMINAL DE CONEXION A PRESIÓN PARA MT, PEQUEÑO MATERIAL, MEDIOS AUXILIARES, TOTALMENTE MONTADA.																					
	EXTREMO CABLEADO	2	3,000					6,000														
							6,00	151,66	909,96													
	TOTAL SUBCAPÍTULO 12.02 LÍNEA SUBTERRANEA DE MEDIA TENSION								2.798,36													

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
A_SEGUR	Ud Material de Seguridad MT MATERIAL DE SEGURIDAD MT, FORMADO POR: UN PAR DE GUANTES AISLANTE PARA MANIOBRA Y PROTECCIÓN DE MT, UNA BANQUETA AISLANTE, CUATRO PLACAS DE PELIGRO DE MUERTE Y UNA PLACA REGLAMENTARIA DE PRIMEROS AUXILIOS. CT						1	1,000		VARTF_CT	Ud Varios CT VARIOS EQUIPOS CONEXIÓN INSTALACIÓN EN CT CONSISTENTES EN: - TERMÓMETRO 1" CON 2 CONTACTOS PARA CONTROL DE Tº DE TRANSFORMADOR - PUENTE DE CABLES MT CONECTOR 400 A. KIT TERMINAL 3X1X95MM2 AL DE CELDA DE PROTECCIÓN A TRANSFORMADOR, 8M CT						1	1,000		
							1,00	390,68	390,68								1,00	1.038,18	1.038,18	
TOTAL SUBCAPÍTULO 12.03 CENTRO DE SECCIONAMIENTO...									48.109,17											
SUBCAPÍTULO 12.04 CENTRO TRANSFORMACIÓN																				
MTCELDAS001B	Ud Celdas de protección CT CELDA DE PROTECCIÓN PARA CENTRO DE TRANSFORMACIÓN, TIPO ORMAZABAL, SEGÚN DESGLOSE. - 1 CELDA MODULAR DE SECCIONAMIENTO DISPUESTA DE UN INTERRUPTOR-SECCIONADOR, AISLAMIENTO INTEGRADO EN SF6 DE 24KV, 16KA Y 400A. - 2 CONJUNTO DE CELDAS TIPO DEV, FUNCIONES 1R+1PA CON AISLAMIENTO Y CORTE EN SF6 DE 24KV, 16KA Y 400A, INTEGRANDO UN CIRCUITO DE ALIMENTACIÓN DIRECTA CON SECCIONADOR DE P.A.T Y UNA FUNCIÓN DE PROTECCIÓN CON INTERRUPTOR AUTOMÁTICO DE CORTE EN VACÍO DE 400A RELE ELECTRÓNICO DE PROTECCIÓN Y TRES TRANSFORMADORES TOROIDALES DE INTENSIDAD, MANDO MANUAL, SECCIONADOR DE P.A.T PARA FUNCIÓN PORTECCIÓN, DISPOSITIVO DE PRESENCIA DE TENSIÓN Y ENCLAVAMIENTOS. SE INCLUYE EL MONTAJE, PASATAPAS Y CONEXIÓN. CT						1	1,000		MTCUADROBT	Ud Cuadro BT-B2 trafo. Interruptor en carga + fusibles CUADRO DE BT ESPECIALMENTE DISEÑADO PARA ESTA APLICACIÓN CON LAS SIGUIENTES CARACTERÍSTICAS: · INTERRUPTOR MANUAL DE CORTE EN CARGA DE 1250 A. · SALIDAS FORMADAS POR BASES PORTAFUSIBLES: 1 SALIDA · TENSIÓN NOMINAL: 440 V · AISLAMIENTO: 10 KV · DIMENSIONES: ALTO: 1820 MM ANCHO: 580 MM FONDO: 300 MM PUENTES, CONEXIONES Y DEMÁS MATERIAL Y TRABAJOS COMPLEMENTARIOS, INCLUIDOS. MEDIDA LA UNIDAD TOTLAMENTE TERMINADA. CT							1	1,000	
							1,00	34.784,13	34.784,13								1,00	2.178,18	2.178,18	
RED_TT_HER_CT	Ud Red de Tierras de Herrajes y Neutro CT INSTALACIÓN PARA TOMA DE TIERRA DE APARELLAJE: 8 PICAS DE 2M Y 14MM DE DIAMPETRO,20 M DE CONDUCTOR DE CU DESNUDO S=50MM2 INSTALACIÓN DE PUESTA A TIERRA DE NEUTRO: 3 PICAS DE 2M Y 14MM DE DIÁMETRO, 30M DE CONDUCTOR DE CU DESNUDO S=50MM2 PEQUEÑO MATERIAL NECESARIO COMO TORNILLOS, ARANDELAS, ANCLAJES ... PARA SU COLOCACIÓN CT						1	1,000		MT005-PFU5	Ud Caseta prefabricada tipo PFU-5 o similar +techo alto + vent.forz CASETA PREFABRICADA TIPO PFU-5 O SIMILAR, MONOBLOQUE, DE HORMIGÓN ARMADO, DE 6080X2380X3240 MM, APTO PARA CONTENER UN TRANSFORMADOR Y LA APARAMENTA NECESARIA. INCLUSO TRANSPORTE Y DESCARGA. INCLUYE EXCAVACIÓN, CAMA DE ARENA, RELLENOS LATERALES, CARGAS Y TRANSPORTES DE MATERIALES NECESARIOS Y EXCEDENTES, EDIFICIO Y TODOS SUS ELEMENTOS EXTERIORES SEGÚN CEI 622171-202, TRANSPORTE, MONTAJE Y ACCESORIOS. TOTALMENTE INSTALADO Y TERMINADO. TOTALMENTE MONTADO. CT							1	1,000	
							1,00	941,97	941,97								1,00	13.286,26	13.286,26	
A_SEGUR	Ud Material de Seguridad MT MATERIAL DE SEGURIDAD MT, FORMADO POR: UN PAR DE GUANTES AISLANTE PARA MANIOBRA Y PROTECCIÓN DE MT, UNA BANQUETA AISLANTE, CUATRO PLACAS DE PELIGRO DE MUERTE Y UNA PLACA REGLAMENTARIA DE PRIMEROS AUXILIOS. CT						1	1,000		TRAF-2000	UD. TRANSFORMADOR DE POTENCIA SECO 2000 KVA, 15.000/400 V UD. TRANSFORMADOR DE POTENCIA DE 2000 KVA, SERVICIO INTERIOR, AISLAMIENTO SECO, RELACIÓN DE TRANSFORMACIÓN 15 KV / 400 V, +-2,5+-5% ,+10% CO-NEXIÓN DYN11, PANTALLA ELECTROESTÁTICA, CENTRALITA DE TEMPERATURAS Y RELE FOTOVOLTAICO INCLUIDOS MEDIOS AUXILIARES NECESARIOS, INSTALADO, MONTADO Y TRASLADADO. CT							2	2,000	
							1,00	390,68	390,68								2,00	17.362,06	34.724,12	
TOTAL SUBCAPÍTULO 12.04 CENTRO TRANSFORMACIÓN.....									87.343,52											

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
SUBCAPÍTULO 12.05 ENSAYOS, PRUEBAS Y TRÁMITES										CAPÍTULO 13 BAJA TENSIÓN											
SUBCAPÍTULO 12.05 ENSAYOS, PRUEBAS Y TRÁMITES										SUBCAPÍTULO 13.01 ACOMETIDA BOMBEO											
DT02-ENS-RA	Ud Ensayo cables MT según normas IdE									BT-CCABLE085	m Canalización Cables BT 0,85 M Anchura En Tierra Varios Circ: BT										
	ENSAYO CABLES DE MT INSTALADOS DE FORMA SUBTERRÁNEA SEGÚN NORMAS CÍA SUMINISTRADA, SEGÚN ENSAYO DMD00300.DOC "PROCEDIMIENTO DE ENSAYOS PARA CABLES UNIPOLARES NUEVOS DE MT HASTA 30 KV" Y PEQUEÑO MATERIAL NECESARIO PARA LA ADAPTACION DE LA INSTALACION PARA REALIZAR EL ENSAYO										M.L. REALIZACIÓN DE ZANJA EN TIERRA CON LECHO DE ARENA PARA CABLES DE BT DE 0,85 MTS DE ANCHURA Y 0,75 MTS DE PROFUNDIDAD, INCLUYENDO ROTURA Y REPOSICIÓN DE PAVIMENTO EXISTENTE, EXCAVACIÓN CON MEDIOS MECÁNICOS, CAPA DE ARENA FINA DE 20 CM, RELLENO DE ZANJAS CON ZAHORRAS MEDIANTE TONGADAS DE 50 CM, PLACA DE PE DE PROTECCIÓN Y SEÑALIZACIÓN, ASÍ COMO MEDIOS MECÁNICOS, RETIRADA DE TIERRAS A VERTEDERO, MANO DE OBRA ESPECIALIZADA Y PEQUEÑO MATERIAL AUXILIAR NECESARIO (, MEDIDA LA UNIDAD TERMINADA Y EJECUTADA.										
	MT	1						1,000			ACOMETIDA CT1	10	10,000				100,000				
							1,00	863,92	863,92		ACOMETIDA CT2	10	10,000				100,000				
ENSAYOS_PAT	Ud Medición de puesta a tierra																200,00	34,53	6.906,00		
	MEDICIÓN DE PUESTA A TIERRA, INCLUIDOS EQUIPOS NECESARIOS, PEQUEÑO MATERIAL NECESARIO PARA LA ADAPTACION DE LA INSTALACION PARA REALIZAR EL ENSAYO Y ELABORACIÓN DE INFORME.									BT-URVK3X240A	m Conductor Unip. RV-K (3x240+1x150) Al 0,6/1 KV										
	MT	1						1,000			ACOMETIDA SUBTERRÁNEA.										
							1,00	750,77	750,77		- SE EMPLEARÁ CABLE RV 0.6/1KV EN ALUMINIO 1X240, CONSTITUYENDO 3 TERNAS, Y 1X150 POR CADA TERNA PARA TT, PARA LA TENSIÓN DE 400V. COMPLETAMENTE INSTALADO.										
ENSAYOS_RP	Ud Ensayos cuadro relés de protección										ACOMETIDA CT1	10	15,000				150,000				
	ENSAYOS DE CUADROS DE RELÉS DE PROTECCIÓN, INCLUIDOS EQUIPOS NECESARIOS, PEQUEÑO MATERIAL NECESARIO PARA LA ADAPTACION DE LA INSTALACION PARA REALIZAR EL ENSAYO Y ELABORACIÓN DE INFORME.										ACOMETIDA CT2	10	15,000				150,000				
	MT	1						1,000									300,00	35,08	10.524,00		
							1,00	1.165,79	1.165,79	BT-AC-CANL2	m TUBO CORRUGADO D=225 mm										
ENSAYOS_TPC	Ud Ensayos de tensiones de paso y contacto										M.L. DE TUBO CORRUGADO DE PVC DE 225 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N, UNO POR TERNA + UNO DE RESERVA. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA.										
	UD. ENSAYOS DE TENSIONES DE PASO Y CONTACTO, INCLUIDOS EQUIPOS NECESARIOS PEQUEÑO MATERIAL NECESARIO PARA LA ADAPTACION DE LA INSTALACION PARA REALIZAR EL ENSAYO Y ELABORACIÓN DE INFORME.										ACOMETIDA CT1	10	10,00				100,00				
	MT	1						1,000			ACOMETIDA CT2	10	10,00				100,00				
							1,00	859,40	859,40								200,00	13,97	2.794,00		
MT002-1	Pa P.A. Redacción de Proyecto eléctrico MT, visados y trámites									BT059	m Tubo Corrugado curvable D=50 mm										
	PARTIDA ALZADA A JUSTIFICAR PARA REDACCIÓN DE PROYECTOS ELÉCTRICOS DE MT NECESARIOS PARA LOS CONDICIONANTES ESPECIFICADOS POR LA COMPAÑÍA Y QUE PUDIERAN SER EXIGIDOS POR LOS DIFERENTES ORGANISMOS, COPIAS DOCUMENTALES, VISADOS, INCLUIDOS TODO TIPO DE TRÁMITES Y TASAS.										M.L. TUBO CORRUGADO DE DOBLE PARED FLEXIBLE DE DIÁMETRO 50MM PARA INSTALACIONES ELÉCTRICAS, RESISTENCIA DE COMPRESIÓN 750N, RIGIDEZ DIELECTRICA 2KV, RESISTENCIA AL IMPACTO 2J, RESISTENCIA ELÉCTRICA 100 OHM BAJO 500VCC.										
	MT	1						1,000			INCLUSO PEQUEÑO MATERIAL DE MONTAJE Y UNION. TOTALMENTE INSTALADO Y MONTADO.										
							1,00	1.000,00	1.000,00		SEÑAL	2	10,000				20,000				
																	20,00	3,26	65,20		
	TOTAL SUBCAPÍTULO 12.05 ENSAYOS, PRUEBAS Y TRÁMITES								4.639,88												
	TOTAL CAPÍTULO 12 MEDIA TENSIÓN								309.330,59												
											TOTAL SUBCAPÍTULO 13.01 ACOMETIDA BOMBEO								20.289,20		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
SUBCAPÍTULO 13.02 CUADROS ELÉCTRICOS DEL BOMBEO																						
E-2.3C	<p>Ud CUADRO SSA A EB</p> <p>CUADRO DE SERVICIOS AUXILIARES EN EB, ENVOLVENTES COMPARTIDAS CON AUTOMATISMO BOMBEO, QUE INCLUYE:</p> <ul style="list-style-type: none"> - 2 ENVOLVENTES COMBINABLE METÁLICA DE 2000X1200X800, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA DE 2 HOJAS EN ACERO PLEGADO Y SOLDADO, APERTURA 120º, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO. - INCLUYE 3 PLETINAS DE COBRE DE 50X10 MM PARA EMBARRADO, DE 1.2M DE LARGO CADA UNA. - SOPORTES PARA EMBARRADO. - 5 RELÉS 24 VCC PARA MANDO. - 2 INTERRUPTOR AUTOMÁTICO II 16 A P DE C 10 KA - 14 INTERRUPTOR AUTOMÁTICO II 16 A P DE C 15 KA - 2 INTERRUPTOR AUTOMÁTICO II 10 A P DE C 35 KA - 4 INTERRUPTOR AUTOMÁTICO II 20 A P DE C 35 KA - 1 INTERRUPTOR AUTOMÁTICO II 25 A P DE C 35 KA - 5 INTERRUPTOR AUTOMÁTICO II 16 A P DE C 50 KA - 1 INTERRUPTOR AUTOMÁTICO II 16 A P DE C 50 KA - 8 INTERRUPTOR AUTOMÁTICO III 16 A P DE C 50 KA - 12 INTERRUPTOR AUTOMÁTICO IV 16 A P DE C 50 KA - 1 INTERRUPTOR AUTOMÁTICO IV 40 A P DE C 50 KA - 1 INTERRUPTOR AUTOMÁTICO IV 125 A P DE C 50 KA - 1 INTERRUPTOR DIFERENCIAL IV 63A 300MA AC - 2 INTERRUPTOR DIFERENCIAL IV 40A 300MA AC - 6 INTERRUPTOR DIFERENCIAL IV 25A 300MA AC - 2 INTERRUPTOR DIFERENCIAL IV 25A 30MA AC - 6 INTERRUPTOR DIFERENCIAL II 25A 30MA AC - 3 CONTACTORES III 16A CON TENSIÓN EN BOBINA DE 230V - 14 CONTACTORES II 16A CON TENSIÓN EN BOBINA DE 230V - INCLUYE PILOTOS DE SEÑALIZACIÓN, PULSADORES Y SELECTORES DE 3 POSICIONES. - INCLUYE TOMA DE CORRIENTE DE 230V - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. <p>INCLUSO TRANSPORTE. TOTALMENTE MONTADO, CONECTADO Y PROBADO.</p>							1														
	SERVICIOS AUXILIARES						1	1,00														
								1,00	24.541,84											24.541,84		
											Automático IV	Ud CUADRO ACOMETIDA Y PROTECCIONES CA. EB										
												CUADRO DE ACOMETIDA DE BT EB QUE INCLUYE:										
												- 2 ENVOLVENTES COMBINABLE METÁLICA DE 2000X1600X800, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA EN ACERO PLEGADO Y SOLDADO, APERTURA 120º, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO.										
												- INCLUYE 6 PLETINAS DE COBRE DE 2(120X10) MM PARA EMBARRADO, DE 1,60M DE LARGO.										
												- SOPORTE PARA EMBARRADO, INCLUYE PANTALLA DE METACRILATO.										
												- 2 INTERRUPTOR AUTOMÁTICO IV DE IN 3000 A, CON POTENCIA DE CORTE DE 50 KA										
												- 2 LIMITADOR DE SOBRETENSIONES TRANSITORIAS IV DE CLASE I 40KA 1.2 KV										
												- 2 ANALIZADOR DE REDES 400V CA (3000/5A), MEDIDA MÁXIMA 400V CA, CON PUERTO DE COMUNICACIONES CON MODBUS, INSTALADO EN PANEL PUERTA ENVOLVENTE DE ACOMETIDA, INCLUIDO TROQUEL EN CHAPA Y CABLEADO TOTALMENTE INSTALADO.										
												- 5 INTERRUPTOR AUTOMÁTICO MAGNETOTÉRMICO III DE IN 630 A, CON POTENCIA DE CORTE DE 50 KA										
												- 9 INTERRUPTOR AUTOMÁTICO MAGNETOTÉRMICO III DE IN 400 A, CON POTENCIA DE CORTE DE 50 KA										
												- 1 INTERRUPTOR AUTOMÁTICO IV DE IN 125 A, CON POTENCIA DE CORTE DE 50 KA										
												- INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO.										
												- PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS.										
												INCLUSO TRANSPORTE.										
												TOTALMENTE MONTADO, CONECTADO Y PROBADO.										
												ACOMETIDA CA										
													1							1,00		
																				96.731,56		
																				96.731,56		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
BT025CC	<p>Ud CUADRO ACOMETIDA Y PROTECCIONES CC FV. EB</p> <p>ARMARIO PROTECCIONES BOMBAS ACOMETIDA FV EB INCLUYE:</p> <ul style="list-style-type: none"> - 2 ENVOLVENTES COMBINABLE METÁLICA DE 2000X1600X800, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA DE 2 HOJAS EN ACERO PLEGADO Y SOLDADO, APERTURA 120°, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO. - INCLUYE 4 PLETINAS DE COBRE DE 2(120X10) MM PARA EMBARRADO, DE 1.6M DE LARGO CADA UNA. PARA CC. - 2 INTERRUPTOR AUTOMÁTICO TIPO EMAXDC 2000A 1100VCC - 5 INTERRUPTOR AUTOMÁTICO TIPO TMAX T5-6 DE IN 630 A, POTENCIA DE CORTE DE 20 KA Y 4POLOS, 1100V - 9 INTERRUPTOR AUTOMÁTICO TIPO TMAX T5 DE IN 400 A, POTENCIA DE CORTE DE 22 KA Y 4POLOS, 1100V - 14 DIODOS DE BLOQUEO PARA BUS CONTINUA VARIADOR. - SOPORTE PARA EMBARRADOS, INCLUYE PANTALLA DE METACRILATO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. <p>INCLUSO TRANSPORTE. TOTALMENTE MONTADO, CONECTADO Y PROBADO.</p> <p>ACOMETIDA CC EB</p>	1					1,00				BT0160	<p>Ud BOMBA 160KW VARIADOR FV+ARMARIO+PROTECC</p> <p>ARMARIO BOMBA 160 KW AC/DC CON VARIADOR FV. INCLUYE:</p> <ul style="list-style-type: none"> - ENVOLVENTE COMBINABLE METÁLICA DE 1780X529X2000 MM, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA DE 2 HOJAS EN ACERO PLEGADO Y SOLDADO, APERTURA 120°, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO. - SECCIONADOR AC - FUSIBLES AC - SECCIONADOR DC - FUSIBLES DC - PROTECTOR CONTRA SOBRETENSIONES - VIGILANTE DE AISLAMIENTO - KIT DE DIODO DE PROTECCIÓN TIRISTOR- DIODO. DIODOS DE BLOQUEO PARA BUS CONTINUA VARIADOR - FUNSIONAMIENTO EN INS. FLOTANTE - INSTALACIÓN PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA - SOPORTE PARA EMBARRADOS, INCLUYE PANTALLA DE METACRILATO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - VARIADOR DE FRECUENCIA FOTOVOLTAICO 160 KW, TIPO CD750SP O SIMILAR, TENSIÓN EN PUENTE RECTIFICADOR 400 VCC, TENSIÓN EN BUS CONTINUA MÁXIMIMA 1000 VCC Y MÍNIMA 540 VCC, 150% DURANTE 60SEG, TEMPERATURA AMBIENTE 50°C, DE DIMENSIONES 780X529X1715 MM, EN ARMARIO IP54 PARA INMUNIDAD RFI. INCLUYE RADIADOR DE ALTA EFICIENCIA, INSTALACIÓN COMPLETA PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA. FUENTE DE ALIMENTACIÓN DE 24VCC-100MA DISPONIBLE PARA EL USUARIO PROTEGIDA CONTRA CORTOCIRCUITOS. PUERTO DE COMUNICACIONES SERIE, PROTECCION CONTRA SOBRETENSIONES, SOBRECORRIENTE, SOBRECARGA EN LOS IGBTs, TEMPERATURA, INDUCTANCIA DE LÍNEA, FILTRO EMC, THDI BOBINAS Y FILTRO DV/DT EN SALIDA. -INCLUSO PULSADORES, SECCIONADORES EXTERIORES, SELECTOR DE TRES POSICIONES, POTENCIÓMETROS, PARA MANEJO DE BOMBAS Y LEDS SEÑALIZACIÓN EN PUERTA. - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. <p>INCLUSO TRANSPORTE. TOTALMENTE MONTADO, CONECTADO Y PROBADO.</p> <p>BOMBEO 1</p>	5					5,00			
																	5,00	31.934,45	159.672,25		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE																				
BT0200	<p>Ud BOMBA 200KW VARIADOR FV+ARMARIO+PROTECC</p> <p>ARMARIO BOMBA 200 KW AC/DC CON VARIADOR FV. INCLUYE:</p> <ul style="list-style-type: none"> - ENVOLVENTE COMBINABLE METÁLICA DE 1780X529X2000 MM, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA DE 2 HOJAS EN ACERO PLEGADO Y SOLDADO, APERTURA 120°, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO. - SECCIONADOR AC - FUSIBLES AC - SECCIONADOR DC - FUSIBLES DC - PROTECTOR CONTRA SOBRETENSIONES - VIGILANTE DE AISLAMIENTO - KIT DE DIODO DE PROTECCIÓN TIRISTOR- DIODO. DIODOS DE BLOQUEO PARA BUS CONTINUA VARIADOR - FUNIONAMIENTO EN INS. FLOTANTE - INSTALACIÓN PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA - SOPORTE PARA EMBARRADOS, INCLUYE PANTALLA DE METACRILATO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - VARIADOR DE FRECUENCIA FOTOVOLTAICO 200 KW, TIPO CD750SP O SIMILAR, TENSIÓN EN PUENTE RECTIFICADOR 400 VCC, TENSIÓN EN BUS CONTINUA MÁXIMIMA 1000 VCC Y MÍNIMA 540 VCC, 150% DURANTE 60SEG, TEMPERATURA AMBIENTE 50°C, DE DIMENSIONES 780X529X1715 MM, EN ARMARIO IP54 PARA INMUNIDAD RFI. INCLUYE RADIADOR DE ALTA EFICIENCIA, INSTALACIÓN COMPLETA PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA. FUENTE DE ALIMENTACIÓN DE 24VCC-100MA DISPONIBLE PARA EL USUARIO PROTEGIDA CONTRA CORTOCIRCUITOS. PUERTO DE COMUNICACIONES SERIE, PROTECCION CONTRA SOBRETENSIONES, SOBRECORRIENTE, SOBRECARGA EN LOS IGBTs, TEMPERATURA, INDUCTANCIA DE LÍNEA, FILTRO EMC, THDI BOBINAS Y FILTRO DV/DT EN SALIDA. - INCLUSO PULSADORES, SECCIONADORES EXTERIORES, SELECTOR DE TRES POSICIONES, POTENCIÓMETROS, PARA MANEJO DE BOMBAS Y LEDS SEÑALIZACIÓN EN PUERTA. - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. <p>INCLUSO TRANSPORTE.</p> <p>TOTALMENTE MONTADO, CONECTADO Y PROBADO.</p>																																						
							4,00																																
	BOMBEO 2							4,00	32.148,69	128.594,76																													
BT026	<p>Ud BOMBA 250KW VARIADOR FV+ARMARIO+PROTECC</p> <p>ARMARIO BOMBA 250 KW AC/DC CON VARIADOR FV. INCLUYE:</p> <ul style="list-style-type: none"> - ENVOLVENTE COMBINABLE METÁLICA DE 1780X529X2000 MM, ACORDE A LA NORMA IEC 62208, CON IP 55, IK10, ESTRUCTURA REALIZADA EN ACERDO GALVANIZADO, PUERTA DE 2 HOJAS EN ACERO PLEGADO Y SOLDADO, APERTURA 120°, CON ZÓCALO LATERAL, FRONTAL Y TRASERO DE 100 MM DE ELEVACIÓN, INCLUSO PLACA DE MONTAJE, ILUMINACIÓN INTERIOR POR MEDIO DE LÁMPARA DE NEÓN PLANA Y COMPACTA DE 11W, INTERRUPTOR DE PUERTA, REJILLA CON FILTRO, ELEVACIÓN DE TECHO PARA AIREACIÓN, PLACA DE VENTILACIÓN PARA TECHO CON 3 VENTILADORES DE 170M3/H C/U, 220V, MANETA CON INSERTO DE FORMA Y TERMOSTATO. - SECCIONADOR AC - FUSIBLES AC - SECCIONADOR DC - FUSIBLES DC - PROTECTOR CONTRA SOBRETENSIONES - VIGILANTE DE AISLAMIENTO - KIT DE DIODO DE PROTECCIÓN TIRISTOR- DIODO. DIODOS DE BLOQUEO PARA BUS CONTINUA VARIADOR - FUNIONAMIENTO EN INS. FLOTANTE - INSTALACIÓN PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA - SOPORTE PARA EMBARRADOS, INCLUYE PANTALLA DE METACRILATO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. - VARIADOR DE FRECUENCIA FOTOVOLTAICO 250 KW, TIPO CD750SP O SIMILAR, TENSIÓN EN PUENTE RECTIFICADOR 400 VCC, TENSIÓN EN BUS CONTINUA MÁXIMIMA 1000 VCC Y MÍNIMA 540 VCC, 150% DURANTE 60SEG, TEMPERATURA AMBIENTE 50°C, DE DIMENSIONES 780X529X1715 MM, EN ARMARIO IP54 PARA INMUNIDAD RFI. INCLUYE RADIADOR DE ALTA EFICIENCIA, INSTALACIÓN COMPLETA PARA CARGA SUAVE DE CONDENSADORES PREVIA A ALIMENTACIÓN POR BUS CONTINUA. FUENTE DE ALIMENTACIÓN DE 24VCC-100MA DISPONIBLE PARA EL USUARIO PROTEGIDA CONTRA CORTOCIRCUITOS. PUERTO DE COMUNICACIONES SERIE, PROTECCION CONTRA SOBRETENSIONES, SOBRECORRIENTE, SOBRECARGA EN LOS IGBTs, TEMPERATURA, INDUCTANCIA DE LÍNEA, FILTRO EMC, THDI BOBINAS Y FILTRO DV/DT EN SALIDA. - INCLUSO PULSADORES, SECCIONADORES EXTERIORES, SELECTOR DE TRES POSICIONES, POTENCIÓMETROS, PARA MANEJO DE BOMBAS Y LEDS SEÑALIZACIÓN EN PUERTA. - INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO. - PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS. <p>INCLUSO TRANSPORTE.</p> <p>TOTALMENTE MONTADO, CONECTADO Y PROBADO.</p>																																						
							5,00																																
	BOMBEO 3							5,00	32.995,35	164.976,75																													

