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1.0 – IDENTIFICAÇÃO DA EMPRESA / HISTÓRICO DO CONTRATO

1.0 – IDENTIFICAÇÃO DA EMPRESA/HISTÓRICO DO CONTRATO

1.1 – INTRODUÇÃO

PROJEMAX Engenharia e Consultoria Ltda. apresenta, à consideração da Prefeitura Municipal de Presidente Kennedy – ES (PMPK), o **Volume 3D – Notas de Serviço e Cálculo de Volumes do Relatório Final Trecho 06 São Paulo - Água Pretinha** referente à “Elaboração de Projetos Executivos de Engenharia Civil Para Melhorias Operacionais de Rodovias Municipais”, que compõem o lote II do Edital de Concorrência 04/2014.

1.2 – IDENTIFICAÇÃO DA EMPRESA

Empresa:Projemax Engenharia e Consultoria Ltda.
CNPJ:35.788.793/0001-30
Inscrição Estadual: Isenta
Inscrição Municipal (Rio de Janeiro):16.521-2
Sede - Endereço:Av. Rio Branco, 257 / Grupo 1903 – Centro
CEP: 20.040-009 Rio de Janeiro – RJ
Tel / Fax:(21) 2533 7972 / (21) 2533 6758
Endereço Eletrônico:projemax@projemax.com.br
Tel.:(27) 3711 5944 / (27) 9987 9100
Responsáveis Técnicos:Rodolpho Giovanni Bonelli (CREA-RJ 30.906-D)
Eduardo Leite Gulo (CREA-SP)

1.3 – HISTÓRICO DO CONTRATO

Processo N.º:003961/2013
Edital de Concorrência Pública: Edital de Concorrência 004/2014
Data da Concorrência: 08 de abril de 2014

Objeto:..... Serviços Técnicos de Engenharia para Elaboração de Projetos Executivos de Engenharia Civil para Melhorias Operacionais e Pavimentação de Rodovias Vicinais Municipais Localizadas nos seguintes Trechos: Estrada Leonel – Alegria, Estrada Cancela – Leonel ES 162, Águas Pretinhas/Santa Lúcia – Divisa Atílio Vivácqua, Água Pretinha – Água Preta – Divisa Atílio Vivácqua, São Paulo – Água Pretinha, São Paulo – Cabral – Divisa com Itapemirim (Brejo Grande), Água Pretinha/Santa Lúcia - Cancela

Prazo para Elaboração dos Serviços:365 Dias Corridos
Contrato N.º:000166/2014
Data de Assinatura:09 de Julho de 2014
Data da Ordem de Início dos Serviços: 18 de Agosto de 2014
Valor Total do Contrato: R\$ 1.988.750,17
Saldo Contratual Financeiro..... R\$ 1.988.750,17
Saldo Prazo Contratual.....260 Dias Corridos

1.4 – CONSTITUIÇÃO DO RELATÓRIO DE PROJETO

1.4.1 - VOLUME 1 – RELATÓRIO DE PROJETO E INFORMAÇÕES PARA LICITAÇÃO

O volume contém a descrição sucinta e resumida das soluções propostas para a execução dos serviços e obras necessárias à construção da rodovia, dos estudos e itens de projetos executivos elaborados, inclusive a além de fornecer os elementos necessários para a licitação das obras tais como: Especificações, Plano de Execução da Obra, Cronogramas, Equipes, etc...

1.4.2 - VOLUME 2 – PROJETO DE EXECUÇÃO

Neste volume é apresentada a documentação gráfica do Projeto de Execução, inclusive projeto tipo.

1.4.3 - VOLUME 3 – MEMÓRIA JUSTIFICATIVA

O volume contém a memória descritiva adotada para a elaboração dos projetos, descrevendo de forma ampla e abrangendo os estudos realizados, a metodologia adotada, os itens de projeto desenvolvidos, suas conclusões e recomendações.

1.4.4 - VOLUME 4 – ORÇAMENTO E PLANO DE EXECUÇÃO

Neste volume são apresentadas quantidades auferidas para a elaboração do orçamento dos serviços a serem executados, com memória de cálculo das estruturas projetadas, planilha de quantidades e a planilha resumo por etapas de serviços.

1.4.5 - VOLUME 3A – ESTUDOS E PROJETOS AMBIENTAIS

Este volume consiste nos levantamentos de dados e informações que permitem uma adequada inserção das variáveis ambientais no projeto final de engenharia, a elaboração de programas e

projetos para mitigar e compensar os impactos significativos das fases de execução e operação da rodovia bem como a obtenção das Licenças Ambientais necessárias.

1.4.6 - VOLUME 3B– ESTUDOS GEOTÉCNICOS

Neste volume são apresentados os boletins de sondagem e os resumos de estudos do subleito e empréstimos, os ensaios e as misturas necessários à elaboração desses estudos como também, os ensaios da pedreira e areal a serem utilizados.

1.4.7 - VOLUME 3D– NOTAS DE SERVIÇO E CÁLCULO DE VOLUMES

Neste volume são apresentadas as notas de serviço referentes ao greide de terraplenagem projetado e a memória de cálculo dos volumes de terra movimentado.

1.4.8 - VOLUME 3E – CADASTRO PARA DESAPROPRIAÇÃO

Neste volume é apresentada a caracterização das áreas e benfeitorias a serem desapropriadas em função do traçado, suas localizações, delimitações em relação ao bordos do traçado da estrada existente, o cadastro individual dos proprietários.

1.5 – SITUAÇÃO FINANCEIRA DO CONTRATO

Item	Descrição	Obs	Valor (R\$)
A	Valor do Contrato Pi (R\$)		1.988.750,17
B	Valor Total dos Aditivos (R\$)		-
C	Valor do Contrato Pi Atualizado (R\$)	A+B	1.988.750,17
D	Total Serviços Medidos (R\$)		-
E	Saldo Contratual Pi (R\$)	C-D	1.988.750,17
F	Total Reajustes Realizados (R\$)		-
G	Total Reajustes Pagos (R\$)		-
H	Saldo Contratual (Pi+R)	C+F-D-G	1.988.750,17

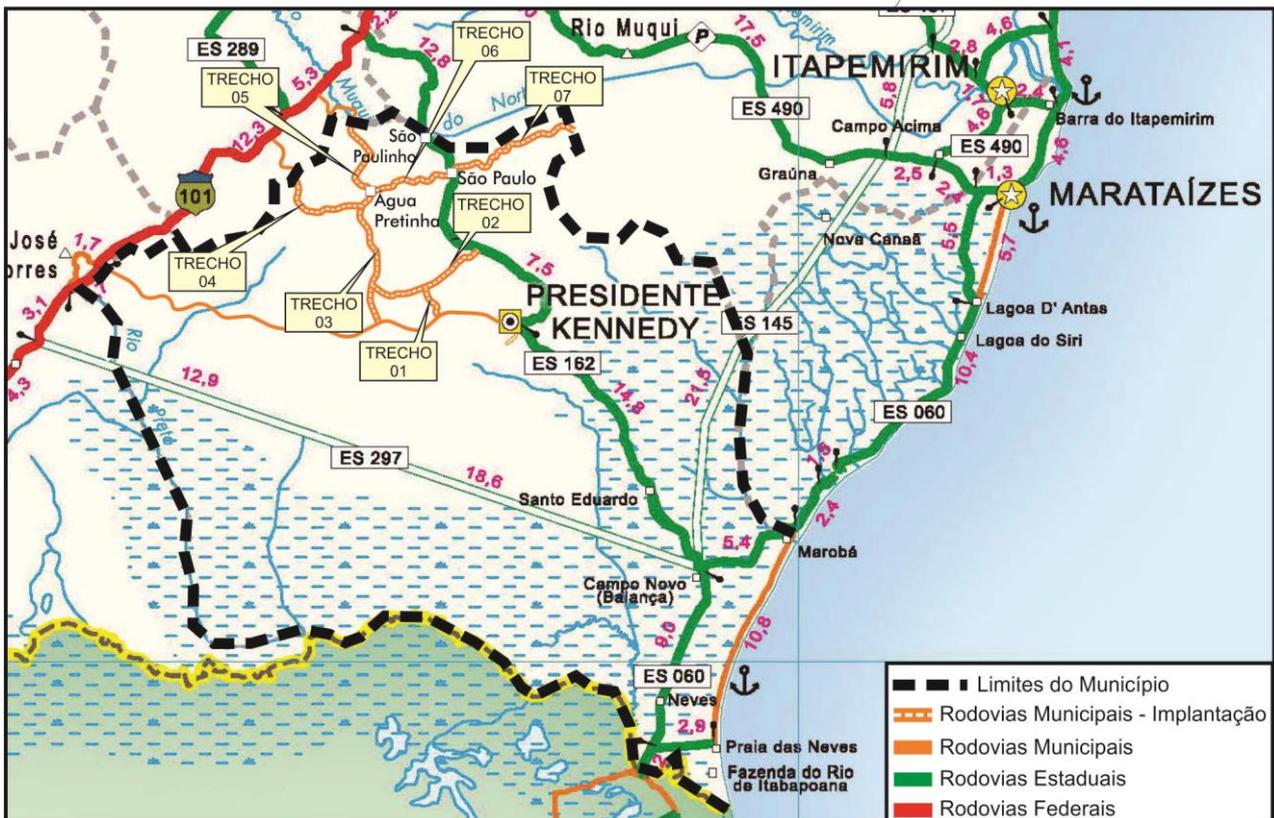
Medições Realizadas					
Nº	Descrição	% Valor Global	Período	Valor (R\$)	
				Pi	Reaj.
1	Medição de Projeto	15,25%			
2	Medição de Projeto	15,25%			
3	Medição de Projeto	15,25%			
4	Medição de Projeto	15,95%			
5	Medição de Projeto	4,16%			
6	Medição de Projeto	4,55%			
7	Medição de Projeto	4,93%			
8	Medição de Projeto	4,55%			
9	Medição de Projeto	4,55%			
10	Medição de Projeto	4,55%			
11	Medição de Projeto	5,16%			
12	Medição de Projeto	5,82%			



2.0 – MAPA DE SITUAÇÃO



Trecho	Descrição	Extensão (km)
01	Estrada Leonel - Alegria	1,8
02	Estrada Cancela - Leonel - ES 162	6,3
03	Água Pretinha / Santa Lúcia - Cancela	7,4
04	Água Pretinha / Santa Lúcia - Divisa Atílio Vivácqua	4,7
05	Água Pretinha / Água Preta - Divisa Atílio Vivácqua	4,7
06	São Paulo - Água Pretinha	4,7
07	São Paulo - Cabral - Divisa com Itapemirim (Brejo Grande)	8,0





3.0 – CÁLCULO DOS VOLUMES DE TERRAPLENAGEM



3.1 – VOLUMES DE TERRAPLENAGEM – EIXO DA RODOVIA

TRECHO 6 - São Paulo - Água Pretinha
Eixo

PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO				VOLUME HOMOGÊNEO ACUMULADO					
	Corte		Aterro		1º	2º	3º	Aterro	Excedente	Corte	Aterro	Compensação Lateral	Bruckner	Compensação Lateral	Aterro	Corte	Bruckner
	1º	2º	3º														
+	4,19				67			1,6									1.000.000
1 +	2,50		0,16	10,00				2,9						67	2		999.935
2 +	2,51		0,13	10,00	48			3,8						117	6		999.889
3 +	2,28		0,25	10,00	29			3,3						165	11		999.846
3 + 11,27	2,90		0,33	5,64	27			4,8						194	15		999.821
4 +	3,37		0,78	4,37	18			3,5						221	21		999.800
4 + 5,04	3,66		0,61	2,52	19			2,7						239	25		999.786
4 + 10,00	4,17		0,47	2,48	39			2,1						258	28		999.770
4 + 18,81	4,72			4,41	6									297	31		999.734
5 +	4,77			0,60	75			0,1						303	31		999.728
5 + 17,40	3,85		0,01	8,70	10			0,1						378	31		999.653
6 +	3,86		0,06	1,30	37			0,5						388	31		999.643
6 + 9,09	4,31		0,05	4,55	4			0,0						425	32		999.607
6 + 10,00	4,44			0,46	43			0,4						429	32		999.603
7 +	4,21		0,07	5,00	3			0,0						472	32		999.560
7 + 0,79	4,21		0,05	0,40	83			0,5						475	32		999.557
8 +	4,38			9,61	9									558	33		999.475
8 + 2,05	4,58			1,03	35			0,8						567	33		999.466
8 + 10,00	4,35		0,20	3,98				0,0						602	34		999.432
8 + 10,04	4,35		0,20	0,02	37			0,9						602	34		999.432
				4,00													

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Eixo

PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte		Aterro		Aterro	Excedente	Compensação Lateral	Aterro	Corte	Compensação Lateral	Aterro	Corte	Compensação Lateral	Bruckner
	1ª	2ª	3ª											
8 + 18,04	4,93		0,03	0,98	0,1						639	35	35	999,396
9 +	4,78		0,07	10,00	0,7						649	35	35	999,386
10 +	3,65			10,00							733	36	36	999,303
11 +	3,92			10,00							809	36	36	999,227
12 +	4,23			10,00							891	36	36	999,145
13 +	3,46		0,01	10,00	0,1						968	36	36	999,068
14 +	1,46		0,66	10,00	6,7	9	9	-40			1.017	45	45	999,028
14 + 10,65	0,78		0,69	5,33	7,2	9	9	-3			1.029	54	54	999,025
15 +	0,32		1,56	4,68	10,5	13	5	8			1.034	67	59	999,033
16 +			4,14	10,00	57,0	72	3	69			1.037	139	62	999,102
16 + 0,65	0,13		3,46	0,33	2,5	3		3			1.037	142	62	999,105
16 + 10,00			7,51	4,68	51,3	65	1	64			1.038	207	63	999,169
16 + 19,48			10,61	4,74	85,9	109		109			1.038	316	63	999,278
17 +			10,85	0,26	5,6	7		7			1.038	323	63	999,285
17 + 10,00			15,06	5,00	129,6	165		165			1.038	488	63	999,450
17 + 18,31			16,90	4,16	132,8	169		169			1.038	657	63	999,619
18 +			18,96	0,85	30,3	38		38			1.038	695	63	999,657
19 +			22,59	10,00	415,5	528		528			1.038	1.223	63	1.000,185
19 + 8,31			24,27	4,16	194,7	247		247			1.038	1.470	63	1.000,432
20 +			23,91	5,85	281,6	358		358			1.038	1.828	63	1.000,790
				10,00	511,2	649		649						

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PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO				VOLUME HOMOGÊNEO ACUMULADO						
	Corte		Aterro		1º	Corte	2º	3º	Aterro	Excedente	Compensação Lateral	Aterro	Corte	Compensação Lateral	Aterro	Corte	Compensação Lateral	Bruckner
	1º	2º																
34 + 10,00	106,89			5,00										3.762	4.492	426	1.000.730	
35 +	155,56			5,00	1.312									5.074	4.492	426	999.418	
35 + 10,00	191,77			5,00	1.737									6.811	4.492	426	997.681	
36 +	225,18			5,00	2.085									8.896	4.492	426	995.596	
36 + 10,00	235,99			5,00	2.306									11.202	4.492	426	993.290	
37 +	245,97			5,00	2.410									13.612	4.492	426	990.880	
38 +	235,90			10,00	4.819									18.431	4.492	426	986.061	
39 +	192,54			10,00	4.284									22.715	4.492	426	981.777	
39 + 0,01	191,59			0,01	2									22.717	4.492	426	981.775	
40 +	158,63			10,00	3.500									26.217	4.492	426	978.275	
40 + 10,00	139,25			5,00	1.489									27.706	4.492	426	976.786	
41 +	137,96			5,00	1.386									29.092	4.492	426	975.400	
41 + 10,00	140,20			5,00	1.391									30.483	4.492	426	974.009	
41 + 11,87	142,03			0,94	264									30.747	4.492	426	973.745	
42 +	150,19			4,07	1.188									31.935	4.492	426	972.557	
42 + 10,00	152,26			5,00	1.512									33.447	4.492	426	971.045	
43 +	166,46			5,00	1.594									35.041	4.492	426	969.451	
44 +	199,51			10,00	3.660									38.701	4.492	426	965.791	
44 + 3,72	204,59			1,86	752									39.453	4.492	426	965.039	
45 +	231,63			8,14	3.551									43.004	4.492	426	961.488	
				6,86	3.378													

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PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO					
	Corte		Aterro		Aterro	Excedente	Compensação Lateral	Aterro	Corte	Compensação Lateral	Aterro	Corte	Compensação Lateral	Bruckner		
	1ª	2ª													3ª	
45 + 13,72	260,72												46.382	4.492	426	958.110
46 +	258,51				1.630								48.012	4.492	426	956.480
47 +	198,00			3,14	4.565								52.577	4.492	426	951.915
48 +	41,39	18,17		10,00	2.394		181,7	231	231	-2,163			54.971	4.723	657	949.752
49 +		44,02		10,00	414		621,9	790	414	376			55.385	5.513	1.071	950.128
49 + 12,63		132,03		6,32			1.111,8	1.412		1.412			55.385	6.925	1.071	951.540
50 +		51,11		3,69			674,9	857		857			55.385	7.782	1.071	952.397
51 +		21,17		10,00			722,8	918		918			55.385	8.700	1.071	953.315
52 +	13,56			10,00	136		211,7	269	136	133			55.521	8.969	1.207	953.448
53 +	4,44	14,67		10,00	180		146,7	186	180	6			55.701	9.155	1.387	953.454
53 + 17,67		63,85		8,84	39		693,7	881	39	842			55.740	10.036	1.426	954.296
54 +		68,47		1,17			154,2	196		196			55.740	10.232	1.426	954.492
54 + 15,56		79,69		7,78			1.152,7	1.464		1.464			55.740	11.696	1.426	955.956
55 +		60,96		2,22			312,2	397		397			55.740	12.093	1.426	956.353
55 + 7,67		51,79		3,84			432,4	549		549			55.740	12.642	1.426	956.902
55 + 14,33		38,06		3,33			299,2	380		380			55.740	13.022	1.426	957.282
56 +	2,29	16,71		2,84	6		155,3	197	6	191			55.746	13.219	1.432	957.473
56 + 0,99	3,08	14,59		0,50	3		15,5	20	3	17			55.749	13.239	1.435	957.490
57 +	17,53	4,17		9,51	196		178,3	226	196	30			55.945	13.465	1.631	957.520
57 + 10,99	15,41	5,61		5,50	181		53,7	68	68	-113			56.126	13.533	1.699	957.407
				0,11	3		1,2	2	2	-1						

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PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte		Aterro		1º	2º	3º	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1º	2º	3º											
57 + 11,20	15,30		5,64	4,40	172		44,4	56	-116	56.129	13.535	1.701	957.406	
58 +	23,74		4,44	10,00	749		85,1	108	-641	56.301	13.591	1.757	957.290	
59 +	51,17		4,07	0,60	62		5,0	6	-56	57.050	13.699	1.865	956.649	
59 + 1,20	52,28		4,22	2,75	297		22,6	29	-268	57.112	13.705	1.871	956.593	
59 + 6,69	56,04		4,02	1,66	191		13,7	17	-174	57.409	13.734	1.900	956.325	
59 + 10,00	59,31		4,26	1,10	132		9,1	12	-120	57.600	13.751	1.917	956.151	
59 + 12,19	61,37		4,06	3,91	489		39,6	50	-439	57.732	13.763	1.929	956.031	
60 +	63,90		6,08	10,00	1.211		166,3	211	-1.000	58.221	13.813	1.979	955.592	
61 +	57,19		10,55	1,10	121		23,9	30	-91	59.432	14.024	2.190	954.592	
61 + 2,19	53,14		11,25	8,88	803		193,1	245	-558	59.553	14.054	2.220	954.501	
61 + 19,94	37,36		10,51	0,03	2		0,6	1	-1	60.356	14.299	2.465	953.943	
62 +	37,31		10,50	10,00	818		251,3	319	-499	60.358	14.300	2.466	953.942	
63 +	44,52		14,63	4,97	481		134,5	171	-310	61.176	14.619	2.785	953.443	
63 + 9,94	52,34		12,43	5,03	605		100,7	128	-477	61.657	14.790	2.956	953.133	
64 +	67,92		7,59	5,00	790		54,6	69	-721	62.262	14.918	3.084	952.656	
64 + 10,00	90,15		3,33	0,60	110		3,8	5	-105	63.052	14.987	3.153	951.935	
64 + 11,20	93,35		2,96	4,40	816		17,9	23	-793	63.162	14.992	3.158	951.830	
65 +	92,18		1,11	5,00	831		6,1	8	-823	63.978	15.015	3.181	951.037	
65 + 10,00	74,04		0,10	1,24	174		0,4		-174	64.809	15.023	3.189	950.214	
65 + 12,47	66,72		0,21	3,77	428		3,0	4	-424	64.983	15.023	3.189	950.040	

TRECHO 6 - São Paulo - Água Pretinha
Eixo

PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO				
	1ª	2ª	3ª		Aterro	1ª	2ª	3ª	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
66 +	47,05			0,58	672			52,1	66	-606	65,411	15,027	3,193	949,616	
67 +	20,15			4,63	47			12,1	15	-32	66,083	15,093	3,259	949,010	
67 + 2,47	17,99			5,19	120			47,5	60	-60	66,130	15,108	3,274	948,978	
67 + 9,91	14,35			7,58	94			96,5	123	29	66,250	15,168	3,334	948,918	
68 +	4,20			11,54							66,344	15,291	3,428	948,947	
68 + 19,91				45,92	42			572,0	726	684	66,386	16,017	3,470	949,631	
69 +				46,02				4,1	5	5	66,386	16,022	3,470	949,636	
69 + 3,34				49,74				159,9	203	203	66,386	16,225	3,470	949,839	
69 + 6,78				52,67				176,1	224	224	66,386	16,449	3,470	950,063	
69 + 10,00				55,84				174,7	222	222	66,386	16,671	3,470	950,285	
69 + 19,01	0,01			103,25				716,7	910	910	66,386	17,581	3,470	951,195	
70 +				63,39				82,5	105	105	66,386	17,686	3,470	951,300	
70 + 16,78				63,87				1,067,7	1,356	1,356	66,386	19,042	3,470	952,656	
71 +				64,18				206,2	262	262	66,386	19,304	3,470	952,918	
71 + 6,41				64,45				412,3	524	524	66,386	19,828	3,470	953,442	
72 +				60,06				846,0	1,074	1,074	66,386	20,902	3,470	954,516	
72 + 16,41				63,34				1,012,5	1,286	1,286	66,386	22,188	3,470	955,802	
73 +				60,31				222,0	282	282	66,386	22,470	3,470	956,084	
73 + 9,73				43,85				506,7	644	644	66,386	23,114	3,470	956,728	
73 + 10,00				43,45				11,8	15	15	66,386	23,129	3,470	956,743	
								390,4	496	496					

TRECHO 6 - São Paulo - Água Pretinha
Eixo

PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO				
	1ª	Corte 2ª	3ª		Aterro	1ª	Corte 2ª	3ª	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
74 +				34,62				107,8	137		137	23.625	3.470	957.239	
74 + 3,05				36,09				674,2	856		856	23.762	3.470	957.376	
75 +				43,46				758,6	963		963	24.618	3.470	958.232	
75 + 13,05				72,80				518,6	659		659	25.581	3.470	959.195	
76 +				76,43				1.497,8	1.902		1.902	26.240	3.470	959.854	
77 +				73,35				1.414,2	1.796		1.796	28.142	3.470	961.756	
78 +				68,07				1.379,5	1.752		1.752	29.938	3.470	963.552	
79 +				70,70				1.387,7	1.762		1.762	31.700	3.470	965.314	
80 +				67,25				1.298,7	1.649		1.649	33.452	3.470	967.066	
81 +				62,62				1.149,3	1.460		1.460	35.101	3.470	968.715	
82 +				52,31				1.054,1	1.339		1.339	36.561	3.470	970.175	
83 +				53,10				747,2	949		949	37.900	3.470	971.514	
83 + 14,40				50,68				281,4	357		357	38.849	3.470	972.463	
84 +				49,83				942,1	1.196		1.196	39.206	3.470	972.820	
85 +				44,38				897,5	1.140		1.140	40.402	3.470	974.016	
86 +				45,37				200,9	255		255	41.542	3.470	975.156	
86 + 4,40				45,96				662,7	842		842	41.797	3.470	975.411	
86 + 19,87				39,72				5,2	7		7	42.639	3.470	976.253	
87 +				39,65				366,0	465		465	42.646	3.470	976.260	
87 + 10,00				33,54				166,9	212		212	43.111	3.470	976.725	

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Eixo

PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO				VOLUME HOMOGÊNEO ACUMULADO					
	Corte		Aterro		1º	2º	3º	Aterro	Excedente	Compensação Lateral	Aterro	Corte	Compensação Lateral	Aterro	Corte	Compensação Lateral	Bruckner
	1º	2º	3º														
87 + 15,33			29,09	2,34			135,2	172			172		66.386	43.323	3.470	976.937	
88 +			28,83	10,00			561,9	714			714		66.386	43.495	3.470	977.109	
89 +			27,36	10,00			576,0	732			732		66.386	44.209	3.470	977.823	
90 +			30,24	2,67			165,9	211			211		66.386	44.941	3.470	978.555	
90 + 5,33			32,03	7,34			508,6	646			646		66.386	45.152	3.470	978.766	
91 +			37,31	10,00			763,5	970			970		66.386	45.798	3.470	979.412	
92 +			39,04	10,00			742,7	943			943		66.386	46.768	3.470	980.382	
93 +			35,23	0,04			2,8	4			4		66.386	47.711	3.470	981.325	
93 + 0,08			35,22	9,96			633,5	804			804		66.386	48.519	3.470	982.133	
94 +			28,38	5,04			243,2	309			309		66.386	48.828	3.470	982.442	
94 + 10,08			19,87	3,71			137,2	174			174		66.386	49.002	3.470	982.616	
94 + 17,49			17,17	1,26			42,5	54			54		66.386	49.056	3.470	982.670	
95 +			16,71	2,45			80,2	102			102		66.386	49.158	3.470	982.772	
95 + 4,90			16,04	2,55			81,2	103			103		66.386	49.261	3.470	982.875	
95 + 10,00			15,81	5,00			166,2	211			211		66.386	49.472	3.470	983.086	
96 +			17,42	7,45			264,3	336			336		66.386	49.808	3.470	983.422	
96 + 14,90		0,04	18,06	2,55			87,4	111	4		107		66.390	49.919	3.474	983.529	
97 +		1,36	16,20	10,00			259,3	329	164		165		66.554	50.248	3.638	983.694	
98 +		14,99	9,73	6,76			105,4	134	134		-210		66.898	50.382	3.772	983.484	
98 + 13,51		35,91	5,88	3,25			35,5	45	45		-235						

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Eixo

PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO					
	Corte		Aterro		1º	2º	3º	Aterro	Excedente	Corte	Aterro	Compensação Lateral	Bruckner			
	1º	2º	3º													
141 +	0,30		3,24				105,3			134	3	131	127.520	68.649	5.111	941.129
142 +			7,29				7,4			9		9	127.523	68.783	5.114	941.260
142 + 1,01			7,33				93,7			119		119	127.523	68.792	5.114	941.269
142 + 13,99			7,11				40,4			51		51	127.523	68.911	5.114	941.388
143 +	0,01		6,32				98,9			126	4	122	127.523	68.962	5.114	941.439
144 +	0,42		3,57				71,0			90	32	58	127.527	69.088	5.118	941.561
145 +	2,73		3,53				13,6			17	12	5	127.559	69.178	5.150	941.619
145 + 3,99	3,20		3,27				19,3			25	23	2	127.571	69.195	5.162	941.624
145 + 10,00	4,34		3,16				0,6			1	1		127.594	69.220	5.185	941.626
145 + 10,19	4,46		3,15				18,5			24	24	-13	127.595	69.221	5.186	941.626
145 + 16,39	7,52		2,83				9,8			12	12	-16	127.632	69.245	5.210	941.613
146 +	8,04		2,60				29,7			38	38	-328	127.660	69.257	5.222	941.597
147 +	28,58		0,37				3,7			5	5	-909	128.026	69.295	5.260	941.269
148 +	62,83											-395	128.940	69.300	5.265	940.360
148 + 6,39	60,68											-369	129.335	69.300	5.265	939.965
149 +	47,01											-733	130.068	69.300	5.265	939.232
149 + 12,42	12,39						19,2			24	24	-30	130.437	69.300	5.265	938.863
150 +	1,80		5,06				377,6			480	18	462	130.491	69.324	5.289	938.833
151 +			32,70				82,5			105		105	130.509	69.804	5.307	939.295
151 + 2,42			35,50				535,4			680		680	130.509	69.909	5.307	939.400

TRECHO 6 - São Paulo - Água Pretinha
Eixo

PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	1ª	Corte 2ª	3ª		Aterro	Aterro	Excedente	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
151 + 15,65				45,43				196,9		250	70,509	5,307	940,080	
152 +				45,09				149,0		189	130,509	5,307	940,330	
152 + 2,72				64,47				332,1		422	130,509	5,307	940,519	
152 + 8,87				43,54				48,9		62	130,509	5,307	940,941	
152 + 10,00				42,93				411,5		523	130,509	5,307	941,003	
153 +				39,36				372,1		473	130,509	5,307	941,526	
153 + 10,00				35,05				298,3		379	130,509	5,307	941,999	
153 + 18,87				32,22				36,2		46	130,509	5,307	942,378	
154 +				31,91				595,8		757	130,509	5,307	942,424	
155 +				27,67				587,9		747	130,509	5,307	943,181	
156 +				31,12				659,2		837	130,509	5,307	943,928	
157 +				34,80				721,4		916	130,509	5,307	944,765	
158 +				37,34				765,4		972	130,509	5,307	945,681	
159 +				39,20				760,5		966	130,509	5,307	946,653	
160 +				36,85				731,1		928	130,509	5,307	947,619	
161 +				36,26				731,5		929	130,509	5,307	948,547	
162 +				36,89				373,4		474	130,509	5,307	949,476	
162 + 10,00				37,79				356,7		453	130,509	5,307	949,950	
163 +				33,54				337,5		429	130,509	5,307	950,403	
163 + 10,00				33,96				345,7		439	130,509	5,307	950,832	

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Eixo

PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO					
	1ª	Corte 2ª	3ª		Aterro	Aterro	Excedente	Compensação Lateral	Aterro	Corte	Compensação Lateral	Aterro	Bruckner			
														1ª	2ª	3ª
164 +				35,17				672,7	854		854		130.509	81.780	5.307	951.271
165 +				32,10				288,2	366		366		130.509	82.634	5.307	952.125
165 + 9,28				30,02				298,8	380		380		130.509	83.000	5.307	952.491
166 +				25,73				34,3	44		44		130.509	83.380	5.307	952.871
166 + 1,35				25,02				278,2	353		353		130.509	83.424	5.307	952.915
166 + 13,41				21,11				135,8	172		172		130.509	83.777	5.307	953.268
167 +				20,09				186,3	237		237		130.509	83.949	5.307	953.440
167 + 10,00				17,16				171,0	217		217		130.509	84.186	5.307	953.677
168 +				17,04				58,6	74		74		130.509	84.403	5.307	953.894
168 + 3,41				17,32				288,4	366		366		130.509	84.477	5.307	953.968
169 +				17,45				128,9	164		164		130.509	84.843	5.307	954.334
169 + 8,00				14,77				185,1	235		235		130.509	85.007	5.307	954.498
170 +				16,08				372,0	472		472		130.509	85.242	5.307	954.733
170 + 18,00				25,25				51,4	65		65		130.509	85.714	5.307	955.205
171 +				26,15				68,0	86		86		130.509	85.779	5.307	955.270
171 + 2,55				27,21				128,0	163		163		130.509	85.865	5.307	955.356
171 + 7,11				28,95				397,8	505		505		130.509	86.028	5.307	955.519
172 +				32,78				334,1	424		424		130.509	86.533	5.307	956.024
172 + 10,00				34,03				249,5	317		317		130.509	86.957	5.307	956.448
172 + 17,11				36,15				104,0	132		132		130.509	87.274	5.307	956.765

