Rodovia: Vicinal 02 CAI-383 (Bem Querer)
Trecho: Entronc. BR-210 (Km 0,00) x Vicinal 01 CAI-118 (Km 25,70)
Serviço: Eliminação de pontos críticos, reparos e recuperação
Extensão: 25,70 Km
Município: Caracaraí
ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO

DMT de 200 a 400 **P=** 6,00 **Empolamento:** 20,00%

Estacas	Área		Semi-Distância (m)	Volume		
	Aterro (m²)	Acum. Aterro (m²)		Aterro (m³)	Acum. Aterro (m³)	Empolado (m³)
0	0,510	0,510				
			10,000	9,170	9,170	11,004
1	0,407	0,917				-
		-	10,000	8,190	17,360	20,832
2	0,412	1,329		-	-	-
		-	10,000	8,440	25,800	30,960
3	0,432	1,761		-	-	-
		-	10,000	9,530	35,330	42,396
4	0,521	2,282		-	-	-
		-	10,000	13,420	48,750	58,500
5	0,821	3,103		-	-	-
		-	10,000	23,190	71,940	86,328
6	1,498	4,601		-	-	-
		-	10,000	41,000	112,940	135,528
7	2,602	7,203		-	-	-
		-	10,000	69,320	182,260	218,712
8	4,330	11,533		-	-	-
		-	10,000	105,880	288,140	345,768
9	6,258	17,791		-	-	-
		-	10,000	138,550	426,690	512,028
10	7,597	25,388		-	-	-
		-	10,000	159,860	586,550	703,860
11	8,389	33,777		-	-	-
		-	10,000	171,270	757,820	909,384
12	8,738	42,515		-	-	-
		-	10,000	176,170	933,990	1.120,788
13	8,879	51,394		-	-	-
		-	10,000	179,150	1.113,140	1.335,768
14	9,036	60,430		-	-	-
		-	10,000	182,540	1.295,680	1.554,816
15	9,218	69,648		-	-	-
		-	10,000	186,440	1.482,120	1.778,544
16	9,426	79,074		-	-	-
		-	10,000	190,840	1.672,960	2.007,552
17	9,658	88,732		-	-	-
		-	10,000	192,760	1.865,720	2.238,864
18	9,618	98,350		-	-	-
		-	10,000	186,460	2.052,180	2.462,616
19	9,028	107,378		-	-	-
		-	10,000	169,420	2.221,600	2.665,920

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
20	7,914	115,292		-	-	-	
		-	10,000	137,970	2.359,570	2.831,484	
21	5,883	121,175		-	-	-	
		-	10,000	86,470	2.446,040	2.935,248	
22	2,764	123,939		-	-	-	
		-	10,000	36,380	2.482,420	2.978,904	
23	0,874	124,813		-	-	-	
		-	10,000	13,740	2.496,160	2.995,392	
24	0,500	125,313		-	-	-	
		-	10,000	8,040	2.504,200	3.005,040	
25	0,304	125,617		-	-	-	
		-	10,000	5,770	2.509,970	3.011,964	
26	0,273	125,890		-	-	-	
		-	10,000	5,820	2.515,790	3.018,948	
27	0,309	126,199		-	-	-	
		-	10,000	6,130	2.521,920	3.026,304	
28	0,304	126,503		-	-	-	
		-	10,000	5,670	2.527,590	3.033,108	
29	0,263	126,766		-	-	-	
		-	10,000	6,080	2.533,670	3.040,404	
30	0,345	127,111		-	-	-	
		-	10,000	7,360	2.541,030	3.049,236	
31	0,391	127,502		-	-	-	
		-	10,000	7,870	2.548,900	3.058,680	
32	0,396	127,898		-	-	-	
		-	10,000	7,610	2.556,510	3.067,812	
33	0,365	128,263		-	-	-	
		-	10,000	6,990	2.563,500	3.076,200	
34	0,334	128,597		-	-	-	
		-	10,000	6,790	2.570,290	3.084,348	
35	0,345	128,942		-	-	-	
		-	10,000	7,360	2.577,650	3.093,180	
36	0,391	129,333		-	-	-	
		-	10,000	8,700	2.586,350	3.103,620	
37	0,479	129,812		-	-	-	
		-	10,000	9,320	2.595,670	3.114,804	
38	0,453	130,265		-	-	-	
		-	10,000	9,220	2.604,890	3.125,868	
39	0,469	130,734		-	-	-	
		-	10,000	9,900	2.614,790	3.137,748	
40	0,521	131,255		-	-	-	
		-	10,000	16,060	2.630,850	3.157,020	
41	1,085	132,340		-	-	-	
		-	10,000	38,250	2.669,100	3.202,920	
42	2,740	135,080		-	-	-	
		-	10,000	85,530	2.754,630	3.305,556	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO						
DMT de	200 a 400		**P=**	6,00	**Empolamento:**	20,00%

Estacas	Área		Semi-Distância (m)	Volume		
	Aterro (m²)	Acum. Aterro (m²)		Aterro (m³)	Acum. Aterro (m³)	Empolado (m³)
43	5,813	140,893		-	-	-
		-	10,000	147,780	2.902,410	3.482,892
44	8,965	149,858		-	-	-
		-	10,000	190,690	3.093,100	3.711,720
45	10,104	159,962		-	-	-
		-	10,000	191,010	3.284,110	3.940,932
46	8,997	168,959		-	-	-
		-	10,000	148,730	3.432,840	4.119,408
47	5,876	174,835		-	-	-
		-	10,000	87,060	3.519,900	4.223,880
48	2,830	177,665		-	-	-
		-	10,000	40,400	3.560,300	4.272,360
49	1,210	178,875		-	-	-
		-	10,000	19,090	3.579,390	4.295,268
50	0,699	179,574		-	-	-
		-	10,000	13,560	3.592,950	4.311,540
51	0,657	180,231		-	-	-
		-	10,000	12,140	3.605,090	4.326,108
52	0,557	180,788		-	-	-
		-	10,000	9,580	3.614,670	4.337,604
53	0,401	181,189		-	-	-
		-	10,000	9,370	3.624,040	4.348,848
54	0,536	181,725		-	-	-
		-	10,000	11,510	3.635,550	4.362,660
55	0,615	182,340		-	-	-
		-	10,000	12,460	3.648,010	4.377,612
56	0,631	182,971		-	-	-
		-	10,000	12,200	3.660,210	4.392,252
57	0,589	183,560		-	-	-
		-	10,000	10,790	3.671,000	4.405,200
58	0,490	184,050		-	-	-
		-	10,000	10,790	3.681,790	4.418,148
59	0,589	184,639		-	-	-
		-	10,000	12,200	3.693,990	4.432,788
60	0,631	185,270		-	-	-
		-	10,000	12,410	3.706,400	4.447,680
61	0,610	185,880		-	-	-
		-	10,000	11,410	3.717,810	4.461,372
62	0,531	186,411		-	-	-
		-	10,000	10,410	3.728,220	4.473,864
63	0,510	186,921		-	-	-
		-	10,000	10,000	3.738,220	4.485,864
64	0,490	187,411		-	-	-
		-	10,000	10,160	3.748,380	4.498,056
65	0,526	187,937		-	-	-
		-	10,000	9,840	3.758,220	4.509,864

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
66	0,458	188,395		-	-	-	
		-	10,000	9,110	3.767,330	4.520,796	
67	0,453	188,848		-	-	-	
		-	10,000	9,580	3.776,910	4.532,292	
68	0,505	189,353		-	-	-	
		-	10,000	9,580	3.786,490	4.543,788	
69	0,453	189,806		-	-	-	
		-	10,000	9,110	3.795,600	4.554,720	
70	0,458	190,264		-	-	-	
		-	10,000	9,840	3.805,440	4.566,528	
71	0,526	190,790		-	-	-	
		-	10,000	17,410	3.822,850	4.587,420	
72	1,215	192,005		-	-	-	
		-	10,000	44,620	3.867,470	4.640,964	
73	3,247	195,252		-	-	-	
		-	10,000	88,020	3.955,490	4.746,588	
74	5,555	200,807		-	-	-	
		-	10,000	121,000	4.076,490	4.891,788	
75	6,545	207,352		-	-	-	
		-	10,000	125,760	4.202,250	5.042,700	
76	6,031	213,383		-	-	-	
		-	10,000	101,460	4.303,710	5.164,452	
77	4,115	217,498		-	-	-	
		-	10,000	62,280	4.365,990	5.239,188	
78	2,113	219,611		-	-	-	
		-	10,000	31,060	4.397,050	5.276,460	
79	0,993	220,604		-	-	-	
		-	10,000	15,970	4.413,020	5.295,624	
80	0,604	221,208		-	-	-	
		-	10,000	11,460	4.424,480	5.309,376	
81	0,542	221,750		-	-	-	
		-	10,000	9,900	4.434,380	5.321,256	
82	0,448	222,198		-	-	-	
		-	10,000	7,670	4.442,050	5.330,460	
83	0,319	222,517		-	-	-	
		-	10,000	7,200	4.449,250	5.339,100	
84	0,401	222,918		-	-	-	
		-	10,000	8,540	4.457,790	5.349,348	
85	0,453	223,371		-	-	-	
		-	10,000	9,270	4.467,060	5.360,472	
86	0,474	223,845		-	-	-	
		-	10,000	9,320	4.476,380	5.371,656	
87	0,458	224,303		-	-	-	
		-	10,000	9,060	4.485,440	5.382,528	
88	0,448	224,751		-	-	-	
		-	10,000	7,880	4.493,320	5.391,984	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
89	0,340	225,091		-	-	-	
		-	10,000	6,080	4.499,400	5.399,280	
90	0,268	225,359		-	-	-	
		-	10,000	5,050	4.504,450	5.405,340	
91	0,237	225,596		-	-	-	
		-	10,000	4,790	4.509,240	5.411,088	
92	0,242	225,838		-	-	-	
		-	10,000	5,250	4.514,490	5.417,388	
93	0,283	226,121		-	-	-	
		-	10,000	6,480	4.520,970	5.425,164	
94	0,365	226,486		-	-	-	
		-	10,000	6,330	4.527,300	5.432,760	
95	0,268	226,754		-	-	-	
		-	10,000	4,750	4.532,050	5.438,460	
96	0,207	226,961		-	-	-	
		-	10,000	3,930	4.535,980	5.443,176	
97	0,186	227,147		-	-	-	
		-	10,000	3,880	4.539,860	5.447,832	
98	0,202	227,349		-	-	-	
		-	10,000	4,550	4.544,410	5.453,292	
99	0,253	227,602		-	-	-	
		-	10,000	6,030	4.550,440	5.460,528	
100	0,350	227,952		-	-	-	
		-	10,000	10,970	4.561,410	5.473,692	
101	0,747	228,699		-	-	-	
		-	10,000	24,870	4.586,280	5.503,536	
102	1,740	230,439		-	-	-	
		-	10,000	51,920	4.638,200	5.565,840	
103	3,452	233,891		-	-	-	
		-	10,000	86,780	4.724,980	5.669,976	
104	5,226	239,117		-	-	-	
		-	10,000	113,700	4.838,680	5.806,416	
105	6,144	245,261		-	-	-	
		-	10,000	111,050	4.949,730	5.939,676	
106	4,961	250,222		-	-	-	
		-	10,000	76,890	5.026,620	6.031,944	
107	2,728	252,950		-	-	-	
		-	10,000	40,420	5.067,040	6.080,448	
108	1,314	254,264		-	-	-	
		-	10,000	18,970	5.086,010	6.103,212	
109	0,583	254,847		-	-	-	
		-	10,000	10,050	5.096,060	6.115,272	
110	0,422	255,269		-	-	-	
		-	10,000	9,320	5.105,380	6.126,456	
111	0,510	255,779		-	-	-	
		-	10,000	10,410	5.115,790	6.138,948	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
112	0,531	256,310		-	-	-	
		-	10,000	10,210	5.126,000	6.151,200	
113	0,490	256,800		-	-	-	
		-	10,000	8,760	5.134,760	6.161,712	
114	0,386	257,186		-	-	-	
		-	10,000	8,960	5.143,720	6.172,464	
115	0,510	257,696		-	-	-	
		-	10,000	10,830	5.154,550	6.185,460	
116	0,573	258,269		-	-	-	
		-	10,000	11,410	5.165,960	6.199,152	
117	0,568	258,837		-	-	-	
		-	10,000	10,680	5.176,640	6.211,968	
118	0,500	259,337		-	-	-	
		-	10,000	10,730	5.187,370	6.224,844	
119	0,573	259,910		-	-	-	
		-	10,000	11,620	5.198,990	6.238,788	
120	0,589	260,499		-	-	-	
		-	10,000	11,250	5.210,240	6.252,288	
121	0,536	261,035		-	-	-	
		-	10,000	10,050	5.220,290	6.264,348	
122	0,469	261,504		-	-	-	
		-	10,000	9,120	5.229,410	6.275,292	
123	0,443	261,947		-	-	-	
		-	10,000	8,860	5.238,270	6.285,924	
124	0,443	262,390		-	-	-	
		-	10,000	8,030	5.246,300	6.295,560	
125	0,360	262,750		-	-	-	
		-	10,000	6,740	5.253,040	6.303,648	
126	0,314	263,064		-	-	-	
		-	10,000	6,130	5.259,170	6.311,004	
127	0,299	263,363		-	-	-	
		-	10,000	6,180	5.265,350	6.318,420	
128	0,319	263,682		-	-	-	
		-	10,000	6,950	5.272,300	6.326,760	
129	0,376	264,058		-	-	-	
		-	10,000	8,400	5.280,700	6.336,840	
130	0,464	264,522		-	-	-	
		-	10,000	9,280	5.289,980	6.347,976	
131	0,464	264,986		-	-	-	
		-	10,000	9,690	5.299,670	6.359,604	
132	0,505	265,491		-	-	-	
		-	10,000	10,780	5.310,450	6.372,540	
133	0,573	266,064		-	-	-	
		-	10,000	12,560	5.323,010	6.387,612	
134	0,683	266,747		-	-	-	
		-	10,000	15,040	5.338,050	6.405,660	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
135	0,821	267,568		-	-	-	
		-	10,000	17,970	5.356,020	6.427,224	
136	0,976	268,544		-	-	-	
		-	10,000	28,520	5.384,540	6.461,448	
137	1,876	270,420		-	-	-	
		-	10,000	63,440	5.447,980	6.537,576	
138	4,468	274,888		-	-	-	
		-	10,000	117,660	5.565,640	6.678,768	
139	7,298	282,186		-	-	-	
		-	10,000	154,250	5.719,890	6.863,868	
140	8,127	290,313		-	-	-	
		-	10,000	148,820	5.868,710	7.042,452	
141	6,755	297,068		-	-	-	
		-	10,000	102,640	5.971,350	7.165,620	
142	3,509	300,577		-	-	-	
		-	10,000	47,900	6.019,250	7.223,100	
143	1,281	301,858		-	-	-	
		-	10,000	20,540	6.039,790	7.247,748	
144	0,773	302,631		-	-	-	
		-	10,000	14,090	6.053,880	7.264,656	
145	0,636	303,267		-	-	-	
		-	10,000	13,250	6.067,130	7.280,556	
146	0,689	303,956		-	-	-	
		-	10,000	12,990	6.080,120	7.296,144	
147	0,610	304,566		-	-	-	
		-	10,000	11,620	6.091,740	7.310,088	
148	0,552	305,118		-	-	-	
		-	10,000	10,620	6.102,360	7.322,832	
149	0,510	305,628		-	-	-	
		-	10,000	10,880	6.113,240	7.335,888	
150	0,578	306,206		-	-	-	
		-	10,000	11,770	6.125,010	7.350,012	
151	0,599	306,805		-	-	-	
		-	10,000	11,670	6.136,680	7.364,016	
152	0,568	307,373		-	-	-	
		-	10,000	10,580	6.147,260	7.376,712	
153	0,490	307,863		-	-	-	
		-	10,000	10,630	6.157,890	7.389,468	
154	0,573	308,436		-	-	-	
		-	10,000	11,770	6.169,660	7.403,592	
155	0,604	309,040		-	-	-	
		-	10,000	11,930	6.181,590	7.417,908	
156	0,589	309,629		-	-	-	
		-	10,000	11,100	6.192,690	7.431,228	
157	0,521	310,150		-	-	-	
		-	10,000	11,100	6.203,790	7.444,548	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
158	0,589	310,739		-	-	-	
		-	10,000	12,040	6.215,830	7.458,996	
159	0,615	311,354		-	-	-	
		-	10,000	12,040	6.227,870	7.473,444	
160	0,589	311,943		-	-	-	
		-	10,000	10,990	6.238,860	7.486,632	
161	0,510	312,453		-	-	-	
		-	10,000	10,930	6.249,790	7.499,748	
162	0,583	313,036		-	-	-	
		-	10,000	11,870	6.261,660	7.513,992	
163	0,604	313,640		-	-	-	
		-	10,000	11,820	6.273,480	7.528,176	
164	0,578	314,218		-	-	-	
		-	10,000	10,830	6.284,310	7.541,172	
165	0,505	314,723		-	-	-	
		-	10,000	10,310	6.294,620	7.553,544	
166	0,526	315,249		-	-	-	
		-	10,000	10,260	6.304,880	7.565,856	
167	0,500	315,749		-	-	-	
		-	10,000	10,050	6.314,930	7.577,916	
168	0,505	316,254		-	-	-	
		-	10,000	9,530	6.324,460	7.589,352	
169	0,448	316,702		-	-	-	
		-	10,000	9,530	6.333,990	7.600,788	
170	0,505	317,207		-	-	-	
		-	10,000	9,220	6.343,210	7.611,852	
171	0,417	317,624		-	-	-	
		-	10,000	8,390	6.351,600	7.621,920	
172	0,422	318,046		-	-	-	
		-	10,000	9,270	6.360,870	7.633,044	
173	0,505	318,551		-	-	-	
		-	10,000	12,040	6.372,910	7.647,492	
174	0,699	319,250		-	-	-	
		-	10,000	16,810	6.389,720	7.667,664	
175	0,982	320,232		-	-	-	
		-	10,000	23,240	6.412,960	7.695,552	
176	1,342	321,574		-	-	-	
		-	10,000	31,380	6.444,340	7.733,208	
177	1,796	323,370		-	-	-	
		-	10,000	40,370	6.484,710	7.781,652	
178	2,241	325,611		-	-	-	
		-	10,000	48,010	6.532,720	7.839,264	
179	2,560	328,171		-	-	-	
		-	10,000	53,180	6.585,900	7.903,080	
180	2,758	330,929		-	-	-	
		-	10,000	55,760	6.641,660	7.969,992	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
181	2,818	333,747		-	-	-	
		-	10,000	55,580	6.697,240	8.036,688	
182	2,740	336,487		-	-	-	
		-	10,000	52,760	6.750,000	8.100,000	
183	2,536	339,023		-	-	-	
		-	10,000	49,830	6.799,830	8.159,796	
184	2,447	341,470		-	-	-	
		-	10,000	52,770	6.852,600	8.223,120	
185	2,830	344,300		-	-	-	
		-	10,000	66,430	6.919,030	8.302,836	
186	3,813	348,113		-	-	-	
		-	10,000	93,130	7.012,160	8.414,592	
187	5,500	353,613		-	-	-	
		-	10,000	128,350	7.140,510	8.568,612	
188	7,335	360,948		-	-	-	
		-	10,000	159,250	7.299,760	8.759,712	
189	8,590	369,538		-	-	-	
		-	10,000	177,770	7.477,530	8.973,036	
190	9,187	378,725		-	-	-	
		-	10,000	182,550	7.660,080	9.192,096	
191	9,068	387,793		-	-	-	
		-	10,000	173,180	7.833,260	9.399,912	
192	8,250	396,043		-	-	-	
		-	10,000	150,480	7.983,740	9.580,488	
193	6,798	402,841		-	-	-	
		-	10,000	115,580	8.099,320	9.719,184	
194	4,760	407,601		-	-	-	
		-	10,000	75,780	8.175,100	9.810,120	
195	2,818	410,419		-	-	-	
		-	10,000	43,380	8.218,480	9.862,176	
196	1,520	411,939		-	-	-	
		-	10,000	22,560	8.241,040	9.889,248	
197	0,736	412,675		-	-	-	
		-	10,000	11,370	8.252,410	9.902,892	
198	0,401	413,076		-	-	-	
		-	10,000	8,960	8.261,370	9.913,644	
199	0,495	413,571		-	-	-	
		-	10,000	12,790	8.274,160	9.928,992	
200	0,784	414,355		-	-	-	
		-	10,000	16,100	8.290,260	9.948,312	
201	0,826	415,181		-	-	-	
		-	10,000	16,740	8.307,000	9.968,400	
202	0,848	416,029		-	-	-	
		-	10,000	16,960	8.323,960	9.988,752	
203	0,848	416,877		-	-	-	
		-	10,000	16,690	8.340,650	10.008,780	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
204	0,821	417,698		-	-	-	
		-	10,000	15,940	8.356,590	10.027,908	
205	0,773	418,471		-	-	-	
		-	10,000	14,720	8.371,310	10.045,572	
206	0,699	419,170		-	-	-	
		-	10,000	13,190	8.384,500	10.061,400	
207	0,620	419,790		-	-	-	
		-	10,000	11,770	8.396,270	10.075,524	
208	0,557	420,347		-	-	-	
		-	10,000	10,620	8.406,890	10.088,268	
209	0,505	420,852		-	-	-	
		-	10,000	9,690	8.416,580	10.099,896	
210	0,464	421,316		-	-	-	
		-	10,000	9,020	8.425,600	10.110,720	
211	0,438	421,754		-	-	-	
		-	10,000	8,600	8.434,200	10.121,040	
212	0,422	422,176		-	-	-	
		-	10,000	8,390	8.442,590	10.131,108	
213	0,417	422,593		-	-	-	
		-	10,000	8,440	8.451,030	10.141,236	
214	0,427	423,020		-	-	-	
		-	10,000	8,750	8.459,780	10.151,736	
215	0,448	423,468		-	-	-	
		-	10,000	8,960	8.468,740	10.162,488	
216	0,448	423,916		-	-	-	
		-	10,000	9,120	8.477,860	10.173,432	
217	0,464	424,380		-	-	-	
		-	10,000	9,740	8.487,600	10.185,120	
218	0,510	424,890		-	-	-	
		-	10,000	9,060	8.496,660	10.195,992	
219	0,396	425,286		-	-	-	
		-	10,000	7,360	8.504,020	10.204,824	
220	0,340	425,626		-	-	-	
		-	10,000	6,740	8.510,760	10.212,912	
221	0,334	425,960		-	-	-	
		-	10,000	7,150	8.517,910	10.221,492	
222	0,381	426,341		-	-	-	
		-	10,000	8,710	8.526,620	10.231,944	
223	0,490	426,831		-	-	-	
		-	10,000	8,810	8.535,430	10.242,516	
224	0,391	427,222		-	-	-	
		-	10,000	7,360	8.542,790	10.251,348	
225	0,345	427,567		-	-	-	
		-	10,000	7,000	8.549,790	10.259,748	
226	0,355	427,922		-	-	-	
		-	10,000	7,770	8.557,560	10.269,072	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
227	0,422	428,344		-	-	-	
		-	10,000	9,270	8.566,830	10.280,196	
228	0,505	428,849		-	-	-	
		-	10,000	11,150	8.577,980	10.293,576	
229	0,610	429,459		-	-	-	
		-	10,000	13,040	8.591,020	10.309,224	
230	0,694	430,153		-	-	-	
		-	10,000	14,620	8.605,640	10.326,768	
231	0,768	430,921		-	-	-	
		-	10,000	15,890	8.621,530	10.345,836	
232	0,821	431,742		-	-	-	
		-	10,000	16,790	8.638,320	10.365,984	
233	0,858	432,600		-	-	-	
		-	10,000	17,380	8.655,700	10.386,840	
234	0,880	433,480		-	-	-	
		-	10,000	17,650	8.673,350	10.408,020	
235	0,885	434,365		-	-	-	
		-	10,000	17,590	8.690,940	10.429,128	
236	0,874	435,239		-	-	-	
		-	10,000	17,220	8.708,160	10.449,792	
237	0,848	436,087		-	-	-	
		-	10,000	16,530	8.724,690	10.469,628	
238	0,805	436,892		-	-	-	
		-	10,000	15,520	8.740,210	10.488,252	
239	0,747	437,639		-	-	-	
		-	10,000	14,200	8.754,410	10.505,292	
240	0,673	438,312		-	-	-	
		-	10,000	12,560	8.766,970	10.520,364	
241	0,583	438,895		-	-	-	
		-	10,000	10,620	8.777,590	10.533,108	
242	0,479	439,374		-	-	-	
		-	10,000	10,730	8.788,320	10.545,984	
243	0,594	439,968		-	-	-	
		-	10,000	12,930	8.801,250	10.561,500	
244	0,699	440,667		-	-	-	
		-	10,000	14,830	8.816,080	10.579,296	
245	0,784	441,451		-	-	-	
		-	10,000	16,420	8.832,500	10.599,000	
246	0,858	442,309		-	-	-	
		-	10,000	17,650	8.850,150	10.620,180	
247	0,907	443,216		-	-	-	
		-	10,000	18,350	8.868,500	10.642,200	
248	0,928	444,144		-	-	-	
		-	10,000	18,510	8.887,010	10.664,412	
249	0,923	445,067		-	-	-	
		-	10,000	18,130	8.905,140	10.686,168	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO						
DMT de	200 a 400		**P=**	6,00	**Empolamento:**	20,00%