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
BT042A	<p>Ud Cuadro Tomas De Corriente Bombeo</p> <p>UD. CONSTRUCCIÓN, SUMINISTRO Y MONTAJE DE CUADRO DE TOMAS DE CORRIENTE EN CAJA ESTANCA DE SUPERFICIE, MATERIAL PVC, PROTECCIÓN IP-66 DE 265X460X181 MM DE DIMENSIONES APROXIMADAS, CON CAPACIDAD PARA 24 MÓDULOS DE PROTECCIÓN, FRONTAL PRACTICABLE CON BISAGRAS INFERIORES Y TORNILLOS Y VENTANILLA ABATIBLE DE MAKROLÓN, COMPUESTA POR:</p> <ul style="list-style-type: none"> - 1 INTERRUPTOR AUTOMÁTICO MAGNETOTÉRMICO GENERAL DE IVX32 A. - 1 INTERRUPTOR DIFERENCIAL IVX40 A, 30 MA. - 1 INTERRUPTOR AUTOMÁTICO MAGNETOTÉRMICO DE IIX16 A. - 1 INTERRUPTOR AUTOMÁTICO MAGNETOTÉRMICO DE IVX16 A. - 1 TOMAS DE CORRIENTE TIPO CETACT, 400 V, III+TX16 A, INCLINADA Y EMPOTRABLE. - 1 TOMAS DE CORRIENTE TIPO SCHUKO, 230 V, II+TX16 A, INCLINADA Y EMPOTRABLE. <p>INCLUIDO HERRAJE DE SUJECCIÓN EN ESTRUCTURA O PARED EXISTENTES Y PEQUEÑO MATERIAL NECESARIO PARA UN CORRECTO MONTAJE, TOTALMENTE INSTALADO.</p>	EB	4				4,000														
							4,00	602,29	2.409,16												
BT039-1C	<p>u EXTRACCIÓN 6300 m3/ud 900 rpm</p> <p>UD. DE VENTILACIÓN, EXTRACCIÓN DE AIRE MONTADA, CONEXIONADA Y PROBADA, COMPUESTA POR:</p> <ul style="list-style-type: none"> - 1 VENTILADOR: <ul style="list-style-type: none"> - CAUDAL 6300M3/H. - 900 RPM - NIVEL SONORO 59 DB - BASE SOPORTE HCT PARA CUBIERTAS INCLINADAS. - BASE ATENUADORA ACÚSTICA: LOS VENTILADORES INSTALADOS SON DE GRAN CAPACIDAD, LO QUE CONLLEVA A QUE GENERAN UN ELEVADO NIVEL DE PRESIÓN SONORA, POR LO QUE SE AÑADE ESTE ACCESORIO. - MARCO SOPORTE EN CHAPA DE ACERO. - SOPORTE MOTOR CON REJILLA DE PROTECCIÓN CONTRA CONTACTOS, SEGÚN NORMAS DIN 24167 Y UNE 20-359-74. - HÉLICE EN POLIAMIDA 6 REFORZADA CON FIBRA DE VIDRIO. - CONJUNTO EQUILIBRADO DINÁMICAMENTE SEGÚN LA NORMA ISO 1940. - ACABADO ANTICORROSIÓN EN RESINA DE POLIESTER, POLIMERIZADA A 180°C., PREVIO DESENGRASE, FOSFATACIÓN Y PASIVADO. - CAJA DE CONEXIÓN INCLUIDA. - MOTORES ASÍNCRONOS, CON ROTOR DE JAULA DE ARDILLA. - TENSIÓN MOTOR 380-415 V 50 HZ. - POTENCIA CONSUMIDA 370W - AISLAMIENTO CLASE F Y PROTECCIÓN IP-65. - PROTECCIÓN TÉRMICA INCLUIDA PARA PROTEGER EL MOTOR CONTRA SOBRECALENTAMIENTOS PRODUCIDOS POR CUALQUIER ANOMALIA. - INTERRUPTORES PARA INSTALAR AL LADO DEL VENTILADOR, Y DE ESTA FORMA PODER CORTAR LA CORRIENTE ANTES DE MANIPULAR EL VENTILADOR. DE ACUERDO A LA NORMA IEC947-3. -PROTECCIÓN IP-65. 	EBOMBEO	12				12,00														
							12,00	533,54	6.402,48												
TOTAL SUBCAPÍTULO 13.04 RECEPTORES.....									21.016,14												
											SUBCAPÍTULO 13.05 CONDUCCIONES Y CANALIZACIONES CABLEADO										
										BT056	<p>m ZANJA CABLES BT 0,6 MTS ANCHURA EN TIERRA VARIOS CIRCUITOS BT</p> <p>M.L. REALIZACIÓN DE ZANJA EN TIERRA CON LECHO DE ARENA PARA CABLES DE BT DE 0,6 MTS DE ANCHURA Y 0,9 MTS DE PROFUNDIDAD, INCLUYENDO ROTURA Y REPOSICIÓN DE PAVIMENTO EXISTENTE, EXCAVACIÓN CON MEDIOS MECÁNICOS, CAPA DE ARENA FINA DE 30 CM, RELLENO DE ZANJAS CON ZAHORRAS MEDIANTE TONGADAS DE 30 CM, MALLA DE SEÑALIZACIÓN (2 MTS), PLACA DE PVC DE SEÑALIZACIÓN (2 MTS), ASÍ COMO MEDIOS MECANICOS, RETIRADA DE TIERRAS A VERTEDERO, MANO DE OBRA ESPECIALIZADA Y PEQUEÑO MATERIAL AUXILIAR NECESARIO, MEDIDA LA UNIDAD TERMINADA Y EJECUTADA.</p>										
											DE EB A ARQUETA BALSA BPC (PN)	1	310,00						310,00		
											DE ARQUETA BALSA BPC (PN) A TOMA:	1	320,00						320,00		
											CAUDALÍMETRO 1	1	33,50						33,50		
											CAUDALÍMETRO 2	1	59,00						59,00		
											CAUDALÍMETRO 3	1	63,00						63,00		
											BOMBA 1.1	1	21,00						21,00		
											BOMBA 1.2	1	20,50						20,50		
											BOMBA 1.3	1	21,00						21,00		
											BOMBA 1.4	1	23,00						23,00		
											BOMBA 1.5	1	27,50						27,50		
											BOMBA 2.1	1	30,50						30,50		
											BOMBA 2.2	1	33,50						33,50		
											BOMBA 2.3	1	35,50						35,50		
											BOMBA 2.4	1	40,50						40,50		
											BOMBA 3.1	1	32,50						32,50		
											BOMBA 3.2	1	35,50						35,50		
											BOMBA 3.3	1	38,50						38,50		
											BOMBA 3.4	1	40,50						40,50		
											BOMBA 3.5	1	44,50						44,50		
											FILTRO W	1	15,00						15,00		
																			1.245,00		
																			6,21		
																			7.731,45		
										BT061	<p>m Construcción atarjea</p> <p>EJECUCIÓN DE ATARJEA MEDIANTE LADRILLO DE GERO REVESTIDO CON MORTE-RO CON DIMENSIONES DE 0,8 DE ANCHURA Y HASTA 0,8 M DE PROFUNDIDAD. INCLUIDA LA EXCAVACIÓN DE ZANJA, EJECUCIÓN DE MUROS Y SOLERA (NIVELADA EN DIRECCIÓN A PUNTO DE EVACUACIÓN DE AGUAS, TAPA REGISTRABLE DE ATARJEA. TOTALMENTE EJECUTADO.</p>										
											ENTRE CUADROS	2	5,000						10,000		
																			10,00		
																			31,89		
																			318,90		
										BT058-1	<p>m Bandeja de PVC estanca de 150x60 mm</p> <p>BANDEJA DE PVC CON TAPA DE PVC, CON DIMENSIONES 150X60MM. INCLUSO PEQUEÑO MATERIAL, APOYOS MEDIANTE PERFILES METÁLICOS Y ANCLAJES A PARAMENTOS VERTICALES Y HORIZONTALES, TOTALMENTE INSTALADO Y EN SERVICIO.</p>										
											BANDEJAS	2	60,000						120,000		
												2	21,000						42,000		
																			162,00		
																			16,47		
																			2.668,14		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
BT-AC-CANL2	m TUBO CORRUGADO D=225 mm									BT-AC-CANL050	m TUBO CORRUGADO D=50 mm									
	M.L. DE TUBO CORRUGADO DE PVC DE 225 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N, UNO POR TERNA + UNO DE RESERVA. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA.										M.L. DE TUBO CORRUGADO DE PVC DE 50 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA.									
	FUERZA BOMBAS:										CAUDALÍMETRO 1	2	33,50						67,00	
	BOMBA 2.1	2	30,50						61,00		CAUDALÍMETRO 2	2	59,00						118,00	
	BOMBA 2.2	2	33,50						67,00		CAUDALÍMETRO 3	2	63,00						126,00	
	BOMBA 2.3	2	35,50						71,00		BOMBA 1.1	2	21,00						42,00	
	BOMBA 2.4	2	40,50						81,00		BOMBA 1.2	2	20,50						41,00	
	BOMBA 3.1	3	32,50						97,50		BOMBA 1.3	2	21,00						42,00	
	BOMBA 3.2	3	35,50						106,50		BOMBA 1.4	2	23,00						46,00	
	BOMBA 3.3	3	38,50						115,50		BOMBA 1.5	2	27,50						55,00	
	BOMBA 3.4	3	40,50						121,50		BOMBA 2.1	2	30,50						61,00	
	BOMBA 3.5	3	44,50						133,50		BOMBA 2.2	2	33,50						67,00	
											BOMBA 2.3	2	35,50						71,00	
								854,50	13,97		BOMBA 2.4	2	40,50						81,00	
									11.937,37		BOMBA 3.1	2	32,50						65,00	
BT-AC-CANL200	m TUBO CORRUGADO D=200 mm										BOMBA 3.2	2	35,50						71,00	
	M.L. DE TUBO CORRUGADO DE PVC DE 200 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA.										BOMBA 3.3	2	38,50						77,00	
	DE EB A ARQUETA Balsa BPC (PN)	2	310,00						620,00		BOMBA 3.4	2	40,50						81,00	
											BOMBA 3.5	2	44,50						89,00	
								620,00	6,10		FILTRO W	2	15,00						30,00	
									3.782,00		VÁLVULA IMPULSIÓN BP1	2	30,00						60,00	
BT059-18	m TUBO CORRUGADO D=180 mm										VÁLVULA IMPULSIÓN BP2	2	60,00						120,00	
	M.L. TUBO CORRUGADO DE DOBLE PARED FLEXIBLE DE DIÁMETRO 180MM PARA INSTALACIONES ELÉCTRICAS, RESISTENCIA DE COMPRESIÓN 450N, RIGIDEZ DIELECTRICA 2KV, RESISTENCIA AL IMPACTO 2J, RESISTENCIA ELÉCTRICA 100 OHM BAJO 500VCC. INCLUSO CINTA DE SEÑALIZACIÓN DE AVISO DE CABLEADO, PEQUEÑO MATERIAL DE MONTAJE Y UNION. TOTALMENTE INSTALADO Y MONTADO.										VÁLVULA IMPULSIÓN BP3	2	60,00						120,00	
	FUERZA BOMBAS:										BY-PASS	2	30,00						60,00	
	BOMBA 1.1	2	21,00						42,00		DE ARQUETA Balsa BPC (PN) A:									
	BOMBA 1.2	2	20,50						41,00		COMPUERTA 1 TOMA	2	320,00						640,00	
	BOMBA 1.3	2	21,00						42,00		COMPUERTA 2 TOMA	2	320,00						640,00	
	BOMBA 1.4	2	23,00						46,00		CAUDALIMETRO TOMA	2	140,00						280,00	
	BOMBA 1.5	2	27,50						55,00											
								226,00	6,25								3.210,00	2,79	8.955,90	
									1.412,50											

