



**GOVERNO DO ESTADO DE SERGIPE
DEPARTAMENTO ESTADUAL DE INFRAESTRUTURA
RODOVIÁRIA DE SERGIPE – DER-SE**



**ELABORAÇÃO DE PROJETO EXECUTIVO DE ENGENHARIA PARA
RESTAURAÇÃO DA RODOVIA SE-160, DO SEGMENTO DE
TRECHO: ENTR. SE-245(RIACHUELO) / ENTR. BR-235, PNV 160ESE0110 À
PNV 160ESE0130, COM EXTENSÃO APROXIMADA DE 12,8KM, NESTE
ESTADO.**

MINUTA DO PROJETO EXECUTIVO

**VOLUME 3C – NOTAS DE SERVIÇO E MEMÓRIA DE CÁLCULO DE
VOLUMES**

SETEMBRO / 2022

RW – ENGENHEIROS CONSULTORES S/S

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DEPARTAMENTO ESTADUAL DE INFRAESTRUTURA
RODOVIÁRIA DE SERGIPE – DER-SE**

**ELABORAÇÃO DE PROJETO EXECUTIVO DE
ENGENHARIA PARA RESTAURAÇÃO DA RODOVIA
SE-160, DO SEGMENTO DE TRECHO: ENTR. SE-
245(RIACHUELO) / ENTR.BR-235, PNV 160ESE0110
À PNV 160ESE0130, COM EXTENSÃO APROXIMADA
DE 12,8 KM, NESTE ESTADO**

MINUTA DO PROJETO EXECUTIVO

**VOLUME 3C- NOTAS DE SERVIÇO E MEMÓRIA DE CÁLCULO DE
VOLUMES**

Elaboração: RW – Engenheiros Consultores S/S

Processo: 113/2022-COMPRAS.GOV.DER/SE

Edital: Tomada de preço 003/2022

Contrato: PJ-023/2022

SETEMBRO / 2022

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APRESENTAÇÃO

RW – ENGENHEIROS CONSULTORES S/S



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APRESENTAÇÃO

A empresa RW – Engenheiros Consultores S/S apresenta a **MINUTA DO PROJETO EXECUTIVO “Volume 3C – Notas de Serviço e Memória de Cálculo de Volumes**, referente à **ELABORAÇÃO DE PROJETO EXECUTIVO DE ENGENHARIA PARA RESTAURAÇÃO DA RODOVIA SE-160, DO SEGMENTO DE TRECHO:ENTR. SE-245(RIACHUELO) / ENTR. BR-235, PNV 160ESE0110 À PNV 160ESE0130, com extensão aproximada de 12,8 km, no estado de Sergipe**, em decorrência do contrato, cujos principais elementos são fornecidos a seguir:

Empresa	: RW ENGENHEIROS CONSULTORES
Projeto	: RESTAURAÇÃO DA RODOVIA SE-160
Trecho:	: ENTR. SE-245 (RIACHUELO) / ENTR.BR-235
Extensão Contratual	: 12,80 km
Extensão Projetada	: 12,83 km
Data da Assinatura	: 02/05/2022
Data Ordem de Serviço	: 09/05/2020
Prazo	: 120 dias corridos
Número do Edital	: Tomada de Preço Nº 003/2022
Número do Processo	: 113/2022
Número do Contrato	: Nº PJ – 023/2022

A **MINUTA DO PROJETO EXECUTIVO** está sendo apresentado em 02 (duas) vias, contendo as seguintes informações a saber:

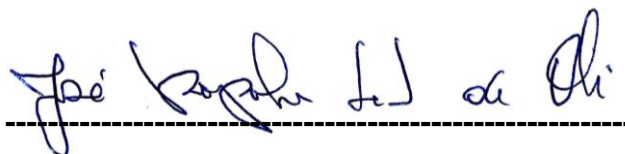
- **Volume 1 – Relatório do Projeto e Documentos para Licitação;**
- Volume 2 – Projetos para Execução;
- Volume 3 – Memória Justificativa;
- Volume 3A – Estudos Geotécnicos;
- Volume 3C – Notas de Serviço e Memória de Cálculo de Volumes;
- Volume 3D – Relatório de Avaliação Ambiental;

- Volume 3E – Plano de Gerenciamento de Resíduos Sólidos – PGRS;
- Volume 4 – Orçamento da Obra;
- Volume 5 – Plano de Execução da Obra / Critérios de Medição

Neste Volume está sendo apresentado o **Volume 3C – Notas de Serviço e Memória de Cálculo de Volumes** que compreende a abordagem dos seguintes tópicos:

- Mapa de Situação;
- Traçado Horizontal;
- Traçado Vertical;
- Notas de Serviços de Terraplenagem / pavimentação;
- Quadros de Cubação (Cálculos de Volumes);

Fortaleza, setembro de 2022



RW – Engenheiros Consultores S/S

Eng. José Napoleão Santos de Oliveira

Sócio-Gerente – CREA 5633/D-CE

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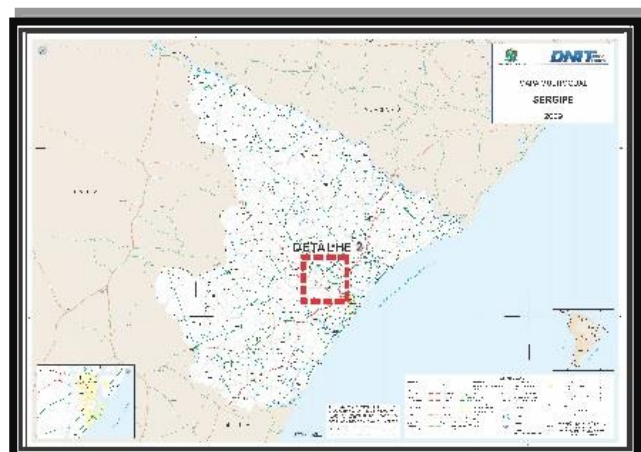
1 – MAPA DE SITUAÇÃO

RW – ENGENHEIROS CONSULTORES S/S

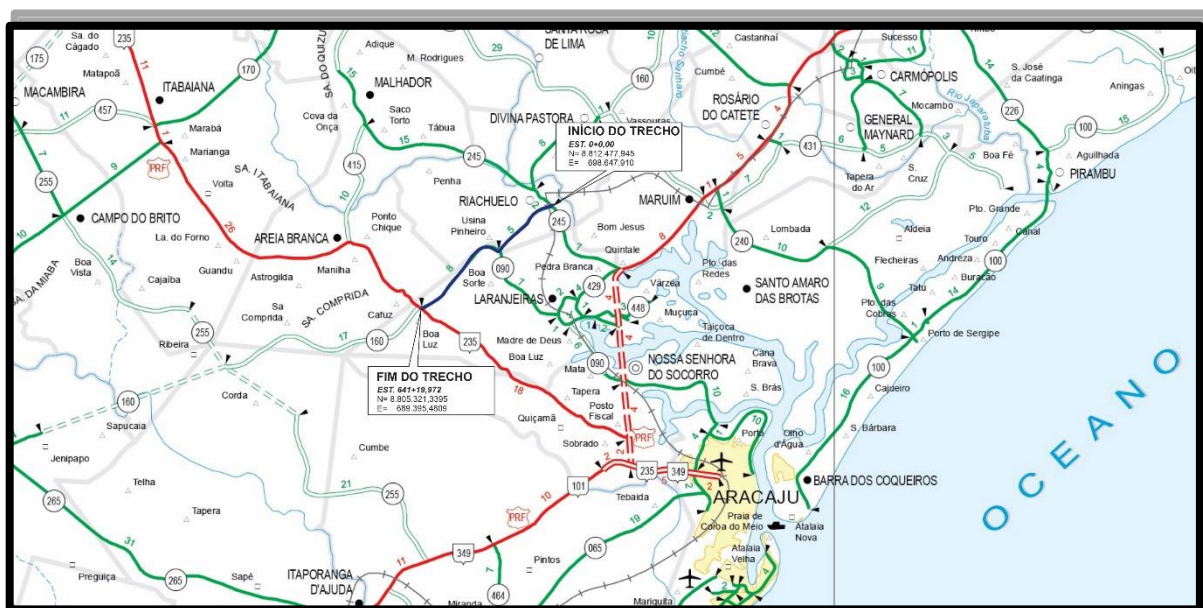


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1 – MAPA DE SITUAÇÃO



MAPA MULTIMODAL – SERGIPE



MAPA RODOVIÁRIO SERGIPE – DNT

RODOVIA SE-160 – TRECHO: ENTR. SE-245(Riachuelo) – ENTR. BR-235

2 – TRAÇADO HORIZONTAL



2 – TRAÇADO HORIZONTAL

O traçado horizontal apresenta os elementos horizontais que dão condições de locação do eixo da rodovia a ser restaurada. Ele é constituído de uma planilha cujo conteúdo é formado pelas estacas do eixo com suas coordenadas e cota, além do azimute dos alinhamentos e a identificação dos elementos das curvas horizontais.

Compondo esta planilha também está sendo apresentada a planilha dos elementos horizontais, onde são apresentados os pontos notáveis do alinhamento como estacas de tangentes, estacas de curvas horizontais, elementos das curvas horizontais e as coordenadas da estaca destes elementos. Também compondo o traçado horizontal está sendo apresentada uma planilha com os pontos do levantamento topográfico planialtimétrico cadastral.

Os elementos do traçado horizontal são apresentados para o eixo principal e para os eixos de intervenção nas duas interseções, com a SE-245 e com a SE-090.

Apresentamos no **Anexo I**, os elementos do traçado horizontal.

3 – TRAÇADO VERTICAL



3 – TRAÇADO VERTICAL

O traçado vertical apresenta os elementos das curvas verticais da rodovia a ser restaurada. Ele é constituído dos elementos das curvas verticais como, estacas, elevações, comprimento da curva, extensão entre PIV's e rampa entre os mesmos.

Os elementos do traçado vertical são apresentados para o eixo principal e para os eixos de intervenção nas duas interseções, com a SE-245 e com a SE-090.

Apresentamos no **Anexo II**, os elementos do traçado vertical.



4 – NOTAS DE SERVIÇO

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4 – NOTAS DE SERVIÇO

As notas de serviços apresentam os elementos necessários à execução das seções transversais do projeto de terraplenagem ou de pavimentação. Os elementos apresentados proporcionam condições de execução da terraplanagem/pavimentação, sendo que a planilha de notas de serviço contém cotas de terreno e projeto e cota vermelha no eixo, cotas no bordo e off set, e as distâncias de bordos e off set.

Para o eixo da via principal, em função da solução de pavimentação ser uma reestabilização do pavimento existente transformando o mesmo em uma sub-base, a nota de serviço para o eixo principal é uma nota de serviço de sub-base.

Para os alargamentos de corte e os alargamentos nas interseções com a SE-245 e a SE-090, a nota de serviço apresentada é de terraplenagem.

Apresentamos no **Anexo III**, as Notas de Serviço.

5 – QUADRO DE VOLUMES



5 – QUADRO DE VOLUMES

Na planilha de cálculo de volumes estão sendo apresentados os volumes geométricos de corte e aterro, e os volumes de aterro com empolamento, sendo apresentados os volumes parciais e os volumes acumulados. Também está sendo apresentada as Ordenadas de Bruckner.

Para efeito de transporte de solo, na planilha de demonstrativo de quantidades está sendo aplicado um fator de correção de volume de aterro de 1,20 (o que corresponde a um fator de “empolamento” de 20%). Este mesmo valor é considerado para a ordenada de Bruckner.

Os quadros de cálculo e volumes está sendo apresentado para os alargamentos de aterro e para os alargamentos das interseções que estão sofrendo intervenção.

Apresentamos no **Anexo IV**, as planilhas de Cálculo de Volumes.

ANEXOS



ANEXO I – PLANILHAS DO TRAÇADO HORIZONTAL



Nome	Descrição	Norte	Este	Cota
1	BORRACHARI	8.812.594,8800	698.583,5100	17,655
10	MF	8.812.549,6000	698.579,7600	16,922
100	EIXO	8.812.579,9400	698.568,7200	16,551
101	EIXO	8.812.562,8000	698.577,0600	16,749
102	EIXO	8.812.546,5500	698.586,2900	16,896
103	EIXO	8.812.528,0400	698.599,1700	16,990
104	EIXO	8.812.512,7700	698.611,4600	16,975
105	EIXO	8.812.497,5600	698.625,2100	16,912
106	EIXO	8.812.484,9300	698.639,2100	16,691
107	EIXO	8.812.472,4700	698.654,5600	16,464
108	EIXO	8.812.460,8100	698.670,3900	16,141
109	EIXO	8.812.450,2600	698.686,7900	15,827
11	MF	8.812.553,8000	698.586,7300	16,636
110	EIXO	8.812.440,9400	698.705,1200	15,454
111	EIXO	8.812.432,8700	698.723,5500	15,141
112	EIXO	8.812.424,9600	698.743,8100	14,838
113	EIXO	8.812.417,9900	698.761,7100	14,557
114	EIXO	8.812.411,9100	698.778,0100	14,211
115	POSTE	8.812.451,4100	698.641,3100	17,211
116	PISTA	8.812.434,5400	698.573,1700	21,012
117	PISTA	8.812.441,4600	698.570,5600	21,014
118	PISTA	8.812.414,5000	698.502,0000	22,052
119	PISTA	8.812.421,4300	698.500,5100	21,967
12	MF	8.812.537,2700	698.597,6000	16,722
120	POSTO	8.812.410,7800	698.503,0200	22,905
121	POSTO	8.812.388,9500	698.411,6800	19,677
122	PISTA	8.812.393,3500	698.410,5100	19,771
123	PISTA	8.812.399,6300	698.408,9700	19,852
124	PISTA	8.812.378,5600	698.321,9600	16,157
125	PISTA	8.812.372,4300	698.323,3100	16,124
126	POSTE	8.812.367,8300	698.324,2200	15,460
127	POSTE	8.812.347,9100	698.235,6600	12,793
128	BST1000	8.812.333,1200	698.202,8800	9,070
129	BST1000	8.812.333,1300	698.202,9600	9,915
13	MF	8.812.532,5300	698.590,7400	17,004
131	BST1000	8.812.362,7000	698.203,3200	9,229
131	BST1000	8.812.362,4000	698.203,6000	9,945
132	PISTA	8.812.336,6300	698.172,8900	10,406
133	PISTA	8.812.335,0000	698.166,2800	13,653
134	BORDO	8.812.327,6400	698.162,4500	12,272
135	BORDO	8.812.325,5200	698.166,3100	12,058
136	BORDO	8.812.319,6300	698.164,9500	11,492
137	POSTE	8.812.326,0700	698.141,7400	15,275
137	BORDO	8.812.320,0600	698.159,2100	11,334
138	POSTE	8.812.326,1300	698.141,7100	14,881
139	PISTA	8.812.303,3000	698.004,7900	23,657
14	MF	8.812.516,9500	698.602,5300	17,075
140	PISTA	8.812.296,9700	698.007,2000	23,367
141	POSTE	8.812.305,0700	698.057,4800	20,628

Nome	Descrição	Norte	Este	Cota
142	POSTE	8.812.277,6600	697.959,7100	24,621
143	RW	8.812.280,8100	697.963,3600	25,071
144	PISTA	8.812.281,3400	697.959,0700	25,398
145	PISTA	8.812.287,4600	697.956,7200	25,692
146	POSTE	8.812.272,0400	697.902,3600	26,045
147	POSTE	8.812.289,8700	697.936,5500	27,233
148	BORDO	8.812.290,9400	697.935,3500	26,753
149	BORDO	8.812.292,0300	697.933,6600	26,643
15	MF	8.812.521,0400	698.610,0900	16,751
150	BORDO	8.812.283,7300	697.924,0300	26,240
151	BORDO	8.812.281,1500	697.926,1500	26,203
152	PISTA	8.812.273,8200	697.923,3900	25,919
153	PISTA	8.812.270,6800	697.915,0900	25,763
154	PISTA	8.812.262,0600	697.912,4100	25,333
155	PISTA	8.812.264,2800	697.917,7400	25,467
156	BORDO	8.812.259,1100	697.933,3200	23,490
157	BORDO	8.812.256,6000	697.933,2900	22,818
158	BORDO	8.812.257,8400	697.924,7600	24,425
159	BORDO	8.812.261,3300	697.925,0200	24,755
16	MF	8.812.508,1100	698.621,3100	16,685
160	PISTA	8.812.257,6100	697.886,8400	24,957
161	PISTA	8.812.251,1800	697.889,6000	24,626
162	PISTA	8.812.228,4000	697.848,1300	22,478
163	PISTA	8.812.233,7000	697.844,5100	22,655
164	POSTE	8.812.236,4100	697.842,7000	22,794
165	POSTE	8.812.200,4100	697.782,8400	18,632
166	PISTA	8.812.195,2500	697.784,2600	18,827
167	PISTA	8.812.189,2300	697.787,9100	18,859
168	POSTE	8.812.161,2900	697.725,9500	15,107
169	POSTE	8.812.123,2500	697.668,6000	13,514
17	MF	8.812.493,1500	698.620,9000	16,963
170	CE	8.812.124,4400	697.669,3300	13,921
170	CE	8.812.274,8800	697.899,1600	26,274
171	POSTE	8.812.084,6100	697.611,3000	11,931
172	BST1000	8.812.059,8900	697.604,7800	8,269
173	BST1000	8.812.059,9400	697.604,8100	8,469
174	BST1000	8.812.070,2800	697.583,3400	7,858
175	BST1000	8.812.070,1100	697.583,4300	8,982
176	BST1000	8.812.061,1700	697.606,9500	8,393
177	BST1000	8.812.061,1900	697.606,9200	9,397
178	CE	8.812.052,1700	697.562,7300	11,613
179	POSTE	8.812.048,9000	697.559,4400	11,818
18	MF	8.812.492,5400	698.620,2000	17,040
180	POSTE	8.812.015,2000	697.504,2100	12,305
181	CE	8.812.033,5400	697.534,0700	12,346
182	CE	8.812.015,3700	697.503,0600	12,226
183	CANCELA	8.812.023,6800	697.490,2200	12,335
184	CANCELA	8.812.020,5400	697.484,9400	12,291
185	CANCELA	8.812.018,1100	697.480,6100	12,302

Nome	Descrição	Norte	Este	Cota
186	CE	8.812.003,9900	697.482,7400	12,143
187	POSTE	8.812.015,1700	697.504,2200	12,330
188	PISTA	8.812.007,0300	697.499,9600	12,250
189	PISTA	8.812.000,7300	697.490,2700	12,297
19	MF	8.812.485,2300	698.625,3000	16,997
190	BORDO	8.812.016,9100	697.481,5500	12,352
191	BORDO	8.812.023,0500	697.490,4700	12,253
192	PISTA	8.812.001,7800	697.502,6800	12,342
193	PISTA	8.811.996,4900	697.495,1300	12,360
194	BORDO	8.811.987,2300	697.500,9100	12,604
195	BORDO	8.811.991,0500	697.507,4100	12,664
196	BORDO	8.811.981,3500	697.512,0400	13,288
197	BORDO	8.811.979,4900	697.506,1400	13,160
198	CE	8.811.979,1500	697.442,6900	11,566
199	POSTE	8.811.975,5700	697.438,9700	12,273
2	BORRACHARI	8.812.590,7200	698.577,9900	16,864
20	MF	8.812.481,8700	698.626,6200	16,875
200	PISTA	8.811.970,1100	697.442,0000	12,572
201	PISTA	8.811.963,5100	697.445,5700	12,492
202	POSTE	8.811.960,6000	697.418,9000	12,106
203	POSTE	8.811.931,8200	697.383,9300	12,304
204	PISTA	8.811.929,1000	697.385,6000	12,772
205	PISTA	8.811.924,5200	697.389,2900	12,634
206	BST1000	8.811.907,5800	697.379,3100	8,675
207	BST1000	8.811.907,6900	697.379,3400	9,659
208	POSTE	8.811.916,3700	697.359,0100	11,484
209	PISTA	8.811.910,4100	697.361,6500	13,027
21	MF	8.812.474,6800	698.626,2100	17,134
210	PISTA	8.811.905,3900	697.365,6400	12,790
211	POSTE	8.811.890,3300	697.328,2100	12,532
212	POSTE	8.811.845,6900	697.274,3700	14,659
213	POSTE	8.811.799,9800	697.223,5100	16,337
214	POSTE	8.811.753,2800	697.172,6900	19,518
215	PISTA	8.811.740,4300	697.166,0200	21,183
216	PISTA	8.811.732,5100	697.168,1700	21,080
217	PISTA	8.811.730,7300	697.156,1100	21,749
218	PISTA	8.811.721,6600	697.147,3400	22,306
219	BORDO	8.811.723,3600	697.140,4400	21,786
22	MF	8.812.470,9100	698.624,6600	17,326
220	BORDO	8.811.729,4200	697.141,2800	21,435
221	BORDO	8.811.731,9500	697.131,2500	20,692
222	BORDO	8.811.727,3900	697.129,9700	21,002
223	CE	8.811.734,9300	697.150,6400	21,345
224	CE	8.811.733,0500	697.148,9000	21,493
225	CE	8.811.734,0700	697.131,1300	20,477
226	PORTAO	8.811.732,2100	697.130,7200	20,750
227	PORTAO	8.811.727,2500	697.129,6100	21,038
228	CE	8.811.704,7700	697.123,4800	23,753
229	POSTE	8.811.703,1000	697.123,3800	23,708

Nome	Descrição	Norte	Este	Cota
23	MF	8.812.505,5300	698.624,1200	16,837
230	PISTA	8.811.699,0300	697.126,9700	23,562
231	PISTA	8.811.694,4100	697.132,9700	23,311
232	PISTA	8.811.670,7200	697.116,2500	24,573
233	PISTA	8.811.672,9600	697.108,8700	24,883
234	PISTA	8.811.649,7300	697.096,0200	25,877
235	PISTA	8.811.646,2100	697.102,3300	25,591
236	POSTE	8.811.652,8100	697.091,1900	26,429
237	PISTA	8.811.594,2000	697.073,1700	28,665
238	POSTE	8.811.595,2600	697.067,8100	29,168
239	PISTA	8.811.590,8500	697.079,9900	28,562
24	MF	8.812.496,3400	698.633,8800	16,783
240	PISTA	8.811.555,2200	697.071,4600	30,920
241	PISTA	8.811.555,4900	697.064,7900	31,177
242	POSTE	8.811.521,9600	697.053,6800	32,942
243	POSTE	8.811.446,8700	697.041,4000	39,235
244	PISTA	8.811.445,1700	697.046,6800	39,772
245	PISTA	8.811.443,7900	697.053,9400	39,724
246	PISTA	8.811.338,1000	697.036,7300	49,284
247	PISTA	8.811.339,3700	697.029,3400	49,131
248	POSTE	8.811.372,3200	697.027,8200	46,858
249	POSTE	8.811.302,8300	697.011,5900	51,011
25	PISTA	8.812.496,1800	698.633,7900	16,755
250	PISTA	8.811.298,7700	697.016,9800	52,499
251	PISTA	8.811.296,4800	697.023,5700	52,716
252	PISTA	8.811.265,5700	697.007,7400	55,231
253	PISTA	8.811.269,9600	697.001,5800	54,728
254	PISTA	8.811.242,3500	696.973,6200	57,780
255	PISTA	8.811.236,1700	696.978,4200	58,236
256	POSTE	8.811.250,2000	696.970,4300	56,871
257	PISTA	8.811.229,2200	696.951,5800	60,042
258	PISTA	8.811.221,9300	696.954,0300	60,539
259	PISTA	8.811.206,2500	696.911,9700	63,878
26	PISTA	8.812.489,7200	698.628,2100	16,871
260	PISTA	8.811.213,8300	696.909,6800	63,746
261	POSTE	8.811.221,2900	696.908,6100	65,534
262	PISTA	8.811.205,8800	696.882,6200	65,757
263	PISTA	8.811.198,7000	696.884,2300	66,065
264	POSTE	8.811.201,5600	696.840,9500	71,200
265	POSTE	8.811.184,7000	696.785,7200	74,034
266	POSTE	8.811.176,9900	696.762,5700	75,543
267	POSTE	8.811.179,0400	696.756,3600	75,250
268	POSTE	8.811.174,2800	696.741,6100	75,949
269	POSTE	8.811.158,4100	696.741,5600	77,504
27	PISTA	8.812.498,8200	698.618,5200	16,982
270	POSTE	8.811.166,0000	696.724,6700	77,737
271	POSTE	8.811.152,6200	696.724,5600	78,065
272	PISTA	8.811.159,5100	696.708,7000	77,614
273	PISTA	8.811.152,5700	696.710,3800	77,607

Nome	Descrição	Norte	Este	Cota
274	POSTE	8.811.154,2000	696.683,4400	78,028
275	POSTE	8.811.141,4400	696.682,0900	80,483
276	POSTE	8.811.125,2800	696.624,5400	81,343
277	POSTE	8.811.136,5900	696.616,1500	81,337
278	POSTE	8.811.106,9200	696.557,5300	83,999
279	POSTE	8.811.117,3500	696.549,4900	84,296
28	PISTA	8.812.516,6900	698.602,9700	17,038
280	PISTA	8.811.113,3300	696.534,9100	84,719
281	PISTA	8.811.106,2000	696.536,5400	84,829
282	POSTE	8.811.089,7400	696.489,6400	85,800
283	POSTE	8.811.102,9900	696.480,5900	86,641
284	PISTA	8.811.086,6200	696.438,4800	88,435
285	PISTA	8.811.079,4800	696.440,3500	88,321
286	POSTE	8.811.068,8800	696.420,9100	88,521
287	POSTE	8.811.081,9800	696.413,7800	89,908
288	PISTA	8.811.074,6000	696.400,1700	89,710
289	PISTA	8.811.067,1000	696.402,7300	89,697
29	PISTA	8.812.481,4800	698.637,7600	16,781
290	POSTE	8.811.039,9200	696.356,0700	91,986
291	PISTA	8.811.044,1900	696.353,6500	91,486
292	PISTA	8.811.050,9600	696.350,7500	91,692
293	POSTE	8.811.053,9600	696.349,7600	91,388
294	PISTA	8.811.038,9500	696.328,8200	92,602
295	PISTA	8.811.032,1500	696.332,1700	92,323
296	PISTA	8.811.009,5000	696.300,8200	93,097
297	PISTA	8.811.015,8200	696.296,1300	93,353
298	POSTE	8.811.014,9300	696.289,4200	93,197
299	POSTE	8.811.002,3400	696.298,0100	93,347
3	BORRACHARI	8.812.596,7900	698.574,5300	17,056
30	PISTA	8.812.487,1600	698.644,7100	16,390
300	PISTA	8.811.000,5800	696.279,0400	92,964
301	PISTA	8.810.982,8300	696.259,5900	92,494
302	PISTA	8.810.992,4800	696.282,3100	93,071
303	PISTA	8.810.989,4000	696.278,9900	92,994
304	BORDO	8.810.983,0700	696.287,9800	93,415
305	BORDO	8.810.982,9700	696.292,8700	93,611
306	POSTE	8.810.964,2400	696.250,7000	92,071
307	POSTE	8.810.973,9900	696.236,9700	91,885
308	PISTA	8.810.955,0000	696.217,2000	91,219
309	PISTA	8.810.949,5000	696.221,3500	90,996
31	PISTA	8.812.475,9100	698.658,3400	16,203
310	PISTA	8.810.944,0000	696.202,1900	90,313
311	PISTA	8.810.937,8800	696.195,6800	89,813
312	BORDO	8.810.939,0200	696.183,0200	90,154
313	BORDO	8.810.944,0500	696.184,4900	90,196
314	PISTA	8.810.938,0100	696.205,5600	90,212
315	PISTA	8.810.933,1500	696.200,3500	89,880
316	BORDO	8.810.933,7200	696.213,0500	90,278
317	BORDO	8.810.936,1500	696.214,4800	90,351

Nome	Descrição	Norte	Este	Cota
318	POSTE	8.810.930,4200	696.207,1300	90,706
319	POSTE	8.810.929,7300	696.179,7300	90,358
32	PISTA	8.812.468,9300	698.653,1300	16,495
320	POSTE	8.810.887,3100	696.157,6400	88,467
321	PISTA	8.810.891,2500	696.154,6100	86,213
322	PISTA	8.810.896,4900	696.149,6400	86,211
323	POSTE	8.810.880,4300	696.125,8200	85,252
324	POSTE	8.810.845,1900	696.108,2600	83,593
325	POSTE	8.810.833,5400	696.071,3300	79,325
326	POSTE	8.810.794,5300	696.049,4300	74,895
327	PISTA	8.810.777,6500	696.026,1900	72,877
328	PISTA	8.810.782,4000	696.021,3400	72,694
329	POSTE	8.810.783,2400	696.019,6900	72,841
33	PISTA	8.812.454,3900	698.673,4300	16,053
330	POSTE	8.810.747,3700	695.975,4500	67,958
331	AUDOTORA	8.810.744,6000	695.973,2200	67,520
332	AUDOTORA	8.810.737,2900	695.980,8300	67,898
333	POSTE	8.810.733,7200	695.978,7900	67,244
334	POSTE	8.810.735,1500	695.958,3300	66,607
336	PISTA	8.810.714,9100	695.943,4000	64,640
337	BORDO	8.810.722,8900	695.936,8600	65,291
338	BORDO	8.810.725,5000	695.940,0500	65,666
339	PISTA	8.810.699,1600	695.925,8300	62,959
34	PISTA	8.812.461,3300	698.678,0900	15,805
340	PISTA	8.810.693,2400	695.930,7700	62,800
341	POSTE	8.810.687,3100	695.907,4200	61,597
342	POSTE	8.810.661,1100	695.901,2500	59,617
343	PISTA	8.810.632,7500	695.862,9600	56,507
344	PISTA	8.810.636,9700	695.857,5200	56,611
345	POSTE	8.810.639,5200	695.854,9700	57,422
346	POSTE	8.810.622,3500	695.859,5300	57,287
347	PISTA	8.810.598,6400	695.829,6900	53,287
348	PISTA	8.810.602,7100	695.824,8700	53,417
349	POSTE	8.810.587,7900	695.806,6800	52,184
35	PISTA	8.812.445,8900	698.703,3900	15,343
350	POSTE	8.810.584,9000	695.825,7200	53,440
351	POSTE	8.810.541,0700	695.788,5800	48,568
352	POSTE	8.810.529,4600	695.764,0000	46,729
353	PISTA	8.810.528,7600	695.764,9500	46,745
354	PISTA	8.810.524,4000	695.770,4200	46,599
355	POSTE	8.810.499,0300	695.758,7300	44,504
356	POSTE	8.810.471,8300	695.724,1500	40,787
357	POSTE	8.810.444,7800	695.723,8600	39,567
358	POSTE	8.810.413,8200	695.686,2000	35,775
359	PISTA	8.810.411,2900	695.689,8700	37,693
36	PISTA	8.812.439,3100	698.700,5200	15,523
360	PISTA	8.810.407,1500	695.695,0700	37,701
361	POSTE	8.810.386,5300	695.687,9200	36,314
362	PISTA	8.810.361,7800	695.658,9100	37,085

Nome	Descrição	Norte	Este	Cota
363	PISTA	8.810.356,5100	695.655,6900	37,078
364	BORDO	8.810.366,3100	695.648,9000	36,692
365	BORDO	8.810.370,8200	695.652,6900	36,799
366	POSTE	8.810.355,2900	695.647,0800	37,459
367	POSTE	8.810.330,1000	695.652,5200	37,846
368	POSTE	8.810.292,9400	695.613,3100	38,059
369	POSTE	8.810.266,4200	695.613,4000	38,573
37	PISTA	8.812.426,8800	698.728,0900	14,918
370	PISTA	8.810.242,4800	695.584,7300	36,746
371	PISTA	8.810.236,1600	695.580,3700	36,585
372	BORDO	8.810.245,0100	695.577,1000	37,584
373	BORDO	8.810.252,3200	695.580,8100	38,067
374	POSTE	8.810.233,8200	695.573,5800	37,234
375	POSTE	8.810.221,1300	695.584,7300	36,862
376	PISTA	8.810.199,4200	695.564,9900	35,713
377	PISTA	8.810.193,9400	695.561,5700	35,549
378	BORDO	8.810.188,9300	695.570,2700	34,690
379	BORDO	8.810.193,3500	695.573,1900	34,782
38	PISTA	8.812.433,6200	698.731,3700	14,908
380	POSTE	8.810.172,5300	695.553,3500	34,148
381	POSTE	8.810.174,8600	695.536,2300	34,424
382	PISTA	8.810.172,1300	695.539,7400	34,534
383	PISTA	8.810.168,8900	695.545,3600	34,544
384	POSTE	8.810.111,4800	695.515,1800	31,468
385	POSTE	8.810.114,7700	695.498,8300	31,269
386	PISTA	8.810.061,0500	695.470,6200	29,838
387	PISTA	8.810.055,0200	695.466,6800	29,615
388	BORDO	8.810.062,6300	695.460,6900	31,630
389	BORDO	8.810.068,7900	695.461,7400	31,868
39	PISTA	8.812.415,7900	698.777,9800	14,110
390	POSTE	8.810.056,1300	695.461,3000	30,304
391	POSTE	8.810.044,3500	695.473,8000	29,580
392	POSTE	8.809.996,8000	695.425,3200	27,881
393	POSTE	8.809.987,2300	695.438,1700	27,105
394	POSTE	8.809.952,9400	695.397,3100	28,886
395	PISTA	8.809.949,7500	695.400,6400	28,730
396	PISTA	8.809.945,7200	695.406,6500	28,721
397	POSTE	8.809.930,4100	695.403,5100	29,848
398	POSTE	8.809.892,9800	695.359,8000	32,257
399	POSTE	8.809.872,9400	695.366,8700	34,063
4	MF	8.812.593,8500	698.567,1400	16,264
40	PISTA	8.812.409,0800	698.775,5500	14,200
400	POSTE	8.809.834,0700	695.324,0400	33,920
401	POSTE	8.809.818,3400	695.332,5300	34,499
402	POSTE	8.809.776,8300	695.288,0500	33,333
403	POSTE	8.809.730,6900	695.277,6100	30,547
403	POSTE	8.809.758,4600	695.294,8800	34,372
405	POSTE	8.809.732,3800	695.254,8900	31,007
406	PISTA	8.809.732,8600	695.264,5900	31,193

Nome	Descrição	Norte	Este	Cota
407	PISTA	8.809.740,0600	695.269,7500	31,467
408	BORDO	8.809.767,5300	695.270,8200	33,010
409	BORDO	8.809.764,8500	695.274,3800	32,772
41	MF	8.812.416,1700	698.777,1400	14,166
410	BORDO	8.809.749,2600	695.263,3100	31,799
410	BORDO	8.809.749,0600	695.270,9400	31,935
411	BORDO	8.809.749,2800	695.263,3000	31,799
412	PISTA	8.809.723,4600	695.258,5800	30,964
413	PISTA	8.809.704,1000	695.246,5000	30,153
414	BORDO	8.809.722,7400	695.252,6700	30,044
415	BORDO	8.809.726,8800	695.248,1000	29,469
416	BORDO	8.809.736,4100	695.242,1800	28,903
417	BORDO	8.809.730,9200	695.234,3900	28,666
418	BORDO	8.809.719,5100	695.241,1300	29,123
419	PISTA	8.809.702,3800	695.254,7500	30,249
42	MF	8.812.429,8500	698.741,1500	14,791
420	PISTA	8.809.716,9100	695.262,3400	30,780
421	BORDO	8.809.700,0100	695.264,8900	29,068
422	BORDO	8.809.708,9800	695.268,3000	29,653
423	BORDO	8.809.695,4800	695.272,8300	28,519
424	BORDO	8.809.698,9000	695.277,5000	28,666
425	BORDO	8.809.692,8600	695.282,5400	28,211
426	BORDO	8.809.689,9000	695.277,9900	28,220
427	POSTE	8.809.694,7600	695.271,9000	28,502
428	POSTE	8.809.669,5000	695.221,0300	28,782
429	PISTA	8.809.666,9000	695.223,4600	29,090
43	POSTE	8.812.422,5200	698.772,6500	13,571
430	PISTA	8.809.661,9400	695.227,7400	29,078
431	POSTE	8.809.646,8800	695.226,9100	25,208
432	POSTE	8.809.609,9500	695.183,7700	27,468
433	POSTE	8.809.595,1500	695.189,5700	24,958
434	POSTE	8.809.541,9700	695.157,2600	25,054
435	PISTA	8.809.543,5200	695.154,5800	27,782
436	PISTA	8.809.546,2100	695.147,8600	27,713
437	POSTE	8.809.485,1000	695.121,9400	27,973
439	POSTE	8.809.431,8800	695.088,5100	26,760
44	TN	8.812.420,3100	698.771,4300	13,693
440	PONTE	8.809.421,6800	695.079,4300	29,213
441	PONTE	8.809.421,2500	695.080,1700	29,080
442	PONTE	8.809.425,9900	695.072,4200	29,299
443	PONTE	8.809.426,4000	695.071,7800	29,153
444	PONTE	8.809.381,7400	695.044,1400	29,032
445	PONTE	8.809.381,3800	695.044,7100	29,271
446	PONTE	8.809.376,9800	695.051,8500	29,265
447	PONTE	8.809.376,6500	695.052,2600	29,018
448	PISTA	8.809.365,3400	695.043,6100	29,009
449	PISTA	8.809.368,2300	695.037,6700	29,085
45	TN	8.812.428,8100	698.751,2400	13,974
450	PISTA	8.809.336,3300	695.015,8100	28,996

Nome	Descrição	Norte	Este	Cota
451	PISTA	8.809.329,9200	695.006,6300	28,765
453	PISTA	8.809.345,0800	694.983,6400	28,508
454	PISTA	8.809.355,5800	694.970,4700	28,420
455	PISTA	8.809.349,2200	694.965,1700	28,410
456	PISTA	8.809.314,7700	694.990,3700	29,093
457	PISTA	8.809.242,7800	695.042,4200	31,505
458	PISTA	8.809.247,1600	695.048,8200	31,691
459	PISTA	8.809.274,1200	695.028,8300	30,352
46	TN	8.812.435,1500	698.736,1200	14,336
460	PISTA	8.809.287,2300	695.021,0800	29,837
461	PISTA	8.809.303,9300	695.018,4800	29,192
463	PISTA	8.809.332,4600	695.022,7100	29,053
464	MF	8.809.321,3700	695.009,1700	29,082
465	MF	8.809.316,1500	695.009,5500	29,114
466	MF	8.809.312,4000	695.005,0000	29,116
467	MF	8.809.315,2900	695.000,1600	28,996
468	MF	8.809.322,2800	695.004,2500	28,981
469	POSTE	8.809.296,7300	695.021,7200	28,198
47	POSTE	8.812.438,0700	698.737,3900	13,434
470	POSTE	8.809.290,1400	695.025,8700	28,384
471	POSTE	8.809.274,6400	695.033,3700	29,230
472	POSTE	8.809.255,8600	695.047,6800	30,909
473	POSTE	8.809.356,0600	694.983,1400	27,505
474	PRACA	8.809.352,9900	694.981,9400	28,016
475	PRACA	8.809.352,3200	694.980,6500	28,177
476	PRACA	8.809.338,2900	694.971,0500	28,147
476	PRACA	8.809.339,0100	694.972,1800	28,295
477	PRACA	8.809.338,2900	694.971,0500	28,147
478	PRACA	8.809.258,4700	695.042,9200	31,261
479	POSTE	8.809.416,2500	694.937,3600	29,488
479	PRACA	8.809.251,6100	695.034,0600	31,267
48	TN	8.812.440,4300	698.723,7200	14,431
480	POSTE	8.809.425,4900	694.927,6300	27,884
481	PISTA	8.809.414,3600	694.928,5600	28,157
482	PISTA	8.809.417,9500	694.925,8100	28,119
483	BORDO	8.809.423,7100	694.929,6200	27,849
484	BORDO	8.809.421,5900	694.932,2200	27,951
485	PISTA	8.809.449,4900	694.900,4600	28,228
486	PISTA	8.809.444,9900	694.894,6600	28,395
487	PISTA	8.809.475,4000	694.870,1100	28,463
488	PISTA	8.809.481,2300	694.875,5100	28,578
489	PISTA	8.809.509,9400	694.848,0900	28,419
49	TN	8.812.445,7900	698.711,4100	14,706
490	PISTA	8.809.504,9600	694.842,5700	28,188
491	PISTA	8.809.522,6000	694.822,8900	27,998
492	PISTA	8.809.528,4000	694.827,7600	28,263
493	PISTA	8.809.549,7500	694.800,0700	27,883
494	PISTA	8.809.544,3600	694.795,4800	27,684
495	PISTA	8.809.563,8400	694.764,7200	27,299

Nome	Descrição	Norte	Este	Cota
496	PISTA	8.809.570,3300	694.768,5700	27,417
497	PISTA	8.809.580,5300	694.750,0600	27,262
498	PISTA	8.809.574,0000	694.746,1600	27,079
499	PISTA	8.809.611,8500	694.677,8900	27,230
5	MF	8.812.590,9000	698.559,3600	16,496
50	TN	8.812.450,5100	698.702,0900	14,905
500	PISTA	8.809.618,5300	694.681,1500	27,165
501	BRDULTO	8.809.744,5900	694.498,2900	27,549
502	BRDULTO	8.809.741,9300	694.502,6400	27,383
503	BRDULTO	8.809.738,0000	694.505,2100	27,459
504	BRDULTO	8.809.733,2300	694.514,7000	27,231
505	BRDULTO	8.809.720,4500	694.506,7100	27,972
506	BRDULTO	8.809.728,0400	694.495,0900	28,078
507	BRDULTO	8.809.730,7200	694.490,0300	28,110
508	BRDULTO	8.809.729,5100	694.488,7500	28,191
509	BRDULTO	8.809.725,7000	694.489,4900	28,123
51	POSTE	8.812.453,7900	698.704,5500	13,409
510	BRDULTO	8.809.710,1300	694.476,5300	30,441
511	BRDULTO	8.809.705,1500	694.474,2600	30,327
512	BRDULTO	8.809.704,3100	694.478,5000	30,025
513	BRDULTO	8.809.707,2500	694.478,6400	30,054
514	BRDULTO	8.809.696,0300	694.491,9900	29,617
515	PRACA	8.809.700,9200	694.502,9200	29,268
516	PRACA	8.809.701,6700	694.503,5100	29,351
517	PRACA	8.809.708,7600	694.482,0500	30,198
518	PRACA	8.809.708,2100	694.482,8600	30,186
519	PRACA	8.809.726,2800	694.494,6500	28,436
52	TN	8.812.459,8200	698.687,9800	15,244
520	PRACA	8.809.726,6700	694.494,0400	28,427
521	PTE85	8.809.707,8600	694.475,3000	30,881
522	BORDO	8.809.747,1400	694.491,8300	27,753
523	BORDO	8.809.743,2500	694.488,9700	27,758
524	BORDO	8.809.722,4300	694.507,8200	27,582
525	BORDO	8.809.724,8000	694.513,0600	27,594
526	PISTA	8.809.694,3200	694.537,6300	28,356
527	PISTA	8.809.698,5300	694.529,0900	28,633
528	PISTA	8.809.729,6100	694.469,5100	31,153
529	PISTA	8.809.722,7700	694.465,7200	31,327
53	TN	8.812.468,6200	698.676,3300	15,445
530	XAGUA	8.809.801,9900	694.360,8000	36,159
531	XAGUA	8.809.804,4400	694.361,9400	35,918
532	XAGUA	8.809.805,9100	694.359,4800	35,755
533	XAGUA	8.809.803,2000	694.358,0500	36,084
534	CE	8.809.795,1900	694.358,4300	37,437
535	CE	8.809.817,9900	694.368,6900	33,915
536	POSTE	8.809.817,2500	694.368,9400	34,250
537	CE	8.809.815,3600	694.375,5600	34,388
538	CE	8.809.792,3200	694.364,6700	37,650
539	BORDO	8.809.812,6100	694.372,9900	34,833

Nome	Descrição	Norte	Este	Cota
54	TN	8.812.473,3600	698.669,5400	16,085
540	BORDO	8.809.792,1500	694.363,7800	37,775
541	BORDO	8.809.793,1600	694.357,9500	38,035
542	BORDO	8.809.812,0000	694.366,2900	35,100
543	PISTA	8.809.789,7300	694.354,6700	38,617
544	PISTA	8.809.785,5800	694.362,6300	38,231
545	POSTE	8.809.792,3300	694.364,7100	37,650
546	PISTA	8.809.778,5200	694.358,7400	38,252
547	PISTA	8.809.780,5100	694.354,6700	38,434
548	BORDO	8.809.770,0100	694.348,4300	38,753
549	BORDO	8.809.768,1300	694.351,3900	38,722
55	POSTE	8.812.475,7600	698.671,2000	14,460
550	PISTA	8.809.811,8900	694.307,9600	39,750
551	PISTA	8.809.804,3400	694.305,5200	39,672
552	POSTE	8.809.815,7300	694.309,2200	37,879
553	CE	8.809.817,3600	694.310,2300	37,957
554	CE	8.809.821,1100	694.293,6800	39,099
555	BORDO	8.809.822,6000	694.278,2600	39,505
556	BORDO	8.809.814,9600	694.276,3100	39,399
557	POSTE	8.809.828,6900	694.261,8100	37,084
558	CE	8.809.835,4300	694.232,3600	38,463
559	PISTA	8.809.832,4800	694.232,2000	38,727
56	TN	8.812.481,4800	698.659,7200	16,124
560	PISTA	8.809.825,2600	694.231,1100	38,367
561	POSTE	8.809.839,8600	694.184,9100	35,712
562	PISTA	8.809.835,9300	694.184,8600	36,659
563	PISTA	8.809.828,3800	694.184,0100	36,357
564	CE	8.809.837,7000	694.170,1200	35,485
565	PISTA	8.809.833,5700	694.152,2400	34,554
566	PISTA	8.809.826,4100	694.152,9400	34,277
567	PISTA	8.809.823,2000	694.134,0100	33,249
568	PISTA	8.809.830,5700	694.132,5200	33,444
569	PISTA	8.809.829,5600	694.125,5300	33,117
57	TN	8.812.488,4600	698.646,5700	16,454
570	PISTA	8.809.828,4500	694.119,8800	32,887
571	BORDO	8.809.842,7100	694.135,6400	31,855
572	BORDO	8.809.840,7900	694.139,3400	31,957
573	CE	8.809.839,4200	694.140,5800	31,911
574	CE	8.809.834,7500	694.135,0400	32,712
575	PISTA	8.809.826,5100	694.112,5800	31,527
576	PISTA	8.809.818,8000	694.112,6200	32,256
577	POSTE	8.809.833,6800	694.095,5100	29,338
578	PISTA	8.809.812,7200	694.091,6600	31,821
579	PISTA	8.809.818,0900	694.084,7800	31,848
58	POSTE	8.812.490,8100	698.648,2400	16,264
580	PISTA	8.809.807,5200	694.055,8200	31,776
581	PISTA	8.809.799,8100	694.058,1800	31,772
582	PISTA	8.809.783,6000	693.997,5800	33,878
583	PISTA	8.809.781,6600	693.992,1600	34,109