Estacas	Área		Semi-Distância (m)	Volume		
	Aterro (m²)	Acum. Aterro (m²)		Aterro (m³)	Acum. Aterro (m³)	Empolado (m³)
250	0,890	445,957		-	-	-
		-	10,000	17,160	8.922,300	10.706,760
251	0,826	446,783		-	-	-
		-	10,000	15,620	8.937,920	10.725,504
252	0,736	447,519		-	-	-
		-	10,000	13,560	8.951,480	10.741,776
253	0,620	448,139		-	-	-
		-	10,000	10,990	8.962,470	10.754,964
254	0,479	448,618		-	-	-
		-	10,000	10,890	8.973,360	10.768,032
255	0,610	449,228		-	-	-
		-	10,000	13,250	8.986,610	10.783,932
256	0,715	449,943		-	-	-
		-	10,000	15,090	9.001,700	10.802,040
257	0,794	450,737		-	-	-
		-	10,000	16,360	9.018,060	10.821,672
258	0,842	451,579		-	-	-
		-	10,000	17,060	9.035,120	10.842,144
259	0,864	452,443		-	-	-
		-	10,000	17,220	9.052,340	10.862,808
260	0,858	453,301		-	-	-
		-	10,000	16,840	9.069,180	10.883,016
261	0,826	454,127		-	-	-
		-	10,000	15,890	9.085,070	10.902,084
262	0,763	454,890		-	-	-
		-	10,000	14,360	9.099,430	10.919,316
263	0,673	455,563		-	-	-
		-	10,000	12,300	9.111,730	10.934,076
264	0,557	456,120		-	-	-
		-	10,000	10,470	9.122,200	10.946,640
265	0,490	456,610		-	-	-
		-	10,000	9,070	9.131,270	10.957,524
266	0,417	457,027		-	-	-
		-	10,000	7,870	9.139,140	10.966,968
267	0,370	457,397		-	-	-
		-	10,000	7,150	9.146,290	10.975,548
268	0,345	457,742		-	-	-
		-	10,000	6,900	9.153,190	10.983,828
269	0,345	458,087		-	-	-
		-	10,000	7,100	9.160,290	10.992,348
270	0,365	458,452		-	-	-
		-	10,000	7,770	9.168,060	11.001,672
271	0,412	458,864		-	-	-
		-	10,000	8,910	9.176,970	11.012,364
272	0,479	459,343		-	-	-
		-	10,000	9,370	9.186,340	11.023,608

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TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
273	0,458	459,801		-	-	-	
		-	10,000	9,160	9.195,500	11.034,600	
274	0,458	460,259		-	-	-	
		-	10,000	9,420	9.204,920	11.045,904	
275	0,484	460,743		-	-	-	
		-	10,000	10,150	9.215,070	11.058,084	
276	0,531	461,274		-	-	-	
		-	10,000	10,210	9.225,280	11.070,336	
277	0,490	461,764		-	-	-	
		-	10,000	9,590	9.234,870	11.081,844	
278	0,469	462,233		-	-	-	
		-	10,000	9,430	9.244,300	11.093,160	
279	0,474	462,707		-	-	-	
		-	10,000	9,740	9.254,040	11.104,848	
280	0,500	463,207		-	-	-	
		-	10,000	11,460	9.265,500	11.118,600	
281	0,646	463,853		-	-	-	
		-	10,000	14,400	9.279,900	11.135,880	
282	0,794	464,647		-	-	-	
		-	10,000	17,170	9.297,070	11.156,484	
283	0,923	465,570		-	-	-	
		-	10,000	19,480	9.316,550	11.179,860	
284	1,025	466,595		-	-	-	
		-	10,000	21,370	9.337,920	11.205,504	
285	1,112	467,707		-	-	-	
		-	10,000	22,890	9.360,810	11.232,972	
286	1,177	468,884		-	-	-	
		-	10,000	23,920	9.384,730	11.261,676	
287	1,215	470,099		-	-	-	
		-	10,000	24,470	9.409,200	11.291,040	
288	1,232	471,331		-	-	-	
		-	10,000	24,580	9.433,780	11.320,536	
289	1,226	472,557		-	-	-	
		-	10,000	24,250	9.458,030	11.349,636	
290	1,199	473,756		-	-	-	
		-	10,000	23,490	9.481,520	11.377,824	
291	1,150	474,906		-	-	-	
		-	10,000	22,290	9.503,810	11.404,572	
292	1,079	475,985		-	-	-	
		-	10,000	20,660	9.524,470	11.429,364	
293	0,987	476,972		-	-	-	
		-	10,000	18,610	9.543,080	11.451,696	
294	0,874	477,846		-	-	-	
		-	10,000	16,100	9.559,180	11.471,016	
295	0,736	478,582		-	-	-	
		-	10,000	13,140	9.572,320	11.486,784	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
296	0,578	479,160		-	-	-	
		-	10,000	11,200	9.583,520	11.500,224	
297	0,542	479,702		-	-	-	
		-	10,000	10,210	9.593,730	11.512,476	
298	0,479	480,181		-	-	-	
		-	10,000	8,750	9.602,480	11.522,976	
299	0,396	480,577		-	-	-	
		-	10,000	7,200	9.609,680	11.531,616	
300	0,324	480,901		-	-	-	
		-	10,000	6,280	9.615,960	11.539,152	
301	0,304	481,205		-	-	-	
		-	10,000	6,280	9.622,240	11.546,688	
302	0,324	481,529		-	-	-	
		-	10,000	7,150	9.629,390	11.555,268	
303	0,391	481,920		-	-	-	
		-	10,000	8,960	9.638,350	11.566,020	
304	0,505	482,425		-	-	-	
		-	10,000	13,310	9.651,660	11.581,992	
305	0,826	483,251		-	-	-	
		-	10,000	23,630	9.675,290	11.610,348	
306	1,537	484,788		-	-	-	
		-	10,000	42,350	9.717,640	11.661,168	
307	2,698	487,486		-	-	-	
		-	10,000	70,870	9.788,510	11.746,212	
308	4,389	491,875		-	-	-	
		-	10,000	103,210	9.891,720	11.870,064	
309	5,932	497,807		-	-	-	
		-	10,000	123,620	10.015,340	12.018,408	
310	6,430	504,237		-	-	-	
		-	10,000	122,570	10.137,910	12.165,492	
311	5,827	510,064		-	-	-	
		-	10,000	100,260	10.238,170	12.285,804	
312	4,199	514,263		-	-	-	
		-	10,000	66,760	10.304,930	12.365,916	
313	2,477	516,740		-	-	-	
		-	10,000	38,470	10.343,400	12.412,080	
314	1,370	518,110		-	-	-	
		-	10,000	21,490	10.364,890	12.437,868	
315	0,779	518,889		-	-	-	
		-	10,000	13,470	10.378,360	12.454,032	
316	0,568	519,457		-	-	-	
		-	10,000	12,410	10.390,770	12.468,924	
317	0,673	520,130		-	-	-	
		-	10,000	15,530	10.406,300	12.487,560	
318	0,880	521,010		-	-	-	
		-	10,000	18,830	10.425,130	12.510,156	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
319	1,003	522,013		-	-	-	
		-	10,000	20,330	10.445,460	12.534,552	
320	1,030	523,043		-	-	-	
		-	10,000	20,010	10.465,470	12.558,564	
321	0,971	524,014		-	-	-	
		-	10,000	17,870	10.483,340	12.580,008	
322	0,816	524,830		-	-	-	
		-	10,000	17,010	10.500,350	12.600,420	
323	0,885	525,715		-	-	-	
		-	10,000	17,430	10.517,780	12.621,336	
324	0,858	526,573		-	-	-	
		-	10,000	16,050	10.533,830	12.640,596	
325	0,747	527,320		-	-	-	
		-	10,000	13,620	10.547,450	12.656,940	
326	0,615	527,935		-	-	-	
		-	10,000	11,570	10.559,020	12.670,824	
327	0,542	528,477		-	-	-	
		-	10,000	10,680	10.569,700	12.683,640	
328	0,526	529,003		-	-	-	
		-	10,000	10,880	10.580,580	12.696,696	
329	0,562	529,565		-	-	-	
		-	10,000	13,410	10.593,990	12.712,788	
330	0,779	530,344		-	-	-	
		-	10,000	20,930	10.614,920	12.737,904	
331	1,314	531,658		-	-	-	
		-	10,000	35,200	10.650,120	12.780,144	
332	2,206	533,864		-	-	-	
		-	10,000	59,420	10.709,540	12.851,448	
333	3,736	537,600		-	-	-	
		-	10,000	100,510	10.810,050	12.972,060	
334	6,315	543,915		-	-	-	
		-	10,000	143,660	10.953,710	13.144,452	
335	8,051	551,966		-	-	-	
		-	10,000	163,090	11.116,800	13.340,160	
336	8,258	560,224		-	-	-	
		-	10,000	168,010	11.284,810	13.541,772	
337	8,543	568,767		-	-	-	
		-	10,000	172,890	11.457,700	13.749,240	
338	8,746	577,513		-	-	-	
		-	10,000	174,450	11.632,150	13.958,580	
339	8,699	586,212		-	-	-	
		-	10,000	170,340	11.802,490	14.162,988	
340	8,335	594,547		-	-	-	
		-	10,000	151,920	11.954,410	14.345,292	
341	6,857	601,404		-	-	-	
		-	10,000	106,570	12.060,980	14.473,176	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO						
DMT de	200 a 400		**P=**	6,00	**Empolamento:**	20,00%