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
SUBCAPÍTULO 13.07 PROYECTO ELÉCTRICO Y TRÁMITES																					
BT069	Ud Conexión A Tierra Estructura Metálica UD. SUMINISTRO Y MONTAJE DE CONEXIÓN A TIERRA DE ESTRUCTURA METÁLICA, COMPUESTA POR: - 1 UD. SOLDADURA ALUMINOTÉRMICA EN TE CABLE-CABLE. - 1 UD. PLACA DE ACERO SOLDADA A ESTRUCTURA. - 1 UD. TORNILLO, TUERCAS Y ARANDELAS M20. - 1 UD. TERMINAL EN COBRE A PRESIÓN PARA CABLE DE 35 MM2. - 3 M.L. CABLE DE COBRE DESNUDO DE 35 MM2 DE SECCIÓN NOMINAL. - 1,5 M.L. TUBO DE PVC ENCHUFABLE M25, INCLUIDA P.P. DE MANGUITOS DE UNIÓN, BOQUILLAS EN SUS EXTREMOS, CURVAS Y ELEMENTOS DE SUJECCIÓN A VIGA O PARED. PILARES						26		26,000	BT002-1	Pa P.A. Redacción de Proyecto eléctrico BT, visados y trámites PARTIDA ALZADA A JUSTIFICAR PARA REDACCIÓN DE PROYECTOS ELÉCTRICOS DE BT NECESARIOS PARA LOS CONDICIONANTES ESPECIFICADOS POR LA COMPAÑÍA Y QUE PUDIERAN SER EXIGIDOS POR LOS DIFERENTES ORGANISMOS, COPIAS DOCUMENTALES, VISADOS, BOLETINES, INCLUIDOS TODO TIPO DE TRÁMITES Y TASAS. BT-REBOMBEO	1					1,000		1,000,00	1.000,00	
								26,00	31,99											831,74	
																		TOTAL SUBCAPÍTULO 13.07 PROYECTO ELÉCTRICO Y		1.000,00	
																		TOTAL CAPÍTULO 13 BAJA TENSION		860.783,31	
CAPÍTULO 14 SOLAR																					
SUBCAPÍTULO 14.01 MOVIMIENTO DE TIERRAS																					
BT071	Ud Barra Equipotencial De Puesta A Tierra UD. SUMINISTRO Y MONTAJE DE BARRA EQUIPOTENCIAL DE PUESTA A TIERRA, INCLUIDO PEQUEÑO MATERIAL, TOTALMENTE INSTALADA.						3		3,000	R01DM040	m ² Desbroce Y Limpieza Todo Tipo De Terreno Con Transporte DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 30 CM, INCLUIDO LA EXCAVACIÓN, INCLUSO DEFORESTACIÓN Y TALA DE ARBUSTOS Y DE ÁRBOLES DE CUALQUIER TIPO Y DIMENSIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 5 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA. EN CAMPO FV	1					54.800,00		54.800,00	0,39	21.372,00
								3,00	17,57											52,71	
BT072	Ud Conexión Equipos A Tierra UD. SUMINISTRO Y MONTAJE DE CONEXIÓN A TIERRA DE ESTRUCTURA METÁLICA, COMPUESTA POR: - 1 UD. SOLDADURA ALUMINOTÉRMICA EN TE CABLE-CABLE. - 1 UD. PLACA DE ACERO SOLDADA A BANCADA EQUIPO. - 1 UD. TORNILLO, TUERCAS Y ARANDELAS M20. - 1 UD. TERMINAL EN COBRE A PRESIÓN PARA CABLE DE 35 MM2. - 3 M.L. CABLE DE COBRE DESNUDO DE 35 MM2 DE SECCIÓN NOMINAL. - 1,5 M.L. TUBO DE PVC ENCHUFABLE M25, INCLUIDA P.P. DE MANGUITOS DE UNIÓN, BOQUILLAS EN SUS EXTREMOS, CURVAS Y ELEMENTOS DE SUJECCIÓN A VIGA, PARED O BANCADA. BOMBAS FILTRO						14 1		14,000 1,000	R04AR030	m ³ Formación Terraplén Compactado Mat. Procedente de Excavación MEZCLA, EXTENDIDO, COMPACTADO Y PERFILADO DE RASANTES, PARA LA CONSTRUCCIÓN DE TERRAPLENES, EN CUERPO DE PRESA, CON TERRENOS SELECCIONADOS PROCEDENTES DE LA EXCAVACIÓN QUE CUMPLAN LAS CONDICIONES QUE ESTABLECE EL PG-3 PARA SUELOS SELECCIONADOS O TOLERABLES, CON LA SEPARACIÓN SELECTIVA DE MATERIALES DE CALIDAD Y DESMENUZADO PREVIO, INCLUSO USO DE RODILLO PATA DE CABRA, Y COMPACTACIÓN POR CAPAS DE 25 CM, HASTA ALCANZAR EL 98 % PM. INCLUIDOS LOS TRABAJOS PREVIOS A LA PRIMERA CAPA, QUE CONSISTIRÁN EN LA COMPACTACIÓN DEL TERRENO, REALIZANDO PARA ELLO UN TRATAMIENTO DE LA BASE MEDIANTE LABRADO O RIPADO DEL TERRENO Y POSTERIOR HUMECTACIÓN Y COMPACTACIÓN ENERGICA. INCLUIDO EL TRANSPORTE EN OBRA A 3 KM DE DISTANCIA Y RIEGO CON AGUA (INCLUIDO EL SUMINISTRO), COMPACTACIÓN ENERGICA DEL TERRENO DE BASE PREVIAMENTE AL EXTENDIDO DE MATERIAL. MEDIDA EN SU PERFIL FINAL COMPACTADO. EN CAMPO FV	1					333.000,00		333.000,00		356.310,00
								15,00	50,53											757,95	
																		TOTAL SUBCAPÍTULO 13.06 RED DE PUESTA A TIERRA		4.095,88	
																		TOTAL SUBCAPÍTULO 14.01 MOVIMIENTO DE TIERRAS		377.682,00	

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE					
SUBCAPÍTULO 14.02 CIMENTACIONES, ESTRUCTURAS Y OBRA CIVIL										SUBCAPÍTULO 14.03 MÓDULOS FOTOVOLTAICOS														
R04EM010	m Cerramiento Valla Galvanizada h=2 m									FV_MODMONOPH	Ud. de Wp en módulo fotovoltaico Mono-PERC Half-cut, Rto>20,5%													
	CERRAMIENTO DE VALLA GALVANIZADA DE 2,00 M DE ALTURA CON POSTES METÁLICOS CADA 3,00 M Y POSTE PRINCIPAL CADA 30 M, INCLUSO CIMIENTOS DE HORMIGÓN Y PARTE PROPORCIONAL DE PUERTA Y PIEZAS ESPECIALES, INCLUIDA LA PARTE PROPORCIONAL DE VIGA RIOSTRA EN TODO EL PERIMETRO PARA SUJECIÓN DE MALLA, QUEDANDO TOTALMENTE COSIDA AL TERRENO (EXCAVACIÓN, RETIRADA DE TIERRAS, ENCOFRADOS, FERRALLA Y HORMIGÓN. MEDIDA LA UNIDAD EJECUTADA.						868,00	16,56	14.374,08		UMINISTRO Y COLOCACIÓN DE UD. DE POTENCIA PICO (WP) EN MÓDULO FOTOVOLTAICO DE ALTA EFICIENCIA BAJA LID MONO-PERC CON TECNOLOGÍA HALF-CUT Y RTO>21,5% , 144 (2X(6X12)) CÉLULAS, ESPECIFICACIONES MÍNIMAS DE LA TABLA INFERIOR Y CON DIMENSIONES 2279X1134X40 MM SUMINISTRADO POR FABRICANTE TIER1. TENSIÓN DE AISLAMIENTO DE 1500V (IEC/UL), SEGURIDAD CLASE II, RESISTENCIA AL FUEGO UL TIPO 1 O 2, TOMA DE PLÁSTICO (PPO), VENTILADA Y CON ALIVIO DE TENSIÓN, AL MENOS IP65. CABLE SOLAR DE 6 MM2 Y 3M DE LONGITUD. VIDRIO FRONTAL TEMPLADO DE 3,2 MM CON BAJO CONTENIDO DE HIERRO. BASTIDOR DE ALUMINIO ANODIZADO ESTABLE EN UN DISEÑO DE SECCIÓN HUECA. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO, FIJADO Y CABLEADO.													
ESTSOL18	ud Estructura de acero galvanizado para 18 modulos FV 144cel,13-30°										TECNOLOGÍA MONOCRISTALINO PERC HALF-C Nº CELDAS (144(6X24)) TIPO EX550MB-144 PMPP (WP) 550 UMPP (V) 41,95 IMPP (A) 13,12 ISC (A) 13,93 UOC (V) 49,97 RTO. MÓDULO 21,50% COEF. Tº (V) -0,290% COEF. Tº (A) 0,040% COEF. Tº (P) -0,350% NOCT °C 43 TENSIÓN (V) 1500 CORRIENTE FUSIBLE (A) 25 Tº MAX 85 Tº MIN -40 DIODOS BY-PASS 3													
	SUMINISTRO, COLOCACIÓN, MONTAJE SUPERFICIAL O HINCADO DE ESTRUCTURA DE ACERO GALVANIZADO BIAPOYADA, EN AW 6063 T66, CERTIFICADA Y AJUSTADA A CÓDIGO TÉCNICO DE LA EDIFICACIÓN Y CÓDIGO ESTRUCTURAL, PARA 18 MÓDULOS SOLARES FOTOVOLTAICOS. INCLUYENDO EL SUMINISTRO DE LA ESTRUCTURA PORTANTE DE ACERO GALVANIZADO Y TORNILLERÍA DE ACERO INOXIDABLE AISI 304 (A2-70), PARA LOS MÓDULOS SOLARES FOTOVOLTAICOS E INCLINACIÓN DE ENTRE 13° Y 30 ° RESPECTO A LA PROYECCIÓN HORIZONTAL DEL MÓDULO. LA ESTRUCTURA, AGRUPARÁ 18 MÓDULOS DE 144 CÉLULAS, TAMAÑO MÓDULO 2279X1134X40 MM, EN DISPOSICIÓN VERTICAL, ELEVADA 30 CM CON RESPECTO AL SUELO. TOTALMENTE INSTALADA INCLUSO ANCLAJES Y CIMENTACIÓN BAJO NIVEL DEL SUELO PARA AMARRAR LOS SOPORTES AL SUELO. INCLUIDOS LOS MOVIMIENTOS DE TIERRA NECESARIOS PARA LA CIMENTACIÓN, EXCAVACIÓN, CARGA Y TRANSPORTE A VERTEDERO O PREPERFORACIONES NECESARIAS PARA EL HINCADO. TRIÁNGULOS PREMONTADOS DE FÁBRICA, PARA UN RÁPIDO MONTAJE. INCLUIDO EL MONTAJE DE LA ESTRUCTURA ASÍ COMO EL MONTAJE DE LOS MÓDULOS SOBRE LAS MISMA. INCLUIDO EL MONTAJE DE LA ESTRUCTURA ASÍ COMO EL MONTAJE DE LOS MÓDULOS SOBRE LA MISMA. INCLUSO EL SUMINISTRO, COLOCACIÓN Y MONTAJE DE LAS BANDEJAS METÁLICA DE VARILLA GALVANIZADA EN CALIENTE CON TAPA DE DIMENSIONES 100X30 MM, PARA EL ALOJAMIENTO DE LOS MÓDULOS, INCLUYENDO CANALIZACIÓN ELÉCTRICA, INCLUIDO ACCESORIOS Y PIEZAS ESPECIALES, TOTALMENTE MONTADA, SIN INCLUIR CABLEADO, SEGÚN EL REGLAMENTO ELECTROTÉCNICO DE BAJA TENSIÓN. TRANSPORTE Y MANO DE OBRA INCLUIDOS.									MÓDULOS FV	288	18,00	550,00	2.851.200,00										
	MÓDULOS FV	288						288,00	1.343,48	386.922,24							2.851.200,00	0,35	997.920,00					
	TOTAL SUBCAPÍTULO 14.02 CIMENTACIONES, ESTRUCTURAS Y OBRA CIVIL																			401.296,32				
	TOTAL SUBCAPÍTULO 14.03 MÓDULOS FOTOVOLTAICOS																			997.920,00				

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE						
FV_RV-K400AL	m Cable Unipolar RV-K 0,6/1 KV de 400 mm ² Al SUMINISTRO DE CABLE UNIPOLAR DE ALUMINIO 400MM ² RV-K DE TENSIÓN ASIGNADA 0.6/1KV, FLEXIBILIDAD CLASE 5 CON AISLAMIENTO DE POLIETILENO RETICULADO Y CUBIERTA DE PVC. INCLUYENDO MEDIOS AUXILIARES, TOTALMENTE INSTALADO. DE CC2 A ACOMETIDA FV EB	20	490,00	2,00					19.600,00	FV_SUP2	ud Suministro,montaje,puesta en marcha monitorización DC y Sensores SUMINISTRO, MONTAJE Y PUESTA EN MARCHA MONITORIZACIÓN DC, INCLUYE: * UNIDAD DE CUADRO TELEMANDABLE Y GESTINABLE DESDE PLC CENTRAL. * MONITORIZACION DE ENERGIA POR CADA CIRCUITO DE STRING * SENSORES DE: 1 UDS. MEDICIÓN DE INTENSIDAD (SHUNT) 2 UDS. Sonda IRRADIANCIA (PIRANÓMETRO) 2 UDS. Sonda TEMPERATURA AMBIENTE PT100 2 UDS. Sonda TEMP. EN SUPERFICIE MÓDULOS. PT100 * 1 UD. CONVERSOR DE COMUNICACIONES ETHERNET/FO. CONVERSOR DE MEDIOS POE 10/100 BASE TX A 100 BASE-FX														
							19.600,00	29,72	582.512,00																
							TOTAL SUBCAPÍTULO 14.04 CIRCUITOS ELÉCTRICOS			803.305,73															
SUBCAPÍTULO 14.05 CUADROS DE MANDO Y PROTECCIÓN																									
FV_CC1_8E200A	ud Cuadro secundario de corriente continua(8E/25A/200A-1500V) SUMINISTRO CUADROS SECUNDARIOS DE CORRIENTE CONTINUA (CAJA DE CADENAS/STRINGS 1ºNIVEL).8 ENTRADAS REALIZADO SOBRE UN CONJUNTO MODULAR DE DOBLE AISLAMIENTO Y CONSTRUIDA CONPOLIESTER REFORZADO CON FIBRA DE VIDRIO Y PLACA DE MONTAJE Y TAPAS OPACAS DEL MISMO MATERIAL, NO HIGROSCOPICAS Y RESISTENTES A LA CORROSIÓN CON GRADO DE PROTECCIÓN IP-65 SEGÚN UNE Y RIGIDEZ DIELECTRICA SUPERIOR A 5.000 V. COMPUESTO POR: - CUADRO TIPO GEMINI TAMAÑO 2 IP 68 COMPLETO, CON PRENSAESTOPAS Y TUERCAS CON PASO MÉTRICO - IP 68 COMPLETO PARA LA INSTALACIÓN DE ELEMENTOS - INTERRUPTOR MAGNETOTÉRMICO TIPO OTDC200 - PROTECTOR CONTRA SOBRETENSIONES TIPO OVR PV 40 1500 P - SECCIONADOR DE FUSIBLES TIPO E 92/32, EN CADENAS/STRINGS Y SOBRETENSIONES - FUSIBLES TIPO 10X85 MM 1500 V C.C. 25 A, EN CADENAS/STRINGS - FUSIBLES 25 A TIPO GR PARA PROTECCIÓN DEL OVR - BORNAS DE TORNILLOS DE 2,5 A 240 MM 2, PARA TENSIONES HASTA 1500 V - REGLETA DE PUESTA A TIERRA - MEDIDOR DE CADENAS DE MÓDULOS (U, I) AUTOALIMENTADO CON COMUNICACIÓN ETHERNET. - PARTE PROPORCIONAL PEQUEÑA APARAMENTA Y MATERIAL SOPORTES, EMBAZADOS, DISTRIBUIDORES DE CABLES, PROTECCIONES, ELEMENTOS DE SEGURIDAD, PRENSAESTOPAS, ETC... INCLUSO TRANSPORTE, Y PARTE PROPORCIONAL DE SOPORTE Y FIJACIÓN A ESTRUCTURA FV. TOTALMENTE MONTADA, CONECTADA, INSTALADA Y PROBADA.	CC1	36						36,00	FV_CC2_3X2000	ud Cuadro secundario CC2 en armario existente (1500V/3x2000A) SUMINISTRO CUADROS GENERAL DE CORRIENTE CONTINUA (CAJA DE 2º NIVEL). REALIZADO SOBRE UN CONJUNTO MODULAR DE DOBLE AISLAMIENTO Y CONSTRUIDA CONPOLIESTER REFORZADO CON FIBRA DE VIDRIO Y PLACA DE MONTAJE Y TAPAS OPACAS DEL MISMO MATERIAL, NO HIGROSCOPICAS Y RESISTENTES A LA CORROSIÓN CON GRADO DE PROTECCIÓN IP-65 SEGÚN UNE Y RIGIDEZ DIELECTRICA SUPERIOR A 5.000V. COMPUESTO POR: * ENVOLVENTE HORMIGÓN ARMADO TIPO ALP * ENTRADAS DCBOX PROTEGIDAS CON FUSIBLES DE CUCHILLA DE 200A, TIPO FUSIBLE DE LENGUETA CENTRADO 200A 1500V Y BASE PORTAFUSIBLES. * SALIDA PARA LÍNEAS DE 400 MM ² , PROTEGIDA MEDIANTE INTERRUPTOR AUTOMÁTICO DE 2000A, 1500VCC, TIPO OT. * 3 UDS. INTERRUPTOR AUTOMÁTICO EMAX DC 2000A 1100VCC * 3 UDS. DESCARGADOR SOBRETENSIONES. * 1 UD. REGLETA DE PUESTA A TIERRA. * 5 UD. SWITCH ETHERNET * 1 UD. CONVERSOR DE COMUNICACIONES ETHERNET/FO. CONVERSOR DE MEDIOS POE 10/100 BASE TX A 100 BASE-FX * MEDIDORES DE AISLAMIENTO. * INDICADORES LUMINOSOS INCLUSO TRANSPORTE. TOTALMENTE MONTADA, CONECTADA, INSTALADA Y PROBADA.														
							36,00	2.157,35	77.664,60																
												1,00						1,00	6.212,75	6.212,75					
												TOTAL SUBCAPÍTULO 14.05 CUADROS DE MANDO Y PROTECCIÓN			122.928,97										