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Eixo

PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO					
	1ª	2ª	3ª		Aterro	Excedente	Compensação Lateral	Aterro	Compensação Lateral	Corte	Aterro	Compensação Lateral	Bruckner			
														1ª	2ª	3ª
173 +				35,80				437,4		555			130.509	87.406	5.307	956.897
173 + 11,66				39,22				333,6		424			130.509	87.961	5.307	957.452
174 +				40,78				903,2		1.147			130.509	88.385	5.307	957.876
175 +				49,54				83,1		106			130.509	89.532	5.307	959.023
175 + 1,66				50,56				752,1		955			130.509	89.638	5.307	959.129
175 + 15,36				59,23				281,2		357			130.509	90.593	5.307	960.084
176 +				61,96				576,7		732			130.509	90.950	5.307	960.441
176 + 9,06				65,34				61,5		78			130.509	91.682	5.307	961.173
176 + 10,00				65,47				661,0		839			130.509	91.760	5.307	961.251
177 +				66,72				669,9		851			130.509	92.599	5.307	962.090
177 + 10,00				67,25				583,7		741			130.509	93.450	5.307	962.941
177 + 19,06				61,61				57,7		73			130.509	94.191	5.307	963.682
178 +				61,22				1.162,1		1.476			130.509	94.264	5.307	963.755
179 +				54,99				1.040,7		1.322			130.509	95.740	5.307	965.231
180 +				49,08				874,4		1.110			130.509	97.062	5.307	966.553
181 +				38,36				584,9		742			130.509	98.172	5.307	967.663
182 +		0,09		20,13				355,6		451			130.510	98.915	5.308	968.405
183 +				15,43				357,4		454			130.511	99.367	5.309	968.856
183 + 18,15				23,95				46,6		59			130.511	99.821	5.309	969.310
184 +				26,40				738,9		938			130.511	99.880	5.309	969.369

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Eixo

PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte		Aterro		1º	2º	3º	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1º	2º	3º											
185 +			47,49				1.100,8	1.398	1.398	130.511	100.818	5.309	970.307	
186 +			62,59				505,2	642	642	130.511	102.216	5.309	971.705	
186 + 8,15			61,38				698,4	887	887	130.511	102.858	5.309	972.347	
187 +			56,49				951,8	1.209	1.209	130.511	103.745	5.309	973.234	
188 +			38,69				8,5	11	11	130.511	104.954	5.309	974.443	
188 + 0,22			38,44				327,8	416	416	130.511	104.965	5.309	974.454	
188 + 10,00			28,59				242,3	308	308	130.511	105.381	5.309	974.870	
189 +			19,87				166,7	212	202	130.511	105.689	5.309	975.178	
189 + 10,00	1,95		13,47		10		30,4	39	34	130.521	105.901	5.319	975.360	
189 + 12,30	2,19		12,97		5		106,7	135	125	130.526	105.940	5.324	975.414	
190 +	0,52		14,74		10		168,0	213	210	130.536	106.075	5.334	975.539	
190 + 10,00			18,85		3		191,7	243	243	130.539	106.288	5.337	975.749	
191 +			19,49				411,3	522	522	130.539	106.531	5.337	975.992	
192 +			21,64				49,9	63	63	130.539	107.053	5.337	976.514	
192 + 2,30			21,72				13,5	17	17	130.539	107.116	5.337	976.577	
192 + 2,92			21,75				354,2	450	450	130.539	107.133	5.337	976.594	
193 +			19,72				228,2	290	283	130.539	107.563	5.337	977.044	
193 + 12,92	1,11		15,61		7		108,3	138	129	130.546	107.873	5.344	977.327	
194 +	1,46		14,98		9		47,2	60	55	130.555	108.011	5.353	977.456	
194 + 3,19	1,57		14,63		5		142,0	180	156	130.560	108.071	5.358	977.511	

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Eixo

PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte		Aterro		Aterro	Excedente	Compensação Lateral	Aterro	Corte	Compensação Lateral	Aterro	Corte	Compensação Lateral	Bruckner
	1ª	2ª	3ª											
194 + 13,46	3,06		13,03	3,27	87,7	17	111	17	94	130,584	108,251	5,382	977,667	
195 +	2,24		13,80	5,00	147,6	11	187	11	176	130,601	108,362	5,399	977,761	
195 + 10,00			15,72	5,00	160,4		204		204	130,612	108,549	5,410	977,937	
196 +			16,35	1,73	56,9		72		72	130,612	108,753	5,410	978,141	
196 + 3,46			16,52							130,612	108,825	5,410	978,213	
197 +			17,68	8,27	282,8		359		359	130,612	109,184	5,410	978,572	
198 +			17,88	10,00	355,6		452		452	130,612	109,636	5,410	979,024	
198 + 4,89			17,57	2,45	86,7		110		110	130,612	109,746	5,410	979,134	
199 +			17,98	7,56	268,6		341		341	130,612	110,087	5,410	979,475	
200 +	0,35		16,29	10,00	342,7	4	435	4	431	130,616	110,522	5,414	979,906	
200 + 0,35	0,38		16,35	0,18	5,7		7		7	130,616	110,529	5,414	979,913	
200 + 10,00	0,25		16,27	4,83	157,4	3	200	3	197	130,619	110,729	5,417	980,110	
201 +	0,36		17,23	5,00	167,5	3	213	3	210	130,622	110,942	5,420	980,320	
201 + 10,00	0,60		18,11	5,00	176,7	5	224	5	219	130,627	111,166	5,425	980,539	
201 + 15,81	0,76		17,32	2,91	102,9	4	131	4	127	130,631	111,297	5,429	980,666	
202 +	0,97		16,78	2,10	71,4	4	91	4	87	130,635	111,388	5,433	980,753	
202 + 10,00	0,03		17,15	5,00	169,7	5	215	5	210	130,640	111,603	5,438	980,963	
203 +			17,28	5,00	172,2		219		219	130,640	111,822	5,438	981,182	
203 + 10,69			17,25	5,35	184,6		234		234	130,640	112,056	5,438	981,416	
204 +			19,06	4,66	169,0		215		215	130,640	112,271	5,438	981,631	
				10,00	456,1		579		579					

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PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO				
	Corte		Aterro		Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner				
	1ª	2ª	3ª												
205 +			26,55					244,7	311		311	130.640	112.850	5.438	982.210
205 + 10,00			22,39					169,0	215		215	130.640	113.161	5.438	982.521
205 + 17,73			21,33					48,1	61		61	130.640	113.376	5.438	982.736
206 +			21,04					202,1	257		257	130.640	113.437	5.438	982.797
206 + 10,00			19,38					184,1	234		234	130.640	113.694	5.438	983.054
207 +			17,44					164,9	209		209	130.640	113.928	5.438	983.288
207 + 10,00			15,54					139,5	177		177	130.640	114.137	5.438	983.497
208 +			12,36					50,1	64		64	130.640	114.314	5.438	983.674
208 + 4,76	0,11		8,70									130.640	114.378	5.438	983.738
208 + 4,76	0,11		8,70					43,9	56	2	54	130.640	114.378	5.438	983.738
208 + 10,00	0,76		8,04		2			71,4	91	14	77	130.642	114.434	5.440	983.792
209 +			6,23					50,6	64	30	34	130.656	114.525	5.454	983.869
209 + 10,00	4,05		3,88					31,3	40	40	-41	130.686	114.589	5.484	983.903
210 +			2,38					16,3	21	21	-84	130.767	114.629	5.524	983.862
210 + 7,94	14,32		1,73		105			3,8	5	5	-24	130.872	114.650	5.545	983.778
210 + 10,00	13,65		2,00		29			30,3	38	38	-67	130.901	114.655	5.550	983.754
211 +			4,06					54,7	69	46	23	131.006	114.693	5.568	983.667
211 + 10,00	1,83		6,87					91,3	116	9	107	131.052	114.762	5.634	983.710
212 +			11,39					122,2	155		155	131.061	114.878	5.643	983.817
212 + 10,00			13,05					14,5	18	18	18	131.061	115.033	5.643	983.972

TRECHO 6 - São Paulo - Água Pretinha
Eixo

PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO							
	1ª	2ª	3ª		Aterro	1ª	2ª	3ª	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner			
212 + 11,12				12,91				109,1				139			131,061	115,051	5,643	983,990
213 +				11,67				40,1				51			131,061	115,190	5,643	984,129
213 + 3,32				12,49				78,9				100			131,061	115,241	5,643	984,180
213 + 10,00				11,12				112,2				142			131,061	115,341	5,643	984,280
214 +				11,32				37,9				48			131,061	115,483	5,643	984,422
214 + 3,28				11,79				183,8				233			131,061	115,531	5,643	984,470
215 +				10,20				33,6				43			131,061	115,764	5,643	984,703
215 + 3,24				10,57				92,3				117			131,061	115,807	5,643	984,746
215 + 10,00				16,73				130,5				166			131,061	115,924	5,643	984,863
216 +				9,36				93,6				119	119		131,061	116,090	5,643	985,029
217 +															131,194	116,209	5,762	985,015
218 +															131,764	116,209	5,762	984,445
219 +															132,641	116,209	5,762	983,568
220 +															133,159	116,233	5,786	983,074
221 +															133,237	116,480	5,864	983,243
221 + 9,21															133,237	116,723	5,864	983,486
222 +															133,237	117,059	5,864	983,822
222 + 9,19															133,237	117,341	5,864	984,104
223 +															133,237	117,732	5,864	984,495
223 + 9,17															133,237	118,075	5,864	984,838

TRECHO 6 - São Paulo - Água Pretinha
Eixo

PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO					
	Corte		Aterro		Aterro	Excedente	Compensação Lateral	Aterro	Corte	Compensação Lateral	Aterro	Bruckner				
	1ª	2ª											3ª			
223 + 10,00			24,81	5,00			208,9			265	14	251	133.237	118.101	5.864	984.864
224 +	2,87		16,97	5,00	92		134,3		78	170	92		133.251	118.366	5.878	985.115
224 + 10,00	15,48		9,88	5,00	197		73,8		-103	94	94		133.343	118.536	5.970	985.193
225 +	23,91		4,88	3,77	190		38,0		-142	48	48		133.540	118.630	6.064	985.090
225 + 7,54	26,42		5,21	6,23	339		91,9		-222	117	117		133.730	118.678	6.112	984.948
226 +	27,98		9,54	10,00	496		222,2		-214	282	282		134.069	118.795	6.229	984.726
227 +	21,58		12,68	5,00	219		132,6		-51	168	168		134.565	119.077	6.511	984.512
227 + 10,00	22,17		13,83	1,93	85		53,2		-17	68	68		134.784	119.245	6.679	984.461
227 + 13,86	22,09		13,75	3,07	141		80,7		-38	103	103		134.869	119.313	6.747	984.444
228 +	23,72		12,55	5,00	280		117,2		-131	149	149		135.010	119.416	6.850	984.406
228 + 10,00	32,27		10,88	5,00	362		97,8		-238	124	124		135.290	119.565	6.999	984.275
229 +	40,04		8,68	5,00	460		72,4		-368	92	92		135.652	119.689	7.123	984.037
229 + 10,00	51,91		5,79	5,00	514		39,6		-464	50	50		136.112	119.781	7.215	983.669
230 +	50,80		2,12	0,10	10		0,4		-9	1	1		136.626	119.831	7.265	983.205
230 + 0,19	50,67		2,05	4,91	466		10,1		-453	13	13		136.636	119.832	7.266	983.196
230 + 10,00	44,43			1,09	90				-90				137.102	119.845	7.279	982.743
230 + 12,17	38,39												137.192	119.845	7.279	982.653



3.2 – VOLUMES DE TERRAPLENAGEM - INTERSEÇÃO

TRECHO 6 - São Paulo - Água Pretinha

Interseção Água Pretinha (interconexão com os Trechos 03, 05 e 06)

PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

RAMO 200	ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO				
		Corte				Aterro	Aterro	Excedente	Corte	Compensação Lateral	Aterro	Compensação Lateral	Bruckner			
		1ª	2ª	3ª										1ª	2ª	3ª
	200 +	14,22			5,00	127			0,1		-127					1.000.000
	200 + 10,00	11,18			5,00	74			0,6	1	-73		127			999.873
	201 +	3,56			5,00	22			10,5	13	-9		201	1		999.800
	201 + 10,00	0,75			5,00	4			127,5	162	158		223	14	14	999.791
	202 +				5,00	23,50			246,8	313	313		227	176	18	999.949
	202 + 10,00				5,00	25,85			291,7	370	370		227	489	18	1.000.262
	203 +				5,00	32,49			253,7	322	322		227	859	18	1.000.632
	203 + 10,00				5,00	18,25			41,2	52	52		227	1.181	18	1.000.954
	203 + 12,30				1,15	17,56			128,1	163	163		227	1.233	18	1.001.006
	204 +				3,85	15,72			7,2	9	9		227	1.396	18	1.001.169
	204 + 0,46				0,23	15,62			89,0	113	113		227	1.405	18	1.001.178
	204 + 6,76				3,16	12,54			47,0	60	60		227	1.518	18	1.001.291
	204 + 10,74				1,98	11,20			62,9	80	80		227	1.578	18	1.001.351
	204 + 16,49				2,88	10,69							227	1.658	18	1.001.431

TRECHO 6 - São Paulo - Água Pretinha

Interseção Água Pretinha (interconexão com os Trechos 03, 05 e 06)

PROJETO DE TERRAPLENAGEM
CÁLCULO DE VOLUMES

RAMO 300	ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
		Corte				Aterro	Aterro	Excedente	Corte	Compensação Lateral	Aterro	Compensação Lateral	Bruckner		
		1ª	2ª	3ª											
	300 +			14,59				147,8	188	188					1.000.000
	300 + 10,00			14,96	5,00			164,6	209	209			188		1.000.188
	301 +			17,95	5,00			206,5	262	262			397		1.000.397
	301 + 10,00			23,35	5,00			235,5	299	299			659		1.000.659
	302 +			23,75	5,00			234,0	297	297			958		1.000.958
	302 + 10,00			23,05	5,00			106,9	136	136			1.255		1.001.255
	302 + 14,61			23,31	2,31			126,0	160	160			1.391		1.001.391
	303 +			23,45	2,70			230,4	293	293			1.551		1.001.551
	303 + 10,00			22,63	5,00			222,3	282	282			1.844		1.001.844
	304 +			21,82	5,00			115,6	147	147			2.126		1.002.126
	304 + 5,40			20,98	2,70			293,3	373	373			2.273		1.002.273
	305 +			19,20	7,30			41,2	52	52			2.646		1.002.646
	305 + 2,16			18,91	1,08			189,7	241	241			2.698		1.002.698
	305 + 10,00			29,49	3,92			229,8	292	292			2.939		1.002.939
	306 +			16,46	5,00			140,4	178	178			3.231		1.003.231
	306 + 10,00			11,62	5,00			101,4	129	129			3.409		1.003.409
	307 +			8,66	5,00			59,3	75	75			3.538		1.003.538
	307 + 7,85			6,45	3,93								3.613		1.003.613



4.0 – NOTAS DE SERVIÇO



***4.1 – NOTAS DE SERVIÇO DE TERRAPLENAGEM
RODOVIA***

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		Distância (m)	Cota (m)	OFFSET	OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)				Distância (m)	Cota (m)	
0+0,000		-5,234	20,362	5,100	19,843	-3,000	19,996	20,381	-0,385	5,100	19,843	-3,000	5,354	20,483		
1+0,000		-5,274	20,411	5,160	19,911	-3,000	20,066	20,403	-0,337	5,160	19,911	-3,000	5,176	20,286		
2+0,000		-5,432	20,313	5,220	20,069	-1,280	20,136	20,403	-0,267	5,220	19,980	-3,000	5,448	20,593		
3+0,000		-5,663	20,482	5,280	20,353	2,610	20,215	20,498	-0,283	5,280	20,057	-3,000	5,376	20,538		
3+11,268	PC	-5,986	20,582	5,500	20,521	4,610	20,268	20,579	-0,311	5,500	20,014	-4,610	5,767	20,666		
4+0,000		-6,491	20,518	5,670	20,680	6,500	20,312	20,623	-0,311	5,670	19,943	-6,500	6,163	20,822		
4+5,041		-5,859	20,610	5,133	20,709	7,200	20,339	20,671	-0,332	6,072	19,902	-7,200	6,461	20,676		
4+10,000		-5,570	20,647	4,931	20,688	6,520	20,367	20,695	-0,328	6,171	19,965	-6,520	6,692	20,871		
4+18,813	PT	-5,393	20,761	5,359	20,342	-1,450	20,419	20,845	-0,426	5,623	20,160	-4,610	5,982	20,904		
5+0,000		-5,585	20,850	5,480	20,360	-1,210	20,427	20,860	-0,433	5,480	20,185	-4,400	5,814	20,905		
5+17,398	PC	-5,275	21,030	5,239	20,646	2,010	20,541	21,010	-0,469	5,230	20,384	-3,000	5,355	20,894		
6+0,000		-5,333	21,032	5,250	20,702	2,710	20,559	21,032	-0,473	5,250	20,402	-3,000	5,387	20,923		
6+9,094		-5,183	21,114	5,078	20,798	3,400	20,626	21,112	-0,486	5,409	20,442	-3,400	5,650	21,067		
6+10,000		-5,094	21,178	5,077	20,805	3,400	20,632	21,120	-0,488	5,410	20,448	-3,400	5,675	21,099		
7+0,000		-5,335	21,306	5,240	20,826	2,220	20,710	21,209	-0,499	5,240	20,556	-2,940	5,514	21,215		
7+0,789	PT	-5,416	21,392	5,230	20,821	2,010	20,716	21,216	-0,500	5,230	20,570	-2,780	5,479	21,204		
8+0,000		-5,403	21,464	5,113	20,789	-1,580	20,869	21,369	-0,500	5,113	20,869	0,000	5,130	21,272		
8+2,046	PC	-5,486	21,504	5,100	20,732	-3,000	20,886	21,384	-0,498	5,100	20,885	0,000	5,100	21,270		
8+10,000		-5,614	21,629	5,164	20,794	-3,000	20,949	21,441	-0,492	5,036	21,100	3,000	5,351	21,275		
8+10,041		-5,614	21,630	5,164	20,794	-3,000	20,949	21,442	-0,493	5,036	21,100	3,000	5,350	21,276		
8+18,037	PT	-5,720	21,865	5,100	20,860	-3,000	21,013	21,492	-0,479	5,100	21,013	0,000	5,164	21,356		
9+0,000		-5,670	21,830	5,100	20,876	-3,000	21,029	21,505	-0,476	5,100	21,029	0,000	5,226	21,329		
10+0,000		-5,456	21,776	5,100	21,035	-3,000	21,188	21,604	-0,416	5,100	21,039	-2,930	5,118	21,442		
11+0,000		-6,158	22,637	5,100	21,194	-3,000	21,347	21,599	-0,252	5,100	21,194	-3,000	5,100	21,580		
12+0,000		-6,499	23,120	5,100	21,336	-3,000	21,489	21,735	-0,246	5,100	21,336	-3,000	5,199	21,820		
13+0,000		-6,093	22,819	5,100	21,441	-3,000	21,594	21,812	-0,218	5,100	21,441	-3,000	5,100	21,830		
14+0,000		-5,534	22,362	5,100	21,542	-2,360	21,663	21,815	-0,152	5,100	21,509	-3,000	5,733	21,473		
14+10,646	TS	-5,422	21,855	5,100	21,684	0,000	21,684	21,755	-0,071	5,100	21,531	-3,000	5,737	21,492		
15+0,000		-5,731	21,820	5,230	21,769	1,420	21,695	21,720	-0,025	5,230	21,538	-3,000	6,350	21,176		
16+0,000		-6,340	21,763	5,489	21,945	4,610	21,691	21,480	0,211	5,491	21,438	-4,610	6,858	20,911		
16+0,646	SC	-5,745	21,747	5,500	21,525	-3,000	21,691	21,463	0,228	5,500	21,525	-3,000	7,039	20,885		
16+10,000		-6,250	21,578	5,181	21,906	4,440	21,676	21,168	0,508	5,805	21,418	-4,440	7,404	20,737		
16+19,476		-7,047	21,227	5,466	21,895	4,440	21,653	20,899	0,754	5,532	21,407	-4,440	7,238	20,655		
17+0,000		-7,108	21,208	5,500	21,895	4,440	21,651	20,876	0,775	5,500	21,407	-4,440	7,218	20,647		
17+10,000		-7,070	20,955	5,149	21,851	4,440	21,622	20,450	1,172	5,816	21,364	-4,440	7,729	20,473		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito			
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	BORDO	OFFSET	Distância (m)	Cota (m)
		Distância (m)	Cota (m)	Distância (m)	Cota (m)									
17+18,305	CS	-6,986	20,758	-5,376	21,446	-3,000	21,607	20,305	1,302	5,583	21,440	-3,000	8,163	20,105
18+0,000		-7,792	20,718	-5,479	21,875	4,900	21,607	20,272	1,335	5,481	21,338	-4,900	8,024	20,028
19+0,000		-8,230	20,091	-5,210	21,719	1,220	21,656	20,130	1,526	5,210	21,500	-3,000	8,963	19,383
19+8,305	ST	-8,808	19,621	-5,100	21,708	0,000	21,708	20,038	1,670	5,100	21,555	-3,000	9,058	19,302
20+0,000		-7,951	20,170	-5,107	21,681	-2,590	21,814	20,116	1,698	5,107	21,660	-3,000	9,169	19,338
21+0,000		-7,696	20,592	-5,119	21,925	-3,000	22,079	20,279	1,800	5,119	21,925	-3,000	9,356	19,485
22+0,000		-7,643	21,008	-5,130	22,297	-3,000	22,451	20,602	1,849	5,130	22,297	-3,000	9,181	19,982
23+0,000		-6,742	22,083	-5,142	22,764	-3,000	22,918	22,090	0,828	5,142	22,764	-3,000	7,354	21,674
24+0,000		-5,615	23,351	-5,154	23,274	-3,000	23,428	23,339	0,089	5,154	23,274	-3,000	6,465	22,785
25+0,000		-5,558	24,620	-5,165	23,842	-3,000	23,998	24,437	-0,439	5,165	23,842	-3,000	6,073	23,623
26+0,000		-6,267	25,945	-5,177	24,470	-3,000	24,626	25,577	-0,951	5,177	24,470	-3,000	5,558	24,602
27+0,000		-6,601	26,954	-5,189	25,157	-3,000	25,313	26,796	-1,483	5,189	25,157	-3,000	5,572	25,286
28+0,000		-9,078	30,165	-5,201	25,903	-3,000	26,059	27,588	-1,529	5,201	25,903	-3,000	6,304	25,552
29+0,000		-8,484	30,364	-5,212	26,707	-3,000	26,864	27,769	-0,905	5,212	26,707	-3,000	7,528	25,549
30+0,000		-6,794	29,663	-5,224	27,708	0,180	27,698	28,085	-0,387	5,224	27,542	-3,000	8,490	25,750
30+10,000		-6,794	30,080	-5,224	28,125	0,180	28,116	28,251	-0,135	5,224	27,959	-3,000	8,490	26,167
30+10,297	PC	-6,167	29,555	-5,230	28,233	2,010	28,128	28,256	-0,128	5,230	27,971	-3,000	8,513	26,167
31+0,000		-5,985	29,803	-5,280	28,712	3,400	28,533	28,398	0,135	5,280	28,353	-3,400	8,689	26,466
31+8,109		-5,546	29,858	-5,109	29,036	3,400	28,862	28,593	0,269	5,431	28,677	-3,400	9,264	26,507
31+10,000		-5,619	30,011	-5,102	29,109	3,400	28,936	28,652	0,284	5,435	28,751	-3,400	9,422	26,478
32+0,000		-6,773	31,387	-5,260	29,489	3,400	29,311	28,955	0,356	5,260	29,132	-3,400	10,082	26,302
32+5,921	PT	-7,343	32,122	-5,230	29,624	2,010	29,519	29,205	0,314	5,230	29,362	-3,000	10,379	26,314
32+10,000		-7,814	32,698	-5,225	29,724	1,290	29,657	29,491	0,166	5,225	29,500	-3,000	10,133	26,613
33+0,000		-10,069	35,188	-5,212	29,946	-0,550	29,974	30,183	-0,209	5,212	29,818	-3,000	8,241	28,184
34+0,000		-14,893	40,459	-5,187	30,368	-3,000	30,524	32,499	-1,975	5,187	30,368	-3,000	6,628	32,194
34+10,000		-23,396	46,117	-5,175	30,601	-3,000	30,756	33,619	-2,863	5,175	30,601	-3,000	7,263	33,074
35+0,000		-26,410	49,347	-5,162	30,805	-3,000	30,960	35,242	-4,282	5,162	30,805	-3,000	7,823	33,850
35+10,000		-34,077	54,113	-5,150	30,980	-3,000	31,135	35,786	-4,651	5,150	30,980	-3,000	7,953	34,169
36+0,000		-36,548	56,743	-5,137	31,127	-3,000	31,282	36,053	-4,771	5,137	31,127	-3,000	7,962	34,336
36+10,000		-37,631	57,957	-5,125	31,246	-3,000	31,400	36,305	-4,905	5,125	31,246	-3,000	7,635	34,141
37+0,000		-38,843	59,271	-5,113	31,336	-3,000	31,489	36,433	-4,944	5,113	31,376	-2,220	7,718	34,367
38+0,000		-39,054	59,149	-5,527	31,417	-3,000	31,583	38,703	-7,120	4,933	31,659	1,540	6,912	34,023
39+0,000		-36,183	56,206	-5,501	31,319	-4,440	31,563	37,624	-6,061	5,499	31,807	4,440	6,806	33,500
39+0,014	SC	-36,030	56,133	-5,500	31,398	-3,000	31,563	37,623	-6,060	5,500	31,398	-3,000	7,214	33,497
40+0,000		-35,285	55,175	-5,500	31,185	-4,440	31,429	36,886	-5,457	5,500	31,673	4,440	6,688	33,247

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito				
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	Distância (m)	Cota (m)	OFFSET	Distância (m)	Cota (m)
		Distância (m)	Cota (m)	Distância (m)	Cota (m)										
40+10,000		-28,432	51,302	-5,500	31,075	-4,440	31,319	35,302	-3,983	5,500	31,563	4,440	6,702	33,150	
41+0,000		-28,189	50,921	-5,500	30,937	-4,440	31,181	34,684	-3,503	5,500	31,425	4,440	6,765	33,076	
41+10,000		-28,115	50,695	-5,500	30,784	-4,440	31,029	35,220	-4,191	5,500	31,273	4,440	6,862	33,020	
41+11,867		-28,151	50,702	-5,500	30,756	-4,440	31,000	35,441	-4,441	5,500	31,244	4,440	6,882	33,011	
42+0,000		-27,790	50,217	-5,500	30,632	-4,440	30,876	36,490	-5,614	5,500	31,120	4,440	6,963	32,968	
42+10,000		-27,930	50,205	-5,500	30,479	-4,440	30,724	36,342	-5,618	5,500	30,968	4,440	6,882	32,734	
43+0,000		-28,498	50,620	-5,500	30,327	-4,440	30,571	36,572	-6,001	5,500	30,815	4,440	6,703	32,403	
44+0,000		-35,303	54,030	-5,500	30,022	-4,440	30,266	37,052	-6,786	5,500	30,510	4,440	6,088	31,483	
44+3,719	CS	-35,332	54,002	-5,500	29,965	-4,440	30,209	37,236	-7,027	5,500	30,453	4,440	5,923	31,262	
45+0,000		-35,338	54,066	-5,280	29,803	-3,000	29,961	38,475	-8,514	5,280	30,080	2,260	5,501	30,686	
45+13,719	ST	-34,528	53,232	-5,100	29,599	-3,000	29,752	39,422	-9,670	5,100	29,752	0,000	6,601	31,638	
46+0,000		-33,504	52,112	-5,100	29,503	-3,000	29,656	39,275	-9,619	5,100	29,585	-1,390	6,951	31,821	
47+0,000		-26,081	47,474	-5,100	29,198	-3,000	29,351	38,361	-9,010	5,100	29,198	-3,000	5,992	30,475	
48+0,000		-13,794	37,972	-5,100	28,893	-3,000	29,046	27,846	1,200	5,100	28,893	-3,000	8,995	26,681	
49+0,000		-10,250	25,552	-5,100	28,600	-3,000	28,753	26,276	2,477	5,100	28,600	-3,000	13,724	23,236	
49+12,633		-10,250	25,380	-5,100	28,428	-3,000	28,582	22,300	6,282	5,100	28,428	-3,000	13,724	23,064	
50+0,000		-12,869	23,538	-5,100	28,333	-3,000	28,486	26,056	2,430	5,100	28,333	-3,000	10,730	24,964	
51+0,000		-9,122	25,794	-5,100	28,090	-3,000	28,243	26,635	1,608	5,100	28,090	-3,000	5,585	28,151	
52+0,000		-5,245	28,402	-5,100	27,872	-3,000	28,025	28,952	-0,927	5,100	27,872	-3,000	7,536	30,693	
53+0,000		-8,704	25,661	-5,100	27,679	-3,000	27,832	26,402	1,430	5,100	27,666	-1,300	6,538	29,589	
53+17,672	TS	-12,498	22,983	-5,100	27,529	-3,000	27,682	23,611	4,071	5,100	27,529	-3,000	9,111	25,240	
54+0,000		-12,490	23,090	-5,290	27,505	-3,000	27,664	23,389	4,275	5,032	27,674	0,190	9,462	25,105	
54+15,557		-12,490	22,969	-5,290	27,384	-3,000	27,543	23,667	3,876	5,032	27,553	0,190	9,462	24,984	
55+0,000		-12,113	23,247	-5,699	27,138	-6,500	27,508	23,933	3,575	5,701	27,879	6,500	10,340	25,171	
55+7,672	SC	-11,656	23,524	-5,900	26,977	-8,000	27,449	24,389	3,060	5,900	27,921	8,000	9,883	25,650	
55+14,330		-10,857	24,005	-5,900	26,925	-8,000	27,397	25,636	1,761	6,835	27,944	8,000	9,990	26,225	
56+0,000		-10,166	24,422	-5,900	26,881	-8,000	27,353	25,874	1,479	6,788	27,896	8,000	7,625	29,117	
56+0,989	CS	-10,048	24,493	-5,900	26,873	-8,000	27,345	25,966	1,379	6,597	27,873	8,000	7,625	29,287	
57+0,000		-7,156	26,329	-5,390	27,122	-1,400	27,197	28,701	-1,504	5,390	27,428	4,290	8,761	31,185	
57+10,989	ST	-8,180	25,615	-5,359	27,111	0,000	27,112	28,472	-1,360	5,266	27,100	-0,210	7,493	29,712	
57+11,198	TS	-8,190	25,605	-5,355	27,110	0,000	27,110	28,500	-1,390	5,267	27,107	-0,060	7,465	29,690	
58+0,000		-7,615	25,971	-5,250	27,162	2,310	27,041	28,326	-1,285	5,250	26,920	-2,320	11,727	33,782	
59+0,000		-7,933	26,028	-5,580	27,212	5,850	26,886	29,388	-2,502	5,581	26,559	-5,850	14,303	35,666	
59+1,198	SC	-7,982	26,010	-5,600	27,212	6,000	26,876	29,515	-2,639	5,600	26,540	-6,000	14,366	35,692	
59+6,695		-7,733	25,965	-5,600	27,002	3,000	26,834	30,058	-3,224	5,600	26,582	-4,500	14,412	35,779	