Estacas	Área		Semi-Distância (m)	Volume		
	Aterro (m²)	Acum. Aterro (m²)		Aterro (m³)	Acum. Aterro (m³)	Empolado (m³)
342	3,800	605,204		-	-	-
		-	10,000	50,650	12.111,630	14.533,956
343	1,265	606,469		-	-	-
		-	10,000	17,960	12.129,590	14.555,508
344	0,531	607,000		-	-	-
		-	10,000	10,880	12.140,470	14.568,564
345	0,557	607,557		-	-	-
		-	10,000	11,090	12.151,560	14.581,872
346	0,552	608,109		-	-	-
		-	10,000	10,680	12.162,240	14.594,688
347	0,516	608,625		-	-	-
		-	10,000	9,640	12.171,880	14.606,256
348	0,448	609,073		-	-	-
		-	10,000	7,980	12.179,860	14.615,832
349	0,350	609,423		-	-	-
		-	10,000	8,600	12.188,460	14.626,152
350	0,510	609,933		-	-	-
		-	10,000	11,510	12.199,970	14.639,964
351	0,641	610,574		-	-	-
		-	10,000	13,820	12.213,790	14.656,548
352	0,741	611,315		-	-	-
		-	10,000	15,510	12.229,300	14.675,160
353	0,810	612,125		-	-	-
		-	10,000	16,580	12.245,880	14.695,056
354	0,848	612,973		-	-	-
		-	10,000	17,010	12.262,890	14.715,468
355	0,853	613,826		-	-	-
		-	10,000	22,010	12.284,900	14.741,880
356	1,348	615,174		-	-	-
		-	10,000	43,120	12.328,020	14.793,624
357	2,964	618,138		-	-	-
		-	10,000	89,810	12.417,830	14.901,396
358	6,017	624,155		-	-	-
		-	10,000	150,610	12.568,440	15.082,128
359	9,044	633,199		-	-	-
		-	10,000	188,640	12.757,080	15.308,496
360	9,820	643,019		-	-	-
		-	10,000	179,860	12.936,940	15.524,328
361	8,166	651,185		-	-	-
		-	10,000	126,400	13.063,340	15.676,008
362	4,474	655,659		-	-	-
		-	10,000	59,270	13.122,610	15.747,132
363	1,453	657,112		-	-	-
		-	10,000	20,990	13.143,600	15.772,320
364	0,646	657,758		-	-	-
		-	10,000	13,980	13.157,580	15.789,096

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
365	0,752	658,510		-	-	-	
		-	10,000	15,620	13.173,200	15.807,840	
366	0,810	659,320		-	-	-	
		-	10,000	16,310	13.189,510	15.827,412	
367	0,821	660,141		-	-	-	
		-	10,000	16,370	13.205,880	15.847,056	
368	0,816	660,957		-	-	-	
		-	10,000	16,580	13.222,460	15.866,952	
369	0,842	661,799		-	-	-	
		-	10,000	17,490	13.239,950	15.887,940	
370	0,907	662,706		-	-	-	
		-	10,000	19,050	13.259,000	15.910,800	
371	0,998	663,704		-	-	-	
		-	10,000	21,210	13.280,210	15.936,252	
372	1,123	664,827		-	-	-	
		-	10,000	23,710	13.303,920	15.964,704	
373	1,248	666,075		-	-	-	
		-	10,000	25,900	13.329,820	15.995,784	
374	1,342	667,417		-	-	-	
		-	10,000	27,510	13.357,330	16.028,796	
375	1,409	668,826		-	-	-	
		-	10,000	28,450	13.385,780	16.062,936	
376	1,436	670,262		-	-	-	
		-	10,000	28,720	13.414,500	16.097,400	
377	1,436	671,698		-	-	-	
		-	10,000	28,390	13.442,890	16.131,468	
378	1,403	673,101		-	-	-	
		-	10,000	27,400	13.470,290	16.164,348	
379	1,337	674,438		-	-	-	
		-	10,000	25,740	13.496,030	16.195,236	
380	1,237	675,675		-	-	-	
		-	10,000	23,430	13.519,460	16.223,352	
381	1,106	676,781		-	-	-	
		-	10,000	20,560	13.540,020	16.248,024	
382	0,950	677,731		-	-	-	
		-	10,000	17,070	13.557,090	16.268,508	
383	0,757	678,488		-	-	-	
		-	10,000	12,990	13.570,080	16.284,096	
384	0,542	679,030		-	-	-	
		-	10,000	11,520	13.581,600	16.297,920	
385	0,610	679,640		-	-	-	
		-	10,000	12,560	13.594,160	16.312,992	
386	0,646	680,286		-	-	-	
		-	10,000	12,980	13.607,140	16.328,568	
387	0,652	680,938		-	-	-	
		-	10,000	12,830	13.619,970	16.343,964	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
388	0,631	681,569		-	-	-	
		-	10,000	12,040	13.632,010	16.358,412	
389	0,573	682,142		-	-	-	
		-	10,000	10,630	13.642,640	16.371,168	
390	0,490	682,632		-	-	-	
		-	10,000	10,730	13.653,370	16.384,044	
391	0,583	683,215		-	-	-	
		-	10,000	12,290	13.665,660	16.398,792	
392	0,646	683,861		-	-	-	
		-	10,000	13,240	13.678,900	16.414,680	
393	0,678	684,539		-	-	-	
		-	10,000	13,560	13.692,460	16.430,952	
394	0,678	685,217		-	-	-	
		-	10,000	13,300	13.705,760	16.446,912	
395	0,652	685,869		-	-	-	
		-	10,000	12,410	13.718,170	16.461,804	
396	0,589	686,458		-	-	-	
		-	10,000	10,890	13.729,060	16.474,872	
397	0,500	686,958		-	-	-	
		-	10,000	9,530	13.738,590	16.486,308	
398	0,453	687,411		-	-	-	
		-	10,000	8,700	13.747,290	16.496,748	
399	0,417	687,828		-	-	-	
		-	10,000	8,440	13.755,730	16.506,876	
400	0,427	688,255		-	-	-	
		-	10,000	9,220	13.764,950	16.517,940	
401	0,495	688,750		-	-	-	
		-	10,000	9,430	13.774,380	16.529,256	
402	0,448	689,198		-	-	-	
		-	10,000	9,060	13.783,440	16.540,128	
403	0,458	689,656		-	-	-	
		-	10,000	9,740	13.793,180	16.551,816	
404	0,516	690,172		-	-	-	
		-	10,000	9,850	13.803,030	16.563,636	
405	0,469	690,641		-	-	-	
		-	10,000	9,430	13.812,460	16.574,952	
406	0,474	691,115		-	-	-	
		-	10,000	10,000	13.822,460	16.586,952	
407	0,526	691,641		-	-	-	
		-	10,000	10,000	13.832,460	16.598,952	
408	0,474	692,115		-	-	-	
		-	10,000	9,480	13.841,940	16.610,328	
409	0,474	692,589		-	-	-	
		-	10,000	9,950	13.851,890	16.622,268	
410	0,521	693,110		-	-	-	
		-	10,000	9,640	13.861,530	16.633,836	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
411	0,443	693,553		-	-	-	
		-	10,000	8,600	13.870,130	16.644,156	
412	0,417	693,970		-	-	-	
		-	10,000	8,550	13.878,680	16.654,416	
413	0,438	694,408		-	-	-	
		-	10,000	9,540	13.888,220	16.665,864	
414	0,516	694,924		-	-	-	
		-	10,000	13,320	13.901,540	16.681,848	
415	0,816	695,740		-	-	-	
		-	10,000	23,810	13.925,350	16.710,420	
416	1,565	697,305		-	-	-	
		-	10,000	43,770	13.969,120	16.762,944	
417	2,812	700,117		-	-	-	
		-	10,000	74,780	14.043,900	16.852,680	
418	4,666	704,783		-	-	-	
		-	10,000	112,320	14.156,220	16.987,464	
419	6,566	711,349		-	-	-	
		-	10,000	143,360	14.299,580	17.159,496	
420	7,770	719,119		-	-	-	
		-	10,000	159,430	14.459,010	17.350,812	
421	8,173	727,292		-	-	-	
		-	10,000	159,130	14.618,140	17.541,768	
422	7,740	735,032		-	-	-	
		-	10,000	148,390	14.766,530	17.719,836	
423	7,099	742,131		-	-	-	
		-	10,000	139,850	14.906,380	17.887,656	
424	6,886	749,017		-	-	-	
		-	10,000	132,300	15.038,680	18.046,416	
425	6,344	755,361		-	-	-	
		-	10,000	111,710	15.150,390	18.180,468	
426	4,827	760,188		-	-	-	
		-	10,000	73,570	15.223,960	18.268,752	
427	2,530	762,718		-	-	-	
		-	10,000	35,330	15.259,290	18.311,148	
428	1,003	763,721		-	-	-	
		-	10,000	15,810	15.275,100	18.330,120	
429	0,578	764,299		-	-	-	
		-	10,000	9,430	15.284,530	18.341,436	
430	0,365	764,664		-	-	-	
		-	10,000	7,300	15.291,830	18.350,196	
431	0,365	765,029		-	-	-	
		-	10,000	8,550	15.300,380	18.360,456	
432	0,490	765,519		-	-	-	
		-	10,000	10,060	15.310,440	18.372,528	
433	0,516	766,035		-	-	-	
		-	10,000	10,940	15.321,380	18.385,656	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
434	0,578	766,613		-	-	-	
		-	10,000	12,030	15.333,410	18.400,092	
435	0,625	767,238		-	-	-	
		-	10,000	12,350	15.345,760	18.414,912	
436	0,610	767,848		-	-	-	
		-	10,000	11,310	15.357,070	18.428,484	
437	0,521	768,369		-	-	-	
		-	10,000	9,530	15.366,600	18.439,920	
438	0,432	768,801		-	-	-	
		-	10,000	8,230	15.374,830	18.449,796	
439	0,391	769,192		-	-	-	
		-	10,000	8,030	15.382,860	18.459,432	
440	0,412	769,604		-	-	-	
		-	10,000	8,910	15.391,770	18.470,124	
441	0,479	770,083		-	-	-	
		-	10,000	10,680	15.402,450	18.482,940	
442	0,589	770,672		-	-	-	
		-	10,000	12,880	15.415,330	18.498,396	
443	0,699	771,371		-	-	-	
		-	10,000	15,310	15.430,640	18.516,768	
444	0,832	772,203		-	-	-	
		-	10,000	17,980	15.448,620	18.538,344	
445	0,966	773,169		-	-	-	
		-	10,000	20,890	15.469,510	18.563,412	
446	1,123	774,292		-	-	-	
		-	10,000	24,040	15.493,550	18.592,260	
447	1,281	775,573		-	-	-	
		-	10,000	27,450	15.521,000	18.625,200	
448	1,464	777,037		-	-	-	
		-	10,000	31,130	15.552,130	18.662,556	
449	1,649	778,686		-	-	-	
		-	10,000	35,080	15.587,210	18.704,652	
450	1,859	780,545		-	-	-	
		-	10,000	39,310	15.626,520	18.751,824	
451	2,072	782,617		-	-	-	
		-	10,000	47,220	15.673,740	18.808,488	
452	2,650	785,267		-	-	-	
		-	10,000	66,620	15.740,360	18.888,432	
453	4,012	789,279		-	-	-	
		-	10,000	103,700	15.844,060	19.012,872	
454	6,358	795,637		-	-	-	
		-	10,000	140,000	15.984,060	19.180,872	
455	7,642	803,279		-	-	-	
		-	10,000	131,770	16.115,830	19.338,996	
456	5,535	808,814		-	-	-	
		-	10,000	82,450	16.198,280	19.437,936	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
457	2,710	811,524		-	-	-	
		-	10,000	38,980	16.237,260	19.484,712	
458	1,188	812,712		-	-	-	
		-	10,000	18,870	16.256,130	19.507,356	
459	0,699	813,411		-	-	-	
		-	10,000	13,610	16.269,740	19.523,688	
460	0,662	814,073		-	-	-	
		-	10,000	12,660	16.282,400	19.538,880	
461	0,604	814,677		-	-	-	
		-	10,000	11,300	16.293,700	19.552,440	
462	0,526	815,203		-	-	-	
		-	10,000	9,530	16.303,230	19.563,876	
463	0,427	815,630		-	-	-	
		-	10,000	7,360	16.310,590	19.572,708	
464	0,309	815,939		-	-	-	
		-	10,000	8,610	16.319,200	19.583,040	
465	0,552	816,491		-	-	-	
		-	10,000	21,340	16.340,540	19.608,648	
466	1,582	818,073		-	-	-	
		-	10,000	51,410	16.391,950	19.670,340	
467	3,559	821,632		-	-	-	
		-	10,000	100,100	16.492,050	19.790,460	
468	6,451	828,083		-	-	-	
		-	10,000	165,390	16.657,440	19.988,928	
469	10,088	838,171		-	-	-	
		-	10,000	219,690	16.877,130	20.252,556	
470	11,881	850,052		-	-	-	
		-	10,000	208,230	17.085,360	20.502,432	
471	8,942	858,994		-	-	-	
		-	10,000	138,360	17.223,720	20.668,464	
472	4,894	863,888		-	-	-	
		-	10,000	73,760	17.297,480	20.756,976	
473	2,482	866,370		-	-	-	
		-	10,000	38,070	17.335,550	20.802,660	
474	1,325	867,695		-	-	-	
		-	10,000	21,670	17.357,220	20.828,664	
475	0,842	868,537		-	-	-	
		-	10,000	14,250	17.371,470	20.845,764	
476	0,583	869,120		-	-	-	
		-	10,000	11,190	17.382,660	20.859,192	
477	0,536	869,656		-	-	-	
		-	10,000	11,460	17.394,120	20.872,944	
478	0,610	870,266		-	-	-	
		-	10,000	13,300	17.407,420	20.888,904	
479	0,720	870,986		-	-	-	
		-	10,000	15,840	17.423,260	20.907,912	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
480	0,864	871,850		-	-	-	
		-	10,000	19,160	17.442,420	20.930,904	
481	1,052	872,902		-	-	-	
		-	10,000	31,360	17.473,780	20.968,536	
482	2,084	874,986		-	-	-	
		-	10,000	71,460	17.545,240	21.054,288	
483	5,062	880,048		-	-	-	
		-	10,000	134,270	17.679,510	21.215,412	
484	8,365	888,413		-	-	-	
		-	10,000	177,030	17.856,540	21.427,848	
485	9,338	897,751		-	-	-	
		-	10,000	183,740	18.040,280	21.648,336	
486	9,036	906,787		-	-	-	
		-	10,000	178,290	18.218,570	21.862,284	
487	8,793	915,580		-	-	-	
		-	10,000	173,910	18.392,480	22.070,976	
488	8,598	924,178		-	-	-	
		-	10,000	178,480	18.570,960	22.285,152	
489	9,250	933,428		-	-	-	
		-	10,000	186,910	18.757,870	22.509,444	
490	9,441	942,869		-	-	-	
		-	10,000	165,320	18.923,190	22.707,828	
491	7,091	949,960		-	-	-	
		-	10,000	112,710	19.035,900	22.843,080	
492	4,180	954,140		-	-	-	
		-	10,000	63,800	19.099,700	22.919,640	
493	2,200	956,340		-	-	-	
		-	10,000	31,500	19.131,200	22.957,440	
494	0,950	957,290		-	-	-	
		-	10,000	12,640	19.143,840	22.972,608	
495	0,314	957,604		-	-	-	
		-	10,000	5,310	19.149,150	22.978,980	
496	0,217	957,821		-	-	-	
		-	10,000	6,130	19.155,280	22.986,336	
497	0,396	958,217		-	-	-	
		-	10,000	10,160	19.165,440	22.998,528	
498	0,620	958,837		-	-	-	
		-	10,000	15,000	19.180,440	23.016,528	
499	0,880	959,717		-	-	-	
		-	10,000	20,630	19.201,070	23.041,284	
500	1,183	960,900		-	-	-	
		-	10,000	27,090	19.228,160	23.073,792	
501	1,526	962,426		-	-	-	
		-	10,000	34,420	19.262,580	23.115,096	
502	1,916	964,342		-	-	-	
		-	10,000	64,960	19.327,540	23.193,048	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO						
DMT de	200 a 400		**P=**	6,00	**Empolamento:**	20,00%