Nome	Descrição	Norte	Este	Cota
584	BORDO	8.809.781,9500	693.980,7300	33,331
585	BORDO	8.809.785,6700	693.982,4500	33,386
586	PISTA	8.809.776,3600	694.001,4900	33,886
587	PISTA	8.809.779,1400	694.008,1400	33,618
588	BORDO	8.809.767,0700	694.003,0900	33,501
589	BORDO	8.809.768,6600	693.997,8600	33,628
59	TN	8.812.498,4600	698.637,4100	16,654
590	PISTA	8.809.744,3500	693.888,7600	37,118
591	PISTA	8.809.736,4000	693.891,5800	37,178
592	PISTA	8.809.722,2100	693.832,9000	37,031
593	PISTA	8.809.714,6900	693.836,2400	37,026
594	PISTA	8.809.706,6000	693.795,9000	36,739
595	PISTA	8.809.699,1600	693.799,1600	36,542
596	PISTA	8.809.681,8900	693.762,7900	36,086
597	PISTA	8.809.689,3600	693.760,1100	36,190
598	PISTA	8.809.669,2900	693.725,4700	35,766
599	PISTA	8.809.662,6600	693.729,4400	35,621
6	MF	8.812.593,1100	698.570,5000	16,488
60	TN	8.812.504,2400	698.630,8800	16,561
600	PISTA	8.809.639,9300	693.696,7500	34,662
601	PISTA	8.809.646,8900	693.692,3800	35,169
602	PISTA	8.809.622,8100	693.660,4300	34,930
603	PISTA	8.809.616,5400	693.668,0900	34,748
604	PISTA	8.809.596,0100	693.644,1700	34,390
605	PISTA	8.809.601,7200	693.638,5300	34,625
606	PISTA	8.809.587,8900	693.624,0900	34,341
607	PISTA	8.809.581,7300	693.629,6800	34,124
608	PISTA	8.809.567,7900	693.616,6800	33,881
609	PISTA	8.809.573,1800	693.610,5200	34,175
61	TN	8.812.509,9700	698.623,9200	16,765
610	PISTA	8.809.559,6100	693.598,5400	33,830
611	PISTA	8.809.552,2100	693.592,0700	33,739
612	BORDO	8.809.559,1500	693.588,2500	32,934
613	BORDO	8.809.564,0800	693.593,4100	32,928
614	PISTA	8.809.452,3100	693.505,7200	32,168
615	PISTA	8.809.447,4400	693.511,4400	32,329
616	PISTA	8.809.356,9200	693.433,6400	32,156
617	PISTA	8.809.361,3200	693.427,8000	32,027
618	PISTA	8.809.285,7200	693.362,5900	32,517
619	PISTA	8.809.280,8600	693.367,6300	32,641
62	POSTE	8.812.511,0800	698.625,2100	16,361
620	PISTA	8.809.202,5300	693.302,5300	33,467
621	PISTA	8.809.206,9400	693.296,8200	33,074
622	CE	8.809.135,8900	693.264,3600	34,905
623	CE	8.809.136,9700	693.263,3900	34,757
624	CE	8.809.115,4700	693.245,8900	34,950
625	CE	8.809.112,0400	693.239,6700	34,710
626	PISTA	8.809.098,1000	693.213,2300	35,749
627	PISTA	8.809.093,0100	693.219,2500	35,791

Nome	Descrição	Norte	Este	Cota
628	CE	8.809.004,1200	693.156,0700	38,361
629	PISTA	8.809.006,5400	693.154,7900	38,302
63	TN	8.812.521,0600	698.615,6600	15,468
630	PISTA	8.809.010,6800	693.157,7600	38,218
631	BORDO	8.809.005,6000	693.163,7100	38,604
632	BORDO	8.809.002,5000	693.161,2500	38,639
633	PISTA	8.808.970,1600	693.117,2300	38,459
634	PISTA	8.808.965,1400	693.123,2100	38,403
635	POSTE	8.808.887,0800	693.050,6100	34,548
636	PISTA	8.808.833,0400	693.024,7100	37,147
637	PISTA	8.808.827,9800	693.020,8200	37,251
638	BORDO	8.808.823,3300	693.023,5700	37,309
639	BORDO	8.808.828,2700	693.028,3700	37,172
64	TN	8.812.528,5700	698.609,3500	15,681
640	ARVORE	8.808.731,6000	692.933,4700	38,266
641	PISTA	8.808.728,7000	692.936,6900	38,266
642	PISTA	8.808.722,9100	692.942,7200	38,569
643	PISTA	8.808.679,9500	692.910,9100	39,419
644	PISTA	8.808.675,4800	692.907,0400	39,169
645	BORDO	8.808.671,1000	692.913,7300	39,523
646	BORDO	8.808.675,6300	692.916,0700	39,454
647	CE	8.808.679,9700	692.916,6500	39,359
648	CE	8.808.674,8100	692.918,4600	39,679
649	CE	8.808.669,0500	692.914,8900	39,510
65	TN	8.812.534,1400	698.602,8300	16,278
650	CE	8.808.668,9500	692.914,8500	39,509
651	PISTA	8.808.605,2600	692.855,0900	39,941
652	PISTA	8.808.608,5400	692.848,2400	39,946
653	CE	8.808.587,9800	692.858,7300	39,236
654	CE	8.808.588,0200	692.858,0800	39,314
655	CANCELA	8.808.579,4400	692.848,1700	40,109
656	CANCELA	8.808.576,1200	692.843,9900	40,368
657	PISTA	8.808.581,1400	692.838,3000	40,492
658	PISTA	8.808.586,3800	692.842,1800	40,236
659	PISTA	8.808.582,0500	692.827,9000	40,280
66	POSTE	8.812.535,2700	698.604,6900	15,486
660	PISTA	8.808.577,4700	692.824,8800	40,413
661	BORDO	8.808.583,6400	692.820,4900	39,701
662	BORDO	8.808.586,4300	692.823,7800	39,664
663	CE	8.808.558,7400	692.827,4000	40,939
664	PISTA	8.808.543,2400	692.807,5000	37,758
665	PISTA	8.808.547,3500	692.802,7200	37,757
666	PISTA	8.808.464,3100	692.750,3300	41,678
667	PISTA	8.808.468,7200	692.744,2100	41,675
668	CE	8.808.344,7500	692.661,4300	37,922
669	CE	8.808.328,2300	692.648,1000	36,242
67	TN	8.812.546,4800	698.597,8800	14,990
670	ARVORE	8.808.330,8200	692.630,8100	35,887
671	PISTA	8.808.332,8700	692.634,5400	36,965

Nome	Descrição	Norte	Este	Cota
672	PISTA	8.808.327,9300	692.639,5000	37,096
673	PRACA	8.808.241,9000	692.565,6900	37,143
674	PRACA	8.808.184,1200	692.514,6100	38,557
675	PISTA	8.808.172,2200	692.503,4900	39,015
676	PISTA	8.808.165,4600	692.497,1600	39,166
677	BORDO	8.808.153,9900	692.499,6000	38,728
678	BORDO	8.808.154,7000	692.505,2900	38,472
679	PISTA	8.808.176,6800	692.496,5200	38,975
68	TN	8.812.557,5200	698.590,9200	15,261
680	PISTA	8.808.187,2700	692.506,0800	38,782
681	BORDO	8.808.189,8100	692.489,7700	37,352
682	BORDO	8.808.183,8500	692.487,9800	37,535
683	BORDO	8.808.181,3500	692.492,6300	38,040
684	POSTE	8.808.180,0200	692.491,6000	38,094
685	CASA	8.808.219,9500	692.499,2900	36,391
686	CASA	8.808.210,6500	692.501,3000	36,216
687	CASA	8.808.212,5500	692.510,7500	36,009
688	CASA	8.808.128,8300	692.481,4600	38,807
689	CASA	8.808.131,7200	692.493,8300	39,605
69	TN	8.812.565,9500	698.583,2100	16,549
690	CASA	8.808.124,8300	692.495,4100	39,997
691	POSTE	8.808.125,6700	692.497,8600	39,859
692	CE	8.808.180,7300	692.516,0100	36,924
693	CE	8.808.170,6600	692.505,0200	38,565
694	PORTAO	8.808.163,5300	692.505,0600	38,460
695	PORTAO	8.808.159,9600	692.497,8300	38,767
696	CE	8.808.113,1600	692.456,9500	39,750
697	CE	8.808.110,5600	692.457,9200	40,356
698	PRACA	8.808.123,0300	692.446,9700	39,862
699	PISTA	8.808.122,9100	692.449,9400	40,024
7	MF	8.812.571,9200	698.580,4800	16,607
70	POSTE	8.812.566,6800	698.584,8900	16,555
700	PISTA	8.808.117,9300	692.455,1700	39,958
701	ARVORE	8.807.976,1600	692.318,0700	42,865
702	PISTA	8.807.973,4900	692.317,1700	43,439
703	PISTA	8.807.967,9600	692.322,6800	43,504
704	PISTA	8.807.819,2700	692.190,8500	39,383
705	PISTA	8.807.814,0000	692.186,2600	39,443
706	BORDO	8.807.807,0800	692.192,3100	39,406
707	BORDO	8.807.810,7400	692.197,7400	39,354
708	PISTA	8.807.619,1400	692.001,8500	42,923
709	PISTA	8.807.613,4000	692.007,7100	43,047
71	POSTE	8.812.600,0800	698.567,2000	16,350
710	PISTA	8.807.606,5400	692.001,7800	43,226
711	PISTA	8.807.601,9600	691.997,6500	43,499
712	BORDO	8.807.592,7100	691.996,7400	43,644
713	BORDO	8.807.593,4700	691.999,7600	43,543
714	PISTA	8.807.595,9000	691.982,0300	43,936
715	PISTA	8.807.591,4600	691.978,0200	44,206

Nome	Descrição	Norte	Este	Cota
716	BORDO	8.807.595,4600	691.970,9800	43,647
717	BORDO	8.807.599,3300	691.972,1400	43,463
718	PISTA	8.807.569,8600	691.958,7400	45,501
719	PISTA	8.807.564,7000	691.964,0300	45,642
72	POSTE	8.812.593,4100	698.556,8500	16,582
720	PISTA	8.807.393,2400	691.801,3000	56,415
721	PISTA	8.807.396,7100	691.804,9700	56,300
722	BORDO	8.807.401,6500	691.799,1800	55,624
723	BORDO	8.807.397,5200	691.796,9500	55,703
724	PISTA	8.807.389,6700	691.807,9700	56,541
725	PISTA	8.807.392,8800	691.810,7400	56,432
726	BORDO	8.807.387,1700	691.815,8400	56,819
727	BORDO	8.807.384,5400	691.812,9300	56,975
728	PISTA	8.807.330,5200	691.746,0100	58,018
729	PISTA	8.807.324,8700	691.752,0800	58,124
73	POSTE	8.812.566,3900	698.569,6400	16,891
730	PISBURRACO	8.807.282,6300	691.697,7300	57,423
731	PISBURRACO	8.807.278,4700	691.698,5200	57,467
732	PISBURRACO	8.807.274,4300	691.697,5300	57,331
734	PISBURRACO	8.807.266,4900	691.688,5300	56,990
735	PISBURRACO	8.807.265,7500	691.684,0300	56,876
736	TN	8.807.268,9000	691.683,2900	55,736
737	TN	8.807.272,8400	691.686,1300	56,171
738	TN	8.807.277,1000	691.689,9800	56,430
739	TN	8.807.282,9400	691.694,9700	56,684
74	POSTE	8.812.539,9700	698.584,3400	17,070
740	TN	8.807.277,5500	691.697,0500	56,297
741	TN	8.807.273,1300	691.693,3300	56,048
742	TN	8.807.268,0300	691.687,5200	55,435
743	PISTA	8.807.240,6400	691.666,5600	56,000
744	PISTA	8.807.235,0200	691.672,2500	56,051
745	PISTA	8.807.158,4100	691.594,9800	54,032
746	PISTA	8.807.154,0300	691.591,5300	54,016
747	BORDO	8.807.148,9900	691.594,0500	53,801
748	BORDO	8.807.151,7000	691.599,0300	53,600
749	PISTA	8.807.000,9900	691.454,5800	61,252
75	POSTE	8.812.515,7100	698.602,2500	17,176
750	PISTA	8.807.004,6100	691.457,4300	61,080
751	BORDO	8.806.998,4200	691.462,8300	61,364
752	BORDO	8.806.995,7100	691.459,9500	61,505
753	PISTA	8.806.942,0000	691.400,3500	65,494
754	PISTA	8.806.936,8900	691.406,0500	65,578
755	PISTA	8.806.922,9800	691.394,6800	66,559
756	PISTA	8.806.919,7300	691.391,9100	66,794
757	BORDO	8.806.916,3100	691.395,3000	66,555
758	BORDO	8.806.919,7100	691.397,8100	66,336
759	PISTA	8.806.928,2300	691.387,6200	66,474
76	POSTE	8.812.491,7800	698.620,4600	17,047
760	PISTA	8.806.924,6400	691.384,6300	66,822

Nome	Descrição	Norte	Este	Cota
761	BORDO	8.806.929,5200	691.379,5400	65,971
762	BORDO	8.806.932,1200	691.382,3300	65,800
763	PISTA	8.806.866,7100	691.334,4700	70,985
764	PISTA	8.806.861,5800	691.340,9500	70,972
765	PISTA	8.806.801,4100	691.292,4800	72,371
766	PISTA	8.806.797,5800	691.289,8000	72,321
767	PISTA	8.806.795,2900	691.294,2700	72,078
768	PISTA	8.806.798,5300	691.295,8400	72,261
769	PISTA	8.806.791,7900	691.276,0400	72,341
77	MANUMENTO	8.812.484,9100	698.625,3800	17,122
770	PISTA	8.806.787,5600	691.273,3000	72,302
771	BORDO	8.806.789,3400	691.269,5200	72,146
772	BORDO	8.806.792,1200	691.271,6300	72,150
773	PISTA	8.806.771,2300	691.261,8200	71,967
774	PISTA	8.806.766,6400	691.267,6500	71,824
775	PISTA	8.806.733,9300	691.246,7900	71,118
776	PISTA	8.806.737,6800	691.239,8900	71,227
777	PISTA	8.806.703,6300	691.218,6800	70,511
778	PISTA	8.806.699,3800	691.225,1100	70,394
779	PISTA	8.806.665,7100	691.205,8200	70,154
78	MANUMENTO	8.812.471,0000	698.624,5200	17,381
780	PISTA	8.806.668,9600	691.198,8800	70,416
781	PISTA	8.806.633,9600	691.180,3500	69,882
782	PISTA	8.806.612,2100	691.178,2200	69,370
783	PISTA	8.806.615,7300	691.171,0700	69,297
784	PISTA	8.806.540,5900	691.141,5800	65,349
785	PISTA	8.806.544,3400	691.134,9200	65,401
786	PISTA	8.806.455,4900	691.089,5000	61,595
787	PISTA	8.806.452,1900	691.095,9600	61,583
788	PISTA	8.806.348,8200	691.042,3800	67,180
789	PISTA	8.806.341,3700	691.038,5500	67,824
79	MANUMENTO	8.812.470,8900	698.623,9400	17,718
790	BORDO	8.806.334,9400	691.047,1000	66,715
791	BORDO	8.806.338,8500	691.050,6900	66,666
792	PISTA	8.806.308,9800	691.021,7900	70,766
793	PISTA	8.806.313,6200	691.015,2200	70,739
794	PISTA	8.806.278,7200	690.996,0400	73,898
795	PISTA	8.806.275,0500	691.002,9800	74,048
796	PISTA	8.806.239,7500	690.981,0200	76,475
797	PISTA	8.806.244,9300	690.974,6900	76,025
798	PISTA	8.806.196,7000	690.939,5400	77,160
799	PISTA	8.806.191,4300	690.945,5000	77,542
8	MF	8.812.568,4700	698.578,9500	16,511
80	MF	8.812.472,4500	698.635,9000	17,159
800	PISTA	8.806.161,6000	690.918,0400	76,735
801	PISTA	8.806.167,3200	690.912,5900	76,314
802	PISTA	8.806.139,7000	690.883,7400	74,504
803	PISTA	8.806.133,4500	690.888,9300	74,830
804	PISTA	8.806.101,7000	690.837,4300	70,719

Nome	Descrição	Norte	Este	Cota
805	PISTA	8.806.095,1300	690.841,8400	70,962
806	PISTA	8.806.072,7500	690.808,4900	68,350
807	PISTA	8.806.079,5100	690.804,4900	68,079
808	PISTA	8.806.050,5700	690.751,8700	64,221
809	PISTA	8.806.043,5700	690.755,0300	64,279
81	MF	8.812.469,0000	698.634,7600	17,383
810	PISTA	8.806.006,7000	690.684,3700	61,693
811	PISTA	8.805.944,3600	690.567,6100	68,291
812	PISTA	8.805.940,7600	690.561,4700	68,532
813	BORDO	8.805.930,0700	690.562,7300	68,460
814	BORDO	8.805.933,1500	690.569,3900	68,318
815	PISTA	8.805.921,2300	690.524,9500	70,416
816	PISTA	8.805.928,4900	690.522,4500	70,281
817	PISTA	8.805.910,0500	690.487,0200	71,312
818	PISTA	8.805.907,3300	690.482,3800	71,469
819	BORDO	8.805.909,4600	690.476,3700	70,852
82	MF	8.812.464,9900	698.636,6100	17,386
820	BORDO	8.805.913,5900	690.482,5500	70,779
821	PISTA	8.805.881,3700	690.434,1300	72,293
822	PISTA	8.805.875,1700	690.436,9200	72,340
823	PISTA	8.805.844,0900	690.363,3200	73,581
824	PISTA	8.805.837,4700	690.366,1400	73,691
825	PISTA	8.805.790,5300	690.278,4300	72,291
826	PISTA	8.805.797,4900	690.274,8500	72,184
827	PISTA	8.805.759,8600	690.204,1900	70,434
828	PISTA	8.805.753,0600	690.207,6700	70,527
829	PISTA	8.805.736,9500	690.160,9000	69,318
83	MF	8.812.463,7300	698.640,1300	17,306
830	PISTA	8.805.734,5300	690.156,4400	69,231
831	PISTA	8.805.733,5500	690.154,9400	69,201
832	PISTA	8.805.736,5000	690.158,6500	69,279
833	PISTA	8.805.730,0100	690.164,8400	69,317
834	PISTA	8.805.727,5300	690.160,1800	69,229
835	BORDO	8.805.721,6300	690.155,8700	69,022
836	BORDO	8.805.724,1900	690.161,2200	69,121
837	PISTA	8.805.715,5500	690.136,8900	68,572
838	PISTA	8.805.721,9700	690.133,7900	68,578
839	PISTA	8.805.684,5000	690.063,1000	67,184
84	MF	8.812.464,6700	698.643,2400	17,155
840	PISTA	8.805.678,1900	690.066,0400	67,313
841	PISTA	8.805.649,5500	690.012,8100	66,944
842	PISTA	8.805.656,4100	690.010,0400	67,036
843	PISTA	8.805.637,6800	689.974,7000	65,796
844	PISTA	8.805.630,8500	689.977,7300	65,679
845	PISTA	8.805.612,4600	689.942,8100	64,173
846	PISTA	8.805.618,8500	689.939,5800	64,179
847	PISTA	8.805.590,4500	689.886,6100	60,117
848	PISTA	8.805.583,9100	689.889,6900	60,110
849	PISTA	8.805.546,8300	689.819,0000	59,095

Nome	Descrição	Norte	Este	Cota
85	MF	8.812.468,3500	698.645,5600	16,931
850	PISTA	8.805.553,1700	689.815,9000	59,221
851	PISTA	8.805.427,8700	689.592,5100	67,070
852	PISTA	8.805.425,2200	689.587,8500	66,987
853	BORDO	8.805.416,4000	689.591,9700	67,287
854	BORDO	8.805.419,0100	689.595,2400	67,231
855	PISTA	8.805.433,4900	689.588,2900	66,983
856	PISTA	8.805.430,1900	689.581,3600	66,796
857	BORDO	8.805.435,3500	689.570,1100	66,948
858	BORDO	8.805.438,1100	689.575,9900	66,885
859	PISTA	8.805.423,2200	689.568,0800	66,202
86	MF	8.812.473,4300	698.643,4000	16,768
860	PISTA	8.805.416,5000	689.571,3000	66,266
861	PRACA	8.805.393,4400	689.508,0000	63,083
862	PISTA	8.805.376,7100	689.479,6400	62,106
863	PISTA	8.805.370,1500	689.482,5100	62,138
864	PISTA	8.805.349,1600	689.426,3100	61,880
865	PISTA	8.805.342,7300	689.407,9100	61,832
866	PISTA	8.805.341,4500	689.388,9700	61,838
867	PISTA	8.805.345,6300	689.369,9800	61,687
868	PISTA	8.805.355,2500	689.351,7600	61,225
869	PISTA	8.805.364,4900	689.337,3800	60,915
87	MF	8.812.474,4400	698.639,0500	16,940
870	PISTA	8.805.362,3100	689.335,9900	61,160
871	PISTA	8.805.356,5300	689.331,5600	61,191
872	MF	8.805.353,1000	689.329,0300	61,001
873	MF	8.805.348,5100	689.335,0700	61,137
874	MF	8.805.337,8900	689.345,2000	61,417
875	MF	8.805.324,8600	689.359,4800	61,704
876	MF	8.805.308,9000	689.380,5500	62,183
877	MF	8.805.298,2800	689.394,9000	62,376
878	MF	8.805.284,5600	689.426,6600	62,770
879	MF	8.805.280,1500	689.433,8300	63,019
88	LU	8.812.469,0300	698.639,8500	17,179
880	MF	8.805.263,5300	689.458,1700	63,496
881	PISTA	8.805.266,2300	689.460,5900	63,798
882	PISTA	8.805.272,1200	689.465,1700	63,788
883	PISTA	8.805.274,4800	689.466,7300	63,551
884	PISTA	8.805.298,8400	689.431,6600	63,048
885	PISTA	8.805.307,9800	689.424,2900	62,880
886	PISTA	8.805.319,6200	689.420,9100	62,631
887	PISTA	8.805.331,8800	689.423,5000	62,332
888	PISTA	8.805.341,9800	689.433,0700	62,005
889	PISTA	8.805.347,7700	689.441,0000	61,990
89	PISTA	8.812.448,9500	698.681,9900	15,884
890	MF	8.805.338,1900	689.419,1600	62,280
891	MF	8.805.335,2500	689.408,6800	62,309
892	MF	8.805.330,8300	689.412,6900	62,453
893	MF	8.805.321,5900	689.412,6300	62,577

Nome	Descrição	Norte	Este	Cota
894	MF	8.805.321,6900	689.413,5600	62,586
895	MF	8.805.321,1500	689.414,0900	62,596
896	MF	8.805.316,3000	689.414,3600	62,706
897	MF	8.805.311,3100	689.415,3200	62,766
898	MF	8.805.310,5400	689.414,6000	62,743
899	MF	8.805.315,3500	689.407,8800	62,592
9	MF	8.812.565,0100	698.571,4600	16,757
90	PISTA	8.812.455,2500	698.663,7600	16,166
900	MF	8.805.319,7300	689.401,4200	62,461
901	MF	8.805.322,6300	689.404,3000	62,509
902	MF	8.805.326,7200	689.405,4700	62,417
903	MF	8.805.329,9700	689.403,8100	62,384
904	MF	8.805.331,8700	689.399,3200	62,296
905	MF	8.805.329,9500	689.394,8500	62,293
906	MF	8.805.326,8700	689.391,2900	62,240
907	MF	8.805.331,1100	689.385,1600	62,147
908	MF	8.805.334,7600	689.380,0500	61,971
909	MF	8.805.334,5000	689.388,7100	62,098
91	PISTA	8.812.456,8800	698.647,6900	16,807
910	MF	8.805.328,2300	689.367,4000	61,966
911	MF	8.805.319,0900	689.376,9100	62,133
912	MF	8.805.320,8100	689.378,2300	62,152
913	MF	8.805.315,5100	689.385,7100	62,252
914	MF	8.805.311,9200	689.387,4000	62,341
915	MF	8.805.311,3800	689.391,5700	62,440
916	MF	8.805.305,4600	689.400,1500	62,552
917	MF	8.805.304,1400	689.399,2500	62,561
918	MF	8.805.301,5000	689.405,8400	62,696
919	PRACA	8.805.332,6800	689.386,3400	62,221
92	PISTA	8.812.454,8400	698.632,8000	17,690
920	GINIPAPEIR	8.805.350,3400	689.396,3800	62,025
93	PISTA	8.812.450,5500	698.617,9900	18,702
94	PISTA	8.812.457,5200	698.614,6800	18,768
95	PISTA	8.812.467,5500	698.624,6100	17,673
96	PISTA	8.812.474,4500	698.627,0500	17,236
97	PISTA	8.812.485,7800	698.626,5500	16,950
98	PISTA	8.812.491,5100	698.622,2600	16,927
99	EIXO	8.812.592,0600	698.563,6600	16,429
E1		8.812.333,2600	698.158,2000	14,114
E10		8.808.173,8400	692.504,6000	39,014
E11		8.806.347,0100	691.042,1600	67,292
E12		8.806.216,6300	690.965,5100	77,398
E13		8.806.111,2600	690.862,3800	72,797
E14		8.805.452,6700	689.639,9700	67,376
E15		8.805.330,9100	689.395,8400	62,326
E2		8.812.000,2700	697.481,9800	12,394
E3		8.811.720,3100	697.145,3500	22,379
E4		8.811.590,7100	697.072,7500	28,871
E5		8.810.929,3100	696.186,3900	89,209

Nome	Descrição	Norte	Este	Cota
E6		8.809.850,7300	695.338,4800	33,475
E7		8.809.721,1200	695.257,0300	30,852
E8		8.809.716,1500	694.504,3000	29,540
E9		8.808.967,2300	693.124,9800	38,444
EST269		8.809.516,4800	694.840,2100	28,656
EST296		8.809.781,3500	694.371,2700	38,558
EST303		8.809.831,3800	694.241,3300	38,989
EST324		8.809.724,2700	693.840,8900	37,442
EST335		8.809.614,2300	693.651,9300	35,165
EST36		8.812.286,4900	697.961,5700	25,756
EST39		8.812.265,8600	697.905,6500	25,648
EST412		8.808.407,5600	692.699,4500	41,043
EST412		8.808.407,5600	692.699,4500	41,043
EST442		8.807.957,9500	692.303,5800	43,673
EST481		8.807.375,0300	691.785,6800	57,614
EST507		8.806.986,3600	691.440,5500	62,657
EST587		8.805.853,1500	690.381,1700	72,634
EST6		8.812.431,4700	698.542,4100	21,832
M0		8.812.662,7000	698.663,1100	32,072
M1		8.812.466,0700	698.644,3800	17,153
RW1		8.812.464,7000	698.638,6300	17,392
RW10		8.811.223,7000	696.962,1800	59,791
RW11		8.811.165,3300	696.724,9700	78,016
RW12		8.811.053,3700	696.350,0100	91,709
RW13		8.810.966,2300	696.249,6900	92,091
RW14		8.810.879,9600	696.126,7600	85,281
RW15		8.810.587,0800	695.807,3300	52,392
RW16		8.810.173,9800	695.537,8000	34,475
RW17		8.809.819,1600	695.330,7400	34,366
RW18		8.809.318,1000	695.005,7400	29,401
RW19		8.809.552,3900	694.805,6400	27,510
RW2		8.812.420,4400	698.544,5800	23,185
RW20		8.809.804,0300	694.328,1700	39,422
RW21		8.809.837,6400	694.185,0900	36,662
RW22		8.809.711,7600	693.794,3700	38,894
RW23		8.809.572,2600	693.605,1300	34,543
RW24		8.809.140,5900	693.241,9700	34,404
RW25		8.809.003,4600	693.155,1600	38,387
RW26		8.808.970,8300	693.115,9700	38,570
RW27		8.808.495,8700	692.785,0100	43,668
RW28		8.807.385,2700	691.807,6400	56,932
RW29		8.806.852,4800	691.319,4700	71,866
RW3		8.812.322,0100	698.035,0300	24,648
RW30		8.806.598,7800	691.160,5000	68,512
RW31		8.806.274,1900	691.004,9800	74,126
RW32		8.806.092,8700	690.843,9800	71,116
RW33		8.805.846,6300	690.361,5200	73,609
RW34		8.805.447,9800	689.644,4200	68,114
RW35		8.805.401,9200	689.555,9200	65,767

Nome	Descrição	Norte	Este	Cota
RW6		8.812.015,1300	697.504,8900	12,524
RW7		8.811.702,7700	697.124,4400	23,775
RW8		8.811.521,2300	697.056,0800	33,910
RW9		8.811.302,3400	697.030,0100	51,740
RX5		8.812.273,7400	697.901,6700	26,299

Reg: 1 Tangente (PI-0 - PC1)

Nome	Estaca	Norte	Este	Azimute	Distância
PI-0	0	8.812.478,3008	698.647,4047		
				219°10'34"	1,6442
PC1	0+1,644	8.812.477,0262	698.646,3660		

Reg: 2 Circular (PC1 - PT1)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
PC1	0+1,644	8.812.477,0262	698.646,3660		
Centro		8.812.527,5627	698.584,3493	30°32'22"	42,6411
PT1	2+4,285	8.812.452,5240	698.612,0838		

Raio:	80,0000	Corda:	42,1381	Deflexão/Metro:	0,35809862
Tangente:	21,8401	Dist. Externa:	2,9276	G. Curva/Metro:	0,71619724

Reg: 3 Tangente (PT1 - PC2)

Nome	Estaca	Norte	Este	Azimute	Distância
PT1	2+4,285	8.812.452,5240	698.612,0838		
				249°42'56"	27,1621
PC2	3+11,447	8.812.443,1074	698.586,6062		

Reg: 4 Circular (PC2 - PT2)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
PC2	3+11,447	8.812.443,1074	698.586,6062		
Centro		8.813.099,6956	698.343,9296	6°58'22"	85,1887
PT2	7+16,636	8.812.418,5032	698.505,1029		

Raio:	700,0000	Corda:	85,1361	Deflexão/Metro:	0,04092556
Tangente:	42,6470	Dist. Externa:	1,2979	G. Curva/Metro:	0,08185111

Reg: 5 Tangente (PT2 - TE3)

Nome	Estaca	Norte	Este	Azimute	Distância
PT2	7+16,636	8.812.418,5032	698.505,1029		
				256°41'18"	442,3656
TE3	29+19,002	8.812.316,6495	698.074,6227		

Reg: 6 Espiral de Entrada (TE3 - EC3)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
TE3	29+19,002	8.812.316,6495	698.074,6227		
Centro		8.811.645,3293	698.192,3606	233,2381	80,0000
EC3	33+19,002	8.812.296,7100	697.997,1602		

Âng. Central:	3°22'13"	XC:	79,9723	JC:	2°14'49"
Raio:	680,0000	YC:	1,5682	IC:	1°07'24"
Tangente Longa	53,3430	XM:	39,9954	Afastamento:	0,3921
Tangente Curta:	26,6755	YM:	680,3921	K:	0,00017554°

Reg: 7 Circular (EC3 - CE3)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
EC3	33+19,002	8.812.296,7100	697.997,1602		
Centro		8.811.645,3293	698.192,3606	13°13'52"	157,0298
CE3	41+16,032	8.812.234,7417	697.853,2543		

Raio:	680,0000	Corda:	156,6811	Deflexão/Metro:	0,04212925
Tangente:	78,8657	Dist. Externa:	4,5581	G. Curva/Metro:	0,08425850

Reg: 8 Espiral de Saída (CE3 - ET3)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
CE3	41+16,032	8.812.234,7417	697.853,2543		
Centro		8.811.645,3293	698.192,3606	233,2381	80,0000
ET3	45+16,032	8.812.192,1654	697.785,5395		

Âng. Central:	3°22'13"	XC:	79,9723	JC:	2°14'49"
Raio:	680,0000	YC:	1,5682	IC:	1°07'24"
Tangente Longa	53,3430	XM:	39,9954	Afastamento:	0,3921
Tangente Curta:	26,6755	YM:	680,3921	K:	0,00017554°

Reg: 9 Tangente (ET3 - TE4)

Nome	Estaca	Norte	Este	Azimute	Distância
ET3	45+16,032	8.812.192,1654	697.785,5395		
				236°43'00"	361,0876
TE4	63+17,119	8.811.994,0073	697.483,6825		

Reg: 10 Espiral de Entrada (TE4 - EC4)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
TE4	63+17,119	8.811.994,0073	697.483,6825		
Centro		8.811.219,4403	697.944,3116	268,3282	80,0000
EC4	67+17,119	8.811.949,1229	697.417,4687		

Âng. Central:	2°32'47"	XC:	79,9842	JC:	1°41'52"
Raio:	900,0000	YC:	1,1850	IC:	0°50'56"
Tangente Longa	53,3389	XM:	39,9974	Afastamento:	0,2963
Tangente Curta:	26,6717	YM:	900,2963	K:	0,00013263°

Reg: 11 Circular (EC4 - CE4)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
EC4	67+17,119	8.811.949,1229	697.417,4687		
Centro		8.811.219,4403	697.944,3116	2°35'38"	40,7459
CE4	69+17,865	8.811.924,5314	697.384,9847		

Raio:	900,0000	Corda:	40,7424	Deflexão/Metro:	0,03183099
Tangente:	20,3764	Dist. Externa:	0,2306	G. Curva/Metro:	0,06366198

Reg: 12 Espiral de Saída (CE4 - ET4)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
CE4	69+17,865	8.811.924,5314	697.384,9847		
Centro		8.811.219,4403	697.944,3116	268,3282	80,0000
ET4	73+17,865	8.811.872,9831	697.323,8158		

Âng. Central:	2°32'47"	XC:	79,9842	JC:	1°41'52"
Raio:	900,0000	YC:	1,1850	IC:	0°50'56"
Tangente Longa	53,3389	XM:	39,9974	Afastamento:	0,2963
Tangente Curta:	26,6717	YM:	900,2963	K:	0,00013263°

Reg: 13 Tangente (ET4 - TE5)

Nome	Estaca	Norte	Este	Azimute	Distância
ET4	73+17,865	8.811.872,9831	697.323,8158		
				229°01'47"	168,1674
TE5	82+6,033	8.811.762,7210	697.196,8412		

Reg: 14 Espiral de Entrada (TE5 - EC5)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
TE5	82+6,033	8.811.762,7210	697.196,8412		
Centro		8.811.501,0873	697.384,3175	138,5641	60,0000
EC5	85+6,033	8.811.722,0007	697.152,8066		

Âng. Central:	5°22'17"	XC:	59,9473	JC:	3°34'52"
Raio:	320,0000	YC:	1,8738	IC:	1°47'25"
Tangente Longa	40,0184	XM:	29,9912	Afastamento:	0,4686
Tangente Curta:	20,0168	YM:	320,4686	K:	0,00049736°

Reg: 15 Circular (EC5 - CE5)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
EC5	85+6,033	8.811.722,0007	697.152,8066		
Centro		8.811.501,0873	697.384,3175	29°01'26"	162,1002
CE5	93+8,133	8.811.581,9345	697.074,6988		

Raio:	320,0000	Corda:	160,3726	Deflexão/Metro:	0,08952466
Tangente:	82,8289	Dist. Externa:	10,5460	G. Curva/Metro:	0,17904931

Reg: 16 Espiral de Saída (CE5 - ET5)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
CE5	93+8,133	8.811.581,9345	697.074,6988		
Centro		8.811.501,0873	697.384,3175	138,5641	60,0000
ET5	96+8,133	8.811.523,0705	697.063,2001		

Âng. Central:	5°22'17"	XC:	59,9473	JC:	3°34'52"
Raio:	320,0000	YC:	1,8738	IC:	1°47'25"
Tangente Longa	40,0184	XM:	29,9912	Afastamento:	0,4686
Tangente Curta:	20,0168	YM:	320,4686	K:	0,00049736°

Reg: 17 Tangente (ET5 - TE6)

Nome	Estaca	Norte	Este	Azimute	Distância
ET5	96+8,133	8.811.523,0705	697.063,2001		
				189°15'46"	159,6224
TE6	104+7,755	8.811.365,5295	697.037,5070		

Reg: 18 Espiral de Entrada (TE6 - EC6)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
TE6	104+7,755	8.811.365,5295	697.037,5070		
Centro		8.811.360,5840	696.881,6937	95,4987	60,0000
EC6	107+7,755	8.811.307,1757	697.024,0017		

Âng. Central:	11°18'30"	XC:	59,7667	JC:	7°32'25"
Raio:	152,0000	YC:	3,9364	IC:	3°46'06"
Tangente Longa	40,0819	XM:	29,9611	Afastamento:	0,9855
Tangente Curta:	20,0745	YM:	152,9855	K:	0,00104707°

Reg: 19 Circular (EC6 - CE6)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
EC6	107+7,755	8.811.307,1757	697.024,0017		
Centro		8.811.360,5840	696.881,6937	43°05'33"	114,3204
CE6	113+2,076	8.811.224,3606	696.949,1267		

Raio:	152,0000	Corda:	111,6450	Deflexão/Metro:	0,18847296
Tangente:	60,0164	Dist. Externa:	11,4196	G. Curva/Metro:	0,37694592

Reg: 20 Espiral de Saída (CE6 - ET6)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
CE6	113+2,076	8.811.224,3606	696.949,1267		
Centro		8.811.360,5840	696.881,6937	95,4987	60,0000
ET6	116+2,076	8.811.205,0620	696.892,4247		

Âng. Central:	11°18'30"	XC:	59,7667	JC:	7°32'25"
Raio:	152,0000	YC:	3,9364	IC:	3°46'06"
Tangente Longa	40,0819	XM:	29,9611	Afastamento:	0,9855
Tangente Curta:	20,0745	YM:	152,9855	K:	0,00104707°

Reg: 21 Tangente (ET6 - TE7)

Nome	Estaca	Norte	Este	Azimute	Distância
ET6	116+2,076	8.811.205,0620	696.892,4247		
				254°58'20"	406,5154
TE7	136+8,591	8.811.099,6571	696.499,8122		

Reg: 22 Espiral de Entrada (TE7 - EC7)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
TE7	136+8,591	8.811.099,6571	696.499,8122		
Centro		8.810.557,6293	696.603,9215	209,7618	80,0000
EC7	140+8,591	8.811.077,0526	696.423,0917		

Âng. Central:	4°10'01"	XC:	79,9577	JC:	2°46'41"
Raio:	550,0000	YC:	1,9387	IC:	1°23'20"
Tangente Longa	53,3481	XM:	39,9929	Afastamento:	0,4848
Tangente Curta:	26,6801	YM:	550,4848	K:	0,00021703°

Reg: 23 Circular (EC7 - CE7)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
EC7	140+8,591	8.811.077,0526	696.423,0917		
Centro		8.810.557,6293	696.603,9215	18°00'26"	172,8559
CE7	149+1,447	8.810.995,7095	696.271,3772		

Raio:	550,0000	Corda:	172,1454	Deflexão/Metro:	0,05208707
Tangente:	87,1464	Dist. Externa:	6,8613	G. Curva/Metro:	0,10417414

Reg: 24 Espiral de Saída (CE7 - ET7)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
CE7	149+1,447	8.810.995,7095	696.271,3772		
Centro		8.810.557,6293	696.603,9215	209,7618	80,0000
ET7	153+1,447	8.810.944,3200	696.210,0901		

Âng. Central:	4°10'01"	XC:	79,9577	JC:	2°46'41"
Raio:	550,0000	YC:	1,9387	IC:	1°23'20"
Tangente Longa	53,3481	XM:	39,9929	Afastamento:	0,4848
Tangente Curta:	26,6801	YM:	550,4848	K:	0,00021703°

Reg: 25 Tangente (ET7 - TE8)

Nome	Estaca	Norte	Este	Azimute	Distância
ET7	153+1,447	8.810.944,3200	696.210,0901		
				228°37'52"	376,2105
TE8	171+17,657	8.810.695,6807	695.927,7555		

Reg: 26 Espiral de Entrada (TE8 - EC8)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
TE8	171+17,657	8.810.695,6807	695.927,7555		
Centro		8.810.031,1117	696.459,7152	260,7681	80,0000
EC8	175+17,657	8.810.641,8784	695.868,5604		

Âng. Central:	2°41'47"	XC:	79,9823	JC:	1°47'51"
Raio:	850,0000	YC:	1,2547	IC:	0°53'55"
Tangente Longa	53,3395	XM:	39,9970	Afastamento:	0,3137
Tangente Curta:	26,6723	YM:	850,3137	K:	0,00014043°

Reg: 27 Circular (EC8 - CE8)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
EC8	175+17,657	8.810.641,8784	695.868,5604		
Centro		8.810.031,1117	696.459,7152	11°10'21"	165,7486
CE8	184+3,406	8.810.515,7581	695.761,4188		

Raio:	850,0000	Corda:	165,4861	Deflexão/Metro:	0,03370340
Tangente:	83,1379	Dist. Externa:	4,0562	G. Curva/Metro:	0,06740680

Reg: 28 Espiral de Saída (CE8 - ET8)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
CE8	184+3,406	8.810.515,7581	695.761,4188		
Centro		8.810.031,1117	696.459,7152	260,7681	80,0000
ET8	188+3,406	8.810.448,6442	695.717,8933		

Âng. Central:	2°41'47"	XC:	79,9823	JC:	1°47'51"
Raio:	850,0000	YC:	1,2547	IC:	0°53'55"
Tangente Longa	53,3395	XM:	39,9970	Afastamento:	0,3137
Tangente Curta:	26,6723	YM:	850,3137	K:	0,00014043°

Reg: 29 Tangente (ET8 - PC9)

Nome	Estaca	Norte	Este	Azimute	Distância
ET8	188+3,406	8.810.448,6442	695.717,8933		
				212°03'57"	1.319,0373
PC9	254+2,443	8.809.330,8426	695.017,6227		

Reg: 30 Circular (PC9 - PT9)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
PC9	254+2,443	8.809.330,8426	695.017,6227		
Centro		8.809.341,4605	695.000,6739	111°27'13"	38,9047
PT9	256+1,348	8.809.329,5696	694.984,5927		

Raio:	20,0000	Corda:	33,0545	Deflexão/Metro:	1,43239449
Tangente:	29,3484	Dist. Externa:	15,5152	G. Curva/Metro:	2,86478898

Reg: 31 Tangente (PT9 - TE10)

Nome	Estaca	Norte	Este	Azimute	Distância
PT9	256+1,348	8.809.329,5696	694.984,5927		
				323°31'11"	108,3652
TE10	261+9,713	8.809.416,7017	694.920,1644		

Reg: 32 Espiral de Entrada (TE10 - EC10)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
TE10	261+9,713	8.809.416,7017	694.920,1644		
Centro		8.809.180,9569	694.534,0853	189,7367	80,0000
EC10	265+9,713	8.809.479,5672	694.870,7333		

Âng. Central:	5°05'35"	XC:	79,9368	JC:	3°23'44"
Raio:	450,0000	YC:	2,3690	IC:	1°41'51"
Tangente Longa:	53,3554	XM:	39,9895	Afastamento:	0,5924
Tangente Curta:	26,6867	YM:	450,5924	K:	0,00026526°

Reg: 33 Circular (EC10 - CE10)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
EC10	265+9,713	8.809.479,5672	694.870,7333		
Centro		8.809.180,9569	694.534,0853	15°24'39"	121,0369
CE10	271+10,750	8.809.558,2913	694.779,2765		

Raio:	450,0000	Corda:	120,6723	Deflexão/Metro:	0,06366198
Tangente:	60,8859	Dist. Externa:	4,1003	G. Curva/Metro:	0,12732395

Reg: 34 Espiral de Saída (CE10 - ET10)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
CE10	271+10,750	8.809.558,2913	694.779,2765		
Centro		8.809.180,9569	694.534,0853	189,7367	80,0000
ET10	275+10,750	8.809.597,8174	694.709,7554		

Âng. Central:	5°05'35"	XC:	79,9368	JC:	3°23'44"
Raio:	450,0000	YC:	2,3690	IC:	1°41'51"
Tangente Longa	53,3554	XM:	39,9895	Afastamento:	0,5924
Tangente Curta:	26,6867	YM:	450,5924	K:	0,00026526°

Reg: 35 Tangente (ET10 - TE11)

Nome	Estaca	Norte	Este	Azimute	Distância
ET10	275+10,750	8.809.597,8174	694.709,7554		
				297°55'22"	391,3110
TE11	295+2,061	8.809.781,0610	694.364,0009		

Reg: 36 Espiral de Entrada (TE11 - EC11)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
TE11	295+2,061	8.809.781,0610	694.364,0009		
Centro		8.809.516,3570	694.189,7701	137,4773	60,0000
EC11	298+2,061	8.809.807,4505	694.310,1428		