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito				
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	Distância (m)	Cota (m)	OFFSET	Distância (m)	Cota (m)
		Distância (m)	Cota (m)	Distância (m)	Cota (m)										
59+10,000		-7,755	25,824	-5,600	26,875	1,200	26,808	30,191	-3,383	5,600	26,606	-3,600	14,515	35,907	
59+12,193	CS	-7,785	25,719	-5,600	26,791	0,000	26,791	30,259	-3,468	5,600	26,623	-3,000	14,614	36,022	
60+0,000		-8,481	25,367	-5,470	26,989	4,740	26,730	30,164	-3,434	5,470	26,462	-4,890	15,273	36,650	
61+0,000		-8,187	24,801	-5,076	26,490	-2,100	26,597	26,133	0,464	5,196	26,441	-3,000	22,028	40,568	
61+2,193	ST	-8,370	24,710	-5,100	26,505	-1,680	26,590	25,529	1,061	5,100	26,437	-3,000	21,853	40,485	
61+19,941	TS	-8,379	24,818	-5,100	26,619	0,000	26,619	25,377	1,242	5,100	26,466	-3,000	22,548	41,209	
62+0,000		-8,317	24,861	-5,099	26,621	0,030	26,619	25,378	1,241	5,100	26,466	-3,000	22,550	41,211	
63+0,000		-10,907	23,905	-5,499	27,125	5,550	26,820	25,756	1,064	5,501	26,515	-5,550	22,721	41,029	
63+9,941	SC	-11,099	24,191	-5,700	27,405	7,350	26,986	26,090	0,896	5,700	26,567	-7,350	22,946	41,109	
64+0,000		-8,078	26,418	-5,700	27,618	7,350	27,199	28,107	-0,908	5,700	26,780	-7,350	22,380	40,755	
64+10,000		-7,550	27,027	-5,700	27,874	7,350	27,456	32,047	-4,591	5,700	27,037	-7,350	21,743	40,374	
64+11,204		-7,421	27,146	-5,700	27,908	7,350	27,489	32,247	-4,758	5,700	27,070	-7,350	21,668	40,334	
65+0,000		-6,564	27,984	-5,700	28,175	7,350	27,757	32,930	-5,173	5,700	27,338	-7,350	20,948	39,880	
65+10,000		-5,914	28,763	-5,700	28,521	7,350	28,102	32,638	-4,536	5,700	27,683	-7,350	15,644	38,012	
65+12,467	CS	-6,087	28,739	-5,700	28,612	7,350	28,193	32,279	-4,086	5,700	27,774	-7,350	15,314	37,773	
66+0,000		-6,274	28,704	-5,549	28,802	5,990	28,470	29,512	-1,042	5,551	28,137	-5,990	14,002	36,973	
67+0,000		-6,345	28,783	-5,050	29,262	1,120	29,205	28,677	0,528	5,247	29,176	-0,570	10,643	34,957	
67+2,467	ST	-6,543	28,719	-5,100	29,296	0,000	29,296	28,964	0,332	5,100	29,292	-0,090	10,071	34,648	
67+9,911	TS	-6,998	28,689	-5,100	29,570	0,000	29,570	29,497	0,073	5,100	29,570	0,000	8,838	33,693	
68+0,000		-8,318	28,138	-5,300	29,765	-3,330	29,941	28,556	1,385	5,242	30,115	3,330	6,771	32,030	
68+19,911	SC	-10,441	27,506	-5,700	30,282	-6,870	30,673	28,262	2,411	5,700	31,065	6,870	10,039	28,557	
69+0,000		-10,440	27,510	-5,700	30,285	-6,870	30,677	28,264	2,413	5,700	31,068	6,870	10,057	28,549	
69+3,343		-10,437	27,635	-5,700	30,408	-6,870	30,800	28,319	2,481	5,700	31,191	6,870	10,758	28,204	
69+6,775	CS	-10,629	27,633	-5,700	30,534	-6,870	30,926	28,382	2,544	5,700	31,317	6,870	11,314	27,960	
69+10,000		-10,863	27,684	-5,796	30,677	-6,340	31,044	28,449	2,595	5,465	31,391	6,340	11,581	27,698	
69+19,013		-10,863	28,002	-5,796	30,995	-6,340	31,363	28,488	2,875	5,465	31,709	6,340	11,581	28,016	
70+0,000		-11,213	27,681	-5,440	31,144	-4,630	31,396	28,487	2,909	5,440	31,647	4,630	12,237	27,501	
70+16,775	ST	-11,136	28,273	-5,100	31,912	0,000	31,912	28,269	3,643	5,100	31,912	0,000	11,559	27,991	
71+0,000		-11,258	28,280	-5,100	32,000	0,000	32,001	28,349	3,652	5,100	32,000	0,000	11,615	28,042	
71+6,407	TS	-11,166	28,508	-5,100	32,167	0,000	32,167	28,405	3,762	5,100	32,140	-0,510	11,557	28,221	
72+0,000		-11,812	28,812	-5,370	32,721	4,600	32,474	29,126	3,348	5,370	32,227	-4,600	11,266	28,682	
72+16,407	SC	-11,604	29,646	-5,700	33,197	7,570	32,765	29,549	3,216	5,700	32,334	-7,570	11,477	28,867	
73+0,000		-11,191	29,973	-5,700	33,249	7,570	32,817	29,836	2,981	5,700	32,386	-7,570	11,968	28,592	
73+9,730		-9,841	30,993	-5,700	33,368	7,570	32,937	30,122	2,815	5,700	32,505	-7,570	11,106	29,287	
73+10,000		-9,820	31,010	-5,700	33,371	7,570	32,940	30,170	2,770	5,700	32,508	-7,570	11,062	29,319	

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo				Lado Direito			
		OFFSET		BORDO		Distância (m)	Cota (m)	Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		Distância (m)	Cota (m)	OFFSET
		Distância (m)	Cota (m)	Distância (m)	Cota (m)						(%)	(%)			
74+0,000		-9,315	31,436	-5,700	33,461	7,570	33,030	31,230	1,800	5,700	32,598	-7,570	9,860	30,210	
74+3,054	CS	-9,316	31,456	-5,700	33,482	7,570	33,050	30,787	2,263	5,700	32,619	-7,570	10,244	29,975	
75+0,000		-8,439	31,684	-5,359	33,352	4,500	33,111	30,589	2,522	5,361	32,870	-4,500	10,729	29,676	
75+13,054	ST	-11,000	29,546	-5,100	33,095	0,000	33,095	28,537	4,558	5,100	32,942	-3,000	11,371	29,146	
76+0,000		-12,189	28,736	-5,100	33,077	0,000	33,078	28,276	4,802	5,100	32,924	-3,000	12,943	28,081	
77+0,000		-12,258	28,488	-5,100	32,875	-3,000	33,028	29,026	4,002	5,100	32,875	-3,000	12,114	28,584	
78+0,000		-11,535	28,920	-5,100	32,825	-3,000	32,978	29,005	3,973	5,100	32,825	-3,000	11,706	28,806	
79+0,000		-11,984	28,571	-5,100	32,776	-3,000	32,929	29,016	3,913	5,100	32,776	-3,000	12,082	28,506	
80+0,000		-11,819	28,632	-5,100	32,726	-3,000	32,879	29,286	3,593	5,100	32,726	-3,000	11,921	28,563	
81+0,000		-11,334	28,905	-5,100	32,676	-3,000	32,829	29,382	3,447	5,100	32,676	-3,000	11,510	28,788	
82+0,000		-10,248	29,579	-5,100	32,627	-3,000	32,780	29,499	3,281	5,100	32,627	-3,000	10,840	29,185	
83+0,000		-10,227	29,544	-5,100	32,577	-3,000	32,730	29,494	3,236	5,100	32,577	-3,000	11,000	29,029	
83+14,398	TS	-9,988	29,668	-5,100	32,541	-3,000	32,694	29,618	3,076	5,100	32,694	0,000	10,985	29,156	
84+0,000		-10,031	29,708	-5,230	32,524	-3,000	32,681	29,672	3,009	5,057	32,540	-2,780	10,717	29,151	
85+0,000		-10,827	29,172	-5,300	32,472	-3,000	32,631	29,837	2,794	5,300	32,688	1,080	9,611	30,199	
86+0,000		-9,884	29,753	-5,470	32,310	-4,950	32,581	29,853	2,728	5,470	32,852	4,950	10,741	29,723	
86+4,398	SC	-9,898	29,758	-5,500	32,305	-4,830	32,570	29,848	2,722	5,500	32,836	4,830	10,768	29,709	
86+19,865		-9,348	30,136	-5,500	32,317	-3,920	32,532	30,039	2,493	5,500	32,732	3,640	10,305	29,914	
87+0,000		-9,342	30,140	-5,500	32,317	-3,910	32,532	30,042	2,490	5,500	32,731	3,630	10,298	29,918	
87+10,000		-8,391	30,792	-5,500	32,334	-3,320	32,516	30,306	2,210	5,500	32,674	2,860	9,768	30,214	
87+15,332	CS	-8,193	30,941	-5,500	32,351	-3,000	32,516	30,477	2,039	5,500	32,651	2,450	9,718	30,224	
88+0,000		-8,061	30,910	-5,470	32,253	-4,900	32,521	30,711	1,810	5,470	32,788	4,900	9,942	30,192	
89+0,000		-8,136	30,922	-5,300	32,427	-3,000	32,586	30,841	1,745	5,300	32,537	-0,940	9,405	30,185	
90+0,000		-7,813	31,231	-5,223	32,572	-3,000	32,729	30,455	2,274	5,061	32,577	-3,000	9,333	30,114	
90+5,332	ST	-7,662	31,304	-5,100	32,627	-3,000	32,780	30,406	2,374	5,100	32,627	-3,000	9,443	30,117	
91+0,000		-8,061	31,207	-5,100	32,796	-3,000	32,949	30,306	2,643	5,100	32,796	-3,000	9,629	30,161	
92+0,000		-8,461	31,199	-5,100	33,054	-3,000	33,207	30,472	2,735	5,100	33,054	-3,000	9,538	30,481	
93+0,000		-8,549	31,398	-5,100	33,312	-3,000	33,465	31,035	2,430	5,100	33,465	0,000	9,278	31,065	
93+0,083	TS	-8,550	31,398	-5,100	33,313	-3,000	33,466	31,036	2,430	5,100	33,466	0,000	9,276	31,067	
94+0,000		-8,561	31,769	-5,430	33,471	-4,640	33,723	31,812	1,911	5,430	33,975	4,640	8,782	32,126	
94+10,083	SC	-8,219	32,157	-5,600	33,517	-6,000	33,854	32,477	1,377	5,600	34,189	6,000	7,861	33,067	
94+17,492		-8,123	32,316	-5,600	33,613	-6,000	33,949	32,727	1,222	5,600	34,285	6,000	7,149	33,637	
95+0,000		-8,124	32,348	-5,600	33,645	-6,000	33,982	32,771	1,211	5,600	34,317	6,000	6,996	33,772	
95+4,900	CS	-8,577	32,109	-5,600	33,709	-6,000	34,045	32,840	1,205	5,600	34,381	6,000	6,789	33,973	
95+10,000		-8,683	32,206	-5,708	33,803	-5,380	34,111	32,889	1,222	5,312	34,396	5,380	6,354	34,087	

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo				Lado Direito			
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET				
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)	(%)	
96+0,000		-8,872	32,080	-5,350	34,043	-3,670	34,240	1,242	32,998	5,349	34,436	3,670	6,165	34,278	
96+14,900	ST	-9,278	31,879	-5,100	34,279	-3,000	34,432	1,357	33,075	5,100	34,432	0,000	5,210	34,927	
97+0,000		-9,444	31,834	-5,100	34,345	-3,000	34,498	1,104	33,394	5,100	34,487	-0,210	6,126	35,898	
98+0,000		-8,661	32,723	-5,100	34,712	-0,870	34,756	-0,556	35,312	5,100	34,603	-3,000	9,790	39,678	
98+13,506	TS	-8,285	33,192	-5,100	34,930	0,000	34,930	-2,009	36,939	5,100	34,777	-3,000	12,418	42,479	
99+0,000		-8,058	33,441	-4,905	35,158	2,950	35,013	-2,849	37,862	5,545	34,847	-3,000	14,143	43,830	
100+0,000		-8,150	34,340	-5,629	35,635	6,540	35,267	-4,614	39,881	5,631	34,899	-6,540	21,160	47,722	
100+3,506	SC	-8,029	34,549	-5,700	35,717	7,110	35,311	-5,004	40,315	5,700	34,906	-7,110	21,567	48,069	
100+10,000		-7,603	34,915	-5,700	35,798	7,110	35,393	-5,523	40,916	5,700	34,988	-7,110	22,004	48,587	
100+12,090		-7,479	35,024	-5,700	35,825	7,110	35,419	-5,639	41,058	5,700	35,014	-7,110	21,984	48,593	
101+0,000		-7,177	35,324	-5,700	35,924	7,110	35,519	-5,176	40,695	5,700	35,113	-7,110	21,969	48,677	
101+0,674	CS	-7,153	35,349	-5,700	35,932	7,110	35,527	-5,140	40,667	5,700	35,122	-7,110	21,977	48,693	
102+0,000		-6,517	35,539	-5,297	35,968	3,780	35,767	-4,574	40,341	5,310	35,566	-3,780	21,481	49,033	
102+10,674	ST	-6,617	35,273	-5,100	35,899	0,000	35,899	-3,424	39,323	5,100	35,746	-3,000	20,031	47,972	
103+0,000		-7,998	34,478	-5,122	36,010	-0,060	36,013	-2,189	38,202	5,122	35,860	-3,000	13,556	44,679	
104+0,000		-10,551	32,900	-5,168	36,103	-3,000	36,258	2,820	33,438	5,168	36,103	-3,000	5,859	36,027	
104+12,364		-10,551	33,051	-5,168	36,254	-3,000	36,410	3,035	33,375	5,168	36,254	-3,000	5,859	36,179	
105+0,000		-8,856	34,463	-5,214	36,505	0,040	36,503	3,145	33,358	5,214	36,346	-3,000	11,617	32,463	
105+11,090	PC	-7,312	35,748	-5,240	36,744	2,010	36,639	2,379	34,260	5,240	36,481	-3,000	10,999	33,027	
106+0,000		-5,482	37,177	-5,280	36,927	3,400	36,748	1,623	35,125	5,280	36,568	-3,400	10,384	33,551	
106+10,000		-8,450	40,758	-5,122	37,044	3,400	36,870	-0,416	37,286	5,455	36,685	-3,400	10,404	33,770	
106+16,239		-9,779	42,093	-5,193	37,123	3,400	36,946	-1,658	38,604	5,397	36,763	-3,400	5,932	36,791	
107+0,000		-10,601	42,859	-5,300	37,173	3,400	36,992	-2,007	38,999	5,300	36,812	-3,400	5,369	37,266	
107+10,000		-10,958	43,555	-5,075	37,287	3,400	37,115	-2,334	39,449	5,455	36,929	-3,400	5,639	37,499	
108+0,000		-11,694	44,252	-5,188	37,361	2,380	37,237	-2,202	39,439	5,280	37,079	-3,000	6,471	36,670	
108+1,387	PT	-11,831	44,346	-5,230	37,359	2,010	37,254	-2,161	39,415	5,230	37,097	-3,000	6,935	36,346	
109+0,000		-12,587	45,173	-5,205	37,406	-1,460	37,482	-2,089	39,571	5,205	37,326	-3,000	8,856	35,277	
110+0,000		-14,528	47,305	-5,179	37,571	-3,000	37,727	-3,949	41,676	5,179	37,571	-3,000	5,352	38,130	
111+0,000		0,000	0,000	-5,153	37,817	-3,000	37,971	-5,469	43,440	5,153	37,817	-3,000	6,412	39,461	
112+0,000		-21,241	51,472	-5,126	38,062	-3,000	38,216	-5,437	43,653	5,126	38,062	-3,000	6,861	40,182	
112+19,816	TS	-10,141	43,885	-5,100	38,459	0,000	38,459	0,314	38,145	5,100	38,306	-3,000	7,314	37,215	
113+0,000		-10,060	43,809	-5,099	38,463	0,040	38,461	0,350	38,111	5,106	38,308	-3,000	10,552	35,062	
114+0,000		-10,386	35,964	-5,366	38,926	4,100	38,706	3,391	35,315	5,370	38,485	-4,100	11,916	34,507	
114+9,816	SC	-12,480	34,839	-5,500	39,107	5,120	38,826	3,736	35,090	5,500	38,544	-5,120	12,016	34,585	
114+16,757		-12,730	34,757	-5,500	39,192	5,120	38,911	4,039	34,872	5,500	38,629	-5,120	12,098	34,615	

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		Distância (m)	Cota (m)	OFFSET	OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				(%)	Distância (m)				Cota (m)		
115+0,000		-12,853	34,715	-5,500	39,232	5,120	38,950	34,946	4,004	5,500	38,669	-5,120	12,144	34,624		
115+3,699	CS	-12,995	34,666	-5,500	39,277	5,120	38,996	35,029	3,967	5,500	38,714	-5,120	12,202	34,631		
115+12,003		-12,995	34,767	-5,500	39,379	5,120	39,097	35,141	3,956	5,500	38,816	-5,120	12,202	34,733		
116+0,000		-13,070	34,536	-5,280	39,345	2,830	39,195	35,174	4,021	5,280	39,037	-3,000	12,516	34,598		
116+13,699	ST	-12,652	34,713	-5,100	39,363	0,000	39,363	35,269	4,094	5,100	39,210	-3,000	12,131	34,907		
117+0,000		-12,828	34,621	-5,100	39,387	-1,030	39,440	35,366	4,074	5,100	39,287	-3,000	11,918	35,126		
118+0,000		-12,545	35,013	-5,100	39,592	-1,820	39,685	35,717	3,968	5,100	39,532	-3,000	9,918	36,705		
118+13,380	TS	-12,731	35,146	-5,100	39,848	0,000	39,848	36,169	3,679	5,100	39,695	-3,000	9,000	37,480		
119+0,000		-12,886	35,117	-4,961	40,015	1,730	39,929	36,337	3,592	5,453	39,766	-3,000	8,706	37,982		
120+0,000		-12,965	35,928	-5,539	40,493	5,590	40,184	37,441	2,743	5,541	39,874	-5,590	6,979	39,301		
120+3,380	SC	-12,996	36,019	-5,600	40,565	6,000	40,229	37,744	2,485	5,600	39,893	-6,000	6,585	39,622		
120+10,000		-12,612	36,365	-5,600	40,655	6,000	40,319	38,265	2,054	5,600	39,983	-6,000	6,155	39,998		
120+17,348		-12,102	36,807	-5,600	40,757	6,000	40,421	38,973	1,448	5,600	40,085	-6,000	5,705	40,400		
121+0,000		-11,940	36,952	-5,600	40,794	6,000	40,458	39,317	1,141	5,600	40,122	-6,000	5,661	40,568		
121+10,000		-11,365	37,480	-5,600	40,939	6,000	40,603	38,568	2,035	5,600	40,267	-6,000	6,183	40,263		
121+11,317	CS	-11,218	37,598	-5,600	40,958	6,000	40,622	38,493	2,129	5,600	40,286	-6,000	6,277	40,220		
122+0,000		-10,635	37,955	-5,460	41,020	4,910	40,752	38,008	2,744	5,459	40,484	-4,910	6,662	40,067		
123+0,000		-7,914	39,585	-5,089	41,083	0,340	41,066	38,594	2,472	5,155	40,911	-3,000	6,277	40,548		
123+1,317	ST	-7,807	39,667	-5,100	41,087	0,000	41,087	38,699	2,388	5,100	40,934	-3,000	6,125	40,636		
124+0,000		-5,730	41,218	-5,100	41,253	-2,850	41,399	40,192	1,207	5,100	41,246	-3,000	6,427	40,746		
124+5,278	TS	-5,144	41,693	-5,100	41,337	-3,000	41,490	40,829	0,661	5,100	41,490	0,000	6,318	41,063		
125+0,000		-7,063	43,104	-5,918	41,574	-3,000	41,752	42,616	-0,864	7,611	41,806	0,720	14,258	48,839		
126+0,000		-8,478	45,212	-5,523	41,872	-4,560	42,124	47,066	-4,942	9,527	42,559	4,560	18,380	51,798		
126+15,278	SC	-9,200	45,896	-5,700	42,011	-7,110	42,416	48,990	-6,574	9,700	43,106	7,110	24,689	55,390		
127+0,000		-9,521	46,307	-5,700	42,101	-7,110	42,507	49,516	-7,009	9,700	43,196	7,110	25,102	55,893		
127+10,000		-10,162	47,139	-5,700	42,293	-7,110	42,698	50,743	-8,045	9,700	43,388	7,110	25,737	56,720		
128+0,000		-10,740	47,909	-5,700	42,484	-7,110	42,889	51,474	-8,585	9,700	43,579	7,110	25,994	57,168		
128+5,476		-12,548	49,822	-5,700	42,588	-7,110	42,994	50,897	-7,903	9,700	43,683	7,110	26,550	57,828		
128+10,000		-13,144	50,504	-5,700	42,675	-7,110	43,080	51,259	-8,179	9,700	43,770	7,110	26,723	58,088		
129+0,000		-14,197	51,749	-5,700	42,866	-7,110	43,272	52,471	-9,199	9,700	43,961	7,110	26,869	58,425		
129+10,000		-14,786	52,517	-5,700	43,046	-7,110	43,452	52,569	-9,117	9,700	44,141	7,110	26,531	58,268		
129+15,675	CS	-15,149	52,973	-5,700	43,139	-7,110	43,545	52,637	-9,092	9,700	44,234	7,110	26,242	58,071		
130+0,000		-16,041	53,549	-6,097	43,220	-6,410	43,611	52,657	-9,046	9,178	44,199	6,410	25,442	57,758		
131+0,000		-18,895	54,482	-5,411	43,703	-3,000	43,865	53,505	-9,640	9,420	44,131	2,820	24,317	56,324		
132+0,000		-13,413	52,347	-5,326	43,875	-3,000	44,035	51,235	-7,200	9,009	44,035	0,000	18,187	53,598		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo				Lado Direito			
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		Distância (m)	Cota (m)	OFFSET	Distância (m)	Cota (m)
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				(%)	(%)					
132+5,675	ST	-13,542	52,741	-5,100	43,914	-3,000	44,067	50,567	-6,500	9,100	44,067	0,000	17,518	52,870	
133+0,000		-14,466	53,717	-5,100	43,966	-3,000	44,119	50,261	-6,142	9,100	43,846	-3,000	15,615	50,746	
134+0,000		-18,810	54,971	-5,100	43,965	-3,000	44,118	51,495	-7,377	9,100	43,845	-3,000	14,120	49,250	
135+0,000		-14,626	53,791	-5,100	43,880	-3,000	44,033	51,002	-6,969	9,100	43,760	-3,000	13,596	48,640	
135+13,487	TS	-13,781	52,993	-5,100	43,927	0,000	43,927	50,702	-6,775	9,100	43,654	-3,000	13,109	48,048	
136+0,000		-13,534	52,610	-5,075	43,766	-1,890	43,862	50,454	-6,592	9,204	43,586	-3,000	13,036	47,804	
137+0,000		-12,592	51,329	-5,259	43,611	0,100	43,606	48,447	-4,841	9,261	43,328	-3,000	12,901	47,353	
138+0,000		-11,155	49,592	-5,379	43,432	3,090	43,265	46,982	-3,717	9,381	42,975	-3,090	12,745	46,724	
138+3,487	SC	-10,861	49,214	-5,400	43,368	3,160	43,197	46,645	-3,448	9,400	42,900	-3,160	12,687	46,572	
138+10,000		-10,273	48,492	-5,400	43,234	3,160	43,063	45,994	-2,931	9,400	42,766	-3,160	12,521	46,272	
138+17,249		-9,611	47,670	-5,400	43,074	3,160	42,903	45,282	-2,379	9,400	42,606	-3,160	12,291	45,883	
139+0,000		-9,427	47,422	-5,400	43,010	3,160	42,840	45,004	-2,164	9,400	42,542	-3,160	12,218	45,746	
139+10,000		-8,170	45,932	-5,400	42,777	3,160	42,607	43,819	-1,212	9,400	42,309	-3,160	11,979	45,274	
139+11,010	CS	-8,041	45,780	-5,400	42,754	3,160	42,583	43,695	-1,112	9,400	42,286	-3,160	11,951	45,223	
140+0,000		-6,928	44,510	-5,337	42,534	2,880	42,380	42,562	-0,182	7,327	42,160	-3,000	9,053	44,272	
141+0,000		-5,493	42,109	-5,229	41,900	-0,960	41,950	41,244	0,706	5,230	41,793	-3,000	5,480	42,011	
142+0,000		-5,621	41,572	-5,100	41,534	-0,290	41,549	40,862	0,687	5,113	41,396	-3,000	7,616	40,112	
142+1,010	ST	-5,651	41,548	-5,100	41,530	0,000	41,530	40,843	0,687	5,100	41,377	-3,000	7,608	40,090	
142+13,989	TS	-5,791	41,211	-5,100	41,287	0,000	41,287	40,774	0,513	5,100	41,134	-3,000	7,593	39,857	
143+0,000		-5,685	41,041	-5,063	41,070	-2,150	41,179	40,569	0,610	5,210	41,022	-3,000	7,459	39,908	
144+0,000		-5,279	41,263	-5,260	40,859	0,390	40,838	40,229	0,609	5,260	40,680	-3,000	6,616	40,162	
145+0,000		-6,428	42,154	-5,378	40,719	3,570	40,527	39,933	0,594	5,382	40,335	-3,570	6,760	39,801	
145+3,989	SC	-6,383	42,046	-5,400	40,678	3,920	40,467	39,970	0,497	5,400	40,255	-3,920	6,867	39,662	
145+10,000		-6,837	42,409	-5,400	40,587	3,920	40,376	39,829	0,547	5,400	40,164	-3,920	6,961	39,508	
145+10,190		-6,867	42,437	-5,400	40,584	3,920	40,373	39,831	0,542	5,400	40,161	-3,920	6,962	39,505	
145+16,391	CS	-7,827	43,302	-5,400	40,490	3,920	40,279	39,756	0,523	5,400	40,067	-3,920	7,116	39,308	
146+0,000		-8,267	43,806	-5,259	40,413	3,600	40,224	39,770	0,454	5,261	40,034	-3,600	6,588	39,535	
147+0,000		-10,182	46,057	-4,451	39,941	0,460	39,921	40,154	-0,233	5,916	39,743	-3,000	6,444	39,777	
148+0,000		-11,509	46,538	-4,863	39,507	-2,280	39,618	42,785	-3,167	5,378	39,457	-3,000	7,555	42,019	
148+6,391	ST	-11,191	45,997	-5,100	39,521	0,000	39,521	41,868	-2,347	5,100	39,372	-2,930	7,495	42,152	
149+0,000		-9,889	44,336	-5,100	39,162	-3,000	39,315	41,091	-1,776	5,100	39,301	-0,280	6,531	41,117	
149+12,423	TS	-6,754	41,062	-5,100	39,023	-2,040	39,127	37,358	1,769	5,100	39,127	0,000	5,249	39,413	
150+0,000		-5,734	39,639	-5,300	38,820	-3,620	39,012	37,857	1,155	5,300	39,204	3,620	7,808	37,917	
151+0,000		-8,248	37,054	-5,842	38,273	-7,530	38,713	36,543	2,170	5,838	39,153	7,530	10,010	36,756	
151+2,423	SC	-8,514	36,852	-5,900	38,209	-8,000	38,681	36,694	1,987	5,900	39,153	8,000	10,178	36,687	