Estacas	Área		Semi-Distância (m)	Volume		
	Aterro (m²)	Acum. Aterro (m²)		Aterro (m³)	Acum. Aterro (m³)	Empolado (m³)
503	4,580	968,922		-	-	-
		-	10,000	134,120	19.461,660	23.353,992
504	8,832	977,754		-	-	-
		-	10,000	190,830	19.652,490	23.582,988
505	10,251	988,005		-	-	-
		-	10,000	186,240	19.838,730	23.806,476
506	8,373	996,378		-	-	-
		-	10,000	121,540	19.960,270	23.952,324
507	3,781	1.000,159		-	-	-
		-	10,000	47,950	20.008,220	24.009,864
508	1,014	1.001,173		-	-	-
		-	10,000	15,820	20.024,040	24.028,848
509	0,568	1.001,741		-	-	-
		-	10,000	12,090	20.036,130	24.043,356
510	0,641	1.002,382		-	-	-
		-	10,000	13,400	20.049,530	24.059,436
511	0,699	1.003,081		-	-	-
		-	10,000	18,330	20.067,860	24.081,432
512	1,134	1.004,215		-	-	-
		-	10,000	35,450	20.103,310	24.123,972
513	2,411	1.006,626		-	-	-
		-	10,000	71,440	20.174,750	24.209,700
514	4,733	1.011,359		-	-	-
		-	10,000	110,270	20.285,020	24.342,024
515	6,294	1.017,653		-	-	-
		-	10,000	112,010	20.397,030	24.476,436
		-	10,000	75,330	20.472,360	24.566,832
517	2,626	1.025,186		-	-	-
		-	10,000	38,360	20.510,720	24.612,864
518	1,210	1.026,396		-	-	-
		-	10,000	17,050	20.527,770	24.633,324
519	0,495	1.026,891		-	-	-
		-	10,000	8,710	20.536,480	24.643,776
520	0,376	1.027,267		-	-	-
		-	10,000	9,120	20.545,600	24.654,720
521	0,536	1.027,803		-	-	-
		-	10,000	12,190	20.557,790	24.669,348
522	0,683	1.028,486		-	-	-
		-	10,000	14,990	20.572,780	24.687,336
523	0,816	1.029,302		-	-	-
		-	10,000	17,390	20.590,170	24.708,204
524	0,923	1.030,225		-	-	-
		-	10,000	19,430	20.609,600	24.731,520
525	1,020	1.031,245		-	-	-
		-	10,000	21,100	20.630,700	24.756,840

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO						
DMT de	200 a 400		**P=**	6,00	**Empolamento:**	20,00%

Estacas	Área		Semi-Distância (m)	Volume		
	Aterro (m²)	Acum. Aterro (m²)		Aterro (m³)	Acum. Aterro (m³)	Empolado (m³)
526	1,090	1.032,335		-	-	-
		-	10,000	22,340	20.653,040	24.783,648
527	1,144	1.033,479		-	-	-
		-	10,000	23,270	20.676,310	24.811,572
528	1,183	1.034,662		-	-	-
		-	10,000	23,820	20.700,130	24.840,156
529	1,199	1.035,861		-	-	-
		-	10,000	23,980	20.724,110	24.868,932
530	1,199	1.037,060		-	-	-
		-	10,000	23,760	20.747,870	24.897,444
531	1,177	1.038,237		-	-	-
		-	10,000	23,110	20.770,980	24.925,176
532	1,134	1.039,371		-	-	-
		-	10,000	22,080	20.793,060	24.951,672
533	1,074	1.040,445		-	-	-
		-	10,000	20,670	20.813,730	24.976,476
534	0,993	1.041,438		-	-	-
		-	10,000	18,890	20.832,620	24.999,144
535	0,896	1.042,334		-	-	-
		-	10,000	16,800	20.849,420	25.019,304
536	0,784	1.043,118		-	-	-
		-	10,000	14,360	20.863,780	25.036,536
537	0,652	1.043,770		-	-	-
		-	10,000	11,680	20.875,460	25.050,552
538	0,516	1.044,286		-	-	-
		-	10,000	8,760	20.884,220	25.061,064
539	0,360	1.044,646		-	-	-
		-	10,000	8,030	20.892,250	25.070,700
540	0,443	1.045,089		-	-	-
		-	10,000	9,480	20.901,730	25.082,076
541	0,505	1.045,594		-	-	-
		-	10,000	10,620	20.912,350	25.094,820
542	0,557	1.046,151		-	-	-
		-	10,000	11,560	20.923,910	25.108,692
543	0,599	1.046,750		-	-	-
		-	10,000	12,190	20.936,100	25.123,320
544	0,620	1.047,370		-	-	-
		-	10,000	12,510	20.948,610	25.138,332
545	0,631	1.048,001		-	-	-
		-	10,000	12,560	20.961,170	25.153,404
546	0,625	1.048,626		-	-	-
		-	10,000	12,290	20.973,460	25.168,152
547	0,604	1.049,230		-	-	-
		-	10,000	11,770	20.985,230	25.182,276
548	0,573	1.049,803		-	-	-
		-	10,000	10,990	20.996,220	25.195,464

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
549	0,526	1.050,329		-	-	-	
		-	10,000	10,830	21.007,050	25.208,460	
550	0,557	1.050,886		-	-	-	
		-	10,000	11,300	21.018,350	25.222,020	
551	0,573	1.051,459		-	-	-	
		-	10,000	11,460	21.029,810	25.235,772	
552	0,573	1.052,032		-	-	-	
		-	10,000	11,350	21.041,160	25.249,392	
553	0,562	1.052,594		-	-	-	
		-	10,000	10,980	21.052,140	25.262,568	
554	0,536	1.053,130		-	-	-	
		-	10,000	10,310	21.062,450	25.274,940	
555	0,495	1.053,625		-	-	-	
		-	10,000	13,160	21.075,610	25.290,732	
556	0,821	1.054,446		-	-	-	
		-	10,000	27,550	21.103,160	25.323,792	
557	1,934	1.056,380		-	-	-	
		-	10,000	59,520	21.162,680	25.395,216	
558	4,018	1.060,398		-	-	-	
		-	10,000	101,060	21.263,740	25.516,488	
559	6,088	1.066,486		-	-	-	
		-	10,000	128,210	21.391,950	25.670,340	
560	6,733	1.073,219		-	-	-	
		-	10,000	134,590	21.526,540	25.831,848	
561	6,726	1.079,945		-	-	-	
		-	10,000	136,700	21.663,240	25.995,888	
562	6,944	1.086,889		-	-	-	
		-	10,000	143,540	21.806,780	26.168,136	
563	7,410	1.094,299		-	-	-	
		-	10,000	155,300	21.962,080	26.354,496	
564	8,120	1.102,419		-	-	-	
		-	10,000	157,620	22.119,700	26.543,640	
565	7,642	1.110,061		-	-	-	
		-	10,000	123,820	22.243,520	26.692,224	
566	4,740	1.114,801		-	-	-	
		-	10,000	66,970	22.310,490	26.772,588	
567	1,957	1.116,758		-	-	-	
		-	10,000	29,120	22.339,610	26.807,532	
568	0,955	1.117,713		-	-	-	
		-	10,000	16,810	22.356,420	26.827,704	
569	0,726	1.118,439		-	-	-	
		-	10,000	12,420	22.368,840	26.842,608	
570	0,516	1.118,955		-	-	-	
		-	10,000	9,640	22.378,480	26.854,176	
571	0,448	1.119,403		-	-	-	
		-	10,000	8,440	22.386,920	26.864,304	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO						
DMT de	200 a 400		**P=**	6,00	**Empolamento:**	20,00%

Estacas	Área		Semi-Distância (m)	Volume		
	Aterro (m²)	Acum. Aterro (m²)		Aterro (m³)	Acum. Aterro (m³)	Empolado (m³)
572	0,396	1.119,799		-	-	-
		-	10,000	7,660	22.394,580	26.873,496
573	0,370	1.120,169		-	-	-
		-	10,000	7,300	22.401,880	26.882,256
574	0,360	1.120,529		-	-	-
		-	10,000	7,360	22.409,240	26.891,088
575	0,376	1.120,905		-	-	-
		-	10,000	7,830	22.417,070	26.900,484
576	0,407	1.121,312		-	-	-
		-	10,000	8,710	22.425,780	26.910,936
577	0,464	1.121,776		-	-	-
		-	10,000	10,060	22.435,840	26.923,008
578	0,542	1.122,318		-	-	-
		-	10,000	10,060	22.445,900	26.935,080
579	0,464	1.122,782		-	-	-
		-	10,000	8,710	22.454,610	26.945,532
580	0,407	1.123,189		-	-	-
		-	10,000	7,770	22.462,380	26.954,856
581	0,370	1.123,559		-	-	-
		-	10,000	7,250	22.469,630	26.963,556
582	0,355	1.123,914		-	-	-
		-	10,000	7,150	22.476,780	26.972,136
583	0,360	1.124,274		-	-	-
		-	10,000	7,460	22.484,240	26.981,088
584	0,386	1.124,660		-	-	-
		-	10,000	8,240	22.492,480	26.990,976
585	0,438	1.125,098		-	-	-
		-	10,000	9,430	22.501,910	27.002,292
586	0,505	1.125,603		-	-	-
		-	10,000	9,270	22.511,180	27.013,416
587	0,422	1.126,025		-	-	-
		-	10,000	7,770	22.518,950	27.022,740
588	0,355	1.126,380		-	-	-
		-	10,000	6,690	22.525,640	27.030,768
589	0,314	1.126,694		-	-	-
		-	10,000	6,020	22.531,660	27.037,992
590	0,288	1.126,982		-	-	-
		-	10,000	5,760	22.537,420	27.044,904
591	0,288	1.127,270		-	-	-
		-	10,000	5,920	22.543,340	27.052,008
592	0,304	1.127,574		-	-	-
		-	10,000	6,490	22.549,830	27.059,796
593	0,345	1.127,919		-	-	-
		-	10,000	7,520	22.557,350	27.068,820
594	0,407	1.128,326		-	-	-
		-	10,000	8,970	22.566,320	27.079,584

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
595	0,490	1.128,816		-	-	-	
		-	10,000	9,280	22.575,600	27.090,720	
596	0,438	1.129,254		-	-	-	
		-	10,000	8,450	22.584,050	27.100,860	
597	0,407	1.129,661		-	-	-	
		-	10,000	8,080	22.592,130	27.110,556	
598	0,401	1.130,062		-	-	-	
		-	10,000	8,130	22.600,260	27.120,312	
599	0,412	1.130,474		-	-	-	
		-	10,000	8,600	22.608,860	27.130,632	
600	0,448	1.130,922		-	-	-	
		-	10,000	9,580	22.618,440	27.142,128	
601	0,510	1.131,432		-	-	-	
		-	10,000	10,780	22.629,220	27.155,064	
602	0,568	1.132,000		-	-	-	
		-	10,000	11,720	22.640,940	27.169,128	
603	0,604	1.132,604		-	-	-	
		-	10,000	12,240	22.653,180	27.183,816	
604	0,620	1.133,224		-	-	-	
		-	10,000	12,350	22.665,530	27.198,636	
605	0,615	1.133,839		-	-	-	
		-	10,000	17,870	22.683,400	27.220,080	
606	1,172	1.135,011		-	-	-	
		-	10,000	41,850	22.725,250	27.270,300	
607	3,013	1.138,024		-	-	-	
		-	10,000	86,450	22.811,700	27.374,040	
608	5,632	1.143,656		-	-	-	
		-	10,000	138,510	22.950,210	27.540,252	
609	8,219	1.151,875		-	-	-	
		-	10,000	177,080	23.127,290	27.752,748	
610	9,489	1.161,364		-	-	-	
		-	10,000	176,010	23.303,300	27.963,960	
611	8,112	1.169,476		-	-	-	
		-	10,000	137,370	23.440,670	28.128,804	
612	5,625	1.175,101		-	-	-	
		-	10,000	90,210	23.530,880	28.237,056	
613	3,396	1.178,497		-	-	-	
		-	10,000	53,350	23.584,230	28.301,076	
614	1,939	1.180,436		-	-	-	
		-	10,000	35,210	23.619,440	28.343,328	
615	1,582	1.182,018		-	-	-	
		-	10,000	38,520	23.657,960	28.389,552	
616	2,270	1.184,288		-	-	-	
		-	10,000	63,980	23.721,940	28.466,328	
617	4,128	1.188,416		-	-	-	
		-	10,000	105,150	23.827,090	28.592,508	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
618	6,387	1.194,803		-	-	-	
		-	10,000	143,240	23.970,330	28.764,396	
619	7,937	1.202,740		-	-	-	
		-	10,000	170,440	24.140,770	28.968,924	
620	9,107	1.211,847		-	-	-	
		-	10,000	192,190	24.332,960	29.199,552	
621	10,112	1.221,959		-	-	-	
		-	10,000	207,840	24.540,800	29.448,960	
622	10,672	1.232,631		-	-	-	
		-	10,000	214,530	24.755,330	29.706,396	
623	10,781	1.243,412		-	-	-	
		-	10,000	212,050	24.967,380	29.960,856	
624	10,424	1.253,836		-	-	-	
		-	10,000	200,420	25.167,800	30.201,360	
625	9,618	1.263,454		-	-	-	
		-	10,000	172,750	25.340,550	30.408,660	
626	7,657	1.271,111		-	-	-	
		-	10,000	118,040	25.458,590	30.550,308	
627	4,147	1.275,258		-	-	-	
		-	10,000	54,780	25.513,370	30.616,044	
628	1,331	1.276,589		-	-	-	
		-	10,000	18,050	25.531,420	30.637,704	
629	0,474	1.277,063		-	-	-	
		-	10,000	9,380	25.540,800	30.648,960	
630	0,464	1.277,527		-	-	-	
		-	10,000	9,070	25.549,870	30.659,844	
631	0,443	1.277,970		-	-	-	
		-	10,000	8,290	25.558,160	30.669,792	
632	0,386	1.278,356		-	-	-	
		-	10,000	9,280	25.567,440	30.680,928	
633	0,542	1.278,898		-	-	-	
		-	10,000	11,990	25.579,430	30.695,316	
634	0,657	1.279,555		-	-	-	
		-	10,000	13,880	25.593,310	30.711,972	
635	0,731	1.280,286		-	-	-	
		-	10,000	14,990	25.608,300	30.729,960	
636	0,768	1.281,054		-	-	-	
		-	10,000	15,360	25.623,660	30.748,392	
637	0,768	1.281,822		-	-	-	
		-	10,000	14,940	25.638,600	30.766,320	
638	0,726	1.282,548		-	-	-	
		-	10,000	13,720	25.652,320	30.782,784	
639	0,646	1.283,194		-	-	-	
		-	10,000	11,770	25.664,090	30.796,908	
640	0,531	1.283,725		-	-	-	
		-	10,000	11,560	25.675,650	30.810,780	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO						
DMT de	200 a 400		**P=**	6,00	**Empolamento:**	20,00%

Estacas	Área		Semi-Distância (m)	Volume		
	Aterro (m²)	Acum. Aterro (m²)		Aterro (m³)	Acum. Aterro (m³)	Empolado (m³)
641	0,625	1.284,350		-	-	-
		-	10,000	13,030	25.688,680	30.826,416
642	0,678	1.285,028		-	-	-
		-	10,000	13,720	25.702,400	30.842,880
643	0,694	1.285,722		-	-	-
		-	10,000	13,670	25.716,070	30.859,284
644	0,673	1.286,395		-	-	-
		-	10,000	12,830	25.728,900	30.874,680
645	0,610	1.287,005		-	-	-
		-	10,000	11,200	25.740,100	30.888,120
646	0,510	1.287,515		-	-	-
		-	10,000	11,770	25.751,870	30.902,244
647	0,667	1.288,182		-	-	-
		-	10,000	14,510	25.766,380	30.919,656
648	0,784	1.288,966		-	-	-
		-	10,000	16,420	25.782,800	30.939,360
649	0,858	1.289,824		-	-	-
		-	10,000	17,540	25.800,340	30.960,408
650	0,896	1.290,720		-	-	-
		-	10,000	17,920	25.818,260	30.981,912
651	0,896	1.291,616		-	-	-
		-	10,000	17,490	25.835,750	31.002,900
652	0,853	1.292,469		-	-	-
		-	10,000	16,260	25.852,010	31.022,412
653	0,773	1.293,242		-	-	-
		-	10,000	14,300	25.866,310	31.039,572
654	0,657	1.293,899		-	-	-
		-	10,000	11,570	25.877,880	31.053,456
655	0,500	1.294,399		-	-	-
		-	10,000	10,620	25.888,500	31.066,200
656	0,562	1.294,961		-	-	-
		-	10,000	11,510	25.900,010	31.080,012
657	0,589	1.295,550		-	-	-
		-	10,000	11,670	25.911,680	31.094,016
658	0,578	1.296,128		-	-	-
		-	10,000	11,200	25.922,880	31.107,456
659	0,542	1.296,670		-	-	-
		-	10,000	10,420	25.933,300	31.119,960
660	0,500	1.297,170		-	-	-
		-	10,000	14,120	25.947,420	31.136,904
661	0,912	1.298,082		-	-	-
		-	10,000	32,410	25.979,830	31.175,796
662	2,329	1.300,411		-	-	-
		-	10,000	73,440	26.053,270	31.263,924
663	5,015	1.305,426		-	-	-
		-	10,000	127,250	26.180,520	31.416,624