Âng. Central:	5°27'24"	XC:	59,9456	JC:	3°38'17"
Raio:	315,0000	YC:	1,9035	IC:	1°49'08"
Tangente Longa	40,0190	XM:	29,9909	Afastamento:	0,4760
Tangente Curta:	20,0173	YM:	315,4760	K:	0,00050525°

Reg: 37 Circular (EC11 - CE11)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
EC11	298+2,061	8.809.807,4505	694.310,1428		
Centro		8.809.516,3570	694.189,7701	38°01'06"	209,0160
CE11	308+11,077	8.809.819,8238	694.105,3137		

Raio:	315,0000	Corde:	205,2026	Deflexão/Metro:	0,09094568
Tangente:	108,5192	Dist. Externa:	18,1687	G. Curva/Metro:	0,18189136

Reg: 38 Espiral de Saída (CE11 - ET11)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
CE11	308+11,077	8.809.819,8238	694.105,3137		
Centro		8.809.516,3570	694.189,7701	137,4773	60,0000
ET11	311+11,077	8.809.800,1095	694.048,6705		

Âng. Central:	5°27'24"	XC:	59,9456	JC:	3°38'17"
Raio:	315,0000	YC:	1,9035	IC:	1°49'08"
Tangente Longa	40,0190	XM:	29,9909	Afastamento:	0,4760
Tangente Curta:	20,0173	YM:	315,4760	K:	0,00050525°

Reg: 39 Tangente (ET11 - TE12)

Nome	Estaca	Norte	Este	Azimute	Distância
ET11	311+11,077	8.809.800,1095	694.048,6705		
				248°59'28"	191,6704
TE12	321+2,747	8.809.731,3932	693.869,7415		

Reg: 40 Espiral de Entrada (TE12 - EC12)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
TE12	321+2,747	8.809.731,3932	693.869,7415		
Centro		8.809.156,5251	694.047,6732	219,0890	80,0000
EC12	325+2,747	8.809.701,0658	693.795,7298		

Âng. Central:	3°49'11"	XC:	79,9645	JC:	2°32'47"
Raio:	600,0000	YC:	1,7772	IC:	1°16'23"
Tangente Longa	53,3458	XM:	39,9941	Afastamento:	0,4444
Tangente Curta:	26,6780	YM:	600,4444	K:	0,00019894°

Reg: 41 Circular (EC12 - CE12)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
EC12	325+2,747	8.809.701,0658	693.795,7298		
Centro		8.809.156,5251	694.047,6732	20°39'08"	216,2703
CE12	335+19,018	8.809.577,2132	693.619,8630		

Raio:	600,0000	Corde:	215,1014	Deflexão/Metro:	0,04774648
Tangente:	109,3213	Dist. Externa:	9,8780	G. Curva/Metro:	0,09549297

Reg: 42 Espiral de Saída (CE12 - ET12)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
CE12	335+19,018	8.809.577,2132	693.619,8630		
Centro		8.809.156,5251	694.047,6732	219,0890	80,0000
ET12	339+19,018	8.809.517,7477	693.566,3716		

Âng. Central:	3°49'11"	XC:	79,9645	JC:	2°32'47"
Raio:	600,0000	YC:	1,7772	IC:	1°16'23"
Tangente Longa	53,3458	XM:	39,9941	Afastamento:	0,4444
Tangente Curta:	26,6780	YM:	600,4444	K:	0,00019894°

Reg: 43 Tangente (ET12 - PC13)

Nome	Estaca	Norte	Este	Azimute	Distância
ET12	339+19,018	8.809.517,7477	693.566,3716		
				220°41'58"	348,2696
PC13	357+7,287	8.809.253,7101	693.339,2685		

Reg: 44 Circular (PC13 - PT13)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
PC13	357+7,287	8.809.253,7101	693.339,2685		
Centro		8.808.471,2021	694.249,0384	3°31'28"	73,8138
PT13	361+1,101	8.809.196,3042	693.292,8862		

Raio:	1.200,0000	Corda:	73,8022	Deflexão/Metro:	0,02387324
Tangente:	36,9185	Dist. Externa:	0,5678	G. Curva/Metro:	0,04774648

Reg: 45 Tangente (PT13 - PI14)

Nome	Estaca	Norte	Este	Azimute	Distância
PT13	361+1,101	8.809.196,3042	693.292,8862		
				217°10'30"	335,9676
PI14	377+17,069	8.808.928,6074	693.089,8772		

Reg: 46 Tangente (PI14 - PC15)

Nome	Estaca	Norte	Este	Azimute	Distância
PI14	377+17,069	8.808.928,6074	693.089,8772		
				216°31'38"	624,4291
PC15	409+1,498	8.808.426,8315	692.718,2152		

Reg: 47 Circular (PC15 - PT15)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
PC15	409+1,498	8.808.426,8315	692.718,2152		
Centro		8.809.022,0344	691.914,6397	5°02'50"	88,0914
PT15	413+9,589	8.808.358,4428	692.662,7348		

Raio:	1.000,0000	Corda:	88,0629	Deflexão/Metro:	0,02864789
Tangente:	44,0742	Dist. Externa:	0,9708	G. Curva/Metro:	0,05729578

Reg: 48 Tangente (PT15 - TE16)

Nome	Estaca	Norte	Este	Azimute	Distância
PT15	413+9,589	8.808.358,4428	692.662,7348		
				221°34'28"	1.911,2092
TE16	509+0,798	8.806.928,6766	691.394,4726		

Reg: 49 Espiral de Entrada (TE16 - EC16)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
TE16	509+0,798	8.806.928,6766	691.394,4726		
Centro		8.806.061,5633	692.296,6631	353,5534	100,0000
EC16	514+0,798	8.806.852,9944	691.329,1214		

Âng. Central:	2°17'31"	XC:	99,9840	JC:	1°31'40"
Raio:	1.250,0000	YC:	1,3332	IC:	0°45'50"
Tangente Longa:	66,6723	XM:	49,9973	Afastamento:	0,3333
Tangente Curta:	33,3384	YM:	1.250,3333	K:	0,00007639°

Reg: 50 Circular (EC16 - CE16)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
EC16	514+0,798	8.806.852,9944	691.329,1214		
Centro		8.806.061,5633	692.296,6631	9°44'17"	212,4525
CE16	524+13,251	8.806.677,9361	691.209,1960		

Raio:	1.250,0000	Corda:	212,1968	Deflexão/Metro:	0,02291831
Tangente:	106,4827	Dist. Externa:	4,5272	G. Curva/Metro:	0,04583662

Reg: 51 Espiral de Saída (CE16 - ET16)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
CE16	524+13,251	8.806.677,9361	691.209,1960		
Centro		8.806.061,5633	692.296,6631	353,5534	100,0000
ET16	529+13,251	8.806.589,6612	691.162,2268		

Âng. Central:	2°17'31"	XC:	99,9840	JC:	1°31'40"
Raio:	1.250,0000	YC:	1,3332	IC:	0°45'50"
Tangente Longa	66,6723	XM:	49,9973	Afastamento:	0,3333
Tangente Curta:	33,3384	YM:	1.250,3333	K:	0,00007639°

Reg: 52 Tangente (ET16 - TE17)

Nome	Estaca	Norte	Este	Azimute	Distância
ET16	529+13,251	8.806.589,6612	691.162,2268		
				207°15'09"	282,1518
TE17	543+15,403	8.806.338,8292	691.033,0254		

Reg: 53 Espiral de Entrada (TE17 - EC17)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
TE17	543+15,403	8.806.338,8292	691.033,0254		
Centro		8.806.569,0757	690.498,6852	215,4066	80,0000
EC17	547+15,403	8.806.268,5852	690.994,7753		

Âng. Central:	3°57'05"	XC:	79,9620	JC:	2°38'04"
Raio:	580,0000	YC:	1,8385	IC:	1°19'02"
Tangente Longa	53,3466	XM:	39,9937	Afastamento:	0,4597
Tangente Curta:	26,6788	YM:	580,4597	K:	0,00020580°

Reg: 54 Circular (EC17 - CE17)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
EC17	547+15,403	8.806.268,5852	690.994,7753		
Centro		8.806.569,0757	690.498,6852	26°53'39"	272,2460
CE17	561+7,649	8.806.076,6824	690.805,1959		

Raio:	580,0000	Corde:	269,7536	Deflexão/Metro:	0,04939291
Tangente:	138,6786	Dist. Externa:	16,3487	G. Curva/Metro:	0,09878583

Reg: 55 Espiral de Saída (CE17 - ET17)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
CE17	561+7,649	8.806.076,6824	690.805,1959		
Centro		8.806.569,0757	690.498,6852	215,4066	80,0000
ET17	565+7,649	8.806.037,5796	690.735,4230		

Âng. Central:	3°57'05"	XC:	79,9620	JC:	2°38'04"
Raio:	580,0000	YC:	1,8385	IC:	1°19'02"
Tangente Longa	53,3466	XM:	39,9937	Afastamento:	0,4597
Tangente Curta:	26,6788	YM:	580,4597	K:	0,00020580°

Reg: 56 Tangente (ET17 - PI18)

Nome	Estaca	Norte	Este	Azimute	Distância
ET17	565+7,649	8.806.037,5796	690.735,4230		
				242°02'58"	1.138,7668
PI18	622+6,415	8.805.503,8300	689.729,4900		

Reg: 57 Tangente (PI18 - PC19)

Nome	Estaca	Norte	Este	Azimute	Distância
PI18	622+6,415	8.805.503,8300	689.729,4900		
				242°12'49"	350,7238
PC19	639+17,139	8.805.340,3303	689.419,2078		

Reg: 58 Circular (PC19 - PT19)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
PC19	639+17,139	8.805.340,3303	689.419,2078		
Centro		8.805.276,6326	689.452,7726	27°15'35"	34,2557
PT19	641+11,395	8.805.317,8824	689.393,7603		

Raio:	72,0000	Corda:	33,9335	Deflexão/Metro:	0,39788736
Tangente:	17,4584	Dist. Externa:	2,0864	G. Curva/Metro:	0,79577472

Reg: 59 Tangente (PT19 - PI-20)

Nome	Estaca	Norte	Este	Azimute	Distância
PT19	641+11,395	8.805.317,8824	689.393,7603		
				214°57'13"	0,3217
PI-20	641+11,717	8.805.317,6188	689.393,5760		

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
0	SE-245	0,000	8.812.478,3008	698.647,4047	16,501	129°10'34"
0+1,644	PC	1,644	8.812.477,0262	698.646,3660	16,571	129°10'34"
1		20,000	8.812.464,2456	698.633,2467	17,605	142°19'21"
2		40,000	8.812.454,1166	698.616,0617	18,832	156°38'47"
2+4,285	PT	44,285	8.812.452,5240	698.612,0838	19,071	159°42'56"
3		60,000	8.812.447,0761	698.597,3438	19,930	159°42'56"
3+11,447	PC	71,447	8.812.443,1074	698.586,6062	20,456	159°42'56"
4		80,000	8.812.440,1915	698.578,5662	20,805	160°24'56"
5		100,000	8.812.433,7577	698.559,6300	21,445	162°03'09"
6		120,000	8.812.427,8675	698.540,5178	22,149	163°41'23"
7		140,000	8.812.422,5256	698.521,2451	22,229	165°19'36"
7+16,636	PT	156,636	8.812.418,5032	698.505,1029	22,323	166°41'18"
8		160,000	8.812.417,7286	698.501,8294	22,308	166°41'18"
9		180,000	8.812.413,1237	698.482,3668	22,151	166°41'18"
10		200,000	8.812.408,5187	698.462,9041	21,767	166°41'18"
11		220,000	8.812.403,9138	698.443,4415	21,165	166°41'18"
12		240,000	8.812.399,3088	698.423,9788	20,421	166°41'18"
13		260,000	8.812.394,7039	698.404,5162	19,645	166°41'18"
14		280,000	8.812.390,0989	698.385,0536	18,839	166°41'18"
15		300,000	8.812.385,4940	698.365,5909	17,938	166°41'18"
16		320,000	8.812.380,8890	698.346,1283	17,114	166°41'18"
17		340,000	8.812.376,2841	698.326,6656	16,226	166°41'18"
18		360,000	8.812.371,6791	698.307,2030	15,388	166°41'18"
19		380,000	8.812.367,0742	698.287,7403	14,517	166°41'18"
20		400,000	8.812.362,4692	698.268,2777	13,681	166°41'18"
21		420,000	8.812.357,8643	698.248,8151	13,093	166°41'18"
22		440,000	8.812.353,2593	698.229,3524	12,788	166°41'18"
23		460,000	8.812.348,6544	698.209,8898	12,797	166°41'18"
24		480,000	8.812.344,0494	698.190,4271	13,119	166°41'18"
25		500,000	8.812.339,4445	698.170,9645	13,801	166°41'18"
26		520,000	8.812.334,8395	698.151,5019	14,739	166°41'18"
27		540,000	8.812.330,2346	698.132,0392	15,925	166°41'18"
28		560,000	8.812.325,6296	698.112,5766	17,154	166°41'18"
29		580,000	8.812.321,0246	698.093,1139	18,315	166°41'18"
29+10,000		590,000	8.812.318,7221	698.083,3825	18,922	166°41'18"
29+19,002	TS	599,002	8.812.316,6495	698.074,6227	19,471	166°41'18"
30		600,000	8.812.316,4197	698.073,6513	19,532	166°41'16"
31		620,000	8.812.311,7872	698.054,1953	20,770	166°27'22"
32		640,000	8.812.307,0046	698.034,7756	22,007	165°48'11"
32+18,000		658,000	8.812.302,4546	698.017,3606	23,094	164°51'19"
33		660,000	8.812.301,9299	698.015,4304	23,201	164°43'44"
33+19,002	SC	679,002	8.812.296,7100	697.997,1602	24,186	163°19'05"
34		680,000	8.812.296,4228	697.996,2042	24,230	163°14'02"
35		700,000	8.812.290,3727	697.977,1420	25,085	161°32'55"
36		720,000	8.812.283,7647	697.958,2659	25,681	159°51'49"
37		740,000	8.812.276,6044	697.939,5924	25,933	158°10'42"
38		760,000	8.812.268,8981	697.921,1375	25,830	156°29'36"
39		780,000	8.812.260,6524	697.902,9172	25,352	154°48'29"
40		800,000	8.812.251,8745	697.884,9472	24,702	153°07'22"
40+18,000		818,000	8.812.243,5256	697.869,0013	23,956	151°36'22"
41		820,000	8.812.242,5719	697.867,2432	23,856	151°26'16"

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
41+16,032	CS	836,032	8.812.234,7417	697.853,2543	23,091	150°05'13"
42		840,000	8.812.232,7528	697.849,8202	22,908	149°45'39"
43		860,000	8.812.222,4614	697.832,6719	21,905	148°22'12"
44		880,000	8.812.211,8187	697.815,7389	20,856	147°24'01"
45		900,000	8.812.200,9526	697.798,9483	19,830	146°51'07"
45+16,032	ST	916,032	8.812.192,1654	697.785,5395	19,053	146°43'00"
46		920,000	8.812.189,9876	697.782,2221	18,852	146°43'00"
47		940,000	8.812.179,0120	697.765,5027	17,834	146°43'00"
48		960,000	8.812.168,0363	697.748,7834	16,860	146°43'00"
49		980,000	8.812.157,0607	697.732,0641	16,053	146°43'00"
50		1000,000	8.812.146,0851	697.715,3448	15,277	146°43'00"
51		1020,000	8.812.135,1095	697.698,6254	14,628	146°43'00"
52		1040,000	8.812.124,1338	697.681,9061	14,126	146°43'00"
53		1060,000	8.812.113,1582	697.665,1868	13,655	146°43'00"
54		1080,000	8.812.102,1826	697.648,4675	13,220	146°43'00"
55		1100,000	8.812.091,2070	697.631,7482	12,848	146°43'00"
56		1120,000	8.812.080,2314	697.615,0288	12,568	146°43'00"
57		1140,000	8.812.069,2557	697.598,3095	12,288	146°43'00"
58		1160,000	8.812.058,2801	697.581,5902	12,227	146°43'00"
59		1180,000	8.812.047,3045	697.564,8709	12,339	146°43'00"
60		1200,000	8.812.036,3289	697.548,1515	12,382	146°43'00"
61		1220,000	8.812.025,3533	697.531,4322	12,456	146°43'00"
62		1240,000	8.812.014,3776	697.514,7129	12,487	146°43'00"
63		1260,000	8.812.003,4020	697.497,9936	12,493	146°43'00"
63+17,119	TS	1277,119	8.811.994,0073	697.483,6825	12,534	146°43'00"
64		1280,000	8.811.992,4263	697.481,2742	12,548	146°42'48"
65		1300,000	8.811.981,4276	697.464,5701	12,646	146°30'30"
66		1320,000	8.811.970,3229	697.447,9363	12,737	145°59'06"
67		1340,000	8.811.959,0210	697.431,4360	12,778	145°08'36"
67+17,119	SC	1357,119	8.811.949,1229	697.417,4687	12,792	144°10'12"
68		1360,000	8.811.947,4328	697.415,1358	12,805	143°59'12"
69		1380,000	8.811.935,4945	697.399,0901	12,873	142°42'48"
69+17,865	CS	1397,865	8.811.924,5314	697.384,9847	12,980	141°34'34"
70		1400,000	8.811.923,2028	697.383,3138	12,990	141°26'31"
71		1420,000	8.811.910,5828	697.367,7985	13,108	140°21'43"
72		1440,000	8.811.897,7150	697.352,4880	13,230	139°36'00"
73		1460,000	8.811.884,6868	697.337,3135	13,400	139°09'24"
73+17,865	ST	1477,865	8.811.872,9831	697.323,8158	13,616	139°01'47"
74		1480,000	8.811.871,5834	697.322,2039	13,645	139°01'47"
75		1500,000	8.811.858,4700	697.307,1029	13,989	139°01'47"
76		1520,000	8.811.845,3566	697.292,0019	14,496	139°01'47"
77		1540,000	8.811.832,2433	697.276,9009	15,131	139°01'47"
78		1560,000	8.811.819,1299	697.261,8000	15,884	139°01'47"
79		1580,000	8.811.806,0165	697.246,6990	16,755	139°01'47"
80		1600,000	8.811.792,9031	697.231,5980	17,753	139°01'47"
81		1620,000	8.811.779,7898	697.216,4970	18,688	139°01'47"
82		1640,000	8.811.766,6764	697.201,3961	19,590	139°01'47"
82+6,033	TS	1646,033	8.811.762,7210	697.196,8412	19,857	139°01'47"
83		1660,000	8.811.753,5452	697.186,3106	20,460	138°44'19"
84		1680,000	8.811.740,1948	697.171,4194	21,342	137°18'29"
85		1700,000	8.811.726,3268	697.157,0107	22,282	134°41'02"

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
85+6,033	SC	1706,033	8.811.722,0007	697.152,8066	22,553	133°39'29"
86		1720,000	8.811.711,6884	697.143,3877	23,151	131°09'26"
87		1740,000	8.811.696,2289	697.130,7041	23,974	127°34'35"
88		1760,000	8.811.680,0073	697.119,0108	24,808	123°59'43"
89		1780,000	8.811.663,0871	697.108,3536	25,588	120°24'52"
90		1800,000	8.811.645,5343	697.098,7740	26,390	116°50'00"
91		1820,000	8.811.627,4174	697.090,3095	27,236	113°15'09"
92		1840,000	8.811.608,8072	697.082,9930	28,237	109°40'17"
93		1860,000	8.811.589,7764	697.076,8533	29,350	106°05'25"
93+8,133	CS	1868,133	8.811.581,9345	697.074,6988	29,841	104°38'03"
94		1880,000	8.811.570,4026	697.071,9000	30,627	102°43'10"
95		1900,000	8.811.550,8041	697.067,9190	32,076	100°26'37"
96		1920,000	8.811.531,0965	697.064,5138	33,637	99°21'41"
96+8,133	ST	1928,133	8.811.523,0705	697.063,2001	34,274	99°15'46"
97		1940,000	8.811.511,3580	697.061,2900	35,155	99°15'46"
98		1960,000	8.811.491,6188	697.058,0707	36,664	99°15'46"
99		1980,000	8.811.471,8796	697.054,8515	38,222	99°15'46"
100		2000,000	8.811.452,1404	697.051,6322	39,806	99°15'46"
101		2020,000	8.811.432,4012	697.048,4130	41,445	99°15'46"
102		2040,000	8.811.412,6619	697.045,1937	43,137	99°15'46"
103		2060,000	8.811.392,9227	697.041,9745	44,888	99°15'46"
104		2080,000	8.811.373,1835	697.038,7553	46,771	99°15'46"
104+7,755	TS	2087,755	8.811.365,5295	697.037,5070	47,546	99°15'46"
105		2100,000	8.811.353,4497	697.035,5029	48,648	99°44'01"
106		2120,000	8.811.333,8140	697.031,7139	50,319	102°31'44"
107		2140,000	8.811.314,5000	697.026,5483	51,808	107°50'12"
107+7,755	SC	2147,755	8.811.307,1757	697.024,0017	52,336	110°34'16"
108		2160,000	8.811.295,8972	697.019,2424	53,197	115°11'12"
109		2180,000	8.811.278,4100	697.009,5665	54,545	122°43'33"
110		2200,000	8.811.262,3435	696.997,6800	55,916	130°15'53"
111		2220,000	8.811.247,9753	696.983,7883	57,441	137°48'13"
112		2240,000	8.811.235,5540	696.968,1316	59,181	145°20'33"
113		2260,000	8.811.225,2941	696.950,9805	61,003	152°52'53"
113+2,076	CS	2262,076	8.811.224,3606	696.949,1267	61,180	153°39'50"
114		2280,000	8.811.217,2753	696.932,6704	62,628	159°24'40"
115		2300,000	8.811.210,9755	696.913,6929	64,132	163°26'29"
116		2320,000	8.811.205,6004	696.894,4293	65,576	164°57'31"
116+2,076	ST	2322,076	8.811.205,0620	696.892,4247	65,725	164°58'20"
117		2340,000	8.811.200,4144	696.875,1134	67,026	164°58'20"
118		2360,000	8.811.195,2287	696.855,7974	68,525	164°58'20"
119		2380,000	8.811.190,0429	696.836,4814	70,130	164°58'20"
120		2400,000	8.811.184,8571	696.817,1654	71,772	164°58'20"
121		2420,000	8.811.179,6713	696.797,8494	73,392	164°58'20"
122		2440,000	8.811.174,4856	696.778,5334	74,960	164°58'20"
123		2460,000	8.811.169,2998	696.759,2174	76,441	164°58'20"
124		2480,000	8.811.164,1140	696.739,9014	77,729	164°58'20"
125		2500,000	8.811.158,9282	696.720,5854	78,747	164°58'20"
126		2520,000	8.811.153,7425	696.701,2694	79,492	164°58'20"
127		2540,000	8.811.148,5567	696.681,9534	80,116	164°58'20"
128		2560,000	8.811.143,3709	696.662,6374	80,789	164°58'20"
129		2580,000	8.811.138,1851	696.643,3214	81,469	164°58'20"

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
130		2600,000	8.811.132,9994	696.624,0054	82,140	164°58'20"
131		2620,000	8.811.127,8136	696.604,6894	82,822	164°58'20"
132		2640,000	8.811.122,6278	696.585,3734	83,547	164°58'20"
133		2660,000	8.811.117,4420	696.566,0574	84,259	164°58'20"
134		2680,000	8.811.112,2563	696.546,7414	84,909	164°58'20"
135		2700,000	8.811.107,0705	696.527,4254	85,561	164°58'20"
136		2720,000	8.811.101,8847	696.508,1094	86,244	164°58'20"
136+8,591	TS	2728,591	8.811.099,6571	696.499,8122	86,568	164°58'20"
137		2740,000	8.811.096,6935	696.488,7949	86,990	164°53'15"
138		2760,000	8.811.091,3999	696.469,5082	87,738	164°19'47"
139		2780,000	8.811.085,8315	696.450,2993	88,516	163°15'05"
140		2800,000	8.811.079,8160	696.431,2261	89,250	161°39'07"
140+8,591	SC	2808,591	8.811.077,0526	696.423,0917	89,543	160°48'19"
140+10,000		2810,000	8.811.076,5877	696.421,7617	89,590	160°39'30"
141		2820,000	8.811.073,1901	696.412,3567	89,945	159°37'00"
142		2840,000	8.811.065,8848	696.393,7398	90,632	157°31'59"
143		2860,000	8.811.057,9075	696.375,4008	91,307	155°26'59"
144		2880,000	8.811.049,2688	696.357,3640	91,992	153°21'58"
144+10,000		2890,000	8.811.044,7049	696.348,4663	92,346	152°19'28"
145		2900,000	8.811.039,9800	696.339,6531	92,713	151°16'58"
146		2920,000	8.811.030,0535	696.322,2916	93,342	149°11'57"
147		2940,000	8.811.019,5024	696.305,3025	93,784	147°06'57"
148		2960,000	8.811.008,3405	696.288,7083	93,675	145°01'56"
149		2980,000	8.810.996,5828	696.272,5308	92,765	142°56'56"
149+1,447	CS	2981,447	8.810.995,7095	696.271,3772	92,699	142°47'53"
150		3000,000	8.810.984,2636	696.256,7763	92,429	141°05'22"
151		3020,000	8.810.971,5090	696.241,3718	92,606	139°44'58"
151+10,000		3030,000	8.810.965,0148	696.233,7676	92,505	139°16'30"
152		3040,000	8.810.958,4663	696.226,2100	92,091	138°55'50"
153		3060,000	8.810.945,2762	696.211,1759	91,233	138°37'57"
153+1,447	ST	3061,447	8.810.944,3200	696.210,0901	91,171	138°37'52"
154		3080,000	8.810.932,0581	696.196,1665	90,273	138°37'52"
155		3100,000	8.810.918,8401	696.181,1571	89,189	138°37'52"
156		3120,000	8.810.905,6220	696.166,1477	87,977	138°37'52"
157		3140,000	8.810.892,4039	696.151,1383	86,625	138°37'52"
158		3160,000	8.810.879,1858	696.136,1289	85,161	138°37'52"
158+10,000		3170,000	8.810.872,5768	696.128,6243	84,400	138°37'52"
159		3180,000	8.810.865,9677	696.121,1195	83,579	138°37'52"
160		3200,000	8.810.852,7496	696.106,1101	81,972	138°37'52"
161		3220,000	8.810.839,5315	696.091,1007	80,418	138°37'52"
162		3240,000	8.810.826,3134	696.076,0913	78,892	138°37'52"
163		3260,000	8.810.813,0953	696.061,0820	77,292	138°37'52"
164		3280,000	8.810.799,8772	696.046,0726	75,672	138°37'52"
165		3300,000	8.810.786,6591	696.031,0632	74,112	138°37'52"
166		3320,000	8.810.773,4410	696.016,0538	72,558	138°37'52"
167		3340,000	8.810.760,2229	696.001,0444	71,015	138°37'52"
168		3360,000	8.810.747,0048	695.986,0350	69,440	138°37'52"
169		3380,000	8.810.733,7867	695.971,0256	67,852	138°37'52"
170		3400,000	8.810.720,5686	695.956,0162	66,334	138°37'52"
171		3420,000	8.810.707,3505	695.941,0068	64,834	138°37'52"
171+17,657	TS	3437,657	8.810.695,6807	695.927,7555	63,563	138°37'52"

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
172		3440,000	8.810.694,1324	695.925,9974	63,402	138°37'44"
173		3460,000	8.810.680,8939	695.911,0061	62,029	138°25'15"
174		3480,000	8.810.667,5571	695.896,1021	60,650	137°52'33"
175		3500,000	8.810.654,0359	695.881,3655	59,296	136°59'37"
175+17,657	SC	3517,657	8.810.641,8784	695.868,5604	58,007	135°56'05"
176		3520,000	8.810.640,2469	695.866,8794	57,819	135°46'37"
177		3540,000	8.810.626,1305	695.852,7122	56,404	134°25'44"
178		3560,000	8.810.611,6846	695.838,8811	55,062	133°04'50"
179		3580,000	8.810.596,9174	695.825,3937	53,735	131°43'57"
180		3600,000	8.810.581,8370	695.812,2574	52,364	130°23'04"
181		3620,000	8.810.566,4516	695.799,4796	50,931	129°02'10"
182		3640,000	8.810.550,7699	695.787,0672	49,485	127°41'17"
183		3660,000	8.810.534,8005	695.775,0273	48,099	126°20'24"
184		3680,000	8.810.518,5523	695.763,3664	46,755	124°59'31"
184+3,406	CS	3683,406	8.810.515,7581	695.761,4188	46,527	124°45'44"
185		3700,000	8.810.502,0404	695.752,0817	45,377	123°45'35"
186		3720,000	8.810.485,3209	695.741,1067	43,905	122°51'35"
187		3740,000	8.810.468,4626	695.730,3460	42,408	122°17'48"
187+16,000		3756,000	8.810.454,9198	695.721,8260	41,274	122°05'21"
188		3760,000	8.810.451,5305	695.719,7016	40,996	122°04'15"
188+3,406	ST	3763,406	8.810.448,6442	695.717,8933	40,759	122°03'57"
189		3780,000	8.810.434,5818	695.709,0836	39,902	122°03'57"
190		3800,000	8.810.417,6330	695.698,4657	38,982	122°03'57"
191		3820,000	8.810.400,6843	695.687,8478	38,326	122°03'57"
192		3840,000	8.810.383,7355	695.677,2299	38,069	122°03'57"
192+16,000		3856,000	8.810.370,1766	695.668,7356	37,960	122°03'57"
193		3860,000	8.810.366,7868	695.666,6120	37,932	122°03'57"
194		3880,000	8.810.349,8380	695.655,9941	37,863	122°03'57"
195		3900,000	8.810.332,8893	695.645,3762	37,867	122°03'57"
196		3920,000	8.810.315,9405	695.634,7583	37,921	122°03'57"
197		3940,000	8.810.298,9918	695.624,1404	37,876	122°03'57"
198		3960,000	8.810.282,0430	695.613,5225	37,849	122°03'57"
199		3980,000	8.810.265,0943	695.602,9046	37,721	122°03'57"
200		4000,000	8.810.248,1455	695.592,2867	37,442	122°03'57"
201		4020,000	8.810.231,1968	695.581,6687	37,054	122°03'57"
202		4040,000	8.810.214,2480	695.571,0508	36,636	122°03'57"
203		4060,000	8.810.197,2993	695.560,4329	36,110	122°03'57"
204		4080,000	8.810.180,3505	695.549,8150	35,450	122°03'57"
205		4100,000	8.810.163,4018	695.539,1971	34,724	122°03'57"
206		4120,000	8.810.146,4530	695.528,5792	34,038	122°03'57"
207		4140,000	8.810.129,5043	695.517,9613	33,316	122°03'57"
208		4160,000	8.810.112,5555	695.507,3434	32,592	122°03'57"
209		4180,000	8.810.095,6068	695.496,7255	31,876	122°03'57"
210		4200,000	8.810.078,6580	695.486,1076	31,175	122°03'57"
211		4220,000	8.810.061,7093	695.475,4897	30,479	122°03'57"
212		4240,000	8.810.044,7606	695.464,8718	29,816	122°03'57"
213		4260,000	8.810.027,8118	695.454,2539	29,216	122°03'57"
214		4280,000	8.810.010,8631	695.443,6360	28,792	122°03'57"
215		4300,000	8.809.993,9143	695.433,0181	28,610	122°03'57"
216		4320,000	8.809.976,9656	695.422,4002	28,657	122°03'57"
217		4340,000	8.809.960,0168	695.411,7823	29,011	122°03'57"

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
218		4360,000	8.809.943,0681	695.401,1644	29,624	122°03'57"
219		4380,000	8.809.926,1193	695.390,5464	30,483	122°03'57"
220		4400,000	8.809.909,1706	695.379,9285	31,352	122°03'57"
221		4420,000	8.809.892,2218	695.369,3106	32,252	122°03'57"
221+2,000		4422,000	8.809.890,5270	695.368,2489	32,344	122°03'57"
222		4440,000	8.809.875,2731	695.358,6927	33,069	122°03'57"
223		4460,000	8.809.858,3243	695.348,0748	33,683	122°03'57"
224		4480,000	8.809.841,3756	695.337,4569	34,063	122°03'57"
225		4500,000	8.809.824,4268	695.326,8390	34,121	122°03'57"
226		4520,000	8.809.807,4781	695.316,2211	33,919	122°03'57"
227		4540,000	8.809.790,5293	695.305,6032	33,490	122°03'57"
227+2,000		4542,000	8.809.788,8345	695.304,5415	33,440	122°03'57"
228		4560,000	8.809.773,5806	695.294,9853	32,953	122°03'57"
229		4580,000	8.809.756,6318	695.284,3674	32,426	122°03'57"
230		4600,000	8.809.739,6831	695.273,7495	31,938	122°03'57"
231		4620,000	8.809.722,7343	695.263,1316	31,453	122°03'57"
232		4640,000	8.809.705,7856	695.252,5137	30,871	122°03'57"
233		4660,000	8.809.688,8368	695.241,8958	30,357	122°03'57"
234		4680,000	8.809.671,8881	695.231,2779	29,837	122°03'57"
235		4700,000	8.809.654,9393	695.220,6600	29,360	122°03'57"
236		4720,000	8.809.637,9906	695.210,0421	28,902	122°03'57"
237		4740,000	8.809.621,0418	695.199,4241	28,553	122°03'57"
238		4760,000	8.809.604,0931	695.188,8062	28,267	122°03'57"
239		4780,000	8.809.587,1443	695.178,1883	28,106	122°03'57"
240		4800,000	8.809.570,1956	695.167,5704	28,153	122°03'57"
241		4820,000	8.809.553,2468	695.156,9525	28,263	122°03'57"
242		4840,000	8.809.536,2981	695.146,3346	28,467	122°03'57"
243		4860,000	8.809.519,3493	695.135,7167	28,745	122°03'57"
244		4880,000	8.809.502,4006	695.125,0988	29,087	122°03'57"
245		4900,000	8.809.485,4518	695.114,4809	29,397	122°03'57"
246		4920,000	8.809.468,5031	695.103,8630	29,540	122°03'57"
247		4940,000	8.809.451,5543	695.093,2451	29,598	122°03'57"
248		4960,000	8.809.434,6056	695.082,6272	29,619	122°03'57"
248+10,000		4970,000	8.809.426,1313	695.077,3183	29,631	122°03'57"
248+12,650		4972,650	8.809.423,8856	695.075,9114	29,639	122°03'57"
249		4980,000	8.809.417,6569	695.072,0093	29,661	122°03'57"
250		5000,000	8.809.400,7081	695.061,3914	29,667	122°03'57"
251		5020,000	8.809.383,7594	695.050,7735	29,713	122°03'57"
251+5,260		5025,260	8.809.379,3019	695.047,9810	29,715	122°03'57"
252		5040,000	8.809.366,8106	695.040,1556	29,591	122°03'57"
253		5060,000	8.809.349,8619	695.029,5377	29,610	122°03'57"
254		5080,000	8.809.332,9131	695.018,9198	29,573	122°03'57"
254+2,443	PC	5082,443	8.809.330,8426	695.017,6227	29,566	122°03'57"
255		5100,000	8.809.321,6380	695.003,3321	29,094	172°21'44"
256		5120,000	8.809.328,5136	694.985,4300	29,058	229°39'29"
256+1,348	PT	5121,348	8.809.329,5696	694.984,5927	29,045	233°31'11"
257		5140,000	8.809.344,5670	694.973,5031	28,865	233°31'11"
258		5160,000	8.809.360,6482	694.961,6122	28,727	233°31'11"
259		5180,000	8.809.376,7294	694.949,7212	28,652	233°31'11"
260		5200,000	8.809.392,8106	694.937,8303	28,684	233°31'11"
261		5220,000	8.809.408,8918	694.925,9393	28,656	233°31'11"

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
261+9,713	TS	5229,713	8.809.416,7017	694.920,1644	28,660	233°31'11"
262		5240,000	8.809.424,9700	694.914,0443	28,668	233°26'07"
263		5260,000	8.809.440,9774	694.902,0542	28,705	232°47'23"
264		5280,000	8.809.456,7805	694.889,7968	28,704	231°30'26"
265		5300,000	8.809.472,2346	694.877,1030	28,770	229°35'18"
265+9,713	SC	5309,713	8.809.479,5672	694.870,7333	28,788	228°25'36"
265+10,000		5310,000	8.809.479,7819	694.870,5428	28,789	228°23'24"
266		5320,000	8.809.487,1842	694.863,8197	28,774	227°07'01"
267		5340,000	8.809.501,5319	694.849,8885	28,592	224°34'13"
268		5360,000	8.809.515,2464	694.835,3336	28,461	222°01'26"
269		5380,000	8.809.528,3007	694.820,1837	28,272	219°28'39"
270		5400,000	8.809.540,6690	694.804,4687	28,058	216°55'51"
271		5420,000	8.809.552,3269	694.788,2198	27,883	214°23'04"
271+10,000		5430,000	8.809.557,8822	694.779,9050	27,772	213°06'40"
271+10,750	CS	5430,750	8.809.558,2913	694.779,2765	27,763	213°00'57"
272		5440,000	8.809.563,2544	694.771,4709	27,665	211°54'22"
273		5460,000	8.809.573,5206	694.754,3079	27,506	209°58'20"
274		5480,000	8.809.583,2991	694.736,8619	27,469	208°40'31"
274+10,000		5490,000	8.809.588,0641	694.728,0702	27,445	208°15'55"
275		5500,000	8.809.592,7783	694.719,2511	27,443	208°00'53"
275+10,750	ST	5510,750	8.809.597,8174	694.709,7554	27,480	207°55'22"
276		5520,000	8.809.602,1490	694.701,5823	27,503	207°55'22"
277		5540,000	8.809.611,5146	694.683,9107	27,528	207°55'22"
278		5560,000	8.809.620,8803	694.666,2391	27,566	207°55'22"
279		5580,000	8.809.630,2459	694.648,5675	27,616	207°55'22"
280		5600,000	8.809.639,6115	694.630,8959	27,626	207°55'22"
281		5620,000	8.809.648,9771	694.613,2243	27,705	207°55'22"
282		5640,000	8.809.658,3428	694.595,5527	27,754	207°55'22"
283		5660,000	8.809.667,7084	694.577,8811	27,886	207°55'22"
284		5680,000	8.809.677,0740	694.560,2095	28,206	207°55'22"
285		5700,000	8.809.686,4396	694.542,5379	28,644	207°55'22"
286		5720,000	8.809.695,8052	694.524,8663	29,268	207°55'22"
287		5740,000	8.809.705,1709	694.507,1948	29,968	207°55'22"
288		5760,000	8.809.714,5365	694.489,5232	30,802	207°55'22"
289		5780,000	8.809.723,9021	694.471,8516	31,730	207°55'22"
290		5800,000	8.809.733,2677	694.454,1800	32,836	207°55'22"
291		5820,000	8.809.742,6334	694.436,5084	34,137	207°55'22"
292		5840,000	8.809.751,9990	694.418,8368	35,421	207°55'22"
293		5860,000	8.809.761,3646	694.401,1652	36,688	207°55'22"
293+2,000		5862,000	8.809.762,3012	694.399,3980	36,800	207°55'22"
294		5880,000	8.809.770,7302	694.383,4936	37,793	207°55'22"
295		5900,000	8.809.780,0958	694.365,8220	38,773	207°55'22"
295+2,061	TS	5902,061	8.809.781,0610	694.364,0009	38,845	207°55'22"
296		5920,000	8.809.789,4164	694.348,1267	39,415	207°26'06"
297		5940,000	8.809.798,3991	694.330,2582	39,812	205°44'28"
298		5960,000	8.809.806,6567	694.312,0449	39,998	202°50'04"
298+2,061	SC	5962,061	8.809.807,4505	694.310,1428	39,985	202°27'58"
299		5980,000	8.809.813,8300	694.293,3791	39,834	199°12'11"
299+2,000		5982,000	8.809.814,4818	694.291,4883	39,807	198°50'21"
299+10,000		5990,000	8.809.816,9687	694.283,8849	39,697	197°23'03"
300		6000,000	8.809.819,8045	694.274,2959	39,533	195°33'55"

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
301		6020,000	8.809.824,5562	694.254,8720	39,193	191°55'39"
302		6040,000	8.809.828,0659	694.235,1857	38,651	188°17'23"
303		6060,000	8.809.830,3194	694.215,3165	37,846	184°39'06"
304		6080,000	8.809.831,3077	694.195,3443	36,793	181°00'50"
304+10,000		6090,000	8.809.831,3259	694.185,3447	36,139	179°11'42"
305		6100,000	8.809.831,0268	694.175,3496	35,526	177°22'34"
306		6120,000	8.809.829,4777	694.155,4131	34,413	173°44'18"
307		6140,000	8.809.826,6669	694.135,6150	33,402	170°06'02"
308		6160,000	8.809.822,6055	694.116,0351	32,658	166°27'46"
308+11,077	CS	6171,077	8.809.819,8238	694.105,3137	32,356	164°26'52"
309		6180,000	8.809.817,3160	694.096,7506	32,219	162°56'44"
310		6200,000	8.809.811,0033	694.077,7747	32,101	160°27'18"
311		6220,000	8.809.804,0696	694.059,0155	32,267	159°10'37"
311+11,077	ST	6231,077	8.809.800,1095	694.048,6705	32,386	158°59'28"
312		6240,000	8.809.796,9105	694.040,3407	32,709	158°59'28"
313		6260,000	8.809.789,7403	694.021,6702	33,564	158°59'28"
314		6280,000	8.809.782,5700	694.002,9997	34,461	158°59'28"
314+10,000		6290,000	8.809.778,9849	693.993,6644	34,883	158°59'28"
315		6300,000	8.809.775,3997	693.984,3292	35,284	158°59'28"
316		6320,000	8.809.768,2295	693.965,6587	36,038	158°59'28"
317		6340,000	8.809.761,0592	693.946,9882	36,677	158°59'28"
318		6360,000	8.809.753,8889	693.928,3177	37,147	158°59'28"
319		6380,000	8.809.746,7187	693.909,6472	37,468	158°59'28"
320		6400,000	8.809.739,5484	693.890,9767	37,657	158°59'28"
321		6420,000	8.809.732,3782	693.872,3062	37,696	158°59'28"
321+2,747	TS	6422,747	8.809.731,3932	693.869,7415	37,685	158°59'28"
322		6440,000	8.809.725,1913	693.853,6422	37,613	158°48'48"
322+10,000		6450,000	8.809.721,5571	693.844,3255	37,565	158°32'52"
323		6460,000	8.809.717,8704	693.835,0303	37,471	158°09'46"
324		6480,000	8.809.710,2615	693.816,5346	37,243	157°02'05"
325		6500,000	8.809.702,2138	693.798,2259	37,017	155°25'45"
325+2,747	SC	6502,747	8.809.701,0658	693.795,7298	36,987	155°10'17"
326		6520,000	8.809.693,5972	693.780,1782	36,744	153°31'26"
327		6540,000	8.809.684,3841	693.762,4278	36,427	151°36'50"
328		6560,000	8.809.674,5844	693.744,9942	36,182	149°42'15"
329		6580,000	8.809.664,2092	693.727,8969	36,002	147°47'39"
330		6600,000	8.809.653,2699	693.711,1548	35,799	145°53'04"
331		6620,000	8.809.641,7788	693.694,7867	35,586	143°58'28"
332		6640,000	8.809.629,7485	693.678,8106	35,393	142°03'53"
333		6660,000	8.809.617,1925	693.663,2443	35,157	140°09'17"
334		6680,000	8.809.604,1247	693.648,1051	34,929	138°14'42"
335		6700,000	8.809.590,5596	693.633,4098	34,712	136°20'06"
335+19,018	CS	6719,018	8.809.577,2132	693.619,8630	34,492	134°31'09"
336		6720,000	8.809.576,5123	693.619,1749	34,482	134°25'33"
337		6740,000	8.809.562,0202	693.605,3925	34,267	132°46'41"
338		6760,000	8.809.547,1934	693.591,9704	34,061	131°36'29"
339		6780,000	8.809.532,1503	693.578,7910	33,828	130°54'55"
339+19,018	ST	6799,018	8.809.517,7477	693.566,3716	33,607	130°41'58"
340		6800,000	8.809.517,0030	693.565,7311	33,597	130°41'58"
341		6820,000	8.809.501,8402	693.552,6893	33,364	130°41'58"
342		6840,000	8.809.486,6774	693.539,6475	33,111	130°41'58"