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
SUBCAPÍTULO 14.08 REDACCIÓN PROYECTO Y TRAMITACIÓN										BT044B	Ud Automata bombeo									
BT002-1	Pa P.A. Redacción de Proyecto eléctrico BT, visados y trámites										UNIDAD PLC PARA CONTROL DE ESTACIÓN DE BOMBEO CONSISTENTE EN:									
	PARTIDA ALZADA A JUSTIFICAR PARA REDACCIÓN DE PROYECTOS ELÉCTRICOS DE BT NECESARIOS PARA LOS CONDICIONANTES ESPECIFICADOS POR LA COMPAÑÍA Y QUE PUDIERAN SER EXIGIDOS POR LOS DIFERENTES ORGANISMOS, COPIAS DOCUMENTALES, VISADOS, BOLETINES, INCLUIDOS TODO TIPO DE TRÁMITES Y TASAS.										-1XCPU									
							1,00	1.000,00	1.000,00		-MAX 1024 VÍAS ED/SD									
											-MAX 256 VÍAS EA/SA									
											-4.098 KB DE RAM DE USO INTERNO									
											-3584KB DE MEMORIA INTERNA PARA ALMACENAMIENTO DE PROGRAMA									
											-1 PUERTO ENLACE SERIE INTEGRADO RJ45 CON INTERFAZ RS232/RS485 PARA PROTOCOLO MODBUS									
											-1 PUERTO ETHERNET INTEGRADO									
											-1 PUERTO USB DE PROGRAMACIÓN.									
											-5 MÓDULO DE 32 ED 24VCC DE ALTA DENSIDAD									
											-2 MÓDULO DE 32 SALIDAS DIGITALES									
											-10 MÓDULOS DE ENTRADAS ANALÓGICAS PARA SONDAS DE TEMPERATURA									
											-4 MÓDULO DE 4 SALIDAS ANALÓGICAS									
											-2 MÓDULO DE 8 ENTRADAS ANALÓGICAS									
											-2 RACK DE 12 EMPLAZAMIENTOS									
											-1 FUENTE DE ALIMENTACIÓN DE 220/24 VCC DE 36W									
											-17 BORNEROS DESENCHUFABLES DE 20 PUNTOS PARA ENTRADAS ANALÓGICAS									
											- INCLUYE PROGRAMA Y PROGRAMACIÓN DEL PLC.									
											- INCLUYE PUESTA EN MARCHA DEL PLC Y DE TODO EL SISTEMA DE AUTOMATIZACIÓN, INCLUYENDO COMUNICACIÓN CON REMOTAS.									
											- INCLUYE PEQUEÑO MATERIAL AUXILIAR Y DE MONTAJE.									
											TOTALMENTE INSTALADO, CONFIGURADO, CONECTADO Y PROBADO.									
										E. REBOMBEO	1						1,00	22.331,75	22.331,75	
CAPÍTULO 15 AUTOMATIZACIÓN										BT045A	Ud Instrumentación bombeo y balsa BPC (EB)									
BT043A	Ud Cuadro automatismo										INSTRUMENTACIÓN NECESARIA PARA CONTROL Y MONITORIZACIÓN DE LA ESTACIÓN DE BOMBEO QUE INCLUYE:									
	UD SUMINISTRO DE CUADRO AUTOMATISMO COMPUESTO POR:										-5 TRANSDUCTOR DE PRESIÓN, TIPO SITRANS P SERIE Z, CON GAMA DE PRESIÓN 0-16 BAR, CONEXIÓN DE PRESIÓN G1/2, SALIDA 4.20 MA., TENSIÓN DE ALIMENTACIÓN 10-36 VCC, CARCASA DE ACERO INOXIDABLE, IP65, TEMPERATURA AMBIENTE -25 +85°, CONEXIÓN 2 HILOS									
	- ENVOLVENTE COMPARTIDA CON CUADRO SSAA										-2 SENSORES DE LÁMINA DE PUERTA 2 HILOS Y TENSIÓN MÁXIMA DE CONMUTACIÓN DE 30VCC, 2 PARA ESTACIÓN DE BOMBEO Y 2 PARA CT.									
	- PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS.										-2 TERMOSTATOS PARA PARED CON CONTACTO NO 230V 0 A 60° PARA ACTIVACIÓN DE EXTRACTORES.									
	- INCLUYE CABLEADO INTERIOR Y MATERIAL PARA CANALIZACIÓN Y CONEXIÓN DEL MISMO.										-24 FINALES DE CARRERA PARA CONTROL DE APERTURA DE VÁLVULAS PREVIA CONEXIÓN DE EQUIPOS DE BOMBEO.									
	- PEQUEÑO MATERIAL AUXILIAR Y ACCESORIOS.										- INCLUYE PEQUEÑO MATERIAL DE MONTAJE.									
	- 1 CONVERTIDOR DE CORRIENTE CONTINUA, TENSIÓN DE ENTRADA 24 VCC, TENSIÓN DE SALIDA 12VCC, DIMENSIONES 124X32X102, POTENCIA MÁX. 96W, CORRIENTE DE SALIDA 8A										TOTALMENTE INSTALADO Y PROBADO.									
	- 1MÓDULO REDUNDANTE PARA FUENTES DE ALIMENTACIÓN DE TENSIÓN DE ENTRADA DE 24 VCC Y SALIDA DE 80 A. DOBLE ENTRADA Y ÚNICA SALIDA. PÉRDIDAS DE 50MV A 40A DE CORRIENTE DE SALIDA. PÉRDIDAS DE 2.7 W A 40A Y 8.3W A 80A. TAMAÑO 46X124X127 ENVOLVENTE METÁLICA.										E. TURBINA-BOMBA	1						1,00	1.458,78	1.458,78
	- 1 FUENTES ALIMENTACIÓN, SALIDA 24VCC, CORRIENTE DE SALIDA 10A, TAMAÑO 125X100X125, POTENCIA MÁX. DE SALIDA 240W, TENSIÓN DE ENTRADA 85 A 264VAC, TIPO CONMUTADO																			
	- 4 INTERRUPTORES MAGNÉTICOS 1P DE CORRIENTE CONTINUA CON TENSIÓN 24VCC Y 6A DE CORRIENTE.																			
	- 2 INTERRUPTORES BIPOLARES 16 A PDEC DE 35 KA. 230V																			
	- 5 RELÉS DE MANDO 24VCC																			
	- 1 AISLADORES GALVÁNICOS PARA ENTRADAS ANALÓGICAS DE 2 CANALES.																			
	- SAI 2.2 KVA POTENCIA CON VOLTAJE DE 230VAC, CON CAPACIDAD DE BATERÍAS PARA 12 MINUTOS, CON CABLE DE COMUNICACIÓN A PUERTO SERIE CON PC, Y SOFTWARE DE SUPERVISIÓN DEL SAI INCLUYE TRANSPORTE.																			
	- 1 MODEM GSM CON COMUNICACIÓN POR ETHERNET Y TARJETA SIM PARA COMUNICACIÓN REMOTA. PARA AVISOS VÍA SMS (ANTIRROBO, ALARMA).																			
	- 1 PROTECCIÓN CONTRA SOBRETENSIONES TIPO D 230V.																			
	- 3 SWITCH INDUSTRIAL DE 8 PUERTOS RJ45																			
	- PANEL DE PC TÁCTIL TIPO RESISTIVO ANÁLOGO, CON WINDOWS 7 A 64 BITS Y PROCESADOR CORE 3RD GENERACIÓN, 827E, CACHE 3 MB, PARA PANTALLA DE 12" Y 17 MILLONES DE COLORES, RESOLUCIÓN 1024X768 XGA, LCD DE COLOR TFT CON RETROILUMINACIÓN LED, CON LUMINANCIA 375 CD/M2, TARJETA GRÁFICA INTEL HD GRAPHICS 3000, MONTADA SOBRE SOPORTE DE ALUMINIO. DISCO DURO MAYOR DE 60 GB FLASH DISCK SSD MLC PARA 2000000 HORAS, Y MEMORIA INTERNA DE HASTA 16 GB RAM DDR3. CONEXIONES (DVI, ETHERNET, COM 1 Y COM2, USB 2.0 Y USB 3.0, MINIJACK) Y PUERTO ETHERNET.																			
	- INCLUYE LUCES DE SEÑALIZACIÓN.																			
	- INCLUYE TRANSPORTE.																			
	TOTALMENTE MONTADO, INSTALADO, CONECTADO Y PROBADO.																			
	E. TURBINA-BOMBA	1					1,00	5.020,84	5.020,84											

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
BT046A	<p>Ud Centro de control bombeo</p> <p>CENTRO DE CONTROL PARA MONITORIZACIÓN Y COMANDO DE ESTACIÓN DE BOMBEO COMPUESTO POR:</p> <ul style="list-style-type: none"> - SAI DE 750VA DE POTENCIA PARA CONEXIÓN DE PC DE CENTRO DE CONTROL, CON VOLTAJE DE 230VAC, CON CAPACIDAD DE BATERÍAS PARA 12 MINUTOS A MEDIA CARGA, Y 6 MINUTOS A PLENA CARGA, CON CABLE DE COMUNICACIÓN A PUERTO SERIE CON PC, Y SOFTWARE DE SUPERVISIÓN DEL SAI. - PC CON WINDOWS XP, PROCESADOR INTEL CORE 2 DUO O EQUIVALENTE, CON 2 GB DE MEMORIA RAM, DISCO DURO DE 500 GB Y MONITOR DE 21". - INCLUYE SCADA PARA CONTROL DE LAS UNIDADES REMOTAS Y DE LA ESTACIÓN DE BOMBEO. SCADA DE SUPERVISIÓN INCLUYENDO LA PROGRAMACIÓN DE PANTALLAS Y SUBPANTALLAS COMO MINIMO: <ul style="list-style-type: none"> - PANTALLA DE SITUACIÓN: GESTIÓN DE ACCESO Y PERMISOS. - PANTALLA DE ESTADO GENERAL: VALORES MÁS SIGNIFICATIVOS ON-LINE, VISTA DE LAS BOMBAS Y SALA DE CUADROS, Y ACCESO A OTRAS PANTALLAS. - PANTALLA DE ESTADO DEL GRUPO DE BOMBEO: ESTADO DE LA BOMBA, TEMPERATURAS PT100, GESTIÓN DE ALARMAS, RESULTADOS, VARIABLES ELÉCTRICAS (V, I, P ETC), GRÁFICOS DE VARIABLES, PRESIONES Y CAUDALES, HORAS DE MARCHA, N° DE CONEXIONES ETC. - PANTALLA DE ESTADO DE EQUIPOS: PROTECCIONES COMUNES DEL BOMBEO, PROTECCIONES ELÉCTRICAS INDIVIDUALES, PROTECCIONES DE FILTROS. - PANTALLA DE ESTADO DEL CT, PROTECCIONES Y CONSUMOS. - PANTALLA DE PROGRAMACIÓN: VALORES DE CAPTACIÓN, VALORES DE LLENADO AUTOMÁTICO, LÍMITES DE LLENADO, FUNCIONAMIENTO, PROGRAMACIÓN DE PERIODOS, PROGRAMACIÓN N° DE BOMBAS, VALORES DE CIERRE, PROGRAMACIÓN VENTILACIÓN, RANGOS HORARIOS DE BOMBEO Y PERIODOS TARIFARIOS, HORARIO LIMITADO O CONTINUO, PARÁMETROS PARA GESTIÓN DE LA EFICIENCIA ENERGÉTICA, RENDIMIENTO ÓPTIMO, PROGRAMACIÓN DE MÁXIMOS CAUDALES Y PROTENCIA, CONFIGURACIÓN SMS, PROGRAMACIÓN SMS ALARMAS, AVISOS Y N° DE TELÉFONO ETC. PROGRAMACIÓN PARÁMETROS DE INTRUSIÓN. - PANTALLA DE GRÁFICOS: GRÁFICOLS A ELECCIÓN DEL USUARIO CRUZANDO VARIABLES A LO LARGO DEL TIEMPO GENERAL DE LA INSTALACIÓN, COMO INDIVIDUALES DE LOS EQUIPOS, VISUALIZACIÓN DE GRÁFICOS INSTANTANEOS O EN UN RANGO DE TIEMPOS, ALMACENAMIENTO DE VARIABLES, MODIFICACION DE ESCALAS. - PANTALLA DE ALARMAS Y ADVERTENCIAS: ALMACENAMIENTO DE ALARMAS Y SUCESOS, ALARMAS ACTUALES, FILTRO DE RESULTADOS ETC. - PANTALLA DE INFORMES: GENERACIÓN DE INFORMES EN UN RANGO DE RASTREO DE LAS VARIABLES DESEADA, IMPRESIÓN DE INFORMES TOALMENTE PROGRAMADO, MONTADO, INSTALADO, CONFIGURADO Y PROBADO. 	1					1,000													
	E. TURBINA-BOMBA						1,00	4.103,86	4.103,86											
BT047	<p>Ud Comunicaciones</p> <p>CENTRO DE COMUNICACIONES RADIO QUE CONSISTE EN:</p> <ul style="list-style-type: none"> - CONCENTRADORA RADIO CON PROTOCOLO MODBUS RTU 12 VCC - 1 LATIGUILLO INTERIOR CUADRO RG-58 1M N MACHO- N HEMBRA - 1 CABLE COAXIAL RG-213 10M N MACHO - N MACHO - 1 ANTENA OMNIDIRECCIONAL COLINEAL UHF, 3 DB DE GANANCIA, N HEMBRA, 405-445 MHZ - 1 JUEGO DE SOPORTES PARA RAIL DIN - 1 KIT DE PRUEBAS PARA UNIDAD CONCENTRADORA - 1 KIT DE PRUEBAS PARA UNIDADES REMOTAS - 1 CABLE DE CONFIGURACIÓN DE UNIDAD REMOTA - 1 CABLE DE CONFIGURACIÓN PARA CONCENTRADORA. - INCLUYE MASTIL PARA INSTALACIÓN DE ANTENA. <p>TOTALMENTE INSTALADO, CONECTADO Y PROBADO.</p>																			
	E. TURBINA-BOMBA						1,00	2.594,15	2.594,15											
	TOTAL SUBCAPÍTULO 15.01 ESTACIÓN BOMBEO, TOMA Y																	35.509,38		
SUBCAPÍTULO 15.02 CONTROL BALSAS																				
BT048	<p>u Unidad Remota 10ED, 2SD, 1EA</p> <p>UNIDAD REMOTA RADIO CONSISTENTE EN:</p> <ul style="list-style-type: none"> - UNIDAD REMOTA RADIO CON 10ED, 2SD, 1EA, IP66 FUNCIONAMIENTO MEDIANTE BATERÍA DE 3 AÑOS DE AUTONOMÍA. - ACCIONAMIENTO POR RELÉ PARA APERTURA Y CIERRE DE MOTORIZACIÓN TIPO VÁLVULA MOTORIZADAL. - 1 RADIOMODEM Y MÓDEM GSM - 1 TARJETA CON 1 ENTRADA ANALÓGICA 0/4-20 MA - 1 ANTENA LAMBDA/2 EXTERIOR DE 2 DB DE GANANCIA, CABLE DE 7M Y CONECTOR - 1 PACK DE PILA DE LITIO + CONECTOR PARA UNIDAD REMOTA. - 1 CABLE COAXIAL RG-213 10M N MACHO - N MACHO - 1 LATIGUILLO RG-58 1M TNC M - N H - CON PUERTO Y CONEXIÓN PARA COMUNICACIÓN BIDIRECCIONAL CON AUTÓMATA DE CONTROL PARA MANDAR ORDENES Y RECIBIR ESTADOS E INFORMACIÓN DE SEÑALES Y CAUDALIMETRO. <p>INCLUYE MASTIL DE 3M PARA ANTENA, COLOCACIÓN, ENSAYOS Y PUESTA EN MARCHA.</p>																			
	BALSA BP1						1,00													
	BALSA BP2						1,00													
	BALSA BP3						1,00													
	BALSA BPC (PN)						1,00													
	TOTAL SUBCAPÍTULO 15.02 CONTROL BALSAS																	4.893,20		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
BT052	m Cable Tronic LICY 2x2x1.5																					
	CABLE DE DATOS DE PARES DE 2X2X1.5 APANTALLADO RANGO DE TEMPERATURA -30º A 80º RECUBRIMIENTO DE PVC, CONDUCTORES DE COBRE DE ALAMBRE FINO, CONDUCTORES TRENZADOS EN PARES, PARES TRENZADOS, PANTALLA DE COBRE ESTAÑADOTRENZADO, CUBIERTA DE PVC RESISTENTE AL ACEITE, A LOS PRODUCTOS QUIMICOS Y NO PROPAGADORA DE LLAMA. TOTALMENTE MONTADO, CONECTADO Y PROBADO.									BT056	m ZANJA CABLES BT 0,6 MTS ANCHURA EN TIERRA VARIOS CIRCUITOS BT											
	ESTACIÓN BOMBEO.										M.L. REALIZACIÓN DE ZANJA EN TIERRA CON LECHO DE ARENA PARA CABLES DE BT DE 0,6 MTS DE ANCHURA Y 0,9 MTS DE PROFUNDIDAD, INCLUYENDO ROTURA Y REPOSICIÓN DE PAVIMENTO EXISTENTE, EXCAVACIÓN CON MEDIOS MECÁNICOS, CAPA DE ARENA FINA DE 30 CM, RELLENO DE ZANJAS CON ZAHORRAS MEDIANTE TONGADAS DE 30 CM, MALLA DE SEÑALIZACIÓN (2 MTS), PLACA DE PVC DE SEÑALIZACIÓN (2 MTS), ASÍ COMO MEDIOS MECANICOS, RETIRADA DE TIERRAS A VERTEDERO, MANO DE OBRA ESPECIALIZADA Y PEQUEÑO MATERIAL AUXILIAR NECESARIO, MEDIDA LA UNIDAD TERMINADA Y EJECUTADA.											
	CAUDALÍMETRO 1	1	33,500						33,500		EN BALSAS (+1 RESERVA):											
	CAUDALÍMETRO 2	1	59,000						59,000		BOYA DE MÁXIMO	5	20,00	2,00					200,00			
	CAUDALÍMETRO 3	1	63,000						63,000		FINAL CARRERA VÁLVULA Balsa	5	20,00	2,00					200,00			
	BOMBA 1.1	1	21,000						21,000		CAUDALÍMETRO	4	30,00	2,00					240,00			
	BOMBA 1.2	1	20,500						20,500													
	BOMBA 1.3	1	21,000						21,000													
	BOMBA 1.4	1	23,000						23,000													
	BOMBA 1.5	1	27,500						27,500													
	BOMBA 2.1	1	30,500						30,500													
	BOMBA 2.2	1	33,500						33,500													
	BOMBA 2.3	1	35,500						35,500													
	BOMBA 2.4	1	40,500						40,500													
	BOMBA 3.1	1	32,500						32,500													
	BOMBA 3.2	1	35,500						35,500													
	BOMBA 3.3	1	38,500						38,500													
	BOMBA 3.4	1	40,500						40,500													
	BOMBA 3.5	1	44,500						44,500													
	SENSOR LÁMINA PUERTA	1	15,000						15,000													
		1	60,000						60,000													
	TRANSDUCTOR 1	1	15,000						15,000													
	TRANSDUCTOR 2	1	30,000						30,000													
	TRANSDUCTOR 3	1	30,000						30,000													
	TRANSDUCTOR 3	1	20,000						20,000													
	EN BALSAS:																					
	SONDA NIVEL BALSAS	4	20,000						80,000													
									850,00											5,64	4.794,00	
BT-U001.5X2-0	m Cable Unipolar RZ1-K 0,6/1 KV de 2x1.5 mm2 Cu																					
	CABLE UNIPOLAR RZ1-K 0,6/1KV 2X1.5; TOTALMENTE MONTADO, CONECTADO Y PROBADO.																					
	TERMOSTATOS	1	15,000						15,000													
		1	30,000						30,000													
									45,00											2,22	99,90	
BT053	m Cable Ethernet Cat 6																					
	SUMINISTRO Y MONTAJE DE CABLE UTP CATEGORÍA 6 PARA TRANSMISIÓN DE DATOS PARA RED ETHERNET Y MODBUS RTU. TOTALMENTE MONTADO E INSTALADO.																					
	ESTACIÓN BOMBEO.																					
	RED ETHERNET	1	30,000						30,000													
	RED MODBUS	1	30,000						30,000													
									60,00											5,47	328,20	
	TOTAL SUBCAPÍTULO 15.03 CABLEADO INSTRUMENTACIÓN..																				26.587,24	
											SUBCAPÍTULO 15.04 CANALIZACIÓN											
											BT056 m ZANJA CABLES BT 0,6 MTS ANCHURA EN TIERRA VARIOS CIRCUITOS BT											
											M.L. REALIZACIÓN DE ZANJA EN TIERRA CON LECHO DE ARENA PARA CABLES DE BT DE 0,6 MTS DE ANCHURA Y 0,9 MTS DE PROFUNDIDAD, INCLUYENDO ROTURA Y REPOSICIÓN DE PAVIMENTO EXISTENTE, EXCAVACIÓN CON MEDIOS MECÁNICOS, CAPA DE ARENA FINA DE 30 CM, RELLENO DE ZANJAS CON ZAHORRAS MEDIANTE TONGADAS DE 30 CM, MALLA DE SEÑALIZACIÓN (2 MTS), PLACA DE PVC DE SEÑALIZACIÓN (2 MTS), ASÍ COMO MEDIOS MECANICOS, RETIRADA DE TIERRAS A VERTEDERO, MANO DE OBRA ESPECIALIZADA Y PEQUEÑO MATERIAL AUXILIAR NECESARIO, MEDIDA LA UNIDAD TERMINADA Y EJECUTADA.											
											EN BALSAS (+1 RESERVA):											
											BOYA DE MÁXIMO 5 20,00 2,00 200,00											
											FINAL CARRERA VÁLVULA Balsa 5 20,00 2,00 200,00											
											CAUDALÍMETRO 4 30,00 2,00 240,00											
											640,00 6,21 3.974,40											
											BT-AC-CANL050 m TUBO CORRUGADO D=50 mm											
											M.L. DE TUBO CORRUGADO DE PVC DE 50 MM DE DIÁMETRO NOMINAL, RESISTENCIA DE COMPRESIÓN 750N. TOTALMENTE INSTALADO Y COLOCADO; MEDIDA DE LA UNIDAD TERMINADA Y EJECUTADA.											
											EN BALSAS (+1 RESERVA):											
											BOYA DE MÁXIMO 5 20,00 2,00 200,00											
											FINAL CARRERA VÁLVULA Balsa 5 20,00 2,00 200,00											
											CAUDALÍMETRO 4 30,00 2,00 240,00											
											640,00 2,79 1.785,60											
											TOTAL SUBCAPÍTULO 15.04 CANALIZACIÓN..... 5.760,00											
											TOTAL CAPÍTULO 15 AUTOMATIZACIÓN..... 125.497,70											
											CAPÍTULO 16 TELECONTROL											
											SUBCAPÍTULO 16.01 CENTRO CONTROL CR											
											BT046-2A Ud Centro De Control											
											CENTRO DE CONTROL PARA MONITORIZACIÓN Y COMANDO DE ESTACIÓN DE BOMBEO COMPUESTO POR:											
											- SAI DE 750VA DE POTENCIA PARA CONEXIÓN DE PC DE CENTRO DE CONTROL, CON VOLTAJE DE 230VAC, CON CAPACIDAD DE BATERÍAS PARA 12 MINUTOS A MEDIA CARGA, Y 6 MINUTOS A PLENA CARGA, CON CABLE DE COMUNICACIÓN A PUERTO SERIE CON PC, Y SOFTWARE DE SUPERVISIÓN DEL SAI.											
											- EQUIPOS INFORMÁTICOS COMPUESTO POR:											
											- ORDENADOR PC DE GESTIÓN DELL CON PROCESADOR CORE-DUO 3GHZ DE 4GB RAM, DISCO DURO DE 250 GB, TARJETA GRÁFICA DE 512 MB Y MONITOR DE 22".											
											- UN PC SERVIDOR CON PROCESADOR QUAD-CORE XEON DE 4 GB DE RAM DISCO DURO REDUNDANTE DE 145 GB CON CINTAS DAT72 DE COPIA DE SEGURIDAD.											
											- SAI											
											- COMPLETA IMPRESORA DE LÁSER COLOR Y UN SAI DE 1900 VA.											
											- INCLUYE TRABAJOS DE PARAMETRIZACIÓN Y CONFIGURACIÓN DEL SOFTWARE.											
											- SUMINISTRO, INSTALACIÓN Y PRUEBAS DE SOFTWARE.PAQUETE DE SOFTWARE FORMADO POR TRES PROGRAMAS:											
											- COMUNICACIONES, CONTROL Y GESTIÓN. SE INSTALA EN LOS EQUIPOS INFORMÁTICOS ANTERIORMENTE DESCRITOS.											
											- SE INCLUYE GUARDIÁN PARA EL CONTROL DEL SOFTWARE Y ALIMENTACIÓN DEL SISTEMA ASÍ COMO LA GESTIÓN DE ENVÍO Y RECEPCIÓN DE LOS MENSAJES SMS DE ALARMA U ÓRDENES SEGÚN CONFIGURACIÓN.PARA LA PROGRAMACIÓN Y PARAMETRIZACIÓN DEL RIEGO DE COMUNIDADES DE REGANTES, A TRAVÉS DE UN PC BAJO ENTORNO WINDOWS. PERMITE LA EXPORTACIÓN Y ALMA-											