Estaca	Pontos Notáveis	Lado Esquerdo				Eixo			Lado Direito				
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	BORDO (%)	Distância (m)	OFFSET
		Distância (m)	Cota (m)	Distância (m)	Cota (m)								
151+15,648		-9,011	36,381	-5,900	38,070	38,542	36,655	1,887	5,900	39,014	8,000	11,346	35,768
152+0,000		-9,239	36,196	-5,900	38,037	38,509	36,745	1,764	5,900	38,981	8,000	10,782	36,111
152+2,718		-9,239	36,178	-5,900	38,019	38,491	35,777	2,714	5,900	38,963	8,000	10,782	36,094
152+8,873	CS	-9,419	36,027	-5,900	37,988	38,460	36,710	1,750	5,900	38,932	8,000	10,440	36,291
152+10,000		-9,479	36,032	-5,961	37,992	38,456	36,654	1,802	5,765	38,904	7,780	10,238	36,307
153+0,000		-9,180	36,109	-5,601	38,109	38,436	36,712	1,724	5,599	38,762	5,830	9,399	36,614
153+10,000		-9,299	36,155	-5,606	38,231	38,449	37,436	1,013	5,052	38,645	3,880	8,002	37,063
153+18,873	ST	-8,911	36,179	-5,100	38,335	38,488	42,722	-4,234	5,100	38,488	0,000	7,491	37,279
154+0,000		-8,901	36,192	-5,100	38,342	38,495	40,861	-2,366	5,100	38,495	0,000	7,471	37,299
155+0,000		-8,948	36,347	-5,100	38,528	38,681	43,129	-4,448	5,100	38,580	-1,980	7,404	37,429
156+0,000		-9,065	36,493	-5,100	38,751	38,904	45,134	-6,230	5,100	38,751	-3,000	7,910	37,263
157+0,000		-9,424	36,476	-5,100	38,974	39,127	44,066	-4,939	5,100	38,974	-3,000	8,512	37,084
158+0,000		-9,562	36,607	-5,100	39,197	39,350	42,311	-2,961	5,100	39,197	-3,000	8,950	37,015
159+0,000		-9,535	36,848	-5,100	39,420	39,573	41,298	-1,725	5,100	39,420	-3,000	8,860	37,298
160+0,000		-9,324	37,212	-5,100	39,643	39,796	40,265	-0,469	5,100	39,643	-3,000	8,760	37,588
161+0,000		-8,291	38,124	-5,100	39,866	40,019	39,483	0,536	5,100	39,866	-3,000	8,428	38,033
162+0,000		-9,041	37,847	-5,100	40,089	40,242	38,614	1,628	5,100	40,089	-3,000	9,578	37,489
162+10,000		-9,042	37,959	-5,100	40,201	40,354	0,000	40,354	5,100	40,201	-3,000	9,852	37,418
163+0,000		-9,008	38,093	-5,100	40,314	40,467	38,304	2,163	5,100	40,314	-3,000	9,455	37,795
163+10,000		-8,997	38,219	-5,100	40,432	40,579	38,323	2,256	5,100	40,426	-3,000	8,850	38,311
164+0,000		-8,916	38,533	-5,099	40,692	40,692	38,374	2,318	5,114	40,539	-3,000	8,734	38,511
165+0,000		-8,148	39,554	-5,300	41,068	40,919	38,440	2,479	5,300	40,760	-3,000	9,291	38,485
165+9,285	SC	-7,777	39,996	-5,400	41,195	41,025	38,722	2,303	5,400	40,854	-3,160	9,254	38,669
166+0,000		-7,042	40,532	-5,400	41,242	41,147	38,511	2,636	5,400	40,993	-2,850	8,918	39,033
166+1,350		-6,946	40,602	-5,400	41,248	41,162	38,880	2,282	5,400	41,011	-2,810	8,884	39,073
166+13,414	CS	-7,006	40,615	-5,400	41,300	41,301	40,598	0,703	5,400	41,168	-2,460	8,225	39,669
167+0,000		-7,008	40,769	-5,330	41,502	41,376	38,832	2,544	5,330	41,222	-2,890	8,065	39,784
167+10,000		-6,328	41,135	-5,109	41,563	41,491	39,610	1,881	5,353	41,330	-3,000	8,178	39,832
168+0,000		-6,465	41,047	-5,088	41,580	41,605	40,759	0,846	5,179	41,450	-3,000	8,258	39,782
168+3,414	ST	-6,519	41,025	-5,100	41,586	41,644	40,669	0,975	5,100	41,491	-3,000	8,272	39,762
169+0,000		-6,596	41,069	-5,100	41,681	41,834	40,702	1,132	5,100	41,711	-2,420	8,277	39,978
169+8,001	TS	-6,194	41,429	-5,100	41,773	41,926	40,830	1,096	5,100	41,926	0,000	8,542	40,017
170+0,000		-6,540	41,466	-5,306	41,904	42,064	40,721	1,343	5,053	42,025	-0,770	8,780	39,925
170+18,001	SC	-7,137	41,272	-5,300	42,111	42,270	41,005	1,265	5,300	42,429	3,000	9,973	39,699
171+0,000		-7,181	41,265	-5,300	42,134	42,293	41,206	1,087	5,300	42,452	3,000	10,044	39,674

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo				Lado Direito			
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	Cota (m)	Distância (m)	Cota (m)	OFFSET	
		Distância (m)	Cota (m)	Distância (m)	Cota (m)										(%)
171+2,553		-7,235	41,258	-5,300	42,163	-3,000	42,322	40,712	1,610	5,300	42,481	3,000	10,134	39,644	
171+7,105	CS	-7,333	41,245	-5,300	42,215	-3,000	42,374	40,524	1,850	5,300	42,533	3,000	10,294	39,589	
172+0,000		-7,353	41,313	-5,210	42,356	-3,000	42,513	40,795	1,718	5,210	42,525	0,240	10,067	39,672	
172+10,000		-7,261	41,435	-5,170	42,444	-3,000	42,599	40,577	2,022	5,122	42,511	-1,720	10,359	39,405	
172+17,105	ST	-7,305	41,412	-5,100	42,496	-3,000	42,649	40,283	2,366	5,100	42,649	0,000	10,653	39,332	
173+0,000		-7,365	41,410	-5,100	42,536	-2,580	42,667	40,452	2,215	5,100	42,525	-2,780	10,398	39,378	
173+11,657	TS	-7,571	41,460	-5,100	42,723	0,000	42,723	40,247	2,476	5,100	42,648	-1,460	10,902	39,165	
174+0,000		-7,724	41,519	-5,210	42,810	1,220	42,747	40,418	2,329	5,210	42,590	-3,000	11,317	38,904	
175+0,000		-8,808	41,185	-5,479	43,019	4,890	42,752	40,266	2,486	5,481	42,484	-4,890	11,778	38,670	
175+1,657	SC	-8,878	41,126	-5,500	42,993	4,440	42,749	39,883	2,866	5,500	42,504	-4,440	11,862	38,648	
175+15,358		-10,208	40,195	-5,500	42,948	4,440	42,704	39,162	3,542	5,500	42,460	-4,440	12,039	38,486	
176+0,000		-10,636	39,887	-5,500	42,926	4,440	42,681	40,012	2,669	5,500	42,437	-4,440	12,016	38,479	
176+9,059	CS	-11,252	39,420	-5,500	42,869	4,440	42,625	38,860	3,765	5,500	42,381	-4,440	11,988	38,440	
176+10,000		-11,293	39,370	-5,459	42,874	4,690	42,618	39,319	3,299	5,514	42,359	-4,690	11,978	38,435	
177+0,000		-11,690	38,870	-5,350	42,712	3,290	42,537	39,123	3,414	5,350	42,360	-3,290	11,958	38,340	
177+10,000		-11,415	38,696	-5,123	42,506	1,360	42,436	38,874	3,562	5,313	42,277	-3,000	11,494	38,541	
177+19,059	ST	-10,948	38,823	-5,100	42,336	0,000	42,336	38,760	3,576	5,100	42,183	-3,000	11,493	38,306	
178+0,000		-10,897	38,836	-5,100	42,315	-0,210	42,326	38,971	3,355	5,102	42,173	-3,000	11,481	38,305	
179+0,000		-9,750	39,236	-5,096	41,953	-3,000	42,106	38,753	3,353	5,142	41,952	-3,000	11,274	38,249	
180+0,000		-8,578	39,795	-5,092	41,734	-3,000	41,887	38,478	3,409	5,183	41,731	-3,000	11,311	38,030	
181+0,000		-7,633	40,203	-5,089	41,514	-3,000	41,667	38,602	3,065	5,223	41,510	-3,000	10,887	38,120	
182+0,000		-5,285	41,546	-5,085	41,294	-3,000	41,447	38,801	2,646	5,263	41,289	-3,000	9,550	38,816	
183+0,000		-5,437	41,223	-5,081	41,075	-3,000	41,227	39,984	1,243	5,304	41,068	-3,000	9,414	38,713	
183+18,147	TS	-6,402	40,530	-5,078	41,028	0,000	41,028	38,725	2,303	5,341	40,868	-3,000	9,849	38,247	
184+0,000		-6,564	40,375	-5,078	40,980	-0,540	41,008	40,488	0,520	5,344	40,847	-3,000	10,042	38,100	
185+0,000		-9,540	38,257	-5,229	40,746	-0,790	40,788	39,038	1,750	5,231	40,631	-3,000	11,043	37,141	
186+0,000		-10,890	37,417	-5,350	40,725	3,000	40,565	37,990	2,575	5,350	40,404	-3,000	11,391	36,761	
186+8,147	SC	-10,563	37,585	-5,400	40,642	3,160	40,471	36,889	3,582	5,400	40,301	-3,160	11,295	36,756	
187+0,000		-10,390	37,563	-5,400	40,504	3,160	40,334	37,219	3,115	5,400	40,163	-3,160	11,326	36,598	
188+0,000		-7,350	39,351	-5,400	40,267	3,160	40,096	37,028	3,068	5,400	39,925	-3,160	10,721	36,763	
188+0,225		-7,331	39,362	-5,400	40,264	3,160	40,093	37,380	2,713	5,400	39,923	-3,160	10,705	36,771	
188+10,000		-6,515	39,787	-5,400	40,145	3,160	39,974	37,372	2,602	5,400	39,804	-3,160	10,073	37,073	
189+0,000		-5,570	40,293	-5,400	40,021	3,160	39,851	37,374	2,477	5,400	39,680	-3,160	9,640	37,239	
189+10,000		-6,192	41,073	-5,400	39,896	3,160	39,726	37,974	1,752	5,400	39,555	-3,160	9,715	37,064	
189+12,303	CS	-6,292	41,144	-5,400	39,867	3,160	39,697	39,400	0,297	5,400	39,526	-3,160	9,803	36,976	

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)	(%)		
190+0,000		-5,671	40,466	-5,349	39,760	3,010	38,985	0,614	39,599	38,985	0,614	5,351	39,437	-3,010	9,856	36,819
190+10,000		-5,440	39,721	-5,144	39,533	1,210	39,580	-0,109	39,471	39,580	-0,109	5,433	39,308	-3,000	9,879	36,729
191+0,000		-5,561	39,469	-5,230	39,306	-0,710	39,068	0,275	39,343	39,068	0,275	5,230	39,186	-3,000	9,594	36,662
192+0,000		-5,854	39,054	-5,285	39,049	-0,720	38,084	1,003	39,087	38,084	1,003	5,264	39,053	-0,650	9,196	36,817
192+2,303	ST	-5,930	39,017	-5,310	39,045	-0,220	37,688	1,369	39,057	37,688	1,369	5,249	39,050	-0,140	9,172	36,820
192+2,920	TS	-5,950	39,007	-5,317	39,044	-0,090	37,621	1,428	39,049	37,621	1,428	5,245	39,049	0,000	9,169	36,819
193+0,000		-5,721	38,789	-5,320	38,671	-3,000	37,657	1,174	38,831	37,657	1,174	5,320	38,985	2,910	9,239	36,758
193+12,920	SC	-6,246	39,553	-5,500	38,421	-4,440	38,003	0,663	38,666	38,003	0,663	5,500	38,910	4,440	9,257	36,790
194+0,000		-6,392	39,611	-5,500	38,334	-4,440	38,578	0,972	38,578	37,606	0,972	5,500	38,823	4,440	9,092	36,813
194+3,191		-6,434	39,615	-5,500	38,296	-4,440	38,540	1,093	38,540	37,447	1,093	5,500	38,784	4,440	9,019	36,824
194+13,462	CS	-6,939	40,003	-5,500	38,178	-4,440	37,084	1,339	38,423	37,084	1,339	5,500	38,667	4,440	8,780	36,865
195+0,000		-7,775	40,867	-5,420	38,127	-4,140	38,352	0,642	38,352	37,710	0,642	5,420	38,576	4,140	8,788	36,715
195+10,000		-6,066	38,071	-5,467	38,085	-3,000	38,249	1,028	38,249	37,221	1,028	5,097	38,362	2,210	9,103	36,076
196+0,000		-5,831	37,973	-5,216	37,998	-3,000	38,154	0,851	38,154	37,303	0,851	5,077	38,169	0,280	9,353	35,703
196+3,462	ST	-5,714	37,946	-5,100	37,970	-3,000	38,123	1,441	38,123	36,682	1,441	5,100	38,123	0,000	9,419	35,629
197+0,000		-6,135	37,572	-5,168	37,831	-3,000	37,986	1,248	37,986	36,738	1,248	5,168	37,924	-1,200	8,964	35,778
198+0,000		-6,455	37,271	-5,250	37,690	-3,000	37,847	1,345	37,847	36,502	1,345	5,250	37,987	2,660	8,244	36,376
198+4,887	PC	-6,519	37,231	-5,300	37,659	-3,000	37,818	1,466	37,818	36,352	1,466	5,300	37,960	2,690	8,376	36,295
199+0,000		-5,477	37,756	-5,367	37,444	-5,400	37,734	1,363	37,734	36,371	1,363	5,367	38,024	5,400	9,889	35,394
200+0,000		-5,731	38,049	-5,400	37,333	-5,400	37,624	1,323	37,624	36,301	1,323	5,400	37,916	5,400	9,454	35,598
200+0,349		-5,746	38,062	-5,400	37,331	-5,400	37,622	1,371	37,622	36,251	1,371	5,400	37,914	5,400	9,472	35,585
200+10,000		-5,665	37,936	-5,393	37,278	-5,400	37,569	1,282	37,569	36,287	1,282	5,393	37,861	5,400	9,383	35,586
201+0,000		-5,772	38,012	-5,369	37,225	-5,400	37,515	1,259	37,515	36,256	1,259	5,369	37,804	5,400	9,584	35,379
201+10,000		-5,872	38,142	-5,330	37,214	-4,600	37,460	1,255	37,460	36,205	1,255	5,330	37,702	4,540	9,353	35,405
201+15,811	PT	-5,863	38,217	-5,300	37,269	-3,000	37,428	1,511	37,428	35,917	1,511	5,300	37,570	2,690	8,926	35,538
202+0,000		-5,938	38,305	-5,300	37,282	-2,320	37,405	1,279	37,405	36,126	1,279	5,300	37,553	2,790	8,893	35,542
202+10,000		-5,938	38,251	-5,300	37,227	-2,320	37,350	1,329	37,350	36,021	1,329	5,300	37,498	2,790	8,893	35,487
203+0,000		-6,178	37,176	-5,300	37,377	1,540	37,295	1,431	37,295	35,864	1,431	5,300	37,239	-1,060	8,452	35,522
203+10,693	PC	-6,572	36,916	-5,300	37,379	2,690	37,237	1,515	37,237	35,722	1,515	5,300	37,078	-3,000	8,238	35,504
204+0,000		-7,508	36,410	-5,336	37,473	5,400	37,186	1,434	37,186	35,752	1,434	5,335	36,898	-5,400	8,077	35,455
205+0,000		-9,190	35,216	-5,386	37,367	5,400	37,076	1,381	37,076	35,695	1,381	5,385	36,785	-5,400	8,419	35,147
205+10,000		-8,765	35,452	-5,397	37,313	5,400	37,021	1,256	37,021	35,765	1,256	5,396	36,730	-5,400	8,103	35,311
205+17,725		-8,670	35,476	-5,400	37,270	5,400	36,979	1,352	36,979	35,627	1,352	5,399	36,687	-5,400	7,950	35,372
206+0,000		-8,638	35,484	-5,400	37,258	5,400	36,966	1,348	36,966	35,618	1,348	5,399	36,675	-5,400	7,908	35,387
206+10,000		-8,470	35,536	-5,393	37,203	5,400	36,912	1,285	36,912	35,627	1,285	5,392	36,620	-5,400	7,535	35,577

Estaca	Pontos Notáveis	Lado Esquerdo				Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	BORDO		OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)					Distância (m)	Cota (m)		(%)	
207+0,000		-7,967	35,806	5,377	37,147	5,400	36,857	35,628	1,229	5,377	36,793	-1,170	7,529	35,744
207+10,000		-7,486	36,054	5,353	37,091	5,400	36,802	35,640	1,162	5,352	36,842	0,750	7,727	35,644
208+0,000		-6,437	36,561	5,319	36,921	3,280	36,747	35,686	1,061	5,319	36,890	2,680	7,746	35,657
208+4,756	PT	-5,464	36,996	5,300	36,721	0,000	36,721	35,716	1,005	5,300	36,721	0,000	7,260	35,800
208+10,000		-5,701	37,269	5,317	36,500	-3,610	36,692	35,692	1,000	5,317	36,884	3,610	7,347	35,916
209+0,000		-5,950	37,337	5,346	36,349	-5,400	36,637	35,710	0,927	5,346	36,926	5,400	7,137	36,117
209+10,000		-6,075	37,382	5,370	36,293	-5,400	36,583	35,816	0,767	5,370	36,873	5,400	7,079	36,119
210+0,000		-7,629	38,862	5,389	36,237	-5,400	36,528	36,372	0,156	5,389	36,819	5,400	6,709	36,324
210+7,938		-7,903	39,081	5,400	36,193	-5,400	36,484	37,939	-1,455	5,400	36,776	5,400	6,534	36,405
210+10,000		-7,646	38,810	5,402	36,181	-5,400	36,473	36,893	-0,420	5,402	36,765	5,400	6,581	36,364
211+0,000		-6,810	37,911	5,410	36,126	-5,400	36,418	37,644	-1,226	5,410	36,710	5,400	6,876	36,118
211+10,000		-5,811	37,035	5,413	36,251	-2,070	36,363	37,915	-1,552	5,413	36,655	5,400	7,232	35,828
212+0,000		-6,064	36,251	5,410	36,302	-0,130	36,308	36,389	-0,081	5,410	36,601	5,400	8,067	35,214
212+10,000		-6,648	35,906	5,401	36,352	1,810	36,254	35,708	0,546	5,401	36,351	1,810	7,953	35,035
212+11,120	PT	-6,680	35,889	5,400	36,357	2,030	36,248	35,261	0,987	5,400	36,314	1,230	7,864	35,056
213+0,000		-6,862	35,737	5,400	36,326	2,360	36,199	35,463	0,736	5,400	36,071	-2,360	6,981	35,402
213+3,321	PC	-6,946	35,633	5,400	36,279	1,820	36,181	35,349	0,832	5,400	36,082	-1,820	7,383	35,145
213+10,000		-7,221	35,703	5,511	36,458	5,700	36,144	35,277	0,867	5,511	35,830	-5,700	7,075	35,173
214+0,000		-7,663	35,464	5,595	36,458	6,600	36,089	35,302	0,787	5,595	35,720	-6,600	7,402	34,900
214+3,281		-7,784	35,371	5,600	36,442	6,600	36,072	35,320	0,752	5,600	35,702	-6,600	7,361	34,913
215+0,000		-7,650	35,209	5,460	36,284	5,030	36,010	35,439	0,571	5,460	35,735	-5,030	6,791	35,232
215+3,241	PT	-7,443	35,242	5,400	36,219	4,020	36,003	35,214	0,789	5,400	35,785	-4,020	6,514	35,428
215+10,000		-7,672	35,028	5,400	36,158	3,060	35,993	35,273	0,720	5,400	35,827	-3,060	7,207	35,008
216+0,000		-6,471	35,723	5,400	36,052	1,150	35,991	35,327	0,664	5,400	35,829	-3,000	7,141	35,053
217+0,000		-8,004	38,873	5,400	35,884	-2,740	36,032	35,201	0,831	5,400	35,870	-3,000	5,659	36,514
218+0,000		-8,555	39,511	5,400	35,971	-3,000	36,133	36,985	-0,852	5,400	35,971	-3,000	7,758	38,714
219+0,000		-11,233	42,321	5,400	36,103	-3,000	36,265	39,382	-3,117	5,400	36,103	-3,000	7,370	38,458
220+0,000		-6,644	37,957	5,400	36,328	-1,270	36,397	39,451	-3,054	5,400	36,235	-3,000	6,231	36,066
221+0,000		-7,367	35,740	5,400	36,667	2,610	36,526	37,549	-1,023	5,400	36,364	-3,000	8,051	34,981
221+9,213	PC	-8,556	35,076	5,400	36,795	4,020	36,578	35,178	1,400	5,400	36,360	-4,020	8,938	34,387
222+0,000		-10,068	34,370	5,558	36,992	6,490	36,631	35,289	1,342	5,558	36,270	-6,490	8,783	34,505
222+9,191		-10,485	34,169	5,600	37,041	6,600	36,671	35,348	1,323	5,600	36,301	-6,600	8,930	34,467
223+0,000		-9,606	34,729	5,541	37,053	6,180	36,711	35,166	1,545	5,541	36,368	-6,180	9,886	33,857
223+9,168	PT	-6,561	36,567	5,400	36,956	4,020	36,739	34,802	1,937	5,400	36,522	-4,020	8,982	34,519
223+10,000		-6,561	36,569	5,400	36,958	4,020	36,741	35,347	1,394	5,400	36,524	-4,020	8,982	34,521

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito						
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		Distância (m)	Cota (m)	OFFSET	BORDO		Distância (m)	Cota (m)
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				(%)	Distância (m)				Cota (m)	(%)		
224+0,000		-6,781	38,692	-5,365	36,891	2,300	36,768	34,454	2,314	5,365	36,717	-0,950	9,348	34,447			
224+10,000		-6,781	38,719	-5,365	36,918	2,300	36,794	34,802	1,992	5,365	36,744	-0,950	9,348	34,473			
225+0,000		-11,613	43,435	-5,300	36,737	-1,580	36,821	35,112	1,709	5,300	36,977	2,940	9,485	34,572			
225+7,539	PC	-11,807	43,443	-5,400	36,650	-3,540	36,841	38,200	-1,359	5,400	37,032	3,540	9,717	34,539			
226+0,000		-12,219	43,624	-5,492	36,512	-6,600	36,875	37,909	-1,034	5,492	37,237	6,600	10,262	34,442			
227+0,000		-12,271	43,634	-5,582	36,560	-6,600	36,928	37,990	-1,062	5,582	37,297	6,600	10,395	34,473			
227+10,000		-12,584	43,956	-5,599	36,585	-6,600	36,955	37,964	-1,009	5,599	37,324	6,600	10,303	34,573			
227+13,864		-12,566	43,945	-5,600	36,594	-6,600	36,963	37,121	-0,158	5,600	37,333	6,600	10,252	34,617			
228+0,000		-12,838	44,225	-5,596	36,599	-6,600	36,969	37,271	-0,302	5,596	37,338	6,600	10,047	34,756			
228+10,000		-13,666	45,064	-5,575	36,587	-6,600	36,956	37,228	-0,272	5,575	37,323	6,600	10,029	34,740			
229+0,000		-14,195	45,596	-5,536	36,551	-6,600	36,916	37,160	-0,244	5,536	37,281	6,600	9,638	34,932			
229+10,000		-15,139	46,547	-5,477	36,500	-6,380	36,850	38,126	-1,276	5,477	37,199	6,380	9,056	35,198			
230+0,000		-14,722	46,242	-5,402	36,537	-4,080	36,757	0,000	36,757	5,402	36,978	4,080	8,224	35,481			
230+0,189	PT	-14,690	46,213	-5,400	36,538	-4,020	36,755	0,000	36,755	5,400	36,972	4,020	8,210	35,484			
230+10,000		-13,229	44,722	-5,369	36,477	-3,000	36,638	0,000	36,638	5,369	36,772	2,500	5,601	37,389			
231+0,000		-12,123	43,504	-5,337	36,332	-3,000	36,493	0,000	36,493	5,337	36,522	0,550	5,519	37,089			
232+0,000		-7,750	38,826	-5,273	35,964	-3,000	36,122	0,000	36,122	5,273	35,964	-3,000	6,828	35,312			
233+0,000		-7,883	34,105	-5,210	35,502	-3,000	35,658	0,000	35,658	5,210	35,502	-3,000	7,411	34,420			
234+0,000		-9,099	32,777	-5,146	35,027	-3,000	35,182	0,000	35,182	5,146	35,027	-3,000	8,747	33,012			
234+14,510		-9,099	32,431	-5,146	34,681	-3,000	34,836	0,000	34,836	5,146	34,681	-3,000	8,747	32,666			



4.2 – NOTAS DE SERVIÇO DE TERRAPLENAGEM INTERSEÇÃO

Estaca	Pontos Notáveis	Lado Esquerdo				Eixo			Lado Direito				
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	BORDO		OFFSET	
		Distância (m)	Cota (m)	Distância (m)	Cota (m)					Distância (m)	Cota (m)	(%)	Distância (m)
100+0,000		-11,026	44,927	-2,100	35,616	35,679	40,072	-4,393	3,000	35,534	3,000		
100+9,423	PC	-10,219	43,895	-2,100	35,391	35,454	39,715	-4,261	4,013	35,340	3,000		
100+10,000		-10,185	43,847	-2,100	35,378	35,441	39,694	-4,253	4,082	35,328	3,000		
101+0,000		-8,908	42,332	-2,100	35,139	35,202	39,450	-4,248	6,397	35,141	1,000		
101+10,000		-6,961	40,186	-2,100	34,940	35,003	38,261	-3,258	5,500	34,933	3,000		
102+0,000		-4,997	38,103	-2,100	34,821	34,884	37,121	-2,237	5,500	34,814	3,000		
102+0,789	PCC	-4,833	37,933	-2,100	34,815	34,878	36,979	-2,101	5,500	34,808	3,000		
102+10,000		-3,189	36,255	-2,100	34,780	34,844	35,851	-1,007	5,500	34,774	3,000		
103+0,000		-2,249	35,105	-2,100	34,819	34,883	34,866	0,017	8,656	34,844	1,000		
103+10,000		-3,190	34,557	-2,100	34,898	34,961	33,655	1,306	5,265	34,884	3,000		
103+16,416	PT	-3,628	34,315	-2,100	34,948	35,011	33,592	1,419	4,337	34,907	3,000		
104+0,000		-3,667	34,344	-2,143	34,975	35,040	33,594	1,446	4,115	34,928	3,000		
104+13,157		-3,651	34,559	-2,300	35,074	35,143	33,907	1,236	3,299	35,007	3,000		

Estaca	Pontos Notáveis	Lado Esquerdo				Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	OFFSET	BORDO		OFFSET
		Distância (m)	Cota (m)	Distância (m)	Cota (m)							Distância (m)	Cota (m)	
200+0,00				-3,000	35,474	3,000	38,338	-2,569	2,100	35,706	45,110	2,965	36,956	
200+10,000				-3,487	35,250	3,000	37,687	-2,156	2,100	35,468	45,110	2,221	35,772	
201+0,000				-7,294	35,090	1,000	35,598	-0,306	2,100	35,229	45,110	2,149	35,581	
201+10,000				-5,500	34,879	3,000	0,000	-0,385	2,100	35,035	45,110	3,629	34,401	
202+0,000				-5,500	34,774	3,000	32,666	2,328	2,100	34,931	45,110	6,463	32,408	
202+10,000				-5,945	34,764	1,000	32,565	2,415	2,100	34,917	45,110	6,350	32,468	
203+0,000				-7,728	34,857	1,000	32,549	2,506	2,100	34,992	45,110	7,167	31,999	
203+10,000				-5,108	34,910	3,000	33,221	1,920	2,100	35,078	45,110	5,358	33,291	
203+12,303	PT			-4,840	34,912	3,000	33,248	1,904	2,100	35,089	45,110	5,336	33,316	
204+0,000				-4,227	34,903	3,000	33,298	1,863	2,100	35,098	45,110	5,188	33,425	
204+0,460				-4,206	34,902	3,000	33,306	1,855	2,100	35,098	45,110	5,176	33,432	
204+6,776				-3,860	34,868	3,000	33,555	1,582	2,100	35,074	45,110	4,835	33,636	
204+10,739				-3,714	34,835	3,000	33,650	1,459	2,098	35,046	45,110	4,583	33,774	
204+16,486				-3,300	34,777	3,000	33,674	1,389	2,800	34,979	45,110	5,124	33,815	

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo				Lado Direito			
		OFFSET		BORDO		Distância (m)	Cota (m)	Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)						Distância (m)	Cota (m)	Distância (m)	Cota (m)	
300+0,000		-6,152	32,717	-2,100	35,034	-3,000	35,097	33,192	1,905	3,301	35,196	3,000			
300+10,000		-6,416	32,538	-2,205	34,960	-3,000	35,026	33,458	1,568	3,310	35,126	3,000			
301+0,000		-6,399	32,434	-2,135	34,891	-3,000	34,955	33,071	1,884	4,646	35,095	3,000			
301+10,000		-6,438	32,309	-2,091	34,822	-3,000	34,885	32,714	2,171	7,576	35,070	1,000			
302+0,000		-6,511	32,179	-2,074	34,752	-3,000	34,814	32,533	2,281	6,129	34,985	1,000			
302+10,000		-6,466	32,156	-2,086	34,691	-3,000	34,754	32,473	2,281	5,500	34,919	3,000			
302+14,606	PRC	-6,447	32,157	-2,100	34,670	-3,000	34,733	32,441	2,292	5,500	34,898	3,000			
303+0,000		-6,374	32,187	-2,100	34,652	-3,000	34,715	32,415	2,300	5,500	34,880	3,000			
303+10,000		-6,064	32,376	-2,100	34,634	-3,000	34,697	32,439	2,258	5,500	34,862	3,000			
304+0,000		-6,056	32,385	-2,100	34,637	-3,000	34,700	32,534	2,166	5,500	34,865	3,000			
304+5,402	PT	-6,044	32,401	-2,100	34,645	-3,000	34,708	32,621	2,087	5,500	34,873	3,000			
305+0,000		-5,902	32,516	-2,100	34,666	-3,000	34,729	32,919	1,810	5,500	34,894	3,000			
305+2,158	PC	-6,098	32,388	-2,100	34,668	-3,000	34,731	32,955	1,776	5,875	34,900	1,000			
305+10,000		-5,288	32,876	-2,018	34,671	-3,000	34,731	32,911	1,820	9,425	34,936	1,000			
306+0,000		-5,253	32,891	-2,038	34,649	-3,000	34,710	33,004	1,706	5,713	34,877	1,000			
306+10,000		-4,667	33,337	-2,196	34,600	-3,000	34,666	33,229	1,437	3,929	34,784	3,000			
307+0,000		-4,808	33,360	-2,486	34,523	-3,000	34,598	33,450	1,148	3,234	34,695	3,000			
307+7,849		-4,730	33,549	-2,800	34,451	-3,000	34,535	33,722	0,813	3,300	34,634	3,000			

Estaca	Pontos Notáveis	Lado Esquerdo				Eixo			Lado Direito				
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	Cota (m)	Distância (m)	Cota (m)
		Distância (m)	Cota (m)	Distância (m)	Cota (m)								
400+0,000				-6,127	34,977	35,178	34,717	0,461	13,816	34,635	13,816	34,635	-1,000
400+10,000				-6,018	35,036	35,240	34,372	0,868	13,840	34,697	13,840	34,697	-1,000
401+0,000				-11,214	35,218	35,291	33,694	1,597	13,486	34,751	13,486	34,751	-1,000
401+10,000				-4,519	35,007	35,257	33,401	1,856	13,677	34,715	13,677	34,715	-1,000
402+0,000				-4,500	34,888	35,138	33,055	2,083	13,102	34,602	13,102	34,602	-1,000
402+7,124				-4,500	34,815	35,065	33,215	1,850	13,611	34,524	13,611	34,524	-1,000
402+10,000				-4,537	34,798	35,047	33,035	2,012	13,729	34,504	13,729	34,504	-1,000
403+0,000				-10,521	34,955	35,034	33,095	1,939	13,730	34,492	13,730	34,492	-1,000
403+10,000				-7,783	34,910	35,062	33,082	1,980	14,260	34,514	14,260	34,514	-1,000
404+0,000				-5,125	34,867	35,098	34,926	0,172	14,220	34,551	14,220	34,551	-1,000
404+10,000				-10,561	35,072	35,151	34,984	0,167	13,613	34,610	13,613	34,610	-1,000
404+14,248				-6,127	34,977	35,178	34,717	0,461	13,816	34,635	13,816	34,635	-1,000