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
343		6860,000	8.809.471,5145	693.526,6057	32,881	130°41'58"
344		6880,000	8.809.456,3517	693.513,5639	32,771	130°41'58"
345		6900,000	8.809.441,1889	693.500,5221	32,742	130°41'58"
346		6920,000	8.809.426,0260	693.487,4803	32,694	130°41'58"
347		6940,000	8.809.410,8632	693.474,4385	32,675	130°41'58"
348		6960,000	8.809.395,7004	693.461,3967	32,625	130°41'58"
349		6980,000	8.809.380,5375	693.448,3549	32,563	130°41'58"
350		7000,000	8.809.365,3747	693.435,3131	32,547	130°41'58"
351		7020,000	8.809.350,2119	693.422,2713	32,530	130°41'58"
352		7040,000	8.809.335,0490	693.409,2295	32,613	130°41'58"
353		7060,000	8.809.319,8862	693.396,1877	32,756	130°41'58"
354		7080,000	8.809.304,7234	693.383,1459	32,860	130°41'58"
355		7100,000	8.809.289,5606	693.370,1041	32,942	130°41'58"
356		7120,000	8.809.274,3977	693.357,0623	33,028	130°41'58"
357		7140,000	8.809.259,2349	693.344,0205	33,142	130°41'58"
357+7,287	PC	7147,287	8.809.253,7101	693.339,2685	33,186	130°41'58"
358		7160,000	8.809.244,0283	693.331,0299	33,270	130°05'33"
359		7180,000	8.809.228,6216	693.318,2775	33,341	129°08'15"
360		7200,000	8.809.213,0044	693.305,7837	33,452	128°10'57"
361		7220,000	8.809.197,1812	693.293,5519	33,624	127°13'39"
361+1,101	PT	7221,101	8.809.196,3042	693.292,8862	33,634	127°10'30"
362		7240,000	8.809.181,2457	693.281,4665	33,861	127°10'30"
363		7260,000	8.809.165,3098	693.269,3815	34,169	127°10'30"
364		7280,000	8.809.149,3739	693.257,2964	34,531	127°10'30"
365		7300,000	8.809.133,4380	693.245,2114	34,980	127°10'30"
366		7320,000	8.809.117,5022	693.233,1264	35,490	127°10'30"
367		7340,000	8.809.101,5663	693.221,0413	36,030	127°10'30"
368		7360,000	8.809.085,6304	693.208,9563	36,564	127°10'30"
369		7380,000	8.809.069,6946	693.196,8713	37,034	127°10'30"
369+10,000		7390,000	8.809.061,7266	693.190,8287	37,256	127°10'30"
370		7400,000	8.809.053,7587	693.184,7862	37,516	127°10'30"
371		7420,000	8.809.037,8228	693.172,7012	37,979	127°10'30"
372		7440,000	8.809.021,8870	693.160,6162	38,419	127°10'30"
373		7460,000	8.809.005,9511	693.148,5311	38,713	127°10'30"
374		7480,000	8.808.990,0152	693.136,4461	38,833	127°10'30"
375		7500,000	8.808.974,0793	693.124,3611	38,846	127°10'30"
376		7520,000	8.808.958,1435	693.112,2760	38,731	127°10'30"
377		7540,000	8.808.942,2076	693.100,1910	38,567	127°10'30"
377+17,069	PI	7557,069	8.808.928,6074	693.089,8772	38,350	126°51'04"
378		7560,000	8.808.926,2519	693.088,1325	38,295	126°31'38"
378+10,000		7570,000	8.808.918,2164	693.082,1806	38,117	126°31'38"
379		7580,000	8.808.910,1804	693.076,2284	38,014	126°31'38"
380		7600,000	8.808.894,1089	693.064,3244	37,743	126°31'38"
381		7620,000	8.808.878,0373	693.052,4203	37,516	126°31'38"
382		7640,000	8.808.861,9658	693.040,5163	37,436	126°31'38"
383		7660,000	8.808.845,8943	693.028,6122	37,545	126°31'38"
384		7680,000	8.808.829,8228	693.016,7081	37,657	126°31'38"
385		7700,000	8.808.813,7513	693.004,8041	37,784	126°31'38"
386		7720,000	8.808.797,6798	692.992,9000	37,947	126°31'38"
387		7740,000	8.808.781,6083	692.980,9960	38,122	126°31'38"
388		7760,000	8.808.765,5368	692.969,0919	38,336	126°31'38"

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
389		7780,000	8.808.749,4653	692.957,1879	38,561	126°31'38"
390		7800,000	8.808.733,3938	692.945,2838	38,764	126°31'38"
391		7820,000	8.808.717,3223	692.933,3797	39,026	126°31'38"
392		7840,000	8.808.701,2507	692.921,4757	39,315	126°31'38"
393		7860,000	8.808.685,1792	692.909,5716	39,503	126°31'38"
394		7880,000	8.808.669,1077	692.897,6676	39,646	126°31'38"
395		7900,000	8.808.653,0362	692.885,7635	39,672	126°31'38"
396		7920,000	8.808.636,9647	692.873,8594	39,830	126°31'38"
397		7940,000	8.808.620,8932	692.861,9554	40,088	126°31'38"
398		7960,000	8.808.604,8217	692.850,0513	40,287	126°31'38"
399		7980,000	8.808.588,7502	692.838,1473	40,554	126°31'38"
400		8000,000	8.808.572,6787	692.826,2432	40,709	126°31'38"
401		8020,000	8.808.556,6072	692.814,3392	40,883	126°31'38"
402		8040,000	8.808.540,5357	692.802,4351	41,097	126°31'38"
403		8060,000	8.808.524,4641	692.790,5310	41,270	126°31'38"
404		8080,000	8.808.508,3926	692.778,6270	41,493	126°31'38"
405		8100,000	8.808.492,3211	692.766,7229	41,777	126°31'38"
405+10,000		8110,000	8.808.484,2856	692.760,7711	41,913	126°31'38"
406		8120,000	8.808.476,2496	692.754,8189	41,945	126°31'38"
407		8140,000	8.808.460,1781	692.742,9148	41,899	126°31'38"
408		8160,000	8.808.444,1066	692.731,0107	41,812	126°31'38"
409		8180,000	8.808.428,0351	692.719,1067	41,667	126°31'38"
409+1,498	PC	8181,498	8.808.426,8315	692.718,2152	41,648	126°31'38"
410		8200,000	8.808.412,0663	692.707,0657	41,317	127°35'14"
411		8220,000	8.808.396,3408	692.694,7087	40,839	128°43'59"
412		8240,000	8.808.380,8656	692.682,0396	40,171	129°52'44"
413		8260,000	8.808.365,6469	692.669,0636	39,346	131°01'30"
413+9,589	PT	8269,589	8.808.358,4428	692.662,7348	38,935	131°34'28"
413+10,000		8270,000	8.808.358,1354	692.662,4621	38,916	131°34'28"
414		8280,000	8.808.350,6545	692.655,8262	38,498	131°34'28"
415		8300,000	8.808.335,6926	692.642,5544	37,706	131°34'28"
416		8320,000	8.808.320,7307	692.629,2826	37,191	131°34'28"
417		8340,000	8.808.305,7688	692.616,0108	37,055	131°34'28"
418		8360,000	8.808.290,8069	692.602,7389	37,165	131°34'28"
419		8380,000	8.808.275,8450	692.589,4671	37,366	131°34'28"
420		8400,000	8.808.260,8831	692.576,1953	37,605	131°34'28"
421		8420,000	8.808.245,9212	692.562,9234	37,900	131°34'28"
422		8440,000	8.808.230,9593	692.549,6516	38,229	131°34'28"
423		8460,000	8.808.215,9974	692.536,3798	38,522	131°34'28"
424		8480,000	8.808.201,0355	692.523,1079	38,844	131°34'28"
425		8500,000	8.808.186,0736	692.509,8361	39,157	131°34'28"
426		8520,000	8.808.171,1117	692.496,5643	39,402	131°34'28"
427		8540,000	8.808.156,1498	692.483,2925	39,592	131°34'28"
428		8560,000	8.808.141,1879	692.470,0206	39,854	131°34'28"
429		8580,000	8.808.126,2260	692.456,7488	40,169	131°34'28"
430		8600,000	8.808.111,2641	692.443,4770	40,465	131°34'28"
431		8620,000	8.808.096,3022	692.430,2051	40,758	131°34'28"
432		8640,000	8.808.081,3403	692.416,9333	41,078	131°34'28"
433		8660,000	8.808.066,3784	692.403,6615	41,416	131°34'28"
434		8680,000	8.808.051,4165	692.390,3896	41,765	131°34'28"
435		8700,000	8.808.036,4546	692.377,1178	42,143	131°34'28"

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
436		8720,000	8.808.021,4927	692.363,8460	42,531	131°34'28"
437		8740,000	8.808.006,5308	692.350,5742	43,007	131°34'28"
438		8760,000	8.807.991,5689	692.337,3023	43,443	131°34'28"
439		8780,000	8.807.976,6069	692.324,0305	43,742	131°34'28"
440		8800,000	8.807.961,6450	692.310,7587	43,781	131°34'28"
441		8820,000	8.807.946,6831	692.297,4868	43,547	131°34'28"
442		8840,000	8.807.931,7212	692.284,2150	43,128	131°34'28"
443		8860,000	8.807.916,7593	692.270,9432	42,509	131°34'28"
444		8880,000	8.807.901,7974	692.257,6713	41,808	131°34'28"
445		8900,000	8.807.886,8355	692.244,3995	41,175	131°34'28"
446		8920,000	8.807.871,8736	692.231,1277	40,653	131°34'28"
447		8940,000	8.807.856,9117	692.217,8558	40,307	131°34'28"
448		8960,000	8.807.841,9498	692.204,5840	40,148	131°34'28"
449		8980,000	8.807.826,9879	692.191,3122	40,148	131°34'28"
450		9000,000	8.807.812,0260	692.178,0404	40,140	131°34'28"
451		9020,000	8.807.797,0641	692.164,7685	40,202	131°34'28"
452		9040,000	8.807.782,1022	692.151,4967	40,265	131°34'28"
453		9060,000	8.807.767,1403	692.138,2249	40,297	131°34'28"
454		9080,000	8.807.752,1784	692.124,9530	40,379	131°34'28"
455		9100,000	8.807.737,2165	692.111,6812	40,537	131°34'28"
456		9120,000	8.807.722,2546	692.098,4094	40,746	131°34'28"
457		9140,000	8.807.707,2927	692.085,1375	41,003	131°34'28"
458		9160,000	8.807.692,3308	692.071,8657	41,342	131°34'28"
459		9180,000	8.807.677,3689	692.058,5939	41,760	131°34'28"
460		9200,000	8.807.662,4070	692.045,3221	42,241	131°34'28"
461		9220,000	8.807.647,4451	692.032,0502	42,649	131°34'28"
462		9240,000	8.807.632,4832	692.018,7784	43,078	131°34'28"
463		9260,000	8.807.617,5213	692.005,5066	43,520	131°34'28"
464		9280,000	8.807.602,5594	691.992,2347	44,070	131°34'28"
465		9300,000	8.807.587,5975	691.978,9629	44,811	131°34'28"
466		9320,000	8.807.572,6356	691.965,6911	45,724	131°34'28"
467		9340,000	8.807.557,6737	691.952,4192	46,716	131°34'28"
468		9360,000	8.807.542,7118	691.939,1474	47,658	131°34'28"
469		9380,000	8.807.527,7499	691.925,8756	48,563	131°34'28"
470		9400,000	8.807.512,7880	691.912,6037	49,487	131°34'28"
471		9420,000	8.807.497,8261	691.899,3319	50,459	131°34'28"
472		9440,000	8.807.482,8642	691.886,0601	51,387	131°34'28"
473		9460,000	8.807.467,9023	691.872,7883	52,289	131°34'28"
474		9480,000	8.807.452,9404	691.859,5164	53,242	131°34'28"
475		9500,000	8.807.437,9785	691.846,2446	54,213	131°34'28"
476		9520,000	8.807.423,0166	691.832,9728	55,149	131°34'28"
477		9540,000	8.807.408,0547	691.819,7009	56,073	131°34'28"
478		9560,000	8.807.393,0928	691.806,4291	56,828	131°34'28"
479		9580,000	8.807.378,1309	691.793,1573	57,438	131°34'28"
480		9600,000	8.807.363,1690	691.779,8854	57,936	131°34'28"
481		9620,000	8.807.348,2071	691.766,6136	58,302	131°34'28"
482		9640,000	8.807.333,2452	691.753,3418	58,471	131°34'28"
483		9660,000	8.807.318,2833	691.740,0700	58,419	131°34'28"
484		9680,000	8.807.303,3213	691.726,7981	58,314	131°34'28"
485		9700,000	8.807.288,3594	691.713,5263	58,169	131°34'28"
486		9720,000	8.807.273,3975	691.700,2545	57,773	131°34'28"

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
487		9740,000	8.807.258,4356	691.686,9826	57,245	131°34'28"
488		9760,000	8.807.243,4737	691.673,7108	56,640	131°34'28"
489		9780,000	8.807.228,5118	691.660,4390	56,096	131°34'28"
490		9800,000	8.807.213,5499	691.647,1671	55,610	131°34'28"
490+15,000		9815,000	8.807.202,3284	691.637,2132	55,292	131°34'28"
491		9820,000	8.807.198,5880	691.633,8953	55,199	131°34'28"
492		9840,000	8.807.183,6261	691.620,6235	54,783	131°34'28"
493		9860,000	8.807.168,6642	691.607,3516	54,463	131°34'28"
494		9880,000	8.807.153,7023	691.594,0798	54,389	131°34'28"
495		9900,000	8.807.138,7404	691.580,8080	54,486	131°34'28"
496		9920,000	8.807.123,7785	691.567,5362	54,735	131°34'28"
497		9940,000	8.807.108,8166	691.554,2643	55,112	131°34'28"
498		9960,000	8.807.093,8547	691.540,9925	55,667	131°34'28"
499		9980,000	8.807.078,8928	691.527,7207	56,394	131°34'28"
500		10000,000	8.807.063,9309	691.514,4488	57,228	131°34'28"
500+5,000		10005,000	8.807.060,1904	691.511,1308	57,445	131°34'28"
501		10020,000	8.807.048,9690	691.501,1770	58,181	131°34'28"
502		10040,000	8.807.034,0071	691.487,9052	59,162	131°34'28"
503		10060,000	8.807.019,0452	691.474,6333	60,189	131°34'28"
504		10080,000	8.807.004,0833	691.461,3615	61,265	131°34'28"
505		10100,000	8.806.989,1214	691.448,0897	62,315	131°34'28"
506		10120,000	8.806.974,1595	691.434,8179	63,329	131°34'28"
507		10140,000	8.806.959,1976	691.421,5460	64,372	131°34'28"
508		10160,000	8.806.944,2357	691.408,2742	65,548	131°34'28"
509		10180,000	8.806.929,2738	691.395,0024	66,672	131°34'28"
509+0,798	TS	10180,798	8.806.928,6766	691.394,4726	66,714	131°34'28"
510		10200,000	8.806.914,3056	691.381,7376	67,844	131°29'23"
511		10220,000	8.806.899,2968	691.368,5189	69,046	131°13'20"
512		10240,000	8.806.884,2054	691.355,3946	70,136	130°46'16"
513		10260,000	8.806.868,9904	691.342,4139	71,120	130°08'12"
514		10280,000	8.806.853,6121	691.329,6271	71,890	129°19'08"
514+0,798	SC	10280,798	8.806.852,9944	691.329,1214	71,917	129°16'57"
515		10300,000	8.806.838,0388	691.317,0786	72,391	128°24'09"
516		10320,000	8.806.822,2668	691.304,7809	72,684	127°29'08"
517		10340,000	8.806.806,2999	691.292,7371	72,784	126°34'08"
518		10360,000	8.806.790,1425	691.280,9504	72,688	125°39'08"
519		10380,000	8.806.773,7985	691.269,4236	72,430	124°44'08"
520		10400,000	8.806.757,2722	691.258,1598	72,053	123°49'07"
521		10420,000	8.806.740,5678	691.247,1619	71,665	122°54'07"
522		10440,000	8.806.723,6896	691.236,4326	71,342	121°59'07"
523		10460,000	8.806.706,6419	691.225,9747	70,982	121°04'07"
524		10480,000	8.806.689,4291	691.215,7909	70,753	120°09'06"
524+13,251	CS	10493,251	8.806.677,9361	691.209,1960	70,689	119°32'40"
525		10500,000	8.806.672,0557	691.205,8835	70,665	119°14'44"
526		10520,000	8.806.654,5379	691.196,2337	70,514	118°28'56"
527		10540,000	8.806.636,9081	691.186,7897	69,595	117°54'09"
528		10560,000	8.806.619,1985	691.177,4963	68,973	117°30'22"
529		10580,000	8.806.601,4397	691.168,2972	68,362	117°17'34"
529+13,251	ST	10593,251	8.806.589,6612	691.162,2268	67,836	117°15'09"
530		10600,000	8.806.583,6611	691.159,1362	67,546	117°15'09"
531		10620,000	8.806.565,8812	691.149,9779	66,540	117°15'09"

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
532		10640,000	8.806.548,1013	691.140,8196	65,318	117°15'09"
533		10660,000	8.806.530,3214	691.131,6614	64,060	117°15'09"
534		10680,000	8.806.512,5414	691.122,5031	62,968	117°15'09"
535		10700,000	8.806.494,7615	691.113,3448	62,220	117°15'09"
536		10720,000	8.806.476,9816	691.104,1865	61,673	117°15'09"
537		10740,000	8.806.459,2017	691.095,0282	61,361	117°15'09"
538		10760,000	8.806.441,4217	691.085,8699	61,472	117°15'09"
539		10780,000	8.806.423,6418	691.076,7116	61,899	117°15'09"
540		10800,000	8.806.405,8619	691.067,5534	62,694	117°15'09"
541		10820,000	8.806.388,0819	691.058,3951	63,794	117°15'09"
542		10840,000	8.806.370,3020	691.049,2368	65,124	117°15'09"
543		10860,000	8.806.352,5221	691.040,0785	66,582	117°15'09"
543+15,403	TS	10875,403	8.806.338,8292	691.033,0254	67,754	117°15'09"
544		10880,000	8.806.334,7423	691.030,9199	68,109	117°15'56"
544+10,000		10890,000	8.806.325,8576	691.026,3313	68,906	117°23'03"
545		10900,000	8.806.316,9868	691.021,7145	69,723	117°37'34"
546		10920,000	8.806.299,3300	691.012,3213	71,397	118°28'50"
546+8,000		10928,000	8.806.292,3141	691.008,4780	72,059	118°57'38"
547		10940,000	8.806.281,8572	691.002,5907	72,983	119°49'44"
547+15,403	SC	10955,403	8.806.268,5852	690.994,7753	74,027	121°12'15"
548		10960,000	8.806.264,6624	690.992,3779	74,314	121°39'29"
549		10980,000	8.806.247,8228	690.981,5895	75,371	123°38'02"
550		11000,000	8.806.231,3652	690.970,2269	76,114	125°36'35"
551		11020,000	8.806.215,3091	690.958,3037	76,544	127°35'07"
552		11040,000	8.806.199,6737	690.945,8341	76,639	129°33'40"
553		11060,000	8.806.184,4774	690.932,8328	76,421	131°32'12"
554		11080,000	8.806.169,7384	690.919,3153	75,950	133°30'45"
555		11100,000	8.806.155,4742	690.905,2977	75,244	135°29'18"
556		11120,000	8.806.141,7017	690.890,7967	74,270	137°27'50"
556+8,000		11128,000	8.806.136,3343	690.884,8651	73,833	138°15'15"
557		11140,000	8.806.128,4373	690.875,8295	73,093	139°26'23"
558		11160,000	8.806.115,6969	690.860,4139	71,849	141°24'55"
559		11180,000	8.806.103,4955	690.844,5682	70,524	143°23'28"
560		11200,000	8.806.091,8476	690.828,3113	69,190	145°22'00"
561		11220,000	8.806.080,7672	690.811,6624	67,877	147°20'33"
561+7,649	CS	11227,649	8.806.076,6824	690.805,1959	67,373	148°05'53"
562		11240,000	8.806.070,2615	690.794,6450	66,619	149°13'26"
563		11260,000	8.806.060,2548	690.777,3290	65,338	150°38'52"
564		11280,000	8.806.050,6057	690.759,8108	64,025	151°34'39"
564+10,000		11290,000	8.806.045,8692	690.751,0040	63,405	151°51'26"
565		11300,000	8.806.041,1660	690.742,1788	62,843	152°00'48"
565+7,649	ST	11307,649	8.806.037,5796	690.735,4230	62,426	152°02'58"
566		11320,000	8.806.031,7904	690.724,5124	61,939	152°02'58"
567		11340,000	8.806.022,4162	690.706,8454	61,281	152°02'58"
568		11360,000	8.806.013,0421	690.689,1783	60,971	152°02'58"
569		11380,000	8.806.003,6679	690.671,5113	61,083	152°02'58"
570		11400,000	8.805.994,2937	690.653,8442	61,614	152°02'58"
571		11420,000	8.805.984,9196	690.636,1771	62,449	152°02'58"
571+10,000		11430,000	8.805.980,2326	690.627,3439	62,944	152°02'58"
572		11440,000	8.805.975,5454	690.618,5101	63,518	152°02'58"
573		11460,000	8.805.966,1712	690.600,8430	64,762	152°02'58"

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
574		11480,000	8.805.956,7971	690.583,1760	66,060	152°02'58"
574+16,000		11496,000	8.805.949,2979	690.569,0426	67,027	152°02'58"
575		11500,000	8.805.947,4229	690.565,5089	67,255	152°02'58"
576		11520,000	8.805.938,0487	690.547,8419	68,274	152°02'58"
577		11540,000	8.805.928,6746	690.530,1748	69,134	152°02'58"
578		11560,000	8.805.919,3004	690.512,5077	69,847	152°02'58"
579		11580,000	8.805.909,9262	690.494,8407	70,425	152°02'58"
579+16,000		11596,000	8.805.902,4270	690.480,7073	70,790	152°02'58"
580		11600,000	8.805.900,5520	690.477,1736	70,870	152°02'58"
581		11620,000	8.805.891,1779	690.459,5066	71,213	152°02'58"
582		11640,000	8.805.881,8037	690.441,8395	71,521	152°02'58"
583		11660,000	8.805.872,4295	690.424,1724	71,896	152°02'58"
584		11680,000	8.805.863,0554	690.406,5054	72,300	152°02'58"
585		11700,000	8.805.853,6812	690.388,8383	72,671	152°02'58"
586		11720,000	8.805.844,3070	690.371,1713	72,925	152°02'58"
587		11740,000	8.805.834,9329	690.353,5042	73,024	152°02'58"
588		11760,000	8.805.825,5587	690.335,8371	72,966	152°02'58"
589		11780,000	8.805.816,1845	690.318,1701	72,725	152°02'58"
590		11800,000	8.805.806,8104	690.300,5030	72,364	152°02'58"
591		11820,000	8.805.797,4362	690.282,8360	71,858	152°02'58"
592		11840,000	8.805.788,0620	690.265,1689	71,388	152°02'58"
593		11860,000	8.805.778,6879	690.247,5019	70,965	152°02'58"
594		11880,000	8.805.769,3137	690.229,8348	70,512	152°02'58"
595		11900,000	8.805.759,9395	690.212,1677	70,228	152°02'58"
596		11920,000	8.805.750,5654	690.194,5007	69,849	152°02'58"
597		11940,000	8.805.741,1912	690.176,8336	69,379	152°02'58"
598		11960,000	8.805.731,8170	690.159,1666	68,901	152°02'58"
599		11980,000	8.805.722,4429	690.141,4995	68,403	152°02'58"
600		12000,000	8.805.713,0687	690.123,8324	67,922	152°02'58"
600+10,000		12010,000	8.805.708,3817	690.114,9992	67,695	152°02'58"
601		12020,000	8.805.703,6945	690.106,1654	67,478	152°02'58"
602		12040,000	8.805.694,3204	690.088,4983	67,151	152°02'58"
603		12060,000	8.805.684,9462	690.070,8313	66,978	152°02'58"
604		12080,000	8.805.675,5720	690.053,1642	66,954	152°02'58"
604+10,000		12090,000	8.805.670,8851	690.044,3309	66,954	152°02'58"
605		12100,000	8.805.666,1978	690.035,4971	66,919	152°02'58"
606		12120,000	8.805.656,8237	690.017,8301	66,756	152°02'58"
607		12140,000	8.805.647,4495	690.000,1630	66,357	152°02'58"
608		12160,000	8.805.638,0753	689.982,4960	65,739	152°02'58"
609		12180,000	8.805.628,7012	689.964,8289	64,889	152°02'58"
610		12200,000	8.805.619,3270	689.947,1618	63,750	152°02'58"
611		12220,000	8.805.609,9528	689.929,4948	62,495	152°02'58"
612		12240,000	8.805.600,5787	689.911,8277	61,242	152°02'58"
612+10,000		12250,000	8.805.595,8917	689.902,9945	60,681	152°02'58"
613		12260,000	8.805.591,2045	689.894,1607	60,267	152°02'58"
614		12280,000	8.805.581,8303	689.876,4936	59,589	152°02'58"
615		12300,000	8.805.572,4562	689.858,8266	59,105	152°02'58"
616		12320,000	8.805.563,0820	689.841,1595	58,867	152°02'58"
617		12340,000	8.805.553,7078	689.823,4924	58,909	152°02'58"
618		12360,000	8.805.544,3337	689.805,8254	59,184	152°02'58"
619		12380,000	8.805.534,9595	689.788,1583	59,980	152°02'58"

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
619+10,000		12390,000	8.805.530,2726	689.779,3251	60,487	152°02'58"
620		12400,000	8.805.525,5853	689.770,4913	60,951	152°02'58"
621		12420,000	8.805.516,2112	689.752,8242	61,926	152°02'58"
622		12440,000	8.805.506,8370	689.735,1571	62,863	152°02'58"
622+6,415	PI	12446,415	8.805.503,8300	689.729,4900	63,154	152°07'53"
623		12460,000	8.805.497,4972	689.717,4719	63,747	152°12'49"
624		12480,000	8.805.488,1736	689.699,7781	64,700	152°12'49"
625		12500,000	8.805.478,8501	689.682,0843	65,634	152°12'49"
626		12520,000	8.805.469,5265	689.664,3905	66,454	152°12'49"
627		12540,000	8.805.460,2030	689.646,6966	67,020	152°12'49"
628		12560,000	8.805.450,8794	689.629,0028	67,312	152°12'49"
629		12580,000	8.805.441,5559	689.611,3090	67,301	152°12'49"
630		12600,000	8.805.432,2323	689.593,6152	67,046	152°12'49"
631		12620,000	8.805.422,9087	689.575,9214	66,493	152°12'49"
632		12640,000	8.805.413,5852	689.558,2275	65,698	152°12'49"
633		12660,000	8.805.404,2616	689.540,5337	64,803	152°12'49"
634		12680,000	8.805.394,9381	689.522,8399	63,876	152°12'49"
634+11,000		12691,000	8.805.389,8099	689.513,1078	63,398	152°12'49"
635		12700,000	8.805.385,6145	689.505,1461	63,046	152°12'49"
636		12720,000	8.805.376,2910	689.487,4523	62,398	152°12'49"
637		12740,000	8.805.366,9674	689.469,7584	61,962	152°12'49"
638		12760,000	8.805.357,6438	689.452,0646	61,863	152°12'49"
638+1,000		12761,000	8.805.357,1774	689.451,1795	61,864	152°12'49"
639		12780,000	8.805.348,3203	689.434,3708	62,013	152°12'49"
639+17,139	PC	12797,139	8.805.340,3303	689.419,2078	62,171	152°12'49"
640		12800,000	8.805.338,9468	689.416,7041	62,198	149°56'13"
641		12820,000	8.805.326,6675	689.400,9990	62,418	134°01'18"
641+11,395	PT	12831,395	8.805.317,8824	689.393,7603	62,365	124°57'13"
641+11,717	BR-235	12831,717	8.805.317,6188	689.393,5760	62,366	124°57'13"

Reg: 1 Tangente (1 - TE2)

Nome	Estaca	Norte	Este	Azimute	Distância
1	0	8.812.629,1902	698.548,1584		
				157°26'46"	20,9781
TE2	1+0,978	8.812.609,8165	698.556,2046		

Reg: 2 Espiral de Entrada (TE2 - EC2)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
TE2	1+0,978	8.812.609,8165	698.556,2046		
Centro		8.812.694,2719	698.824,7197	118,3216	50,0000
EC2	3+10,978	8.812.564,2478	698.576,7404		

Âng. Central:	5°06'57"	XC:	49,9602	JC:	3°24'38"
Raio:	280,0000	YC:	1,4872	IC:	1°42'18"
Tangente Longa	33,3473	XM:	24,9934	Afastamento:	0,3719
Tangente Curta:	16,6793	YM:	280,3719	K:	0,00068209°

Reg: 3 Circular (EC2 - CE2)

Nome	Estaca	Norte	Este	Âng. Central	Desenvolv.
EC2	3+10,978	8.812.564,2478	698.576,7404		
Centro		8.812.694,2719	698.824,7197	36°14'23"	177,1006
CE2	12+8,079	8.812.442,8042	698.701,5775		

Raio:	280,0000	Corda:	174,1632	Deflexão/Metro:	0,10231389
Tangente:	91,6255	Dist. Externa:	14,6103	G. Curva/Metro:	0,20462778

Reg: 4 Espiral de Saída (CE2 - ET2)

Nome	Estaca	Norte	Este	Parâmetro	Comprimento
CE2	12+8,079	8.812.442,8042	698.701,5775		
Centro		8.812.694,2719	698.824,7197	118,3216	50,0000
ET2	14+18,079	8.812.423,5318	698.747,6947		

Âng. Central:	5°06'57"	XC:	49,9602	JC:	3°24'38"
Raio:	280,0000	YC:	1,4872	IC:	1°42'18"
Tangente Longa	33,3473	XM:	24,9934	Afastamento:	0,3719
Tangente Curta:	16,6793	YM:	280,3719	K:	0,00068209°

Reg: 5 Tangente (ET2 - 3)

Nome	Estaca	Norte	Este	Azimute	Distância
ET2	14+18,079	8.812.423,5318	698.747,6947		
				110°58'30"	174,0784
3	23+12,157	8.812.361,2185	698.910,2381		

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
0	PC	0,000	8.812.449,2802	698.614,8453	18,853	339°42'56"
1		20,000	8.812.453,8091	698.634,2724	17,600	354°02'22"
2		40,000	8.812.453,3908	698.654,2159	16,435	8°21'48"
3		60,000	8.812.448,0514	698.673,4360	15,787	22°41'15"
3+6,856	PT	66,856	8.812.445,1396	698.679,6401	15,779	27°35'50"
3+13,878	PI	73,878	8.812.441,8866	698.685,8632	15,753	27°35'50"
3+18,396	PI	78,396	8.812.439,7935	698.689,8674	15,770	26°37'16"
4		80,000	8.812.439,0992	698.691,3136	15,777	25°38'43"
4+18,300	PI	98,300	8.812.431,1789	698.707,8111	15,827	24°48'53"
5		100,000	8.812.430,4880	698.709,3641	15,805	23°59'04"
5+11,744	PI	111,744	8.812.425,7142	698.720,0942	15,653	22°53'04"
6		120,000	8.812.422,6502	698.727,7605	15,535	21°47'05"
6+10,909	PI	130,909	8.812.418,6017	698.737,8904	15,358	21°14'49"
7		140,000	8.812.415,3869	698.746,3940	15,216	20°42'33"
7+8,470	PI	148,470	8.812.412,3917	698.754,3170	15,078	20°50'21"
8		160,000	8.812.408,2655	698.765,0831	14,758	20°58'10"
8+5,988	PI	165,988	8.812.406,1225	698.770,6749	14,589	20°52'15"
8+17,098	PI	177,098	8.812.402,1824	698.781,0624	13,978	19°12'22"
9		180,000	8.812.401,3030	698.783,8279	13,691	17°38'24"
10		200,000	8.812.395,2423	698.802,8875	13,280	17°38'24"
11		220,000	8.812.389,1815	698.821,9471	12,678	17°38'24"
12		240,000	8.812.383,1208	698.841,0067	12,698	17°38'24"
12+7,217		247,217	8.812.380,9339	698.847,8841	12,695	17°38'24"

Estaca	Descrição	Progressiva	Norte	Este	Cota	Azimute
0		0,000	8.809.324,2951	694.979,7870	28,721	53°31'10"
1		20,000	8.809.308,2139	694.991,6780	29,227	53°31'10"
2		40,000	8.809.292,1327	695.003,5689	29,675	53°31'10"
3		60,000	8.809.276,0515	695.015,4599	30,113	53°31'10"
4		80,000	8.809.259,9703	695.027,3509	30,664	53°31'10"
5		100,000	8.809.243,8891	695.039,2418	31,264	53°31'10"
5+11,502	PI	111,502	8.809.234,6404	695.046,0806	31,646	52°14'40"
6		120,000	8.809.228,0395	695.051,4318	32,253	50°58'10"
7		140,000	8.809.212,5033	695.064,0265	33,300	50°58'10"
8		160,000	8.809.196,9671	695.076,6212	34,105	50°58'10"
8+11,562		171,562	8.809.187,9856	695.083,9022	34,574	50°58'10"

ANEXO II – PLANILHAS DO TRAÇADO VERTICAL

RW – ENGENHEIROS CONSULTORES S/S



Av. Santos Dumont, 1343 - Sala 103 / Cep: 60.150-160 - Aldeota
CNPJ 04072015/0001-16 / Fone: (85) 3226.5103 - Fortaleza - Ceará
rwconsultores@secrel.com.br; rwconsultores1343@gmail.com

Reg: 1 Rampa (V0 - PCV1)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
V0	0	16,560		
			5,7964	40,0000
PCV1	2	18,879		

Reg: 2 Parábola (PCV1 - PTV1)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV1	2	18,879		
			5,7964	
PIV	7	24,675		200,0000
			-4,1953	
PTV1	12	20,480		

Raio Vertical:	-2.001,6532	Dist. Externa:	2,4979
Constante:	0,00024979	K:	0,00000250

Reg: 3 Rampa (PTV1 - PCV2)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV1	12	20,480		
			-4,1953	160,0000
PCV2	20	13,767		

Reg: 4 Parábola (PCV2 - PTV2)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV2	20	13,767		
			-4,1953	
PIV	23	11,250		120,0000
			5,9038	
PTV2	26	14,792		

Raio Vertical:	1.188,2178	Dist. Externa:	-1,5149
Constante:	-0,00042080	K:	-0,00000421

Reg: 5 Rampa (PTV2 - PIV21)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV2	26	14,792		
			5,9038	70,0000
PIV21	29+10,000	18,925		

Reg: 6 Rampa (PIV21 - PCV3)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV21	29+10,000	18,925		
			6,1655	68,0000
PCV3	32+18,000	23,118		

Reg: 7 Parábola (PCV3 - PTV3)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV3	32+18,000	23,118		
			6,1655	
PIV	36+18,00	28,050		160,0000
			-5,0191	
PTV3	40+18,000	24,035		

Raio Vertical:	-1.430,5353	Dist. Externa:	2,2369
Constante:	0,00034952	K:	0,00000350

Reg: 8 Rampa (PTV3 - PCV4)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV3	40+18,000	24,035		
			-5,0191	122,0000
PCV4	47	17,911		

Reg: 9 Parábola (PCV4 - PTV4)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV4	47	17,911		
			-5,0191	
PIV	50	14,900		120,0000
			-2,0885	
PTV4	53	13,647		

Raio Vertical:	4.094,6933	Dist. Externa:	-0,4396
Constante:	-0,00012211	K:	-0,00000122

Reg: 10 Rampa (PTV4 - PCV5)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV4	53	13,647		
			-2,0885	20,0000
PCV5	54	13,229		

Reg: 11 Parábola (PCV5 - PTV5)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV5	54	13,229		
			-2,0885	
PIV	56+10,00	12,185		100,0000
			0,2905	
PTV5	59	12,330		

Raio Vertical:	4.203,4683	Dist. Externa:	-0,2974
Constante:	-0,00011895	K:	-0,00000119

Reg: 12 Rampa (PTV5 - PIV5)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV5	59	12,330		
			0,2905	140,0000
PIV5	66	12,737		

Reg: 13 Rampa (PIV5 - PCV6)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV5	66	12,737		
			0,3858	120,0000
PCV6	72	13,200		

Reg: 14 Parábola (PCV6 - PTV6)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV6	72	13,200		
			0,3858	
PIV	75+10,00	13,470		140,0000
			4,7688	
PTV6	79	16,808		

Raio Vertical:	3.194,1880	Dist. Externa:	-0,7670
Constante:	-0,00015653	K:	-0,00000157

Reg: 15 Rampa (PTV6 - PCV7)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV6	79	16,808		
			4,7688	40,0000
PCV7	81	18,716		

Reg: 16 Parábola (PCV7 - PTV7)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV7	81	18,716		
			4,7688	
PIV	83+10,00	21,100		100,0000
			4,1579	
PTV7	86	23,179		

Raio Vertical:	-16.370,4900	Dist. Externa:	0,0764
Constante:	0,00003054	K:	0,00000031

Reg: 17 Rampa (PTV7 - PCV8)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV7	86	23,179		
			4,1579	100,0000
PCV8	91	27,337		

Reg: 18 Parábola (PCV8 - PTV8)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV8	91	27,337		
			4,1579	
PIV	93	29,000		80,0000
			7,7778	
PTV8	95	32,111		

Raio Vertical:	2.210,0162	Dist. Externa:	-0,3620
Constante:	-0,00022624	K:	-0,00000226

Reg: 19 Rampa (PTV8 - PCV9)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV8	95	32,111		
			7,7778	100,0000
PCV9	100	39,889		

Reg: 20 Parábola (PCV9 - PCCV10)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV9	100	39,889		
			7,7778	
PIV	102	43,000		80,0000
			9,4625	
PCCV10	104	46,785		

Raio Vertical:	4.748,5573	Dist. Externa:	-0,1685
Constante:	-0,00010530	K:	-0,00000105

Reg: 21 Parábola (PCCV10 - PTV10)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCCV10	104	46,785		
			9,4625	
PIV	106	50,570		80,0000
			6,6300	
PTV10	108	53,222		

Raio Vertical:	-2.824,3601	Dist. Externa:	0,2833
Constante:	0,00017703	K:	0,00000177

Reg: 22 Rampa (PTV10 - PCV11)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV10	108	53,222		
			6,6300	20,0000
PCV11	109	54,548		

Reg: 23 Parábola (PCV11 - PCCV12)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV11	109	54,548		
			6,6300	
PIV	111	57,200		80,0000
			9,0833	
PCCV12	113	60,833		

Raio Vertical:	3.260,8696	Dist. Externa:	-0,2453
Constante:	-0,00015333	K:	-0,00000153

Reg: 24 Parábola (PCCV12 - PTV12)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCCV12	113	60,833		
			9,0833	
PIV	114	62,650		40,0000
			7,3333	
PTV12	115	64,117		

Raio Vertical:	-2.285,7143	Dist. Externa:	0,0875
Constante:	0,00021875	K:	0,00000219

Reg: 25 Rampa (PTV12 - PCV13)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV12	115	64,117		
			7,3333	20,0000
PCV13	116	65,583		

Reg: 26 Parábola (PCV13 - PCCV14)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV13	116	65,583		
			7,3333	
PIV	118+10,00	69,250		100,0000
			8,5500	
PCCV14	121	73,525		

Raio Vertical:	8.219,1781	Dist. Externa:	-0,1521
Constante:	-0,00006083	K:	-0,00000061

Reg: 27 Parábola (PCCV14 - PTV14)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCCV14	121	73,525		
			8,5500	
PIV	123+10,00	77,800		100,0000
			3,3420	
PTV14	126	79,471		

Raio Vertical:	-1.920,1229	Dist. Externa:	0,6510
Constante:	0,00026040	K:	0,00000260

Reg: 28 Rampa (PTV14 - PIV141)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV14	126	79,471		
			3,3420	100,0000
PIV141	131	82,813		

Reg: 29 Rampa (PIV141 - PIV142)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV141	131	82,813		
			3,5400	190,0000
PIV142	140+10,000	89,539		

Reg: 30 Rampa (PIV142 - PCV15)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV142	140+10,000	89,539		
			3,7073	80,0000
PCV15	144+10,000	92,505		

Reg: 31 Parábola (PCV15 - PTV15)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV15	144+10,000	92,505		
			3,7073	
PIV	148	95,100		140,0000
			-3,7857	
PTV15	151+10,000	92,450		

Raio Vertical:	-1.868,3986
Constante:	0,00026761

Dist. Externa:	1,3113
K:	0,00000268

Reg: 32 Rampa (PTV15 - PCV16)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV15	151+10,000	92,450		
			-3,7857	10,0000
PCV16	152	92,071		

Reg: 33 Parábola (PCV16 - PTV16)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV16	152	92,071		
			-3,7857	
PIV	155	89,800		120,0000
			-7,7571	
PTV16	158	85,146		

Raio Vertical:	-3.021,5827	Dist. Externa:	0,5957
Constante:	0,00016548	K:	0,00000165

Reg: 34 Rampa (PTV16 - PIV181)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV16	158	85,146		
			-7,7571	10,0000
PIV181	158+10,000	84,370		

Reg: 35 Rampa (PIV181 - PCV17)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV181	158+10,000	84,370		
			-7,8280	190,0000
PCV17	168	69,497		

Reg: 36 Parábola (PCV17 - PTV17)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV17	168	69,497		
			-7,8280	
PIV	171	64,800		120,0000
			-6,9689	
PTV17	174	60,619		

Raio Vertical:	13.968,2999	Dist. Externa:	-0,1289
Constante:	-0,00003580	K:	-0,00000036

Reg: 37 Rampa (PTV17 - PCV18)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV17	174	60,619		
			-6,9689	276,0000
PCV18	187+16,000	41,384		

Reg: 38 Parábola (PCV18 - PTV18)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV18	187+16,000	41,384		
			-6,9689	
PIV	190+6,00	37,900		100,0000
			-0,0607	
PTV18	192+16,000	37,870		

Raio Vertical:	1.447,5626	Dist. Externa:	-0,8635
Constante:	-0,00034541	K:	-0,00000345

Reg: 39 Rampa (PTV18 - PCV19)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV18	192+16,000	37,870		
			-0,0607	104,0000
PCV19	198	37,806		

Reg: 40 Parábola (PCV19 - PTV19)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV19	198	37,806		
			-0,0607	
PIV	201	37,770		120,0000
			-3,5931	
PTV19	204	35,614		

Raio Vertical:	-3.397,1663	Dist. Externa:	0,5299
Constante:	0,00014718	K:	0,00000147

Reg: 41 Rampa (PTV19 - PCV20)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV19	204	35,614		
			-3,5931	160,0000
PCV20	212	29,865		

Reg: 42 Parábola (PCV20 - PTV20)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV20	212	29,865		
			-3,5931	
PIV	215+10,00	27,350		140,0000
			4,5349	
PTV20	219	30,524		

Raio Vertical:	1.722,4437	Dist. Externa:	-1,4224
Constante:	-0,00029029	K:	-0,00000290

Reg: 43 Rampa (PTV20 - PCV21)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV20	219	30,524		
			4,5349	42,0000
PCV21	221+2,000	32,429		

Reg: 44 Parábola (PCV21 - PTV21)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV21	221+2,000	32,429		
			4,5349	
PIV	224+2,00	35,150		120,0000
			-2,6563	
PTV21	227+2,000	33,556		

Raio Vertical:	-1.668,7216	Dist. Externa:	1,0787
Constante:	0,00029963	K:	0,00000300

Reg: 45 Rampa (PTV21 - PCV22)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV21	227+2,000	33,556		
			-2,6563	158,0000
PCV22	235	29,359		

Reg: 46 Parábola (PCV22 - PTV22)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV22	235	29,359		
			-2,6563	
PIV	238+10,00	27,500		140,0000
			1,4533	
PTV22	242	28,517		

Raio Vertical:	3.406,6714	Dist. Externa:	-0,7192
Constante:	-0,00014677	K:	-0,00000147

Reg: 47 Rampa (PTV22 - PCV23)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV22	242	28,517		
			1,4533	20,0000
PCV23	243	28,808		

Reg: 48 Parábola (PCV23 - PTV23)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV23	243	28,808		
			1,4533	
PIV	246	29,680		120,0000
			0,0500	
PTV23	249	29,710		

Raio Vertical:	-8.551,0689	Dist. Externa:	0,2105
Constante:	0,00005847	K:	0,00000058

Reg: 49 Rampa (PTV23 - PCV24)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV23	249	29,710		
			0,0500	40,0000
PCV24	251	29,730		

Reg: 50 Parábola (PCV24 - PCCV25)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV24	251	29,730		
			0,0500	
PIV	254	29,760		120,0000
			-1,3667	
PCCV25	257	28,940		

Raio Vertical:	-8.470,5882	Dist. Externa:	0,2125
Constante:	0,00005903	K:	0,00000059

Reg: 51 Parábola (PCCV25 - PTV25)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCCV25	257	28,940		
			-1,3667	
PIV	258+10,00	28,530		60,0000
			0,1889	
PTV25	260	28,587		

Raio Vertical:	3.857,1429	Dist. Externa:	-0,1167
Constante:	-0,00012963	K:	-0,00000130

Reg: 52 Rampa (PTV25 - PIV25)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV25	260	28,587		
			0,1889	60,0000
PIV25	263	28,700		

Reg: 53 Rampa (PIV25 - PCV26)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV25	263	28,700		
			-0,0909	50,0000
PCV26	265+10,000	28,655		

Reg: 54 Parábola (PCV26 - PCCV27)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV26	265+10,000	28,655		
			-0,0909	
PIV	268+10,00	28,600		120,0000
			-1,3889	
PCCV27	271+10,000	27,767		

Raio Vertical:	-9.245,1362	Dist. Externa:	0,1947
Constante:	0,00005408	K:	0,00000054

Reg: 55 Parábola (PCCV27 - PTV27)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCCV27	271+10,000	27,767		
			-1,3889	
PIV	273	27,350		60,0000
			0,2500	
PTV27	274+10,000	27,425		

Raio Vertical:	3.661,0169	Dist. Externa:	-0,1229
Constante:	-0,00013657	K:	-0,00000137

Reg: 56 Rampa (PTV27 - PCV28)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV27	274+10,000	27,425		
			0,2500	150,0000
PCV28	282	27,800		

Reg: 57 Parábola (PCV28 - PTV28)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV28	282	27,800		
			0,2500	
PIV	286	28,000		160,0000
			6,2376	
PTV28	290	32,990		

Raio Vertical:	2.672,1786	Dist. Externa:	-1,1975
Constante:	-0,00018711	K:	-0,00000187

Reg: 58 Rampa (PTV28 - PCV29)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV28	290	32,990		
			6,2376	62,0000
PCV29	293+2,000	36,857		

Reg: 59 Parábola (PCV29 - PTV29)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV29	293+2,000	36,857		
			6,2376	
PIV	296+2,00	40,600		120,0000
			-1,1864	
PTV29	299+2,000	39,888		

Raio Vertical:	-1.616,3653	Dist. Externa:	1,1136
Constante:	0,00030934	K:	0,00000309