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE							
	CENAMIENTO DE DATOS A OTROS PROGRAMAS (EXCEL, WORD, ETC.) PARA LA GESTIÓN DEL SISTEMA. - PERSONALIZACIÓN DEL PROGRAMA Y LAS PANTALLAS A CARGO DE UN ESPECIALISTA INFORMÁTICO. ENTRADA DE DATOS DE TODOS LOS HIDRANTES Y SECTORES DE RIEGO, ADEMÁS DE LA CONFIGURACIÓN DEL ENTORNO GRÁFICO EN PLANOS GIS POR SECTORES DE RIEGO. SINÓPTICOS ESTACIONES DE BOMBEO Y BALSAS. TRABAJOS DE INTEROPERABILIDAD ENTRE BASES DE DATOS (SQL-SERVER) DESDE SCADA-HMI DEL AUTÓMATA DE BOMBEO Y EL SOFTWARE EN CENTRO DE CONTROL, PARA VISUALIZACIÓN DE SEÑALES DIGITALES Y ANALÓGICAS DE LA ESTACIÓN DE BOMBEO. - INCLUYE SCADA PARA CONTROL DE LAS UNIDADES REMOTAS Y DE LAS ESTACIONES DE BOMBEO. SCADA DE SUPERVISIÓN INCLUYENDO LA PROGRAMACIÓN DE PANTALLAS Y SUBPANTALLAS COMO MINIMO: - PANTALLA DE SITUACIÓN: GESTIÓN DE ACCESO Y PERMISOS. - PANTALLA DE ESTADO GENERAL: VALORES MÁS SIGNIFICATIVOS ONLINE, VISTA DE LAS BOMBAS Y SALA DE CUADROS, Y ACCESO A OTRAS PANTALLAS. - PANTALLA DE ESTADO DEL GRUPO DE BOMBEO/TURBINAS: ESTADO DE LA TURBINA/BOMBA, TEMPERATURAS PT100, GESTIÓN DE ALARMAS, RESULTADOS, VARIABLES ELÉCTRICAS (V, I, P ETC), GRÁFICOS DE VARIABLES, PRESIONES Y CAUDALES, HORAS DE MARCHA, Nº DE CONEXIONES ETC. - PANTALLA DE ESTADO DE EQUIPOS: PROTECCIONES COMUNES DEL BOMBEO, PROTECCIONES ELÉCTRICAS INDIVIDUALES, PROTECCIONES DE FILTROS. - PANTALLA DE ESTADO DEL CT, PROTECCIONES Y CONSUMOS. - PANTALLA DE PROGRAMACIÓN: VALORES DE CAPTACIÓN, VALORES DE LLENADO AUTOMÁTICO, LÍMITES DE LLENADO, FUNCIONAMIENTO, PROGRAMACIÓN DE PERIODOS, PROGRAMACIÓN Nº DE BOMBAS, VALORES DE CIERRE, PROGRAMACIÓN VENTILACIÓN, RANGOS HORARIOS DE BOMBEO Y PERIODOS TARIFARIOS, HORARIO LIMITADO O CONTINUO, PARÁMETROS PARA GESTIÓN DE LA EFICIENCIA ENERGÉTICA, RENDIMIENTO ÓPTIMO, PROGRAMACIÓN DE MÁXIMOS CAUDALES Y POTENCIA, CONFIGURACIÓN SMS, PROGRAMACIÓN SMS ALARMAS, AVISOS Y Nº DE TELÉFONO ETC. PROGRAMACIÓN PARÁMETROS DE INTRUSIÓN. - PANTALLA DE GRÁFICOS: GRÁFICOS A ELECCIÓN DEL USUARIO CRUZANDO VARIABLES A LO LARGO DEL TIEMPO GENERAL DE LA INSTALACIÓN, COMO INDIVIDUALES DE LOS EQUIPOS, VISUALIZACIÓN DE GRÁFICOS INSTANTANEOS O EN UN RANGO DE TIEMPOS, ALMACENAMIENTO DE VARIABLES, MODIFICACION DE ESCALAS. - PANTALLA DE ALARMAS Y ADVERTENCIAS: ALMACENAMIENTO DE ALARMAS Y SUCESOS, ALARMAS ACTUALES, FILTRO DE RESULTADOS ETC. - PANTALLA DE INFORMES: GENERACIÓN DE INFORMES EN UN RANGO DE RASTREO DE LAS VARIABLES DESEADA, IMPRESIÓN DE INFORMES TOTALMENTE PROGRAMADO, MONTADO, INSTALADO, CONFIGURADO Y PROBADO. SEDE CR 1 1,000																									
							1,00	11.714,14	11.714,14																	
BT047B	Ud Frontal De Comunicaciones CENTRO DE COMUNICACIONES RADIO QUE CONSISTE EN: - 2 RADIOMÓDEM 1W 446 MHZ CON ANTENA COLINEAL UHF 5,5DB CON CONECTOR PARA PUERTO SERIE RS-232/RS-485 Y CAJA ENLACE RS-485+USB PARA ENLACE CON PC Y ALIMENTADOR AC/DC 100-240 VAC/12VDC 2A Y SUMINISTRO RADIOMÓDEM 433 MHZ EN PC. - INCLUYE MASTIL DE 6 METROS PARA INSTALACIÓN DE ANTENA. - INCLUYE PARTE PROPORCIONAL DE PEQUEÑO MATERIAL, SOPORTES, CABLEADOS, CONEXIONES, ETC..., Y PUESTA EN MARCHA. TOTALMENTE INSTALADO, CONECTADO Y PROBADO. SEDE CR 1 1,000																									
							1,00	4.110,00	4.110,00																	
TOTAL SUBCAPÍTULO 16.01 CENTRO CONTROL CR.....									15.824,14																	
											SUBCAPÍTULO 16.02 RED DE DISTRIBUCIÓN (HIDRANTES)															
										BT048C	Ud Concentradora Enlace Radiomodem 433 MHz UNIDAD REMOTA RADIO CONSISTENTE EN: SUMINISTRO E INSTALACIÓN DE UNIDAD CONCENTRADORA ENLACE RADIO (EAR) 12 VDC PARA LA COMUNICACIÓN CON LOS TERMINALES DE CONTROL REMOTO PARA UN TOTAL DE 60 MÓDULOS. INCLUYE RADIOMÓDEM 433 MHZ PARA COMUNICACIÓN ENTRE EAR Y SOFTWARE AGRÓNIC NET II CON ANTENA OMNIDIRECCIONAL. ALIMENTACIÓN 12 VDC CON PANEL SOLAR 75W, BATERÍA DE 120 A/H Y REGULADOR. ESTRUCTURA METÁLICA CON SOPORTE PANEL SOLAR Y MÁSTIL DE 6 MTS ALTURA Y CASETA PREFABRICADA 1X1 PARA ALOJAMIENTO EQUIPAMIENTO. INCLUYE COLOCACIÓN, ENSAYOS Y PUESTA EN MARCHA. CONCENTRADORAS 7 7,000 BALSA BP1 1 1,000 BALSA BP2 1 1,000 BALSA BP3 1 1,000 BALSA BPC (PN) 1 1,000															
																	11,00	2.906,43	31.970,73							
										BT048F	Ud Control Unidad Remota Via Radio 10-10-2 UNIDAD REMOTA RADIO CONSISTENTE EN: - UNIDAD REMOTA RADIO CON 10 ENTRADAS DIGITALES Y 2 ENTRADAS ANALÓGICAS, IP66 FUNCIONAMIENTO MEDIANTE BATERÍA DE 3 AÑOS DE AUTONOMÍA. SOFTWARE COMPLETO DE CONTROL Y DE COMUNICACIONES; PROTECCIÓN ENTRADAS. CON MICROCONTROLADOR DE 16 BITS DE BAJO CONSUMO CON WATCHDOG, MEMORIA FLASH, RAM Y EEPROM CON REGISTRO DE ACUMULADOS. ALOJADO EN CAJAS PARA CARRIL DIN E INSTALADAS EN CAJAS CON GRADO DE PROTECCIÓN IP66. ALIMENTADO MEDIANTE PACK DE 3 BATERIAS DE NI-MH CON PANEL SOLAR 5W - 1 TARJETA CON 1 ENTRADA ANALÓGICA 0/4-20 MA - 1 ANTENA LAMBDA/2 EXTERIOR DE 2 DB DE GANANCIA, CABLE DE 7M Y CONECTOR - 1 PACK DE PILA DE LITIO + CONECTOR PARA UNIDAD REMOTA. - 1 CABLE COAXIAL RG-213 10M N MACHO - N MACHO - 1 LATIGUILLO RG-58 1M TNC M - N H INCLUYE MASTIL DE 6M PARA ANTENA, COLOCACIÓN, ENSAYOS Y PUESTA EN MARCHA. HIDRANTES HASTA 9 TOMAS 17 17,000 HIDRANTES COMPARTIDOS															
																	17,00	1.226,10	20.843,70							

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
SUBCAPÍTULO 16.04 ESTUDIO COBERTURAS. PUESTA EN MARCHA Y FORMACIÓN																						
BT048A	Ud Control Unidad Remota Via Radio 4-4-2 UNIDAD REMOTA RADIO CONSISTENTE EN: - UNIDAD REMOTA RADIO CON 4 ENTRADAS DIGITALES Y 2 ENTRADAS ANALÓGICAS, IP66 FUNCIONAMIENTO MEDIANTE BATERÍA DE 3 AÑOS DE AUTONOMÍA. SOFTWARE COMPLETO DE CONTROL Y DE COMUNICACIONES; PROTECCIÓN ENTRADAS. CON MICROCONTROLADOR DE 16 BITS DE BAJO CONSUMO CON WATCHDOG, MEMORIA FLASH, RAM Y EEPROM CON REGISTRO DE ACUMULADOS. ALOJADO EN CAJAS PARA CARRIL DIN E INSTALADAS EN CAJAS CON GRADO DE PROTECCIÓN IP66. ALIMENTADO MEDIANTE PACK DE 3 BATERIAS DE NI-MH CON PANEL SOLAR 5W - 1 TARJETA CON 1 ENTRADA ANALÓGICA 0/4-20 MA - 1 ANTENA LAMBDA/2 EXTERIOR DE 2 DB DE GANANCIA, CABLE DE 7M Y CONECTOR - 1 PACK DE PILA DE LITIO + CONECTOR PARA UNIDAD REMOTA. - 1 CABLE COAXIAL RG-213 10M N MACHO - N MACHO - 1 LATIGUILLO RG-58 1M TNC M - N H INCLUYE MASTIL DE 6M PARA ANTENA, COLOCACIÓN, ENSAYOS Y PUESTA EN MARCHA. HIDRANTES INDIV. Y COMPARTIDOS HASTA 3 TOMAS 304 304,000 REMOTAS REPETIDORAS DESLOCALIZADAS 10 10,000 314,00 1.031,10 323.765,40 TOTAL SUBCAPÍTULO 16.02 RED DE DISTRIBUCIÓN 376.579,83																					
SUBCAPÍTULO 16.03 INSTRUMENTACIÓN																						
BT049B	Ud Alarma Intrusión SUMINISTRO E INSTALACIÓN ALARMAS DE INTRUSIÓN EN ARQUETAS DE HIDRANTE PARA AVISOS DE OBERTURA Y CIERRE PUERTA DE ACCESO. INCLUSO MICROINTERRUPTOR DE DESCONEXIÓN. INCLUYE PEQUEÑO MATERIAL DE MONTAJE. TOTALMENTE INSTALADO Y PROBADO. HIDRANTES 321 321,000 OTROS (BALSAS) 4 4,000 325,00 35,01 11.378,25																					
SUBCAPÍTULO 16.04 ESTUDIO COBERTURAS. PUESTA EN MARCHA Y FORMACIÓN																						
										BT_TC_COBERT	Ud Estudio De Cobertura De La Instalación ESTUDIO DE COBERTURAS DE LA INSTALACIÓN PARA LA DISTRIBUCIÓN DE LOS DISTINTOS PUNTOS DE CONTROL DE HIDRANTE Y DE LAS CONCENTRADORAS DE PROGRAMACIÓN Y CONTROL, ASÍ COMO DE LOS REPETIDORES NECESARIOS Y ELEMENTOS ACCESORIOS. INFORME Y JUSTIFICACIÓN TÉCNICA, LEGALIZACIÓN DE LICENCIAS Y BANDAS DE RADIOFRECUENCIA. INCLUIDA LA REALIZACIÓN DE PROYECTOS, TRÁMITES Y TASAS PARA SU LEGALIZACIÓN. PREOYECTO 1 1,000 1,00 1.545,00 1.545,00											
										BT_TC_PUEMARCUd	Puesta En Marcha PARA LA PUESTA EN MARCHA DEL SISTEMA, COMPROBACIÓN DE TODOS ELEMENTOS Y DE SU CORRECTO FUNCIONAMIENTO. APLICACIÓN DEL PROTOCOLO DE PUESTA EN MARCHA PARA UNA CORRECTA IMPLANTACIÓN DEL SISTEMA. PROYECTO 1 1,000 1,00 1.397,71 1.397,71											
										BT_TC_FORMACIUd	Formación Personal CR FORMACIÓN QUE SE REALIZARÁ AL PERSONAL ASIGNADO POR LA COMUNIDAD PARA LLEVAR LA SUPERVISIÓN Y GESTIÓN DEL TELECONTROL PARA UN COMPLETO CONOCIMIENTO Y APROVECHAMIENTO DEL SISTEMA. INCLUYE MANUALES DE UTILIZACIÓN Y MANTENIMIENTO PARA UN CORRECTO FUNCIONAMIENTO DEL SISTEMA. PROYECTO 1 1,000 1,00 257,50 257,50											
TOTAL SUBCAPÍTULO 16.04 ESTUDIO COBERTURAS. 3.200,21																						
SUBCAPÍTULO 16.05 CONTROL EN PORTAL WEB																						
										BT_TC_CONWEB	Ud Portal Web Para Usuarios PROGRAMA PORTAL WEB. PROGRAMA DE PC PARA LA GESTIÓN DESDE INTERNET PARA CADA USUARIO, SEGÚN UNA CONTRASEÑA DADA POR LA COMUNIDAD DE REGANTES. SERÁ IMPRESCINDIBLE QUE EL USUARIO DE ACCESO DISPONGA DE ADSL-INTERNET. PROYECTO 1 1,000 1,00 4.251,00 4.251,00											
TOTAL SUBCAPÍTULO 16.05 CONTROL EN PORTAL WEB..... 4.251,00																						
TOTAL SUBCAPÍTULO 16.03 INSTRUMENTACIÓN..... 12.878,25																						

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE				
SUBCAPÍTULO 16.06 ELABORACIÓN DE MAPA DE CRAD DEL SUELO										FAUNA1	m Red salida animales en balsas												
C09002	Ud Descripción de calicata en estudios de suelos DESCRIPCIÓN DE CALICATA EN ESTUDIOS DE SUELOS. DESCRIPCIÓN DE LA CALICATAS	1	101,00				101,00	49,87	5.036,87		SUMINISTRO E INSTALACIÓN DE RED DE MATERIAL SINTÉTICO NO PLÁSTICO, TIPO TEXTIL, CON TAMAÑO DE MALLA MÁXIMO DE 30X30MM, CON CUERDA DE 5MM DE ESPESOR, ANCHO DE 1 METRO Y LONGITUD IGUAL AL TALUD DE LA Balsa. DISPUESTA SOBRE LA LÁMINA IMPERMEABILIZANTE Y FIJADA EN CORONACIÓN Y PIE DE TALUD DE FORMA QUE PERMITA LA ADHERENCIA DE LA FAUNA QUE PUEDA CAER AL INTERIOR DEL VASO. INCLUIDA LA PARTE PROPORCIONAL DE SOPORTES Y ELEMENTOS DE FIJACIÓN, INCLUIDOS LOS MOVIMIENTOS DE TIERRAS, CIMEN-TACIÓN Y LASTRES DE SUJECCIÓN, ASÍ COMO LA ADECUACIÓN Y ACONDICIONA-MIENTO DE LA RED. UNIDAD TOTALMENTE COLOCADA.												
ECCPMP	Ud Ensayo de capacidad de campo y punto de marchitez permanente DETERMINACIÓN EN LABORATORIO DEL CONTENIDO HÍDRICO DE PUNTO MARCHI-TEZ PERMANENTE(-1,5 MPA) Y CAPACIDAD DE CAMPO (-0,033 MPA) SE MIDE VOLU-MÉTRICAMENTE MEDIANTE PLACAS EXTRACTORAS A PRESIÓN EN UN EQUIPO DE MEMBRANA EIJEKAMP. ENSAYOS 1 CADA 10 HA	1	402,00				402,00	12,36	4.968,72		BALSA PC BALSA BP1 BALSA BP2 BALSA BP3	4 2 2 2	15,000 15,000 20,000 15,000			60,000 30,000 40,000 30,000							
C09001	Ud Apertura y tapado calicata hasta 2 m de profundidad APERTURA Y TAPADO DE CALICATA HASTA 2 M DE PROFUNDIDAD CALICATAS 1 CADA 100 HA	1	101,00				101,00	50,65	5.115,65	FAUNA2	Ud Plataforma flotante en balsa SUMINISTRO E INSTALACIÓN DE PLATAFORMA FLOTANTE EN Balsa APTA PARA ANIMALES, COMPUESTA POR MATERIAL PLÁSTICO RESISTENTE A LA RADIACIÓN SOLAR Y ADHERENCIA ADECUADA PARA EL ACCESO DE ANIMALES, CON DIMEN-SIONES 1,0X1,0M, INSTALADA EN EL CENTRO DE LA Balsa Y FIJADA AL FONDO DEL EMBALSE MEDIANTE LASTRE DE ARENA. INCLUIDA LA PARTE PROPORCIONAL DE SOPORTES Y ELEMENTOS DE FIJACIÓN, CIMEN-TACIÓN Y LASTRES DE SUJEC-CIÓN, ASÍ COMO LA ADECUACIÓN Y ACONDICIONAMIENTO DE LA PLATAFORMA. UNIDAD TOTALMENTE COLOCADA.												
TOTAL SUBCAPÍTULO 16.06 ELABORACIÓN DE MAPA DE									15.121,24														
TOTAL CAPÍTULO 16 TELECONTROL									427.854,67														
CAPÍTULO 17 MEDIDAS AMBIENTALES																							
SUBCAPÍTULO 17.01 MEDIDAS PREVENTIVAS Y CORRECTORAS																							
MEDEIASIE	m ² Siembra a Voleo de Superficies y cuidados posteriores SIEMBRA A VOLEO DE SUPERFICIES CON ESPECIES LOCALES (INCLUIDAS ESPE-CIES PERTENECIENTES A LOS HABITATS COMUNITARIOS EXISTENTES EN LA ZO-NA, RECOGIDOS EN EL ESTUDIO DE IMPACTO AMBIENTAL), INCLUSO APORTACION Y EXTENDIDO DE TIERRA VEGETAL (APROXIMADAMENTE 20 CM) E INCLUIDA LA SE-MILLA, SIEMBRA, RIEGO Y CUIDADOS POSTERIORES PARA ADECUADA SUPERVI-VENCIA DE LAS ESPECIES IMPLANTADAS. TALUD EXTERIOR Balsa PC TALUD EXTERIOR Balsa BP2 TALUD EXTERIOR Balsa BP3 RED DE RIEGO	0,5 0,5 0,5 1	2.143,500 739,000 771,000 2.000,000	11,000 20,130 13,500 2,500			11.789,250 7.438,035 5.204,250 5.000,000					2 1 1 1					2,000 1,000 1,000 1,000						
									29.431,54	0,89	26.194,07												
REST	m ² Restauración suelo labor RESTAURACIÓN SUELO LABOR EN TUBERÍAS	0,05	95.921,000	10,000			47.960,500																
									47.960,50	0,32	15.347,36												
CINTBAL	m Cinta de balizamiento CINTA DE BALIZAMIENTO EN TRAZADOS Y ACOPIOS EXTRA	0,1 1	95.921,000 500,000				9.592,100 500,000																
									10.092,10	0,28	2.825,79												
REIGOSUL	Hr Riego de suelo con cisterna RIEGO DE SUELO CON CISTERNA 2 VECES/DÍA (4H/DÍA)	260					260,000																
									260,00	49,78	12.942,80												