4.3 – NOTAS DE SERVIÇO DE PAVIMENTAÇÃO RODOVIA

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo				Lado Direito				
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	Cota (m)	Distância (m)	Cota (m)	Cota (m)	Distância (m)	OFFSET
		Distância (m)	Cota (m)	Distância (m)	Cota (m)											
0+0,000		-5,234	20,362	5,100	20,228	20,381	20,381	0,000	5,100	20,228	3,000	5,100	20,228	3,000	5,354	20,483
1+0,000		-5,274	20,411	5,160	20,296	20,451	20,403	0,048	5,160	20,296	-3,000	5,176	20,286	-3,000	5,176	20,286
2+0,000		-5,432	20,313	5,220	20,454	20,521	20,403	0,118	5,220	20,365	-1,280	5,448	20,593	-3,000	5,448	20,593
3+0,000		-5,663	20,482	5,280	20,738	20,600	20,498	0,102	5,280	20,442	2,610	5,376	20,538	3,000	5,376	20,538
3+11,268	PC	-5,986	20,582	5,500	20,906	20,653	20,579	0,074	5,500	20,399	4,610	5,767	20,666	-4,610	5,767	20,666
4+0,000		-6,491	20,518	5,670	21,065	20,697	20,623	0,074	5,670	20,328	6,500	6,163	20,822	-6,500	6,163	20,822
4+5,041		-5,859	20,610	5,133	21,094	20,724	20,671	0,053	5,133	20,287	7,200	6,461	20,676	-7,200	6,461	20,676
4+10,000		-5,570	20,647	4,931	21,073	20,752	20,695	0,057	4,931	20,350	6,520	6,692	20,871	-6,520	6,692	20,871
4+18,813	PT	-5,393	20,761	5,359	20,727	20,804	20,845	-0,041	5,359	20,545	-1,450	5,982	20,904	-4,610	5,982	20,904
5+0,000		-5,585	20,850	5,480	20,745	20,812	20,860	-0,048	5,480	20,570	-1,210	5,814	20,905	-4,400	5,814	20,905
5+17,398	PC	-5,275	21,030	5,239	21,031	20,926	21,010	-0,084	5,239	20,769	2,010	5,355	20,894	-3,000	5,355	20,894
6+0,000		-5,333	21,032	5,250	21,087	20,944	21,032	-0,088	5,250	20,787	2,710	5,387	20,923	-3,000	5,387	20,923
6+9,094		-5,183	21,114	5,078	21,183	21,011	21,112	-0,101	5,078	20,827	3,400	5,650	21,067	-3,400	5,650	21,067
6+10,000		-5,094	21,178	5,077	21,190	21,017	21,120	-0,103	5,077	20,833	3,400	5,675	21,099	-3,400	5,675	21,099
7+0,000		-5,335	21,306	5,240	21,211	21,095	21,209	-0,114	5,240	20,941	2,220	5,514	21,215	-2,940	5,514	21,215
7+0,789	PT	-5,416	21,392	5,230	21,206	21,101	21,216	-0,115	5,230	20,955	2,010	5,479	21,204	-2,780	5,479	21,204
8+0,000		-5,403	21,464	5,113	21,174	21,254	21,369	-0,115	5,113	21,254	-1,580	5,130	21,272	0,000	5,130	21,272
8+2,046	PC	-5,486	21,504	5,100	21,117	21,271	21,384	-0,113	5,100	21,270	-3,000	5,100	21,270	0,000	5,100	21,270
8+10,000		-5,614	21,629	5,164	21,179	21,334	21,441	-0,107	5,164	21,485	-3,000	5,351	21,275	3,000	5,351	21,275
8+10,041		-5,614	21,630	5,164	21,179	21,334	21,442	-0,108	5,164	21,485	-3,000	5,350	21,276	3,000	5,350	21,276
8+18,037	PT	-5,720	21,865	5,100	21,245	21,398	21,492	-0,094	5,100	21,398	-3,000	5,164	21,356	0,000	5,164	21,356
9+0,000		-5,670	21,830	5,100	21,261	21,414	21,505	-0,091	5,100	21,414	-3,000	5,226	21,329	0,000	5,226	21,329
10+0,000		-5,456	21,776	5,100	21,420	21,573	21,604	-0,031	5,100	21,424	-3,000	5,118	21,442	-2,930	5,118	21,442
11+0,000		-6,158	22,637	5,100	21,579	21,732	21,599	0,133	5,100	21,579	-3,000	5,100	21,580	-3,000	5,100	21,580
12+0,000		-6,499	23,120	5,100	21,721	21,874	21,735	0,139	5,100	21,721	-3,000	5,199	21,820	-3,000	5,199	21,820
13+0,000		-6,093	22,819	5,100	21,826	21,979	21,812	0,167	5,100	21,826	-3,000	5,100	21,830	-3,000	5,100	21,830
14+0,000		-5,534	22,362	5,100	21,927	22,048	21,815	0,233	5,100	21,894	-2,360	5,733	21,473	-3,000	5,733	21,473
14+10,646	TS	-5,422	21,855	5,100	22,069	22,069	21,755	0,314	5,100	21,916	0,000	5,737	21,492	-3,000	5,737	21,492
15+0,000		-5,731	21,820	5,230	22,154	22,080	21,720	0,360	5,230	21,923	1,420	6,350	21,176	-3,000	6,350	21,176
16+0,000		-6,340	21,763	5,489	22,330	22,076	21,480	0,596	5,489	21,823	4,610	6,858	20,911	-4,610	6,858	20,911
16+0,646	SC	-5,745	21,747	5,500	21,910	22,076	21,463	0,613	5,500	21,910	-3,000	7,039	20,885	-3,000	7,039	20,885
16+10,000		-6,250	21,578	5,181	22,291	22,061	21,168	0,893	5,181	21,803	4,440	7,404	20,737	-4,440	7,404	20,737
16+19,476		-7,047	21,227	5,466	22,280	22,038	20,899	1,139	5,466	21,792	4,440	7,238	20,655	-4,440	7,238	20,655
17+0,000		-7,108	21,208	5,500	22,280	22,036	20,876	1,160	5,500	21,792	4,440	7,218	20,647	-4,440	7,218	20,647
17+10,000		-7,070	20,955	5,149	22,236	22,007	20,450	1,557	5,149	21,749	4,440	7,729	20,473	-4,440	7,729	20,473

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	Distância (m)	Cota (m)	OFFSET	Distância (m)	Cota (m)	
		Distância (m)	Cota (m)	Distância (m)	Cota (m)											(%)
17+18,305	CS	-6,986	20,758	-5,376	21,831	-3,000	21,992	20,305	1,687	5,583	21,825	-3,000	8,163	20,105		
18+0,000		-7,792	20,718	-5,479	22,260	4,900	21,992	20,272	1,720	5,481	21,723	-4,900	8,024	20,028		
19+0,000		-8,230	20,091	-5,210	22,104	1,220	22,041	20,130	1,911	5,210	21,885	-3,000	8,963	19,383		
19+8,305	ST	-8,808	19,621	-5,100	22,093	0,000	22,093	20,038	2,055	5,100	21,940	-3,000	9,058	19,302		
20+0,000		-7,951	20,170	-5,107	22,066	-2,590	22,199	20,116	2,083	5,107	22,045	-3,000	9,169	19,338		
21+0,000		-7,696	20,592	-5,119	22,310	-3,000	22,464	20,279	2,185	5,119	22,310	-3,000	9,356	19,485		
22+0,000		-7,643	21,008	-5,130	22,682	-3,000	22,836	20,602	2,234	5,130	22,682	-3,000	9,181	19,982		
23+0,000		-6,742	22,083	-5,142	23,149	-3,000	23,303	22,090	1,213	5,142	23,149	-3,000	7,354	21,674		
24+0,000		-5,615	23,351	-5,154	23,659	-3,000	23,813	23,339	0,474	5,154	23,659	-3,000	6,465	22,785		
25+0,000		-5,558	24,620	-5,165	24,227	-3,000	24,383	24,437	-0,054	5,165	24,227	-3,000	6,073	23,623		
26+0,000		-6,267	25,945	-5,177	24,855	-3,000	25,011	25,577	-0,566	5,177	24,855	-3,000	5,558	24,602		
27+0,000		-6,601	26,954	-5,189	25,542	-3,000	25,698	26,796	-1,098	5,189	25,542	-3,000	5,572	25,286		
28+0,000		-9,078	30,165	-5,201	26,288	-3,000	26,444	27,588	-1,144	5,201	26,288	-3,000	6,304	25,552		
29+0,000		-8,484	30,364	-5,212	27,092	-3,000	27,249	27,769	-0,520	5,212	27,092	-3,000	7,528	25,549		
30+0,000		-6,794	29,663	-5,224	28,093	0,180	28,083	28,085	-0,002	5,224	27,927	-3,000	8,490	25,750		
30+10,000		-6,794	30,080	-5,224	28,510	0,180	28,501	28,251	0,250	5,224	28,344	-3,000	8,490	26,167		
30+10,297	PC	-6,167	29,555	-5,230	28,618	2,010	28,513	28,256	0,257	5,230	28,356	-3,000	8,513	26,167		
31+0,000		-5,985	29,803	-5,280	29,097	3,400	28,918	28,398	0,520	5,280	28,738	-3,400	8,689	26,466		
31+8,109		-5,546	29,858	-5,109	29,421	3,400	29,247	28,593	0,654	5,431	29,062	-3,400	9,264	26,507		
31+10,000		-5,619	30,011	-5,102	29,494	3,400	29,321	28,652	0,669	5,435	29,136	-3,400	9,422	26,478		
32+0,000		-6,773	31,387	-5,260	29,874	3,400	29,696	28,955	0,741	5,260	29,517	-3,400	10,082	26,302		
32+5,921	PT	-7,343	32,122	-5,230	30,009	2,010	29,904	29,205	0,699	5,230	29,747	-3,000	10,379	26,314		
32+10,000		-7,814	32,698	-5,225	30,109	1,290	30,042	29,491	0,551	5,225	29,885	-3,000	10,133	26,613		
33+0,000		-10,069	35,188	-5,212	30,331	-0,550	30,359	30,183	0,176	5,212	30,203	-3,000	8,241	28,184		
34+0,000		-14,893	40,459	-5,187	30,753	-3,000	30,909	32,499	-1,590	5,187	30,753	-3,000	6,628	32,194		
34+10,000		-23,396	46,117	-5,175	30,986	-3,000	31,141	33,619	-2,478	5,175	30,986	-3,000	7,263	33,074		
35+0,000		-26,410	49,347	-5,162	31,190	-3,000	31,345	35,242	-3,897	5,162	31,190	-3,000	7,823	33,850		
35+10,000		-34,077	54,113	-5,150	31,365	-3,000	31,520	35,786	-4,266	5,150	31,365	-3,000	7,953	34,169		
36+0,000		-36,548	56,743	-5,137	31,512	-3,000	31,667	36,053	-4,386	5,137	31,512	-3,000	7,962	34,336		
36+10,000		-37,631	57,957	-5,125	31,631	-3,000	31,785	36,305	-4,520	5,125	31,631	-3,000	7,635	34,141		
37+0,000		-38,843	59,271	-5,113	31,721	-3,000	31,874	36,433	-4,559	5,113	31,761	-2,220	7,718	34,367		
38+0,000		-39,054	59,149	-5,527	31,802	-3,000	31,968	38,703	-6,735	4,933	32,044	1,540	6,912	34,023		
39+0,000		-36,183	56,206	-5,501	31,704	-4,440	31,948	37,624	-5,676	5,499	32,192	4,440	6,806	33,500		
39+0,014	SC	-36,030	56,133	-5,500	31,783	-3,000	31,948	37,623	-5,675	5,500	31,783	-3,000	7,214	33,497		
40+0,000		-35,285	55,175	-5,500	31,570	-4,440	31,814	36,886	-5,072	5,500	32,058	4,440	6,688	33,247		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito				
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	Distância (m)	Cota (m)	OFFSET	Distância (m)	Cota (m)
		Distância (m)	Cota (m)	Distância (m)	Cota (m)										
40+10,000		-28,432	51,302	5,500	31,460	-4,440	31,704	35,302	-3,598	5,500	31,948	4,440	6,702	33,150	
41+0,000		-28,189	50,921	5,500	31,322	-4,440	31,566	34,684	-3,118	5,500	31,810	4,440	6,765	33,076	
41+10,000		-28,115	50,695	5,500	31,169	-4,440	31,414	35,220	-3,806	5,500	31,658	4,440	6,862	33,020	
41+11,867		-28,151	50,702	5,500	31,141	-4,440	31,385	35,441	-4,056	5,500	31,629	4,440	6,882	33,011	
42+0,000		-27,790	50,217	5,500	31,017	-4,440	31,261	36,490	-5,229	5,500	31,505	4,440	6,963	32,968	
42+10,000		-27,930	50,205	5,500	30,864	-4,440	31,109	36,342	-5,233	5,500	31,353	4,440	6,882	32,734	
43+0,000		-28,498	50,620	5,500	30,712	-4,440	30,956	36,572	-5,616	5,500	31,200	4,440	6,703	32,403	
44+0,000		-35,303	54,030	5,500	30,407	-4,440	30,651	37,052	-6,401	5,500	30,895	4,440	6,088	31,483	
44+3,719	CS	-35,332	54,002	5,500	30,350	-4,440	30,594	37,236	-6,642	5,500	30,838	4,440	5,923	31,262	
45+0,000		-35,338	54,066	5,280	30,188	-3,000	30,346	38,475	-8,129	5,280	30,465	2,260	5,501	30,686	
45+13,719	ST	-34,528	53,232	5,100	29,984	-3,000	30,137	39,422	-9,285	5,100	30,137	0,000	6,601	31,638	
46+0,000		-33,504	52,112	5,100	29,888	-3,000	30,041	39,275	-9,234	5,100	29,970	-1,390	6,951	31,821	
47+0,000		-26,081	47,474	5,100	29,583	-3,000	29,736	38,361	-8,625	5,100	29,583	-3,000	5,992	30,475	
48+0,000		-13,794	37,972	5,100	29,278	-3,000	29,431	27,846	1,585	5,100	29,278	-3,000	8,995	26,681	
49+0,000		-10,250	25,552	5,100	28,985	-3,000	29,138	26,276	2,862	5,100	28,985	-3,000	13,724	23,236	
49+12,633		-10,250	25,380	5,100	28,813	-3,000	28,967	22,300	6,667	5,100	28,813	-3,000	13,724	23,064	
50+0,000		-12,869	23,538	5,100	28,718	-3,000	28,871	26,056	2,815	5,100	28,718	-3,000	10,730	24,964	
51+0,000		-9,122	25,794	5,100	28,475	-3,000	28,628	26,635	1,993	5,100	28,475	-3,000	5,585	28,151	
52+0,000		-5,245	28,402	5,100	28,257	-3,000	28,410	28,952	-0,542	5,100	28,257	-3,000	7,536	30,693	
53+0,000		-8,704	25,661	5,100	28,064	-3,000	28,217	26,402	1,815	5,100	28,151	-1,300	6,538	29,589	
53+17,672	TS	-12,498	22,983	5,100	27,914	-3,000	28,067	23,611	4,456	5,100	27,914	-3,000	9,111	25,240	
54+0,000		-12,490	23,090	5,290	27,890	-3,000	28,049	23,389	4,660	5,032	28,059	0,190	9,462	25,105	
54+15,557		-12,490	22,969	5,290	27,769	-3,000	27,928	23,667	4,261	5,032	27,938	0,190	9,462	24,984	
55+0,000		-12,113	23,247	5,699	27,523	-6,500	27,893	23,933	3,960	5,701	28,264	6,500	10,340	25,171	
55+7,672	SC	-11,656	23,524	5,900	27,362	-8,000	27,834	24,389	3,445	5,900	28,306	8,000	9,883	25,650	
55+14,330		-10,857	24,005	5,900	27,310	-8,000	27,782	25,636	2,146	6,835	28,329	8,000	9,990	26,225	
56+0,000		-10,166	24,422	5,900	27,266	-8,000	27,738	25,874	1,864	6,788	28,281	8,000	7,625	29,117	
56+0,989	CS	-10,048	24,493	5,900	27,258	-8,000	27,730	25,966	1,764	6,597	28,258	8,000	7,625	29,287	
57+0,000		-7,156	26,329	5,390	27,507	-1,400	27,582	28,701	-1,119	5,390	27,813	4,290	8,761	31,185	
57+10,989	ST	-8,180	25,615	5,359	27,496	0,000	27,497	28,472	-0,975	5,266	27,485	-0,210	7,493	29,712	
57+11,198	TS	-8,190	25,605	5,355	27,495	0,000	27,495	28,500	-1,005	5,267	27,492	-0,060	7,465	29,690	
58+0,000		-7,615	25,971	5,250	27,547	2,310	27,426	28,326	-0,900	5,250	27,305	-2,320	11,727	33,782	
59+0,000		-7,933	26,028	5,580	27,597	5,850	27,271	29,388	-2,117	5,581	26,944	-5,850	14,303	35,666	
59+1,198	SC	-7,982	26,010	5,600	27,597	6,000	27,261	29,515	-2,254	5,600	26,925	-6,000	14,366	35,692	
59+6,695		-7,733	25,965	5,600	27,387	3,000	27,219	30,058	-2,839	5,600	26,967	-4,500	14,412	35,779	

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Vermelha	Cota Terreno	Cota Projeto	Cota Vermelha	BORDO		OFFSET				
		Distância (m)	Cota (m)	Distância (m)	Cota (m)					Distância (m)	Cota (m)	Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)
59+10,000		-7,755	25,824	-5,600	27,260	1,200	27,193	30,191	-2,998	5,600	26,991	-3,600	14,515	35,907		
59+12,193	CS	-7,785	25,719	-5,600	27,176	0,000	27,176	30,259	-3,083	5,600	27,008	-3,000	14,614	36,022		
60+0,000		-8,481	25,367	-5,470	27,374	4,740	27,115	30,164	-3,049	5,470	26,847	-4,890	15,273	36,650		
61+0,000		-8,187	24,801	-5,076	26,875	-2,100	26,982	26,133	0,849	5,196	26,826	-3,000	22,028	40,568		
61+2,193	ST	-8,370	24,710	-5,100	26,890	-1,680	26,975	25,529	1,446	5,100	26,822	-3,000	21,853	40,485		
61+19,941	TS	-8,379	24,818	-5,100	27,004	0,000	27,004	25,377	1,627	5,100	26,851	-3,000	22,548	41,209		
62+0,000		-8,317	24,861	-5,099	27,006	0,030	27,004	25,378	1,626	5,100	26,851	-3,000	22,550	41,211		
63+0,000		-10,907	23,905	-5,499	27,510	5,550	27,205	25,756	1,449	5,501	26,900	-5,550	22,721	41,029		
63+9,941	SC	-11,099	24,191	-5,700	27,790	7,350	27,371	26,090	1,281	5,700	26,952	-7,350	22,946	41,109		
64+0,000		-8,078	26,418	-5,700	28,003	7,350	27,584	28,107	-0,523	5,700	27,165	-7,350	22,380	40,755		
64+10,000		-7,550	27,027	-5,700	28,259	7,350	27,841	32,047	-4,206	5,700	27,422	-7,350	21,743	40,374		
64+11,204		-7,421	27,146	-5,700	28,293	7,350	27,874	32,247	-4,373	5,700	27,455	-7,350	21,668	40,334		
65+0,000		-6,564	27,984	-5,700	28,560	7,350	28,142	32,930	-4,788	5,700	27,723	-7,350	20,948	39,880		
65+10,000		-5,914	28,763	-5,700	28,906	7,350	28,487	32,638	-4,151	5,700	28,068	-7,350	15,644	38,012		
65+12,467	CS	-6,087	28,739	-5,700	28,997	7,350	28,578	32,279	-3,701	5,700	28,159	-7,350	15,314	37,773		
66+0,000		-6,274	28,704	-5,549	29,187	5,990	28,855	29,512	-0,657	5,551	28,522	-5,990	14,002	36,973		
67+0,000		-6,345	28,783	-5,050	29,647	1,120	29,590	28,677	0,913	5,247	29,561	-0,570	10,643	34,957		
67+2,467	ST	-6,543	28,719	-5,100	29,681	0,000	29,681	28,964	0,717	5,100	29,677	-0,090	10,071	34,648		
67+9,911	TS	-6,998	28,689	-5,100	29,955	0,000	29,955	29,497	0,458	5,100	29,955	0,000	8,838	33,693		
68+0,000		-8,318	28,138	-5,300	30,150	-3,330	30,326	28,556	1,770	5,242	30,500	3,330	6,771	32,030		
68+19,911	SC	-10,441	27,506	-5,700	30,667	-6,870	31,058	28,262	2,796	5,700	31,450	6,870	10,039	28,557		
69+0,000		-10,440	27,510	-5,700	30,670	-6,870	31,062	28,264	2,798	5,700	31,453	6,870	10,057	28,549		
69+3,343		-10,437	27,635	-5,700	30,793	-6,870	31,185	28,319	2,866	5,700	31,576	6,870	10,758	28,204		
69+6,775	CS	-10,629	27,633	-5,700	30,919	-6,870	31,311	28,382	2,929	5,700	31,702	6,870	11,314	27,960		
69+10,000		-10,863	27,684	-5,796	31,062	-6,340	31,429	28,449	2,980	5,465	31,776	6,340	11,581	27,698		
69+19,013		-10,863	28,002	-5,796	31,380	-6,340	31,748	28,488	3,260	5,465	32,094	6,340	11,581	28,016		
70+0,000		-11,213	27,681	-5,440	31,529	-4,630	31,781	28,487	3,294	5,440	32,032	4,630	12,237	27,501		
70+16,775	ST	-11,136	28,273	-5,100	32,297	0,000	32,297	28,269	4,028	5,100	32,297	0,000	11,559	27,991		
71+0,000		-11,258	28,280	-5,100	32,385	0,000	32,386	28,349	4,037	5,100	32,385	0,000	11,615	28,042		
71+6,407	TS	-11,166	28,508	-5,100	32,552	0,000	32,552	28,405	4,147	5,100	32,525	-0,510	11,557	28,221		
72+0,000		-11,812	28,812	-5,370	33,106	4,600	32,859	29,126	3,733	5,370	32,612	-4,600	11,266	28,682		
72+16,407	SC	-11,604	29,646	-5,700	33,582	7,570	33,150	29,549	3,601	5,700	32,719	-7,570	11,477	28,867		
73+0,000		-11,191	29,973	-5,700	33,634	7,570	33,202	29,836	3,366	5,700	32,771	-7,570	11,968	28,592		
73+9,730		-9,841	30,993	-5,700	33,753	7,570	33,322	30,122	3,200	5,700	32,890	-7,570	11,106	29,287		
73+10,000		-9,820	31,010	-5,700	33,756	7,570	33,325	30,170	3,155	5,700	32,893	-7,570	11,062	29,319		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo				Lado Direito			
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	Cota (m)	Distância (m)	Cota (m)	OFFSET	
		Distância (m)	Cota (m)	Distância (m)	Cota (m)										(%)
74+0,000		-9,315	31,436	-5,700	33,846	33,415	31,230	2,185	5,700	32,983	7,570	32,983	9,860	30,210	
74+3,054	CS	-9,316	31,456	-5,700	33,867	33,435	30,787	2,648	5,700	33,004	7,570	33,004	10,244	29,975	
75+0,000		-8,439	31,684	-5,359	33,737	33,496	30,589	2,907	5,361	33,255	4,500	33,255	10,729	29,676	
75+13,054	ST	-11,000	29,546	-5,100	33,480	33,480	28,537	4,943	5,100	33,327	0,000	33,327	11,371	29,146	
76+0,000		-12,189	28,736	-5,100	33,462	33,463	28,276	5,187	5,100	33,309	0,000	33,309	12,943	28,081	
77+0,000		-12,258	28,488	-5,100	33,260	33,413	29,026	4,387	5,100	33,260	-3,000	33,260	12,114	28,584	
78+0,000		-11,535	28,920	-5,100	33,210	33,363	29,005	4,358	5,100	33,210	-3,000	33,210	11,706	28,806	
79+0,000		-11,984	28,571	-5,100	33,161	33,314	29,016	4,298	5,100	33,161	-3,000	33,161	12,082	28,506	
80+0,000		-11,819	28,632	-5,100	33,111	33,264	29,286	3,978	5,100	33,111	-3,000	33,111	11,921	28,563	
81+0,000		-11,334	28,905	-5,100	33,061	33,214	29,382	3,832	5,100	33,061	-3,000	33,061	11,510	28,788	
82+0,000		-10,248	29,579	-5,100	33,012	33,165	29,499	3,666	5,100	33,012	-3,000	33,012	10,840	29,185	
83+0,000		-10,227	29,544	-5,100	32,962	33,115	29,494	3,621	5,100	32,962	-3,000	32,962	11,000	29,029	
83+14,398	TS	-9,988	29,668	-5,100	32,926	33,079	29,618	3,461	5,100	33,079	0,000	33,079	10,985	29,156	
84+0,000		-10,031	29,708	-5,230	32,909	33,066	29,672	3,394	5,057	32,925	-2,780	32,925	10,717	29,151	
85+0,000		-10,827	29,172	-5,300	32,857	33,016	29,837	3,179	5,300	33,073	1,080	33,073	9,611	30,199	
86+0,000		-9,884	29,753	-5,470	32,695	32,966	29,853	3,113	5,470	33,237	4,950	33,237	10,741	29,723	
86+4,398	SC	-9,898	29,758	-5,500	32,690	32,955	29,848	3,107	5,500	33,221	4,830	33,221	10,768	29,709	
86+19,865		-9,348	30,136	-5,500	32,702	32,917	30,039	2,878	5,500	33,117	3,640	33,117	10,305	29,914	
87+0,000		-9,342	30,140	-5,500	32,702	32,917	30,042	2,875	5,500	33,116	3,630	33,116	10,298	29,918	
87+10,000		-8,391	30,792	-5,500	32,719	32,901	30,306	2,595	5,500	33,059	2,860	33,059	9,768	30,214	
87+15,332	CS	-8,193	30,941	-5,500	32,736	32,901	30,477	2,424	5,500	33,036	2,450	33,036	9,718	30,224	
88+0,000		-8,061	30,910	-5,470	32,638	32,906	30,711	2,195	5,470	33,173	4,900	33,173	9,942	30,192	
89+0,000		-8,136	30,922	-5,300	32,812	32,971	30,841	2,130	5,300	32,922	-0,940	32,922	9,405	30,185	
90+0,000		-7,813	31,231	-5,223	32,957	33,114	30,455	2,659	5,061	32,962	-3,000	32,962	9,333	30,114	
90+5,332	ST	-7,662	31,304	-5,100	33,012	33,165	30,406	2,759	5,100	33,012	-3,000	33,012	9,443	30,117	
91+0,000		-8,061	31,207	-5,100	33,181	33,334	30,306	3,028	5,100	33,181	-3,000	33,181	9,629	30,161	
92+0,000		-8,461	31,199	-5,100	33,439	33,592	30,472	3,120	5,100	33,439	-3,000	33,439	9,538	30,481	
93+0,000		-8,549	31,398	-5,100	33,697	33,850	31,035	2,815	5,100	33,850	0,000	33,850	9,278	31,065	
93+0,083	TS	-8,550	31,398	-5,100	33,698	33,851	31,036	2,815	5,100	33,851	0,000	33,851	9,276	31,067	
94+0,000		-8,561	31,769	-5,430	33,856	34,108	31,812	2,296	5,430	34,360	4,640	34,360	8,782	32,126	
94+10,083	SC	-8,219	32,157	-5,600	33,902	34,239	32,477	1,762	5,600	34,574	6,000	34,574	7,861	33,067	
94+17,492		-8,123	32,316	-5,600	33,998	34,334	32,727	1,607	5,600	34,670	6,000	34,670	7,149	33,637	
95+0,000		-8,124	32,348	-5,600	34,030	34,367	32,771	1,596	5,600	34,702	6,000	34,702	6,996	33,772	
95+4,900	CS	-8,577	32,109	-5,600	34,094	34,430	32,840	1,590	5,600	34,766	6,000	34,766	6,789	33,973	
95+10,000		-8,683	32,206	-5,708	34,188	34,496	32,889	1,607	5,312	34,781	5,380	34,781	6,354	34,087	

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo				Lado Direito			
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET				
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	(%)		
96+0,000		-8,872	32,080	-5,350	34,428	-3,670	34,625	32,998	1,627	5,349	34,821	3,670	6,165	34,278	
96+14,900	ST	-9,278	31,879	-5,100	34,664	-3,000	34,817	33,075	1,742	5,100	34,817	0,000	5,210	34,927	
97+0,000		-9,444	31,834	-5,100	34,730	-3,000	34,883	33,394	1,489	5,100	34,872	-0,210	6,126	35,898	
98+0,000		-8,661	32,723	-5,100	35,097	-0,870	35,141	35,312	-0,171	5,100	34,988	-3,000	9,790	39,678	
98+13,506	TS	-8,285	33,192	-5,100	35,315	0,000	35,315	36,939	-1,624	5,100	35,162	-3,000	12,418	42,479	
99+0,000		-8,058	33,441	-4,905	35,543	2,950	35,398	37,862	-2,464	5,545	35,232	-3,000	14,143	43,830	
100+0,000		-8,150	34,340	-5,629	36,020	6,540	35,652	39,881	-4,229	5,631	35,284	-6,540	21,160	47,722	
100+3,506	SC	-8,029	34,549	-5,700	36,102	7,110	35,696	40,315	-4,619	5,700	35,291	-7,110	21,567	48,069	
100+10,000		-7,603	34,915	-5,700	36,183	7,110	35,778	40,916	-5,138	5,700	35,373	-7,110	22,004	48,587	
100+12,090		-7,479	35,024	-5,700	36,210	7,110	35,804	41,058	-5,254	5,700	35,399	-7,110	21,984	48,593	
101+0,000		-7,177	35,324	-5,700	36,309	7,110	35,904	40,695	-4,791	5,700	35,498	-7,110	21,969	48,677	
101+0,674	CS	-7,153	35,349	-5,700	36,317	7,110	35,912	40,667	-4,755	5,700	35,507	-7,110	21,977	48,693	
102+0,000		-6,517	35,539	-5,297	36,353	3,780	36,152	40,341	-4,189	5,310	35,951	-3,780	21,481	49,033	
102+10,674	ST	-6,617	35,273	-5,100	36,284	0,000	36,284	39,323	-3,039	5,100	36,131	-3,000	20,031	47,972	
103+0,000		-7,998	34,478	-5,122	36,395	-0,060	36,398	38,202	-1,804	5,122	36,245	-3,000	13,556	44,679	
104+0,000		-10,551	32,900	-5,168	36,488	-3,000	36,643	33,438	3,205	5,168	36,488	-3,000	5,859	36,027	
104+12,364		-10,551	33,051	-5,168	36,639	-3,000	36,795	33,375	3,420	5,168	36,639	-3,000	5,859	36,179	
105+0,000		-8,856	34,463	-5,214	36,890	0,040	36,888	33,358	3,530	5,214	36,731	-3,000	11,617	32,463	
105+11,090	PC	-7,312	35,748	-5,240	37,129	2,010	37,024	34,260	2,764	5,240	36,866	-3,000	10,999	33,027	
106+0,000		-5,482	37,177	-5,280	37,312	3,400	37,133	35,125	2,008	5,280	36,953	-3,400	10,384	33,551	
106+10,000		-8,450	40,758	-5,122	37,429	3,400	37,255	37,286	-0,031	5,455	37,070	-3,400	10,404	33,770	
106+16,239		-9,779	42,093	-5,193	37,508	3,400	37,331	38,604	-1,273	5,397	37,148	-3,400	5,932	36,791	
107+0,000		-10,601	42,859	-5,300	37,558	3,400	37,377	38,999	-1,622	5,300	37,197	-3,400	5,369	37,266	
107+10,000		-10,958	43,555	-5,075	37,672	3,400	37,500	39,449	-1,949	5,455	37,314	-3,400	5,639	37,499	
108+0,000		-11,694	44,252	-5,188	37,746	2,380	37,622	39,439	-1,817	5,280	37,464	-3,000	6,471	36,670	
108+1,387	PT	-11,831	44,346	-5,230	37,744	2,010	37,639	39,415	-1,776	5,230	37,482	-3,000	6,935	36,346	
109+0,000		-12,587	45,173	-5,205	37,791	-1,460	37,867	39,571	-1,704	5,205	37,711	-3,000	8,856	35,277	
110+0,000		-14,528	47,305	-5,179	37,956	-3,000	38,112	41,676	-3,564	5,179	37,956	-3,000	5,352	38,130	
111+0,000		0,000	0,000	-5,153	38,202	-3,000	38,356	43,440	-5,084	5,153	38,202	-3,000	6,412	39,461	
112+0,000		-21,241	51,472	-5,126	38,447	-3,000	38,601	43,653	-5,052	5,126	38,447	-3,000	6,861	40,182	
112+19,816	TS	-10,141	43,885	-5,100	38,844	0,000	38,844	38,145	0,699	5,100	38,691	-3,000	7,314	37,215	
113+0,000		-10,060	43,809	-5,099	38,848	0,040	38,846	38,111	0,735	5,106	38,693	-3,000	10,552	35,062	
114+0,000		-10,386	35,964	-5,366	39,311	4,100	39,091	35,315	3,776	5,370	38,870	-4,100	11,916	34,507	
114+9,816	SC	-12,480	34,839	-5,500	39,492	5,120	39,211	35,090	4,121	5,500	38,929	-5,120	12,016	34,585	
114+16,757		-12,730	34,757	-5,500	39,577	5,120	39,296	34,872	4,424	5,500	39,014	-5,120	12,098	34,615	