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO						
DMT de	200 a 400		**P=**	6,00	**Empolamento:**	20,00%

Estacas	Área		Semi-Distância (m)	Volume		
	Aterro (m²)	Acum. Aterro (m²)		Aterro (m³)	Acum. Aterro (m³)	Empolado (m³)
664	7,710	1.313,136		-	-	-
		-	10,000	162,300	26.342,820	31.611,384
665	8,520	1.321,656		-	-	-
		-	10,000	157,810	26.500,630	31.800,756
666	7,261	1.328,917		-	-	-
		-	10,000	114,860	26.615,490	31.938,588
667	4,225	1.333,142		-	-	-
		-	10,000	58,290	26.673,780	32.008,536
668	1,604	1.334,746		-	-	-
		-	10,000	23,670	26.697,450	32.036,940
669	0,763	1.335,509		-	-	-
		-	10,000	14,410	26.711,860	32.054,232
670	0,678	1.336,187		-	-	-
		-	10,000	12,670	26.724,530	32.069,436
671	0,589	1.336,776		-	-	-
		-	10,000	10,840	26.735,370	32.082,444
672	0,495	1.337,271		-	-	-
		-	10,000	8,860	26.744,230	32.093,076
673	0,391	1.337,662		-	-	-
		-	10,000	8,230	26.752,460	32.102,952
674	0,432	1.338,094		-	-	-
		-	10,000	9,010	26.761,470	32.113,764
675	0,469	1.338,563		-	-	-
		-	10,000	9,640	26.771,110	32.125,332
676	0,495	1.339,058		-	-	-
		-	10,000	10,110	26.781,220	32.137,464
677	0,516	1.339,574		-	-	-
		-	10,000	10,420	26.791,640	32.149,968
678	0,526	1.340,100		-	-	-
		-	10,000	10,570	26.802,210	32.162,652
679	0,531	1.340,631		-	-	-
		-	10,000	10,570	26.812,780	32.175,336
680	0,526	1.341,157		-	-	-
		-	10,000	10,420	26.823,200	32.187,840
681	0,516	1.341,673		-	-	-
		-	10,000	10,110	26.833,310	32.199,972
682	0,495	1.342,168		-	-	-
		-	10,000	10,260	26.843,570	32.212,284
683	0,531	1.342,699		-	-	-
		-	10,000	10,880	26.854,450	32.225,340
684	0,557	1.343,256		-	-	-
		-	10,000	11,350	26.865,800	32.238,960
685	0,578	1.343,834		-	-	-
		-	10,000	11,670	26.877,470	32.252,964
686	0,589	1.344,423		-	-	-
		-	10,000	11,780	26.889,250	32.267,100

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
687	0,589	1.345,012		-	-	-	
		-	10,000	11,720	26.900,970	32.281,164	
688	0,583	1.345,595		-	-	-	
		-	10,000	11,560	26.912,530	32.295,036	
689	0,573	1.346,168		-	-	-	
		-	10,000	11,250	26.923,780	32.308,536	
690	0,552	1.346,720		-	-	-	
		-	10,000	14,800	26.938,580	32.326,296	
691	0,928	1.347,648		-	-	-	
		-	10,000	31,100	26.969,680	32.363,616	
692	2,182	1.349,830		-	-	-	
		-	10,000	67,090	27.036,770	32.444,124	
693	4,527	1.354,357		-	-	-	
		-	10,000	112,960	27.149,730	32.579,676	
694	6,769	1.361,126		-	-	-	
		-	10,000	140,080	27.289,810	32.747,772	
695	7,239	1.368,365		-	-	-	
		-	10,000	130,730	27.420,540	32.904,648	
696	5,834	1.374,199		-	-	-	
		-	10,000	87,010	27.507,550	33.009,060	
697	2,867	1.377,066		-	-	-	
		-	10,000	39,240	27.546,790	33.056,148	
698	1,057	1.378,123		-	-	-	
		-	10,000	18,570	27.565,360	33.078,432	
699	0,800	1.378,923		-	-	-	
		-	10,000	13,420	27.578,780	33.094,536	
700	0,542	1.379,465		-	-	-	
		-	10,000	10,260	27.589,040	33.106,848	
701	0,484	1.379,949		-	-	-	
		-	10,000	9,320	27.598,360	33.118,032	
702	0,448	1.380,397		-	-	-	
		-	10,000	8,910	27.607,270	33.128,724	
703	0,443	1.380,840		-	-	-	
		-	10,000	9,010	27.616,280	33.139,536	
704	0,458	1.381,298		-	-	-	
		-	10,000	9,630	27.625,910	33.151,092	
705	0,505	1.381,803		-	-	-	
		-	10,000	9,170	27.635,080	33.162,096	
706	0,412	1.382,215		-	-	-	
		-	10,000	7,570	27.642,650	33.171,180	
707	0,345	1.382,560		-	-	-	
		-	10,000	6,490	27.649,140	33.178,968	
708	0,304	1.382,864		-	-	-	
		-	10,000	5,920	27.655,060	33.186,072	
709	0,288	1.383,152		-	-	-	
		-	10,000	5,870	27.660,930	33.193,116	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
710	0,299	1.383,451		-	-	-	
		-	10,000	6,330	27.667,260	33.200,712	
711	0,334	1.383,785		-	-	-	
		-	10,000	7,300	27.674,560	33.209,472	
712	0,396	1.384,181		-	-	-	
		-	10,000	8,800	27.683,360	33.220,032	
713	0,484	1.384,665		-	-	-	
		-	10,000	9,060	27.692,420	33.230,904	
714	0,422	1.385,087		-	-	-	
		-	10,000	8,080	27.700,500	33.240,600	
715	0,386	1.385,473		-	-	-	
		-	10,000	7,670	27.708,170	33.249,804	
716	0,381	1.385,854		-	-	-	
		-	10,000	7,770	27.715,940	33.259,128	
717	0,396	1.386,250		-	-	-	
		-	10,000	8,390	27.724,330	33.269,196	
718	0,443	1.386,693		-	-	-	
		-	10,000	9,530	27.733,860	33.280,632	
719	0,510	1.387,203		-	-	-	
		-	10,000	13,260	27.747,120	33.296,544	
720	0,816	1.388,019		-	-	-	
		-	10,000	24,030	27.771,150	33.325,380	
721	1,587	1.389,606		-	-	-	
		-	10,000	44,900	27.816,050	33.379,260	
722	2,903	1.392,509		-	-	-	
		-	10,000	77,770	27.893,820	33.472,584	
723	4,874	1.397,383		-	-	-	
		-	10,000	117,530	28.011,350	33.613,620	
724	6,879	1.404,262		-	-	-	
		-	10,000	149,300	28.160,650	33.792,780	
725	8,051	1.412,313		-	-	-	
		-	10,000	167,420	28.328,070	33.993,684	
726	8,691	1.421,004		-	-	-	
		-	10,000	179,010	28.507,080	34.208,496	
727	9,210	1.430,214		-	-	-	
		-	10,000	187,960	28.695,040	34.434,048	
728	9,586	1.439,800		-	-	-	
		-	10,000	193,980	28.889,020	34.666,824	
729	9,812	1.449,612		-	-	-	
		-	10,000	197,130	29.086,150	34.903,380	
730	9,901	1.459,513		-	-	-	
		-	10,000	197,370	29.283,520	35.140,224	
731	9,836	1.469,349		-	-	-	
		-	10,000	194,700	29.478,220	35.373,864	
732	9,634	1.478,983		-	-	-	
		-	10,000	189,160	29.667,380	35.600,856	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
733	9,282	1.488,265		-	-	-	
		-	10,000	180,670	29.848,050	35.817,660	
734	8,785	1.497,050		-	-	-	
		-	10,000	169,580	30.017,630	36.021,156	
735	8,173	1.505,223		-	-	-	
		-	10,000	135,770	30.153,400	36.184,080	
736	5,404	1.510,627		-	-	-	
		-	10,000	79,160	30.232,560	36.279,072	
737	2,512	1.513,139		-	-	-	
		-	10,000	39,040	30.271,600	36.325,920	
738	1,392	1.514,531		-	-	-	
		-	10,000	20,960	30.292,560	36.351,072	
739	0,704	1.515,235		-	-	-	
		-	10,000	10,850	30.303,410	36.364,092	
740	0,381	1.515,616		-	-	-	
		-	10,000	7,720	30.311,130	36.373,356	
741	0,391	1.516,007		-	-	-	
		-	10,000	9,480	30.320,610	36.384,732	
742	0,557	1.516,564		-	-	-	
		-	10,000	11,670	30.332,280	36.398,736	
743	0,610	1.517,174		-	-	-	
		-	10,000	12,460	30.344,740	36.413,688	
744	0,636	1.517,810		-	-	-	
		-	10,000	12,880	30.357,620	36.429,144	
745	0,652	1.518,462		-	-	-	
		-	10,000	12,980	30.370,600	36.444,720	
746	0,646	1.519,108		-	-	-	
		-	10,000	12,710	30.383,310	36.459,972	
747	0,625	1.519,733		-	-	-	
		-	10,000	12,080	30.395,390	36.474,468	
748	0,583	1.520,316		-	-	-	
		-	10,000	11,090	30.406,480	36.487,776	
749	0,526	1.520,842		-	-	-	
		-	10,000	11,360	30.417,840	36.501,408	
750	0,610	1.521,452		-	-	-	
		-	10,000	12,880	30.430,720	36.516,864	
751	0,678	1.522,130		-	-	-	
		-	10,000	14,040	30.444,760	36.533,712	
752	0,726	1.522,856		-	-	-	
		-	10,000	14,830	30.459,590	36.551,508	
753	0,757	1.523,613		-	-	-	
		-	10,000	15,300	30.474,890	36.569,868	
754	0,773	1.524,386		-	-	-	
		-	10,000	15,410	30.490,300	36.588,360	
755	0,768	1.525,154		-	-	-	
		-	10,000	15,150	30.505,450	36.606,540	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO						
DMT de	200 a 400		**P=**	6,00	**Empolamento:**	20,00%

Estacas	Área		Semi-Distância (m)	Volume		
	Aterro (m²)	Acum. Aterro (m²)		Aterro (m³)	Acum. Aterro (m³)	Empolado (m³)
756	0,747	1.525,901		-	-	-
		-	10,000	14,510	30.519,960	36.623,952
757	0,704	1.526,605		-	-	-
		-	10,000	13,560	30.533,520	36.640,224
758	0,652	1.527,257		-	-	-
		-	10,000	12,300	30.545,820	36.654,984
759	0,578	1.527,835		-	-	-
		-	10,000	10,680	30.556,500	36.667,800
760	0,490	1.528,325		-	-	-
		-	10,000	10,370	30.566,870	36.680,244
761	0,547	1.528,872		-	-	-
		-	10,000	11,360	30.578,230	36.693,876
762	0,589	1.529,461		-	-	-
		-	10,000	12,040	30.590,270	36.708,324
763	0,615	1.530,076		-	-	-
		-	10,000	12,350	30.602,620	36.723,144
764	0,620	1.530,696		-	-	-
		-	10,000	12,300	30.614,920	36.737,904
765	0,610	1.531,306		-	-	-
		-	10,000	11,930	30.626,850	36.752,220
766	0,583	1.531,889		-	-	-
		-	10,000	11,250	30.638,100	36.765,720
767	0,542	1.532,431		-	-	-
		-	10,000	11,360	30.649,460	36.779,352
768	0,594	1.533,025		-	-	-
		-	10,000	12,250	30.661,710	36.794,052
769	0,631	1.533,656		-	-	-
		-	10,000	12,770	30.674,480	36.809,376
770	0,646	1.534,302		-	-	-
		-	10,000	12,980	30.687,460	36.824,952
771	0,652	1.534,954		-	-	-
		-	10,000	12,830	30.700,290	36.840,348
772	0,631	1.535,585		-	-	-
		-	10,000	12,300	30.712,590	36.855,108
773	0,599	1.536,184		-	-	-
		-	10,000	11,460	30.724,050	36.868,860
774	0,547	1.536,731		-	-	-
		-	10,000	10,780	30.734,830	36.881,796
775	0,531	1.537,262		-	-	-
		-	10,000	10,310	30.745,140	36.894,168
776	0,500	1.537,762		-	-	-
		-	10,000	9,640	30.754,780	36.905,736
777	0,464	1.538,226		-	-	-
		-	10,000	9,120	30.763,900	36.916,680
778	0,448	1.538,674		-	-	-
		-	10,000	8,910	30.772,810	36.927,372