Reg: 60 Rampa (PTV29 - PCV30)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV29	299+2,000	39,888		
			-1,1864	8,0000
PCV30	299+10,000	39,793		

Reg: 61 Parábola (PCV30 - PTV30)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV30	299+10,000	39,793		
			-1,1864	
PIV	302	39,200		100,0000
			-5,8600	
PTV30	304+10,000	36,270		

Raio Vertical:	-2.139,6968	Dist. Externa:	0,5842
Constante:	0,00023368	K:	0,00000234

Reg: 62 Rampa (PTV30 - PCV31)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV30	304+10,000	36,270		
			-5,8600	30,0000
PCV31	306	34,512		

Reg: 63 Parábola (PCV31 - PTV31)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV31	306	34,512		
			-5,8600	
PIV	309+10,00	30,410		140,0000
			4,4944	
PTV31	313	33,556		

Raio Vertical:	1.352,0764	Dist. Externa:	-1,8120
Constante:	-0,00036980	K:	-0,00000370

Reg: 64 Rampa (PTV31 - PCV32)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV31	313	33,556		
			4,4944	30,0000
PCV32	314+10,000	34,904		

Reg: 65 Parábola (PCV32 - PTV32)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV32	314+10,000	34,904		
			4,4944	
PIV	318+10,00	38,500		160,0000
			-1,1656	
PTV32	322+10,000	37,568		

Raio Vertical:	-2.826,8329	Dist. Externa:	1,1320
Constante:	0,00017688	K:	0,00000177

Reg: 66 Rampa (PTV32 - PIV321)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV32	322+10,000	37,568		
			-1,1656	170,0000
PIV321	331	35,586		

Reg: 67 Rampa (PIV321 - PCV33)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV321	331	35,586		
			-1,0775	180,0000
PCV33	340	33,647		

Reg: 68 Parábola (PCV33 - PTV33)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV33	340	33,647		
			-1,0775	
PIV	343	33,000		120,0000
			-0,2824	
PTV33	346	32,831		

Raio Vertical:	15.091,5480	Dist. Externa:	-0,1193
Constante:	-0,00003313	K:	-0,00000033

Reg: 69 Rampa (PTV33 - PCV34)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV33	346	32,831		
			-0,2824	60,0000
PCV34	349	32,661		

Reg: 70 Parábola (PCV34 - PTV34)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV34	349	32,661		
			-0,2824	
PIV	351+10,00	32,520		100,0000
			0,5727	
PTV34	354	32,806		

Raio Vertical:	11.694,8093	Dist. Externa:	-0,1069
Constante:	-0,00004275	K:	-0,00000043

Reg: 71 Rampa (PTV34 - PCV35)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV34	354	32,806		
			0,5727	120,0000
PCV35	360	33,494		

Reg: 72 Parábola (PCV35 - PTV35)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV35	360	33,494		
			0,5727	
PIV	362+10,00	33,780		100,0000
			2,4964	
PTV35	365	35,028		

Raio Vertical:	5.198,3122	Dist. Externa:	-0,2405
Constante:	-0,00009619	K:	-0,00000096

Reg: 73 Rampa (PTV35 - PIV351)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV35	365	35,028		
			2,4964	90,0000
PIV351	369+10,000	37,275		

Reg: 74 Rampa (PIV351 - PCV36)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV351	369+10,000	37,275		
			2,4167	30,0000
PCV36	371	38,000		

Reg: 75 Parábola (PCV36 - PTV36)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV36	371	38,000		
			2,4167	
PIV	374	39,450		120,0000
			-1,4400	
PTV36	377	38,586		

Raio Vertical:	-3.111,4952	Dist. Externa:	0,5785
Constante:	0,00016069	K:	0,00000161

Reg: 76 Rampa (PTV36 - PIV361)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV36	377	38,586		
			-1,4400	30,0000
PIV361	378+10,000	38,154		

Reg: 77 Rampa (PIV361 - PCV37)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV361	378+10,000	38,154		
			-1,0771	30,0000
PCV37	380	37,831		

Reg: 78 Parábola (PCV37 - PTV37)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV37	380	37,831		
			-1,0771	
PIV	382	37,400		80,0000
			0,8293	
PTV37	384	37,732		

Raio Vertical:	4.196,3282	Dist. Externa:	-0,1906
Constante:	-0,00011915	K:	-0,00000119

Reg: 79 Rampa (PTV37 - PIV371)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV37	384	37,732		
			0,8293	100,0000
PIV371	389	38,561		

Reg: 80 Rampa (PIV371 - PIV372)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV371	389	38,561		
			1,1775	80,0000
PIV372	393	39,503		

Reg: 81 Rampa (PIV372 - PCV38)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV372	393	39,503		
			0,9627	250,0000
PCV38	405+10,000	41,910		

Reg: 82 Parábola (PCV38 - PTV38)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV38	405+10,000	41,910		
			0,9627	
PIV	409+10,00	42,680		160,0000
			-4,6000	
PTV38	413+10,000	39,000		

Raio Vertical:	-2.876,2870	Dist. Externa:	1,1125
Constante:	0,00017384	K:	0,00000174

Reg: 83 Rampa (PTV38 - PCV39)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV38	413+10,000	39,000		
			-4,6000	10,0000
PCV39	414	38,540		

Reg: 84 Parábola (PCV39 - PTV39)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV39	414	38,540		
			-4,6000	
PIV	416	36,700		80,0000
			1,3500	
PTV39	418	37,240		

Raio Vertical:	1.344,5378	Dist. Externa:	-0,5950
Constante:	-0,00037188	K:	-0,00000372

Reg: 85 Rampa (PTV39 - PCV40)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV39	418	37,240		
			1,3500	120,0000
PCV40	424	38,860		

Reg: 86 Parábola (PCV40 - PTV40)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV40	424	38,860		
			1,3500	
PIV	427	39,670		120,0000
			1,3786	
PTV40	430	40,497		

Raio Vertical:	420.000,0000	Dist. Externa:	-0,0043
Constante:	-0,00000119	K:	-0,00000001

Reg: 87 Rampa (PTV40 - PCV41)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV40	430	40,497		
			1,3786	40,0000
PCV41	432	41,049		

Reg: 88 Parábola (PCV41 - PTV41)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV41	432	41,049		
			1,3786	
PIV	434	41,600		80,0000
			2,5833	
PTV41	436	42,633		

Raio Vertical:	6.640,3162	Dist. Externa:	-0,1205
Constante:	-0,00007530	K:	-0,00000075

Reg: 89 Rampa (PTV41 - PCV42)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV41	436	42,633		
			2,5833	20,0000
PCV42	437	43,150		

Reg: 90 Parábola (PCV42 - PTV42)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV42	437	43,150		
			2,5833	
PIV	440	44,700		120,0000
			-3,6150	
PTV42	443	42,531		

Raio Vertical:	-1.936,0043	Dist. Externa:	0,9298
Constante:	0,00025826	K:	0,00000258

Reg: 91 Rampa (PTV42 - PIV421)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV42	443	42,531		
			-3,6150	20,0000
PIV421	444	41,808		

Reg: 92 Rampa (PIV421 - PCV43)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV421	444	41,808		
			-3,0967	20,0000
PCV43	445	41,189		

Reg: 93 Parábola (PCV43 - PTV43)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV43	445	41,189		
			-3,0967	
PIV	447	39,950		80,0000
			0,2892	
PTV43	449	40,066		

Raio Vertical:	2.362,7861	Dist. Externa:	-0,3386
Constante:	-0,00021161	K:	-0,00000212

Reg: 94 Rampa (PTV43 - PIV431)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV43	449	40,066		
			0,2892	80,0000
PIV431	453	40,297		

Reg: 95 Rampa (PIV431 - PCV44)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV431	453	40,297		
			0,7538	40,0000
PCV44	455	40,599		

Reg: 96 Parábola (PCV44 - PTV44)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV44	455	40,599		
			0,7538	
PIV	457	40,900		80,0000
			2,1333	
PTV44	459	41,753		

Raio Vertical:	5.798,8523	Dist. Externa:	-0,1380
Constante:	-0,00008622	K:	-0,00000086

Reg: 97 Rampa (PTV44 - PCV45)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV44	459	41,753		
			2,1333	60,0000
PCV45	462	43,033		

Reg: 98 Parábola (PCV45 - PTV45)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV45	462	43,033		
			2,1333	
PIV	464+10,00	44,100		100,0000
			5,0829	
PTV45	467	46,641		

Raio Vertical:	3.390,3778	Dist. Externa:	-0,3687
Constante:	-0,00014748	K:	-0,00000147

Reg: 99 Rampa (PTV45 - PIV451)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV45	467	46,641		
			5,0829	20,0000
PIV451	468	47,658		

Reg: 100 Rampa (PIV451 - PIV452)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV451	468	47,658		
			4,6821	140,0000
PIV452	475	54,213		

Reg: 101 Rampa (PIV452 - PCV46)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV452	475	54,213		
			4,9856	20,0000
PCV46	476	55,210		

Reg: 102 Parábola (PCV46 - PCCV47)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV46	476	55,210		
			4,9856	
PIV	479+10,00	58,700		140,0000
			-0,2727	
PCCV47	483	58,509		

Raio Vertical:	-2.662,4661
Constante:	0,00018780

Dist. Externa:	0,9202
K:	0,00000188

Reg: 103 Parábola (PCCV47 - PTV47)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCCV47	483	58,509		
			-0,2727	
PIV	485	58,400		80,0000
			-2,7900	
PTV47	487	57,284		

Raio Vertical:	-3.178,0426
Constante:	0,00015733

Dist. Externa:	0,2517
K:	0,00000157

Reg: 104 Rampa (PTV47 - PIV471)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV47	487	57,284		
			-2,7900	60,0000
PIV471	490	55,610		

Reg: 105 Rampa (PIV471 - PCV48)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV471	490	55,610		
			-2,5818	15,0000
PCV48	490+15,000	55,223		

Reg: 106 Parábola (PCV48 - PTV48)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV48	490+15,000	55,223		
			-2,5818	
PIV	495+10,00	52,770		190,0000
			4,9632	
PTV48	500+5,000	57,485		

Raio Vertical:	2.518,2320	Dist. Externa:	-1,7919
Constante:	-0,00019855	K:	-0,00000199

Reg: 107 Rampa (PTV48 - PCV49)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV48	500+5,000	57,485		
			4,9632	35,0000
PCV49	502	59,222		

Reg: 108 Parábola (PCV49 - PTV49)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV49	502	59,222		
			4,9632	
PIV	505	62,200		120,0000
			5,6250	
PTV49	508	65,575		

Raio Vertical:	18.131,2127	Dist. Externa:	-0,0993
Constante:	-0,00002758	K:	-0,00000028

Reg: 109 Rampa (PTV49 - PCV50)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV49	508	65,575		
			5,6250	80,0000
PCV50	512	70,075		

Reg: 110 Parábola (PCV50 - PTV50)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV50	512	70,075		
			5,6250	
PIV	515	73,450		120,0000
			-1,4038	
PTV50	518	72,608		

Raio Vertical:	-1.707,2503	Dist. Externa:	1,0543
Constante:	0,00029287	K:	0,00000293

Reg: 111 Rampa (PTV50 - PCV51)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV50	518	72,608		
			-1,4038	140,0000
PCV51	525	70,642		

Reg: 112 Parábola (PCV51 - PTV51)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV51	525	70,642		
			-1,4038	
PIV	528	69,800		120,0000
			-5,5100	
PTV51	531	66,494		

Raio Vertical:	-2.922,4429	Dist. Externa:	0,6159
Constante:	0,00017109	K:	0,00000171

Reg: 113 Rampa (PTV51 - PCV52)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV51	531	66,494		
			-5,5100	60,0000
PCV52	534	63,188		

Reg: 114 Parábola (PCV52 - PTV52)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV52	534	63,188		
			-5,5100	
PIV	538	58,780		160,0000
			7,7969	
PTV52	542	65,018		

Raio Vertical:	1.202,3816	Dist. Externa:	-2,6614
Constante:	-0,00041584	K:	-0,00000416

Reg: 115 Rampa (PTV52 - PIV521)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV52	542	65,018		
			7,7969	50,0000
PIV521	544+10,000	68,916		

Reg: 116 Rampa (PIV521 - PCV53)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV521	544+10,000	68,916		
			8,2130	38,0000
PCV53	546+8,000	72,037		

Reg: 117 Parábola (PCV53 - PTV53)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV53	546+8,000	72,037		
			8,2130	
PIV	551+8,00	80,250		200,0000
			-6,4307	
PTV53	556+8,000	73,819		

Raio Vertical:	-1.365,7689	Dist. Externa:	3,6609
Constante:	0,00036609	K:	0,00000366

Reg: 118 Rampa (PTV53 - PCV54)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV53	556+8,000	73,819		
			-6,4307	162,0000
PCV54	564+10,000	63,402		

Reg: 119 Parábola (PCV54 - PTV54)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV54	564+10,000	63,402		
			-6,4307	
PIV	568	58,900		140,0000
			5,9677	
PTV54	571+10,000	63,077		

Raio Vertical:	1.129,1721	Dist. Externa:	-2,1697
Constante:	-0,00044280	K:	-0,00000443

Reg: 120 Rampa (PTV54 - PCV55)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV54	571+10,000	63,077		
			5,9677	66,0000
PCV55	574+16,000	67,016		

Reg: 121 Parábola (PCV55 - PTV55)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV55	574+16,000	67,016		
			5,9677	
PIV	577+6,00	70,000		100,0000
			1,7549	
PTV55	579+16,000	70,877		

Raio Vertical:	-2.373,6957	Dist. Externa:	0,5266
Constante:	0,00021064	K:	0,00000211

Reg: 122 Rampa (PTV55 - PCV56)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV55	579+16,000	70,877		
			1,7549	104,0000
PCV56	585	72,703		

Reg: 123 Parábola (PCV56 - PTV56)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV56	585	72,703		
			1,7549	
PIV	587+10,00	73,580		100,0000
			-2,4356	
PTV56	590	72,362		

Raio Vertical:	-2.386,3743	Dist. Externa:	0,5238
Constante:	0,00020952	K:	0,00000210

Reg: 124 Rampa (PTV56 - PIV561)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV56	590	72,362		
			-2,4356	40,0000
PIV561	592	71,388		

Reg: 125 Rampa (PIV561 - PIV562)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV561	592	71,388		
			-1,9238	80,0000
PIV562	596	69,849		

Reg: 126 Rampa (PIV562 - PCV58)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV562	596	69,849		
			-2,3454	90,0000
PCV58	600+10,000	67,738		

Reg: 127 Parábola (PCV58 - PTV58)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV58	600+10,000	67,738		
			-2,3454	
PIV	602+10,00	66,800		80,0000
			0,2222	
PTV58	604+10,000	66,889		

Raio Vertical:	3.115,7418	Dist. Externa:	-0,2568
Constante:	-0,00016048	K:	-0,00000160

Reg: 128 Rampa (PTV58 - PCV59)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV58	604+10,000	66,889		
			0,2222	10,0000
PCV59	605	66,911		

Reg: 129 Parábola (PCV59 - PTV59)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV59	605	66,911		
			0,2222	
PIV	607	67,000		80,0000
			-5,4167	
PTV59	609	64,833		

Raio Vertical:	-1.418,7192	Dist. Externa:	0,5639
Constante:	0,00035243	K:	0,00000352

Reg: 130 Rampa (PTV59 - PIV591)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV59	609	64,833		
			-5,4167	20,0000
PIV591	610	63,750		

Reg: 131 Rampa (PIV591 - PIV592)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV591	610	63,750		
			-6,2700	40,0000
PIV592	612	61,242		

Reg: 132 Rampa (PIV592 - PCV60)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV592	612	61,242		
			-5,0525	10,0000
PCV60	612+10,000	60,737		

Reg: 133 Parábola (PCV60 - PTV60)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV60	612+10,000	60,737		
			-5,0525	
PIV	616	57,200		140,0000
			4,7200	
PTV60	619+10,000	60,504		

Raio Vertical:	1.432,5915	Dist. Externa:	-1,7102
Constante:	-0,00034902	K:	-0,00000349

Reg: 134 Rampa (PTV60 - PCV61)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV60	619+10,000	60,504		
			4,7200	110,0000
PCV61	625	65,696		

Reg: 135 Parábola (PCV61 - PTV61)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV61	625	65,696		
			4,7200	
PIV	628+10,00	69,000		140,0000
			-4,5962	
PTV61	632	65,783		

Raio Vertical:	-1.502,7661	Dist. Externa:	1,6303
Constante:	0,00033272	K:	0,00000333

Reg: 136 Rampa (PTV61 - PCV62)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV61	632	65,783		
			-4,5962	51,0000
PCV62	634+11,000	63,439		

Reg: 137 Parábola (PCV62 - PTV62)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV62	634+11,000	63,439		
			-4,5962	
PIV	636+6,00	61,830		70,0000
			0,4919	
PTV62	638+1,000	62,002		

Raio Vertical:	1.375,7772	Dist. Externa:	-0,4452
Constante:	-0,00036343	K:	-0,00000363

Reg: 138 Rampa (PTV62 - V63)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV62	638+1,000	62,002		
			0,4919	70,7170
V63	641+11,717	62,350		

Reg: 1 Rampa (V0 - PCV1)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
V0	0	18,550		
			-6,7875	20,0000
PCV1	1	17,193		

Reg: 2 Parábola (PCV1 - PTV1)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV1	1	17,193		
			-6,7875	
PIV	2	15,835		40,0000
			-1,7972	
PTV1	3	15,476		

Raio Vertical:	801,5586	Dist. Externa:	-0,2495
Constante:	-0,00062378	K:	-0,00000624

Reg: 3 Rampa (PTV1 - PCV6)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV1	3	15,476		
			-1,7972	140,0000
PCV6	10	12,959		

Reg: 4 Parábola (PCV6 - PTV6)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PCV6	10	12,959		
			-1,7972	
PIV	11	12,600		40,0000
			-0,9002	
PTV6	12	12,420		

Raio Vertical:	4.459,0626	Dist. Externa:	-0,0449
Constante:	-0,00011213	K:	-0,00000112

Reg: 5 Rampa (PTV6 - V7)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PTV6	12	12,420		
			-0,9002	7,2170
V7	12+7,217	12,355		

Reg: 1 Rampa (V0 - PIV1)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
V0	0	28,295		
			1,6925	40,0000
PIV1	2	28,972		

Reg: 2 Rampa (PIV1 - PIV2)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV1	2	28,972		
			2,7500	40,0000
PIV2	4	30,072		

Reg: 3 Rampa (PIV2 - PIV3)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV2	4	30,072		
			3,9513	80,0000
PIV3	8	33,233		

Reg: 4 Rampa (PIV3 - V4)

Ponto Notável	Estaca	Cota	Rampa (%)	Extensão
PIV3	8	33,233		
			3,8900	20,0000
V4	9	34,011		

ANEXO III – PLANILHAS DE NOTAS DE SERVIÇO

RW – ENGENHEIROS CONSULTORES S/S



Av. Santos Dumont, 1343 - Sala 103 / Cep: 60.150-160 - Aldeota
CNPJ 04072015/0001-16 / Fone: (85) 3226.5103 - Fortaleza - Ceará
rwconsultores@secrel.com.br; rwconsultores1343@gmail.com

RW Engenheiros Consultores S/S
 Rodovia: SE-160 - Riachuelo
 Trecho: Eixo Principal - 1º Trecho
 Eixo Principal

Estaca	NOTA DE SERVIÇO DE SUB-BASE - EIXO PRINCIPAL														
	Lado Esquerdo						Eixo			Lado Direito					
	Offset			Bordo			Cota Terreno	Cota Projeto	Cota Verm.	Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%				%	Dist.	Cota	Dist.	Cota	Altura
2+0,00	-0,389	18,393	5,43	18,782	4,85	-2,0	18,832	18,879	-0,047	-2,0	4,85	18,782	4,89	18,819	0,037
2+4,285	-0,417	18,608	5,48	19,025	4,85	-2,0	19,071	19,122	-0,051	-2,0	4,85	19,025	4,91	19,082	0,057
3+0,00	-0,382	19,459	5,42	19,841	4,85	-2,0	19,930	19,938	-0,008	-2,0	4,85	19,841	5,07	20,066	0,225
3+11,447	-0,244	20,113	5,22	20,357	4,85	-2,0	20,456	20,454	0,002	-2,0	4,85	20,357	4,86	20,371	0,014
4+0,00	-0,113	20,587	5,02	20,700	4,85	-2,0	20,805	20,797	0,008	-2,0	4,85	20,700	4,85	20,701	0,001
5+0,00	0,192	21,552	5,04	21,360	4,85	-2,0	21,445	21,457	-0,012	-2,0	4,85	21,360	4,89	21,403	0,043
6+0,00	0,164	21,984	5,01	21,820	4,85	-2,0	21,890	21,917	-0,027	-2,0	4,85	21,820	5,00	21,720	-0,100
7+0,00	0,507	22,587	5,36	22,080	4,85	-2,0	22,229	22,177	0,052	-2,0	4,85	22,080	4,86	22,088	0,008
7+16,636	0,414	22,558	5,26	22,144	4,85	-2,0	22,323	22,241	0,082	-2,0	4,85	22,144	5,01	22,301	0,157
8+0,00	0,347	22,487	5,20	22,140	4,85	-2,0	22,308	22,237	0,071	-2,0	4,85	22,140	5,02	22,306	0,166
9+0,00	0,071	22,072	4,92	22,001	4,85	-2,0	22,151	22,098	0,053	-2,0	4,85	22,001	5,00	22,155	0,154
10+0,00	-0,059	21,602	4,94	21,661	4,85	-2,0	21,767	21,758	0,009	-2,0	4,85	21,661	5,01	21,824	0,163
11+0,00	-0,382	20,740	5,42	21,122	4,85	-2,0	21,165	21,219	-0,054	-2,0	4,85	21,122	4,91	21,179	0,057
12+0,00	-2,212	18,171	8,17	20,383	4,85	-2,0	20,421	20,480	-0,059	-2,0	4,85	20,383	4,92	20,453	0,070
13+0,00	-1,346	18,198	6,87	19,544	4,85	-2,0	19,645	19,641	0,004	-2,0	4,85	19,544	4,86	19,555	0,011
14+0,00	-1,573	17,132	7,21	18,705	4,85	-2,0	18,839	18,802	0,037	-2,0	4,85	18,705	4,96	18,632	-0,073
15+0,00	-0,764	17,102	6,00	17,866	4,85	-2,0	17,938	17,963	-0,025	-2,0	4,85	17,866	5,20	17,635	-0,231
16+0,00	-0,406	16,620	5,46	17,026	4,85	-2,0	17,114	17,123	-0,009	-2,0	4,85	17,026	5,34	16,698	-0,328
17+0,00	-0,419	15,768	5,48	16,187	4,85	-2,0	16,226	16,284	-0,058	-2,0	4,85	16,187	5,68	15,636	-0,551
18+0,00	-0,332	15,016	5,35	15,348	4,85	-2,0	15,388	15,445	-0,057	-2,0	4,85	15,348	5,41	14,975	-0,373
19+0,00	-0,120	14,389	5,03	14,509	4,85	-2,0	14,517	14,606	-0,089	-2,0	4,85	14,509	4,99	14,646	0,137
20+0,00	-0,049	13,621	4,92	13,670	4,85	-2,0	13,681	13,767	-0,086	-2,0	4,85	13,670	4,86	13,663	-0,007
21+0,00	-0,016	12,983	4,87	12,999	4,85	-2,0	13,093	13,096	-0,003	-2,0	4,85	12,999	4,90	12,967	-0,032
22+0,00	0,049	12,714	4,90	12,665	4,85	-2,0	12,788	12,762	0,026	-2,0	4,85	12,665	4,87	12,649	-0,016
23+0,00	-0,211	12,457	5,17	12,668	4,85	-2,0	12,797	12,765	0,032	-2,0	4,85	12,668	5,22	12,421	-0,247
24+0,00	-0,467	12,540	5,55	13,007	4,85	-2,0	13,119	13,104	0,015	-2,0	4,85	13,007	5,40	12,643	-0,364
25+0,00	-0,283	13,400	5,27	13,683	4,85	-2,0	13,801	13,780	0,021	-2,0	4,85	13,683	5,68	13,132	-0,551
26+0,00	-0,437	14,258	5,51	14,695	4,85	-2,0	14,739	14,792	-0,053	-2,0	4,85	14,695	5,86	14,019	-0,676
27+0,00	-0,532	15,344	5,65	15,876	4,85	-2,0	15,925	15,973	-0,048	-2,0	4,85	15,876	5,27	15,593	-0,283
28+0,00	-0,327	16,730	5,34	17,057	4,85	-2,0	17,154	17,154	0,000	-2,0	4,85	17,057	5,22	16,812	-0,245
29+0,00	-0,163	18,075	5,09	18,238	4,85	-2,0	18,315	18,335	-0,020	-1,0	4,85	18,287	5,22	18,039	-0,248
29+10,00	-0,078	18,750	4,97	18,828	4,85	-2,0	18,922	18,925	-0,003	-0,5	4,85	18,903	5,17	18,687	-0,216
29+19,00	0,023	19,406	4,87	19,383	4,85	-2,0	19,471	19,480	-0,009	0,0	4,85	19,480	4,95	19,583	0,103
30+0,00	0,023	19,466	4,88	19,443	4,86	-2,0	19,532	19,542	-0,010	0,1	4,85	19,544	5,05	19,749	0,205
31+0,00	-0,251	20,398	5,36	20,649	4,98	-2,5	20,770	20,775	-0,005	1,1	4,85	20,826	4,98	20,959	0,133
32+0,00	-0,263	21,590	5,50	21,853	5,11	-3,0	22,007	22,008	-0,001	2,1	4,85	22,107	5,19	21,880	-0,227
32+18,00	-0,088	22,848	5,35	22,936	5,22	-3,5	23,094	23,118	-0,024	3,0	4,85	23,261	5,23	23,009	-0,252
33+0,00	-0,141	22,914	5,44	23,055	5,23	-3,5	23,201	23,239	-0,038	3,1	4,85	23,387	5,28	23,102	-0,285
33+19,00	-1,056	22,988	6,93	24,044	5,35	-4,0	24,186	24,258	-0,072	4,0	4,85	24,452	5,21	24,209	-0,243
34+0,00	-1,144	22,947	7,07	24,091	5,35	-4,0	24,230	24,305	-0,075	4,0	4,85	24,499	5,21	24,259	-0,240
35+0,00	-2,268	22,609	8,75	24,877	5,35	-4,0	25,085	25,091	-0,006	4,0	4,85	25,285	5,17	25,073	-0,212
36+0,00	-1,422	23,961	7,48	25,383	5,35	-4,0	25,681	25,597	0,084	4,0	4,85	25,791	5,01	25,686	-0,105
37+0,00	-0,611	24,998	6,27	25,609	5,35	-4,0	25,933	25,823	0,110	4,0	4,85	26,017	4,95	26,118	0,101
38+0,00	-0,036	25,520	5,40	25,556	5,35	-4,0	25,830	25,770	0,060	4,0	4,85	25,964	4,94	26,049	0,085
39+0,00	0,316	25,539	5,67	25,223	5,35	-4,0	25,352	25,437	-0,085	4,0	4,85	25,631	4,94	25,571	-0,060
40+0,00	0,013	24,644	4,86	24,631	4,85	-4,0	24,702	24,825	-0,123	4,0	4,85	25,019	5,08	24,865	-0,154
40+18,00	0,110	23,995	3,85	23,885	3,74	-4,0	23,956	24,035	-0,079	4,0	5,11	24,239	5,51	23,975	-0,264
41+0,00	0,106	23,891	3,85	23,785	3,74	-4,0	23,856	23,934	-0,078	4,0	5,11	24,139	5,56	23,842	-0,297
41+16,03	1,639	24,555	6,99	22,916	5,35	-4,0	23,091	23,130	-0,039	4,0	4,85	23,324	5,20	23,093	-0,231
42+0,00	0,791	23,514	6,10	22,723	5,31	-3,9	22,908	22,931	-0,023	3,8	4,85	23,115	5,09	22,952	-0,163
43+0,00	0,637	22,390	5,74	21,753	5,10	-3,4	21,905	21,927	-0,022	2,8	4,85	22,063	5,13	21,877	-0,186
44+0,00	0,257	21,064	4,26	20,807	4,00	-2,9	20,856	20,923	-0,067	1,8	4,85	21,010	5,32	20,694	-0,316
45+0,00	0,215	20,018	5,06	19,803	4,85	-2,4	19,830	19,919	-0,089	0,8	4,85	19,958	5,49	19,534	-0,424
45+16,03	0,209	19,226	5,06	19,017	4,85	-2,0	19,053	19,114	-0,061	0,0	4,85	19,114	5,41	18,742	-0,372
46+0,00	0,226	19,044	5,08	18,818	4,85	-2,0	18,852	18,915	-0,063	-0,2	4,85	18,907	5,46	18,498	-0,409
47+0,00	0,304	18,118	5,15	17,814	4,85	-2,0	17,834	17,911	-0,077	-1,1	4,85	17,859	5,51	17,421	-0,438
48+0,00	0,088	16,947	4,94	16,859	4,85	-2,0	16,860	16,956	-0,096	-2,0	4,85	16,859	5,94	16,135	-0,724
49+0,00	0,179	16,181	5,03	16,002	4,85	-2,0	16,053	16,099	-0,046	-2,0	4,85	16,002	6,05	15,202	-0,800

RW Engenheiros Consultores S/S
 Rodovia: SE-160 - Riachuelo
 Trecho: Eixo Principal - 1º Trecho
 Eixo Principal

Estaca	NOTA DE SERVIÇO DE SUB-BASE - EIXO PRINCIPAL														
	Lado Esquerdo						Eixo			Lado Direito					
	Offset			Bordo			Cota Terreno	Cota Projeto	Cota Verm.	Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%				%	Dist.	Cota	Dist.	Cota	Altura
50+0,00	0,204	15,447	5,05	15,243	4,85	-2,0	15,277	15,340	-0,063	-2,0	4,85	15,243	6,10	14,408	-0,835
51+0,00	-0,001	14,580	4,85	14,581	4,85	-2,0	14,628	14,678	-0,050	-2,0	4,85	14,581	6,01	13,806	-0,775
52+0,00	-0,173	13,843	5,11	14,016	4,85	-2,0	14,126	14,113	0,013	-2,0	4,85	14,016	6,48	12,932	-1,084
53+0,00	-0,030	13,520	4,90	13,550	4,85	-2,0	13,655	13,647	0,008	-2,0	4,85	13,550	4,90	13,516	-0,034
54+0,00	-0,194	12,938	5,14	13,132	4,85	-2,0	13,220	13,229	-0,009	-2,0	4,85	13,132	5,12	12,953	-0,179
55+0,00	-0,163	12,599	5,09	12,762	4,85	-2,0	12,848	12,859	-0,011	-2,0	4,85	12,762	5,15	12,563	-0,199
56+0,00	-0,430	12,057	5,49	12,487	4,85	-2,0	12,568	12,584	-0,016	-2,0	4,85	12,487	5,27	12,205	-0,282
57+0,00	-0,798	11,509	6,05	12,307	4,85	-2,0	12,288	12,404	-0,116	-2,0	4,85	12,307	5,24	12,044	-0,263
58+0,00	-0,347	11,876	5,37	12,223	4,85	-2,0	12,227	12,320	-0,093	-2,0	4,85	12,223	5,39	11,866	-0,357
59+0,00	-0,192	12,041	5,14	12,233	4,85	-2,0	12,339	12,330	0,009	-2,0	4,85	12,233	5,62	11,717	-0,516
60+0,00	-0,129	12,162	5,04	12,291	4,85	-2,0	12,382	12,388	-0,006	-2,0	4,85	12,291	5,84	11,634	-0,657
61+0,00	0,070	12,419	4,92	12,349	4,85	-2,0	12,456	12,446	0,010	-2,0	4,85	12,349	4,96	12,278	-0,071
62+0,00	0,120	12,528	4,97	12,408	4,85	-2,0	12,487	12,505	-0,018	-1,3	4,85	12,442	4,93	12,518	0,076
63+0,00	0,067	12,533	4,92	12,466	4,85	-2,0	12,493	12,563	-0,070	-0,6	4,85	12,534	5,01	12,429	-0,105
63+17,11	0,004	12,519	4,85	12,515	4,85	-2,0	12,534	12,612	-0,078	0,0	4,85	12,612	5,12	12,429	-0,183
64+0,00	-0,012	12,510	4,89	12,522	4,87	-2,0	12,548	12,621	-0,073	0,1	4,85	12,626	5,11	12,450	-0,176
65+0,00	-0,034	12,531	5,04	12,565	4,99	-2,3	12,646	12,679	-0,033	0,9	4,85	12,721	5,07	12,577	-0,144
66+0,00	-0,159	12,448	5,36	12,607	5,12	-2,5	12,737	12,737	0,000	1,6	4,85	12,815	5,42	12,437	-0,378
67+0,00	-0,249	12,419	5,62	12,668	5,24	-2,8	12,778	12,814	-0,036	2,4	4,85	12,929	6,46	11,859	-1,070
67+17,11	-0,595	12,125	6,24	12,720	5,35	-3,0	12,792	12,880	-0,088	3,0	4,85	13,026	10,70	9,125	-3,901
68+0,00	-0,617	12,114	6,28	12,731	5,35	-3,0	12,805	12,891	-0,086	3,0	4,85	13,037	10,71	9,130	-3,907
69+0,00	-0,757	12,051	6,48	12,808	5,35	-3,0	12,873	12,968	-0,095	3,0	4,85	13,114	8,44	10,724	-2,390
69+17,86	-0,747	12,130	6,47	12,877	5,35	-3,0	12,980	13,037	-0,057	3,0	4,85	13,183	6,31	12,207	-0,976
70+0,00	-0,739	12,148	6,45	12,887	5,34	-3,0	12,990	13,046	-0,056	2,9	4,85	13,187	6,44	12,127	-1,060
71+0,00	-1,282	11,699	7,14	12,981	5,21	-2,7	13,108	13,123	-0,015	2,2	4,85	13,228	6,52	12,112	-1,116
72+0,00	-0,597	12,477	5,98	13,074	5,09	-2,5	13,230	13,200	0,030	1,4	4,85	13,269	5,76	12,663	-0,606
73+0,00	-0,178	13,051	5,23	13,229	4,96	-2,2	13,400	13,340	0,060	0,7	4,85	13,372	5,33	13,051	-0,321
73+17,86	0,008	13,481	4,86	13,473	4,85	-2,0	13,616	13,570	0,046	0,0	4,85	13,570	5,00	13,468	-0,102
74+0,00	0,020	13,528	4,87	13,508	4,85	-2,0	13,645	13,605	0,040	-0,2	4,85	13,595	4,99	13,502	-0,093
75+0,00	-0,035	13,863	4,90	13,898	4,85	-2,0	13,989	13,995	-0,006	-2,0	4,85	13,898	4,96	13,826	-0,072
76+0,00	-0,047	14,366	4,92	14,413	4,85	-2,0	14,496	14,510	-0,014	-2,0	4,85	14,413	4,89	14,389	-0,024
77+0,00	-0,386	14,668	5,43	15,054	4,85	-2,0	15,131	15,151	-0,020	-2,0	4,85	15,054	4,99	14,960	-0,094
78+0,00	-0,525	15,295	5,64	15,820	4,85	-2,0	15,884	15,917	-0,033	-2,0	4,85	15,820	5,25	15,555	-0,265
79+0,00	-0,259	16,452	5,24	16,711	4,85	-2,0	16,755	16,808	-0,053	-2,0	4,85	16,711	5,51	16,273	-0,438
80+0,00	-0,030	17,635	4,90	17,665	4,85	-2,0	17,753	17,762	-0,009	-2,0	4,85	17,665	5,32	17,349	-0,316
81+0,00	-0,022	18,597	4,88	18,619	4,85	-2,0	18,688	18,716	-0,028	-1,1	4,85	18,661	5,14	18,468	-0,193
82+0,00	-0,055	19,505	4,93	19,560	4,85	-2,0	19,590	19,657	-0,067	-0,3	4,85	19,644	4,90	19,612	-0,032
82+6,033	-0,091	19,748	4,99	19,839	4,85	-2,0	19,857	19,936	-0,079	0,0	4,85	19,936	5,02	19,824	-0,112
83+0,00	-0,293	20,147	5,41	20,440	4,97	-2,7	20,460	20,574	-0,114	1,2	4,85	20,631	5,57	20,148	-0,483
84+0,00	-0,296	20,981	5,58	21,277	5,13	-3,7	21,342	21,467	-0,125	2,8	4,85	21,604	5,77	20,990	-0,614
85+0,00	-0,050	22,036	5,38	22,086	5,30	-4,7	22,282	22,335	-0,053	4,5	4,85	22,553	5,47	22,143	-0,410
85+6,033	-0,017	22,308	5,38	22,325	5,35	-5,0	22,553	22,592	-0,039	5,0	4,85	22,835	5,51	22,394	-0,441
86+0,00	0,004	22,915	5,35	22,911	5,35	-5,0	23,151	23,179	-0,028	5,0	4,85	23,421	5,41	23,045	-0,376
87+0,00	0,640	24,383	5,99	23,743	5,35	-5,0	23,974	24,011	-0,037	5,0	4,85	24,253	5,19	24,023	-0,230
88+0,00	0,687	25,262	6,04	24,575	5,35	-5,0	24,808	24,842	-0,034	5,0	4,85	25,085	5,14	24,893	-0,192
89+0,00	0,591	25,997	5,94	25,406	5,35	-5,0	25,588	25,674	-0,086	5,0	4,85	25,916	5,13	25,731	-0,185
90+0,00	0,341	26,579	5,69	26,238	5,35	-5,0	26,390	26,505	-0,115	5,0	4,85	26,748	5,33	26,431	-0,317
91+0,00	0,240	27,309	5,59	27,069	5,35	-5,0	27,236	27,337	-0,101	5,0	4,85	27,579	5,13	27,394	-0,185
92+0,00	0,142	28,133	5,49	27,991	5,35	-5,0	28,237	28,259	-0,022	5,0	4,85	28,501	4,98	28,413	-0,088
93+0,00	-0,250	28,844	5,72	29,094	5,35	-5,0	29,350	29,362	-0,012	5,0	4,85	29,604	5,30	29,303	-0,301
93+8,133	-1,220	28,375	7,18	29,595	5,35	-5,0	29,841	29,862	-0,021	5,0	4,85	30,105	5,50	29,672	-0,433
94+0,00	-1,241	29,174	7,11	30,415	5,25	-4,4	30,627	30,646	-0,019	4,0	4,85	30,841	5,48	30,422	-0,419
95+0,00	-0,825	31,113	6,32	31,938	5,08	-3,4	32,076	32,111	-0,035	2,3	4,85	32,225	5,40	31,856	-0,369
96+0,00	-0,799	32,749	6,12	33,548	4,92	-2,4	33,637	33,667	-0,030	0,7	4,85	33,700	5,28	33,411	-0,289
96+8,133	-1,027	33,175	6,39	34,202	4,85	-2,0	34,274	34,299	-0,025	0,0	4,85	34,299	5,42	33,920	-0,379
97+0,00	-0,893	34,232	6,19	35,125	4,85	-2,0	35,155	35,222	-0,067	-0,5	4,85	35,200	5,24	34,941	-0,259
98+0,00	-0,861	35,820	6,14	36,681	4,85	-2,0	36,663	36,778	-0,115	-1,2	4,85	36,718	5,18	36,497	-0,221
99+0,00	-1,062	37,174	6,44	38,236	4,85	-2,0	38,222	38,333	-0,111	-2,0	4,85	38,236	5,23	37,979	-0,257

RW Engenheiros Consultores S/S
 Rodovia: SE-160 - Riachuelo
 Trecho: Eixo Principal - 1º Trecho
 Eixo Principal

Estaca	NOTA DE SERVIÇO DE SUB-BASE - EIXO PRINCIPAL														
	Lado Esquerdo						Eixo			Lado Direito					
	Offset			Bordo			Cota Terreno	Cota Projeto	Cota Verm.	Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%				%	Dist.	Cota	Dist.	Cota	Altura
100+0,00	-0,807	38,985	6,06	39,792	4,85	-2,0	39,806	39,889	-0,083	-2,0	4,85	39,792	5,18	39,573	-0,219
101+0,00	-0,520	40,870	5,63	41,390	4,85	-2,0	41,445	41,487	-0,042	-2,0	4,85	41,390	5,05	41,260	-0,130
102+0,00	-0,461	42,610	5,54	43,071	4,85	-2,0	43,137	43,168	-0,031	-2,0	4,85	43,071	5,02	42,959	-0,112
103+0,00	-0,352	44,526	5,38	44,878	4,85	-1,2	44,888	44,935	-0,047	-2,0	4,85	44,838	4,96	44,767	-0,071
104+0,00	-0,140	46,629	5,06	46,769	4,85	-0,3	46,771	46,785	-0,014	-2,0	4,85	46,688	4,91	46,647	-0,041
104+7,75	-0,076	47,432	4,96	47,508	4,85	0,0	47,546	47,508	0,038	-2,0	4,85	47,411	4,89	47,382	-0,029
105+0,00	-0,282	48,384	5,27	48,666	4,85	1,2	48,648	48,607	0,041	-2,8	4,97	48,467	4,98	48,459	-0,008
106+0,00	-0,866	49,577	6,15	50,443	4,85	3,2	50,319	50,287	0,032	-4,2	5,17	50,072	5,58	49,798	-0,274
107+0,00	-1,344	50,735	6,87	52,079	4,85	5,2	51,808	51,825	-0,017	-5,5	5,37	51,531	6,11	51,041	-0,490
107+7,75	-1,154	51,521	6,58	52,675	4,85	6,0	52,336	52,384	-0,048	-6,0	5,45	52,057	5,95	51,723	-0,334
108+0,00	-0,648	52,865	5,82	53,513	4,85	6,0	53,197	53,222	-0,025	-6,0	5,45	52,895	6,30	52,325	-0,570
109+0,00	-0,245	54,594	5,22	54,839	4,85	6,0	54,545	54,548	-0,003	-6,0	5,45	54,221	6,09	53,797	-0,424
110+0,00	-0,132	56,094	5,05	56,226	4,85	6,0	55,916	55,935	-0,019	-6,0	5,45	55,608	5,56	55,532	-0,076
111+0,00	-0,166	57,570	5,10	57,736	4,85	6,0	57,441	57,445	-0,004	-6,0	5,45	57,118	5,46	57,131	0,013
112+0,00	-0,120	59,249	5,03	59,369	4,85	6,0	59,181	59,078	0,103	-6,0	5,45	58,751	5,50	58,804	0,053
113+0,00	0,004	61,128	4,85	61,124	4,85	6,0	61,003	60,833	0,170	-6,0	5,45	60,506	5,58	60,641	0,135
113+2,07	-0,015	61,297	4,87	61,312	4,85	6,0	61,180	61,021	0,159	-6,0	5,45	60,694	5,58	60,824	0,130
114+0,00	-0,035	62,732	4,90	62,767	4,85	4,2	62,628	62,563	0,065	-4,8	5,27	62,309	5,44	62,483	0,174
115+0,00	-0,019	64,205	4,88	64,224	4,85	2,2	64,132	64,117	0,015	-3,5	5,07	63,941	5,07	63,945	0,004
116+0,00	0,126	65,719	4,98	65,593	4,85	0,2	65,576	65,583	-0,007	-2,1	4,87	65,479	4,91	65,516	0,037
116+2,07	0,136	65,872	4,99	65,736	4,85	0,0	65,725	65,736	-0,011	-2,0	4,85	65,639	4,86	65,650	0,011
117+0,00	0,448	67,476	5,30	67,028	4,85	-1,0	67,026	67,074	-0,048	-2,0	4,85	66,977	4,92	66,932	-0,045
118+0,00	0,955	69,472	5,81	68,517	4,85	-2,0	68,525	68,614	-0,089	-2,0	4,85	68,517	4,91	68,476	-0,041
119+0,00	0,552	70,657	5,40	70,105	4,85	-2,0	70,130	70,202	-0,072	-2,0	4,85	70,105	4,86	70,098	-0,007
120+0,00	0,422	72,164	5,27	71,742	4,85	-2,0	71,772	71,839	-0,067	-2,0	4,85	71,742	4,85	71,742	0,000
121+0,00	0,373	73,801	5,22	73,428	4,85	-2,0	73,392	73,525	-0,133	-2,0	4,85	73,428	4,97	73,348	-0,080
122+0,00	0,099	75,133	4,95	75,034	4,85	-2,0	74,960	75,131	-0,171	-2,0	4,85	75,034	5,18	74,813	-0,221
123+0,00	0,201	76,632	5,05	76,431	4,85	-2,0	76,441	76,528	-0,087	-2,0	4,85	76,431	5,11	76,257	-0,174
124+0,00	0,293	77,914	5,14	77,621	4,85	-2,0	77,729	77,718	0,011	-2,0	4,85	77,621	5,00	77,524	-0,097
125+0,00	-0,025	78,576	4,89	78,601	4,85	-2,0	78,747	78,698	0,049	-2,0	4,85	78,601	5,09	78,443	-0,158
126+0,00	-0,159	79,215	5,09	79,374	4,85	-2,0	79,492	79,471	0,021	-2,0	4,85	79,374	5,31	79,070	-0,304
127+0,00	-0,316	79,726	5,32	80,042	4,85	-2,0	80,116	80,139	-0,023	-2,0	4,85	80,042	5,97	79,295	-0,747
128+0,00	-0,383	80,328	5,42	80,711	4,85	-2,0	80,789	80,808	-0,019	-2,0	4,85	80,711	5,86	80,038	-0,673
129+0,00	-0,190	81,189	5,13	81,379	4,85	-2,0	81,467	81,476	-0,009	-2,0	4,85	81,379	5,45	80,976	-0,403
130+0,00	0,059	82,107	4,91	82,048	4,85	-2,0	82,140	82,145	-0,005	-2,0	4,85	82,048	5,99	81,286	-0,762
131+0,00	-0,101	82,615	5,00	82,716	4,85	-2,0	82,822	82,813	0,009	-2,0	4,85	82,716	5,68	82,160	-0,556
132+0,00	-0,149	83,275	5,07	83,424	4,85	-2,0	83,547	83,521	0,026	-2,0	4,85	83,424	5,23	83,172	-0,252
133+0,00	0,035	84,167	4,89	84,132	4,85	-2,0	84,259	84,229	0,030	-2,0	4,85	84,132	5,18	83,912	-0,220
134+0,00	-0,176	84,664	5,11	84,840	4,85	-2,0	84,909	84,937	-0,028	-2,0	4,85	84,840	5,58	84,350	-0,490
135+0,00	-0,329	85,219	5,34	85,548	4,85	-2,0	85,561	85,645	-0,084	-1,2	4,85	85,588	5,97	84,843	-0,745
136+0,00	-0,426	85,830	5,49	86,256	4,85	-2,0	86,244	86,353	-0,109	-0,4	4,85	86,336	6,29	85,373	-0,963
136+8,59	-0,414	86,146	5,47	86,560	4,85	-2,0	86,568	86,657	-0,089	0,0	4,85	86,657	7,35	84,993	-1,664
137+0,00	-0,188	86,754	5,20	86,942	4,91	-2,4	86,990	87,061	-0,071	0,7	4,85	87,096	6,29	86,138	-0,958
138+0,00	-0,008	87,601	5,04	87,609	5,03	-3,2	87,738	87,769	-0,031	2,0	4,85	87,864	5,60	87,362	-0,502
139+0,00	0,024	88,299	5,16	88,275	5,14	-3,9	88,516	88,477	0,039	3,2	4,85	88,633	5,21	88,391	-0,242
140+0,00	0,086	89,025	5,34	88,939	5,25	-4,7	89,250	89,185	0,065	4,5	4,85	89,401	5,51	88,962	-0,439
140+8,59	0,089	89,313	5,39	89,224	5,30	-5,0	89,543	89,489	0,054	5,0	4,85	89,732	5,43	89,345	-0,387
140+10,00	0,083	89,357	5,38	89,274	5,30	-5,0	89,590	89,539	0,051	5,0	4,85	89,782	5,41	89,412	-0,370
141+0,00	0,061	89,706	5,36	89,645	5,30	-5,0	89,945	89,910	0,035	5,0	4,85	90,152	5,36	89,814	-0,338
142+0,00	-0,033	90,353	5,35	90,386	5,30	-5,0	90,632	90,651	-0,019	5,0	4,85	90,894	5,42	90,515	-0,379
143+0,00	0,167	91,295	5,47	91,128	5,30	-5,0	91,307	91,393	-0,086	5,0	4,85	91,635	5,57	91,156	-0,479
144+0,00	-0,165	91,704	5,55	91,869	5,30	-5,0	91,992	92,134	-0,142	5,0	4,85	92,377	5,62	91,864	-0,513
144+10,00	-0,242	91,998	5,66	92,240	5,30	-5,0	92,346	92,505	-0,159	5,0	4,85	92,747	5,60	92,250	-0,497
145+0,00	-0,164	92,420	5,55	92,584	5,30	-5,0	92,713	92,849	-0,136	5,0	4,85	93,091	5,59	92,597	-0,494
146+0,00	-0,060	93,051	5,39	93,111	5,30	-5,0	93,342	93,376	-0,034	5,0	4,85	93,619	5,62	93,103	-0,516
147+0,00	0,097	93,522	5,40	93,425	5,30	-5,0	93,784	93,690	0,094	5,0	4,85	93,932	5,83	93,276	-0,656
148+0,00	0,199	93,723	5,50	93,524	5,30	-5,0	93,675	93,789	-0,114	5,0	4,85	94,031	7,13	92,509	-1,522
149+0,00	0,059	93,468	5,36	93,409	5,30	-5,0	92,765	93,674	-0,909	5,0	4,85	93,916	9,46	90,844	-3,072