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	BORDO	Distância (m)	Cota (m)	OFFSET	Distância (m)	Cota (m)
		Distância (m)	Cota (m)	Distância (m)	Cota (m)											
115+0,000		-12,853	34,715	-5,500	39,617	5,120	39,335	34,946	4,389	5,500	39,054	-5,120	12,144	34,624		
115+3,699	CS	-12,995	34,666	-5,500	39,662	5,120	39,381	35,029	4,352	5,500	39,099	-5,120	12,202	34,631		
115+12,003		-12,995	34,767	-5,500	39,764	5,120	39,482	35,141	4,341	5,500	39,201	-5,120	12,202	34,733		
116+0,000		-13,070	34,536	-5,280	39,730	2,830	39,580	35,174	4,406	5,280	39,422	-3,000	12,516	34,598		
116+13,699	ST	-12,652	34,713	-5,100	39,748	0,000	39,748	35,269	4,479	5,100	39,595	-3,000	12,131	34,907		
117+0,000		-12,828	34,621	-5,100	39,772	-1,030	39,825	35,366	4,459	5,100	39,672	-3,000	11,918	35,126		
118+0,000		-12,545	35,013	-5,100	39,977	-1,820	40,070	35,717	4,353	5,100	39,917	-3,000	9,918	36,705		
118+13,380	TS	-12,731	35,146	-5,100	40,233	0,000	40,233	36,169	4,064	5,100	40,080	-3,000	9,000	37,480		
119+0,000		-12,886	35,117	-4,961	40,400	1,730	40,314	36,337	3,977	5,453	40,151	-3,000	8,706	37,982		
120+0,000		-12,965	35,928	-5,539	40,878	5,590	40,569	37,441	3,128	5,541	40,259	-5,590	6,979	39,301		
120+3,380	SC	-12,996	36,019	-5,600	40,950	6,000	40,614	37,744	2,870	5,600	40,278	-6,000	6,585	39,622		
120+10,000		-12,612	36,365	-5,600	41,040	6,000	40,704	38,265	2,439	5,600	40,368	-6,000	6,155	39,998		
120+17,348		-12,102	36,807	-5,600	41,142	6,000	40,806	38,973	1,833	5,600	40,470	-6,000	5,705	40,400		
121+0,000		-11,940	36,952	-5,600	41,179	6,000	40,843	39,317	1,526	5,600	40,507	-6,000	5,661	40,568		
121+10,000		-11,365	37,480	-5,600	41,324	6,000	40,988	38,568	2,420	5,600	40,652	-6,000	6,183	40,263		
121+11,317	CS	-11,218	37,598	-5,600	41,343	6,000	41,007	38,493	2,514	5,600	40,671	-6,000	6,277	40,220		
122+0,000		-10,635	37,955	-5,460	41,405	4,910	41,137	38,008	3,129	5,459	40,869	-4,910	6,662	40,067		
123+0,000		-7,914	39,585	-5,089	41,468	0,340	41,451	38,594	2,857	5,155	41,296	-3,000	6,277	40,548		
123+1,317	ST	-7,807	39,667	-5,100	41,472	0,000	41,472	38,699	2,773	5,100	41,319	-3,000	6,125	40,636		
124+0,000		-5,730	41,218	-5,100	41,638	-2,850	41,784	40,192	1,592	5,100	41,631	-3,000	6,427	40,746		
124+5,278	TS	-5,144	41,693	-5,100	41,722	-3,000	41,875	40,829	1,046	5,100	41,875	0,000	6,318	41,063		
125+0,000		-7,063	43,104	-5,918	41,959	-3,000	42,137	42,616	-0,479	7,611	42,191	0,720	14,258	48,839		
126+0,000		-8,478	45,212	-5,523	42,257	-4,560	42,509	47,066	-4,557	9,527	42,944	4,560	18,380	51,798		
126+15,278	SC	-9,200	45,896	-5,700	42,396	-7,110	42,801	48,990	-6,189	9,700	43,491	7,110	24,689	55,390		
127+0,000		-9,521	46,307	-5,700	42,486	-7,110	42,892	49,516	-6,624	9,700	43,581	7,110	25,102	55,893		
127+10,000		-10,162	47,139	-5,700	42,678	-7,110	43,083	50,743	-7,660	9,700	43,773	7,110	25,737	56,720		
128+0,000		-10,740	47,909	-5,700	42,869	-7,110	43,274	51,474	-8,200	9,700	43,964	7,110	25,994	57,168		
128+5,476		-12,548	49,822	-5,700	42,973	-7,110	43,379	50,897	-7,518	9,700	44,068	7,110	26,550	57,828		
128+10,000		-13,144	50,504	-5,700	43,060	-7,110	43,465	51,259	-7,794	9,700	44,155	7,110	26,723	58,088		
129+0,000		-14,197	51,749	-5,700	43,251	-7,110	43,657	52,471	-8,814	9,700	44,346	7,110	26,869	58,425		
129+10,000		-14,786	52,517	-5,700	43,431	-7,110	43,837	52,569	-8,732	9,700	44,526	7,110	26,531	58,268		
129+15,675	CS	-15,149	52,973	-5,700	43,524	-7,110	43,930	52,637	-8,707	9,700	44,619	7,110	26,242	58,071		
130+0,000		-16,041	53,549	-6,097	43,605	-6,410	43,996	52,657	-8,661	9,178	44,584	6,410	25,442	57,758		
131+0,000		-18,895	54,482	-5,411	44,088	-3,000	44,250	53,505	-9,255	9,420	44,516	2,820	24,317	56,324		
132+0,000		-13,413	52,347	-5,326	44,260	-3,000	44,420	51,235	-6,815	9,009	44,420	0,000	18,187	53,598		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito			
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	BORDO	OFFSET	Distância (m)	Cota (m)
		Distância (m)	Cota (m)	Distância (m)	Cota (m)									
132+5,675	ST	-13,542	52,741	-5,100	44,299	-3,000	44,452	50,567	-6,115	9,100	44,452	0,000	17,518	52,870
133+0,000		-14,466	53,717	-5,100	44,351	-3,000	44,504	50,261	-5,757	9,100	44,231	-3,000	15,615	50,746
134+0,000		-18,810	54,971	-5,100	44,350	-3,000	44,503	51,495	-6,992	9,100	44,230	-3,000	14,120	49,250
135+0,000		-14,626	53,791	-5,100	44,265	-3,000	44,418	51,002	-6,584	9,100	44,145	-3,000	13,596	48,640
135+13,487	TS	-13,781	52,993	-5,100	44,312	0,000	44,312	50,702	-6,390	9,100	44,039	-3,000	13,109	48,048
136+0,000		-13,534	52,610	-5,075	44,151	-1,890	44,247	50,454	-6,207	9,204	43,971	-3,000	13,036	47,804
137+0,000		-12,592	51,329	-5,259	43,996	0,100	43,991	48,447	-4,456	9,261	43,713	-3,000	12,901	47,353
138+0,000		-11,155	49,592	-5,379	43,817	3,090	43,650	46,982	-3,332	9,381	43,360	-3,090	12,745	46,724
138+3,487	SC	-10,861	49,214	-5,400	43,753	3,160	43,582	46,645	-3,063	9,400	43,285	-3,160	12,687	46,572
138+10,000		-10,273	48,492	-5,400	43,619	3,160	43,448	45,994	-2,546	9,400	43,151	-3,160	12,521	46,272
138+17,249		-9,611	47,670	-5,400	43,459	3,160	43,288	45,282	-1,994	9,400	42,991	-3,160	12,291	45,883
139+0,000		-9,427	47,422	-5,400	43,395	3,160	43,225	45,004	-1,779	9,400	42,927	-3,160	12,218	45,746
139+10,000		-8,170	45,932	-5,400	43,162	3,160	42,992	43,819	-0,827	9,400	42,694	-3,160	11,979	45,274
139+11,010	CS	-8,041	45,780	-5,400	43,139	3,160	42,968	43,695	-0,727	9,400	42,671	-3,160	11,951	45,223
140+0,000		-6,928	44,510	-5,337	42,919	2,880	42,765	42,562	0,203	7,327	42,545	-3,000	9,053	44,272
141+0,000		-5,493	42,109	-5,229	42,285	-0,960	42,335	41,244	1,091	5,230	42,178	-3,000	5,480	42,011
142+0,000		-5,621	41,572	-5,100	41,919	-0,290	41,934	40,862	1,072	5,113	41,781	-3,000	7,616	40,112
142+1,010	ST	-5,651	41,548	-5,100	41,915	0,000	41,915	40,843	1,072	5,100	41,762	-3,000	7,608	40,090
142+13,989	TS	-5,791	41,211	-5,100	41,672	0,000	41,672	40,774	0,898	5,100	41,519	-3,000	7,593	39,857
143+0,000		-5,685	41,041	-5,063	41,455	-2,150	41,564	40,569	0,995	5,210	41,407	-3,000	7,459	39,908
144+0,000		-5,279	41,263	-5,260	41,244	0,390	41,223	40,229	0,994	5,260	41,065	-3,000	6,616	40,162
145+0,000		-6,428	42,154	-5,378	41,104	3,570	40,912	39,933	0,979	5,382	40,720	-3,570	6,760	39,801
145+3,989	SC	-6,383	42,046	-5,400	41,063	3,920	40,852	39,970	0,882	5,400	40,640	-3,920	6,867	39,662
145+10,000		-6,837	42,409	-5,400	40,972	3,920	40,761	39,829	0,932	5,400	40,549	-3,920	6,961	39,508
145+10,190		-6,867	42,437	-5,400	40,969	3,920	40,758	39,831	0,927	5,400	40,546	-3,920	6,962	39,505
145+16,391	CS	-7,827	43,302	-5,400	40,875	3,920	40,664	39,756	0,908	5,400	40,452	-3,920	7,116	39,308
146+0,000		-8,267	43,806	-5,259	40,798	3,600	40,609	39,770	0,839	5,261	40,419	-3,600	6,588	39,535
147+0,000		-10,182	46,057	-4,451	40,326	0,460	40,306	40,154	0,152	5,916	40,128	-3,000	6,444	39,777
148+0,000		-11,509	46,538	-4,863	39,892	-2,280	40,003	42,785	-2,782	5,378	39,842	-3,000	7,555	42,019
148+6,391	ST	-11,191	45,997	-5,100	39,906	0,000	39,906	41,868	-1,962	5,100	39,757	-2,930	7,495	42,152
149+0,000		-9,889	44,336	-5,100	39,547	-3,000	39,700	41,091	-1,391	5,100	39,686	-0,280	6,531	41,117
149+12,423	TS	-6,754	41,062	-5,100	39,408	-2,040	39,512	37,358	2,154	5,100	39,512	0,000	5,249	39,413
150+0,000		-5,734	39,639	-5,300	39,205	-3,620	39,397	37,857	1,540	5,300	39,589	3,620	7,808	37,917
151+0,000		-8,248	37,054	-5,842	38,658	-7,530	39,098	36,543	2,555	5,838	39,538	7,530	10,010	36,756
151+2,423	SC	-8,514	36,852	-5,900	38,594	-8,000	39,066	36,694	2,372	5,900	39,538	8,000	10,178	36,687

Estaca	Pontos Notáveis	Lado Esquerdo				Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	BORDO (%)	Distância (m)	OFFSET	
		Distância (m)	Cota (m)	Distância (m)	Cota (m)									Distância (m)
151+15,648		-9,011	36,381	-5,900	38,455	-8,000	38,927	36,655	2,272	5,900	39,399	8,000	11,346	35,768
152+0,000		-9,239	36,196	-5,900	38,422	-8,000	38,894	36,745	2,149	5,900	39,366	8,000	10,782	36,111
152+2,718		-9,239	36,178	-5,900	38,404	-8,000	38,876	35,777	3,099	5,900	39,348	8,000	10,782	36,094
152+8,873	CS	-9,419	36,027	-5,900	38,373	-8,000	38,845	36,710	2,135	5,900	39,317	8,000	10,440	36,291
152+10,000		-9,479	36,032	-5,961	38,377	-7,780	38,841	36,654	2,187	5,765	39,289	7,780	10,238	36,307
153+0,000		-9,180	36,109	-5,601	38,494	-5,830	38,821	36,712	2,109	5,599	39,147	5,830	9,399	36,614
153+10,000		-9,299	36,155	-5,606	38,616	-3,880	38,834	37,436	1,398	5,052	39,030	3,880	8,002	37,063
153+18,873	ST	-8,911	36,179	-5,100	38,720	-3,000	38,873	42,722	-3,849	5,100	38,873	0,000	7,491	37,279
154+0,000		-8,901	36,192	-5,100	38,727	-3,000	38,880	40,861	-1,981	5,100	38,880	0,000	7,471	37,299
155+0,000		-8,948	36,347	-5,100	38,913	-3,000	39,066	43,129	-4,063	5,100	38,965	-1,980	7,404	37,429
156+0,000		-9,065	36,493	-5,100	39,136	-3,000	39,289	45,134	-5,845	5,100	39,136	-3,000	7,910	37,263
157+0,000		-9,424	36,476	-5,100	39,359	-3,000	39,512	44,066	-4,554	5,100	39,359	-3,000	8,512	37,084
158+0,000		-9,562	36,607	-5,100	39,582	-3,000	39,735	42,311	-2,576	5,100	39,582	-3,000	8,950	37,015
159+0,000		-9,535	36,848	-5,100	39,805	-3,000	39,958	41,298	-1,340	5,100	39,805	-3,000	8,860	37,298
160+0,000		-9,324	37,212	-5,100	40,028	-3,000	40,181	40,265	-0,084	5,100	40,028	-3,000	8,760	37,588
161+0,000		-8,291	38,124	-5,100	40,251	-3,000	40,404	39,483	0,921	5,100	40,251	-3,000	8,428	38,033
162+0,000		-9,041	37,847	-5,100	40,474	-3,000	40,627	38,614	2,013	5,100	40,474	-3,000	9,578	37,489
162+10,000		-9,042	37,959	-5,100	40,586	-3,000	40,739	0,000	40,739	5,100	40,586	-3,000	9,852	37,418
163+0,000		-9,008	38,093	-5,100	40,699	-3,000	40,852	38,304	2,548	5,100	40,699	-3,000	9,455	37,795
163+10,000		-8,997	38,219	-5,100	40,817	-2,890	40,964	38,323	2,641	5,100	40,811	-3,000	8,850	38,311
164+0,000		-8,916	38,533	-5,099	41,077	0,000	41,077	38,374	2,703	5,114	40,924	-3,000	8,734	38,511
165+0,000		-8,148	39,554	-5,300	41,453	2,820	41,304	38,440	2,864	5,300	41,145	-3,000	9,291	38,485
165+9,285	SC	-7,777	39,996	-5,400	41,580	3,160	41,410	38,722	2,688	5,400	41,239	-3,160	9,254	38,669
166+0,000		-7,042	40,532	-5,400	41,627	1,760	41,532	38,511	3,021	5,400	41,378	-2,850	8,918	39,033
166+1,350		-6,946	40,602	-5,400	41,633	1,580	41,547	38,880	2,667	5,400	41,396	-2,810	8,884	39,073
166+13,414	CS	-7,006	40,615	-5,400	41,685	0,000	41,686	40,598	1,088	5,400	41,553	-2,460	8,225	39,669
167+0,000		-7,008	40,769	-5,330	41,887	2,370	41,761	38,832	2,929	5,330	41,607	-2,890	8,065	39,784
167+10,000		-6,328	41,135	-5,109	41,948	1,420	41,876	39,610	2,266	5,353	41,715	-3,000	8,178	39,832
168+0,000		-6,465	41,047	-5,088	41,965	-0,500	41,990	40,759	1,231	5,179	41,835	-3,000	8,258	39,782
168+3,414	ST	-6,519	41,025	-5,100	41,971	-1,150	42,029	40,669	1,360	5,100	41,876	-3,000	8,272	39,762
169+0,000		-6,596	41,069	-5,100	42,066	-3,000	42,219	40,702	1,517	5,100	42,096	-2,420	8,277	39,978
169+8,001	TS	-6,194	41,429	-5,100	42,158	-3,000	42,311	40,830	1,481	5,100	42,311	0,000	8,542	40,017
170+0,000		-6,540	41,466	-5,306	42,289	-3,000	42,449	40,721	1,728	5,053	42,410	-0,770	8,780	39,925
170+18,001	SC	-7,137	41,272	-5,300	42,496	-3,000	42,655	41,005	1,650	5,300	42,814	3,000	9,973	39,699
171+0,000		-7,181	41,265	-5,300	42,519	-3,000	42,678	41,206	1,472	5,300	42,837	3,000	10,044	39,674

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		Distância (m)	Cota (m)	OFFSET	OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)				Distância (m)	Cota (m)	
171+2,553		-7,235	41,258	-5,300	42,548	-3,000	42,707	40,712	1,995	5,300	42,866	3,000	10,134	39,644		
171+7,105	CS	-7,333	41,245	-5,300	42,600	-3,000	42,759	40,524	2,235	5,300	42,918	3,000	10,294	39,589		
172+0,000		-7,353	41,313	-5,210	42,741	-3,000	42,898	40,795	2,103	5,210	42,910	0,240	10,067	39,672		
172+10,000		-7,261	41,435	-5,170	42,829	-3,000	42,984	40,577	2,407	5,122	42,896	-1,720	10,359	39,405		
172+17,105	ST	-7,305	41,412	-5,100	42,881	-3,000	43,034	40,283	2,751	5,100	43,034	0,000	10,653	39,332		
173+0,000		-7,365	41,410	-5,100	42,921	-2,580	43,052	40,452	2,600	5,100	42,910	-2,780	10,398	39,378		
173+11,657	TS	-7,571	41,460	-5,100	43,108	0,000	43,108	40,247	2,861	5,100	43,033	-1,460	10,902	39,165		
174+0,000		-7,724	41,519	-5,210	43,195	1,220	43,132	40,418	2,714	5,210	42,975	-3,000	11,317	38,904		
175+0,000		-8,808	41,185	-5,479	43,404	4,890	43,137	40,266	2,871	5,481	42,869	-4,890	11,778	38,670		
175+1,657	SC	-8,878	41,126	-5,500	43,378	4,440	43,134	39,883	3,251	5,500	42,889	-4,440	11,862	38,648		
175+15,358		-10,208	40,195	-5,500	43,333	4,440	43,089	39,162	3,927	5,500	42,845	-4,440	12,039	38,486		
176+0,000		-10,636	39,887	-5,500	43,311	4,440	43,066	40,012	3,054	5,500	42,822	-4,440	12,016	38,479		
176+9,059	CS	-11,252	39,420	-5,500	43,254	4,440	43,010	38,860	4,150	5,500	42,766	-4,440	11,988	38,440		
176+10,000		-11,293	39,370	-5,459	43,259	4,690	43,003	39,319	3,684	5,514	42,744	-4,690	11,978	38,435		
177+0,000		-11,690	38,870	-5,350	43,097	3,290	42,922	39,123	3,799	5,350	42,745	-3,290	11,958	38,340		
177+10,000		-11,415	38,696	-5,123	42,891	1,360	42,821	38,874	3,947	5,313	42,662	-3,000	11,494	38,541		
177+19,059	ST	-10,948	38,823	-5,100	42,721	0,000	42,721	38,760	3,961	5,100	42,568	-3,000	11,493	38,306		
178+0,000		-10,897	38,836	-5,100	42,700	-0,210	42,711	38,971	3,740	5,102	42,558	-3,000	11,481	38,305		
179+0,000		-9,750	39,236	-5,096	42,338	-3,000	42,491	38,753	3,738	5,142	42,337	-3,000	11,274	38,249		
180+0,000		-8,578	39,795	-5,092	42,119	-3,000	42,272	38,478	3,794	5,183	42,116	-3,000	11,311	38,030		
181+0,000		-7,633	40,203	-5,089	41,899	-3,000	42,052	38,602	3,450	5,223	41,895	-3,000	10,887	38,120		
182+0,000		-5,285	41,546	-5,085	41,679	-3,000	41,832	38,801	3,031	5,263	41,674	-3,000	9,550	38,816		
183+0,000		-5,437	41,223	-5,081	41,460	-3,000	41,612	39,984	1,628	5,304	41,453	-3,000	9,414	38,713		
183+18,147	TS	-6,402	40,530	-5,078	41,413	0,000	41,413	38,725	2,688	5,341	41,253	-3,000	9,849	38,247		
184+0,000		-6,564	40,375	-5,078	41,365	-0,540	41,393	40,488	0,905	5,344	41,232	-3,000	10,042	38,100		
185+0,000		-9,540	38,257	-5,229	41,131	-0,790	41,173	39,038	2,135	5,231	41,016	-3,000	11,043	37,141		
186+0,000		-10,890	37,417	-5,350	41,110	3,000	40,950	37,990	2,960	5,350	40,789	-3,000	11,391	36,761		
186+8,147	SC	-10,563	37,585	-5,400	41,027	3,160	40,856	36,889	3,967	5,400	40,686	-3,160	11,295	36,756		
187+0,000		-10,390	37,563	-5,400	40,889	3,160	40,719	37,219	3,500	5,400	40,548	-3,160	11,326	36,598		
188+0,000		-7,350	39,351	-5,400	40,652	3,160	40,481	37,028	3,453	5,400	40,310	-3,160	10,721	36,763		
188+0,225		-7,331	39,362	-5,400	40,649	3,160	40,478	37,380	3,098	5,400	40,308	-3,160	10,705	36,771		
188+10,000		-6,515	39,787	-5,400	40,530	3,160	40,359	37,372	2,987	5,400	40,189	-3,160	10,073	37,073		
189+0,000		-5,570	40,293	-5,400	40,406	3,160	40,236	37,374	2,862	5,400	40,065	-3,160	9,640	37,239		
189+10,000		-6,192	41,073	-5,400	40,281	3,160	40,111	37,974	2,137	5,400	39,940	-3,160	9,715	37,064		
189+12,303	CS	-6,292	41,144	-5,400	40,252	3,160	40,082	39,400	0,682	5,400	39,911	-3,160	9,803	36,976		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito				
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	Cota (m)	Distância (m)	Cota (m)	Distância (m)	OFFSET
		Distância (m)	Cota (m)	Distância (m)	Cota (m)										
190+0,000		-5,671	40,466	-5,349	40,145	3,010	39,984	38,985	0,999	5,351	39,822	-3,010	9,856	36,819	
190+10,000		-5,440	39,721	-5,144	39,918	1,210	39,856	39,580	0,276	5,433	39,693	-3,000	9,879	36,729	
191+0,000		-5,561	39,469	-5,230	39,691	-0,710	39,728	39,068	0,660	5,230	39,571	-3,000	9,594	36,662	
192+0,000		-5,854	39,054	-5,285	39,434	-0,720	39,472	38,084	1,388	5,264	39,438	-0,650	9,196	36,817	
192+2,303	ST	-5,930	39,017	-5,310	39,430	-0,220	39,442	37,688	1,754	5,249	39,435	-0,140	9,172	36,820	
192+2,920	TS	-5,950	39,007	-5,317	39,429	-0,090	39,434	37,621	1,813	5,245	39,434	0,000	9,169	36,819	
193+0,000		-5,721	38,789	-5,320	39,056	-3,000	39,216	37,657	1,559	5,320	39,370	2,910	9,239	36,758	
193+12,920	SC	-6,246	39,553	-5,500	38,806	-4,440	39,051	38,003	1,048	5,500	39,295	4,440	9,257	36,790	
194+0,000		-6,392	39,611	-5,500	38,719	-4,440	38,963	37,606	1,357	5,500	39,208	4,440	9,092	36,813	
194+3,191		-6,434	39,615	-5,500	38,681	-4,440	38,925	37,447	1,478	5,500	39,169	4,440	9,019	36,824	
194+13,462	CS	-6,939	40,003	-5,500	38,563	-4,440	38,808	37,084	1,724	5,500	39,052	4,440	8,780	36,865	
195+0,000		-7,775	40,867	-5,420	38,512	-4,140	38,737	37,710	1,027	5,420	38,961	4,140	8,788	36,715	
195+10,000		-6,066	38,071	-5,467	38,470	-3,000	38,634	37,221	1,413	5,097	38,747	2,210	9,103	36,076	
196+0,000		-5,831	37,973	-5,216	38,383	-3,000	38,539	37,303	1,236	5,077	38,554	0,280	9,353	35,703	
196+3,462	ST	-5,714	37,946	-5,100	38,355	-3,000	38,508	36,682	1,826	5,100	38,508	0,000	9,419	35,629	
197+0,000		-6,135	37,572	-5,168	38,216	-3,000	38,371	36,738	1,633	5,168	38,309	-1,200	8,964	35,778	
198+0,000		-6,455	37,271	-5,250	38,075	-3,000	38,232	36,502	1,730	5,250	38,372	2,660	8,244	36,376	
198+4,887	PC	-6,519	37,231	-5,300	38,044	-3,000	38,203	36,352	1,851	5,300	38,345	2,690	8,376	36,295	
199+0,000		-5,477	37,756	-5,367	37,829	-5,400	38,119	36,371	1,748	5,367	38,409	5,400	9,889	35,394	
200+0,000		-5,731	38,049	-5,400	37,718	-5,400	38,009	36,301	1,708	5,400	38,301	5,400	9,454	35,598	
200+0,349		-5,746	38,062	-5,400	37,716	-5,400	38,007	36,251	1,756	5,400	38,299	5,400	9,472	35,585	
200+10,000		-5,665	37,936	-5,393	37,663	-5,400	37,954	36,287	1,667	5,393	38,246	5,400	9,383	35,586	
201+0,000		-5,772	38,012	-5,369	37,610	-5,400	37,900	36,256	1,644	5,369	38,189	5,400	9,584	35,379	
201+10,000		-5,872	38,142	-5,330	37,599	-4,600	37,845	36,205	1,640	5,330	38,087	4,540	9,353	35,405	
201+15,811	PT	-5,863	38,217	-5,300	37,654	-3,000	37,813	35,917	1,896	5,300	37,955	2,690	8,926	35,538	
202+0,000		-5,938	38,305	-5,300	37,667	-2,320	37,790	36,126	1,664	5,300	37,938	2,790	8,893	35,542	
202+10,000		-5,938	38,251	-5,300	37,612	-2,320	37,735	36,021	1,714	5,300	37,883	2,790	8,893	35,487	
203+0,000		-6,178	37,176	-5,300	37,762	1,540	37,680	35,864	1,816	5,300	37,624	-1,060	8,452	35,522	
203+10,693	PC	-6,572	36,916	-5,300	37,764	2,690	37,622	35,722	1,900	5,300	37,463	-3,000	8,238	35,504	
204+0,000		-7,508	36,410	-5,336	37,858	5,400	37,571	35,752	1,819	5,335	37,283	-5,400	8,077	35,455	
205+0,000		-9,190	35,216	-5,386	37,752	5,400	37,461	35,695	1,766	5,385	37,170	-5,400	8,419	35,147	
205+10,000		-8,765	35,452	-5,397	37,698	5,400	37,406	35,765	1,641	5,396	37,115	-5,400	8,103	35,311	
205+17,725		-8,670	35,476	-5,400	37,655	5,400	37,364	35,627	1,737	5,399	37,072	-5,400	7,950	35,372	
206+0,000		-8,638	35,484	-5,400	37,643	5,400	37,351	35,618	1,733	5,399	37,060	-5,400	7,908	35,387	
206+10,000		-8,470	35,536	-5,393	37,588	5,400	37,297	35,627	1,670	5,392	37,005	-5,400	7,535	35,577	

