

APROVEITAMENTO DO BAIXO MONDEGO

REDE PRIMÁRIA DE ENXUGO

REGULARIZAÇÃO DO RIO PRANTO

PROJECTO DE EXECUÇÃO

VOLUME 2

PEÇAS DESENHADAS

Tomo II - Perfis Transversais

MINISTÉRIO DO AMBIENTE E RECURSOS NATURAIS

DIRECÇÃO GERAL DOS RECURSOS NATURAIS



Hidroprojecto

Lisboa Portugal



Hidroprojecto

Consultores de Hidráulica e Salubridade, Sa

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DEZEMBRO 1992



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VOLUMES QUE CONSTITUEM ESTE PROJECTO:

- VOLUME 1 - MEMÓRIA DESCRITIVA E JUSTIFICATIVA

- VOLUME 2 - PEÇAS DESENHADAS

Tomo I - Desenhos

Tomo II - Perfis Transversais

- VOLUME 3 - CADERNO DE ENCARGOS

- VOLUME 4 - MEDIÇÕES E LISTA DE PREÇOS

- VOLUME 5 - ORÇAMENTO

QUADRO DE ELEMENTOS DA OBRA

QUADRO
COTAS CARACTERISTICAS DE IMPLANTACAO DO LEITO REGULARIZADO

PCC/PI	DISTANCIAS (m)		COTAS DA OBRA (m)				ALTURAS (m)		PROFUNDI Δ	
	Nº	PARCIAIS	TOTAIS	SOL. CANAL	BERMA	P. AGUA	TERRENO	AGUA		RECOBRIM.
1		0.00	0.00	-2.60	1.90		1.30	-2.20	3.90	0.40
2		67.12	67.12	-2.59	1.90		1.32	-2.20	3.91	0.39
3		68.33	135.45	-2.59	1.90		1.32	-2.25	3.91	0.34
4		250.22	395.27	-2.56	1.90		1.32	-2.30	3.88	0.25
5		64.04	460.31	-2.55	1.90		1.32	-2.35	3.88	0.20
6		42.35	502.67	-2.55	1.90		1.32	-2.35	3.87	0.20
7		78.68	581.35	-2.54	1.90		1.33	-2.40	3.87	0.14
8		119.22	700.57	-2.53	1.90		1.33	-2.45	3.86	0.08
9		129.91	830.48	-2.52	1.90		1.33	-2.50	3.84	0.02
10		179.90	1010.38	-2.50	1.90		1.33	-2.55	3.83	-0.05
11		35.73	1046.11	-2.49	1.90		1.33	-2.55	3.82	-0.06
12		98.68	1144.79	-2.48	1.90		1.33	-2.60	3.81	-0.12
13		112.68	1257.47	-2.47	1.90		1.33	-2.60	3.80	-0.13
14		63.70	1321.17	-2.47	1.90		1.33	-2.65	3.80	-0.18
15		105.86	1427.03	-2.45	1.90		1.33	-2.70	3.78	-0.25
16		36.35	1463.38	-2.45	1.90		1.33	-2.70	3.78	-0.25
17		123.46	1586.84	-2.44	1.90		1.33	-2.60	3.77	-0.16
18		75.25	1662.09	-2.43	1.90		1.33	-2.50	3.76	-0.07
19		67.73	1729.82	-2.42	1.90		1.34	-2.40	3.76	0.02
20		107.05	1836.87	-2.41	1.90		1.34	-2.30	3.75	0.11
21		117.56	1954.43	-2.40	1.90		1.34	-2.20	3.74	0.20
22		93.39	2047.82	-2.39	1.90		1.34	-2.15	3.73	0.24
23		74.52	2122.34	-2.38	1.90		1.34	-2.10	3.72	0.28
24		87.49	2209.83	-2.37	1.90		1.34	-2.05	3.71	0.32
25		110.94	2320.77	-2.36	1.90		1.34	-2.00	3.70	0.36
26		34.22	2354.99	-2.36	1.90		1.34	-1.95	3.70	0.41
27		148.80	2503.79	-2.34	1.90		1.34	-1.90	3.68	0.44
28		108.36	2612.15	-2.33	1.90		1.34	-2.10	3.67	0.23
29		77.14	2689.29	-2.33	1.90		1.34	-2.30	3.67	0.03
30		134.68	2823.97	-2.31	1.90		1.34	-2.60	3.65	-0.29
31		21.83	2845.80	-2.31	1.90		1.34	-2.60	3.65	-0.29
32		744.64	3590.44	-2.23	1.90		1.35	-2.10	3.58	0.13
33		130.00	3720.44	-2.22	1.90		1.36	-2.30	3.58	-0.08
34		28.64	3749.08	-2.22	1.90		1.36	-2.40	3.57	-0.18
35		464.59	4213.67	-2.17	1.90		1.38	-2.50	3.55	-0.33
36		29.25	4242.92	-2.17	1.90		1.38	-2.30	3.55	-0.13
37		251.51	4494.43	-2.14	1.90		1.39	-2.10	3.53	0.04
38		137.61	4632.04	-2.13	1.90		1.40	-2.00	3.52	0.13
39		206.01	4838.05	-2.11	1.90		1.41	-1.85	3.51	0.25
40		72.09	4910.14	-2.10	1.90		1.41	-1.80	3.51	0.30
41		154.79	5064.93	-2.08	1.90		1.42	-1.90	3.50	0.18
42		42.87	5107.80	-2.08	1.90		1.42	-1.95	3.50	0.13
43		97.35	5205.15	-2.07	1.90		1.43	-2.00	3.50	0.07
44		81.61	5286.76	-2.06	1.90		1.43	-2.05	3.49	0.01
45		35.93	5322.69	-2.06	1.90		1.43	-2.10	3.49	-0.04
46		101.18	5423.87	-2.05	1.90		1.44	-2.10	3.49	-0.05
47		179.25	5603.12	-2.03	1.90		1.45	-2.00	3.48	0.03
48		48.51	5651.63	-2.02	1.90		1.46	-1.90	3.48	0.12
49		82.00	5733.63	-2.01	1.90		1.47	-1.80	3.48	0.21
50		155.38	5889.01	-2.00	1.90		1.48	-1.40	3.48	0.50