RW Engenheiros Consultores S/S
 Rodovia: SE-160 - Riachuelo
 Trecho: Eixo Principal - 1º Trecho
 Eixo Principal

Estaca	NOTA DE SERVIÇO DE SUB-BASE - EIXO PRINCIPAL														
	Lado Esquerdo						Eixo			Lado Direito					
	Offset			Bordo			Cota Terreno	Cota Projeto	Cota Verm.	Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%				%	Dist.	Cota	Dist.	Cota	Altura
149+1,44	0,045	93,437	5,35	93,392	5,30	-5,0	92,699	93,657	-0,958	5,0	4,85	93,900	9,44	90,843	-3,057
150+0,00	-0,081	93,055	4,97	93,136	4,85	-4,3	92,429	93,345	-0,916	3,8	4,85	93,531	8,94	90,805	-2,726
151+0,00	-0,028	92,601	4,89	92,629	4,85	-3,6	92,606	92,802	-0,196	2,6	4,85	92,927	6,59	91,767	-1,160
151+10,00	0,017	92,313	4,87	92,296	4,85	-3,2	92,505	92,450	0,055	2,0	5,10	92,550	6,08	91,900	-0,650
152+0,00	-0,020	91,915	4,88	91,935	4,85	-2,8	92,091	92,071	0,020	1,3	5,35	92,143	6,09	91,648	-0,495
153+0,00	-0,048	91,100	4,92	91,148	4,85	-2,1	91,233	91,248	-0,015	0,1	4,88	91,253	5,35	90,944	-0,309
153+1,44	-0,044	91,042	4,92	91,086	4,85	-2,0	91,171	91,183	-0,012	0,0	4,85	91,183	5,26	90,912	-0,271
154+0,00	0,048	90,243	4,90	90,195	4,85	-2,0	90,273	90,292	-0,019	-1,0	4,85	90,246	4,86	90,237	-0,009
155+0,00	1,004	90,111	5,85	89,107	4,85	-2,0	89,189	89,204	-0,015	-2,0	4,85	89,107	4,98	89,238	0,131
156+0,00	0,015	87,902	4,87	87,887	4,85	-2,0	87,977	87,984	-0,007	-2,0	4,85	87,887	5,01	88,048	0,161
157+0,00	0,082	86,616	4,93	86,534	4,85	-2,0	86,625	86,631	-0,006	-2,0	4,85	86,534	5,31	86,999	0,465
158+0,00	0,165	85,214	5,02	85,049	4,85	-2,0	85,161	85,146	0,015	-2,0	4,85	85,049	5,71	85,905	0,856
158+10,00	0,169	84,442	5,02	84,273	4,85	-2,0	84,400	84,370	0,030	-2,0	4,85	84,273	5,90	85,319	1,046
159+0,00	0,354	83,844	5,20	83,490	4,85	-2,0	83,579	83,587	-0,008	-2,0	4,85	83,490	5,59	84,232	0,742
160+0,00	0,011	81,936	4,86	81,925	4,85	-2,0	81,972	82,022	-0,050	-2,0	4,85	81,925	5,14	82,215	0,290
161+0,00	0,210	80,569	5,06	80,359	4,85	-2,0	80,418	80,456	-0,038	-2,0	4,85	80,359	5,13	80,639	0,280
162+0,00	0,263	79,056	5,11	78,793	4,85	-2,0	78,892	78,890	0,002	-2,0	4,85	78,793	5,18	79,125	0,332
163+0,00	0,209	77,437	5,06	77,228	4,85	-2,0	77,292	77,325	-0,033	-2,0	4,85	77,228	5,00	77,377	0,149
164+0,00	-0,179	75,483	5,12	75,662	4,85	-2,0	75,672	75,759	-0,087	-2,0	4,85	75,662	4,96	75,770	0,108
165+0,00	-0,538	73,559	5,66	74,097	4,85	-2,0	74,112	74,194	-0,082	-2,0	4,85	74,097	4,89	74,140	0,043
166+0,00	-0,619	71,912	5,78	72,531	4,85	-2,0	72,558	72,628	-0,070	-2,0	4,85	72,531	5,09	72,371	-0,160
167+0,00	-0,520	70,445	5,63	70,965	4,85	-2,0	71,015	71,062	-0,047	-2,0	4,85	70,965	5,14	70,774	-0,191
168+0,00	-0,783	68,617	6,02	69,400	4,85	-2,0	69,440	69,497	-0,057	-2,0	4,85	69,400	5,04	69,271	-0,129
169+0,00	-0,949	66,900	6,27	67,849	4,85	-2,0	67,852	67,946	-0,094	-2,0	4,85	67,849	4,99	67,753	-0,096
170+0,00	-0,659	65,667	5,84	66,326	4,85	-2,0	66,334	66,423	-0,089	-2,0	4,85	66,326	4,97	66,248	-0,078
171+0,00	-0,649	64,183	5,82	64,832	4,85	-2,0	64,834	64,929	-0,095	-0,9	4,85	64,883	4,94	64,969	0,086
171+17,60	-0,190	63,347	5,13	63,537	4,85	-2,0	63,563	63,634	-0,071	0,0	4,85	63,634	4,95	63,735	0,101
172+0,00	-0,179	63,184	5,13	63,363	4,86	-2,1	63,402	63,463	-0,061	0,1	4,85	63,469	4,92	63,544	0,075
173+0,00	-0,036	61,863	5,04	61,899	4,99	-2,6	62,029	62,027	0,002	1,1	4,85	62,081	4,93	62,157	0,076
174+0,00	-0,051	60,411	5,19	60,462	5,11	-3,1	60,650	60,619	0,031	2,1	4,85	60,721	5,00	60,870	0,149
175+0,00	0,489	59,527	5,73	59,038	5,24	-3,6	59,296	59,225	0,071	3,1	4,85	59,376	5,01	59,540	0,164
175+17,60	0,908	58,688	6,26	57,780	5,35	-4,0	58,007	57,994	0,013	4,0	4,85	58,188	5,11	58,447	0,259
176+0,00	0,904	58,521	6,25	57,617	5,35	-4,0	57,819	57,831	-0,012	4,0	4,85	58,025	5,14	58,316	0,291
177+0,00	0,251	56,474	5,60	56,223	5,35	-4,0	56,404	56,437	-0,033	4,0	4,85	56,631	5,01	56,787	0,156
178+0,00	0,223	55,053	5,57	54,830	5,35	-4,0	55,062	55,044	0,018	4,0	4,85	55,238	4,94	55,323	0,085
179+0,00	0,081	53,517	5,43	53,436	5,35	-4,0	53,735	53,650	0,085	4,0	4,85	53,844	4,92	53,917	0,073
180+0,00	-0,001	52,041	5,35	52,042	5,35	-4,0	52,364	52,256	0,108	4,0	4,85	52,450	4,94	52,538	0,088
181+0,00	-0,179	50,469	5,62	50,648	5,35	-4,0	50,931	50,862	0,069	4,0	4,85	51,056	4,96	51,161	0,105
182+0,00	0,474	49,728	5,82	49,254	5,35	-4,0	49,485	49,468	0,017	4,0	4,85	49,662	4,85	49,662	0,000
183+0,00	0,349	48,210	5,70	47,861	5,35	-4,0	48,099	48,075	0,024	4,0	4,85	48,269	5,05	48,138	-0,131
184+0,00	0,142	46,609	5,49	46,467	5,35	-4,0	46,755	46,681	0,074	4,0	4,85	46,875	5,23	46,619	-0,256
184+3,40	0,149	46,378	5,50	46,229	5,35	-4,0	46,527	46,443	0,084	4,0	4,85	46,637	5,20	46,402	-0,235
185+0,00	0,024	45,123	5,27	45,099	5,25	-3,6	45,377	45,287	0,090	3,2	4,85	45,441	5,20	45,208	-0,233
186+0,00	-0,154	43,581	5,35	43,735	5,12	-3,1	43,905	43,893	0,012	2,2	4,85	43,999	5,63	43,477	-0,522
187+0,00	-0,681	41,689	6,02	42,370	5,00	-2,6	42,408	42,499	-0,091	1,2	4,85	42,556	6,06	41,750	-0,806
187+16,00	-1,708	39,569	7,46	41,277	4,90	-2,2	41,274	41,384	-0,110	0,4	4,85	41,402	5,88	40,712	-0,690
188+0,00	-2,010	39,000	7,89	41,010	4,87	-2,1	40,996	41,111	-0,115	0,2	4,85	41,119	5,78	40,499	-0,620
188+3,40	-2,282	38,508	8,27	40,790	4,85	-2,0	40,759	40,887	-0,128	0,0	4,85	40,887	5,71	40,314	-0,573
189+0,00	-1,673	38,141	7,36	39,814	4,85	-2,0	39,902	39,911	-0,009	-0,9	4,85	39,867	5,55	39,400	-0,467
190+0,00	-0,184	38,706	5,13	38,890	4,85	-2,0	38,982	38,987	-0,005	-2,0	4,85	38,890	5,55	38,425	-0,465
191+0,00	-0,290	37,952	5,29	38,242	4,85	-2,0	38,326	38,339	-0,013	-2,0	4,85	38,242	5,54	37,783	-0,459
192+0,00	-0,175	37,696	5,11	37,871	4,85	-2,0	38,069	37,968	0,101	-2,0	4,85	37,871	5,06	37,731	-0,140
192+16,00	-0,120	37,653	5,03	37,773	4,85	-2,0	37,960	37,870	0,090	-2,0	4,85	37,773	5,05	37,639	-0,134
193+0,00	-0,131	37,639	5,05	37,770	4,85	-2,0	37,932	37,867	0,065	-2,0	4,85	37,770	5,06	37,632	-0,138
194+0,00	-0,107	37,651	5,01	37,758	4,85	-2,0	37,863	37,855	0,008	-2,0	4,85	37,758	4,95	37,858	0,100
195+0,00	0,347	38,093	5,20	37,746	4,85	-2,0	37,867	37,843	0,024	-2,0	4,85	37,746	5,07	37,970	0,224
196+0,00	0,585	38,319	5,43	37,734	4,85	-2,0	37,921	37,831	0,090	-2,0	4,85	37,734	5,76	38,648	0,914
197+0,00	0,804	38,526	5,65	37,722	4,85	-2,0	37,876	37,819	0,057	-2,0	4,85	37,722	5,80	38,672	0,950

RW Engenheiros Consultores S/S
 Rodovia: SE-160 - Riachuelo
 Trecho: Eixo Principal - 1º Trecho
 Eixo Principal

Estaca	NOTA DE SERVIÇO DE SUB-BASE - EIXO PRINCIPAL														
	Lado Esquerdo						Eixo			Lado Direito					
	Offset			Bordo			Cota Terreno	Cota Projeto	Cota Verm.	Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%				%	Dist.	Cota	Dist.	Cota	Altura
198+0,00	0,731	38,440	5,58	37,709	4,85	-2,0	37,849	37,806	0,043	-2,0	4,85	37,709	5,71	38,568	0,859
199+0,00	0,487	38,125	5,34	37,638	4,85	-2,0	37,721	37,735	-0,014	-2,0	4,85	37,638	5,18	37,963	0,325
200+0,00	0,179	37,629	5,03	37,450	4,85	-2,0	37,442	37,547	-0,105	-2,0	4,85	37,450	4,97	37,573	0,123
201+0,00	-0,044	37,099	4,92	37,143	4,85	-2,0	37,054	37,240	-0,186	-2,0	4,85	37,143	4,95	37,247	0,104
202+0,00	-0,104	36,615	5,01	36,719	4,85	-2,0	36,636	36,816	-0,180	-2,0	4,85	36,719	4,88	36,697	-0,022
203+0,00	-0,183	35,994	5,13	36,177	4,85	-2,0	36,110	36,274	-0,164	-2,0	4,85	36,177	4,99	36,086	-0,091
204+0,00	-0,389	35,128	5,43	35,517	4,85	-2,0	35,450	35,614	-0,164	-2,0	4,85	35,517	5,26	35,246	-0,271
205+0,00	-1,496	33,303	7,09	34,799	4,85	-2,0	34,724	34,896	-0,172	-2,0	4,85	34,799	5,22	34,549	-0,250
206+0,00	-1,063	33,017	6,44	34,080	4,85	-2,0	34,038	34,177	-0,139	-2,0	4,85	34,080	5,25	33,813	-0,267
207+0,00	-0,186	33,175	5,13	33,361	4,85	-2,0	33,316	33,458	-0,142	-2,0	4,85	33,361	5,18	33,144	-0,217
208+0,00	-1,064	31,579	6,45	32,643	4,85	-2,0	32,592	32,740	-0,148	-2,0	4,85	32,643	5,43	32,259	-0,384
209+0,00	-0,979	30,945	6,32	31,924	4,85	-2,0	31,876	32,021	-0,145	-2,0	4,85	31,924	5,38	31,568	-0,356
210+0,00	-0,394	30,811	5,44	31,205	4,85	-2,0	31,175	31,302	-0,127	-2,0	4,85	31,205	4,92	31,159	-0,046
211+0,00	-0,092	30,395	4,99	30,487	4,85	-2,0	30,479	30,584	-0,105	-2,0	4,85	30,487	5,05	30,683	0,196
212+0,00	0,091	29,859	4,94	29,768	4,85	-2,0	29,816	29,865	-0,049	-2,0	4,85	29,768	5,26	30,180	0,412
213+0,00	-0,072	29,094	4,96	29,166	4,85	-2,0	29,216	29,263	-0,047	-2,0	4,85	29,166	5,26	29,575	0,409
214+0,00	-0,270	28,525	5,26	28,795	4,85	-2,0	28,792	28,892	-0,100	-2,0	4,85	28,795	5,00	28,943	0,148
215+0,00	-0,345	28,312	5,37	28,657	4,85	-2,0	28,610	28,754	-0,144	-2,0	4,85	28,657	5,12	28,476	-0,181
216+0,00	-0,354	28,398	5,38	28,752	4,85	-2,0	28,657	28,849	-0,192	-2,0	4,85	28,752	5,14	28,559	-0,193
217+0,00	-0,291	28,787	5,29	29,078	4,85	-2,0	29,011	29,175	-0,164	-2,0	4,85	29,078	4,88	29,055	-0,023
218+0,00	-0,043	29,594	4,91	29,637	4,85	-2,0	29,624	29,734	-0,110	-2,0	4,85	29,637	4,94	29,729	0,092
219+0,00	-0,018	30,409	4,88	30,427	4,85	-2,0	30,483	30,524	-0,041	-2,0	4,85	30,427	4,89	30,469	0,042
220+0,00	0,208	31,542	5,06	31,334	4,85	-2,0	31,352	31,431	-0,079	-2,0	4,85	31,334	4,90	31,379	0,045
221+0,00	0,362	32,603	5,21	32,241	4,85	-2,0	32,252	32,338	-0,086	-2,0	4,85	32,241	4,94	32,336	0,095
221+2,00	0,375	32,707	5,23	32,332	4,85	-2,0	32,344	32,429	-0,085	-2,0	4,85	32,332	4,95	32,429	0,097
222+0,00	0,302	33,353	5,15	33,051	4,85	-2,0	33,069	33,148	-0,079	-2,0	4,85	33,051	4,99	33,192	0,141
223+0,00	0,309	33,932	5,16	33,623	4,85	-2,0	33,683	33,720	-0,037	-2,0	4,85	33,623	5,18	33,954	0,331
224+0,00	0,179	34,133	5,03	33,954	4,85	-2,0	34,063	34,051	0,012	-2,0	4,85	33,954	5,49	34,595	0,641
225+0,00	0,089	34,135	4,94	34,046	4,85	-2,0	34,121	34,143	-0,022	-2,0	4,85	34,046	5,06	34,259	0,213
226+0,00	-0,011	33,888	4,87	33,899	4,85	-2,0	33,919	33,996	-0,077	-2,0	4,85	33,899	5,25	34,301	0,402
227+0,00	0,129	33,640	4,98	33,511	4,85	-2,0	33,490	33,608	-0,118	-2,0	4,85	33,511	5,16	33,820	0,309
227+2,00	0,146	33,605	5,00	33,459	4,85	-2,0	33,440	33,556	-0,116	-2,0	4,85	33,459	5,15	33,757	0,298
228+0,00	0,303	33,284	5,15	32,981	4,85	-2,0	32,953	33,078	-0,125	-2,0	4,85	32,981	5,08	33,207	0,226
229+0,00	0,108	32,558	4,96	32,450	4,85	-2,0	32,426	32,547	-0,121	-2,0	4,85	32,450	5,17	32,773	0,323
230+0,00	-0,051	31,868	4,93	31,919	4,85	-2,0	31,938	32,016	-0,078	-2,0	4,85	31,919	5,21	31,679	-0,240
231+0,00	-0,125	31,262	5,04	31,387	4,85	-2,0	31,453	31,484	-0,031	-2,0	4,85	31,387	5,69	30,826	-0,561
232+0,00	-0,280	30,576	5,27	30,856	4,85	-2,0	30,871	30,953	-0,082	-2,0	4,85	30,856	5,72	30,279	-0,577
233+0,00	-0,907	29,418	6,21	30,325	4,85	-2,0	30,357	30,422	-0,065	-2,0	4,85	30,325	5,45	29,927	-0,398
234+0,00	-1,116	28,678	6,52	29,794	4,85	-2,0	29,837	29,891	-0,054	-2,0	4,85	29,794	5,46	29,389	-0,405
235+0,00	-0,502	28,760	5,60	29,262	4,85	-2,0	29,360	29,359	0,001	-2,0	4,85	29,262	5,17	29,049	-0,213
236+0,00	-0,750	28,040	5,97	28,790	4,85	-2,0	28,902	28,887	0,015	-2,0	4,85	28,790	5,19	28,566	-0,224
237+0,00	-0,380	28,055	5,42	28,435	4,85	-2,0	28,553	28,532	0,021	-2,0	4,85	28,435	5,28	28,148	-0,287
238+0,00	-0,546	27,651	5,67	28,197	4,85	-2,0	28,267	28,294	-0,027	-2,0	4,85	28,197	5,34	27,870	-0,327
239+0,00	-0,498	27,579	5,60	28,077	4,85	-2,0	28,106	28,174	-0,068	-2,0	4,85	28,077	5,20	27,845	-0,232
240+0,00	-0,408	27,666	5,46	28,074	4,85	-2,0	28,153	28,171	-0,018	-2,0	4,85	28,074	5,08	27,923	-0,151
241+0,00	-0,482	27,706	5,57	28,188	4,85	-2,0	28,263	28,285	-0,022	-2,0	4,85	28,188	5,62	27,677	-0,511
242+0,00	-0,597	27,823	5,75	28,420	4,85	-2,0	28,467	28,517	-0,050	-2,0	4,85	28,420	5,32	28,106	-0,314
243+0,00	-1,373	27,338	6,91	28,711	4,85	-2,0	28,745	28,808	-0,063	-2,0	4,85	28,711	5,67	28,165	-0,546
244+0,00	-0,220	28,758	5,18	28,978	4,85	-2,0	29,087	29,075	0,012	-2,0	4,85	28,978	5,43	28,590	-0,388
245+0,00	-0,110	29,089	5,01	29,199	4,85	-2,0	29,397	29,296	0,101	-2,0	4,85	29,199	5,17	28,986	-0,213
246+0,00	-0,161	29,212	5,09	29,373	4,85	-2,0	29,540	29,470	0,070	-2,0	4,85	29,373	5,17	29,157	-0,216
247+0,00	-0,268	29,231	5,25	29,499	4,85	-2,0	29,598	29,596	0,002	-2,0	4,85	29,499	5,67	28,951	-0,548
248+0,00	-0,208	29,372	5,16	29,580	4,85	-2,0	29,619	29,677	-0,058	-2,0	4,85	29,580	5,68	29,027	-0,553
248+10,00	-0,510	29,092	5,61	29,602	4,85	-2,0	29,631	29,699	-0,068	-2,0	4,85	29,602	5,66	29,065	-0,537

RW Engenheiros Consultores S/S

Rodovia: SE-160 - Riachuelo

Trecho: Entr. SE-245(Riachuelo) / Entr.BR-235 - 2º Trecho

Eixo Principal

Estaca	NOTA DE SERVIÇO DE SUB-BASE - EIXO PRINCIPAL														
	Lado Esquerdo						Eixo			Lado Direito					
	Offset			Bordo			Cota Terreno	Cota Projeto	Cota Verm.	Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%				%	Dist.	Cota	Dist.	Cota	Altura
251+5,26	-1,756	27,878	7,48	29,634	4,85	-2,0	29,715	29,731	-0,016	-2,0	4,85	29,634	5,00	29,779	0,145
252+0,00	-0,553	29,066	5,68	29,619	4,85	-2,0	29,591	29,716	-0,125	-2,0	4,85	29,619	5,62	29,105	-0,514
253+0,00	-1,275	28,329	6,76	29,604	4,85	-1,1	29,610	29,656	-0,046	-2,5	4,85	29,536	5,37	29,192	-0,344
254+0,00	-0,125	29,417	5,04	29,542	4,85	-0,1	29,573	29,548	0,025	-2,9	6,70	29,350	7,21	29,010	-0,340
254+2,44	-0,035	29,496	4,90	29,531	4,85	0,0	29,566	29,531	0,035	-3,0	7,98	29,292	8,50	28,946	-0,346
254+5,00	-0,019	29,486	5,98	29,505	5,95	-0,1	29,527	29,513	0,014	-2,9	8,79	29,255	9,34	28,886	-0,369
254+10,00	-0,057	29,371	12,27	29,428	12,19	-0,4	29,314	29,476	-0,162	-2,8	10,28	29,187	11,63	28,288	-0,899
254+15,00	-0,222	29,140	11,68	29,362	11,35	-0,7	29,102	29,435	-0,333	-2,7	11,22	29,135	13,94	27,324	-1,811
255+0,00	-0,115	29,179	11,02	29,294	10,85	-0,9	29,094	29,392	-0,298	-2,6	11,68	29,095	15,44	26,587	-2,508
255+5,00	0,072	29,298	10,42	29,226	10,35	-1,2	29,146	29,346	-0,200	-2,4	11,84	29,059	17,26	25,445	-3,614
255+10,00	0,066	29,223	9,92	29,157	9,85	-1,4	29,037	29,297	-0,260	-2,3	11,66	29,030	16,92	25,525	-3,505
255+15,00	-0,300	28,788	9,80	29,088	9,35	-1,7	29,059	29,245	-0,186	-2,2	11,14	29,004	16,03	25,745	-3,259
256+0,00	-1,019	28,000	10,38	29,019	8,85	-1,9	29,058	29,190	-0,132	-2,0	10,21	28,982	15,08	25,734	-3,248
256+1,34	-0,599	28,408	9,25	29,007	8,35	-2,0	29,045	29,174	-0,129	-2,0	9,88	28,977	14,75	25,730	-3,247
257+0,00	-0,453	28,330	8,53	28,783	7,85	-2,0	28,865	28,940	-0,075	-2,0	7,85	28,783	9,36	27,777	-1,006
258+0,00	0,048	28,610	7,90	28,562	7,85	-2,0	28,727	28,719	0,008	-2,0	7,85	28,562	8,96	27,823	-0,739
259+0,00	1,040	29,484	8,89	28,444	7,85	-2,0	28,652	28,601	0,051	-2,0	7,85	28,444	7,88	28,424	-0,020
259+10,00	0,882	29,306	8,73	28,424	7,85	-2,0	28,671	28,581	0,090	-1,6	7,85	28,455	7,96	28,383	-0,072
260+0,00	-0,002	28,443	7,10	28,445	7,09	-2,0	28,684	28,587	0,097	-1,2	8,27	28,488	8,28	28,480	-0,008
261+0,00	-0,138	28,375	5,79	28,513	5,58	-2,0	28,656	28,624	0,032	-0,4	9,10	28,589	9,44	28,361	-0,228
261+9,71	-0,102	28,444	5,00	28,546	4,85	-2,0	28,660	28,643	0,017	0,0	9,50	28,643	9,57	28,599	-0,044
262+0,00	-0,184	28,361	5,19	28,545	4,91	-2,4	28,668	28,662	0,006	0,6	8,90	28,719	9,35	28,419	-0,300
263+0,00	-0,513	28,029	5,81	28,542	5,04	-3,1	28,705	28,700	0,005	1,9	7,74	28,847	8,62	28,263	-0,584
264+0,00	-0,437	28,044	5,82	28,481	5,16	-3,9	28,704	28,682	0,022	3,1	6,58	28,889	6,84	28,715	-0,174
265+0,00	-0,253	28,165	5,67	28,418	5,29	-4,6	28,770	28,664	0,106	4,4	5,41	28,901	5,88	28,591	-0,310
265+9,71	-0,132	28,255	5,55	28,387	5,35	-5,0	28,788	28,655	0,133	5,0	4,85	28,897	5,20	28,663	-0,234
265+10,00	-0,129	28,258	5,54	28,387	5,35	-5,0	28,789	28,655	0,134	5,0	4,85	28,897	5,20	28,663	-0,234
266+0,00	-0,050	28,323	5,42	28,373	5,35	-5,0	28,774	28,640	0,134	5,0	4,85	28,883	5,18	28,665	-0,218
267+0,00	-0,376	27,935	5,91	28,311	5,35	-5,0	28,592	28,579	0,013	5,0	4,85	28,821	5,14	28,630	-0,191
268+0,00	-0,534	27,672	6,15	28,206	5,35	-5,0	28,461	28,474	-0,013	5,0	4,85	28,716	5,22	28,467	-0,249
269+0,00	-0,581	27,477	6,22	28,058	5,35	-5,0	28,272	28,326	-0,054	5,0	4,85	28,568	5,39	28,208	-0,360
270+0,00	-0,711	27,156	6,42	27,867	5,35	-5,0	28,058	28,135	-0,077	5,0	4,85	28,377	5,51	27,937	-0,440
271+0,00	-0,089	27,544	5,48	27,633	5,35	-5,0	27,883	27,900	-0,017	5,0	4,85	28,143	5,62	27,632	-0,511
271+10,00	-0,049	27,450	5,42	27,499	5,35	-5,0	27,772	27,767	0,005	5,0	4,85	28,009	5,35	27,673	-0,336
271+10,70	-0,047	27,442	5,42	27,489	5,35	-5,0	27,763	27,756	0,007	5,0	4,85	27,999	5,35	27,668	-0,331
272+0,00	-0,011	27,384	5,31	27,395	5,29	-4,7	27,665	27,641	0,024	4,4	4,85	27,856	5,33	27,533	-0,323
273+0,00	0,009	27,280	5,18	27,271	5,17	-3,9	27,506	27,473	0,033	3,2	4,85	27,627	5,46	27,222	-0,405
274+0,00	-0,012	27,243	5,06	27,255	5,04	-3,2	27,469	27,414	0,055	1,9	4,85	27,507	5,71	26,935	-0,572
274+10,00	-0,074	27,213	5,09	27,287	4,98	-2,8	27,445	27,425	0,020	1,3	4,85	27,488	5,84	26,827	-0,661
275+0,00	-0,176	27,156	5,18	27,332	4,92	-2,4	27,443	27,450	-0,007	0,7	4,85	27,483	5,91	26,777	-0,706
275+10,70	-0,279	27,101	5,27	27,380	4,85	-2,0	27,480	27,477	0,003	0,0	4,85	27,477	6,06	26,673	-0,804
276+0,00	-0,301	27,102	5,30	27,403	4,85	-2,0	27,503	27,500	0,003	-0,4	4,85	27,482	6,08	26,663	-0,819
277+0,00	-0,280	27,173	5,27	27,453	4,85	-2,0	27,528	27,550	-0,022	-1,2	4,85	27,492	5,72	26,910	-0,582
278+0,00	-0,234	27,269	5,20	27,503	4,85	-2,0	27,566	27,600	-0,034	-2,0	4,85	27,503	5,29	27,207	-0,296
279+0,00	-0,171	27,382	5,11	27,553	4,85	-2,0	27,616	27,650	-0,034	-2,0	4,85	27,553	5,14	27,358	-0,195
280+0,00	-0,067	27,536	4,95	27,603	4,85	-2,0	27,626	27,700	-0,074	-2,0	4,85	27,603	5,13	27,419	-0,184
281+0,00	-0,123	27,530	5,03	27,653	4,85	-2,0	27,705	27,750	-0,045	-2,0	4,85	27,653	5,16	27,447	-0,206
282+0,00	-0,082	27,621	4,97	27,703	4,85	-2,0	27,754	27,800	-0,046	-2,0	4,85	27,703	5,34	27,376	-0,327
283+0,00	-0,124	27,704	5,04	27,828	4,85	-2,0	27,886	27,925	-0,039	-2,0	4,85	27,828	5,19	27,600	-0,228
284+0,00	-0,196	27,906	5,14	28,102	4,85	-2,0	28,206	28,199	0,007	-2,0	4,85	28,102	5,19	27,878	-0,224
285+0,00	-0,121	28,406	5,03	28,527	4,85	-2,0	28,644	28,624	0,020	-2,0	4,85	28,527	5,04	28,399	-0,128
286+0,00	0,017	29,118	4,87	29,101	4,85	-2,0	29,268	29,198	0,070	-2,0	4,85	29,101	5,00	29,001	-0,100
287+0,00	0,030	29,854	4,88	29,824	4,85	-2,0	29,968	29,921	0,047	-2,0	4,85	29,824	4,88	29,857	0,033
288+0,00	0,014	30,711	4,86	30,697	4,85	-2,0	30,802	30,794	0,008	-2,0	4,85	30,697	6,68	29,477	-1,220
289+0,00	-0,055	31,665	4,93	31,720	4,85	-2,0	31,730	31,817	-0,087	-2,0	4,85	31,720	5,34	31,392	-0,328
290+0,00	0,114	33,007	4,96	32,893	4,85	-2,0	32,836	32,990	-0,154	-2,0	4,85	32,893	5,21	32,654	-0,239
291+0,00	-0,340	33,801	5,36	34,141	4,85	-2,0	34,137	34,238	-0,101	-2,0	4,85	34,141	5,35	33,808	-0,333
292+0,00	-0,383	35,005	5,42	35,388	4,85	-2,0	35,421	35,485	-0,064	-2,0	4,85	35,388	5,22	35,144	-0,244

RW Engenheiros Consultores S/S

Rodovia: SE-160 - Riachuelo

Trecho: Entr. SE-245(Riachuelo) / Entr.BR-235 - 2º Trecho

Eixo Principal

Estaca	NOTA DE SERVIÇO DE SUB-BASE - EIXO PRINCIPAL														
	Lado Esquerdo						Eixo			Lado Direito					
	Offset			Bordo			Cota Terreno	Cota Projeto	Cota Verm.	Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%				%	Dist.	Cota	Dist.	Cota	Altura
293+0,00	-0,402	36,234	5,45	36,636	4,85	-2,0	36,688	36,733	-0,045	-2,0	4,85	36,636	5,18	36,413	-0,223
293+2,00	-0,425	36,335	5,49	36,760	4,85	-2,0	36,800	36,857	-0,057	-1,9	4,85	36,765	5,20	36,534	-0,231
294+0,00	-0,351	37,432	5,38	37,783	4,85	-2,0	37,793	37,880	-0,087	-1,1	4,85	37,829	5,19	37,601	-0,228
295+0,00	-0,140	38,544	5,06	38,684	4,85	-2,0	38,773	38,781	-0,008	-0,1	4,85	38,776	5,53	38,321	-0,455
295+2,06	-0,142	38,621	5,06	38,763	4,85	-2,0	38,845	38,860	-0,015	0,0	4,85	38,860	5,53	38,408	-0,452
296+0,00	-0,211	39,079	5,32	39,290	5,00	-2,9	39,415	39,435	-0,020	1,5	4,85	39,507	5,82	38,858	-0,649
297+0,00	-0,684	38,955	6,19	39,639	5,17	-3,9	39,812	39,841	-0,029	3,2	4,85	39,994	6,17	39,116	-0,878
298+0,00	-0,240	39,498	5,69	39,738	5,33	-4,9	39,998	39,999	-0,001	4,8	4,85	40,234	5,51	39,795	-0,439
298+2,06	-0,187	39,547	5,63	39,734	5,35	-5,0	39,985	40,002	-0,017	5,0	4,85	40,244	5,47	39,829	-0,415
299+0,00	-0,075	39,568	5,46	39,643	5,35	-5,0	39,834	39,911	-0,077	5,0	4,85	40,153	5,49	39,726	-0,427
299+2,00	-0,069	39,552	5,45	39,621	5,35	-5,0	39,807	39,888	-0,081	5,0	4,85	40,131	5,50	39,699	-0,432
299+10,00	-0,040	39,486	5,41	39,526	5,35	-5,0	39,697	39,793	-0,096	5,0	4,85	40,036	5,45	39,636	-0,400
300+0,00	-0,024	39,360	5,39	39,384	5,35	-5,0	39,533	39,651	-0,118	5,0	4,85	39,894	5,32	39,581	-0,313
301+0,00	-0,157	38,802	5,59	38,959	5,35	-5,0	39,193	39,227	-0,034	5,0	4,85	39,469	5,18	39,250	-0,219
302+0,00	0,060	38,408	5,41	38,348	5,35	-5,0	38,651	38,616	0,035	5,0	4,85	38,858	5,03	38,738	-0,120
303+0,00	0,035	37,585	5,39	37,550	5,35	-5,0	37,846	37,818	0,028	5,0	4,85	38,060	4,93	38,009	-0,051
304+0,00	-0,005	36,560	5,36	36,565	5,35	-5,0	36,793	36,833	-0,040	5,0	4,85	37,075	5,02	36,959	-0,116
304+10,00	0,119	36,122	5,47	36,003	5,35	-5,0	36,139	36,270	-0,131	5,0	4,85	36,513	5,18	36,291	-0,222
305+0,00	0,110	35,527	5,46	35,417	5,35	-5,0	35,526	35,684	-0,158	5,0	4,85	35,927	5,26	35,654	-0,273
306+0,00	-0,131	34,114	5,55	34,245	5,35	-5,0	34,413	34,512	-0,099	5,0	4,85	34,755	5,42	34,378	-0,377
307+0,00	-0,407	32,813	5,96	33,220	5,35	-5,0	33,402	33,488	-0,086	5,0	4,85	33,730	6,01	32,954	-0,776
308+0,00	-0,296	32,196	5,79	32,492	5,35	-5,0	32,658	32,760	-0,102	5,0	4,85	33,002	6,41	31,960	-1,042
308+11,00	-0,382	31,834	5,92	32,216	5,35	-5,0	32,356	32,484	-0,128	5,0	4,85	32,726	6,87	31,382	-1,344
309+0,00	-0,338	31,749	5,78	32,087	5,28	-4,6	32,219	32,327	-0,108	4,3	4,85	32,534	6,55	31,401	-1,133
310+0,00	-0,280	31,729	5,53	32,009	5,11	-3,6	32,101	32,191	-0,090	2,6	4,85	32,316	5,92	31,604	-0,712
311+0,00	-0,305	31,919	5,40	32,224	4,94	-2,6	32,267	32,350	-0,083	0,9	4,85	32,395	5,66	31,856	-0,539
311+11,00	-0,394	32,075	5,44	32,469	4,85	-2,0	32,386	32,566	-0,180	0,0	4,85	32,566	5,49	32,142	-0,424
312+0,00	-0,220	32,488	5,18	32,708	4,85	-2,0	32,709	32,805	-0,096	-0,4	4,85	32,787	5,66	32,250	-0,537
313+0,00	0,007	33,466	4,86	33,459	4,85	-2,0	33,564	33,556	0,008	-1,2	4,85	33,499	5,67	32,951	-0,548
314+0,00	-0,132	34,226	5,05	34,358	4,85	-2,0	34,461	34,455	0,006	-2,0	4,85	34,358	5,13	34,173	-0,185
314+10,00	-0,300	34,507	5,30	34,807	4,85	-2,0	34,883	34,904	-0,021	-2,0	4,85	34,807	5,83	34,152	-0,655
315+0,00	-0,484	34,755	5,58	35,239	4,85	-2,0	35,284	35,336	-0,052	-2,0	4,85	35,239	6,10	34,404	-0,835
316+0,00	-0,638	35,359	5,81	35,997	4,85	-2,0	36,038	36,094	-0,056	-2,0	4,85	35,997	5,83	35,346	-0,651
317+0,00	-0,439	36,173	5,51	36,612	4,85	-2,0	36,677	36,709	-0,032	-2,0	4,85	36,612	5,72	36,030	-0,582
318+0,00	-0,218	36,869	5,18	37,087	4,85	-2,0	37,147	37,184	-0,037	-2,0	4,85	37,087	5,01	36,978	-0,109
319+0,00	-0,335	37,085	5,35	37,420	4,85	-2,0	37,468	37,517	-0,049	-2,0	4,85	37,420	5,28	37,136	-0,284
320+0,00	-0,323	37,288	5,33	37,611	4,85	-2,0	37,657	37,708	-0,051	-1,1	4,85	37,657	5,54	37,199	-0,458
321+0,00	-0,401	37,260	5,45	37,661	4,85	-2,0	37,696	37,758	-0,062	-0,1	4,85	37,752	5,80	37,116	-0,636
321+2,74	-0,443	37,214	5,52	37,657	4,85	-2,0	37,685	37,754	-0,069	0,0	4,85	37,754	5,79	37,124	-0,630
322+0,00	-0,434	37,112	5,61	37,546	4,96	-2,4	37,613	37,666	-0,053	0,9	4,85	37,708	5,80	37,074	-0,634
322+10,00	-0,399	37,034	5,62	37,433	5,02	-2,7	37,565	37,568	-0,003	1,4	4,85	37,634	5,63	37,112	-0,522
323+0,00	-0,385	36,917	5,66	37,302	5,08	-2,9	37,471	37,451	0,020	1,9	4,85	37,541	5,24	37,279	-0,262
324+0,00	-0,324	36,715	5,69	37,039	5,21	-3,4	37,243	37,218	0,025	2,9	4,85	37,357	5,11	37,181	-0,176
325+0,00	-0,423	36,352	5,97	36,775	5,33	-3,9	37,017	36,985	0,032	3,9	4,85	37,172	5,52	36,724	-0,448
325+2,74	-0,456	36,283	6,03	36,739	5,35	-4,0	36,987	36,953	0,034	4,0	4,85	37,147	5,62	36,632	-0,515
326+0,00	-1,106	35,432	7,01	36,538	5,35	-4,0	36,744	36,752	-0,008	4,0	4,85	36,946	5,50	36,510	-0,436
327+0,00	-2,550	33,754	9,18	36,304	5,35	-4,0	36,427	36,518	-0,091	4,0	4,85	36,712	5,69	36,155	-0,557
328+0,00	-2,128	33,943	8,54	36,071	5,35	-4,0	36,182	36,285	-0,103	4,0	4,85	36,479	5,38	36,123	-0,356
329+0,00	-2,241	33,597	8,71	35,838	5,35	-4,0	36,002	36,052	-0,050	4,0	4,85	36,246	5,39	35,885	-0,361
330+0,00	-1,339	34,266	7,36	35,605	5,35	-4,0	35,799	35,819	-0,020	4,0	4,85	36,013	5,48	35,593	-0,420
331+0,00	-0,420	34,952	5,98	35,372	5,35	-4,0	35,586	35,586	0,000	4,0	4,85	35,780	5,45	35,379	-0,401
332+0,00	-0,350	34,807	5,88	35,157	5,35	-4,0	35,393	35,371	0,022	4,0	4,85	35,565	5,14	35,371	-0,194
333+0,00	-0,485	34,456	6,08	34,941	5,35	-4,0	35,157	35,155	0,002	4,0	4,85	35,349	4,96	35,274	-0,075
334+0,00	-0,285	34,441	5,78	34,726	5,35	-4,0	34,929	34,940	-0,011	4,0	4,85	35,134	4,95	35,069	-0,065
335+0,00	-0,276	34,234	5,76	34,510	5,35	-4,0	34,712	34,724	-0,012	4,0	4,85	34,918	4,98	34,829	-0,089
335+19,00	-0,349	33,956	5,87	34,305	5,35	-4,0	34,492	34,519	-0,027	4,0	4,85	34,713	5,06	34,573	-0,140
336+0,00	-0,326	33,970	5,83	34,296	5,34	-4,0	34,482	34,509	-0,027	4,0	4,85	34,700	5,06	34,562	-0,138
337+0,00	-0,555	33,557	6,05	34,112	5,22	-3,5	34,267	34,293	-0,026	3,0	4,85	34,436	5,17	34,225	-0,211