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
779	0,443	1.539,117		-	-	-	
		-	10,000	8,960	30.781,770	36.938,124	
780	0,453	1.539,570		-	-	-	
		-	10,000	9,320	30.791,090	36.949,308	
781	0,479	1.540,049		-	-	-	
		-	10,000	9,270	30.800,360	36.960,432	
782	0,448	1.540,497		-	-	-	
		-	10,000	8,750	30.809,110	36.970,932	
783	0,427	1.540,924		-	-	-	
		-	10,000	8,540	30.817,650	36.981,180	
784	0,427	1.541,351		-	-	-	
		-	10,000	8,650	30.826,300	36.991,560	
785	0,438	1.541,789		-	-	-	
		-	10,000	9,070	30.835,370	37.002,444	
786	0,469	1.542,258		-	-	-	
		-	10,000	9,790	30.845,160	37.014,192	
787	0,510	1.542,768		-	-	-	
		-	10,000	9,740	30.854,900	37.025,880	
788	0,464	1.543,232		-	-	-	
		-	10,000	8,960	30.863,860	37.036,632	
789	0,432	1.543,664		-	-	-	
		-	10,000	8,440	30.872,300	37.046,760	
790	0,412	1.544,076		-	-	-	
		-	10,000	8,240	30.880,540	37.056,648	
791	0,412	1.544,488		-	-	-	
		-	10,000	8,390	30.888,930	37.066,716	
792	0,427	1.544,915		-	-	-	
		-	10,000	8,800	30.897,730	37.077,276	
793	0,453	1.545,368		-	-	-	
		-	10,000	9,480	30.907,210	37.088,652	
794	0,495	1.545,863		-	-	-	
		-	10,000	9,430	30.916,640	37.099,968	
795	0,448	1.546,311		-	-	-	
		-	10,000	8,650	30.925,290	37.110,348	
796	0,417	1.546,728		-	-	-	
		-	10,000	8,180	30.933,470	37.120,164	
797	0,401	1.547,129		-	-	-	
		-	10,000	8,020	30.941,490	37.129,788	
798	0,401	1.547,530		-	-	-	
		-	10,000	8,180	30.949,670	37.139,604	
799	0,417	1.547,947		-	-	-	
		-	10,000	8,600	30.958,270	37.149,924	
800	0,443	1.548,390		-	-	-	
		-	10,000	9,270	30.967,540	37.161,048	
801	0,484	1.548,874		-	-	-	
		-	10,000	9,270	30.976,810	37.172,172	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
802	0,443	1.549,317		-	-	-	
		-	10,000	8,550	30.985,360	37.182,432	
803	0,412	1.549,729		-	-	-	
		-	10,000	8,080	30.993,440	37.192,128	
804	0,396	1.550,125		-	-	-	
		-	10,000	7,920	31.001,360	37.201,632	
805	0,396	1.550,521		-	-	-	
		-	10,000	8,030	31.009,390	37.211,268	
806	0,407	1.550,928		-	-	-	
		-	10,000	8,450	31.017,840	37.221,408	
807	0,438	1.551,366		-	-	-	
		-	10,000	9,170	31.027,010	37.232,412	
808	0,479	1.551,845		-	-	-	
		-	10,000	11,040	31.038,050	37.245,660	
809	0,625	1.552,470		-	-	-	
		-	10,000	15,850	31.053,900	37.264,680	
810	0,960	1.553,430		-	-	-	
		-	10,000	24,580	31.078,480	37.294,176	
811	1,498	1.554,928		-	-	-	
		-	10,000	37,620	31.116,100	37.339,320	
812	2,264	1.557,192		-	-	-	
		-	10,000	57,290	31.173,390	37.408,068	
813	3,465	1.560,657		-	-	-	
		-	10,000	88,340	31.261,730	37.514,076	
814	5,369	1.566,026		-	-	-	
		-	10,000	118,710	31.380,440	37.656,528	
815	6,502	1.572,528		-	-	-	
		-	10,000	116,320	31.496,760	37.796,112	
816	5,130	1.577,658		-	-	-	
		-	10,000	81,670	31.578,430	37.894,116	
817	3,037	1.580,695		-	-	-	
		-	10,000	47,600	31.626,030	37.951,236	
818	1,723	1.582,418		-	-	-	
		-	10,000	27,700	31.653,730	37.984,476	
819	1,047	1.583,465		-	-	-	
		-	10,000	17,090	31.670,820	38.004,984	
820	0,662	1.584,127		-	-	-	
		-	10,000	13,240	31.684,060	38.020,872	
821	0,662	1.584,789		-	-	-	
		-	10,000	13,080	31.697,140	38.036,568	
822	0,646	1.585,435		-	-	-	
		-	10,000	12,560	31.709,700	38.051,640	
823	0,610	1.586,045		-	-	-	
		-	10,000	11,670	31.721,370	38.065,644	
824	0,557	1.586,602		-	-	-	
		-	10,000	10,410	31.731,780	38.078,136	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
825	0,484	1.587,086		-	-	-	
		-	10,000	10,310	31.742,090	38.090,508	
826	0,547	1.587,633		-	-	-	
		-	10,000	11,410	31.753,500	38.104,200	
827	0,594	1.588,227		-	-	-	
		-	10,000	12,140	31.765,640	38.118,768	
828	0,620	1.588,847		-	-	-	
		-	10,000	12,450	31.778,090	38.133,708	
829	0,625	1.589,472		-	-	-	
		-	10,000	12,400	31.790,490	38.148,588	
830	0,615	1.590,087		-	-	-	
		-	10,000	12,040	31.802,530	38.163,036	
831	0,589	1.590,676		-	-	-	
		-	10,000	11,250	31.813,780	38.176,536	
832	0,536	1.591,212		-	-	-	
		-	10,000	11,190	31.824,970	38.189,964	
833	0,583	1.591,795		-	-	-	
		-	10,000	11,980	31.836,950	38.204,340	
834	0,615	1.592,410		-	-	-	
		-	10,000	12,400	31.849,350	38.219,220	
835	0,625	1.593,035		-	-	-	
		-	10,000	12,400	31.861,750	38.234,100	
836	0,615	1.593,650		-	-	-	
		-	10,000	12,040	31.873,790	38.248,548	
837	0,589	1.594,239		-	-	-	
		-	10,000	11,360	31.885,150	38.262,180	
838	0,547	1.594,786		-	-	-	
		-	10,000	10,260	31.895,410	38.274,492	
839	0,479	1.595,265		-	-	-	
		-	10,000	10,310	31.905,720	38.286,864	
840	0,552	1.595,817		-	-	-	
		-	10,000	11,620	31.917,340	38.300,808	
841	0,610	1.596,427		-	-	-	
		-	10,000	12,560	31.929,900	38.315,880	
842	0,646	1.597,073		-	-	-	
		-	10,000	13,080	31.942,980	38.331,576	
843	0,662	1.597,735		-	-	-	
		-	10,000	13,240	31.956,220	38.347,464	
844	0,662	1.598,397		-	-	-	
		-	10,000	13,030	31.969,250	38.363,100	
845	0,641	1.599,038		-	-	-	
		-	10,000	12,400	31.981,650	38.377,980	
846	0,599	1.599,637		-	-	-	
		-	10,000	11,410	31.993,060	38.391,672	
847	0,542	1.600,179		-	-	-	
		-	10,000	11,410	32.004,470	38.405,364	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
848	0,599	1.600,778		-	-	-	
		-	10,000	12,400	32.016,870	38.420,244	
849	0,641	1.601,419		-	-	-	
		-	10,000	13,030	32.029,900	38.435,880	
850	0,662	1.602,081		-	-	-	
		-	10,000	13,290	32.043,190	38.451,828	
851	0,667	1.602,748		-	-	-	
		-	10,000	13,190	32.056,380	38.467,656	
852	0,652	1.603,400		-	-	-	
		-	10,000	12,670	32.069,050	38.482,860	
853	0,615	1.604,015		-	-	-	
		-	10,000	11,770	32.080,820	38.496,984	
854	0,562	1.604,577		-	-	-	
		-	10,000	10,720	32.091,540	38.509,848	
855	0,510	1.605,087		-	-	-	
		-	10,000	9,630	32.101,170	38.521,404	
856	0,453	1.605,540		-	-	-	
		-	10,000	8,700	32.109,870	38.531,844	
857	0,417	1.605,957		-	-	-	
		-	10,000	8,180	32.118,050	38.541,660	
858	0,401	1.606,358		-	-	-	
		-	10,000	8,020	32.126,070	38.551,284	
859	0,401	1.606,759		-	-	-	
		-	10,000	8,180	32.134,250	38.561,100	
860	0,417	1.607,176		-	-	-	
		-	10,000	8,750	32.143,000	38.571,600	
861	0,458	1.607,634		-	-	-	
		-	10,000	9,740	32.152,740	38.583,288	
862	0,516	1.608,150		-	-	-	
		-	10,000	9,690	32.162,430	38.594,916	
863	0,453	1.608,603		-	-	-	
		-	10,000	8,650	32.171,080	38.605,296	
864	0,412	1.609,015		-	-	-	
		-	10,000	8,030	32.179,110	38.614,932	
865	0,391	1.609,406		-	-	-	
		-	10,000	7,770	32.186,880	38.624,256	
866	0,386	1.609,792		-	-	-	
		-	10,000	7,820	32.194,700	38.633,640	
867	0,396	1.610,188		-	-	-	
		-	10,000	8,280	32.202,980	38.643,576	
868	0,432	1.610,620		-	-	-	
		-	10,000	9,160	32.212,140	38.654,568	
869	0,484	1.611,104		-	-	-	
		-	10,000	10,360	32.222,500	38.667,000	
870	0,552	1.611,656		-	-	-	
		-	10,000	10,360	32.232,860	38.679,432	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
871	0,484	1.612,140		-	-	-	
		-	10,000	9,220	32.242,080	38.690,496	
872	0,438	1.612,578		-	-	-	
		-	10,000	8,450	32.250,530	38.700,636	
873	0,407	1.612,985		-	-	-	
		-	10,000	8,030	32.258,560	38.710,272	
874	0,396	1.613,381		-	-	-	
		-	10,000	7,970	32.266,530	38.719,836	
875	0,401	1.613,782		-	-	-	
		-	10,000	8,280	32.274,810	38.729,772	
876	0,427	1.614,209		-	-	-	
		-	10,000	9,010	32.283,820	38.740,584	
877	0,474	1.614,683		-	-	-	
		-	10,000	10,100	32.293,920	38.752,704	
878	0,536	1.615,219		-	-	-	
		-	10,000	10,050	32.303,970	38.764,764	
879	0,469	1.615,688		-	-	-	
		-	10,000	8,960	32.312,930	38.775,516	
880	0,427	1.616,115		-	-	-	
		-	10,000	8,280	32.321,210	38.785,452	
881	0,401	1.616,516		-	-	-	
		-	10,000	7,920	32.329,130	38.794,956	
882	0,391	1.616,907		-	-	-	
		-	10,000	7,920	32.337,050	38.804,460	
883	0,401	1.617,308		-	-	-	
		-	10,000	8,330	32.345,380	38.814,456	
884	0,432	1.617,740		-	-	-	
		-	10,000	9,110	32.354,490	38.825,388	
885	0,479	1.618,219		-	-	-	
		-	10,000	8,960	32.363,450	38.836,140	
886	0,417	1.618,636		-	-	-	
		-	10,000	7,980	32.371,430	38.845,716	
887	0,381	1.619,017		-	-	-	
		-	10,000	7,410	32.378,840	38.854,608	
888	0,360	1.619,377		-	-	-	
		-	10,000	7,150	32.385,990	38.863,188	
889	0,355	1.619,732		-	-	-	
		-	10,000	7,250	32.393,240	38.871,888	
890	0,370	1.620,102		-	-	-	
		-	10,000	7,770	32.401,010	38.881,212	
891	0,407	1.620,509		-	-	-	
		-	10,000	8,650	32.409,660	38.891,592	
892	0,458	1.620,967		-	-	-	
		-	10,000	9,680	32.419,340	38.903,208	
893	0,510	1.621,477		-	-	-	
		-	10,000	13,150	32.432,490	38.918,988	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
894	0,805	1.622,282		-	-	-	
		-	10,000	24,430	32.456,920	38.948,304	
895	1,638	1.623,920		-	-	-	
		-	10,000	47,370	32.504,290	39.005,148	
896	3,099	1.627,019		-	-	-	
		-	10,000	84,340	32.588,630	39.106,356	
897	5,335	1.632,354		-	-	-	
		-	10,000	129,090	32.717,720	39.261,264	
898	7,574	1.639,928		-	-	-	
		-	10,000	163,200	32.880,920	39.457,104	
899	8,746	1.648,674		-	-	-	
		-	10,000	174,450	33.055,370	39.666,444	
900	8,699	1.657,373		-	-	-	
		-	10,000	161,310	33.216,680	39.860,016	
901	7,432	1.664,805		-	-	-	
		-	10,000	125,490	33.342,170	40.010,604	
902	5,117	1.669,922		-	-	-	
		-	10,000	71,890	33.414,060	40.096,872	
903	2,072	1.671,994		-	-	-	
		-	10,000	26,030	33.440,090	40.128,108	
904	0,531	1.672,525		-	-	-	
		-	10,000	10,730	33.450,820	40.140,984	
905	0,542	1.673,067		-	-	-	
		-	10,000	10,730	33.461,550	40.153,860	
906	0,531	1.673,598		-	-	-	
		-	10,000	10,310	33.471,860	40.166,232	
907	0,500	1.674,098		-	-	-	
		-	10,000	9,480	33.481,340	40.177,608	
908	0,448	1.674,546		-	-	-	
		-	10,000	8,240	33.489,580	40.187,496	
909	0,376	1.674,922		-	-	-	
		-	10,000	7,460	33.497,040	40.196,448	
910	0,370	1.675,292		-	-	-	
		-	10,000	8,960	33.506,000	40.207,200	
911	0,526	1.675,818		-	-	-	
		-	10,000	13,680	33.519,680	40.223,616	
912	0,842	1.676,660		-	-	-	
		-	10,000	21,730	33.541,410	40.249,692	
913	1,331	1.677,991		-	-	-	
		-	10,000	33,390	33.574,800	40.289,760	
914	2,008	1.679,999		-	-	-	
		-	10,000	49,110	33.623,910	40.348,692	
915	2,903	1.682,902		-	-	-	
		-	10,000	69,920	33.693,830	40.432,596	
916	4,089	1.686,991		-	-	-	
		-	10,000	97,550	33.791,380	40.549,656	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
917	5,666	1.692,657		-	-	-	
		-	10,000	133,680	33.925,060	40.710,072	
918	7,702	1.700,359		-	-	-	
		-	10,000	179,780	34.104,840	40.925,808	
919	10,276	1.710,635		-	-	-	
		-	10,000	218,660	34.323,500	41.188,200	
920	11,590	1.722,225		-	-	-	
		-	10,000	212,640	34.536,140	41.443,368	
921	9,674	1.731,899		-	-	-	
		-	10,000	163,630	34.699,770	41.639,724	
922	6,689	1.738,588		-	-	-	
		-	10,000	111,370	34.811,140	41.773,368	
923	4,448	1.743,036		-	-	-	
		-	10,000	72,780	34.883,920	41.860,704	
924	2,830	1.745,866		-	-	-	
		-	10,000	45,470	34.929,390	41.915,268	
925	1,717	1.747,583		-	-	-	
		-	10,000	27,260	34.956,650	41.947,980	
926	1,009	1.748,592		-	-	-	
		-	10,000	16,340	34.972,990	41.967,588	
927	0,625	1.749,217		-	-	-	
		-	10,000	11,670	34.984,660	41.981,592	
928	0,542	1.749,759		-	-	-	
		-	10,000	11,360	34.996,020	41.995,224	
929	0,594	1.750,353		-	-	-	
		-	10,000	12,190	35.008,210	42.009,852	
930	0,625	1.750,978		-	-	-	
		-	10,000	12,610	35.020,820	42.024,984	
931	0,636	1.751,614		-	-	-	
		-	10,000	12,770	35.033,590	42.040,308	
932	0,641	1.752,255		-	-	-	
		-	10,000	12,300	35.045,890	42.055,068	
933	0,589	1.752,844		-	-	-	
		-	10,000	11,360	35.057,250	42.068,700	
934	0,547	1.753,391		-	-	-	
		-	10,000	10,630	35.067,880	42.081,456	
935	0,516	1.753,907		-	-	-	
		-	10,000	10,160	35.078,040	42.093,648	
936	0,500	1.754,407		-	-	-	
		-	10,000	9,950	35.087,990	42.105,588	
937	0,495	1.754,902		-	-	-	
		-	10,000	9,950	35.097,940	42.117,528	
938	0,500	1.755,402		-	-	-	
		-	10,000	9,580	35.107,520	42.129,024	
939	0,458	1.755,860		-	-	-	
		-	10,000	8,850	35.116,370	42.139,644	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
940	0,427	1.756,287		-	-	-	
		-	10,000	8,340	35.124,710	42.149,652	
941	0,407	1.756,694		-	-	-	
		-	10,000	8,080	35.132,790	42.159,348	
942	0,401	1.757,095		-	-	-	
		-	10,000	8,130	35.140,920	42.169,104	
943	0,412	1.757,507		-	-	-	
		-	10,000	8,390	35.149,310	42.179,172	
944	0,427	1.757,934		-	-	-	
		-	10,000	8,850	35.158,160	42.189,792	
945	0,458	1.758,392		-	-	-	
		-	10,000	9,580	35.167,740	42.201,288	
946	0,500	1.758,892		-	-	-	
		-	10,000	10,570	35.178,310	42.213,972	
947	0,557	1.759,449		-	-	-	
		-	10,000	10,470	35.188,780	42.226,536	
948	0,490	1.759,939		-	-	-	
		-	10,000	9,280	35.198,060	42.237,672	
949	0,438	1.760,377		-	-	-	
		-	10,000	8,290	35.206,350	42.247,620	
950	0,391	1.760,768		-	-	-	
		-	10,000	7,560	35.213,910	42.256,692	
951	0,365	1.761,133		-	-	-	
		-	10,000	7,100	35.221,010	42.265,212	
952	0,345	1.761,478		-	-	-	
		-	10,000	6,850	35.227,860	42.273,432	
953	0,340	1.761,818		-	-	-	
		-	10,000	6,850	35.234,710	42.281,652	
954	0,345	1.762,163		-	-	-	
		-	10,000	7,100	35.241,810	42.290,172	
955	0,365	1.762,528		-	-	-	
		-	10,000	7,610	35.249,420	42.299,304	
956	0,396	1.762,924		-	-	-	
		-	10,000	8,390	35.257,810	42.309,372	
957	0,443	1.763,367		-	-	-	
		-	10,000	9,380	35.267,190	42.320,628	
958	0,495	1.763,862		-	-	-	
		-	10,000	9,330	35.276,520	42.331,824	
959	0,438	1.764,300		-	-	-	
		-	10,000	8,340	35.284,860	42.341,832	
960	0,396	1.764,696		-	-	-	
		-	10,000	7,610	35.292,470	42.350,964	
961	0,365	1.765,061		-	-	-	
		-	10,000	7,100	35.299,570	42.359,484	
962	0,345	1.765,406		-	-	-	
		-	10,000	6,850	35.306,420	42.367,704	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
963	0,340	1.765,746		-	-	-	
		-	10,000	6,850	35.313,270	42.375,924	
964	0,345	1.766,091		-	-	-	
		-	10,000	7,050	35.320,320	42.384,384	
965	0,360	1.766,451		-	-	-	
		-	10,000	7,510	35.327,830	42.393,396	
966	0,391	1.766,842		-	-	-	
		-	10,000	8,230	35.336,060	42.403,272	
967	0,432	1.767,274		-	-	-	
		-	10,000	9,160	35.345,220	42.414,264	
968	0,484	1.767,758		-	-	-	
		-	10,000	9,010	35.354,230	42.425,076	
969	0,417	1.768,175		-	-	-	
		-	10,000	7,820	35.362,050	42.434,460	
970	0,365	1.768,540		-	-	-	
		-	10,000	6,890	35.368,940	42.442,728	
971	0,324	1.768,864		-	-	-	
		-	10,000	6,280	35.375,220	42.450,264	
972	0,304	1.769,168		-	-	-	
		-	10,000	5,970	35.381,190	42.457,428	
973	0,293	1.769,461		-	-	-	
		-	10,000	5,970	35.387,160	42.464,592	
974	0,304	1.769,765		-	-	-	
		-	10,000	6,330	35.393,490	42.472,188	
975	0,329	1.770,094		-	-	-	
		-	10,000	6,940	35.400,430	42.480,516	
976	0,365	1.770,459		-	-	-	
		-	10,000	7,870	35.408,300	42.489,960	
977	0,422	1.770,881		-	-	-	
		-	10,000	9,170	35.417,470	42.500,964	
978	0,495	1.771,376		-	-	-	
		-	10,000	13,110	35.430,580	42.516,696	
979	0,816	1.772,192		-	-	-	
		-	10,000	24,540	35.455,120	42.546,144	
980	1,638	1.773,830		-	-	-	
		-	10,000	47,000	35.502,120	42.602,544	
981	3,062	1.776,892		-	-	-	
		-	10,000	82,740	35.584,860	42.701,832	
982	5,212	1.782,104		-	-	-	
		-	10,000	128,390	35.713,250	42.855,900	
983	7,627	1.789,731		-	-	-	
		-	10,000	172,450	35.885,700	43.062,840	
984	9,618	1.799,349		-	-	-	
		-	10,000	206,660	36.092,360	43.310,832	
985	11,048	1.810,397		-	-	-	
		-	10,000	228,860	36.321,220	43.585,464	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
986	11,838	1.822,235		-	-	-	
		-	10,000	237,800	36.559,020	43.870,824	
987	11,942	1.834,177		-	-	-	
		-	10,000	232,940	36.791,960	44.150,352	
988	11,352	1.845,529		-	-	-	
		-	10,000	214,480	37.006,440	44.407,728	
989	10,096	1.855,625		-	-	-	
		-	10,000	183,540	37.189,980	44.627,976	
990	8,258	1.863,883		-	-	-	
		-	10,000	145,090	37.335,070	44.802,084	
991	6,251	1.870,134		-	-	-	
		-	10,000	106,730	37.441,800	44.930,160	
992	4,422	1.874,556		-	-	-	
		-	10,000	71,740	37.513,540	45.016,248	
993	2,752	1.877,308		-	-	-	
		-	10,000	42,220	37.555,760	45.066,912	
994	1,470	1.878,778		-	-	-	
		-	10,000	21,960	37.577,720	45.093,264	
995	0,726	1.879,504		-	-	-	
		-	10,000	11,790	37.589,510	45.107,412	
996	0,453	1.879,957		-	-	-	
		-	10,000	8,600	37.598,110	45.117,732	
997	0,407	1.880,364		-	-	-	
		-	10,000	7,830	37.605,940	45.127,128	
998	0,376	1.880,740		-	-	-	
		-	10,000	7,410	37.613,350	45.136,020	
999	0,365	1.881,105		-	-	-	
		-	10,000	7,300	37.620,650	45.144,780	
1000	0,365	1.881,470		-	-	-	
		-	10,000	7,510	37.628,160	45.153,792	
1001	0,386	1.881,856		-	-	-	
		-	10,000	8,030	37.636,190	45.163,428	
1002	0,417	1.882,273		-	-	-	
		-	10,000	8,650	37.644,840	45.173,808	
1003	0,448	1.882,721		-	-	-	
		-	10,000	9,060	37.653,900	45.184,680	
1004	0,458	1.883,179		-	-	-	
		-	10,000	9,060	37.662,960	45.195,552	
1005	0,448	1.883,627		-	-	-	
		-	10,000	8,600	37.671,560	45.205,872	
1006	0,412	1.884,039		-	-	-	
		-	10,000	7,720	37.679,280	45.215,136	
1007	0,360	1.884,399		-	-	-	
		-	10,000	8,390	37.687,670	45.225,204	
1008	0,479	1.884,878		-	-	-	
		-	10,000	14,660	37.702,330	45.242,796	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
1009	0,987	1.885,865		-	-	-	
		-	10,000	29,150	37.731,480	45.277,776	
1010	1,928	1.887,793		-	-	-	
		-	10,000	52,930	37.784,410	45.341,292	
1011	3,365	1.891,158		-	-	-	
		-	10,000	87,760	37.872,170	45.446,604	
1012	5,411	1.896,569		-	-	-	
		-	10,000	136,230	38.008,400	45.610,080	
1013	8,212	1.904,781		-	-	-	
		-	10,000	188,260	38.196,660	45.835,992	
1014	10,614	1.915,395		-	-	-	
		-	10,000	217,290	38.413,950	46.096,740	
1015	11,115	1.926,510		-	-	-	
		-	10,000	207,570	38.621,520	46.345,824	
1016	9,642	1.936,152		-	-	-	
		-	10,000	160,860	38.782,380	46.538,856	
1017	6,444	1.942,596		-	-	-	
		-	10,000	98,650	38.881,030	46.657,236	
1018	3,421	1.946,017		-	-	-	
		-	10,000	52,120	38.933,150	46.719,780	
1019	1,791	1.947,808		-	-	-	
		-	10,000	30,500	38.963,650	46.756,380	
1020	1,259	1.949,067		-	-	-	
		-	10,000	24,740	38.988,390	46.786,068	
1021	1,215	1.950,282		-	-	-	
		-	10,000	23,650	39.012,040	46.814,448	
1022	1,150	1.951,432		-	-	-	
		-	10,000	22,130	39.034,170	46.841,004	
1023	1,063	1.952,495		-	-	-	
		-	10,000	20,180	39.054,350	46.865,220	
1024	0,955	1.953,450		-	-	-	
		-	10,000	17,810	39.072,160	46.886,592	
1025	0,826	1.954,276		-	-	-	
		-	10,000	14,990	39.087,150	46.904,580	
1026	0,673	1.954,949		-	-	-	
		-	10,000	12,720	39.099,870	46.919,844	
1027	0,599	1.955,548		-	-	-	
		-	10,000	12,820	39.112,690	46.935,228	
1028	0,683	1.956,231		-	-	-	
		-	10,000	16,270	39.128,960	46.954,752	
1029	0,944	1.957,175		-	-	-	
		-	10,000	23,250	39.152,210	46.982,652	
1030	1,381	1.958,556		-	-	-	
		-	10,000	33,890	39.186,100	47.023,320	
1031	2,008	1.960,564		-	-	-	
		-	10,000	55,920	39.242,020	47.090,424	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
1032	3,584	1.964,148		-	-	-	
		-	10,000	107,930	39.349,950	47.219,940	
1033	7,209	1.971,357		-	-	-	
		-	10,000	182,490	39.532,440	47.438,928	
1034	11,040	1.982,397		-	-	-	
		-	10,000	231,980	39.764,420	47.717,304	
1035	12,158	1.994,555		-	-	-	
		-	10,000	224,340	39.988,760	47.986,512	
1036	10,276	2.004,831		-	-	-	
		-	10,000	161,450	40.150,210	48.180,252	
1037	5,869	2.010,700		-	-	-	
		-	10,000	80,570	40.230,780	48.276,936	
1038	2,188	2.012,888		-	-	-	
		-	10,000	31,970	40.262,750	48.315,300	
1039	1,009	2.013,897		-	-	-	
		-	10,000	18,570	40.281,320	48.337,584	
1040	0,848	2.014,745		-	-	-	
		-	10,000	15,150	40.296,470	48.355,764	
1041	0,667	2.015,412		-	-	-	
		-	10,000	11,980	40.308,450	48.370,140	
1042	0,531	2.015,943		-	-	-	
		-	10,000	10,050	40.318,500	48.382,200	
1043	0,474	2.016,417		-	-	-	
		-	10,000	9,320	40.327,820	48.393,384	
1044	0,458	2.016,875		-	-	-	
		-	10,000	9,480	40.337,300	48.404,760	
1045	0,490	2.017,365		-	-	-	
		-	10,000	10,630	40.347,930	48.417,516	
1046	0,573	2.017,938		-	-	-	
		-	10,000	12,670	40.360,600	48.432,720	
1047	0,694	2.018,632		-	-	-	
		-	10,000	15,630	40.376,230	48.451,476	
1048	0,869	2.019,501		-	-	-	
		-	10,000	14,890	40.391,120	48.469,344	
1049	0,620	2.020,121		-	-	-	
		-	10,000	12,980	40.404,100	48.484,920	
1050	0,678	2.020,799		-	-	-	
		-	10,000	13,510	40.417,610	48.501,132	
1051	0,673	2.021,472		-	-	-	
		-	10,000	13,670	40.431,280	48.517,536	
1052	0,694	2.022,166		-	-	-	
		-	10,000	12,620	40.443,900	48.532,680	
1053	0,568	2.022,734		-	-	-	
		-	10,000	10,320	40.454,220	48.545,064	
1054	0,464	2.023,198		-	-	-	
		-	10,000	8,500	40.462,720	48.555,264	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
1055	0,386	2.023,584		-	-	-	
		-	10,000	7,100	40.469,820	48.563,784	
1056	0,324	2.023,908		-	-	-	
		-	10,000	6,170	40.475,990	48.571,188	
1057	0,293	2.024,201		-	-	-	
		-	10,000	5,710	40.481,700	48.578,040	
1058	0,278	2.024,479		-	-	-	
		-	10,000	5,660	40.487,360	48.584,832	
1059	0,288	2.024,767		-	-	-	
		-	10,000	6,070	40.493,430	48.592,116	
1060	0,319	2.025,086		-	-	-	
		-	10,000	6,890	40.500,320	48.600,384	
1061	0,370	2.025,456		-	-	-	
		-	10,000	8,180	40.508,500	48.610,200	
1062	0,448	2.025,904		-	-	-	
		-	10,000	8,080	40.516,580	48.619,896	
1063	0,360	2.026,264		-	-	-	
		-	10,000	6,530	40.523,110	48.627,732	
1064	0,293	2.026,557		-	-	-	
		-	10,000	5,400	40.528,510	48.634,212	
1065	0,247	2.026,804		-	-	-	
		-	10,000	4,740	40.533,250	48.639,900	
1066	0,227	2.027,031		-	-	-	
		-	10,000	4,540	40.537,790	48.645,348	
1067	0,227	2.027,258		-	-	-	
		-	10,000	4,800	40.542,590	48.651,108	
1068	0,253	2.027,511		-	-	-	
		-	10,000	5,460	40.548,050	48.657,660	
1069	0,293	2.027,804		-	-	-	
		-	10,000	6,530	40.554,580	48.665,496	
1070	0,360	2.028,164		-	-	-	
		-	10,000	7,000	40.561,580	48.673,896	
1071	0,340	2.028,504		-	-	-	
		-	10,000	6,740	40.568,320	48.681,984	
1072	0,334	2.028,838		-	-	-	
		-	10,000	6,890	40.575,210	48.690,252	
1073	0,355	2.029,193		-	-	-	
		-	10,000	7,200	40.582,410	48.698,892	
1074	0,365	2.029,558		-	-	-	
		-	10,000	7,050	40.589,460	48.707,352	
1075	0,340	2.029,898		-	-	-	
		-	10,000	6,180	40.595,640	48.714,768	
1076	0,278	2.030,176		-	-	-	
		-	10,000	6,280	40.601,920	48.722,304	
1077	0,350	2.030,526		-	-	-	
		-	10,000	7,310	40.609,230	48.731,076	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO						
DMT de	200 a 400		**P=**	6,00	**Empolamento:**	20,00%