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
R01DM020	m² Desbroce y Limpieza Terreno Agrícola DESPEJE Y DESBROCE DEL TERRENO VEGETAL, HASTA UN ESPESOR DE 20 CM, INCLUIDO LA EXCAVACIÓN, CON SEPARACIÓN DE ESTOS RESTOS VEGETALES DEL RESTO DE LA TIERRA VEGETAL PARA SU REUTILIZACIÓN, CARGA Y TRANSPORTE AL LUGAR DE EMPLEO O A VERTEDERO PARA SU POSTERIOR REUTILIZACIÓN, A UNA DISTANCIA INFERIOR A 3 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS. MEDIDA LA SUPERFICIE DESBROZADA.									R07PC040-90	APARTADO 17.03.02 TUBERÍAS m Tubo Hormigón Armado Tipo C-90 DN 400 TUBERÍA DE HORMIGÓN CLASE C-90 O SIMILAR, CON ENCHUFE DE CAMPANA Y JUNTA DE GOMA DE 400 MM PUESTO EN ZANJA, INCLUIDAS LAS JUNTAS Y PARTE PROPORCIONAL PARA CONEXIONES Y ACCESORIOS. COMPLETAMENTE EJECUTADA Y PROBADA.									
	HUMEDAL D-80	1						31.780,000			HUMEDAL D-80	1	664,000						664,000	
	HUMEDAL D-80-1	1						28.000,000			HUMEDAL D-80-1	1	225,000						225,000	
	DESAGÜE D78 Y D78-2	1						67.910,000			DESAGÜE D78 Y D78-2	1	615,000						615,000	
												1	54,000						54,000	
							127.690,00	0,30	38.307,00								1.558,00	31,20	48.609,60	
ESCMALLA	m³ Gavión Enmallado de Cantos Rodados GAVIÓN ENMALLADO DE CANTOS RODADOS SELECCIONADOS DE PRÉSTAMO, DE 30 A 60 CM DE DIÁMETRO										APARTADO 17.03.03 OBRA CIVIL m ³ Hormigón HM-20/B/20/X0 en obra HORMIGÓN EN MASA HM-20/B/15-20/X0, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, VIBRADO Y CURADO									
	DESAGÜE D80									R07HO020A	OBRA DE TOMA AZUD									
	AZUD	1	2,400	1,000	0,200			0,480			HUMEDAL DESAGÜE D-80	1	6,700		0,200				1,340	
	DESAGÜE D80-1										HUMEDAL DESAGÜE D-80-1	1	6,700		0,200				1,340	
	AZUD	1	2,400	1,000	0,200			0,480			HUMEDAL DESAGÜE D-78	1	7,830		0,200				1,566	
	DESAGÜE D78 Y D78-2										HUMEDAL DESAGÜE D-78-1	1	7,830		0,200				1,566	
	AZUD	1	2,400	1,000	0,200			0,480			OBRA AFORADOR									
							1,44	42,66	61,43		HUMEDAL DESAGÜE D-80	1	1,790		0,100				0,179	
											HUMEDAL DESAGÜE D-80-1	1	2,640		0,100				0,264	
											HUMEDAL DESAGÜE D-78 Y D-78-1	1	1,790		0,100				0,179	
																	6,43	72,17	464,05	
R01DM090	m³ Embaste de Terrenos CR Superior a 10 cm NIVELACIÓN DEL TERRENO CON UNA DISTANCIA MEDIA DE 150 METROS DE TRANSPORTE A CADA UNO DE LOS BANCALES, INCLUIDA LA CARGA, EL TRANSPORTE DE LA CARGA, DESCARGA Y TRANSPORTE EN VACÍO, INCLUSO EL TRANSPORTE A VERTEDERO A UNA DISTANCIA INFERIOR A 10 KM INCLUIDO EL CANON Y AUTORIZACIONES DE VERTIDO NECESARIAS.																			
	HUMEDAL D-80	1						10.801,567												
		1						9.328,840												
	HUMEDAL D-80-1	1						8.681,699												
		1						8.462,138												
	DESAGÜE D78 Y D78-2	1						15.649,613												
		1						12.377,621												
							65.301,48	0,94	61.383,39											
											TOTAL APARTADO 17.03.01 MOVIMIENTO DE TIERRAS								132.380,20	

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
R07H0025A	m ³ Hormigón HA-25/B/20/XC2+XA3+SR en obra									R07EN050	m ² Encofrado/Desencofrado metálico para hormigón oculto											
	HORMIGÓN HA-25/B/20/XC2+XA3+SR, CON ÁRIDO RODADO DE TAMAÑO MÁXIMO DE 20 MM Y CONSISTENCIA BLANDA, FABRICADO CON CEMENTO I-32,5, PUESTO EN OBRA, INCLUSO PARTE PROPORCIONAL DE LIMPIEZA DE FONDOS, SELLADO DE UNIONES ENTRE PARAMENTOS, VIBRADO Y CURADO										ENCOFRADO Y DESENCOFRADO RECTO PARA DEJAR HORMIGÓN OCULTO, MEDIANTE LA UTILIZACIÓN DE PANELES METÁLICOS A UNA CARA, INCLUSO ENTIBACIONES, APUNTALADO Y SEPARADORES, PARA UN PERFECTO APLOMADO, INCLUSO LIMPIEZA Y HUMEDECIDO, APLICACIÓN DESENCOFRANTE, PARTE PROPORCIONAL DE ELEMENTOS COMPLEMENTARIOS PARA SU ESTABILIDAD Y ADECUADA EJECUCIÓN, POSTERIOR DESENCOFRADO Y REPASO DE PARAMENTOS.											
	OBRA DE TOMA AZUD										OBRA DE TOMA AZUD											
	HUMEDAL DESAGÜE D-80	1	4,370		0,500						HUMEDAL DESAGÜE D-80											
		1	6,812	0,300	0,800							1	10,820		0,500							
		1	1,000	0,200	0,800							1	11,473		0,800							
	HUMEDAL DESAGÜE D-80-1											1	4,150		0,800							
		1	4,370		0,500						HUMEDAL DESAGÜE D-80-1											
		1	6,812	0,300	0,800							1	10,820		0,500							
		1	1,000	0,200	0,800							1	11,473		0,800							
	HUMEDAL DESAGÜE D-78											1	4,150		0,800							
		1	5,292		0,500						HUMEDAL DESAGÜE D-78											
		1	7,637	0,300	0,800							1	11,473		0,800							
		1	1,000	0,200	0,800							1	4,150		0,800							
	HUMEDAL DESAGÜE D-78-1											1	11,840		0,500							
		1	5,292		0,500							1	12,300		0,800							
		1	7,637	0,300	0,800							1	4,975		0,800							
		1	1,000	0,200	0,800							1	11,840		0,500							
	HUMEDAL DESAGÜE D-78-1											1	12,300		0,800							
		1	5,292		0,500							1	4,975		0,800							
		1	7,637	0,300	0,800							1	11,840		0,500							
		1	1,000	0,200	0,800							1	12,300		0,800							
	OBRA AFORADOR											1	4,975		0,800							
	HUMEDAL DESAGÜE D-80											1	7,100		0,150							
		1	1,790		0,150							1	12,760		0,600							
		1	6,530	0,150	0,600							1	7,100		0,150							
	HUMEDAL DESAGÜE D-80-1											1	12,760		0,600							
		1	2,640		0,150							1	8,590		0,150							
		1	7,890	0,150	0,150							1	15,480		0,600							
	HUMEDAL DESAGÜE D-78 Y D-78-1											1	7,100		0,150							
		1	1,790		0,150							1	12,760		0,600							
		1	6,530	0,150	0,600							1	7,100		0,150							
		1	6,530	0,150	0,600							1	12,760		0,600							
							19,53	85,04	1.660,83													
																	103,32	13,28	1.372,09			
										R07EM001	Kg Acero B-500-S											
											ACERO DE DUREZA NATURAL, EN BARRAS CORRUGADAS, TIPO B-500 S PARA ELEMENTOS DE CIMENTACIÓN, MUROS Y ESPERAS DE ESTRUCTURA, INCLUSO CORTE, DOBLADO, COLOCACIÓN CON ATADO CON ALAMBRE, INCLUSO SEPARADORES, ESTRIBOS, ETC, COLOCADO Y MONTADO EN OBRA Y AYUDAS PARA SU HORMIGONADO POSTERIOR, SOLAPES, ETC, SEGÚN EHE. MEDIDO EL PESO NOMINAL TEÓRICO DE PROYECTO.											
											OBRA DE TOMA AZUD (75 KG/M3)											
											HUMEDAL DESAGÜE D-80	1	3,980	75,000							298,500	
											HUMEDAL DESAGÜE D-80-1	1	3,980	75,000							298,500	
											HUMEDAL DESAGÜE D-78	1	4,639	75,000							347,925	
											HUMEDAL DESAGÜE D-78-1	1	4,639	75,000							347,925	
											OBRA AFORADOR											
											HUMEDAL DESAGÜE D-80	1	0,857	75,000							64,275	
											HUMEDAL DESAGÜE D-80-1	1	0,574	75,000							43,050	
											HUMEDAL DESAGÜE D-78 Y D-78-1	1	0,857	75,000							64,275	
																	1.464,45	1,12	1.640,18			

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE																											
APARTADO 17.03.04 ELEMENTOS ELECTROMECÁNICOS																																														
TAJ-50X50	<p>Ud Tajadera Simple 0,50 x 0,50 m, Cierre 3 Juntas</p> <p>TAJADERA METÁLICA CON ACCIONAMIENTO MANUAL MEDIANTE VOLANTE CON REDUCTOR SITUADO EN EL BASTIDOR SUPERIOR, CON HUSILLO SIMPLE DE TIPO ASCENDETE Y ROSCA TRAPECIAL, PASO ESTANDARIZADO, REALIZADO EN ACERO AISI 304 DE DIAMETRO 40 MM O SUPERIOR (ACORDE A LA PRESIÓN Y FRICCIÓN DE LA COMPUERTA). TABLERO DE COMPUERTA DE UNAS DIMENSIONES DE 0,4X0,8(H) M REALIZADO EN ACERO AL CARBONO S-275-JR, ESTRUCTURA DEL BASTIDOR REALIZADO CON PERFILES CONFORMADOS MEDIANTE PLEGADO Y REFUERZOS EN ACERO S-275-JR, CON PUENTE SUPERIOR DE APOYO DEL VOLANTE DESMONTABLE PARA EXTRACCIÓN DE HOJA DE COMPUERTA, Y BASTIDOR CON UNA ALTURA SUFICIENTE PARA ASEGURAR UNA ALTURA DEL VOLANTE DE 1,2M SOBRE EL TERRENO O CORONACIÓN DEL CAJERO EXTERIOR DE LA ACEQUIA. CIERRE HERMETICO A 3 JUNTAS UNIDIRECCIONAL MEDIANTE JUNTAS DE GOMA DE EPDM O NEOPRENO, CON FORMA Y TIPOLOGÍA ACORDE A LA FORMA DE LA HOJA Y BASTIDOR. INSTALACIÓN DE GUIAS DESLIZANTES EN PUNTOS DE UNIÓN VERTICAL ENTRE BASTIDOR Y TABLERO REALIZADAS MEDIANTE PIEZAS DE POLIETILENO O NYLON, CON UNIÓN FACILMENTE SUSTITUIBLE. TORNILLERIA EN ACERO INOXIDABLE CALIDAD 8.8 O SUPERIOR. TODAS LAS PIEZAS REALIZADAS EN ACERO S-275 DISPONDRÁN DE TRATAMIENTO MEDIANTE GRANALLADO, DESENGRASADO DE SUPERFICIES, RECUBRIMIENTO DE PINTURA EPOXI RICA EN ZINC (50 MICRAS), RECUBRIMIENTO DE EPOXI POLIAMIDA DE 100 MICRAS Y RECUBRIMIENTO DE PINTURA DE POLIURETANO ALIFATICO DE 50 MICRAS. INCLUSO PLATAFORMA PARA ACCIONAMIENTO, ELEMENTOS DE ANCLAJE Y PEQUEÑO MATERIAL PARA OBRA CIVIL Y DE ACONDICIONAMIENTO DE BANDA NECESARIA PARA TRÁNSITO DE MAQUINARIA EN EJECUCIÓN DE LOS TRABAJOS. COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA Y PROBADA.</p> <p>EN AZUD:</p> <table border="0"> <tr> <td>HUMEDAL D-80</td> <td>1</td> <td>1,000</td> </tr> <tr> <td>HUMEDAL D-80-1</td> <td>1</td> <td>1,000</td> </tr> <tr> <td>DESAGÜE D78 Y D78-2</td> <td>1</td> <td>1,000</td> </tr> </table>	HUMEDAL D-80	1	1,000	HUMEDAL D-80-1	1	1,000	DESAGÜE D78 Y D78-2	1	1,000									TAJ-50X80	<p>Ud Tajadera Simple 0,50 x 0,80 m, Cierre 3 Juntas</p> <p>TAJADERA METÁLICA CON ACCIONAMIENTO MANUAL MEDIANTE VOLANTE CON REDUCTOR SITUADO EN EL BASTIDOR SUPERIOR, CON HUSILLO SIMPLE DE TIPO ASCENDETE Y ROSCA TRAPECIAL, PASO ESTANDARIZADO, REALIZADO EN ACERO AISI 304 DE DIAMETRO 40 MM O SUPERIOR (ACORDE A LA PRESIÓN Y FRICCIÓN DE LA COMPUERTA). TABLERO DE COMPUERTA DE UNAS DIMENSIONES DE 0,6X0,8(H) M REALIZADO EN ACERO AL CARBONO S-275-JR, ESTRUCTURA DEL BASTIDOR REALIZADO CON PERFILES CONFORMADOS MEDIANTE PLEGADO Y REFUERZOS EN ACERO S-275-JR, CON PUENTE SUPERIOR DE APOYO DEL VOLANTE DESMONTABLE PARA EXTRACCIÓN DE HOJA DE COMPUERTA, Y BASTIDOR CON UNA ALTURA SUFICIENTE PARA ASEGURAR UNA ALTURA DEL VOLANTE DE 1,2M SOBRE EL TERRENO O CORONACIÓN DEL CAJERO EXTERIOR DE LA ACEQUIA. CIERRE HERMETICO A 3 JUNTAS UNIDIRECCIONAL MEDIANTE JUNTAS DE GOMA DE EPDM O NEOPRENO, CON FORMA Y TIPOLOGÍA ACORDE A LA FORMA DE LA HOJA Y BASTIDOR. INSTALACIÓN DE GUIAS DESLIZANTES EN PUNTOS DE UNIÓN VERTICAL ENTRE BASTIDOR Y TABLERO REALIZADAS MEDIANTE PIEZAS DE POLIETILENO O NYLON, CON UNIÓN FACILMENTE SUSTITUIBLE. TORNILLERIA EN ACERO INOXIDABLE CALIDAD 8.8 O SUPERIOR. TODAS LAS PIEZAS REALIZADAS EN ACERO S-275 DISPONDRÁN DE TRATAMIENTO MEDIANTE GRANALLADO, DESENGRASADO DE SUPERFICIES, RECUBRIMIENTO DE PINTURA EPOXI RICA EN ZINC (50 MICRAS), RECUBRIMIENTO DE EPOXI POLIAMIDA DE 100 MICRAS Y RECUBRIMIENTO DE PINTURA DE POLIURETANO ALIFATICO DE 50 MICRAS. INCLUSO PLATAFORMA PARA ACCIONAMIENTO, ELEMENTOS DE ANCLAJE Y PEQUEÑO MATERIAL PARA OBRA CIVIL Y DE ACONDICIONAMIENTO DE BANDA NECESARIA PARA TRÁNSITO DE MAQUINARIA EN EJECUCIÓN DE LOS TRABAJOS. COLOCADA Y PROBADA. MEDIDA LA UNIDAD INSTALADA Y PROBADA.</p> <p>EN AZUD:</p> <table border="0"> <tr> <td>HUMEDAL D-80</td> <td>1</td> <td>1,000</td> </tr> <tr> <td>HUMEDAL D-80-1</td> <td>1</td> <td>1,000</td> </tr> <tr> <td>DESAGÜE D78 Y D78-2</td> <td>1</td> <td>1,000</td> </tr> </table>	HUMEDAL D-80	1	1,000	HUMEDAL D-80-1	1	1,000	DESAGÜE D78 Y D78-2	1	1,000																	
HUMEDAL D-80	1	1,000																																												
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HUMEDAL D-80-1	1	1,000																																												
DESAGÜE D78 Y D78-2	1	1,000																																												
							3,00	661,29	1.983,87	CONTNIT							3,00	976,47	2.929,41																											
											<p>Ud Sistema Analizador de Retornos de Riego y Control de Caudales</p> <p>SISTEMA ANALIZADOR DE RETORNOS DE RIEGO Y CONTROL DE CAUDALES, CONSISTENTE EN:</p> <ul style="list-style-type: none"> - CONTROLADOR INTELIGENTE CON MENÚS ESTRUCTURADOS DE OPERACIÓN DEL SENSOR, CONTROLADOR DE CC: 24 V CC + 15 % - 20 % ; 2,5 A (CARGA MÁX. DE SENSORES 20 W), TENSIÓN MÁXIMA DE CONMUTACIÓN: 30 V CA O 42 V CC, CORRIENTE MÁXIMA DE CONMUTACIÓN: 4 A RESISTIVA/1 A INDUCTIVA, POTENCIA MÁXIMA DE CONMUTACIÓN: 125 W RESISTIVA/28 W INDUCTIVA, CINCO SALIDAS ANALÓGICAS DE 0 - 20 MA O 4 - 20 MA EN CADA MÓDULO ANALÓGICO DE SALIDAS, CONECTIVIDAD DE RED (LAN: DOS CONECTORES ETHERNET (10/100 MBPS), MÓVIL: 4G EXTERNO Y WI-FI), PUERTO USB Y COMPATIBLE CON TECNOLOGÍAS RED GSM 3G/4G - SONDA DE INMERSIÓN CONSISTE EN UN FOTÓMETRO DE ABSORBANCIA ULTRAVIOLETA DE DOBLE HAZ CON COMPENSACIÓN EFECTIVA DE TURBIDEZ, MEDIDA POR ABSORCIÓN UV, SIN REACTIVOS, CON RANGO DE MEDIDA CON SOLUCIONES ESTÁNDAR NO3-N: 0,1-100,0 MG/L NO2+3-N (1 MM), 0,1-50,0 MG/L NO2+3-N (2 MM), 0,1-25,0 MG/L NO2+3-N (5 MM), CON TOLERANCIA DE MEDIDA 3 % DEL VALOR MEDIDO (0,5 MG/L), CON ALIMENTACIÓN 24 V AC/DC ± 25 % , 800 MA - SET DE MONTAJE EN ACERO INOX. PARA SONDA CON ESCUADRA 10 CM A PARTE, PERTIGA 2 M. Y ACOPLAMIENTO DE SONDA A 90 -MEDIDOR DE NIVEL ULTRASÓNICO COMPACTO DE CORTO ALCANCE. <p>EN AZUD:</p> <table border="0"> <tr> <td>HUMEDAL D-80</td> <td>1</td> <td>1,000</td> </tr> <tr> <td>HUMEDAL D-80-1</td> <td>1</td> <td>1,000</td> </tr> <tr> <td>DESAGÜE D78 Y D78-2</td> <td>1</td> <td>1,000</td> </tr> </table>	HUMEDAL D-80	1	1,000	HUMEDAL D-80-1	1	1,000	DESAGÜE D78 Y D78-2	1	1,000																										
HUMEDAL D-80	1	1,000																																												
HUMEDAL D-80-1	1	1,000																																												
DESAGÜE D78 Y D78-2	1	1,000																																												
							3,00	19.579,46	58.738,38																																					