RW Engenheiros Consultores S/S

Rodovia: SE-160 - Riachuelo

Trecho: Entr. SE-245(Riachuelo) / Entr.BR-235 - 2º Trecho

Eixo Principal

Estaca	NOTA DE SERVIÇO DE SUB-BASE - EIXO PRINCIPAL														
	Lado Esquerdo						Eixo			Lado Direito					
	Offset			Bordo			Cota Terreno	Cota Projeto	Cota Verm.	Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%				%	Dist.	Cota	Dist.	Cota	Altura
338+0,00	-0,603	33,323	6,00	33,926	5,09	-3,0	34,061	34,078	-0,017	2,0	4,85	34,172	5,27	33,889	-0,283
339+0,00	-0,355	33,384	5,50	33,739	4,97	-2,5	33,828	33,862	-0,034	1,0	4,85	33,908	5,25	33,645	-0,263
339+19,00	-0,213	33,347	5,17	33,560	4,85	-2,0	33,607	33,657	-0,050	0,0	4,85	33,657	5,22	33,408	-0,249
340+0,00	-0,231	33,319	5,20	33,550	4,85	-2,0	33,597	33,647	-0,050	-0,1	4,85	33,644	5,22	33,397	-0,247
341+0,00	-0,543	32,804	5,66	33,347	4,85	-2,0	33,364	33,444	-0,080	-1,0	4,85	33,395	6,11	32,555	-0,840
342+0,00	-0,622	32,550	5,78	33,172	4,85	-2,0	33,111	33,269	-0,158	-2,0	4,85	33,172	8,34	30,843	-2,329
343+0,00	-0,569	32,453	5,70	33,022	4,85	-2,0	32,881	33,119	-0,238	-2,0	4,85	33,022	9,20	30,124	-2,898
344+0,00	-0,570	32,330	5,71	32,900	4,85	-2,0	32,771	32,997	-0,226	-2,0	4,85	32,900	6,17	32,019	-0,881
345+0,00	-0,494	32,309	5,59	32,803	4,85	-2,0	32,742	32,900	-0,158	-2,0	4,85	32,803	5,47	32,390	-0,413
346+0,00	-0,254	32,480	5,23	32,734	4,85	-2,0	32,694	32,831	-0,137	-2,0	4,85	32,734	5,38	32,382	-0,352
347+0,00	-0,169	32,508	5,10	32,677	4,85	-2,0	32,675	32,774	-0,099	-2,0	4,85	32,677	5,42	32,297	-0,380
348+0,00	-0,148	32,473	5,07	32,621	4,85	-2,0	32,625	32,718	-0,093	-2,0	4,85	32,621	5,37	32,276	-0,345
349+0,00	-0,186	32,378	5,13	32,564	4,85	-2,0	32,563	32,661	-0,098	-2,0	4,85	32,564	5,16	32,358	-0,206
350+0,00	0,023	32,548	4,87	32,525	4,85	-2,0	32,547	32,622	-0,075	-2,0	4,85	32,525	5,21	32,286	-0,239
351+0,00	-0,005	32,515	4,86	32,520	4,85	-2,0	32,530	32,617	-0,087	-2,0	4,85	32,520	5,75	31,922	-0,598
352+0,00	-0,014	32,535	4,87	32,549	4,85	-2,0	32,613	32,646	-0,033	-2,0	4,85	32,549	6,72	31,301	-1,248
353+0,00	0,080	32,692	4,93	32,612	4,85	-2,0	32,756	32,709	0,047	-2,0	4,85	32,612	6,78	31,324	-1,288
354+0,00	0,109	32,818	4,96	32,709	4,85	-2,0	32,860	32,806	0,054	-2,0	4,85	32,709	6,29	31,747	-0,962
355+0,00	0,119	32,943	4,97	32,824	4,85	-2,0	32,942	32,921	0,021	-2,0	4,85	32,824	6,30	31,860	-0,964
356+0,00	0,105	33,043	4,96	32,938	4,85	-2,0	33,028	33,035	-0,007	-2,0	4,85	32,938	5,69	32,379	-0,559
357+0,00	0,515	33,568	5,36	33,053	4,85	-2,0	33,142	33,150	-0,008	-2,0	4,85	33,053	5,52	32,606	-0,447
357+7,28	0,990	34,085	5,84	33,095	4,85	-2,0	33,186	33,192	-0,006	-2,0	4,85	33,095	5,22	32,849	-0,246
358+0,00	0,789	33,957	5,64	33,168	4,85	-2,0	33,270	33,265	0,005	-2,0	4,85	33,168	5,05	33,034	-0,134
359+0,00	-0,012	33,270	4,87	33,282	4,85	-2,0	33,341	33,379	-0,038	-2,0	4,85	33,282	5,05	33,151	-0,131
360+0,00	-0,023	33,374	4,88	33,397	4,85	-2,0	33,452	33,494	-0,042	-2,0	4,85	33,397	5,07	33,253	-0,144
361+0,00	-0,050	33,500	4,93	33,550	4,85	-2,0	33,624	33,647	-0,023	-2,0	4,85	33,550	5,32	33,234	-0,316
361+1,10	-0,053	33,507	4,93	33,560	4,85	-2,0	33,634	33,657	-0,023	-2,0	4,85	33,560	5,35	33,227	-0,333
362+0,00	-0,157	33,623	5,09	33,780	4,85	-2,0	33,861	33,877	-0,016	-2,0	4,85	33,780	5,63	33,258	-0,522
363+0,00	-0,260	33,827	5,24	34,087	4,85	-2,0	34,169	34,184	-0,015	-2,0	4,85	34,087	5,44	33,691	-0,396
364+0,00	-0,347	34,123	5,37	34,470	4,85	-2,0	34,531	34,567	-0,036	-2,0	4,85	34,470	4,95	34,402	-0,068
365+0,00	-0,383	34,548	5,42	34,931	4,85	-2,0	34,980	35,028	-0,048	-2,0	4,85	34,931	5,05	34,797	-0,134
366+0,00	-0,326	35,105	5,34	35,431	4,85	-2,0	35,490	35,528	-0,038	-2,0	4,85	35,431	5,38	35,081	-0,350
367+0,00	-1,685	34,245	7,38	35,930	4,85	-2,0	36,030	36,027	0,003	-2,0	4,85	35,930	5,47	35,517	-0,413
368+0,00	-0,067	36,362	4,95	36,429	4,85	-2,0	36,564	36,526	0,038	-2,0	4,85	36,429	5,05	36,293	-0,136
369+0,00	-0,006	36,922	4,86	36,928	4,85	-2,0	37,034	37,025	0,009	-2,0	4,85	36,928	4,88	36,955	0,027
369+10,00	0,025	37,203	4,88	37,178	4,85	-2,0	37,256	37,275	-0,019	-2,0	4,85	37,178	4,89	37,154	-0,024
370+0,00	0,009	37,429	4,86	37,420	4,85	-2,0	37,516	37,517	-0,001	-2,0	4,85	37,420	4,90	37,390	-0,030
371+0,00	-0,015	37,888	4,87	37,903	4,85	-2,0	37,979	38,000	-0,021	-2,0	4,85	37,903	5,14	37,710	-0,193
372+0,00	0,050	38,372	4,90	38,322	4,85	-2,0	38,419	38,419	0,000	-2,0	4,85	38,322	5,67	37,775	-0,547
373+0,00	-0,218	38,395	5,18	38,613	4,85	-2,0	38,713	38,710	0,003	-2,0	4,85	38,613	5,36	38,275	-0,338
374+0,00	-0,166	38,609	5,10	38,775	4,85	-2,0	38,833	38,872	-0,039	-2,0	4,85	38,775	5,29	38,483	-0,292
375+0,00	-0,155	38,653	5,08	38,808	4,85	-2,0	38,846	38,905	-0,059	-2,0	4,85	38,808	5,19	38,583	-0,225
376+0,00	-0,134	38,579	5,05	38,713	4,85	-2,0	38,731	38,810	-0,079	-2,0	4,85	38,713	5,18	38,490	-0,223
377+0,00	0,016	38,505	4,87	38,489	4,85	-2,0	38,567	38,586	-0,019	-2,0	4,85	38,489	5,21	38,250	-0,239
377+17,00	0,063	38,306	4,91	38,243	4,85	-2,0	38,350	38,340	0,010	-2,0	4,85	38,243	5,14	38,050	-0,193
378+0,00	0,052	38,253	4,90	38,201	4,85	-2,0	38,295	38,298	-0,003	-2,0	4,85	38,201	5,12	38,019	-0,182
378+10,00	0,017	38,074	4,87	38,057	4,85	-2,0	38,117	38,154	-0,037	-2,0	4,85	38,057	5,13	37,872	-0,185
379+0,00	-0,040	37,909	4,91	37,949	4,85	-2,0	38,014	38,046	-0,032	-2,0	4,85	37,949	5,24	37,691	-0,258
380+0,00	-0,234	37,500	5,20	37,734	4,85	-2,0	37,743	37,831	-0,088	-2,0	4,85	37,734	5,44	37,342	-0,392
381+0,00	-0,138	37,428	5,06	37,566	4,85	-2,0	37,516	37,663	-0,147	-2,0	4,85	37,566	5,49	37,139	-0,427
382+0,00	-0,431	37,063	5,50	37,494	4,85	-2,0	37,436	37,591	-0,155	-2,0	4,85	37,494	5,36	37,157	-0,337
383+0,00	-0,426	37,091	5,49	37,517	4,85	-2,0	37,545	37,614	-0,069	-2,0	4,85	37,517	5,34	37,193	-0,324
384+0,00	-0,454	37,181	5,53	37,635	4,85	-2,0	37,657	37,732	-0,075	-2,0	4,85	37,635	5,36	37,292	-0,343
385+0,00	-0,599	37,202	5,75	37,801	4,85	-2,0	37,784	37,898	-0,114	-2,0	4,85	37,801	5,07	37,652	-0,149
386+0,00	-0,648	37,318	5,82	37,966	4,85	-2,0	37,947	38,063	-0,116	-2,0	4,85	37,966	4,97	37,887	-0,079
387+0,00	-0,312	37,820	5,32	38,132	4,85	-2,0	38,122	38,229	-0,107	-2,0	4,85	38,132	4,94	38,071	-0,061
388+0,00	-0,110	38,188	5,02	38,298	4,85	-2,0	38,336	38,395	-0,059	-2,0	4,85	38,298	4,98	38,213	-0,085
389+0,00	0,018	38,482	4,87	38,464	4,85	-2,0	38,561	38,561	0,000	-2,0	4,85	38,464	4,88	38,446	-0,018

RW Engenheiros Consultores S/S

Rodovia: SE-160 - Riachuelo

Trecho: Entr. SE-245(Riachuelo) / Entr.BR-235 - 2º Trecho

Eixo Principal

Estaca	NOTA DE SERVIÇO DE SUB-BASE - EIXO PRINCIPAL														
	Lado Esquerdo						Eixo			Lado Direito					
	Offset			Bordo			Cota Terreno	Cota Projeto	Cota Verm.	Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%				%	Dist.	Cota	Dist.	Cota	Altura
390+0,00	-0,079	38,621	4,97	38,700	4,85	-2,0	38,764	38,797	-0,033	-2,0	4,85	38,700	4,86	38,691	-0,009
391+0,00	-0,122	38,813	5,03	38,935	4,85	-2,0	39,026	39,032	-0,006	-2,0	4,85	38,935	4,88	38,913	-0,022
392+0,00	-0,048	39,123	4,92	39,171	4,85	-2,0	39,315	39,268	0,047	-2,0	4,85	39,171	5,17	38,959	-0,212
393+0,00	0,079	39,485	4,93	39,406	4,85	-2,0	39,503	39,503	0,000	-2,0	4,85	39,406	5,30	39,104	-0,302
394+0,00	0,027	39,626	4,88	39,599	4,85	-2,0	39,646	39,696	-0,050	-2,0	4,85	39,599	5,34	39,274	-0,325
395+0,00	-0,138	39,653	5,06	39,791	4,85	-2,0	39,673	39,888	-0,215	-2,0	4,85	39,791	6,67	38,580	-1,211
396+0,00	-0,153	39,831	5,08	39,984	4,85	-2,0	39,830	40,081	-0,251	-2,0	4,85	39,984	7,37	38,302	-1,682
397+0,00	-0,350	39,826	5,38	40,176	4,85	-2,0	40,088	40,273	-0,185	-2,0	4,85	40,176	5,63	39,653	-0,523
398+0,00	-0,311	40,058	5,32	40,369	4,85	-2,0	40,287	40,466	-0,179	-2,0	4,85	40,369	5,45	39,971	-0,398
399+0,00	-0,096	40,465	4,99	40,561	4,85	-2,0	40,554	40,658	-0,104	-2,0	4,85	40,561	5,32	40,249	-0,312
400+0,00	-0,147	40,607	5,07	40,754	4,85	-2,0	40,709	40,851	-0,142	-2,0	4,85	40,754	5,27	40,475	-0,279
401+0,00	-0,197	40,749	5,15	40,946	4,85	-2,0	40,883	41,043	-0,160	-2,0	4,85	40,946	5,08	40,792	-0,154
402+0,00	-0,104	41,035	5,01	41,139	4,85	-2,0	41,097	41,236	-0,139	-2,0	4,85	41,139	5,12	40,957	-0,182
403+0,00	-0,037	41,294	4,91	41,331	4,85	-2,0	41,270	41,428	-0,158	-2,0	4,85	41,331	4,96	41,260	-0,071
404+0,00	0,062	41,586	4,91	41,524	4,85	-2,0	41,493	41,621	-0,128	-2,0	4,85	41,524	4,94	41,467	-0,057
405+0,00	0,071	41,788	4,92	41,717	4,85	-2,0	41,777	41,814	-0,037	-2,0	4,85	41,717	4,92	41,669	-0,048
405+10,00	0,008	41,821	4,86	41,813	4,85	-2,0	41,913	41,910	0,003	-2,0	4,85	41,813	4,90	41,779	-0,034
406+0,00	-0,023	41,869	4,89	41,892	4,85	-2,0	41,945	41,989	-0,044	-2,0	4,85	41,892	5,05	41,758	-0,134
407+0,00	0,023	41,968	4,87	41,945	4,85	-2,0	41,899	42,042	-0,143	-2,0	4,85	41,945	5,31	41,637	-0,308
408+0,00	0,046	41,906	4,90	41,860	4,85	-2,0	41,812	41,957	-0,145	-2,0	4,85	41,860	5,39	41,497	-0,363
409+0,00	0,071	41,706	4,92	41,635	4,85	-2,0	41,667	41,732	-0,065	-2,0	4,85	41,635	5,32	41,320	-0,315
409+1,49	0,077	41,690	4,93	41,613	4,85	-2,0	41,648	41,710	-0,062	-2,0	4,85	41,613	5,33	41,296	-0,317
410+0,00	0,058	41,329	4,91	41,271	4,85	-2,0	41,317	41,368	-0,051	-2,0	4,85	41,271	5,36	40,931	-0,340
411+0,00	-0,095	40,673	4,99	40,768	4,85	-2,0	40,839	40,865	-0,026	-2,0	4,85	40,768	5,24	40,506	-0,262
412+0,00	-0,294	39,833	5,29	40,127	4,85	-2,0	40,171	40,224	-0,053	-2,0	4,85	40,127	5,37	39,783	-0,344
413+0,00	-0,389	38,957	5,43	39,346	4,85	-2,0	39,346	39,443	-0,097	-2,0	4,85	39,346	5,04	39,217	-0,129
413+9,58	-0,359	38,563	5,39	38,922	4,85	-2,0	38,935	39,019	-0,084	-2,0	4,85	38,922	5,00	38,820	-0,102
413+10,00	-0,349	38,554	5,37	38,903	4,85	-2,0	38,916	39,000	-0,084	-2,0	4,85	38,903	5,01	38,797	-0,106
414+0,00	-0,144	38,299	5,07	38,443	4,85	-2,0	38,498	38,540	-0,042	-2,0	4,85	38,443	5,12	38,265	-0,178
415+0,00	-0,083	37,589	4,98	37,672	4,85	-2,0	37,706	37,769	-0,063	-2,0	4,85	37,672	9,79	34,376	-3,296
416+0,00	-0,465	36,733	5,55	37,198	4,85	-2,0	37,191	37,295	-0,104	-2,0	4,85	37,198	10,06	33,726	-3,472
417+0,00	-0,366	36,656	5,40	37,022	4,85	-2,0	37,055	37,119	-0,064	-2,0	4,85	37,022	5,22	36,777	-0,245
418+0,00	-0,367	36,776	5,40	37,143	4,85	-2,0	37,165	37,240	-0,075	-2,0	4,85	37,143	5,40	36,776	-0,367
419+0,00	-0,631	36,782	5,80	37,413	4,85	-2,0	37,366	37,510	-0,144	-2,0	4,85	37,413	6,29	36,453	-0,960
420+0,00	-0,715	36,968	5,92	37,683	4,85	-2,0	37,605	37,780	-0,175	-2,0	4,85	37,683	7,20	36,113	-1,570
421+0,00	-0,688	37,265	5,88	37,953	4,85	-2,0	37,900	38,050	-0,150	-2,0	4,85	37,953	7,01	36,514	-1,439
422+0,00	-0,601	37,622	5,75	38,223	4,85	-2,0	38,229	38,320	-0,091	-2,0	4,85	38,223	7,37	36,540	-1,683
423+0,00	-0,449	38,044	5,52	38,493	4,85	-2,0	38,522	38,590	-0,068	-2,0	4,85	38,493	8,48	36,074	-2,419
424+0,00	-0,355	38,408	5,38	38,763	4,85	-2,0	38,844	38,860	-0,016	-2,0	4,85	38,763	8,46	36,354	-2,409
425+0,00	-0,067	38,966	4,95	39,033	4,85	-2,0	39,157	39,130	0,027	-2,0	4,85	39,033	6,56	37,895	-1,138
426+0,00	0,036	39,341	4,89	39,305	4,85	-2,0	39,402	39,402	0,000	-2,0	4,85	39,305	5,16	39,100	-0,205
427+0,00	0,036	39,613	4,89	39,577	4,85	-2,0	39,592	39,674	-0,082	-2,0	4,85	39,577	8,24	37,317	-2,260
428+0,00	-0,347	39,504	5,37	39,851	4,85	-2,0	39,854	39,948	-0,094	-2,0	4,85	39,851	8,44	37,459	-2,392
429+0,00	-0,233	39,892	5,20	40,125	4,85	-2,0	40,169	40,222	-0,053	-2,0	4,85	40,125	8,48	37,704	-2,421
430+0,00	-0,366	40,034	5,40	40,400	4,85	-2,0	40,465	40,497	-0,032	-2,0	4,85	40,400	7,01	38,961	-1,439
431+0,00	-0,014	40,662	4,87	40,676	4,85	-2,0	40,758	40,773	-0,015	-2,0	4,85	40,676	5,56	40,205	-0,471
432+0,00	0,151	41,103	5,00	40,952	4,85	-2,0	41,078	41,049	0,029	-2,0	4,85	40,952	5,39	40,593	-0,359
433+0,00	0,187	41,444	5,04	41,257	4,85	-2,0	41,416	41,354	0,062	-2,0	4,85	41,257	5,53	40,805	-0,452
434+0,00	0,109	41,732	4,96	41,623	4,85	-2,0	41,765	41,720	0,045	-2,0	4,85	41,623	5,88	40,939	-0,684
435+0,00	0,061	42,111	4,91	42,050	4,85	-2,0	42,143	42,147	-0,004	-2,0	4,85	42,050	5,83	41,394	-0,656
436+0,00	-0,009	42,527	4,86	42,536	4,85	-2,0	42,531	42,633	-0,102	-2,0	4,85	42,536	8,21	40,295	-2,241
437+0,00	-0,024	43,029	4,89	43,053	4,85	-2,0	43,007	43,150	-0,143	-2,0	4,85	43,053	11,34	38,727	-4,326
438+0,00	0,026	43,492	4,88	43,466	4,85	-2,0	43,443	43,563	-0,120	-2,0	4,85	43,466	5,84	42,804	-0,662
439+0,00	0,041	43,714	4,89	43,673	4,85	-2,0	43,742	43,770	-0,028	-2,0	4,85	43,673	5,98	42,918	-0,755
440+0,00	-0,029	43,644	4,89	43,673	4,85	-2,0	43,781	43,770	0,011	-2,0	4,85	43,673	6,46	42,598	-1,075
441+0,00	0,049	43,516	4,90	43,467	4,85	-2,0	43,547	43,564	-0,017	-2,0	4,85	43,467	6,58	42,316	-1,151
442+0,00	0,126	43,180	4,98	43,054	4,85	-2,0	43,128	43,151	-0,023	-2,0	4,85	43,054	6,28	42,101	-0,953
443+0,00	0,173	42,607	5,02	42,434	4,85	-2,0	42,509	42,531	-0,022	-2,0	4,85	42,434	5,70	41,870	-0,564

RW Engenheiros Consultores S/S

Rodovia: SE-160 - Riachuelo

Trecho: Entr. SE-245(Riachuelo) / Entr.BR-235 - 2º Trecho

Eixo Principal

Estaca	NOTA DE SERVIÇO DE SUB-BASE - EIXO PRINCIPAL														
	Lado Esquerdo						Eixo			Lado Direito					
	Offset			Bordo			Cota Terreno	Cota Projeto	Cota Verm.	Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%				%	Dist.	Cota	Dist.	Cota	Altura
444+0,00	0,185	41,896	5,04	41,711	4,85	-2,0	41,808	41,808	0,000	-2,0	4,85	41,711	5,18	41,488	-0,223
445+0,00	0,137	41,229	4,99	41,092	4,85	-2,0	41,175	41,189	-0,014	-2,0	4,85	41,092	5,25	40,828	-0,264
446+0,00	0,032	40,589	4,88	40,557	4,85	-2,0	40,653	40,654	-0,001	-2,0	4,85	40,557	5,12	40,380	-0,177
447+0,00	0,057	40,249	4,91	40,192	4,85	-2,0	40,307	40,289	0,018	-2,0	4,85	40,192	5,00	40,094	-0,098
448+0,00	0,042	40,037	4,89	39,995	4,85	-2,0	40,148	40,092	0,056	-2,0	4,85	39,995	4,85	39,996	0,001
449+0,00	0,009	39,978	4,86	39,969	4,85	-2,0	40,148	40,066	0,082	-2,0	4,85	39,969	4,87	39,990	0,021
450+0,00	-0,199	39,828	5,15	40,027	4,85	-2,0	40,140	40,124	0,016	-2,0	4,85	40,027	5,13	40,309	0,282
451+0,00	-0,018	40,066	4,88	40,084	4,85	-2,0	40,202	40,181	0,021	-2,0	4,85	40,084	5,14	39,890	-0,194
452+0,00	-0,036	40,106	4,90	40,142	4,85	-2,0	40,265	40,239	0,026	-2,0	4,85	40,142	4,96	40,066	-0,076
453+0,00	0,068	40,268	4,92	40,200	4,85	-2,0	40,297	40,297	0,000	-2,0	4,85	40,200	4,92	40,156	-0,044
454+0,00	0,027	40,378	4,88	40,351	4,85	-2,0	40,379	40,448	-0,069	-2,0	4,85	40,351	5,06	40,210	-0,141
455+0,00	-0,024	40,478	4,89	40,502	4,85	-2,0	40,537	40,599	-0,062	-2,0	4,85	40,502	4,95	40,436	-0,066
456+0,00	0,018	40,705	4,87	40,687	4,85	-2,0	40,746	40,784	-0,038	-2,0	4,85	40,687	4,87	40,675	-0,012
457+0,00	0,025	40,966	4,87	40,941	4,85	-2,0	41,003	41,038	-0,035	-2,0	4,85	40,941	4,88	40,923	-0,018
458+0,00	0,058	41,322	4,91	41,264	4,85	-2,0	41,342	41,361	-0,019	-2,0	4,85	41,264	4,94	41,203	-0,061
459+0,00	0,008	41,664	4,86	41,656	4,85	-2,0	41,760	41,753	0,007	-2,0	4,85	41,656	4,93	41,603	-0,053
460+0,00	0,013	42,096	4,86	42,083	4,85	-2,0	42,241	42,180	0,061	-2,0	4,85	42,083	4,86	42,094	0,011
461+0,00	-0,016	42,494	4,87	42,510	4,85	-2,0	42,649	42,607	0,042	-2,0	4,85	42,510	4,88	42,538	0,028
462+0,00	0,061	42,997	4,91	42,936	4,85	-2,0	43,078	43,033	0,045	-2,0	4,85	42,936	4,92	43,007	0,071
463+0,00	0,000	43,422	4,85	43,422	4,85	-2,0	43,520	43,519	0,001	-2,0	4,85	43,422	5,02	43,307	-0,115
464+0,00	0,009	44,035	4,86	44,026	4,85	-2,0	44,070	44,123	-0,053	-2,0	4,85	44,026	5,09	43,866	-0,160
465+0,00	-0,264	44,483	5,25	44,747	4,85	-2,0	44,811	44,844	-0,033	-2,0	4,85	44,747	4,87	44,733	-0,014
466+0,00	-0,054	45,533	4,93	45,587	4,85	-2,0	45,724	45,684	0,040	-2,0	4,85	45,587	4,97	45,504	-0,083
467+0,00	-0,226	46,318	5,19	46,544	4,85	-2,0	46,716	46,641	0,075	-2,0	4,85	46,544	4,88	46,573	0,029
468+0,00	-0,340	47,221	5,36	47,561	4,85	-2,0	47,658	47,658	0,000	-2,0	4,85	47,561	5,09	47,403	-0,158
469+0,00	-0,184	48,313	5,13	48,497	4,85	-2,0	48,563	48,594	-0,031	-2,0	4,85	48,497	5,12	48,314	-0,183
470+0,00	-0,229	49,205	5,19	49,434	4,85	-2,0	49,487	49,531	-0,044	-2,0	4,85	49,434	5,31	49,130	-0,304
471+0,00	-0,113	50,257	5,02	50,370	4,85	-2,0	50,459	50,467	-0,008	-2,0	4,85	50,370	5,04	50,242	-0,128
472+0,00	-0,017	51,290	4,88	51,307	4,85	-2,0	51,387	51,404	-0,017	-2,0	4,85	51,307	4,90	51,271	-0,036
473+0,00	-0,082	52,161	4,97	52,243	4,85	-2,0	52,289	52,340	-0,051	-2,0	4,85	52,243	4,90	52,210	-0,033
474+0,00	-0,171	53,009	5,11	53,180	4,85	-2,0	53,242	53,277	-0,035	-2,0	4,85	53,180	4,94	53,119	-0,061
475+0,00	-0,115	54,001	5,02	54,116	4,85	-2,0	54,213	54,213	0,000	-2,0	4,85	54,116	5,08	53,962	-0,154
476+0,00	-0,293	54,820	5,29	55,113	4,85	-2,0	55,149	55,210	-0,061	-2,0	4,85	55,113	5,21	54,874	-0,239
477+0,00	-0,311	55,724	5,32	56,035	4,85	-2,0	56,073	56,132	-0,059	-2,0	4,85	56,035	5,04	55,908	-0,127
478+0,00	-0,293	56,514	5,29	56,807	4,85	-2,0	56,828	56,904	-0,076	-2,0	4,85	56,807	4,94	56,745	-0,062
479+0,00	-0,314	57,114	5,32	57,428	4,85	-2,0	57,438	57,525	-0,087	-2,0	4,85	57,428	5,32	57,112	-0,316
480+0,00	-0,318	57,582	5,33	57,900	4,85	-2,0	57,936	57,997	-0,061	-2,0	4,85	57,900	5,12	57,723	-0,177
481+0,00	-0,263	57,958	5,24	58,221	4,85	-2,0	58,302	58,318	-0,016	-2,0	4,85	58,221	5,14	58,030	-0,191
482+0,00	-0,110	58,282	5,01	58,392	4,85	-2,0	58,471	58,489	-0,018	-2,0	4,85	58,392	4,97	58,311	-0,081
483+0,00	-0,150	58,262	5,08	58,412	4,85	-2,0	58,419	58,509	-0,090	-2,0	4,85	58,412	5,07	58,265	-0,147
484+0,00	-0,171	58,124	5,11	58,295	4,85	-2,0	58,314	58,392	-0,078	-2,0	4,85	58,295	4,95	58,231	-0,064
485+0,00	-0,082	57,969	4,97	58,051	4,85	-2,0	58,169	58,148	0,021	-2,0	4,85	58,051	5,00	58,200	0,149
486+0,00	-0,223	57,459	5,18	57,682	4,85	-2,0	57,773	57,779	-0,006	-2,0	4,85	57,682	5,68	57,130	-0,552
487+0,00	-0,198	56,989	5,15	57,187	4,85	-2,0	57,245	57,284	-0,039	-2,0	4,85	57,187	6,43	56,135	-1,052
488+0,00	-0,342	56,287	5,36	56,629	4,85	-2,0	56,640	56,726	-0,086	-2,0	4,85	56,629	5,30	56,331	-0,298
489+0,00	-0,301	55,770	5,30	56,071	4,85	-2,0	56,096	56,168	-0,072	-2,0	4,85	56,071	5,11	55,899	-0,172
490+0,00	-0,176	55,337	5,11	55,513	4,85	-2,0	55,610	55,610	0,000	-2,0	4,85	55,513	5,04	55,385	-0,128
490+15,00	-0,076	55,050	4,96	55,126	4,85	-2,0	55,292	55,223	0,069	-2,0	4,85	55,126	5,14	54,935	-0,191
491+0,00	-0,058	54,944	4,94	55,002	4,85	-2,0	55,199	55,099	0,100	-2,0	4,85	55,002	5,07	54,855	-0,147
492+0,00	-0,081	54,523	4,97	54,604	4,85	-2,0	54,783	54,701	0,082	-2,0	4,85	54,604	4,93	54,549	-0,055
493+0,00	-0,148	54,218	5,07	54,366	4,85	-2,0	54,463	54,463	0,000	-2,0	4,85	54,366	5,00	54,267	-0,099
494+0,00	-0,078	54,208	4,97	54,286	4,85	-2,0	54,389	54,383	0,006	-2,0	4,85	54,286	5,09	54,129	-0,157
495+0,00	0,045	54,411	4,90	54,366	4,85	-2,0	54,486	54,463	0,023	-2,0	4,85	54,366	5,02	54,252	-0,114
496+0,00	-0,051	54,553	4,93	54,604	4,85	-2,0	54,735	54,701	0,034	-2,0	4,85	54,604	5,17	54,388	-0,216
497+0,00	-0,106	54,895	5,01	55,001	4,85	-2,0	55,112	55,098	0,014	-2,0	4,85	55,001	5,16	54,796	-0,205
498+0,00	-0,111	55,446	5,02	55,557	4,85	-2,0	55,667	55,654	0,013	-2,0	4,85	55,557	4,99	55,465	-0,092
499+0,00	-0,181	56,090	5,12	56,271	4,85	-2,0	56,394	56,368	0,026	-2,0	4,85	56,271	5,11	56,100	-0,171
500+0,00	-0,266	56,879	5,25	57,145	4,85	-2,0	57,228	57,242	-0,014	-2,0	4,85	57,145	5,15	56,943	-0,202

RW Engenheiros Consultores S/S

Rodovia: SE-160 - Riachuelo

Trecho: Entr. SE-245(Riachuelo) / Entr.BR-235 - 2º Trecho

Eixo Principal

Estaca	NOTA DE SERVIÇO DE SUB-BASE - EIXO PRINCIPAL														
	Lado Esquerdo						Eixo			Lado Direito					
	Offset			Bordo			Cota Terreno	Cota Projeto	Cota Verm.	Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%				%	Dist.	Cota	Dist.	Cota	Altura
500+5,00	-0,282	57,106	5,27	57,388	4,85	-2,0	57,445	57,485	-0,040	-2,0	4,85	57,388	5,13	57,202	-0,186
501+0,00	-0,251	57,881	5,23	58,132	4,85	-2,0	58,181	58,229	-0,048	-2,0	4,85	58,132	5,25	57,863	-0,269
502+0,00	-0,247	58,878	5,22	59,125	4,85	-2,0	59,162	59,222	-0,060	-2,0	4,85	59,125	5,42	58,742	-0,383
503+0,00	-0,201	59,928	5,15	60,129	4,85	-2,0	60,189	60,226	-0,037	-2,0	4,85	60,129	5,31	59,821	-0,308
504+0,00	0,055	61,209	4,91	61,154	4,85	-2,0	61,265	61,251	0,014	-2,0	4,85	61,154	5,08	61,003	-0,151
505+0,00	-0,004	62,198	4,86	62,202	4,85	-2,0	62,315	62,299	0,016	-2,0	4,85	62,202	5,04	62,078	-0,124
506+0,00	-0,244	63,028	5,22	63,272	4,85	-2,0	63,329	63,369	-0,040	-2,0	4,85	63,272	5,21	63,032	-0,240
507+0,00	-0,484	63,880	5,58	64,364	4,85	-2,0	64,372	64,461	-0,089	-2,0	4,85	64,364	6,39	63,339	-1,025
508+0,00	-0,363	65,115	5,39	65,478	4,85	-2,0	65,548	65,575	-0,027	-1,0	4,85	65,526	5,49	65,099	-0,427
509+0,00	-0,102	66,501	5,00	66,603	4,85	-2,0	66,672	66,700	-0,028	0,0	4,85	66,698	5,47	66,287	-0,411
509+0,79	-0,099	66,549	5,00	66,648	4,85	-2,0	66,714	66,745	-0,031	0,0	4,85	66,745	5,44	66,355	-0,390
510+0,00	0,074	67,781	5,02	67,707	4,95	-2,4	67,844	67,825	0,019	0,8	4,85	67,862	5,02	67,748	-0,114
511+0,00	0,081	68,891	5,13	68,810	5,05	-2,8	69,046	68,950	0,096	1,6	4,85	69,026	4,89	68,996	-0,030
512+0,00	0,116	70,027	5,26	69,911	5,15	-3,2	70,136	70,075	0,061	2,4	4,85	70,190	4,99	70,096	-0,094
513+0,00	0,013	70,908	5,26	70,895	5,25	-3,6	71,120	71,083	0,037	3,2	4,85	71,237	5,09	71,080	-0,157
514+0,00	0,025	71,668	5,37	71,643	5,35	-4,0	71,890	71,856	0,034	4,0	4,85	72,049	5,26	71,778	-0,271
514+0,79	0,028	71,696	5,38	71,668	5,35	-4,0	71,917	71,882	0,035	4,0	4,85	72,076	5,26	71,803	-0,273
515+0,00	-0,131	72,051	5,55	72,182	5,35	-4,0	72,391	72,396	-0,005	4,0	4,85	72,590	5,39	72,230	-0,360
516+0,00	-0,237	72,250	5,71	72,487	5,35	-4,0	72,684	72,701	-0,017	4,0	4,85	72,895	5,52	72,451	-0,444
517+0,00	-0,093	72,464	5,49	72,557	5,35	-4,0	72,784	72,771	0,013	4,0	4,85	72,965	5,31	72,659	-0,306
518+0,00	-0,088	72,306	5,48	72,394	5,35	-4,0	72,688	72,608	0,080	4,0	4,85	72,802	5,07	72,658	-0,144
519+0,00	-0,128	71,985	5,54	72,113	5,35	-4,0	72,430	72,327	0,103	4,0	4,85	72,521	5,21	72,282	-0,239
520+0,00	-0,323	71,509	5,83	71,832	5,35	-4,0	72,053	72,046	0,007	4,0	4,85	72,240	5,40	71,876	-0,364
521+0,00	-0,544	71,007	6,17	71,551	5,35	-4,0	71,665	71,765	-0,100	4,0	4,85	71,959	5,63	71,441	-0,518
522+0,00	-0,359	70,912	5,89	71,271	5,35	-4,0	71,342	71,485	-0,143	4,0	4,85	71,679	5,87	71,002	-0,677
523+0,00	-0,655	70,335	6,33	70,990	5,35	-4,0	70,982	71,204	-0,222	4,0	4,85	71,398	5,94	70,673	-0,725
524+0,00	-0,921	69,788	6,73	70,709	5,35	-4,0	70,753	70,923	-0,170	4,0	4,85	71,117	5,83	70,466	-0,651
524+13,20	-0,551	69,972	6,18	70,523	5,35	-4,0	70,689	70,737	-0,048	4,0	4,85	70,931	5,34	70,602	-0,329
525+0,00	-0,373	70,064	5,88	70,437	5,32	-3,9	70,665	70,642	0,023	3,7	4,85	70,823	5,13	70,634	-0,189
526+0,00	-0,005	70,107	5,22	70,112	5,22	-3,5	70,514	70,293	0,221	2,9	4,85	70,435	4,90	70,483	0,048
527+0,00	-0,433	69,217	5,77	69,650	5,12	-3,1	69,595	69,807	-0,212	2,1	4,85	69,910	5,75	69,309	-0,601
528+0,00	-0,581	68,469	5,89	69,050	5,02	-2,7	68,973	69,184	-0,211	1,3	4,85	69,249	6,08	68,428	-0,821
529+0,00	-0,267	68,046	5,32	68,313	4,92	-2,3	68,362	68,424	-0,062	0,5	4,85	68,450	4,92	68,401	-0,049
529+13,20	-0,234	67,514	5,20	67,748	4,85	-2,0	67,836	67,845	-0,009	0,0	4,85	67,845	4,85	67,844	-0,001
530+0,00	-0,249	67,182	5,22	67,431	4,85	-2,0	67,546	67,528	0,018	-0,3	4,85	67,514	4,93	67,459	-0,055
531+0,00	-0,290	66,107	5,28	66,397	4,85	-2,0	66,540	66,494	0,046	-1,1	4,85	66,438	5,57	65,957	-0,481
532+0,00	-0,432	64,863	5,50	65,295	4,85	-2,0	65,318	65,392	-0,074	-2,0	4,85	65,295	5,72	64,717	-0,578
533+0,00	-0,530	63,663	5,64	64,193	4,85	-2,0	64,060	64,290	-0,230	-2,0	4,85	64,193	5,91	63,484	-0,709
534+0,00	-0,727	62,364	5,94	63,091	4,85	-2,0	62,968	63,188	-0,220	-2,0	4,85	63,091	6,33	62,101	-0,990
535+0,00	-0,391	61,764	5,44	62,155	4,85	-2,0	62,220	62,252	-0,032	-2,0	4,85	62,155	5,96	61,414	-0,741
536+0,00	-0,184	61,368	5,13	61,552	4,85	-2,0	61,673	61,649	0,024	-2,0	4,85	61,552	10,82	57,570	-3,982
537+0,00	-0,401	60,881	5,45	61,282	4,85	-2,0	61,361	61,379	-0,018	-2,0	4,85	61,282	14,04	55,154	-6,128
538+0,00	-0,303	61,041	5,30	61,344	4,85	-2,0	61,472	61,441	0,031	-2,0	4,85	61,344	5,16	61,139	-0,205
539+0,00	-0,224	61,515	5,19	61,739	4,85	-2,0	61,899	61,836	0,063	-2,0	4,85	61,739	5,35	61,409	-0,330
540+0,00	-0,100	62,367	5,00	62,467	4,85	-2,0	62,694	62,564	0,130	-2,0	4,85	62,467	5,92	61,757	-0,710
541+0,00	-0,105	63,422	5,01	63,527	4,85	-2,0	63,794	63,624	0,170	-2,0	4,85	63,527	5,66	62,987	-0,540
542+0,00	-0,278	64,643	5,27	64,921	4,85	-2,0	65,123	65,018	0,105	-2,0	4,85	64,921	5,25	64,652	-0,269
543+0,00	-0,130	66,376	5,04	66,506	4,85	-1,5	66,582	66,577	0,005	-2,0	4,85	66,480	5,12	66,298	-0,182
543+15,40	-0,276	67,450	5,26	67,726	4,85	-1,1	67,754	67,778	-0,024	-2,0	4,85	67,681	4,87	67,665	-0,016
544+0,00	-0,346	67,745	5,37	68,091	4,85	-0,9	68,109	68,136	-0,027	-2,0	4,85	68,039	4,87	68,027	-0,012
544+10,00	-0,376	68,507	5,41	68,883	4,85	-0,7	68,906	68,916	-0,010	-2,0	4,85	68,819	4,86	68,826	0,007
545+0,00	-0,302	69,415	5,30	69,717	4,85	-0,4	69,723	69,737	-0,014	-2,0	4,85	69,640	4,85	69,640	0,000
546+0,00	-0,335	71,067	5,35	71,402	4,85	0,5	71,397	71,380	0,017	-2,2	4,91	71,270	4,92	71,260	-0,010
546+8,00	-0,259	71,839	5,24	72,098	4,85	1,3	72,059	72,037	0,022	-2,6	5,01	71,905	5,10	71,846	-0,059
547+0,00	0,091	73,180	4,94	73,089	4,85	2,5	72,983	72,970	0,013	-3,2	5,16	72,803	5,16	72,805	0,002
547+15,40	0,210	74,417	5,06	74,207	4,85	4,0	74,027	74,013	0,014	-4,0	5,35	73,799	5,40	73,845	0,046
548+0,00	0,062	74,546	4,91	74,484	4,85	4,0	74,314	74,290	0,024	-4,0	5,35	74,076	5,41	74,140	0,064
549+0,00	-0,079	75,433	4,97	75,512	4,85	4,0	75,371	75,318	0,053	-4,0	5,35	75,104	5,43	75,052	-0,052

RW Engenheiros Consultores S/S

Rodovia: SE-160 - Riachuelo

Trecho: Entr. SE-245(Riachuelo) / Entr.BR-235 - 2º Trecho

Eixo Principal

Estaca	NOTA DE SERVIÇO DE SUB-BASE - EIXO PRINCIPAL														
	Lado Esquerdo						Eixo			Lado Direito					
	Offset			Bordo			Cota Terreno	Cota Projeto	Cota Verm.	Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%				%	Dist.	Cota	Dist.	Cota	Altura
550+0,00	0,061	76,308	4,91	76,247	4,85	4,0	76,114	76,053	0,061	-4,0	5,35	75,839	5,56	75,700	-0,139
551+0,00	-0,009	76,679	4,86	76,688	4,85	4,0	76,544	76,494	0,050	-4,0	5,35	76,280	5,62	76,546	0,266
552+0,00	-0,028	76,809	4,89	76,837	4,85	4,0	76,639	76,643	-0,004	-4,0	5,35	76,429	5,46	76,535	0,106
553+0,00	-0,203	76,490	5,15	76,693	4,85	4,0	76,421	76,499	-0,078	-4,0	5,35	76,285	5,52	76,173	-0,112
554+0,00	-0,300	75,957	5,30	76,257	4,85	4,0	75,950	76,063	-0,113	-4,0	5,35	75,849	5,57	75,701	-0,148
555+0,00	-0,339	75,188	5,36	75,527	4,85	4,0	75,244	75,333	-0,089	-4,0	5,35	75,119	5,42	75,075	-0,044
556+0,00	-0,221	74,283	5,18	74,504	4,85	4,0	74,270	74,310	-0,040	-4,0	5,35	74,096	5,52	73,984	-0,112
556+8,00	-0,099	73,914	5,00	74,013	4,85	4,0	73,833	73,819	0,014	-4,0	5,35	73,605	5,60	73,438	-0,167
557+0,00	-0,011	73,231	4,87	73,242	4,85	4,0	73,093	73,048	0,045	-4,0	5,35	72,834	5,71	72,592	-0,242
558+0,00	0,050	72,005	4,90	71,955	4,85	4,0	71,849	71,761	0,088	-4,0	5,35	71,547	5,56	71,404	-0,143
559+0,00	0,006	70,675	4,86	70,669	4,85	4,0	70,524	70,475	0,049	-4,0	5,35	70,261	5,78	69,976	-0,285
560+0,00	-0,120	69,263	5,03	69,383	4,85	4,0	69,190	69,189	0,001	-4,0	5,35	68,975	5,77	68,694	-0,281
561+0,00	-0,285	67,812	5,28	68,097	4,85	4,0	67,877	67,903	-0,026	-4,0	5,35	67,689	5,83	67,368	-0,321
561+7,64	-0,330	67,275	5,35	67,605	4,85	4,0	67,373	67,411	-0,038	-4,0	5,35	67,197	5,94	66,807	-0,390
562+0,00	-0,441	66,340	5,51	66,781	4,85	3,4	66,619	66,617	0,002	-3,7	5,27	66,422	6,36	65,700	-0,722
563+0,00	-0,383	65,063	5,42	65,446	4,85	2,4	65,338	65,331	0,007	-3,2	5,15	65,166	6,64	64,175	-0,991
564+0,00	-0,423	63,689	5,48	64,112	4,85	1,4	64,025	64,045	-0,020	-2,7	5,02	63,909	7,55	62,228	-1,681
564+10,00	-0,402	63,042	5,45	63,444	4,85	0,9	63,405	63,402	0,003	-2,4	4,96	63,280	9,18	60,467	-2,813
565+0,00	-0,353	62,468	5,38	62,821	4,85	0,4	62,843	62,803	0,040	-2,2	4,90	62,695	12,89	57,368	-5,327
565+7,64	-0,328	62,076	5,34	62,404	4,85	0,0	62,426	62,404	0,022	-2,0	4,85	62,307	6,34	61,314	-0,993
566+0,00	-0,356	61,492	5,38	61,848	4,85	-0,5	61,939	61,871	0,068	-2,0	4,85	61,774	5,90	61,074	-0,700
567+0,00	-0,329	60,904	5,34	61,233	4,85	-1,2	61,281	61,293	-0,012	-2,0	4,85	61,196	5,57	60,713	-0,483
568+0,00	-0,419	60,554	5,48	60,973	4,85	-2,0	60,971	61,070	-0,099	-2,0	4,85	60,973	6,74	59,712	-1,261
569+0,00	-0,600	60,504	5,75	61,104	4,85	-2,0	61,083	61,201	-0,118	-2,0	4,85	61,104	6,39	60,078	-1,026
570+0,00	-0,654	60,935	5,83	61,589	4,85	-2,0	61,614	61,686	-0,072	-2,0	4,85	61,589	5,96	60,849	-0,740
571+0,00	-1,209	61,219	6,66	62,428	4,85	-2,0	62,449	62,525	-0,076	-2,0	4,85	62,428	6,02	61,651	-0,777
571+10,00	-0,402	62,578	5,45	62,980	4,85	-2,0	62,944	63,077	-0,133	-2,0	4,85	62,980	6,17	62,103	-0,877
572+0,00	-0,512	63,065	5,62	63,577	4,85	-2,0	63,518	63,674	-0,156	-2,0	4,85	63,577	6,25	62,646	-0,931
573+0,00	-0,554	64,217	5,68	64,771	4,85	-2,0	64,762	64,868	-0,106	-2,0	4,85	64,771	5,97	64,021	-0,750
574+0,00	-0,212	65,752	5,17	65,964	4,85	-2,0	66,060	66,061	-0,001	-2,0	4,85	65,964	6,03	65,179	-0,785
574+16,00	-0,115	66,804	5,02	66,919	4,85	-2,0	67,027	67,016	0,011	-2,0	4,85	66,919	6,32	65,936	-0,983
575+0,00	-0,135	67,019	5,05	67,154	4,85	-2,0	67,255	67,251	0,004	-2,0	4,85	67,154	6,26	66,217	-0,937
576+0,00	-0,534	67,696	5,65	68,230	4,85	-2,0	68,274	68,327	-0,053	-2,0	4,85	68,230	6,27	67,283	-0,947
577+0,00	-0,540	68,597	5,66	69,137	4,85	-2,0	69,134	69,234	-0,100	-2,0	4,85	69,137	6,29	68,178	-0,959
578+0,00	-0,515	69,361	5,62	69,876	4,85	-2,0	69,847	69,973	-0,126	-2,0	4,85	69,876	5,95	69,146	-0,730
579+0,00	-0,482	69,964	5,57	70,446	4,85	-2,0	70,425	70,543	-0,118	-2,0	4,85	70,446	5,69	69,887	-0,559
579+16,00	-0,407	70,373	5,46	70,780	4,85	-2,0	70,790	70,877	-0,087	-2,0	4,85	70,780	5,73	70,197	-0,583
580+0,00	-0,389	70,462	5,43	70,851	4,85	-2,0	70,870	70,948	-0,078	-2,0	4,85	70,851	5,80	70,215	-0,636
581+0,00	-0,337	70,865	5,36	71,202	4,85	-2,0	71,213	71,299	-0,086	-2,0	4,85	71,202	6,27	70,255	-0,947
582+0,00	-0,568	70,985	5,70	71,553	4,85	-2,0	71,521	71,650	-0,129	-2,0	4,85	71,553	7,44	69,826	-1,727
583+0,00	-0,311	71,593	5,32	71,904	4,85	-2,0	71,896	72,001	-0,105	-2,0	4,85	71,904	9,47	68,826	-3,078
584+0,00	-0,293	71,962	5,29	72,255	4,85	-2,0	72,300	72,352	-0,052	-2,0	4,85	72,255	7,33	70,604	-1,651
585+0,00	-0,347	72,259	5,37	72,606	4,85	-2,0	72,671	72,703	-0,032	-2,0	4,85	72,606	6,02	71,824	-0,782
586+0,00	-0,392	72,481	5,44	72,873	4,85	-2,0	72,925	72,970	-0,045	-2,0	4,85	72,873	5,69	72,310	-0,563
587+0,00	-0,370	72,602	5,41	72,972	4,85	-2,0	73,024	73,069	-0,045	-2,0	4,85	72,972	5,75	72,369	-0,603
588+0,00	-0,425	72,479	5,49	72,904	4,85	-2,0	72,966	73,001	-0,035	-2,0	4,85	72,904	5,65	72,372	-0,532
589+0,00	-0,470	72,199	5,55	72,669	4,85	-2,0	72,725	72,766	-0,041	-2,0	4,85	72,669	5,83	72,017	-0,652
590+0,00	-0,498	71,767	5,60	72,265	4,85	-2,0	72,364	72,362	0,002	-2,0	4,85	72,265	5,91	71,561	-0,704
591+0,00	-0,270	71,508	5,26	71,778	4,85	-2,0	71,858	71,875	-0,017	-2,0	4,85	71,778	6,06	70,972	-0,806
592+0,00	-0,497	70,794	5,60	71,291	4,85	-2,0	71,388	71,388	0,000	-2,0	4,85	71,291	6,00	70,524	-0,767
593+0,00	-0,605	70,301	5,76	70,906	4,85	-2,0	70,965	71,003	-0,038	-2,0	4,85	70,906	6,06	70,102	-0,804
594+0,00	-0,469	70,053	5,55	70,522	4,85	-2,0	70,512	70,619	-0,107	-2,0	4,85	70,522	6,07	69,706	-0,816
595+0,00	-0,005	70,132	4,86	70,137	4,85	-2,0	70,228	70,234	-0,006	-2,0	4,85	70,137	6,00	69,370	-0,767
596+0,00	0,190	69,942	5,04	69,752	4,85	-2,0	69,849	69,849	0,000	-2,0	4,85	69,752	5,71	69,181	-0,571
597+0,00	-0,174	69,109	5,11	69,283	4,85	-2,0	69,379	69,380	-0,001	-2,0	4,85	69,283	5,52	68,839	-0,444
598+0,00	-0,050	68,764	4,93	68,814	4,85	-2,0	68,901	68,911	-0,010	-2,0	4,85	68,814	5,28	68,530	-0,284
599+0,00	-0,289	68,056	5,28	68,345	4,85	-2,0	68,403	68,442	-0,039	-2,0	4,85	68,345	5,63	67,827	-0,518
600+0,00	-0,380	67,496	5,42	67,876	4,85	-2,0	67,922	67,973	-0,051	-2,0	4,85	67,876	6,35	66,876	-1,000