Estacas	Área		Semi-Distância (m)	Volume		
	Aterro (m²)	Acum. Aterro (m²)		Aterro (m³)	Acum. Aterro (m³)	Empolado (m³)
1078	0,381	2.030,907		-	-	-
		-	10,000	7,570	40.616,800	48.740,160
1079	0,376	2.031,283		-	-	-
		-	10,000	7,100	40.623,900	48.748,680
1080	0,334	2.031,617		-	-	-
		-	10,000	5,870	40.629,770	48.755,724
1081	0,253	2.031,870		-	-	-
		-	10,000	5,720	40.635,490	48.762,588
1082	0,319	2.032,189		-	-	-
		-	10,000	6,690	40.642,180	48.770,616
1083	0,350	2.032,539		-	-	-
		-	10,000	6,900	40.649,080	48.778,896
1084	0,340	2.032,879		-	-	-
		-	10,000	6,280	40.655,360	48.786,432
1085	0,288	2.033,167		-	-	-
		-	10,000	6,430	40.661,790	48.794,148
1086	0,355	2.033,522		-	-	-
		-	10,000	7,410	40.669,200	48.803,040
1087	0,386	2.033,908		-	-	-
		-	10,000	7,620	40.676,820	48.812,184
1088	0,376	2.034,284		-	-	-
		-	10,000	7,050	40.683,870	48.820,644
1089	0,329	2.034,613		-	-	-
		-	10,000	5,760	40.689,630	48.827,556
1090	0,247	2.034,860		-	-	-
		-	10,000	5,560	40.695,190	48.834,228
1091	0,309	2.035,169		-	-	-
		-	10,000	6,380	40.701,570	48.841,884
1092	0,329	2.035,498		-	-	-
		-	10,000	6,430	40.708,000	48.849,600
1093	0,314	2.035,812		-	-	-
		-	10,000	5,770	40.713,770	48.856,524
1094	0,263	2.036,075		-	-	-
		-	10,000	4,340	40.718,110	48.861,732
1095	0,171	2.036,246		-	-	-
		-	10,000	4,080	40.722,190	48.866,628
1096	0,237	2.036,483		-	-	-
		-	10,000	5,050	40.727,240	48.872,688
1097	0,268	2.036,751		-	-	-
		-	10,000	5,260	40.732,500	48.879,000
1098	0,258	2.037,009		-	-	-
		-	10,000	4,650	40.737,150	48.884,580
1099	0,207	2.037,216		-	-	-
		-	10,000	3,280	40.740,430	48.888,516
1100	0,121	2.037,337		-	-	-
		-	10,000	2,820	40.743,250	48.891,900

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
1101	0,161	2.037,498		-	-	-	
		-	10,000	3,370	40.746,620	48.895,944	
1102	0,176	2.037,674		-	-	-	
		-	10,000	3,620	40.750,240	48.900,288	
1103	0,186	2.037,860		-	-	-	
		-	10,000	3,720	40.753,960	48.904,752	
1104	0,186	2.038,046		-	-	-	
		-	10,000	3,670	40.757,630	48.909,156	
1105	0,181	2.038,227		-	-	-	
		-	10,000	3,880	40.761,510	48.913,812	
1106	0,207	2.038,434		-	-	-	
		-	10,000	4,340	40.765,850	48.919,020	
1107	0,227	2.038,661		-	-	-	
		-	10,000	4,640	40.770,490	48.924,588	
1108	0,237	2.038,898		-	-	-	
		-	10,000	4,740	40.775,230	48.930,276	
1109	0,237	2.039,135		-	-	-	
		-	10,000	4,690	40.779,920	48.935,904	
1110	0,232	2.039,367		-	-	-	
		-	10,000	4,540	40.784,460	48.941,352	
1111	0,222	2.039,589		-	-	-	
		-	10,000	4,240	40.788,700	48.946,440	
1112	0,202	2.039,791		-	-	-	
		-	10,000	3,730	40.792,430	48.950,916	
1113	0,171	2.039,962		-	-	-	
		-	10,000	3,070	40.795,500	48.954,600	
1114	0,136	2.040,098		-	-	-	
		-	10,000	2,310	40.797,810	48.957,372	
1115	0,095	2.040,193		-	-	-	
		-	10,000	2,210	40.800,020	48.960,024	
1116	0,126	2.040,319		-	-	-	
		-	10,000	2,720	40.802,740	48.963,288	
1117	0,146	2.040,465		-	-	-	
		-	10,000	3,070	40.805,810	48.966,972	
1118	0,161	2.040,626		-	-	-	
		-	10,000	3,270	40.809,080	48.970,896	
1119	0,166	2.040,792		-	-	-	
		-	10,000	3,320	40.812,400	48.974,880	
1120	0,166	2.040,958		-	-	-	
		-	10,000	3,420	40.815,820	48.978,984	
1121	0,176	2.041,134		-	-	-	
		-	10,000	3,570	40.819,390	48.983,268	
1122	0,181	2.041,315		-	-	-	
		-	10,000	3,570	40.822,960	48.987,552	
1123	0,176	2.041,491		-	-	-	
		-	10,000	3,830	40.826,790	48.992,148	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
1124	0,207	2.041,698		-	-	-	
		-	10,000	4,340	40.831,130	48.997,356	
1125	0,227	2.041,925		-	-	-	
		-	10,000	4,690	40.835,820	49.002,984	
1126	0,242	2.042,167		-	-	-	
		-	10,000	4,890	40.840,710	49.008,852	
1127	0,247	2.042,414		-	-	-	
		-	10,000	4,940	40.845,650	49.014,780	
1128	0,247	2.042,661		-	-	-	
		-	10,000	5,150	40.850,800	49.020,960	
1129	0,268	2.042,929		-	-	-	
		-	10,000	5,460	40.856,260	49.027,512	
1130	0,278	2.043,207		-	-	-	
		-	10,000	5,610	40.861,870	49.034,244	
1131	0,283	2.043,490		-	-	-	
		-	10,000	5,660	40.867,530	49.041,036	
1132	0,283	2.043,773		-	-	-	
		-	10,000	5,560	40.873,090	49.047,708	
1133	0,273	2.044,046		-	-	-	
		-	10,000	5,260	40.878,350	49.054,020	
1134	0,253	2.044,299		-	-	-	
		-	10,000	7,690	40.886,040	49.063,248	
1135	0,516	2.044,815		-	-	-	
		-	10,000	19,130	40.905,170	49.086,204	
1136	1,397	2.046,212		-	-	-	
		-	10,000	43,920	40.949,090	49.138,908	
1137	2,995	2.049,207		-	-	-	
		-	10,000	84,880	41.033,970	49.240,764	
1138	5,493	2.054,700		-	-	-	
		-	10,000	146,720	41.180,690	49.416,828	
1139	9,179	2.063,879		-	-	-	
		-	10,000	202,690	41.383,380	49.660,056	
1140	11,090	2.074,969		-	-	-	
		-	10,000	189,740	41.573,120	49.887,744	
1141	7,884	2.082,853		-	-	-	
		-	10,000	115,440	41.688,560	50.026,272	
1142	3,660	2.086,513		-	-	-	
		-	10,000	50,460	41.739,020	50.086,824	
1143	1,386	2.087,899		-	-	-	
		-	10,000	19,330	41.758,350	50.110,020	
1144	0,547	2.088,446		-	-	-	
		-	10,000	8,920	41.767,270	50.120,724	
1145	0,345	2.088,791		-	-	-	
		-	10,000	6,330	41.773,600	50.128,320	
1146	0,288	2.089,079		-	-	-	
		-	10,000	5,410	41.779,010	50.134,812	