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
APARTADO 17.04.04 Curso Especifico "Implementación medidas y Buenas Prácticas"										PP30MSS	Ud Mandil soldador serraje									
C_VF_PREPARA	Ud Preparación de la documentación										UD. MANDIL DE SERRAJE PARA SOLDADOR GRADO A, 60X90 CM. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.									
	PREPARACIÓN DEL CURSO. NO INCLUYE MATERIAL DIVULGATIVO										Nº TRABAJADORES (ESPECIALISTA SOLDADOR)	6					6,000			
	CURSO	1									EXTRA EVENTUALES	2					2,000			
							1,00	487,80	487,80											
C_VF_IMPARTIC	Ud Curso de BPA para el sostenimiento de los agrosistemas y su país										UD. PAR DE MANGUITOS PARA SOLDADOR AL HOMBRO SERRAJE GRADO A, HOMOLOGADO CE.									
	INCLUYE LA IMPARTICIÓN DEL PROPIO CURSO Y EL DESPLAZAMIENTO										Nº TRABAJADORES (ESPECIALISTA SOLDADOR)	6					6,000			
	CURSO	1									EXTRA EVENTUALES	2					2,000			
							1,00	1.504,98	1.504,98											
TOTAL APARTADO 17.04.04 Curso Especifico									1.992,78											
TOTAL SUBCAPÍTULO 17.04 FORMACION									9.778,40											
TOTAL CAPÍTULO 17 MEDIDAS AMBIENTALES									402.658,88											
CAPÍTULO 18 SEGURIDAD Y SALUD										PP60PPS	Ud Par polainas soldador									
SUBCAPÍTULO 18.01 PROTECCIONES INDIVIDUALES											UD. PAR DE POLAINAS PARA SOLDADOR SERRAJE GRAD A, HOMOLOGADAS CE.									
PP10GCI	Ud Gafas contra impactos.										Nº TRABAJADORES (ESPECIALISTA SOLDADOR)	6					6,000			
	UD. GAFAS CONTRA IMPACTOS ANTIRAYADURA. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.										EXTRA EVENTUALES	2					2,000			
	Nº TRABAJADORES	2															22,000		44,000	
	EXTRA EVENTUALES	4															4,000		4,000	
							48,00	6,49	311,52											
PP10GA	Ud Gafas antipolvo.										UD. PAR DE GUANTES PARA SOLDADOR SERRAJE FORRADO IGNÍFUGO, LARGO 34 CM., HOMOLOGADO CE.									
	UD. GAFAS ANTIPOLVO TIPO VISITANTE INCOLORA, ANTIEMPAÑABES. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.										Nº TRABAJADORES (ESPECIALISTA SOLDADOR)	6					6,000			
	Nº TRABAJADORES	2									EXTRA EVENTUALES	2					2,000			
	EXTRA EVENTUALES	4															8,00	7,74	61,92	
							48,00	2,47	118,56											
PP10GPL	Ud Gafas panorámicas líquidos										UD. PANTALLA DE SEGURIDAD PARA SOLDADURA. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.									
	UD. GAFAS PANORÁMICAS CONTRA LÍQUIDOS CON VÁLVULAS ANTIEMPAÑANTES. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.										Nº TRABAJADORES (ESPECIALISTA SOLDADOR)	6					6,000			
	Nº TRABAJADORES	1									EXTRA EVENTUALES	2					2,000			
	EXTRA EVENTUALES	4															8,00	12,07	96,56	
							26,00	9,27	241,02											
E28RA100	Ud Semi mascara antipolvo 1filtro										UD. PAR DE GUANTES DE LATEX RUGOSO ANTICORTE. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.									
	SEMI-MASCARILLA ANTIPOLVO UN FILTRO, (AMORTIZABLE EN 3 USOS). CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.										Nº TRABAJADORES	24	22,000				528,000			
	Nº TRABAJADORES	2									EXTRA EVENTUALES	6					6,000			
	EXTRA	10															534,00	2,78	1.484,52	
							54,00	8,15	440,10											
PP10PA	Ud Protectores auditivos.										UD. PAR DE GUANTES DE NITRILO ALTA-RESISTENCIA. 100% AZULTES. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.									
	UD. PROTECTORES AUDITIVOS. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.										Nº TRABAJADORES	24	22,000				528,000			
	Nº TRABAJADORES	2									EXTRA EVENTUALES	6					6,000			
	EXTRA	10															534,00	3,29	1.756,86	
							54,00	7,74	417,96											

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
PP60PBSPS	Ud Par botas segur.punt.serr. UD. PAR DE BOTAS DE SEGURIDAD S2 SERRAJE/LONA CON PUNTERA Y METÁLICAS. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.									PP30ASCA	Ud Cinturon seguridad clase a. UD. CINTURÓN DE SEGURIDAD CLASE A (SUJECCIÓN), CON CUERDA REGULABLE DE 1,8 M. CON GUARDA CABOS Y 2 MOSQUETONES. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.									
	Nº TRABAJADORES	1	22,000								Nº TRABAJADORES	1	22,000							
	EXTRA	5				5,000														
							27,00	24,14	651,78								22,00	65,62	1.443,64	
PP60PBSPP	Ud Par botas segur.punt.piel UD. PAR DE BOTAS DE SEGURIDAD S3 PIEL NEGRA CON PUNTERA Y PLANTILLA METÁLICA. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.									PP30ASCC	Ud Arnes de seguridad clase c UD. ARNÉS DE SEGURIDAD CLASE C (PARACAIDAS), CON CUERDA DE 1 M. Y DOS MOSQUETONES, EN BOLSA DE TRANSPORTE. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.									
	Nº TRABAJADORES	1	22,000			22,000					Nº TRABAJADORES	1	22,000			22,000				
							22,00	36,57	804,54								22,00	78,00	1.716,00	
PP60PBA	Ud Par botas aislantes. UD. PAR DE BOTAS AISLANTES PARA ELECTRICISTA HASTA 5.000 V. DE TENSIÓN. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.									PP30ADC	Ud Anticaidas deslizante cuerdas UD. ANTICAIDAS DESLIZANTE PARA CUERDA DE 14 MM, C/MOSQUETÓN. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.									
	Nº TRABAJADORES (ESPECIALISTA ELECTRICISTA)	6				6,000					Nº TRABAJADORES	1	22,000			22,000				
							6,00	25,69	154,14								22,00	180,25	3.965,50	
PP60PBAM	Ud Par de botas de agua. Monocolor UD. PAR DE BOTAS DE AGUA MONOCOLOR. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.									PP30AF	Ud Aparato freno. UD. APARATO DE FRENO DE PARACAIDAS. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.									
	Nº TRABAJADORES	22				22,000					Nº TRABAJADORES	1	22,000			22,000				
	EXTRA	5				5,000														
							27,00	13,97	377,19								22,00	62,40	1.372,80	
PP10CS	Ud Casco de seguridad. UD. CASCO DE SEGURIDAD CON DESUDADOR. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.									PP30C14P	m Cuerda d=14mm poliamida CUERDA REALIZADA EN POLIAMIDA DE ALTA TENACIDAD DE D=14 MM. INCLUSO BARRA ARGOLLAS EN EXTREMO DE POLIMIDAS REVESTIDAS DE PVC. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.									
	Nº TRABAJADORES	2	22,000			44,000						200				200,000				
	EXTRA	10				10,000											200,00	5,11	1.022,00	
							54,00	3,00	162,00											
PP30MONOTRA	Ud Mono de trabajo. UD. MONO DE TRABAJO. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.									PP30CPH	Ud Cinturon portaherramientas. UD. CINTURÓN PORTAHERRAMIENTAS. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.									
	Nº TRABAJADORES	2	22,000			44,000					Nº TRABAJADORES	1	22,000			22,000				
	EXTRA EVENTUALES	4				4,000														
							48,00	16,10	772,80								22,00	21,67	476,74	
PP30IMPERM	Ud Impermeable. UD. IMPERMEABLE DE TRABAJO. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.									PP30CAP	Ud Cuerda amarre poliamida 1m UD. CUERDA DE AMARRE DE LONGITUD 1,00 MT, REALIZADO EN POLIAMIDA DE ALTA TENACIDAD DE 14 MM DE DIÁMETRO, I/ ARGOLLAS EN EXTREMOS DE POLIMIDA REVESTIDAS DE PVC. CERTIFICADO CE NORMA EN 361. S/R.D. 773/97 Y R.D. 1407/92.									
	Nº TRABAJADORES	1	22,000			22,000					Nº TRABAJADORES	1	22,000			22,000				
							22,00	9,29	204,38								22,00	8,66	190,52	
PP30PRBA	Ud Peto reflectante but./amar. UD. PETO REFLECTANTE DE SEGURIDAD PERSONAL EN COLORES AMARILLO Y ROJO. CERTIFICADO CE. S/R.D. 773/97 Y R.D. 1407/92.									SYS02	Ud Faja de protección lumbar FAJA DE PROTECCIÓN LUMBAR CON AMPLIO SOPORTE ABDOMINAL Y SUJECCIÓN REGULABLE MEDIANTE VELCRO, AMORTIZABLE EN 4 USOS									
	Nº TRABAJADORES	2	22,000			44,000						3				3,000				
	EXTRA	12				12,000														
							56,00	10,30	576,80								3,00	5,05	15,15	

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE		
SYS05	Ud Caja de 50 mascarillas quirúrgicas de un solo uso CAJA DE 50 MASCARILLAS QUIRÚRGICAS DE UN SOLO USO, TIPO I, DE 17,5X9,5 CM, FORMADAS POR TRES CAPAS, LAS CAPAS INTERIOR Y EXTERIOR DE POLIÉSTER Y LA CAPA INTERMEDIA DE POLIPROPILENO, CON PUENTE NASAL DE ALUMINIO PARA MEJORAR EL AJUSTE AL CONTORNO DE LA NARIZ Y CINTAS ELÁSTICAS PARA SUJECIÓN DE LA MASCARILLA A LA CABEZA.						4	4,000		SE10CIRSS	Ud Cartel indicat.riesgo sin soporte UD. CARTEL INDICATIVO DE RIESGO DE 0,30X0,30 M., SIN SOPORTE METÁLICO, INCLUSO COLOCACIÓN Y DESMONTADO. S/R.D. 485/97. Nº SEÑALES RIESGO	32				32,000	32,00	3,17	101,44		
SYS07	Ud Juego de orejeras con atenuación acústica de 15 dB JUEGO DE OREJERAS, ESTÁNDAR, COMPUESTO POR UN CASQUETE DISEÑADO PARA PRODUCIR PRESIÓN SOBRE LA CABEZA MEDIANTE UN ARNÉS Y AJUSTE CON ALMOHADILLADO CENTRAL, CON ATENUACIÓN ACÚSTICA DE 15 DB.						3	3,000		SE10BOYA	Ud Boya intermitente con célula BOYA INTERMITENTE CON CÉLULA FOTOELÉCTRICA PARA SEÑALIZACIÓN NOCTURNA. COLOCADA. S/R.D. 485/97. Nº PUNTOS CON RIESGO ESPECIAL	1	32,000			32,000	32,00	52,33	1.674,56		
SYS08	UD Muñequeras Antivibratorias JUEGOS DE MUÑEQUERAS ANTIVIBRATORIAS						3	3,000		SE20VCP	Ud Valla contencion peatones. UD. VALLA AUTÓNOMA METÁLICA DE 2,5 M. DE LONGITUD PARA CONTENCIÓN DE PEATONES NORMALIZADA, INCLUSO COLOCACIÓN Y DESMONTAJE. (20 USOS). S/R.D. 485/97.	254				254,000	254,00	2,62	665,48		
SYS28	Ud Crema solar BOTE DE 1 L O SUPERIOR CAPACIDAD DE CREMA SOLAR DE PROTECCIÓN FACTOR 50. PARA PROTECCIÓN FRENTE A LOS RAYOS SOLARES. CANTIDAD						2	2,000		SE20CB	m Cinta de balizamiento r/b. ML. CINTA CORRIDA DE BALIZAMIENTO PLÁSTICA PINTADA A DOS COLORES ROJA Y BLANCA, INCLUSO COLOCACIÓN Y DESMONTADO. S/R.D. 485/97. ZANJAS (A UN LADO) OBRA DE TOMA ADMISION BPC EN IMPULSIÓN BP1 EN IMPULSIÓN BP2 EN IMPULSIÓN BP3 EN RED PISO NATURAL EN RED PISO 1 EN RED PISO 2 EN RED PISO 3	2 1,5 1,5 1,5 1,5 1,5 1,5 1,5	30,000 278,000 3.892,000 2.098,000 3.892,000 19.464,300 34.104,630 26.556,330 28.004,690	60,000 417,000 5.838,000 3.147,000 5.838,000 29.196,450 51.156,945 39.834,495 42.007,035				177.494,93	0,30	53.248,48	
TOTAL SUBCAPÍTULO 18.01 PROTECCIONES INDIVIDUALES..									19.384,20												
SUBCAPÍTULO 18.02 PROTECCIONES COLECTIVAS																					
SE10CPRIENT	Ud Cartel provisional riesgo entrada obra/EPI's CARTEL PROVISIONAL DE RIESGO ENTRADA OBRA/EPI'S. INCLUSO APERTURA DE POZO, HORMIGONADO, COLOCACIÓN Y DESMONTADO. S/R.D. 485/97. ACCESOS A OBRA Nº CARTELES ACCESO BP1 Nº CARTELES ACCESO BP2 Nº CARTELES ACCESO BP3 Nº CARTELES ACCESO OBRA TOMA Nº CARTELES ACCESO OBRA RED Nº CARTELES ACCESO ESTACION						1 1 1 1 3 2	1,000 1,000 1,000 1,000 3,000 2,000		PC10RHPH	m² Red horizontal protec.huecos. M2. RED HORIZONTAL PARA PROTECCIÓN DE HUECOS DE POLIAMIDA DE HILO DE D=4 MM. Y MALLA DE 75X75 MM. INCLUSO COLOCACIÓN Y DESMONTADO. S/R.D. 485/97. ESTACION BOMBEO	1	60,000	21,000		1.260,000	1.260,00	9,09	11.453,40		
SE10SSIS	Ud Señal Stop con soporte SEÑAL DE STOP TIPO OCTOGONAL DE D=600 MM. NORMALIZADA, CON SOPORTE METÁLICO DE HIERRO GALVANIZADO 80X40X2 MM. Y 1,3 M. DE ALTURA INCLUSO PARTE PROPORCIONAL DE APERTURA DE POZO, HORMIGONADO, COLOCACIÓN Y DESMONTADO. (3 USOS) . S/R.D. 485/97.						24	24,000		PC20BTST	m Barandilla tipo sargto. tabl. ML. BARANDILLA CON SOPORTE TIPO SARGENTO Y TRES TABLONES DE 0,20X0,07 M. EN PERÍMETRO DE FORJADOS TANTO DE PISOS COMO DE CUBIERTA, INCLUSO COLOCACIÓN Y DESMONTAJE. S/R.D. 485/97. SOLERAS ESTACION BOMBEO ARQUETAS Y VARIOS	2 2 1	60,000 20,000 100,000		120,000 40,000 100,000				260,00	7,14	1.856,40
SE10CIRIS	Ud Cartel indicat.riesgo con soporte UD. CARTEL INDICATIVO DE RIESGO DE 0,30X0,30 M. CON SOPORTE METÁLICO DE HIERRO GALVANIZADO 80X40X2 MM. Y 1,3 M. DE ALTURA, INCLUSO APERTURA DE POZO, HORMIGONADO, COLOCACIÓN Y DESMONTADO. S/R.D. 485/97. Nº SEÑALES RIESGO						32	32,000									32,00	19,04	609,28		

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE			
PC20MPS	m Malla polietileno seguridad MALLA DE POLIETILENO ALTA DENSIDAD CON TRATAMIENTO PARA PROTECCIÓN DE ULTRAVIOLETAS, COLOR NARANJA DE 1 M. DE ALTURA Y DOBLE ZÓCALO DEL MISMO MATERIAL, I/COLOCACIÓN Y DESMONTAJE. (AMORTIZACIÓN EN DOS PUESTAS). S/R.D. 485/97. PERIMETRAL									YSB060	Ud Cono de balizamiento CONO DE BALIZAMIENTO REFLECTANTE DE 75 CM DE ALTURA, DE 1 PIEZA DE POLIETILENO CON LASTRE DE ARENA, CON 2 BANDAS REFLECTANTES DE 150 MM DE ANCHURA Y RETRORREFLECTANCIA NIVEL 1 (E.G.), AMORTIZABLE EN 10 USOS. INCLUSO ARENA UTILIZADA PARA EL LASTRADO DE LAS PIEZAS, MANTENIMIENTO EN CONDICIONES SEGURAS DURANTE TODO EL PERIODO DE TIEMPO QUE SE REQUIERA Y DESMONTAJE.											
	BALSA BPC	1	2.420,000			2.420,000																
	BALSA BP1	1	900,000			900,000						85				85,000						
	BALSA BP2	1	852,000			852,000											85,00	2,65	225,25			
	BALSA BP3	1	890,000			890,000																
	ESTACIÓN DE BOMBEO	4	200,000			800,000				SYS04	Ud Pórtico de limitación de altura libre de 5 m, PÓRTICO DE LIMITACIÓN DE ALTURA LIBRE DE 5 M, PARA PROTECCIÓN DE LÍNEAS ELÉCTRICAS AÉREAS, COMPUESTO POR 2 ROLLIZOS DE MADERA DE 15/20 CM DE DIÁMETRO, HINCADOS EN EL TERRENO, SEPARADOS ENTRE SÍ 6 M, AMORTIZABLES EN 5 USOS Y UNIDOS EN SU PARTE SUPERIOR MEDIANTE CABLE TENSADO DE ACERO DE 10 MM DE DIÁMETRO, SOBRE EL QUE SE SUSPENDERÁ UN CORDÓN DE BALIZAMIENTO CON GUIRNALDAS REFLECTANTES DE PLÁSTICO, COLOR ROJO Y BLANCO.											
	PUNTOS SINGULARES	1	350,000			350,000																
	CAMPO FOTOVOLTAICO	1	1.000,000			1.000,000																
							7.212,00	2,28	16.443,36													
PC10CATA	m Cable de atado trab.altura ML. CABLE DE SEGURIDAD PARA ATADO EN TRABAJOS DE ALTURA, SUJETO MEDIANTE ANCLAJES HORMIGONADOS Y SEPARADOS CADA 2MLI/MONTAJE Y DESMONTAJE. S/R.D. 485/97. CUBIERTA NAVE																					
		3	65,000			195,000						5				5,000						
							195,00	13,58	2.648,10	SYS06	I Gel hidroalcohólico virucida GEL HIDROALCOHÓLICO, BACTERICIDA Y VIRUCIDA, PARA LA DESINFECCIÓN DE MANOS.						45,00	5,66	254,70			
MO10ESE	Hr Equipo de Señalización H. EQUIPO DE LIMPIEZA Y CONSERVACIÓN DE INSTALACIONES PROVISIONALES DE OBRA, CONSIDERANDO UNA HORA DIARIA DE OFICIAL DE 2ª Y DE AYUDANTE. S/R.D. 485/97. EN PROXIMIDADES VIAS DE CIRCULACION EN OTROS PUNTOS SINGULARES 1 HORA AL DÍA																					
		1	350,000			350,000																
		1	24,000			24,000																
		24	22,000			528,000				IP20APELECT	Ud Acomet.prov.elect.a caseta. ACOMETIDA PROVISIONAL DE ELECTRICIDAD A CASETA DE OBRA, DESDE EL CUADRO GENERAL FORMADA POR MANGUERA FLEXIBLE DE 4X4 MM2 DE TENSIÓN NOMINAL 750 V., INCORPORANDO CONDUCTOR DE TIERRA COLOR VERDE Y AMARILLO, FIJADA SOBRE APOYOS INTERMEDIOS CADA 2,50 M. INSTALADA. CASETA VESTUARIOS CASETA COMEDOR CASETA ASEOS	2 2 3				2,000 2,000 3,000						
							902,00	39,44	35.574,88													
SYS01	Ud Barrera New Jersey BARRERA DE SEGURIDAD PORTÁTIL TIPO NEW JERSEY DE POLIETILENO DE ALTA DENSIDAD, DE 1,20X0,60X0,40 M, CON CAPACIDAD DE LASTRADO DE 150 L, COLOR ROJO O BLANCO, AMORTIZABLE EN 20 USOS.																					
		10				10,000																
							10,00	5,40	54,00													
SYS03	m Protección frente a la caída de camiones en bordes de excavación PROTECCIÓN FRENTE A LA CAÍDA DE CAMIONES EN BORDES DE EXCAVACIÓN, DURANTE LOS TRABAJOS DE DESCARGA DIRECTA DE HORMIGÓN O MATERIALES DE RELLENO, FORMADA POR TOPE COMPUESTO POR 1 TABLONES DE MADERA DE PINO DE 0,20X0X20 CM, AMORTIZABLES EN 4 USOS Y PERFILES DE ACERO UNE-EN 10025 S275JR, LAMINADO EN CALIENTE, DE LA SERIE IPN 200, GALVANIZADO EN CALIENTE, DE 1 M DE LONGITUD, HINCADOS EN EL TERRENO CADA 2,0 M, AMORTIZABLES EN 150 USOS. INCLUSO ELEMENTOS DE ACERO PARA EL ENSAMBLE DE LOS TABLONES.																					
		30				30,000				IP20APFONT	Ud Acomet.prov.fontan.a caseta. UD. ACOMETIDA PROVISIONAL DE FONTANERIA A CASETAS DE OBRA. CASETA COMEDOR CASETA ASEOS	3 2				3,000 2,000						
																	5,00	77,25	386,25			
							30,00	17,19	515,70	IP20APSANEA	Ud Acomet.prov.saneamt.a caseta. UD. ACOMETIDA PROVISIONAL DE SANEAMIENTO A CASETAS DE OBRA. CASETA COMEDOR CASETA ASEOS	3 2				3,000 2,000						
																	5,00	66,95	334,75			
										TOTAL SUBCAPÍTULO 18.02 PROTECCIONES COLECTIVAS 129.060,23												
SUBCAPÍTULO 18.03 INSTALACIONES PROVISIONALES																						