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito				
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	Distância (m)	Cota (m)	OFFSET	Distância (m)	Cota (m)
		Distância (m)	Cota (m)	Distância (m)	Cota (m)										
207+0,000		-7,967	35,806	-5,377	37,532	37,242	35,628	1,614	5,377	37,178	-1,170	7,529	35,744		
207+10,000		-7,486	36,054	-5,353	37,476	37,187	35,640	1,547	5,352	37,227	0,750	7,727	35,644		
208+0,000		-6,437	36,561	-5,319	37,306	37,132	35,686	1,446	5,319	37,275	2,680	7,746	35,657		
208+4,756	PT	-5,464	36,996	-5,300	37,106	37,106	35,716	1,390	5,300	37,106	0,000	7,260	35,800		
208+10,000		-5,701	37,269	-5,317	36,885	37,077	35,692	1,385	5,317	37,269	3,610	7,347	35,916		
209+0,000		-5,950	37,337	-5,346	36,734	37,022	35,710	1,312	5,346	37,311	5,400	7,137	36,117		
209+10,000		-6,075	37,382	-5,370	36,678	36,968	35,816	1,152	5,370	37,258	5,400	7,079	36,119		
210+0,000		-7,629	38,862	-5,389	36,622	36,913	36,372	0,541	5,389	37,204	5,400	6,709	36,324		
210+7,938		-7,903	39,081	-5,400	36,578	36,869	37,939	-1,070	5,400	37,161	5,400	6,534	36,405		
210+10,000		-7,646	38,810	-5,402	36,566	36,858	36,893	-0,035	5,402	37,150	5,400	6,581	36,364		
211+0,000		-6,810	37,911	-5,410	36,511	36,803	37,644	-0,841	5,410	37,095	5,400	6,876	36,118		
211+10,000		-5,811	37,035	-5,413	36,636	36,748	37,915	-1,167	5,413	37,040	5,400	7,232	35,828		
212+0,000		-6,064	36,251	-5,410	36,687	36,693	36,389	0,304	5,410	36,986	5,400	8,067	35,214		
212+10,000		-6,648	35,906	-5,401	36,737	36,639	35,708	0,931	5,401	36,736	1,810	7,953	35,035		
212+11,120	PT	-6,680	35,889	-5,400	36,742	36,633	35,261	1,372	5,400	36,699	1,230	7,864	35,056		
213+0,000		-6,862	35,737	-5,400	36,711	36,584	35,463	1,121	5,400	36,456	-2,360	6,981	35,402		
213+3,321	PC	-6,946	35,633	-5,400	36,664	36,566	35,349	1,217	5,400	36,467	-1,820	7,383	35,145		
213+10,000		-7,221	35,703	-5,511	36,843	36,529	35,277	1,252	5,511	36,215	-5,700	7,075	35,173		
214+0,000		-7,663	35,464	-5,595	36,843	36,474	35,302	1,172	5,595	36,105	-6,600	7,402	34,900		
214+3,281		-7,784	35,371	-5,600	36,827	36,457	35,320	1,137	5,600	36,087	-6,600	7,361	34,913		
215+0,000		-7,650	35,209	-5,460	36,669	36,395	35,439	0,956	5,460	36,120	-5,030	6,791	35,232		
215+3,241	PT	-7,443	35,242	-5,400	36,604	36,388	35,214	1,174	5,400	36,170	-4,020	6,514	35,428		
215+10,000		-7,672	35,028	-5,400	36,543	36,378	35,273	1,105	5,400	36,212	-3,060	7,207	35,008		
216+0,000		-6,471	35,723	-5,400	36,437	36,376	35,327	1,049	5,400	36,214	-3,000	7,141	35,053		
217+0,000		-8,004	38,873	-5,400	36,269	36,417	35,201	1,216	5,400	36,255	-3,000	5,659	36,514		
218+0,000		-8,555	39,511	-5,400	36,356	36,518	36,985	-0,467	5,400	36,356	-3,000	7,758	38,714		
219+0,000		-11,233	42,321	-5,400	36,488	36,650	39,382	-2,732	5,400	36,488	-3,000	7,370	38,458		
220+0,000		-6,644	37,957	-5,400	36,713	36,782	39,451	-2,669	5,400	36,620	-3,000	6,231	36,066		
221+0,000		-7,367	35,740	-5,400	37,052	36,911	37,549	-0,638	5,400	36,749	-3,000	8,051	34,981		
221+9,213	PC	-8,556	35,076	-5,400	37,180	36,963	35,178	1,785	5,400	36,745	-4,020	8,938	34,387		
222+0,000		-10,068	34,370	-5,558	37,377	37,016	35,289	1,727	5,558	36,655	-6,490	8,783	34,505		
222+9,191		-10,485	34,169	-5,600	37,426	37,056	35,348	1,708	5,600	36,686	-6,600	8,930	34,467		
223+0,000		-9,606	34,729	-5,541	37,438	37,096	35,166	1,930	5,541	36,753	-6,180	9,886	33,857		
223+9,168	PT	-6,561	36,567	-5,400	37,341	37,124	34,802	2,322	5,400	36,907	-4,020	8,982	34,519		
223+10,000		-6,561	36,569	-5,400	37,343	37,126	35,347	1,779	5,400	36,909	-4,020	8,982	34,521		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET	BORDO		OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		Distância (m)	Cota (m)		Distância (m)	Cota (m)
224+0,000		-6,781	38,692	-5,365	37,276	2,300	37,153	34,454	2,699	5,365	37,102	-0,950	9,348	34,447		
224+10,000		-6,781	38,719	-5,365	37,303	2,300	37,179	34,802	2,377	5,365	37,129	-0,950	9,348	34,473		
225+0,000		-11,613	43,435	-5,300	37,122	-1,580	37,206	35,112	2,094	5,300	37,362	2,940	9,485	34,572		
225+7,539	PC	-11,807	43,443	-5,400	37,035	-3,540	37,226	38,200	-0,974	5,400	37,417	3,540	9,717	34,539		
226+0,000		-12,219	43,624	-5,492	36,897	-6,600	37,260	37,909	-0,649	5,492	37,622	6,600	10,262	34,442		
227+0,000		-12,271	43,634	-5,582	36,945	-6,600	37,313	37,990	-0,677	5,582	37,682	6,600	10,395	34,473		
227+10,000		-12,584	43,956	-5,599	36,970	-6,600	37,340	37,964	-0,624	5,599	37,709	6,600	10,303	34,573		
227+13,864		-12,566	43,945	-5,600	36,979	-6,600	37,348	37,121	0,227	5,600	37,718	6,600	10,252	34,617		
228+0,000		-12,838	44,225	-5,596	36,984	-6,600	37,354	37,271	0,083	5,596	37,723	6,600	10,047	34,756		
228+10,000		-13,666	45,064	-5,575	36,972	-6,600	37,341	37,228	0,113	5,575	37,708	6,600	10,029	34,740		
229+0,000		-14,195	45,596	-5,536	36,936	-6,600	37,301	37,160	0,141	5,536	37,666	6,600	9,638	34,932		
229+10,000		-15,139	46,547	-5,477	36,885	-6,380	37,235	38,126	-0,891	5,477	37,584	6,380	9,056	35,198		
230+0,000		-14,722	46,242	-5,402	36,922	-4,080	37,142	0,000	37,142	5,402	37,363	4,080	8,224	35,481		
230+0,189	PT	-14,690	46,213	-5,400	36,923	-4,020	37,140	0,000	37,140	5,400	37,357	4,020	8,210	35,484		
230+10,000		-13,229	44,722	-5,369	36,862	-3,000	37,023	0,000	37,023	5,369	37,157	2,500	5,601	37,389		
231+0,000		-12,123	43,504	-5,337	36,717	-3,000	36,878	0,000	36,878	5,337	36,907	0,550	5,519	37,089		
232+0,000		-7,750	38,826	-5,273	36,349	-3,000	36,507	0,000	36,507	5,273	36,349	-3,000	6,828	35,312		
233+0,000		-7,883	34,105	-5,210	35,887	-3,000	36,043	0,000	36,043	5,210	35,887	-3,000	7,411	34,420		
234+0,000		-9,099	32,777	-5,146	35,412	-3,000	35,567	0,000	35,567	5,146	35,412	-3,000	8,747	33,012		
234+14,510		-9,099	32,431	-5,146	35,066	-3,000	35,221	0,000	35,221	5,146	35,066	-3,000	8,747	32,666		



4.4 – NOTAS DE SERVIÇO DE PAVIMENTAÇÃO INTERSEÇÃO

Estaca	Pontos Notáveis	Lado Esquerdo				Eixo			Lado Direito				
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	BORDO (%)	OFFSET	
		Distância (m)	Cota (m)	Distância (m)	Cota (m)							Distância (m)	Cota (m)
100+0,000		-11,026	44,927	-2,100	36,001	26,360	36,064	40,072	-4,008	3,000	35,919	3,000	
100+9,423	PC	-10,219	43,895	-2,100	35,776	26,360	35,839	39,715	-3,876	4,013	35,725	3,000	
100+10,000		-10,185	43,847	-2,100	35,763	26,360	35,826	39,694	-3,868	4,082	35,713	3,000	
101+0,000		-8,908	42,332	-2,100	35,524	26,360	35,587	39,450	-3,863	6,397	35,526	1,000	
101+10,000		-6,961	40,186	-2,100	35,325	26,360	35,388	38,261	-2,873	5,500	35,318	3,000	
102+0,000		-4,997	38,103	-2,100	35,206	26,360	35,269	37,121	-1,852	5,500	35,199	3,000	
102+0,789	PCC	-4,833	37,933	-2,100	35,200	26,360	35,263	36,979	-1,716	5,500	35,193	3,000	
102+10,000		-3,189	36,255	-2,100	35,165	26,360	35,229	35,851	-0,622	5,500	35,159	3,000	
103+0,000		-2,249	35,105	-2,100	35,204	26,360	35,268	34,866	0,402	8,656	35,229	1,000	
103+10,000		-3,190	34,557	-2,100	35,283	26,360	35,346	33,655	1,691	5,265	35,269	3,000	
103+16,416	PT	-3,628	34,315	-2,100	35,333	26,360	35,396	33,592	1,804	4,337	35,292	3,000	
104+0,000		-3,667	34,344	-2,143	35,360	26,360	35,425	33,594	1,831	4,115	35,313	3,000	
104+13,157		-3,651	34,559	-2,300	35,459	26,360	35,528	33,907	1,621	3,299	35,392	3,000	

Estaca	Pontos Notáveis	Lado Esquerdo				Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	BORDO (%)	OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)							Distância (m)	Cota (m)	
200+0,00				-3,000	35,859	3,000	36,154	38,338	-2,184	2,100	36,091	45,110	2,965	36,956
200+10,000				-3,487	35,635	3,000	35,916	37,687	-1,771	2,100	35,853	45,110	2,221	35,772
201+0,000				-7,294	35,475	1,000	35,677	35,598	0,079	2,100	35,614	45,110	2,149	35,581
201+10,000				-5,500	35,264	3,000	0,000	0,000	0,000	2,100	35,420	45,110	3,629	34,401
202+0,000				-5,500	35,159	3,000	35,379	32,666	2,713	2,100	35,316	45,110	6,463	32,408
202+10,000				-5,945	35,149	1,000	35,365	32,565	2,800	2,100	35,302	45,110	6,350	32,468
203+0,000				-7,728	35,242	1,000	35,440	32,549	2,891	2,100	35,377	45,110	7,167	31,999
203+10,000				-5,108	35,295	3,000	35,526	33,221	2,305	2,100	35,463	45,110	5,358	33,291
203+12,303	PT			-4,840	35,297	3,000	35,537	33,248	2,289	2,100	35,474	45,110	5,336	33,316
204+0,000				-4,227	35,288	3,000	35,546	33,298	2,248	2,100	35,483	45,110	5,188	33,425
204+0,460				-4,206	35,287	3,000	35,546	33,306	2,240	2,100	35,483	45,110	5,176	33,432
204+6,776				-3,860	35,253	3,000	35,522	33,555	1,967	2,100	35,459	45,110	4,835	33,636
204+10,739				-3,714	35,220	3,000	35,494	33,650	1,844	2,098	35,431	45,110	4,583	33,774
204+16,486				-3,300	35,162	3,000	35,448	33,674	1,774	2,800	35,364	45,110	5,124	33,815

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito			
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET			
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)	
300+0,000		-6,152	32,717	-2,100	35,419	-3,000	35,482	33,192	2,290	3,301	35,581	3,000		
300+10,000		-6,416	32,538	-2,205	35,345	-3,000	35,411	33,458	1,953	3,310	35,511	3,000		
301+0,000		-6,399	32,434	-2,135	35,276	-3,000	35,340	33,071	2,269	4,646	35,480	3,000		
301+10,000		-6,438	32,309	-2,091	35,207	-3,000	35,270	32,714	2,556	7,576	35,455	1,000		
302+0,000		-6,511	32,179	-2,074	35,137	-3,000	35,199	32,533	2,666	6,129	35,370	1,000		
302+10,000		-6,466	32,156	-2,086	35,076	-3,000	35,139	32,473	2,666	5,500	35,304	3,000		
302+14,606	PRC	-6,447	32,157	-2,100	35,055	-3,000	35,118	32,441	2,677	5,500	35,283	3,000		
303+0,000		-6,374	32,187	-2,100	35,037	-3,000	35,100	32,415	2,685	5,500	35,265	3,000		
303+10,000		-6,064	32,376	-2,100	35,019	-3,000	35,082	32,439	2,643	5,500	35,247	3,000		
304+0,000		-6,056	32,385	-2,100	35,022	-3,000	35,085	32,534	2,551	5,500	35,250	3,000		
304+5,402	PT	-6,044	32,401	-2,100	35,030	-3,000	35,093	32,621	2,472	5,500	35,258	3,000		
305+0,000		-5,902	32,516	-2,100	35,051	-3,000	35,114	32,919	2,195	5,500	35,279	3,000		
305+2,158	PC	-6,098	32,388	-2,100	35,053	-3,000	35,116	32,955	2,161	5,875	35,285	1,000		
305+10,000		-5,288	32,876	-2,018	35,056	-3,000	35,116	32,911	2,205	9,425	35,321	1,000		
306+0,000		-5,253	32,891	-2,038	35,034	-3,000	35,095	33,004	2,091	5,713	35,262	1,000		
306+10,000		-4,667	33,337	-2,196	34,985	-3,000	35,051	33,229	1,822	3,929	35,169	3,000		
307+0,000		-4,808	33,360	-2,486	34,908	-3,000	34,983	33,450	1,533	3,234	35,080	3,000		
307+7,849		-4,730	33,549	-2,800	34,836	-3,000	34,920	33,722	1,198	3,300	35,019	3,000		

Estaca	Pontos Notáveis	Lado Esquerdo				Eixo			Lado Direito				
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)
400+0,000				-6,127	35,362	3,000	34,717	0,846	13,816	35,020	-1,000		
400+10,000				-6,018	35,421	3,000	34,372	1,253	13,840	35,082	-1,000		
401+0,000				-11,214	35,603	1,000	33,694	1,982	13,486	35,136	-1,000		
401+10,000				-4,519	35,392	3,000	33,401	2,241	13,677	35,100	-1,000		
402+0,000				-4,500	35,273	3,000	33,055	2,468	13,102	34,987	-1,000		
402+7,124				-4,500	35,200	3,000	33,215	2,235	13,611	34,909	-1,000		
402+10,000				-4,537	35,183	3,000	33,035	2,397	13,729	34,889	-1,000		
403+0,000				-10,521	35,340	1,000	33,095	2,324	13,730	34,877	-1,000		
403+10,000				-7,783	35,295	3,000	33,082	2,365	14,260	34,899	-1,000		
404+0,000				-5,125	35,252	3,000	34,926	0,557	14,220	34,936	-1,000		
404+10,000				-10,561	35,457	1,000	34,984	0,552	13,613	34,995	-1,000		
404+14,248				-6,127	35,362	3,000	34,717	0,846	13,816	35,020	-1,000		



4.5 – NOTAS DE SERVIÇO DE DRENAGEM E OAC

BACIA N°	N° DO BUEIRO	LOCALIZAÇÃO (estaca)	BUEIRO				Tipo de serviço	COTAS FINAIS E TIPOS DE SAÍDA				OBSERVAÇÕES	
			Tipo e Dimensão Bueiro	Esc.	Comprimento (m)			Tipo de berço	ESQUERDA		DIREITA		
					Esquerdo	Direito			COTA	TIPO	COTA		TIPO
01	01	4 + 7,00	BSTC Ø 0,80	0	4,50	3,00	-	MANTER	CX	17,920	CX/BO	DEB-03	CAIXAS EXPOSTAS NA RUA, PORÉM TAMPADAS
02	02	20 + 0,00	BTT C Ø 1,00	0	8,00	8,00	C	IMPLANTAR	BO	19,337	BO	DEB-10	
02	03	20 + 5,00	BSTC Ø 0,60	5	9,50	-	-	DEMOLIR	-	-	-	-	DESL. OCADO DO EIXO (MONTANTE)
03	04	32 + 0,00	BSTC Ø 0,80	0	5,00	7,50	C	IMPLANTAR	CX	27,779	BO/DA	DEB-03	
-	05	41 + 10,00	BSTC Ø 0,80	0	4,50	12,50	C	IMPLANTAR	CX	29,013	BO/DA	DEB-03	
04	06	49 + 10,00	BSCC 3,0 X 3,0	20	14,00	11,50	C	IMPLANTAR	BO	22,941	BO	-	CAMINHO DE SERVIÇO (PROVISÓRIO)
04	-	49 + 10,00	BTT C Ø 1,50	-	-	6,00	-	IMPLANTAR	-	-	-	-	
05	07	54 + 15,00	BSTC Ø 1,20	-30	10,00	10,00	C	IMPLANTAR	BO/DA	25,044	BO	DEB-05	
06	08	62 + 0,00	BSTC Ø 0,80	0	8,00	4,00	C	IMPLANTAR	BO/DA	24,749	CX	DEB-03	
07	09	69 + 7,00	BSTC Ø 1,00	-40	7,50	8,00	-	DEMOLIR	-	26,860	-	-	
07	10	69 + 12,00	BTT C Ø 1,50	-45	15,00	15,00	C	IMPLANTAR	BO	27,595	BO	DEB-12	
07	11	69 + 18,00	BSTC Ø 1,00	-55	10,50	5,50	-	DEMOLIR	-	26,840	-	-	
07	12	72 + 7,00	BSTC Ø 0,40	-25	8,00	-	-	DEMOLIR	-	28,440	-	-	DESL. OCADO DO EIXO (JUSANTE)
08	13	75 + 4,00	BSTC Ø 1,20	0	-	8,00	-	DEMOLIR	-	28,490	-	-	DESL. OCADO DO EIXO (JUSANTE)
08	14	76 + 0,00	BSCC 2,0 X 2,0	30	11,00	11,00	C	IMPLANTAR	BO	28,736	BO	-	
08	15	76 + 9,00	BSTC Ø 1,20	15	1,50	9,50	-	DEMOLIR	-	26,880	-	-	
09	16	84 + 12,00	BSTC Ø 0,60	25	4,20	3,80	-	DEMOLIR	-	28,660	-	-	
09	17	85 + 0,00	BSCC 2,0 X 2,0	30	8,50	9,50	C	IMPLANTAR	BO	29,475	BO	-	
10	18	91 + 10,00	BSTC Ø 1,00	0	7,50	7,50	C	IMPLANTAR	BO	30,853	BO	DEB-04	
11	19	104 + 8,00	BSCC 2,0 X 2,0	-15	10,00	10,00	C	IMPLANTAR	BO	32,312	BO	-	
11	20	104 + 12,00	BSTC Ø 0,60	-15	3,50	4,50	-	DEMOLIR	-	31,870	-	-	
12	21	109 + 0,00	BSTC Ø 1,00	0	4,00	7,00	C	IMPLANTAR	CX	35,541	BO	DEB-04	(BUEIRO ASSOREADO)
13	22	115 + 12,00	BSTC Ø 0,60	-5	2,50	5,00	-	DEMOLIR	-	-	-	-	
13	23	115 + 18,00	BTT C Ø 1,00	0	11,50	11,50	C	IMPLANTAR	BO	34,536	BO	DEB-07	
14	24	122 + 0,00	BSTC Ø 1,00	0	9,00	7,00	C	IMPLANTAR	BO	38,191	CX	DEB-04	
15	25	143 + 0,00	BSTC Ø 0,80	0	6,00	7,00	C	IMPLANTAR	CX	39,811	BO	DEB-03	
16	26	152 + 1,00	BSTC Ø 0,60	35	-	8,00	-	DEMOLIR	-	35,590	-	-	DESL. OCADO DO EIXO (MONTANTE)
16	27	152 + 7,00	BTT C Ø 1,00	45	15,00	14,00	C	IMPLANTAR	BO	35,377	BO	DEB-07	
17	28	162 + 4,00	BTT C Ø 1,00	-45	16,50	16,50	C	IMPLANTAR	BO	36,148	BO	DEB-10	ABRIR VALA (JUSANTE)
17	29	162 + 5,00	BSTC Ø 0,60	-55	-	15,50	-	DEMOLIR	-	36,730	-	-	DESL. OCADO DO EIXO (JUSANTE)
18	30	168 + 13,00	BSTC Ø 0,60	20	-	8,00	-	DEMOLIR	-	38,720	-	-	DESL. OCADO DO EIXO (JUSANTE)
18	31	168 + 13,00	BSTC Ø 0,80	20	7,00	9,00	C	IMPLANTAR	CX	38,795	BO	DEB-03	
19	32	177 + 8,00	BSTC Ø 0,40	-5	2,00	6,00	-	DEMOLIR	-	38,420	-	-	
19	33	177 + 13,00	BSTC Ø 1,20	0	10,00	10,00	C	IMPLANTAR	BO	38,690	BO	DEB-05	
20	34	186 + 0,00	BSTC Ø 0,60	-30	8,00	-	-	DEMOLIR	-	36,750	-	-	DESL. OCADO DO EIXO (MONTANTE)
20	35	186 + 6,00	BSTC Ø 1,20	-30	11,00	11,00	C	IMPLANTAR	BO	37,145	BO	DEB-05	

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY
 IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO
 CONSULTORIA: Programar Engenharia e Consultoria Ltda.
 Elaborar: _____
 em escala: _____
 Data: _____
 Folha n° _____
 PROJETO DE DRENAGEM
 NOTA DE SERVIÇO - BUEIRO
 VÍCIO: _____
 REVISÃO: _____

N°	LOCALIZAÇÃO (ESTACA)				EXTENSÃO TOTAL (m)	PROJETO TIPO	TIPO DE SERVIÇO	DISPOSITIVO DE SAÍDA		OBSERVAÇÕES
	LADO ESQUERDO		LADO DIREITO					ESTACA	PROJETO TIPO	
	INÍCIO	FINAL	INÍCIO	FINAL						
	24 + 5,00	48 + 15,00			490,00	VPC-03	IMPLANTAR	24 + 5,00	DES-04	
					-	-	-	48 + 15,00	VPA-02	
	56 + 0,00	57 + 0,00	57 + 10,00	68 + 5,00	20,00	VPC-03	IMPLANTAR	56 + 0,00	VPA-02	
	57 + 10,00	68 + 5,00			215,00	VPC-03	IMPLANTAR	57 + 10,00	DES-04	
	96 + 10,00	103 + 10,00			-	-	-	68 + 5,00	VPA-02	
			103 + 10,00	140,00	140,00	VPC-03	IMPLANTAR	96 + 10,00	VPA-02	
	106 + 5,00	113 + 5,00			140,00	VPC-03	IMPLANTAR	103 + 10,00	VPA-02	
					-	-	-	106 + 5,00	VPA-02	
	124 + 5,00	140 + 10,00			325,00	VPC-03	IMPLANTAR	113 + 5,00	VPA-02	
					-	-	-	124 + 5,00	VPA-02	
	124 + 10,00	140 + 15,00			325,00	VPC-03	IMPLANTAR	140 + 10,00	VPA-02	
					-	-	-	140 + 10,00	DES-04	
	143 + 10,00	150 + 5,00			135,00	VPC-03	IMPLANTAR	143 + 10,00	VPA-02	
					-	-	-	150 + 5,00	VPA-02	
	193 + 10,00	195 + 0,00			30,00	VPC-03	IMPLANTAR	193 + 10,00	VPA-02	
	209 + 10,00	211 + 15,00			45,00	VPC-03	IMPLANTAR	211 + 15,00	VPA-02	
	217 + 0,00	220 + 0,00			60,00	VPC-03	IMPLANTAR	220 + 0,00	VPA-02	
	223 + 10,00	230 + 12,00			142,00	VPC-03	IMPLANTAR	223 + 10,00	VPA-02	Continuação na Interseção
Interseção Água Pretinha										
	100 + 0,00	103 + 0,00			60,00	VPC-03	IMPLANTAR	103 + 0,00	VPA-02	
Interseção										
Quantidade Total de Implantação de Dissipador de Energia DES-04: 3,00 unidades										
Extensão Total de Implantação de Valeta de Proteção de Corte YPC-03: 2.127,00 metros										

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY
 IMPLANTATION E PAVIMENTATION DE TRECHO RODOVIÁRIO
 CONSULTORA: Projemax Engenharia e Consultoria Ltda.
 Escala: _____
 Trabalho de: _____
 São Paulo - Água Pretinha
 Estimado: 1,7 Km
 Data: _____
 Folha nº _____
 PROJETO DE DRENAGEM
 VALETA DE PROTEÇÃO DE CORTE
 V.B.G.: _____
 PROJETISTA: _____

N°	LOCALIZAÇÃO (ESTACA)				EXTENSÃO TOTAL (m)	PROJETO TIPO	TIPO DE SERVIÇO	DISPOSITIVO DE SAÍDA		TIPO DE SERVIÇO	OBSERVAÇÕES
	LADO ESQUERDO		LADO DIREITO					ESTACA	PROJETO TIPO		
	INÍCIO	FINAL	INÍCIO	FINAL							
	24 + 5,00	48 + 15,00			490,00	SCC-DP-01	IMPLANTAR	24 + 5,00	VPA-02	-	
					-	-	-	32 + 0,00	CAIXA	-	
					-	-	-	41 + 10,00	CAIXA	-	
					-	-	-	48 + 15,00	VPA-02	-	
	34 + 0,00	48 + 0,00	33 + 0,00	37 + 10,00	90,00	SCC-DP-01	IMPLANTAR	33 + 0,00	SDC-01	IMPLANTAR	Banqueta de Corte
					280,00	SCC-DP-01	IMPLANTAR	34 + 0,00	VPC-03	-	
					-	-	-	48 + 0,00	VPC-03	-	
	35 + 5,00	40 + 5,00			100,00	SCC-DP-01	IMPLANTAR	35 + 5,00	VPC-03	-	Banqueta de Corte
					-	-	-	40 + 5,00	VPC-03	-	
	43 + 10,00	46 + 10,00			60,00	SCC-DP-01	IMPLANTAR	43 + 10,00	VPC-03	-	Banqueta de Corte
					-	-	-	46 + 10,00	VPC-03	-	
					215,00	SCC-DP-01	IMPLANTAR	62 + 0,00	CAIXA	-	
			57 + 10,00	68 + 5,00	140,00	SCC-DP-01	IMPLANTAR	96 + 10,00	VPA-02	-	
			96 + 10,00	103 + 10,00	35,00	SCC-DP-01	IMPLANTAR	100 + 10,00	VPC-03	-	Banqueta de Corte
			100 + 10,00	102 + 5,00	-	-	-	102 + 5,00	VPC-03	-	
					140,00	SCC-DP-01	IMPLANTAR	106 + 5,00	VPA-02	-	
	106 + 5,00	113 + 5,00			-	-	-	109 + 0,00	CAIXA	-	
					20,00	SCC-DP-01	IMPLANTAR	110 + 10,00	VPC-03	-	Banqueta de Corte
	110 + 10,00	111 + 10,00			-	-	-	111 + 10,00	VPC-03	-	
					325,00	SCC-DP-01	IMPLANTAR	124 + 5,00	VPA-02	-	
	124 + 5,00	140 + 10,00			-	-	-	140 + 10,00	VPA-02	-	
					325,00	SCC-DP-01	IMPLANTAR	124 + 10,00	VPA-02	-	
			124 + 10,00	140 + 15,00	-	-	-	140 + 15,00	VPC-03	-	Banqueta de Corte
					90,00	SCC-DP-01	IMPLANTAR	127 + 0,00	VPC-03	-	
					-	-	-	131 + 10,00	VPC-03	-	
	143 + 10,00	150 + 5,00			135,00	SCC-DP-01	IMPLANTAR	143 + 10,00	VPA-02	-	
					-	-	-	150 + 5,00	VPA-02	-	
					45,00	SCC-DP-01	IMPLANTAR	149 + 10,00	SDC-01	IMPLANTAR	
	193 + 10,00	204 + 10,00	147 + 5,00	149 + 10,00	220,00	SCC-01	IMPLANTAR	204 + 10,00	SDC-01	IMPLANTAR	
	209 + 10,00	211 + 15,00			45,00	SCC-DP-01	IMPLANTAR	211 + 15,00	SDC-01	IMPLANTAR	
	217 + 0,00	220 + 0,00			60,00	SCC-DP-01	IMPLANTAR	217 + 0,00	VPA-02	-	
	223 + 10,00	230 + 12,00			142,00	SCC-DP-01	IMPLANTAR	223 + 10,00	VPA-02	-	Continuação na Intersessão
Intersessão Água Pretinha											
	100 + 0,00	103 + 0,00			60,00	SCC-DP-01	IMPLANTAR	103 + 0,00	SDC-01	IMPLANTAR	

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY
 IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO
 CONSULTORIA: Projemax Engenharia e Consultoria Ltda.
 Escala: em escala
 Projeto de Drenagem
 Nota de Serviço - SARETA
 VBS: _____
 Data: _____
 Folha nº _____
 JUL/2019 DRE 05
 PROJETISTA: _____
 REVISOR: _____

N°	LOCALIZAÇÃO (ESTACA)		LADO DIREITO		EXTENSÃO TOTAL (m)	PROJETO TIPO	TIPO DE SERVIÇO	DISPOSITIVO DE ENTRADA		TIPO DE SERVIÇO	DISSIP.	OBSERVAÇÕES
	LADO ESQUERDO	INÍCIO	FINAL	INÍCIO				FINAL	ESTACA			
	0 + 0,00	0 + 7,00			7,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
					7,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
	0 + 7,00	0 + 14,00			7,00	MPPE	IMPLANTAR	-	-	-	-	
					7,00	MPPE	IMPLANTAR	-	-	-	-	
	0 + 14,00	4 + 4,00			70,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
					7,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
					3,00	MFC-04	IMPLANTAR	-	-	-	-	
					6,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
					3,00	MFC-04	IMPLANTAR	-	-	-	-	
					28,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
					4,00	MFC-04	IMPLANTAR	-	-	-	-	
					6,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
					4,00	MFC-04	IMPLANTAR	-	-	-	-	
					21,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
	4 + 4,00	4 + 10,00			36,00	MFC-05	IMPLANTAR	-	-	-	-	Acesso
	4 + 7,00				13,00	MFC-05	IMPLANTAR	-	-	-	-	Rótula do acesso
	4 + 10,00	6 + 17,00			47,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
					4,00	MFC-04	IMPLANTAR	-	-	-	-	
					6,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
					4,00	MFC-04	IMPLANTAR	-	-	-	-	
					5,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
					4,00	MFC-04	IMPLANTAR	-	-	-	-	
					7,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
					4,00	MFC-04	IMPLANTAR	-	-	-	-	
					7,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
	6 + 17,00	7 + 4,00			7,00	MPPE	IMPLANTAR	-	-	-	-	
					7,00	MPPE	IMPLANTAR	-	-	-	-	
	7 + 4,00	7 + 9,00			5,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
					2,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
					3,00	MFC-04	IMPLANTAR	-	-	-	-	
	7 + 9,00	7 + 13,00			4,00	MFC-04	IMPLANTAR	-	-	-	-	
					7,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
	7 + 13,00	8 + 7,00			14,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
					4,00	MFC-04	IMPLANTAR	-	-	-	-	
	8 + 7,00	8 + 12,00			26,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
	8 + 12,00	9 + 1,00			5,00	MFC-04	IMPLANTAR	-	-	-	-	
					9,00	MFS-DP-03	IMPLANTAR	-	-	-	-	

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTACÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

CONSULTORIA: Projemax Engenharia e Consultoria Ltda.