RW Engenheiros Consultores S/S

Rodovia: SE-160 - Riachuelo

Trecho: Entr. SE-245(Riachuelo) / Entr.BR-235 - 2º Trecho

Eixo Principal

Estaca	NOTA DE SERVIÇO DE SUB-BASE - EIXO PRINCIPAL														
	Lado Esquerdo						Eixo			Lado Direito					
	Offset			Bordo			Cota Terreno	Cota Projeto	Cota Verm.	Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%				%	Dist.	Cota	Dist.	Cota	Altura
600+10,00	-0,415	67,226	5,47	67,641	4,85	-2,0	67,695	67,738	-0,043	-2,0	4,85	67,641	6,52	66,530	-1,111
601+0,00	-0,519	66,904	5,63	67,423	4,85	-2,0	67,478	67,520	-0,042	-2,0	4,85	67,423	6,52	66,313	-1,110
602+0,00	-0,344	66,738	5,37	67,082	4,85	-2,0	67,151	67,179	-0,028	-2,0	4,85	67,082	6,16	66,211	-0,871
603+0,00	-0,287	66,583	5,28	66,870	4,85	-2,0	66,978	66,967	0,011	-2,0	4,85	66,870	6,81	65,563	-1,307
604+0,00	-0,236	66,550	5,20	66,786	4,85	-2,0	66,954	66,883	0,071	-2,0	4,85	66,786	5,94	66,056	-0,730
604+10,00	-0,229	66,563	5,19	66,792	4,85	-2,0	66,954	66,889	0,065	-2,0	4,85	66,792	5,86	66,120	-0,672
605+0,00	-0,310	66,504	5,32	66,814	4,85	-2,0	66,919	66,911	0,008	-2,0	4,85	66,814	5,71	66,239	-0,575
606+0,00	-0,336	66,382	5,35	66,718	4,85	-2,0	66,756	66,815	-0,059	-2,0	4,85	66,718	5,60	66,216	-0,502
607+0,00	-0,389	65,950	5,43	66,339	4,85	-2,0	66,357	66,436	-0,079	-2,0	4,85	66,339	5,61	65,832	-0,507
608+0,00	-0,303	65,376	5,31	65,679	4,85	-2,0	65,739	65,776	-0,037	-2,0	4,85	65,679	5,48	65,259	-0,420
609+0,00	-0,124	64,612	5,04	64,736	4,85	-2,0	64,889	64,833	0,056	-2,0	4,85	64,736	5,23	64,480	-0,256
610+0,00	-0,155	63,498	5,08	63,653	4,85	-2,0	63,750	63,750	0,000	-2,0	4,85	63,653	5,25	63,384	-0,269
611+0,00	-0,276	62,123	5,26	62,399	4,85	-2,0	62,495	62,496	-0,001	-2,0	4,85	62,399	5,61	61,894	-0,505
612+0,00	-0,643	60,502	5,81	61,145	4,85	-2,0	61,242	61,242	0,000	-2,0	4,85	61,145	5,37	60,801	-0,344
612+10,00	-0,690	59,950	5,88	60,640	4,85	-2,0	60,681	60,737	-0,056	-2,0	4,85	60,640	5,49	60,213	-0,427
613+0,00	-0,521	59,648	5,63	60,169	4,85	-2,0	60,267	60,266	0,001	-2,0	4,85	60,169	6,21	59,265	-0,904
614+0,00	-0,305	59,133	5,31	59,438	4,85	-2,0	59,589	59,535	0,054	-2,0	4,85	59,438	5,72	58,861	-0,577
615+0,00	-0,134	58,852	5,05	58,986	4,85	-2,0	59,105	59,083	0,022	-2,0	4,85	58,986	5,87	58,307	-0,679
616+0,00	-0,284	58,529	5,28	58,813	4,85	-2,0	58,867	58,910	-0,043	-2,0	4,85	58,813	5,52	58,367	-0,446
617+0,00	-0,313	58,607	5,32	58,920	4,85	-2,0	58,909	59,017	-0,108	-2,0	4,85	58,920	5,30	58,618	-0,302
618+0,00	-0,350	58,955	5,38	59,305	4,85	-2,0	59,184	59,402	-0,218	-2,0	4,85	59,305	5,67	58,760	-0,545
619+0,00	-0,187	59,783	5,13	59,970	4,85	-2,0	59,980	60,067	-0,087	-2,0	4,85	59,970	5,68	59,420	-0,550
619+10,00	-0,322	60,085	5,33	60,407	4,85	-2,0	60,487	60,504	-0,017	-2,0	4,85	60,407	5,52	59,957	-0,450
620+0,00	-0,281	60,598	5,27	60,879	4,85	-2,0	60,951	60,976	-0,025	-2,0	4,85	60,879	5,47	60,468	-0,411
621+0,00	-0,139	61,684	5,06	61,823	4,85	-2,0	61,926	61,920	0,006	-2,0	4,85	61,823	5,20	61,593	-0,230
622+0,00	-0,176	62,591	5,11	62,767	4,85	-2,0	62,863	62,864	-0,001	-2,0	4,85	62,767	5,17	62,554	-0,213
622+6,41	-0,209	62,861	5,16	63,070	4,85	-2,0	63,154	63,167	-0,013	-2,0	4,85	63,070	5,25	62,806	-0,264
623+0,00	-0,269	63,442	5,25	63,711	4,85	-2,0	63,747	63,808	-0,061	-2,0	4,85	63,711	5,39	63,354	-0,357
624+0,00	-0,303	64,352	5,31	64,655	4,85	-2,0	64,700	64,752	-0,052	-2,0	4,85	64,655	5,25	64,387	-0,268
625+0,00	-0,319	65,280	5,33	65,599	4,85	-2,0	65,634	65,696	-0,062	-2,0	4,85	65,599	5,39	65,239	-0,360
626+0,00	-0,308	66,102	5,31	66,410	4,85	-2,0	66,454	66,507	-0,053	-2,0	4,85	66,410	5,60	65,913	-0,497
627+0,00	-0,329	66,626	5,34	66,955	4,85	-2,0	67,020	67,052	-0,032	-2,0	4,85	66,955	5,35	66,621	-0,334
628+0,00	-0,307	66,926	5,31	67,233	4,85	-2,0	67,312	67,330	-0,018	-2,0	4,85	67,233	5,36	66,893	-0,340
629+0,00	-0,161	67,085	5,09	67,246	4,85	-2,0	67,301	67,343	-0,042	-2,0	4,85	67,246	5,42	66,868	-0,378
630+0,00	-0,033	66,959	4,90	66,992	4,85	-2,0	67,046	67,089	-0,043	-2,0	4,85	66,992	5,05	66,858	-0,134
631+0,00	-0,356	66,116	5,38	66,472	4,85	-2,0	66,493	66,569	-0,076	-2,0	4,85	66,472	5,09	66,309	-0,163
632+0,00	-0,359	65,327	5,39	65,686	4,85	-2,0	65,698	65,783	-0,085	-2,0	4,85	65,686	5,58	65,197	-0,489
633+0,00	-0,185	64,581	5,13	64,766	4,85	-2,0	64,803	64,863	-0,060	-2,0	4,85	64,766	5,42	64,385	-0,381
634+0,00	-0,226	63,621	5,19	63,847	4,85	-2,0	63,876	63,944	-0,068	-2,0	4,85	63,847	5,42	63,466	-0,381
634+11,00	-0,264	63,078	5,25	63,342	4,85	-2,0	63,398	63,439	-0,041	-2,0	4,85	63,342	5,43	62,953	-0,389
635+0,00	-0,292	62,665	5,29	62,957	4,85	-2,0	63,045	63,054	-0,009	-2,0	4,85	62,957	5,52	62,511	-0,446
636+0,00	-0,273	62,041	5,26	62,314	4,85	-2,0	62,398	62,411	-0,013	-2,0	4,85	62,314	5,63	61,797	-0,517
637+0,00	-0,273	61,689	5,26	61,962	4,85	-2,0	61,962	62,059	-0,097	-2,0	4,85	61,962	5,55	61,495	-0,467
638+0,00	-0,182	61,719	5,12	61,901	4,85	-2,0	61,863	61,998	-0,135	-2,0	4,85	61,901	5,45	61,502	-0,399
638+1,00	-0,181	61,724	5,12	61,905	4,85	-2,0	61,864	62,002	-0,138	-2,0	4,85	61,905	5,44	61,509	-0,396
639+0,00	-0,020	61,979	4,88	61,999	4,85	-2,0	62,013	62,096	-0,083	-2,0	4,85	61,999	5,38	61,644	-0,355

DER - SE

Rodovia: SE - 160

Trecho: Alargamento (Est. 156+10 a Est. 163) LD

Eixo Principal - Est. 156+10,00 a Est. 163+0,00 - LD

Estaca	NOTA DE SERVIÇO DE ALARGAMENTO NO EIXO PRINCIPAL																				
	Lado Esquerdo						Eixo			Lado Direito											
	Offset			Bordo			Bordo Pista			Cota Terreno	Cota Projeto	Cota Verm.	Bordo Pista			Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%	Cota	Dist.	%				%	Dist.	Cota	%	Dist.	Cota	Dist.	Cota	Altura
156+10,00												2,0	4,00	87,227	2,0	7,30	87,161	9,48	89,337	2,176	
157+0,00												2,0	4,00	86,534	2,0	7,30	86,468	9,94	89,113	2,645	
158+0,00												2,0	4,00	85,049	2,0	7,30	84,983	8,58	86,258	1,275	
158+10,00												2,0	4,00	84,273	2,0	7,30	84,207	8,77	85,673	1,466	
159+0,00												2,0	4,00	83,490	2,0	7,30	83,424	9,29	85,418	1,994	
160+0,00												2,0	4,00	81,925	2,0	7,30	81,859	9,52	84,074	2,215	
161+0,00												2,0	4,00	80,359	2,0	7,30	80,293	8,96	81,956	1,663	
162+0,00												2,0	4,00	78,793	2,0	7,30	78,727	8,22	79,642	0,915	
163+0,00												2,0	4,00	77,228	2,0	7,30	77,162	7,77	77,637	0,475	

DER - SE

Rodovia: SE - 160

Trecho: Alargamento (Est. 195 a Est. 200) LD

Eixo Principal - Est. 195+0,00 a Est. 200+0,00 - LD

Estaca	NOTA DE SERVIÇO DE ALARGAMENTO NO EIXO PRINCIPAL																				
	Lado Esquerdo						Eixo			Lado Direito											
	Offset			Bordo			Bordo Pista			Cota Terreno	Cota Projeto	Cota Verm.	Bordo Pista			Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%	Cota	Dist.	%				%	Dist.	Cota	%	Dist.	Cota	Dist.	Cota	Altura
195+0,00												2,0	4,00	37,746	2,0	7,30	37,686	8,34	38,730	1,044	
196+0,00												2,0	4,00	37,734	2,0	7,30	37,668	9,04	39,412	1,744	
197+0,00												2,0	4,00	37,722	2,0	7,30	37,656	9,58	39,941	2,285	
198+0,00												2,0	4,00	37,709	2,0	7,30	37,643	9,43	39,769	2,126	
199+0,00												2,0	4,00	37,638	2,0	7,30	37,572	8,33	38,603	1,031	

DER - SE

Rodovia: SE - 160

Trecho: Alargamento (Est. 195 a Est. 199+10) LE

Eixo Principal - Est. 195+0,00 a Est. 199+10,00 - LE

Estaca	NOTA DE SERVIÇO DE ALARGAMENTO NO EIXO PRINCIPAL																				
	Lado Esquerdo						Eixo			Lado Direito											
	Offset			Bordo			Bordo Pista			Cota Terreno	Cota Projeto	Cota Verm.	Bordo Pista			Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%	Cota	Dist.	%				%	Dist.	Cota	%	Dist.	Cota	Dist.	Cota	Altura
195+0,00	0,795	38,475	8,09	37,680	7,30	2,0	37,746	4,00	2,0												
196+0,00	1,884	39,552	9,18	37,668	7,30	2,0	37,734	4,00	2,0												
197+0,00	2,217	39,873	9,52	37,656	7,30	2,0	37,722	4,00	2,0												
198+0,00	1,537	39,180	8,84	37,643	7,30	2,0	37,709	4,00	2,0												
199+0,00	0,889	38,461	8,19	37,572	7,30	2,0	37,638	4,00	2,0												

DER - SE

Rodovia: SE - 160

Trecho: Alargamento (Est. 221 a Est. 229) LD

Eixo Principal - Est. 221+0,00 a Est. 229+0,00 - LD

Estaca	NOTA DE SERVIÇO DE ALARGAMENTO NO EIXO PRINCIPAL																				
	Lado Esquerdo						Eixo			Lado Direito											
	Offset			Bordo			Bordo Pista			Cota Terreno	Cota Projeto	Cota Verm.	Bordo Pista			Bordo			Offset		
	Altura	Cota	Dist.	Cota	Dist.	%	Cota	Dist.	%				%	Dist.	Cota	%	Dist.	Cota	Dist.	Cota	Altura
221+0,00													2,0	4,00	32,241	2,0	7,30	32,175	9,96	34,839	2,664
221+2,00													2,0	4,00	32,332	2,0	7,30	32,266	9,56	34,522	2,256
222+0,00													2,0	4,00	33,051	2,0	7,30	32,985	9,16	34,842	1,857
223+0,00													2,0	4,00	33,623	2,0	7,30	33,557	10,02	36,274	2,717
224+0,00													2,0	4,00	33,954	2,0	7,30	33,888	10,00	36,590	2,702
225+0,00													2,0	4,00	34,046	2,0	7,30	33,980	11,05	37,732	3,752
226+0,00													2,0	4,00	33,899	2,0	7,30	33,833	10,11	36,639	2,806

Estaca	Lado Esquerdo								Eixo			Lado Direito							
	Offset		Lateral			Bordo			%	Cota	Cota	Cota	%	Lateral			Offset		
Distância	Cota	Altura	Distância	Cota	Distância	Cota	Cota	Terreno		Projeto	Vermelha	Distância		Cota	Distância	Cota	Distância	Cota	Altura
0	0,0000	18,853	0,303	0,0000	18,550	0,0000	18,550		18,853	18,550	0,303	1,0000	18,530	-2,00	1,0000	18,530	1,0921	18,622	0,092
1	1,7267	17,613	0,386	1,7267	17,227	1,7267	17,227	2,00	17,600	17,193	0,407	1,0000	17,173	-2,00	1,0000	17,173	1,4391	17,612	0,439
2	3,4533	16,524	0,370	3,4533	16,154	3,4533	16,154	2,00	16,435	16,085	0,350	1,0000	16,065	-2,00	1,0000	16,065	1,3524	16,417	0,352
3	5,1800	16,027	0,447	5,1800	15,580	5,1800	15,580	2,00	15,787	15,476	0,311	1,0000	15,456	-2,00	1,0000	15,456	1,3264	15,782	0,326
3+6,856	4,7755	15,904	0,456	4,7755	15,448	4,7755	15,448	2,00	15,779	15,352	0,427	1,0000	15,332	-2,00	1,0000	15,332	1,5702	15,902	0,570
3+13,878	4,3612	15,833	0,520	4,3612	15,313	4,3612	15,313	2,00	15,753	15,226	0,527	1,0000	15,206	-2,00	1,0000	15,206	1,5806	15,787	0,581
3+18,396	4,0946	15,797	0,570	4,0946	15,227	4,0946	15,227	2,00	15,770	15,145	0,625	1,0000	15,125	-2,00	1,0000	15,125	1,6611	15,786	0,661
4	4,0000	15,752	0,556	4,0000	15,196	4,0000	15,196	2,00	15,777	15,116	0,661	1,0000	15,096	-2,00	1,0000	15,096	1,6972	15,793	0,697
4+18,300	4,0000	15,354	0,487	4,0000	14,867	4,0000	14,867	2,00	15,827	14,787	1,040	1,0000	14,767	-2,00	1,0000	14,767	2,1050	15,872	1,105
5	4,0000	15,329	0,492	4,0000	14,837	4,0000	14,837	2,00	15,805	14,757	1,048	1,0000	14,737	-2,00	1,0000	14,737	2,1124	15,849	1,112
5+11,744	4,0000	15,152	0,526	4,0000	14,626	4,0000	14,626	2,00	15,653	14,546	1,107	1,0000	14,526	-2,00	1,0000	14,526	2,1561	15,682	1,156
6	4,0000	14,901	0,424	4,0000	14,477	4,0000	14,477	2,00	15,535	14,397	1,138	1,0000	14,377	-2,00	1,0000	14,377	2,2132	15,590	1,213
6+10,909	4,0000	14,836	0,555	4,0000	14,281	4,0000	14,281	2,00	15,358	14,201	1,157	1,0000	14,181	-2,00	1,0000	14,181	2,2538	15,435	1,254
7	4,0000	14,679	0,561	4,0000	14,118	4,0000	14,118	2,00	15,216	14,038	1,178	1,0000	14,018	-2,00	1,0000	14,018	2,2864	15,304	1,286
7+8,470	4,0000	14,532	0,566	4,0000	13,966	4,0000	13,966	2,00	15,078	13,886	1,192	1,0000	13,866	-2,00	1,0000	13,866	2,3112	15,177	1,311
8	4,0000	14,369	0,611	4,0000	13,758	4,0000	13,758	2,00	14,758	13,678	1,080	1,0000	13,658	-2,00	1,0000	13,658	2,1873	14,845	1,187
8+5,988	3,7979	14,241	0,594	3,7979	13,647	3,7979	13,647	2,00	14,589	13,571	1,018	1,0000	13,551	-2,00	1,0000	13,551	2,1204	14,671	1,120
8+17,098	3,4229	13,962	0,522	3,4229	13,440	3,4229	13,440	2,00	13,978	13,371	0,607	1,0000	13,351	-2,00	1,0000	13,351	1,8195	14,171	0,820
9	3,3250	13,907	0,522	3,3250	13,385	3,3250	13,385	2,00	13,691	13,319	0,372	1,0000	13,299	-2,00	1,0000	13,299	1,7317	14,031	0,732
10	2,6500	13,495	0,483	2,6500	13,012	2,6500	13,012	2,00	13,280	12,959	0,321	1,0000	12,939	-2,00	1,0000	12,939	1,2327	13,172	0,233
11	1,5275	13,010	0,335	1,5275	12,675	1,5275	12,675	2,00	12,678	12,645	0,033	1,0000	12,625	-2,00	1,0000	12,625	1,0256	12,651	0,026
12	0,4050	12,777	0,349	0,4050	12,428	0,4050	12,428	2,00	12,698	12,420	0,278	1,0000	12,400	-2,00	1,0000	12,400	1,0724	12,472	0,072
12+7,217	0,0000	12,695	0,340	0,0000	12,355	0,0000	12,355		12,695	12,355	0,340	1,0000	12,335	-2,00	1,0000	12,335	1,1233	12,458	0,123

Estaca	Lado Esquerdo			Eixo			Lado Direito			Distância	Cota	%	Distância	Cota	%	Distância	Cota	Distância	Cota	Altura
	Offset	Distância	Altura	Lateral	Bordo	Cota	Cota	Cota	Bordo											
0		2,3400	28,925	0,375	2,3400	28,550	2,3400	28,550	2,00	28,721	28,503	0,218	1,0800	28,481	-2,00	1,0800	28,481	1,2140	28,615	0,134
1		2,3400	29,326	0,401	2,3400	28,925	2,3400	28,925	2,00	29,227	28,879	0,348	1,0800	28,857	-2,00	1,0800	28,857	1,2526	29,030	0,173
2		2,3400	29,796	0,495	2,3400	29,301	2,3400	29,301	2,00	29,675	29,254	0,421	1,0800	29,232	-2,00	1,0800	29,232	1,3624	29,514	0,282
3		2,3400	30,331	0,477	2,3400	29,854	2,3400	29,854	2,00	30,113	29,807	0,306	1,0800	29,785	-2,00	1,0800	29,785	1,1075	29,812	0,027
4		2,3400	30,978	0,571	2,3400	30,407	2,3400	30,407	2,00	30,664	30,360	0,304	1,0800	30,338	-2,00	1,0800	30,338	1,7149	29,915	-0,423
5		2,3400	31,483	0,238	2,3400	31,245	2,3400	31,245	2,00	31,264	31,199	0,065	1,0800	31,177	-2,00	1,0800	31,177	1,5649	30,854	-0,323
5+11,502		2,3400	32,135	0,407	2,3400	31,728	2,3400	31,728	2,00	31,646	31,681	-0,035	1,0800	31,659	-2,00	1,0800	31,659	1,4280	31,427	-0,232
6		2,0089	32,560	0,483	2,0089	32,077	2,0089	32,077	2,00	32,253	32,037	0,216	1,0800	32,016	-2,00	1,0800	32,016	1,2973	31,871	-0,145
7		1,2297	33,398	0,498	1,2297	32,900	1,2297	32,900	2,00	33,300	32,876	0,424	1,0800	32,854	-2,00	1,0800	32,854	1,3796	33,154	0,300
8		0,4505	34,124	0,401	0,4505	33,723	0,4505	33,723	2,00	34,105	33,714	0,391	1,0800	33,693	-2,00	1,0800	33,693	1,3498	33,963	0,270
8+11,562		0,0000	34,574	0,375	0,0000	34,199	0,0000	34,199		34,574	34,199	0,375	1,0800	34,177	-2,00	1,0800	34,177	1,3372	34,434	0,257

ANEXO IV – PLANILHAS DO CÁLCULO DE VOLUMES

RW – ENGENHEIROS CONSULTORES S/S



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CNPJ 04072015/0001-16 / Fone: (85) 3226.5103 - Fortaleza - Ceará
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DER - SE

Rodovia: SE - 160

Trecho: Alargamento (Est. 5 a Est. 8) LE

Eixo Principal - Est. 5+0,00 a Est. 8+0,00 - LE

CÁLCULO DE VOLUMES										
ESTACA	ÁREA DE CORTE (m ²)	ÁREA DE ATERRO (m ²)	VOLUME DE CORTE (m ³)	VOLUME DE ATERRO (m ³)	VOLUME ACUM. DE CORTE (m ³)	VOLUME ACUM. DE ATERRO (m ³)	VOL. EMP. ATERRO x 1.20 (m ³)	VOL. EMP. ACUM. ATERRO (m ³)	COMPENSAÇÃO LATERAL	BRUCKNER
5+0,00	0,217	0,000								
			32,620	0,000	32,620	0,000	0,000	0,000	0,000	32,620
6+0,00	1,189	0,000								
			40,530	0,000	73,150	0,000	0,000	0,000	0,000	73,150
7+0,00	1,643	0,000								
			57,086	0,000	130,236	0,000	0,000	0,000	0,000	130,236
7+16,636	2,171	0,000								
			10,849	0,000	141,085	0,000	0,000	0,000	0,000	141,085
8+0,00	2,400	0,000								

DER - SE

Rodovia: SE - 160

Trecho: Alargamento (Est. 39 a Est. 48) LE

Eixo Principal - Est. 39+0,00 a Est. 48+0,00 - LE

CÁLCULO DE VOLUMES										
ESTACA	ÁREA DE CORTE (m ²)	ÁREA DE ATERRO (m ²)	VOLUME DE CORTE (m ³)	VOLUME DE ATERRO (m ³)	VOLUME ACUM. DE CORTE (m ³)	VOLUME ACUM. DE ATERRO (m ³)	VOL. EMP. ATERRO x 1.20 (m ³)	VOL. EMP. ACUM. ATERRO (m ³)	COMPENSAÇÃO LATERAL	BRUCKNER
39+0,00	2,640	0,000								
			177,210	0,000	177,210	0,000	0,000	0,000	0,000	177,210
40+0,00	15,081	0,000								
			374,652	0,000	551,862	0,000	0,000	0,000	0,000	551,862
40+18,000	26,547	0,000								
			51,064	0,000	602,926	0,000	0,000	0,000	0,000	602,926
41+0,00	24,517	0,000								
			218,212	0,000	821,138	0,000	0,000	0,000	0,000	821,138
41+16,032	2,705	0,000								
			25,963	0,000	847,100	0,000	0,000	0,000	0,000	847,100
42+0,00	10,381	0,000								
			236,640	0,000	1.083,740	0,000	0,000	0,000	0,000	1.083,740
43+0,00	13,283	0,000								
			305,520	0,000	1.389,260	0,000	0,000	0,000	0,000	1.389,260
44+0,00	17,269	0,000								
			205,680	0,000	1.594,940	0,000	0,000	0,000	0,000	1.594,940
45+0,00	3,299	0,000								
			65,395	0,000	1.660,335	0,000	0,000	0,000	0,000	1.660,335
45+16,032	4,859	0,000								
			18,449	0,000	1.678,784	0,000	0,000	0,000	0,000	1.678,784
46+0,00	4,440	0,000								
			69,950	0,000	1.748,734	0,000	0,000	0,000	0,000	1.748,734
47+0,00	2,555	0,000								
			37,950	0,000	1.786,684	0,000	0,000	0,000	0,000	1.786,684
48+0,00	1,240	0,000								

DER - SE

Rodovia: SE - 160

Trecho: Alargamento (Est. 117 a Est. 124+10) LE

Eixo Principal - Est. 117+0,00 a Est. 124+10,00 - LE

CÁLCULO DE VOLUMES										
ESTACA	ÁREA DE CORTE (m²)	ÁREA DE ATERRO (m²)	VOLUME DE CORTE (m³)	VOLUME DE ATERRO (m³)	VOLUME ACUM. DE CORTE (m³)	VOLUME ACUM. DE ATERRO (m³)	VOL. EMP. ATERRO x 1.20 (m³)	VOL. EMP. ACUM. ATERRO (m³)	COMPENSAÇÃO LATERAL	BRUCKNER
117+0,00	2,640	0,000								
			97,900	0,000	97,900	0,000	0,000	0,000	0,000	97,900
118+0,00	2,640	0,000								
			151,900	0,000	249,800	0,000	0,000	0,000	0,000	249,800
119+0,00	2,640	0,000								
			165,020	0,000	414,820	0,000	0,000	0,000	0,000	414,820
120+0,00	2,640	0,000								
			145,040	0,000	559,860	0,000	0,000	0,000	0,000	559,860
121+0,00	2,640	0,000								
			78,030	0,000	637,890	0,000	0,000	0,000	0,000	637,890
122+0,00	2,640	0,000								
			36,370	0,000	674,260	0,000	0,000	0,000	0,000	674,260
123+0,00	2,640	0,000								
			20,820	0,000	695,080	0,000	0,000	0,000	0,000	695,080
124+0,00	2,640	0,000								
			6,300	0,000	701,380	0,000	0,000	0,000	0,000	701,380
124+10,000	2,640	0,000								

DER - SE

Rodovia: SE - 160

Trecho: Alargamento (Est. 154 a Est. 161) LE

Eixo Principal - Est. 154+0,00 a Est. 161+0,00 - LE

CÁLCULO DE VOLUMES										
ESTACA	ÁREA DE CORTE (m²)	ÁREA DE ATERRO (m²)	VOLUME DE CORTE (m³)	VOLUME DE ATERRO (m³)	VOLUME ACUM. DE CORTE (m³)	VOLUME ACUM. DE ATERRO (m³)	VOL. EMP. ATERRO x 1.20 (m³)	VOL. EMP. ACUM. ATERRO (m³)	COMPENSAÇÃO LATERAL	BRUCKNER
154+0,00	1,775	0,000								
			58,790	0,000	58,790	0,000	0,000	0,000	0,000	58,790
155+0,00	4,104	0,000								
			56,980	0,050	115,770	0,050	0,060	0,060	0,060	115,710
156+0,00	1,594	0,005								
			34,730	0,100	150,500	0,150	0,120	0,180	0,120	150,320
157+0,00	1,879	0,005								
			39,740	0,050	190,240	0,200	0,060	0,240	0,060	190,000
158+0,00	2,095	0,000								
			19,220	0,000	209,460	0,200	0,000	0,240	0,000	209,220
158+10,000	1,749	0,000								
			21,900	0,000	231,360	0,200	0,000	0,240	0,000	231,120
159+0,00	2,631	0,000								
			42,470	0,000	273,830	0,200	0,000	0,240	0,000	273,590
160+0,00	1,616	0,000								
			34,930	0,000	308,760	0,200	0,000	0,240	0,000	308,520
161+0,00	1,877	0,000								

DER - SE

Rodovia: SE - 160

Trecho: Alargamento (Est. 156+10 a Est. 163) LD

Eixo Principal - Est. 156+10,00 a Est. 163+0,00 - LD

CÁLCULO DE VOLUMES										
ESTACA	ÁREA DE CORTE (m²)	ÁREA DE ATERRO (m²)	VOLUME DE CORTE (m³)	VOLUME DE ATERRO (m³)	VOLUME ACUM. DE CORTE (m³)	VOLUME ACUM. DE ATERRO (m³)	VOL. EMP. ATERRO x 1.20 (m³)	VOL. EMP. ACUM. ATERRO (m³)	COMPENSAÇÃO LATERAL	BRUCKNER
156+10,00	3,956	0,000								
			38,530	0,000	38,530	0,000	0,000	0,000	0,000	38,530
157+0,00	3,750	0,000								
			72,790	0,000	111,320	0,000	0,000	0,000	0,000	111,320
158+0,00	3,529	0,000								
			38,425	0,000	149,745	0,000	0,000	0,000	0,000	149,745
158+10,00	4,156	0,000								
			43,495	0,000	193,240	0,000	0,000	0,000	0,000	193,240
159+0,00	4,543	0,000								
			77,200	0,000	270,440	0,000	0,000	0,000	0,000	270,440
160+0,00	3,177	0,000								
			59,570	0,000	330,010	0,000	0,000	0,000	0,000	330,010
161+0,00	2,780	0,000								
			46,780	0,000	376,790	0,000	0,000	0,000	0,000	376,790
162+0,00	1,898	0,000								
			28,560	0,000	405,350	0,000	0,000	0,000	0,000	405,350
163+0,00	0,958	0,000								

DER - SE

Rodovia: SE - 160

Trecho: Alargamento (Est. 195 a Est. 199+10) LE

Eixo Principal - Est. 195+0,00 a Est. 199+10,00 - LE

CÁLCULO DE VOLUMES										
ESTACA	ÁREA DE CORTE (m²)	ÁREA DE ATERRO (m²)	VOLUME DE CORTE (m³)	VOLUME DE ATERRO (m³)	VOLUME ACUM. DE CORTE (m³)	VOLUME ACUM. DE ATERRO (m³)	VOL. EMP. ATERRO x 1.20 (m³)	VOL. EMP. ACUM. ATERRO (m³)	COMPENSAÇÃO LATERAL	BRUCKNER
195+0,00	1,859	0,000								
			54,610	0,000	54,610	0,000	0,000	0,000	0,000	54,610
196+0,00	3,602	0,000								
			79,230	0,000	133,840	0,000	0,000	0,000	0,000	133,840
197+0,00	4,321	0,000								
			79,980	0,000	213,820	0,000	0,000	0,000	0,000	213,820
198+0,00	3,677	0,000								
			58,870	0,000	272,690	0,000	0,000	0,000	0,000	272,690
199+0,00	2,210	0,000								
			19,105	0,000	291,795	0,000	0,000	0,000	0,000	291,795
199+10,00	1,611	0,000								

DER - SE

Rodovia: SE - 160

Trecho: Alargamento (Est. 195 a Est. 200) LD

Eixo Principal - Est. 195+0,00 a Est. 200+0,00 - LD

CÁLCULO DE VOLUMES										
ESTACA	ÁREA DE CORTE (m²)	ÁREA DE ATERRO (m²)	VOLUME DE CORTE (m³)	VOLUME DE ATERRO (m³)	VOLUME ACUM. DE CORTE (m³)	VOLUME ACUM. DE ATERRO (m³)	VOL. EMP. ATERRO x 1.20 (m³)	VOL. EMP. ACUM. ATERRO (m³)	COMPENSAÇÃO LATERAL	BRUCKNER
195+0,00	1,741	0,000								
			57,420	0,000	57,420	0,000	0,000	0,000	0,000	57,420
196+0,00	4,001	0,000								
			88,460	0,000	145,880	0,000	0,000	0,000	0,000	145,880
197+0,00	4,845	0,000								
			93,690	0,000	239,570	0,000	0,000	0,000	0,000	239,570
198+0,00	4,524	0,000								
			66,440	0,000	306,010	0,000	0,000	0,000	0,000	306,010
199+0,00	2,120	0,000								
			30,960	0,000	336,970	0,000	0,000	0,000	0,000	336,970
200+0,00	0,976	0,000								

DER - SE

Rodovia: SE - 160

Trecho: Alargamento (Est. 221 a Est. 229) LD

Eixo Principal - Est. 221+0,00 a Est. 229+0,00 - LD

CÁLCULO DE VOLUMES										
ESTACA	ÁREA DE CORTE (m²)	ÁREA DE ATERRO (m²)	VOLUME DE CORTE (m³)	VOLUME DE ATERRO (m³)	VOLUME ACUM. DE CORTE (m³)	VOLUME ACUM. DE ATERRO (m³)	VOL. EMP. ATERRO x 1.20 (m³)	VOL. EMP. ACUM. ATERRO (m³)	COMPENSAÇÃO LATERAL	BRUCKNER
221+0,00	2,247	0,000								
			4,033	0,000	4,033	0,000	0,000	0,000	0,000	4,033
221+2,000	1,786	0,000								
			31,626	0,000	35,659	0,000	0,000	0,000	0,000	35,659
222+0,00	1,728	0,000								
			46,910	0,000	82,569	0,000	0,000	0,000	0,000	82,569
223+0,00	2,963	0,000								
			70,810	0,000	153,379	0,000	0,000	0,000	0,000	153,379
224+0,00	4,118	0,000								
			89,150	0,000	242,529	0,000	0,000	0,000	0,000	242,529
225+0,00	4,797	0,000								
			91,490	0,000	334,019	0,000	0,000	0,000	0,000	334,019
226+0,00	4,352	0,000								
			61,010	0,000	395,029	0,000	0,000	0,000	0,000	395,029
227+0,00	1,749	0,000								
			5,428	0,000	400,457	0,000	0,000	0,000	0,000	400,457
227+2,000	3,679	0,000								
			5,428	0,000	405,885	0,000	0,000	0,000	0,000	405,885
228+0,00	3,407	0,000								
			5,428	0,000	411,313	0,000	0,000	0,000	0,000	411,313
229+0,00	2,152	0,000								

DER - SE

Rodovia: SE - 160

Trecho: Alargamento (Est. 357 a Est. 360) LE

Eixo Principal - Est. 357+0,00 a Est. 360+0,00 - LE

CÁLCULO DE VOLUMES										
ESTACA	ÁREA DE CORTE (m²)	ÁREA DE ATERRO (m²)	VOLUME DE CORTE (m³)	VOLUME DE ATERRO (m³)	VOLUME ACUM. DE CORTE (m³)	VOLUME ACUM. DE ATERRO (m³)	VOL. EMP. ATERRO x 1.20 (m³)	VOL. EMP. ACUM. ATERRO (m³)	COMPENSAÇÃO LATERAL	BRUCKNER
357+0,00	3,474	0,000								
			35,699	0,000	35,699	0,000	0,000	0,000	0,000	35,699
357+7,287	6,324	0,000								
			80,753	0,000	116,452	0,000	0,000	0,000	0,000	116,452
358+0,00	6,380	0,000								
			87,280	0,000	203,732	0,000	0,000	0,000	0,000	203,732
359+0,00	2,348	0,000								
			29,120	0,000	232,852	0,000	0,000	0,000	0,000	232,852
360+0,00	0,564	0,000								

DER - SE

Rodovia: SE - 160

Trecho: Alargamento (Est. 511 a Est. 514+10) LE

Eixo Principal - Est. 511+0,00 a Est. 514+00,00 - LE

CÁLCULO DE VOLUMES										
ESTACA	ÁREA DE CORTE (m²)	ÁREA DE ATERRO (m²)	VOLUME DE CORTE (m³)	VOLUME DE ATERRO (m³)	VOLUME ACUM. DE CORTE (m³)	VOLUME ACUM. DE ATERRO (m³)	VOL. EMP. ATERRO x 1.20 (m³)	VOL. EMP. ACUM. ATERRO (m³)	COMPENSAÇÃO LATERAL	BRUCKNER
511+0,00	0,776	0,000								
			17,710	0,000	17,710	0,000	0,000	0,000	0,000	17,710
512+0,00	0,995	0,000								
			24,510	0,000	42,220	0,000	0,000	0,000	0,000	42,220
513+0,00	1,456	0,000								
			22,720	0,000	64,940	0,000	0,000	0,000	0,000	64,940
514+0,00	0,816	0,000								
			0,648	0,000	65,588	0,000	0,000	0,000	0,000	65,588
514+0,798	0,809	0,000								
			0,648	0,000	66,236	0,000	0,000	0,000	0,000	66,236
514+10,000	0,351	0,000								

DER - SE

Rodovia: SE - 160

Trecho: 1ª Interseção - Pedra Branca

Eixo Principal - Est. 0+0,00 a Est. 12+7,217

CÁLCULO DE VOLUMES										
ESTACA	ÁREA DE CORTE (m²)	ÁREA DE ATERRO (m²)	VOLUME DE CORTE (m³)	VOLUME DE ATERRO (m³)	VOLUME ACUM. DE CORTE (m³)	VOLUME ACUM. DE ATERRO (m³)	VOL. EMP. ATERRO x 1.20 (m³)	VOL. EMP. ACUM. ATERRO (m³)	COMPENSAÇÃO LATERAL	BRUCKNER
0+0,00	0,217	0,000								
			14,060	0,000	14,060	0,000	0,000	0,000	0,000	14,060
1+0,00	1,189	0,000								
			28,320	0,000	42,380	0,000	0,000	0,000	0,000	42,380
2+0,00	1,643	0,000								
			38,140	0,000	80,520	0,000	0,000	0,000	0,000	80,520
3+0,00	2,171	0,000								
			15,669	0,000	96,189	0,000	0,000	0,000	0,000	96,189
3+6,856	2,400	0,000								
			17,429	0,000	113,618	0,000	0,000	0,000	0,000	113,618
3+13,878	2,564	0,000								
			12,278	0,000	125,896	0,000	0,000	0,000	0,000	125,896
3+18,396	2,871	0,000								
			4,640	0,000	130,536	0,000	0,000	0,000	0,000	130,536
4+0,00	2,914	0,000								
			60,811	0,000	191,347	0,000	0,000	0,000	0,000	191,347
4+18,300	3,732	0,000								
			6,402	0,000	197,749	0,000	0,000	0,000	0,000	197,749
5+0,00	3,800	0,000								
			47,998	0,000	245,747	0,000	0,000	0,000	0,000	245,747
5+11,744	4,374	0,000								
			36,731	0,000	282,478	0,000	0,000	0,000	0,000	282,478
6+0,00	4,524	0,000								
			50,318	0,000	332,796	0,000	0,000	0,000	0,000	332,796
6+10,909	4,701	0,000								
			43,314	0,000	376,110	0,000	0,000	0,000	0,000	376,110
7+0,00	4,828	0,000								
			41,092	0,000	417,202	0,000	0,000	0,000	0,000	417,202
7+8,470	4,875	0,000								
			52,519	0,000	469,721	0,000	0,000	0,000	0,000	469,721
8+0,00	4,235	0,000								
			23,979	0,000	493,700	0,000	0,000	0,000	0,000	493,700
8+5,988	3,774	0,000								
			35,302	0,000	529,002	0,000	0,000	0,000	0,000	529,002
8+17,098	2,581	0,000								
			7,032	0,000	536,034	0,000	0,000	0,000	0,000	536,034
9+0,00	2,265	0,000								
			36,590	0,000	572,624	0,000	0,000	0,000	0,000	572,624
10+0,00	1,394	0,000								
			17,230	0,030	589,854	0,030	0,036	0,036	0,036	589,818
11+0,00	0,329	0,003								
			6,430	0,030	596,284	0,060	0,036	0,072	0,036	596,212
12+0,00	0,314	0,000								
			2,050	0,000	598,334	0,060	0,000	0,072	0,000	598,262
12+7,217	0,254	0,000								

DER - SE

Rodovia: SE - 160

Trecho: 2ª Interseção - com a Rod. Valter Franco para Laranjeiras

Eixo Principal - Est. 0+0,00 a Est. 8+11,562

CÁLCULO DE VOLUMES										
ESTACA	ÁREA DE CORTE (m²)	ÁREA DE ATERRO (m²)	VOLUME DE CORTE (m³)	VOLUME DE ATERRO (m³)	VOLUME ACUM. DE CORTE (m³)	VOLUME ACUM. DE ATERRO (m³)	VOL. EMP. ATERRO x 1.20 (m³)	VOL. EMP. ACUM. ATERRO (m³)	COMPENSAÇÃO LATERAL	BRUCKNER
0+0,00	0,901	0,000								
			21,690	0,000	21,690	0,000	0,000	0,000	0,000	21,690
1+0,00	1,268	0,000								
			28,490	0,000	50,180	0,000	0,000	0,000	0,000	50,180
2+0,00	1,581	0,000								
			28,760	0,000	78,940	0,000	0,000	0,000	0,000	78,940
3+0,00	1,295	0,000								
			26,070	1,840	105,010	1,840	2,208	2,208	2,208	102,802
4+0,00	1,312	0,184								
			18,960	4,670	123,970	6,510	5,604	7,812	5,604	116,158
5+0,00	0,584	0,283								
			6,826	3,525	130,796	10,035	4,230	12,042	4,230	118,754
5+11,502	0,603	0,330								
			6,063	1,708	136,859	11,743	2,050	14,092	2,050	122,767
6+0,00	0,824	0,072								
			18,640	0,720	155,499	12,463	0,864	14,956	0,864	140,543
7+0,00	1,040	0,000								
			16,330	0,000	171,829	12,463	0,000	14,956	0,000	156,873
8+0,00	0,593	0,000								
			5,694	0,000	177,523	12,463	0,000	14,956	0,000	162,567
8+11,562	0,392	0,000								