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE				
IP10ACPCOME	Ud Alquiler caseta p.vestuarios. MÉS DE ALQUILER DE CASETA PREFABRICADA PARA VESTUARIOS DE OBRA DE 6X2.35 M., CON ESTRUCTURA METÁLICA MEDIANTE PERFILES CONFORMADOS EN FRIO Y CERRAMIENTO CHAPA NERVADA Y GALVANIZADA CON TERMINACIÓN DE PINTURA PRELACADA. AISLAMIENTO INTERIOR CON LANA DE VIDRIO COMBINADA CON POLIESTIRENO EXPANDIDO. REVESTIMIENTO DE P.V.C. EN SUELOS Y TABLE-RO MELAMINADO EN PAREDES. VENTANAS DE ALUMINIO ANODIZADO, CON PERSIANAS CORREDERAS DE PROTECCIÓN, INCLUSO INSTALACIÓN ELÉCTRICA CON DISTRIBUCIÓN INTERIOR DE ALUMBRADO Y FUERZA CON TOMA EXTERIOR A 220 V.									IP30JINDUS	Ud Jabonera industrial. UD. JABONERA DE USO INDUSTRIAL CON DOSIFICADOR DE JABÓN, EN ACERO INOXIDABLE, COLOCADA. (10 USOS) POR ASEO	2	2,000										
	ALQUILER CASETAS	2						24,000	48,000								4,00	5,96	23,84				
							48,00	114,74	5.507,52														
IP10AAIDL2	Ud A.a/2inod,ducha,lav.,termo MÉS DE ALQUILER DE CASETA PREFABRICADA PARA ASEOS DE OBRA DE 4.10X1.90 M. CON DOS INODOROS, UNA DUCHA, UN LAVABO TERMO ELÉCTRICO DE 50 LITROS DE CAPACIDAD; CON LAS MISMAS CARACTERISTICAS QUE LAS OFICINAS. SUELO DE CONTRACHAPADO HIDRÓFUGO CON CAPA FENÓLICA ANTIDESLIZANTE Y RESISTENTE AL DESGASTE. PIEZAS SANITARIAS DE FIBRA DE VIDRIO ACABADAS EN GEL-COAT BLANCO Y PINTURA ANTIDESLIZANTE. PUERTAS INTERIORES DE MADERA EN LOS COMPARTIMENTOS. INSTALACIÓN DE FONTANERÍA CON TUBERIAS DE POLIBUTILENO E INSTALACIÓN ELÉCTRICA PARA CORRIENTE MONOFÁSICA DE 220 V. PROTEGIDA CON INTERRUPTOR AUTOMÁTICO.									IP30DB800L	Ud Deposito de basuras de 800 l. UD. DEPOSITO DE BASURAS DE 800 LITROS DE CAPACIDAD REALIZADO EN POLIETILENO INYECTADO, ACERO Y BANDAS DE CAUCHO, CON RUEDAS PARA SU TRANSPORTE, COLOCADO. (10 USOS) JUNTO A CASETA	6											
	ALQUILER CASETAS	3						24,000	72,000								6,00	17,75	106,50				
							72,00	210,64	15.166,08														
IP10ACPOFIC	Ud Alquiler caseta prefa.comedor UD. MÉS DE ALQUILER DE CASETA PREFABRICADA PARA COMEDOR DE OBRA DE 6X2.35 M., CON ESTRUCTURA METÁLICA MEDIANTE PERFILES CONFORMADOS EN FRIO Y CERRAMIENTO CHAPA NERVADA Y GALVANIZADA CON TERMINACIÓN DE PINTURA PRELACADA. AISLAMIENTO INTERIOR CON LANA DE VIDRIO COMBINADA CON POLIESTIRENO EXPANDIDO. REVESTIMIENTO DE P.V.C. EN SUELOS Y TABLE-RO MELAMINADO EN PAREDES. VENTANAS DE ALUMINIO ANODIZADO, CON PERSIANAS CORREDERAS DE PROTECCIÓN, INCLUSO INSTALACIÓN ELÉCTRICA CON DISTRIBUCIÓN INTERIOR DE ALUMBRADO Y FUERZA CON TOMA EXTERIOR A 220 V.									MO10LDC	Ud Limpieza y desinfeccion caset. 24 LIMPIEZA Y DESINFECCIÓN DE CASETAS DE OBRA, CONSIDERANDO UNA LIMPIEZA POR CADA DOS SEMANAS. 4 LIMPIEZAS/MES	4	18,000										
	ALQUILER CASETA	2						24,000	48,000								72,00	30,90	2.224,80				
							48,00	105,20	5.049,60														
IP10TCPREF	Ud Transporte caseta prefabricad TRANSPORTE DE CASETA PREFABRICADA A OBRA, INCLUSO DESCARGA Y POSTERIOR RECOGIDA. CASETA VESTUARIOS CASETA COMEDOR CASETA ASEOS									DEXTINTABC	Ud Extintor polvo 6Kg ABC UD EXTINTOR DE POLVO DE 6 KG PARA FUEGOS DE TIPO ABC. EN CASETAS	6											
																	6,00	65,46	392,76				
							7,00	217,42	1.521,94														
IP30TMINDIV	Ud Taquilla metalica individual. TAQUILLA METÁLICA INDIVIDUAL CON LLAVE DE 1.78 M. DE ALTURA COLOCADA. (10 USOS) Nº TRABAJADORES PARA EVENTUALES									DEXTINTCO2	Ud Extintor CO2 6 Kg UD EXTINTOR DE CO2 DE 6 KG EN CASETAS	6											
																	6,00	108,15	648,90				
							27,00	12,76	344,52														
IP30BP5P	Ud Banco polipropileno 5 pers. BANCO DE POLIPROPILENO PARA 5 PERSONAS CON SOPORTES METALICOS, COLOCADO. (10 USOS) COMEDOR VESTUARIO									DESTUAIRE	Ud Estufa de aire UD ESTUFA DE AIRE CALIENTE. EN CASETAS	6											
																	6,00	30,90	185,40				
							10,00	21,67	216,70														
										ANEM-TFA42	Ud Anemometro ANEMÓMETRO PORTÁTIL DIGITAL DE HÉLICE DIRECCIONAL CON TERMÓMETRO. PRECISA ENFRENTARLO AL VIENTO PARA UNA CORRECTA LECTURA. INDICA LA VELOCIDAD DEL VIENTO ACTUAL COMO PROMEDIO DE LOS ÚLTIMOS 4 SEGUNDOS, PUDIENDO AJUSTARSE ENTRE 2 Y 10 SEG. INDICA LA VELOCIDAD DEL VIENTO MÁXIMA Y MEDIA DESDE EL ENCENDIDO.UNIDADES DE MEDIDA: BEAUFORT (BARRAS GRÁFICAS), NUDOS, MPH, M/SEG Y KM/H. RANGO DE MEDIDA: 0,2 A 30 M/SEG.	1											
																	1,00	65,71	65,71				
										D27GA001	Ud Toma tierra (pica) UD. TOMA TIERRA CON PICA COBRIZADA DE D=14,3 MM. Y 2 M. DE LONGITUD, CABLE DE COBRE DESNUDO DE 1X35 MM2. CLAVADA A TIERRA Y CON EL DESMONTAJE INCLUIDO.	2											
																	2,00	21,96	43,92				

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE	
D2EGA001	Ud Interruptor diferencial 25 A. UD. INTERRUPTOR DIFERENCIAL DE 25 A. INTENSIDAD NOMINAL, TETRAPOLAR CON SENSIBILIDAD DE 0.3A. FIJADO A PRESION Y CON DESMONTAJE INCLUIDO.	2				2,000	2,00	84,35	168,70	I2R24200	CAPÍTULO 19 GESTIÓN DE RESIDUOS m³ Clasificación a Pie de Obra de Residuos CLASIFICACIÓN A PIE DE OBRA DE RESIDUOS DE LA CONSTRUCCIÓN EN RESIDUOS INERTES, NO ESPECIALES Y ESPECIALES CON MEDIOS MANUALES.									
											RESIDUOS TOTALES	185,6				185,600				
																	185,60	25,28	4.691,97	
	TOTAL SUBCAPÍTULO 18.03 INSTALACIONES								33.063,53	I2R650G0	m³ Carga + Transporte Contenedor a Centro de Tratamiento Autorizado CARGA Y TRANSPORTE DE RESIDUOS A CENTRO DE RECICLAJE, A MONODEPÓSITO, A VERTEDERO ESPECÍFICO O A CENTRO DE RECOGIDA Y TRANSFERENCIA, CON CONTENODOR, CARGADO CON MEDIOS MECÁNICOS.									
	SUBCAPÍTULO 18.04 MEDICINA PREVENTIVA Y PRIMEROS AUXILIOS										RESIDUOS	181,46				181,460				
IP30BOBRA	Ud Botiquin de obra. UD. BOTIQUÍN DE OBRA INSTALADO.	6				6,000	6,00	40,72	244,32	I2R5PL00	Ud Suministro de Bidón de 200 l para Residuos Especiales SUMINISTRO DE BIDÓN DE 200 L PARA RESIDUOS ESPECIALES (P-4)									
											BIDONES	21				21,000				
																	21,00	16,78	352,38	
IP30RBOTIQ	Ud Reposicion de botiquin. UD. REPOSICIÓN DE MATERIAL DE BOTIQUÍN DE OBRA.	6				6,000	6,00	28,87	173,22	I2R5K000	Ud Transporte de Bidones de Residuos Especiales a Centro Autorizado TRANSPORTE DE BIDONES DE RESIDUOS ESPECIALES A CENTRO DE RECOGIDA Y TRANSFERENCIA.									
											BIDONES	21				21,000				
																	21,00	63,45	1.332,45	
IP30CPEVAC	Ud Camilla portatil evacuaciones UD. CAMILLA PORTÁTIL PARA EVACUACIONES, COLOCADA. (20 USOS)	4				4,000	4,00	6,66	26,64	I2RA8620	m³ Deposición controlada a centro Autorizado Residuos Especiales DEPOSICIÓN CONTROLADA A CENTRO DE RECOGIDA AUTORIZADO Y TRANSFERENCIA DE RESIDUOS ESPECIALES.									
											RESIDUOS ESPECIALES 150110	0,79				0,790				
											RESIDUOS ESPECIALES 080409	0,96				0,960				
											RESIDUOS ESPECIALES 050105	0,96				0,960				
											RESIDUOS ESPECIALES 120101	1,43				1,430				
																	4,14	665,12	2.753,60	
	TOTAL SUBCAPÍTULO 18.04 MEDICINA PREVENTIVA Y								444,18	I2RA6500	m³ Deposición controlada a centro Autorizado Residuos No Especiales DEPOSICIÓN CONTROLADA A CENTRO DE RECOGIDA AUTORIZADO Y TRANSFERENCIA DE RESIDUOS NO ESPECIALES.									
	SUBCAPÍTULO 18.05 FORMACIÓN Y REUNIONES INFORMATIVAS										RESIDUOS NO ESPECIALES 170405	15,89				15,890				
MO10CSH	Hr Reunión de Seguridad y Salud REUNIÓN DE SEGURIDAD Y SALUD, COMPUESTO POR UN TÉCNICO EN MATERIA DE SEGURIDAD CON CATEGORIA DE ENCARGADO, DOS TRABAJADORES CON CATEGORIA DE OFICIAL DE 2º, UN AYUDANTE Y UN VIGILANTE DE SEGURIDAD CON CATEGORIA DE OFICIAL DE 1º, CONSIDERANDO UNA REUNIÓN COMO MÍNIMO AL MES. 3 REUNION MENSUALES (2 HORA) REUNION EXTRAORDINARIA	24 4	2,000 1,000	3,000 2,000		144,000 8,000	152,00	52,76	8.019,52		RESIDUOS NO ESPECIALES 170201	19,85				19,850				
											RESIDUOS NO ESPECIALES 170203	15,89				15,890				
											RESIDUOS NO ESPECIALES 150101	2,65				2,650				
											RESIDUOS NO ESPECIALES 170604	0,54				0,540				
											RESIDUOS NO ESPECIALES 170103	1,59				1,590				
											RESIDUOS NO ESPECIALES 170411	0,18				0,180				
											RESIDUOS NO ESPECIALES 170802	0,59				0,590				
											RESIDUOS NO ESPECIALES 080112	0,59				0,590				
																	57,77	7,78	449,45	
MREPREOBR	Ud Mes de recurso preventivo en obra FORMACIÓN DE SEGURIDAD Y SALUD EN EL TRABAJO, CONSIDERANDO UNA HORA A LA SEMANA Y REALIZADA POR UN ENCARGADO. MESES OBRA	18				18,000	18,00	62,40	1.123,20	I2RA7360	m³ Deposición controlada a centro Autorizado Residuos Inertes Mezcl DEPOSICIÓN CONTROLADA A CENTRO DE RECOGIDA AUTORIZADO Y TRANSFERENCIA DE RESIDUOS INERTES MEZCLADOS DE LA CONSTRUCCIÓN									
											RESIDUOS INERTES MEZCLADOS 170904	46,07				46,070				
																	46,07	7,46	343,68	
	TOTAL SUBCAPÍTULO 18.05 FORMACIÓN Y REUNIONES								9.142,72											
	TOTAL CAPÍTULO 18 SEGURIDAD Y SALUD.....								191.094,86											

PRESUPUESTO

PROYECTO MODERNIZACIÓN C.R. LANAJA

CÓDIGO	DESCRIPCIÓN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
I2RA8500	m ³ Deposición controlada a centro Autorizado Residuos Inertes DEPOSICIÓN CONTROLADA A CENTRO DE RECOGIDA AUTORIZADO Y TRANSFERENCIA DE RESIDUOS INERTES.								
	RESIDUOS INERTES 170101	67,03				67,030			
							67,03	6,18	414,25
	TOTAL CAPÍTULO 19 GESTIÓN DE RESIDUOS.....								12.359,24
CAPÍTULO 20 PUBLICIDAD									
Z005	Ud Panel de 2,1x1,5 m., en chapa galvanizada ELABORACIÓN Y COLOCACIÓN DE PLACAS PERMANENTES INFORMATIVAS DE LA EVENTUAL FINANCIACIÓN DE LA OBRA POR EL PRTR, SOLO APLICABLE EN EL CASO DE QUE EL PROYECTO ACABE SIENDO ELEGIDO PARA SU FINANCIACIÓN EN EL MARCO DEL PRTR, EN CHAPA GALVANIZADA DE 2,10 X 1,50 M. DISEÑO SEGÚN PLIEGO DE PRESCRIPCIONES TÉCNICAS. EN CASO DE QUE EL PROYECTO NO RESULTE FINALMENTE SELECCIONADO, ESTA UNIDAD DE OBRA NO SE EJECUTARÍA.								
		2				2,000			
							2,00	613,36	1.226,72
Z019	Ud Panel cuadrado de 0,42 x 0,42 m en metacrilato ELABORACIÓN Y COLOCACIÓN DE PLACAS PERMANENTES INFORMATIVAS DE LA EVENTUAL FINANCIACIÓN DE LA OBRA POR EL PRTR SOLO APLICABLE EN EL CASO DE QUE EL PROYECTO ACABE SIENDO ELEGIDO PARA SU FINANCIACIÓN EN EL MARCO DEL PRTR, EN CHAPA GALVANIZADA DE 0,42 X 0,42 M. DISEÑO SEGÚN PLIEGO DE PRESCRIPCIONES TÉCNICAS. EN CASO DE QUE EL PROYECTO NO RESULTE FINALMENTE SELECCIONADO, ESTA UNIDAD DE OBRA NO SE EJECUTARÍA.								
	BALSAS	2				2,000			
	ESTACIÓN DE BOMBEO	1				1,000			
	CAPTACIÓN	1				1,000			
							4,00	110,87	443,48
	TOTAL CAPÍTULO 20 PUBLICIDAD.....								1.670,20
	TOTAL.....								29.880.231,11

RESUMEN DE PRESUPUESTO
PROYECTO MODERNIZACIÓN C.R. LANAJA

CAPITULO	RESUMEN	EUROS
01	OBRA DE TOMA Y LLENADO Balsa Pie Canal.....	267.083,22
02	Balsa Pie de Canal (BPC).....	3.146.871,01
03	Tubería Admisión Bombeo.....	219.049,39
04	Balsa Intermedia (BP1).....	1.044.140,76
05	Balsa Elevada (BP2).....	698.783,88
06	Balsa Elevada (BP3).....	930.261,22
07	Estación de Bombeo.....	2.527.469,03
08	Tubería de Impulsión a Balsa (BP1).....	332.832,03
09	Tubería de Impulsión a Balsa (BP2).....	731.440,53
10	Tubería de Impulsión a Balsa (BP3).....	1.504.256,21
11	Red de Riego.....	13.366.984,27
12	Media Tensión.....	309.330,59
13	Baja Tensión.....	860.783,31
14	Solar.....	2.779.810,11
15	Automatización.....	125.497,70
16	Telecontrol.....	427.854,67
17	Medidas Ambientales.....	402.658,88
18	Seguridad y Salud.....	191.094,86
19	Gestión de Residuos.....	12.359,24
20	Publicidad.....	1.670,20
TOTAL EJECUCIÓN MATERIAL		29.880.231,11
	13,00% Gastos generales.....	3.884.430,04
	6,00% Beneficio industrial.....	1.792.813,87
TOTAL PRESUPUESTO BASE DE LICITACIÓN (ANTES DE IVA)		35.557.475,02
	21,00% I.V.A.	7.467.069,75
TOTAL PRESUPUESTO BASE DE LICITACIÓN (IVA INCLUIDO)		43.024.544,77

Asciende el presupuesto general a la expresada cantidad de CUARENTA Y TRES MILLONES VEINTICUATRO MIL QUINIENTOS CUARENTA Y CUATRO EUROS con SETENTA Y SIETE CÉNTIMOS

Zaragoza, julio de 2023

D. Néstor Moré Coloma
Colegiado Nº 1.649 del Colegio Oficial de Ingenieros
Agrónomos de Aragón, Navarra y País Vasco