Projemax

Trecho 06 - São Paulo - Água Pretinha

Estimativa: 4,7 Km

Projeto de Drenagem

Nota de Serviço - Meio Fio

Projemax

N°	LOCALIZAÇÃO (ESTACA)				EXTENSÃO TOTAL (m)	PROJETO TIPO	TIPO DE SERVIÇO	DISPOSITIVO DE ENTRADA		TIPO DE SERVIÇO	DISSIP.	OBSERVAÇÕES
	LADO ESQUERDO		LADO DIREITO					ESTACA	PROJETO TIPO			
	INÍCIO	FINAL	INÍCIO	FINAL								
	9 + 1,00	9 + 7,00	9 + 6,00	9 + 10,00	6,00	MFC-04	IMPLANTAR	-	-	-	-	
	9 + 7,00	15 + 14,00	9 + 10,00	9 + 16,00	4,00	MFC-04	IMPLANTAR	-	-	-	-	
			9 + 16,00	10 + 1,00	127,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
			9 + 16,00	10 + 16,00	6,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
			10 + 1,00	10 + 16,00	5,00	MFC-04	IMPLANTAR	-	-	-	-	
			10 + 16,00	11 + 1,00	15,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
			11 + 1,00	15 + 1,00	5,00	MFC-04	IMPLANTAR	-	-	-	-	
			15 + 1,00	15 + 6,00	80,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
			15 + 6,00	19 + 7,00	5,00	MFC-04	IMPLANTAR	-	-	-	-	
	15 + 14,00	15 + 19,00			81,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
	15 + 19,00	17 + 2,00			5,00	MFC-04	IMPLANTAR	-	-	-	-	
	17 + 2,00	17 + 8,00			23,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
	17 + 8,00	19 + 7,00			6,00	MFC-04	IMPLANTAR	-	-	-	-	
	19 + 7,00	19 + 14,00			39,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
					7,00	MFPE	IMPLANTAR	-	-	-	-	
			19 + 7,00	19 + 14,00	7,00	MFPE	IMPLANTAR	-	-	-	-	
	19 + 14,00	20 + 0,00			6,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
	20 + 0,00	24 + 5,00			6,00	MFS-DP-03	IMPLANTAR	-	-	-	-	
			20 + 0,00	33 + 0,00	85,00	MFS-DP-01	IMPLANTAR	20 + 0,00	EDA-01	IMPLANTAR	DSA-03	
					260,00	MFS-DP-01	IMPLANTAR	20 + 0,00	EDA-01	IMPLANTAR	DSA-03	
	48 + 0,00	57 + 10,00			-	-	-	26 + 10,00	EDA-01	IMPLANTAR	DEB-01	
					190,00	MFS-DP-01	IMPLANTAR	51 + 0,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	53 + 10,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	55 + 10,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	57 + 10,00	EDA-01	IMPLANTAR	DSA-01	
					37,00	MFC-05	IMPLANTAR	-	-	-	-	Acesso
	48 + 0,00	49 + 17,00	49 + 17,00	50 + 3,00	37,00	MFS-DP-01	IMPLANTAR	49 + 17,00	EDA-01	IMPLANTAR	DSA-03	
	48 + 0,00	57 + 17,00	49 + 17,00	58 + 3,00	37,00	MFC-05	IMPLANTAR	-	-	-	-	Acesso
	67 + 10,00	71 + 5,00	70 + 15,00	83 + 15,00	75,00	MFS-DP-01	IMPLANTAR	67 + 10,00	EDA-01	IMPLANTAR	DSA-03	
					260,00	MFS-DP-01	IMPLANTAR	70 + 15,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	79 + 10,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	83 + 15,00	EDA-01	IMPLANTAR	DSA-03	
	75 + 15,00	90 + 5,00			290,00	MFS-DP-01	IMPLANTAR	79 + 0,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	82 + 10,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	85 + 0,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	87 + 10,00	EDA-01	IMPLANTAR	DSA-01	
					-	-	-	88 + 10,00	EDA-02	IMPLANTAR	DSA-01	

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY
 IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO
 CONSULTORIA: Projemax Engenharia e Consultoria Ltda.
 Escala: em escala
 Projeto de Drenagem
 Nota de Serviço - Meio Fio
 VBS: _____
 Data: _____
 Folha nº _____
 de _____
 JUL/2019 DEB 07
 REVISÃO: _____

N°	LOCALIZAÇÃO (ESTACA)		EXTENSÃO TOTAL (m)	PROJETO TIPO	TIPO DE SERVIÇO	DISPOSITIVO DE ENTRADA		TIPO DE SERVIÇO	DISSIP.	OBSERVAÇÕES
	LADO ESQUERDO	LADO DIREITO				ESTACA	PROJETO TIPO			
	INÍCIO	FINAL	INÍCIO	FINAL						
			103 + 10,00	108 + 0,00	MFS-DP-01	IMPLANTAR	103 + 10,00	EDA-01	DSA-01	
					-	-	106 + 0,00	EDA-01	DSA-03	Acesso
			111 + 17,00	112 + 3,00	MFC-05	IMPLANTAR				
			112 + 10,00	124 + 10,00	MFS-DP-01	IMPLANTAR	112 + 10,00	EDA-01	DSA-03	
					-	-	116 + 0,00	EDA-01	DSA-03	
					-	-	121 + 0,00	EDA-01	DSA-01	
	118 + 7,00	118 + 13,00			MFC-05	IMPLANTAR	-	-	-	Acesso
			140 + 15,00	147 + 5,00	MFS-DP-01	IMPLANTAR	144 + 0,00	EDA-01	DSA-01	
					-	-	147 + 5,00	EDA-01	DEB-01	
	150 + 5,00	154 + 0,00			MFS-DP-01	IMPLANTAR	153 + 0,00	EDA-02	DSA-01	
			152 + 7,00	152 + 13,00	MFC-05	IMPLANTAR	-	-	-	Acesso
			162 + 10,00	168 + 0,00	MFS-DP-01	IMPLANTAR	162 + 10,00	EDA-01	DSA-03	
					-	-	165 + 0,00	EDA-01	DSA-01	
	169 + 10,00	173 + 0,00			MFS-DP-01	IMPLANTAR	169 + 10,00	EDA-01	DSA-01	
			172 + 10,00	182 + 7,00	MFS-DP-01	IMPLANTAR	172 + 10,00	EDA-01	DSA-03	
					-	-	178 + 10,00	EDA-01	DSA-03	
					-	-	182 + 7,00	EDA-01	DSA-03	
	178 + 0,00	183 + 0,00			MFS-DP-01	IMPLANTAR	183 + 0,00	EDA-01	DSA-01	
			182 + 7,00	182 + 13,00	MFC-05	IMPLANTAR	-	-	-	Acesso
			182 + 13,00	192 + 0,00	MFS-DP-01	IMPLANTAR	185 + 10,00	EDA-01	DSA-03	
					-	-	188 + 10,00	EDA-01	DSA-03	
					-	-	192 + 0,00	EDA-01	DSA-03	
			200 + 2,00	200 + 8,00	MFC-05	IMPLANTAR	-	-	-	Acesso
			203 + 10,00	208 + 5,00	MFS-DP-01	IMPLANTAR	206 + 0,00	EDA-01	DSA-01	
					-	-	208 + 5,00	EDA-01	DSA-01	
	216 + 17,00	217 + 3,00			MFS-DP-01	IMPLANTAR	215 + 5,00	EDA-01	DSA-01	
			221 + 10,00	223 + 10,00	MFS-DP-01	IMPLANTAR	-	-	-	Acesso
					-	-	223 + 10,00	EDA-01	DSA-03	
Interseção Água Pretinha										
	103 + 0,00	104 + 13,00			MFS-DP-01	IMPLANTAR	104 + 13,00	EDA-01	DEB-01	
			201 + 0,00	204 + 16,00	MFS-DP-01	IMPLANTAR	203 + 0,00	EDA-01	DSA-03	
					-	-	204 + 16,00	EDA-01	DSA-03	
	300 + 0,00	307 + 8,00			MFS-DP-01	IMPLANTAR	302 + 0,00	EDA-01	DSA-03	
					-	-	304 + 0,00	EDA-01	DSA-03	
					-	-	306 + 0,00	EDA-01	DSA-03	
			400 + 0,00	404 + 14,00	MFC-05	IMPLANTAR	307 + 8,00	EDA-01	DSA-03	

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTATION E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

CONSULTORIA: Projetos, Engenharia e Consultoria Ltda.

Projemax

Trabalho de
Saneamento - Água Potável
Estimativa: 4,7 Km

Escala:
em escala

Data:
JULHO 2018

Projeto de DRENAGEM
NOTA DE SERVIÇO - MEIO FIO

VBS: _____

PROJETA: _____

REVISOR: _____

Nº	LOCALIZAÇÃO (ESTACA)	LADO ESQUERDO				LADO DIREITO				OBSERVAÇÕES		
		EXTENSÃO (m)	PROJETO TIPO	TIPO DE SERVIÇO	CONEXÕES ENTRADA SAÍDA	EXTENSÃO (m)	PROJETO TIPO	TIPO DE SERVIÇO	CONEXÕES ENTRADA SAÍDA			
	20 + 0,00	3,00	DSA-03	IMPLANTAR	EDA-01		3,00	DSA-03	IMPLANTAR	EDA-01		
	20 + 0,00						10,00	DSA-03	IMPLANTAR	BSTC Ø 0,80	DEB-03	
	32 + 0,00											
	41 + 10,00	30,00	DSC-01	IMPLANTAR	VFC-03	CAIXA	15,00	DSA-03	IMPLANTAR	BSTC Ø 0,80	DEB-03	
	41 + 10,00						14,00	DSA-03	IMPLANTAR	EDA-01	DEB-01	
	49 + 17,00											
	51 + 0,00	5,00	DSA-03	IMPLANTAR	EDA-01	DEB-01						
	53 + 10,00	9,00	DSA-03	IMPLANTAR	EDA-01	DEB-01						
	54 + 15,00	4,50	DSA-03	IMPLANTAR	BSTC Ø 1,20	DEB-05						
	55 + 10,00	7,00	DSA-03	IMPLANTAR	EDA-01	DEB-01						
	57 + 10,00	7,00	DSA-01	IMPLANTAR	EDA-01	DEB-01						
	62 + 0,00	1,50	DSA-03	IMPLANTAR	BSTC Ø 0,80	DEB-03						
	67 + 10,00	7,00	DSA-03	IMPLANTAR	EDA-01	DEB-01						
	70 + 15,00						8,00	DSA-03	IMPLANTAR	EDA-01	DEB-01	
	79 + 0,00	8,50	DSA-03	IMPLANTAR	EDA-01	DEB-01						
	79 + 10,00						8,50	DSA-03	IMPLANTAR	EDA-01	DEB-01	
	82 + 10,00	6,00	DSA-03	IMPLANTAR	EDA-01	VPA-02						
	83 + 15,00						7,00	DSA-03	IMPLANTAR	EDA-01	DEB-01	
	85 + 0,00	6,50	DSA-03	IMPLANTAR	EDA-01	VPA-02						
	87 + 10,00	3,50	DSA-01	IMPLANTAR	EDA-01	DEB-01						
	88 + 10,00	3,00	DSA-01	IMPLANTAR	EDA-02	DEB-01						
	93 + 0,00	5,00	DSA-03	IMPLANTAR	EDA-01	DEB-01						
	102 + 10,00	9,00	DSA-03	IMPLANTAR	EDA-01	DEB-01						
	103 + 10,00						1,00	DSA-01	IMPLANTAR	EDA-01	VPA-02	
	106 + 0,00						6,00	DSA-03	IMPLANTAR	EDA-01	DEB-01	
	112 + 10,00						5,00	DSA-03	IMPLANTAR	EDA-01	DEB-01	
	116 + 0,00						9,00	DSA-03	IMPLANTAR	EDA-01	VPA-02	
	121 + 0,00						1,00	DSA-01	IMPLANTAR	EDA-01	VPA-02	
	144 + 0,00						2,00	DSA-01	IMPLANTAR	EDA-01	DEB-01	
	153 + 0,00	4,50	DSA-01	IMPLANTAR	EDA-02	VPA-02						
	162 + 10,00						6,00	DSA-03	IMPLANTAR	EDA-01	VPA-02	
	165 + 0,00						5,00	DSA-01	IMPLANTAR	EDA-01	VPA-02	
	169 + 10,00	1,50	DSA-01	IMPLANTAR	EDA-01	VPA-02						
	172 + 10,00						6,00	DSA-03	IMPLANTAR	EDA-01	DEB-01	
	178 + 10,00						7,00	DSA-03	IMPLANTAR	EDA-01	DEB-01	
	182 + 7,00						5,50	DSA-03	IMPLANTAR	EDA-01	DEB-01	
	183 + 0,00	1,50	DSA-01	IMPLANTAR	EDA-01	VPA-02						

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY
 IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO
 CONSULTORIA: Projemax Engenharia e Consultoria Ltda.
 Trabalho: Trecho 06 - São Paulo - Água Pretinha
 Escala: em escala
 Estação: 4+7 Km
 Projeto de Drenagem
 Nota de Serviço - Descidas
 Data: JUL/2019
 FOLHA Nº 08 DE 08
 VBS: _____
 INSCRIÇÃO: _____



***4.6 – NOTAS DE SERVIÇO DE SINALIZAÇÃO E
OBRAS COMPLEMENTARES***

EIXO							OBSERVAÇÕES
Localização (Estaca)		Comprimento (m)	Quantidade (m³)	TIPO			
Início	Final						
0	+ 0,00	19 + 10,00	390,00	LFO-3	76,00		
19	+ 10,00	25 + 10,00	120,00	LFO-4	18,00		CADENCIA 1:1 LD
25	+ 10,00	27 + 0,00	30,00	LFO-2	1,00		CADENCIA 1:2
27	+ 0,00	35 + 0,00	160,00	LFO-4	24,00		CADENCIA 1:1 LE
35	+ 0,00	152 + 5,00	2.345,00	LFO-3	469,00		
152	+ 5,00	159 + 0,00	135,00	LFO-4	20,25		CADENCIA 1:1 LD
159	+ 0,00	160 + 15,00	35,00	LFO-3	7,00		
160	+ 15,00	166 + 10,00	115,00	LFO-4	17,25		CADENCIA 1:1 LE
166	+ 10,00	230 + 12,17	1.282,17	LFO-3	256,43		
			TOTAL (m³)		890,93		

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

Projemax
 Rua: 06
 São Paulo - Água Pretinha
 Estado: 47 Km

CONSULTORA: Projemax Engenharia e Consultoria Ltda.

Estádio: sem escola

Nota de Serviço: Sinalização Horizontal - Eixo

Data: 11/07/2015

Folha nº: 113 de 113

VIBRO: _____

PROJETISTA: _____

LADO DIREITO									
Localização (Estaca)		Comprimento (m)	Quantidade (m ²)	TIPO	OBSERVAÇÕES				
Início	Final								
0 + 0,00	49 + 16,00	996,00	99,60	LBO					
49 + 16,00	50 + 15,00	19,00	0,95	LOO	CADÊNCIA 1:1				
50 + 15,00	85 + 8,00	693,00	69,30	LBO					
85 + 8,00	86 + 3,00	15,00	0,75	LOO	CADÊNCIA 1:1				
86 + 3,00	111 + 10,00	507,00	50,70	LBO					
111 + 10,00	112 + 10,00	20,00	1,00	LOO	CADÊNCIA 1:1				
112 + 10,00	152 + 0,00	790,00	79,00	LBO					
152 + 0,00	152 + 14,00	14,00	0,70	LOO	CADÊNCIA 1:1				
152 + 14,00	182 + 2,00	588,00	58,80	LBO					
182 + 2,00	183 + 3,00	21,00	1,05	LOO	CADÊNCIA 1:1				
183 + 3,00	199 + 18,00	335,00	33,50	LBO					
199 + 18,00	200 + 14,00	16,00	0,80	LOO	CADÊNCIA 1:1				
200 + 14,00	230 + 12,70	598,70	59,87	LBO					
		SUBTOTAL	456,02						

LADO ESQUERDO									
Localização (Estaca)		Comprimento (m)	Quantidade (m ²)	TIPO	OBSERVAÇÕES				
Início	Final								
0 + 0,00	3 + 11,00	71,00	7,10	LBO					
3 + 11,00	5 + 0,00	29,00	1,45	LOO	CADÊNCIA 1:1				
5 + 0,00	117 + 3,00	2.243,00	224,30	LBO					
117 + 3,00	118 + 4,00	21,00	1,05	LOO	CADÊNCIA 1:1				
118 + 4,00	216 + 5,00	1.961,00	196,10	LBO					
216 + 5,00	217 + 5,00	20,00	1,00	LOO	CADÊNCIA 1:1				
		SUBTOTAL	431,00						

TOTAL (m²)	887,02
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PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

Projemax
 Avenida Dr.
 Sérgio Paulo - Água Pretinha
 Estimador: A. K. M.

Estado: sem estado
 Data: JUL/2015
 Folha nº: SIN 31

Nota de Serviço: Sinalização Horizontal - Bordos
 VIBRO: _____
 PROJETISTA: _____

EIXO

Localização (Estaca)	Comprimento (m)	Quantidade (m²)	TIPO	OBSERVAÇÕES
100 + 0,00	9,00	1,80	LFO-3	RAMO 100
204 + 5,00	11,49	2,30	LFO-3	RAMO 200
306 + 18,00	9,85	1,97	LFO-3	RAMO 300

TOTAL (m²) 6,07

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

CONSULTORA: Projemax Engenharia e Consultoria Ltda.

Projemax
Rua: São Paulo - Água Pretinha
Estimado: 47 Km

Estado:
sem estado

Data:
JUL/2015

Nota de Serviço:
Sinalização Horizontal - Interseção Água Pretinha - Eixo

VIBRO:
RESOLUÇÃO

PROJETOS

LADO ESQUERDO				LADO DIREITO							
Localização (Estaca)		Comprimento (m)	Quantidade (m ²)	TIPO	OBSERVAÇÕES	Localização (Estaca)		Comprimento (m)	Quantidade (m ²)	TIPO	OBSERVAÇÕES
Início	Final					Início	Final				
100 + 0,00	104 + 13,16	93,16	9,32	LBO	RAMO 100	200 + 0,00	204 + 16,49	96,49	9,65	LBO	RAMO 200
300 + 0,00	307 + 7,85	147,85	14,79	LBO	RAMO 300	400 + 0,00	404 + 14,25	94,25	9,43	LBO	RAMO 400
LHAS		213,69	21,37	LBO		SUBTOTAL			19,07		
		SUBTOTAL	45,47								
		TOTAL	64,54								

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

Projemax
CONSULTORA: Projemax Engenharia e Consultoria Ltda.

Endereço:
Rua: 08
São Paulo - Água Pretinha
Estado: RJ
CEP: 24240-000

Nota de Serviço:
Sinalização Horizontal - Interseção Água Pretinha - Bortos

Data:
11/07/2015

Folha nº:
01 de 03

VBS: _____
PROJETISTA: _____

EIXO											
ESTACA		Comprimento (m)	Tacha Bidirecional	Tacha Monodirecional	Tachão Bidirecional	Espacamento	Quantidade (Unid.)	Observações			
INICIO	FIM										
0 + 0,00	230 + 12,17	4,612,17	X			1 c/ 4m	1,154				
TOTAL DE TACHAS BIDIRECIONAIS								1,154			

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

Projemax
 Trecho 06: São Paulo - Água Pretinha
 Estimado: 4,7 Km

CONSULTORA: Projemax Engenharia e Consultoria Ltda.
 Estado: sem estado
 Data: JUL/2015

Nota de Serviço: Tachas - Eixo
 Folha nº: 131/34

VIBRO: _____
 PROJETISTA: _____

LADO DIREITO										
ESTACA	Comprimento (m)	Tachas Bidirecional	Tacha Monodirecional	Tachas Bidirecional	Comprimento (m)	Tachas Bidirecional	Tachas Monodirecional	Espaçamento	Quantidade (Unid.)	Observações
0 + 0,00	3 + 11,00	71,00	X	X	996,00	X		1 c/ 16m	63	
3 + 11,00	5 + 0,00	29,00	X		19,00	X		1 c/ 4m	5	
5 + 0,00	117 + 3,00	2.243,00	X	X	692,00	X		1 c/ 16m	44	
117 + 3,00	118 + 5,00	22,00	X	X	16,00	X		1 c/ 4m	4	
118 + 5,00	216 + 5,00	1.960,00	X	X	506,00	X		1 c/ 16m	32	
216 + 5,00	217 + 5,00	20,00	X	X	22,00	X		1 c/ 4m	6	
217 + 5,00	230 + 12,17	267,17	X	X	788,00	X		1 c/ 16m	50	
				SUBTOTAL					4	
				SUBTOTAL					37	
				SUBTOTAL					6	
				SUBTOTAL					21	
				SUBTOTAL					4	
				SUBTOTAL					38	
				SUBTOTAL					314	

TOTAL DE TACHAS BIDIRECIONAIS	619
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LADO ESQUERDO									
ESTACA	Comprimento (m)	Tachas Bidirecional	Tacha Monodirecional	Tachas Bidirecional	Espaçamento	Quantidade (Unid.)	Observações		
								INÍCIO	FIM
0 + 0,00	3 + 11,00	71,00	X	X	1 c/ 16m	5			
3 + 11,00	5 + 0,00	29,00	X		1 c/ 4m	8			
5 + 0,00	117 + 3,00	2.243,00	X	X	1 c/ 16m	141			
117 + 3,00	118 + 5,00	22,00	X	X	1 c/ 4m	6			
118 + 5,00	216 + 5,00	1.960,00	X	X	1 c/ 16m	123			
216 + 5,00	217 + 5,00	20,00	X	X	1 c/ 4m	5			
217 + 5,00	230 + 12,17	267,17	X	X	1 c/ 16m	17			
				SUBTOTAL		305			

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

Projemax
 Rua: 08
 São Paulo - Água Pretinha
 Estado: RJ
 Estimado: 4,7 Km

Estadual:
sem estado

Nota de Serviço
Tachas - Borrões

DATA: JUL/2015

FOLHA Nº: 01

VIBRO: _____

PROJETISTA: _____

EIXO

ESTACA	Comprimeto (m)		Tacha Bidirecional	Tacha Monodirecional	Tachas Bidirecional	Espaçamento	Quantidade (Unid.)	Observações
	INÍCIO	FIM						
100 + 0,00	100 + 9,00	9,00	X			1 c/4m	3	
204 + 5,00	204 + 16,49	11,49	X			1 c/4m	3	
306 + 18,00	307 + 7,85	9,85	X			1 c/4m	3	
TOTAL DE TACHAS BIDIRECIONAIS							9	

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

Projemax
 Rua: 08
 São Paulo - Água Pretinha
 Estado: RJ
 Estimado: 4,7 Km

CONSULTORA: Projemax Engenharia e Consultoria Ltda.
 Estado: RJ
 sem escala

Nota de Serviço
 Tachas Agrasso - Interseção Água Pretinha - Eixo

VIBRO: _____
 PRESIDENTE: _____

Projeto nº: _____
 Data: JUL/2015
 Folha nº: _____
 SIN 06

LADO ESQUERDO										LADO DIREITO										
LOCAL - ESTACA			QUANTIDADE (Unid.)	ESPAÇAMENTO (m)	QUANTIDADE (m ²)	PROCEDIMENTO			OBSERVAÇÕES	LOCAL - ESTACA			QUANTIDADE (Unid.)	ESPAÇAMENTO O (m)	QUANTIDADE (m ²)	PROCEDIMENTO			OBSERVAÇÕES	
INÍCIO	FIM					M	RV	S		I	INÍCIO	FIM					M	RV		S
62 + 0,00	67 + 2,00		24	1 c/9	7,20					53 + 17,00	57 + 11,00	22	1 c/7	6,60						X
71 + 6,00	75 + 13,00		20	1 c/9	6,00					124 + 5,00	132 + 5,00	36	1 c/9	10,80						X
										149 + 12,00	153 + 19,00	26	1 c/7	7,80						X
										225 + 8,00	230 + 0,00	20	1 c/10	6,00						X
										SUBTOTAL				31,20	SUBTOTAL					31,20

TOTAL (m²)	44,40
------------------------------	--------------

NOTA
M - MANter
RV - REMOVER
S - SUBSTITUIR
I - IMPLANTAR

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

Projemax
Rua: 08
888 Paulo - Água Pretina
Espírito Santo - 47.700

Estadual:
sem escala

Fórmula:
Data: _____
JUL/2015

Nota de Serviço
Delimitações

Fórmula:
Data: _____
JUL/2015

VRB0: _____
RESUBTER: _____
PRESIDENTE: _____

ESTACA	INICIO	FIM	Comprimento (m)	Largura da Linha (m)	Largura do Acostamento (m)	Espaçamento Entre Linhas (m)	Quantidade (m ²)	Observações
20 + 0,00	21 + 6,00	26,00	0,40	-	1,20	8,45	RODOVIA LADO ESQUERDO	
100 + 9,00	101 + 9,00	20,00	0,40	-	1,20	7,21	ILHAS RAMO 100	
102 + 12,00	103 + 13,00	21,00	0,40	-	1,20	5,50	ILHAS RAMO 100	
203 + 4,00	204 + 5,00	21,00	0,40	-	1,20	10,21	ILHAS RAMO 200	
SUB TOTAL							39,88	

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

Projemax
CONSULTORIA: Programar Engenharia e Consultoria Ltda.

Endereço: Rua Paulo de Aguiar Pereira, sem escola, Estimador: 47 Km

Nota de Serviço Zelanatos

Data: 11/01/2015 Folha nº: 01 de 01

VIBRO: _____ PRESIDENTE

LOCAL	TIPO	ÁREA (m²)	OBSERVAÇÕES
ESTACA			
102 + 12,00	PA RE	6,01	
201 + 6,00	PA RE	6,01	
305 + 0,00	PA RE	6,01	
TOTAL (m²)		18,03	

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

Projemax
CONSULTORA: Projemax Engenharia e Consultoria Ltda.

Endereço: _____
Estado: _____

Endereço: Rua Padre Agostinho Pereira, sem número
Estimado: 47 Km

Nota de Serviço _____
Dizeres _____

Data: _____
Folha nº _____
de _____
de _____
de _____

VIBR: _____
PROJETISTA: _____
PROFESSOR: _____

LOCAL	TIPO	ÁREA (m²)	OBSERVAÇÕES
ESTACA			
102 + 12,00	PA RE	6,01	
201 + 6,00	PA RE	6,01	
305 + 0,00	PA RE	6,01	
TOTAL (m²)		18,03	

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

Projemax
CONSULTORA: Projemax Engenharia e Consultoria Ltda.

Endereço: _____
Estado: _____
Cidade: _____
CEP: _____

Nome do Serviço: _____
Data: _____
Folha nº: _____
Dizeres: _____
SIN 40: _____

VIBR: _____
PROJETISTA: _____

LADO ESQUERDO				LADO DIREITO			
LOCAL - ESTACA		COMPRIMENTO (m)	OBSERVAÇÕES	LOCAL - ESTACA		COMPRIMENTO (m)	OBSERVAÇÕES
INICIO	FIM			INICIO	FIM		
18 + 10,00	23 + 10,00	100,00	DEFENSA SEMI-MALEÁVEL	17 + 10,00	24 + 10,00	140,00	DEFENSA SEMI-MALEÁVEL
48 + 10,00	56 + 10,00	160,00	DEFENSA SEMI-MALEÁVEL	48 + 0,00	51 + 0,00	60,00	DEFENSA SEMI-MALEÁVEL
62 + 10,00	65 + 10,00	60,00	DEFENSA SEMI-MALEÁVEL	68 + 10,00	85 + 0,00	330,00	DEFENSA SEMI-MALEÁVEL
69 + 0,00	85 + 0,00	320,00	DEFENSA SEMI-MALEÁVEL	149 + 10,00	156 + 0,00	130,00	DEFENSA SEMI-MALEÁVEL
114 + 0,00	118 + 0,00	80,00	DEFENSA SEMI-MALEÁVEL	168 + 10,00	195 + 10,00	540,00	DEFENSA SEMI-MALEÁVEL
175 + 0,00	181 + 0,00	120,00	DEFENSA SEMI-MALEÁVEL	224 + 0,00	230 + 0,00	120,00	DEFENSA SEMI-MALEÁVEL
185 + 0,00	188 + 0,00	60,00	DEFENSA SEMI-MALEÁVEL				
221 + 0,00	223 + 0,00	40,00	DEFENSA SEMI-MALEÁVEL				
SUBTOTAL DEFENSA - IMPLANTAR			940,00	SUBTOTAL DEFENSA - IMPLANTAR			1320,00
				TOTAL DEFENSA METÁLICA (m)			
				2280,00			

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

Projemax
 Rua: 08
 888 Paule - Água Pretinha
 Estimador: 47 Km

Estado: _____
 sem escala

Nota de Serviço: _____
 Defesa Médica

Data: _____
 11/11/2015

Folha nº: _____
 181/41

VIBRO: _____
 PRESIDENTE

LOCAL ESTACA	QUANTIDADE (Unid.)	TIPO	OBSERVAÇÕES
193 + 0,00	1,00	SEÇÃO RETA	
207 + 0,00	1,00	SEÇÃO RETA	
221 + 0,00	1,00	SEÇÃO RETA	
TOTAL (unid.)			
			3,00

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

Projemax CONSULTORA: Projemax Engenharia e Consultoria Ltda.

Endereço: Rua São Paulo - Água Pretinha, sem escola, Estimado: 47 Km

Estado: _____

Nota de Serviço: _____

Localidade: Lombada

Data: _____

Folha nº: _____

Total: _____

VIBO: _____

PROJEITADO: _____

PROFESSOR: _____

LOCAL ESTACA	QUANTIDADE (Unid.)	TIPO	OBSERVAÇÕES
0 + 10,00	1,00	SEÇÃO RETA	PASSAGEM DE PEDESTRES EM PAV'S
7 + 0,00	1,00	SEÇÃO RETA	PASSAGEM DE PEDESTRES EM PAV'S
19 + 10,00	1,00	SEÇÃO RETA	PASSAGEM DE PEDESTRES EM PAV'S
TOTAL (unid.)			3,00

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

Projemax CONSULTORA: Projemax Engenharia e Consultoria Ltda.

Endereço: Rua Paulo de Aguiar Pereira, sem-número, Estimador: 47 Km

Estado: _____

Nota de Serviço: _____

Plano: _____

Data: JUL/2015

Folha nº: _____

SIN 44: _____

VIBRO: _____

PROJETISTA: _____

LADO DIREITO

ESTACA	COMPRIMENTO (m)	LARGURA (m)	ÁREA (m²)	OBSERVAÇÕES
0 + 0,00	20 + 0,00	Variável (1,30a 2,30)	654,00	

LADO ESQUERDO

ESTACA	COMPRIMENTO (m)	LARGURA (m)	ÁREA (m²)	OBSERVAÇÕES
0 + 0,00	4 + 5,00	Variável (1,00 a 1,30)	98,90	
4 + 12,00	20 + 0,00	Variável (1,00 a 2,30)	434,80	

TOTAL (m²) 1.187,70

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

CONSULTORA: Projemax Engenharia e Consultoria Ltda.

Projemax
Rua Paulo de Almeida Pereira
Estimador: 47 Km

Estado: sem estado
Data: JUL/2015
Folha nº: SN 45

Nota de Serviço: Calçada
VIBRO: _____
PROJETISTA: _____



5.0 – TERMO DE ENCERRAMENTO

5.0 – TERMO DE ENCERRAMENTO

Esta encadernação constitui o **Volume 3D – Notas de Serviço e Cálculo de Volumes**, referente à etapa do **Relatório Final Trecho 06: São Paulo - Água Pretinha**, da “Elaboração de Projetos Executivos de Engenharia Civil Para Melhorias Operacionais de Rodovias Municipais”, que compõem o lote II do Edital de Concorrência 04/2014.

Este Relatório possui 133 (cento e trinta e três) páginas numeradas de forma contínua e sequencial.