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TERRAPLENAGEM - MAPA DE CUBAÇÃO						
DMT de	200 a 400		**P=**	6,00	**Empolamento:**	20,00%

Estacas	Área		Semi-Distância (m)	Volume		
	Aterro (m²)	Acum. Aterro (m²)		Aterro (m³)	Acum. Aterro (m³)	Empolado (m³)
1147	0,253	2.089,332		-	-	-
		-	10,000	5,000	41.784,010	50.140,812
1148	0,247	2.089,579		-	-	-
		-	10,000	5,150	41.789,160	50.146,992
1149	0,268	2.089,847		-	-	-
		-	10,000	5,820	41.794,980	50.153,976
1150	0,314	2.090,161		-	-	-
		-	10,000	9,080	41.804,060	50.164,872
1151	0,594	2.090,755		-	-	-
		-	10,000	10,680	41.814,740	50.177,688
1152	0,474	2.091,229		-	-	-
		-	10,000	8,290	41.823,030	50.187,636
1153	0,355	2.091,584		-	-	-
		-	10,000	6,230	41.829,260	50.195,112
1154	0,268	2.091,852		-	-	-
		-	10,000	4,750	41.834,010	50.200,812
1155	0,207	2.092,059		-	-	-
		-	10,000	3,880	41.837,890	50.205,468
1156	0,181	2.092,240		-	-	-
		-	10,000	3,670	41.841,560	50.209,872
1157	0,186	2.092,426		-	-	-
		-	10,000	4,030	41.845,590	50.214,708
1158	0,217	2.092,643		-	-	-
		-	10,000	4,540	41.850,130	50.220,156
1159	0,237	2.092,880		-	-	-
		-	10,000	5,250	41.855,380	50.226,456
1160	0,288	2.093,168		-	-	-
		-	10,000	6,580	41.861,960	50.234,352
1161	0,370	2.093,538		-	-	-
		-	10,000	8,540	41.870,500	50.244,600
1162	0,484	2.094,022		-	-	-
		-	10,000	8,540	41.879,040	50.254,848
1163	0,370	2.094,392		-	-	-
		-	10,000	6,580	41.885,620	50.262,744
1164	0,288	2.094,680		-	-	-
		-	10,000	5,200	41.890,820	50.268,984
1165	0,232	2.094,912		-	-	-
		-	10,000	4,390	41.895,210	50.274,252
1166	0,207	2.095,119		-	-	-
		-	10,000	4,240	41.899,450	50.279,340
1167	0,217	2.095,336		-	-	-
		-	10,000	4,700	41.904,150	50.284,980
1168	0,253	2.095,589		-	-	-
		-	10,000	5,720	41.909,870	50.291,844
1169	0,319	2.095,908		-	-	-
		-	10,000	7,150	41.917,020	50.300,424

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
1170	0,396	2.096,304		-	-	-	
		-	10,000	8,390	41.925,410	50.310,492	
1171	0,443	2.096,747		-	-	-	
		-	10,000	9,070	41.934,480	50.321,376	
1172	0,464	2.097,211		-	-	-	
		-	10,000	9,120	41.943,600	50.332,320	
1173	0,448	2.097,659		-	-	-	
		-	10,000	8,550	41.952,150	50.342,580	
1174	0,407	2.098,066		-	-	-	
		-	10,000	7,410	41.959,560	50.351,472	
1175	0,334	2.098,400		-	-	-	
		-	10,000	5,660	41.965,220	50.358,264	
1176	0,232	2.098,632		-	-	-	
		-	10,000	5,770	41.970,990	50.365,188	
1177	0,345	2.098,977		-	-	-	
		-	10,000	7,720	41.978,710	50.374,452	
1178	0,427	2.099,404		-	-	-	
		-	10,000	9,110	41.987,820	50.385,384	
1179	0,484	2.099,888		-	-	-	
		-	10,000	9,890	41.997,710	50.397,252	
1180	0,505	2.100,393		-	-	-	
		-	10,000	10,050	42.007,760	50.409,312	
1181	0,500	2.100,893		-	-	-	
		-	10,000	9,640	42.017,400	50.420,880	
1182	0,464	2.101,357		-	-	-	
		-	10,000	8,600	42.026,000	50.431,200	
1183	0,396	2.101,753		-	-	-	
		-	10,000	8,600	42.034,600	50.441,520	
1184	0,464	2.102,217		-	-	-	
		-	10,000	9,690	42.044,290	50.453,148	
1185	0,505	2.102,722		-	-	-	
		-	10,000	10,150	42.054,440	50.465,328	
1186	0,510	2.103,232		-	-	-	
		-	10,000	10,000	42.064,440	50.477,328	
1187	0,490	2.103,722		-	-	-	
		-	10,000	9,280	42.073,720	50.488,464	
1188	0,438	2.104,160		-	-	-	
		-	10,000	7,930	42.081,650	50.497,980	
1189	0,355	2.104,515		-	-	-	
		-	10,000	8,450	42.090,100	50.508,120	
1190	0,490	2.105,005		-	-	-	
		-	10,000	10,840	42.100,940	50.521,128	
1191	0,594	2.105,599		-	-	-	
		-	10,000	12,670	42.113,610	50.536,332	
1192	0,673	2.106,272		-	-	-	
		-	10,000	13,880	42.127,490	50.552,988	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
1193	0,715	2.106,987		-	-	-	
		-	10,000	14,460	42.141,950	50.570,340	
1194	0,731	2.107,718		-	-	-	
		-	10,000	14,460	42.156,410	50.587,692	
1195	0,715	2.108,433		-	-	-	
		-	10,000	14,250	42.170,660	50.604,792	
1196	0,710	2.109,143		-	-	-	
		-	10,000	29,510	42.200,170	50.640,204	
1197	2,241	2.111,384		-	-	-	
		-	10,000	80,330	42.280,500	50.736,600	
1198	5,792	2.117,176		-	-	-	
		-	10,000	158,310	42.438,810	50.926,572	
1199	10,039	2.127,215		-	-	-	
		-	10,000	221,020	42.659,830	51.191,796	
1200	12,063	2.139,278		-	-	-	
		-	10,000	207,230	42.867,060	51.440,472	
1201	8,660	2.147,938		-	-	-	
		-	10,000	129,180	42.996,240	51.595,488	
1202	4,258	2.152,196		-	-	-	
		-	10,000	62,720	43.058,960	51.670,752	
1203	2,014	2.154,210		-	-	-	
		-	10,000	33,730	43.092,690	51.711,228	
1204	1,359	2.155,569		-	-	-	
		-	10,000	27,950	43.120,640	51.744,768	
1205	1,436	2.157,005		-	-	-	
		-	10,000	30,060	43.150,700	51.780,840	
1206	1,570	2.158,575		-	-	-	
		-	10,000	33,270	43.183,970	51.820,764	
1207	1,757	2.160,332		-	-	-	
		-	10,000	37,600	43.221,570	51.865,884	
1208	2,003	2.162,335		-	-	-	
		-	10,000	75,170	43.296,740	51.956,088	
1209	5,514	2.167,849		-	-	-	
		-	10,000	147,400	43.444,140	52.132,968	
1210	9,226	2.177,075		-	-	-	
		-	10,000	139,460	43.583,600	52.300,320	
1211	4,720	2.181,795		-	-	-	
		-	10,000	54,140	43.637,740	52.365,288	
1212	0,694	2.182,489		-	-	-	
		-	10,000	9,870	43.647,610	52.377,132	
1213	0,293	2.182,782		-	-	-	
		-	10,000	6,840	43.654,450	52.385,340	
1214	0,391	2.183,173		-	-	-	
		-	10,000	6,790	43.661,240	52.393,488	
1215	0,288	2.183,461		-	-	-	
		-	10,000	5,100	43.666,340	52.399,608	

ART: RR20230130232

TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
1216	0,222	2.183,683		-	-	-	
		-	10,000	4,130	43.670,470	52.404,564	
1217	0,191	2.183,874		-	-	-	
		-	10,000	3,930	43.674,400	52.409,280	
1218	0,202	2.184,076		-	-	-	
		-	10,000	4,550	43.678,950	52.414,740	
1219	0,253	2.184,329		-	-	-	
		-	10,000	4,550	43.683,500	52.420,200	
1220	0,202	2.184,531		-	-	-	
		-	10,000	3,990	43.687,490	52.424,988	
1221	0,197	2.184,728		-	-	-	
		-	10,000	4,190	43.691,680	52.430,016	
1222	0,222	2.184,950		-	-	-	
		-	10,000	3,780	43.695,460	52.434,552	
1223	0,156	2.185,106		-	-	-	
		-	10,000	2,870	43.698,330	52.437,996	
1224	0,131	2.185,237		-	-	-	
		-	10,000	2,670	43.701,000	52.441,200	
1225	0,136	2.185,373		-	-	-	
		-	10,000	3,220	43.704,220	52.445,064	
1226	0,186	2.185,559		-	-	-	
		-	10,000	3,020	43.707,240	52.448,688	
1227	0,116	2.185,675		-	-	-	
		-	10,000	2,010	43.709,250	52.451,100	
1228	0,085	2.185,760		-	-	-	
		-	10,000	1,800	43.711,050	52.453,260	
1229	0,095	2.185,855		-	-	-	
		-	10,000	2,360	43.713,410	52.456,092	
1230	0,141	2.185,996		-	-	-	
		-	10,000	3,220	43.716,630	52.459,956	
1231	0,181	2.186,177		-	-	-	
		-	10,000	3,880	43.720,510	52.464,612	
1232	0,207	2.186,384		-	-	-	
		-	10,000	3,780	43.724,290	52.469,148	
1233	0,171	2.186,555		-	-	-	
		-	10,000	3,880	43.728,170	52.473,804	
1234	0,217	2.186,772		-	-	-	
		-	10,000	4,190	43.732,360	52.478,832	
1235	0,202	2.186,974		-	-	-	
		-	10,000	3,180	43.735,540	52.482,648	
1236	0,116	2.187,090		-	-	-	
		-	10,000	3,380	43.738,920	52.486,704	
1237	0,222	2.187,312		-	-	-	
		-	10,000	4,800	43.743,720	52.492,464	
1238	0,258	2.187,570		-	-	-	
		-	10,000	4,900	43.748,620	52.498,344	

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TERRAPLENAGEM - MAPA DE CUBAÇÃO							
DMT de	200 a 400			**P=**	6,00	**Empolamento:**	20,00%
Estacas	**Área**		**Semi-Distância (m)**	**Volume**			
	Aterro (m²)	**Acum. Aterro (m²)**		**Aterro (m³)**	**Acum. Aterro (m³)**	**Empolado (m³)**	
1239	0,232	2.187,802		-	-	-	
		-	10,000	4,690	43.753,310	52.503,972	
1240	0,237	2.188,039		-	-	-	
		-	10,000	4,180	43.757,490	52.508,988	
1241	0,181	2.188,220		-	-	-	
		-	10,000	4,690	43.762,180	52.514,616	
1242	0,288	2.188,508		-	-	-	
		-	10,000	6,220	43.768,400	52.522,080	
1243	0,334	2.188,842		-	-	-	
		-	10,000	6,430	43.774,830	52.529,796	
1244	0,309	2.189,151		-	-	-	
		-	10,000	7,670	43.782,500	52.539,000	
1245	0,458	2.189,609		-	-	-	
		-	10,000	9,940	43.792,440	52.550,928	
1246	0,536	2.190,145		-	-	-	
		-	10,000	10,880	43.803,320	52.563,984	
1247	0,552	2.190,697		-	-	-	
		-	10,000	10,470	43.813,790	52.576,548	
1248	0,495	2.191,192		-	-	-	
		-	10,000	8,710	43.822,500	52.587,000	
1249	0,376	2.191,568		-	-	-	
		-	10,000	5,880	43.828,380	52.594,056	
1250	0,212	2.191,780		-	-	-	
		-	10,000	4,440	43.832,820	52.599,384	
1251	0,232	2.192,012		-	-	-	
		-	10,000	4,640	43.837,460	52.604,952	
1252	0,232	2.192,244		-	-	-	
		-	10,000	4,390	43.841,850	52.610,220	
1253	0,207	2.192,451		-	-	-	
		-	10,000	3,730	43.845,580	52.614,696	
1254	0,166	2.192,617		-	-	-	
		-	10,000	4,490	43.850,070	52.620,084	
1255	0,283	2.192,900		-	-	-	
		-	10,000	6,690	43.856,760	52.628,112	
1256	0,386	2.193,286		-	-	-	
		-	10,000	8,500	43.865,260	52.638,312	
1257	0,464	2.193,750		-	-	-	
		-	10,000	9,850	43.875,110	52.650,132	
1258	0,521	2.194,271		-	-	-	
		-	10,000	10,780	43.885,890	52.663,068	
1259	0,557	2.194,828		-	-	-	
		-	10,000	11,300	43.897,190	52.676,628	
1260	0,573	2.195,401		-	-	-	
		-	10,000	17,560	43.914,750	52.697,700	
1261	1,183	2.196,584		-	-	-	
		-	10,000	43,490	43.958,240	52.749,888	

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TERRAPLENAGEM - MAPA DE CUBAÇÃO						
DMT de	200 a 400		**P=**	6,00	**Empolamento:**	20,00%

Estacas	Área		Semi-Distância (m)	Volume		
	Aterro (m²)	Acum. Aterro (m²)		Aterro (m³)	Acum. Aterro (m³)	Empolado (m³)
1262	3,166	2.199,750		-	-	-
		-	10,000	101,690	44.059,930	52.871,916
1263	7,003	2.206,753		-	-	-
		-	10,000	179,170	44.239,100	53.086,920
1264	10,914	2.217,667		-	-	-
		-	10,000	229,680	44.468,780	53.362,536
1265	12,054	2.229,721		-	-	-
		-	10,000	221,660	44.690,440	53.628,528
1266	10,112	2.239,833		-	-	-
		-	10,000	157,300	44.847,740	53.817,288
1267	5,618	2.245,451		-	-	-
		-	10,000	74,600	44.922,340	53.906,808
1268	1,842	2.247,293		-	-	-
		-	10,000	23,990	44.946,330	53.935,596
1269	0,557	2.247,850		-	-	-
		-	10,000	8,250	44.954,580	53.945,496
1270	0,268	2.248,118		-	-	-
		-	10,000	4,590	44.959,170	53.951,004
1271	0,191	2.248,309		-	-	-
		-	10,000	3,420	44.962,590	53.955,108
1272	0,151	2.248,460		-	-	-
		-	10,000	2,970	44.965,560	53.958,672
1273	0,146	2.248,606		-	-	-
		-	10,000	3,220	44.968,780	53.962,536
1274	0,176	2.248,782		-	-	-
		-	10,000	4,130	44.972,910	53.967,492
1275	0,237	2.249,019		-	-	-
		-	10,000	3,980	44.976,890	53.972,268
1276	0,161	2.249,180		-	-	-
		-	10,000	2,770	44.979,660	53.975,592
1277	0,116	2.249,296		-	-	-
		-	10,000	2,260	44.981,920	53.978,304
1278	0,110	2.249,406		-	-	-
		-	10,000	2,460	44.984,380	53.981,256
1279	0,136	2.249,542		-	-	-
		-	10,000	2,570	44.986,950	53.984,340
1280	0,121	2.249,663		-	-	-
		-	10,000	2,670	44.989,620	53.987,544
1281	0,146	2.249,809		-	-	-
		-	10,000	3,480	44.993,100	53.991,720
1282	0,202	2.250,011		-	-	-
		-	10,000	3,830	44.996,930	53.996,316
1283	0,181	2.250,192		-	-	-
		-	10,000	3,780	45.000,710	54.000,852
1284	0,197	2.250,389		-	-	-
		-	10,000	4,390	45.005,100	54.006,120

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TERRAPLENAGEM - MAPA DE CUBAÇÃO						
DMT de	200 a 400		**P=**	6,00	**Empolamento:**	20,00%

Estacas	Área		Semi-Distância (m)	Volume		
	Aterro (m²)	Acum. Aterro (m²)		Aterro (m³)	Acum. Aterro (m³)	Empolado (m³)
1285	0,242	2.250,631			-	-

ÁREA DEGRADADA A SER RECUPERADA					
Volume Explorado (m³)	Camada Explorada (m)	Volume de Regularização (m³)			
		Larg. (m)	Comp. (m)	Altura (m)	Volume (m³)
51.755,87	1,00	227,49	227,49	0,20	10.350,00