QUADRO

COTAS CARACTERISTICAS DE IMPLANTACAO DO LEITO REGULARIZADO

PERFIL Nº	DISTANCIAS (m)		COTAS DA OBRAS (m)					ALTURAS (m)		PROFUND. δ
	PARCIAIS	TOTAIS	SOL. CANAL	BERMA		P. AGUA	TERRENO	AGUA	RECOBRIM.	
51	42.78	5931.78	-1.99	1.90		1.48	-1.40	3.48		0.59
52	68.89	6000.68	-1.99	1.90		1.49	-1.40	3.47		0.59
53	40.63	6041.31	-1.98	1.90		1.49	-1.50	3.47		0.48
54	21.92	6063.23	-1.98	1.90		1.49	-1.80	3.47		0.18
55	150.62	6213.85	-1.97	1.90		1.52	-1.80	3.49		0.17
56	78.78	6292.63	-1.96	1.90		1.53	-1.80	3.49		0.16
57	43.54	6336.17	-1.95	1.90		1.54	-1.80	3.49		0.15
58	48.00	6384.17	-1.95	1.90		1.55	-1.80	3.50		0.15
59	57.60	6441.77	-1.94	1.90		1.55	-1.80	3.50		0.14
60	223.12	6664.89	-1.92	1.90		1.57	-1.70	3.49		0.22
61	43.14	6708.03	-1.92	1.90		1.57	-1.70	3.49		0.22
62	96.43	6804.46	-1.91	1.90		1.58	-1.70	3.48		0.21
63	53.63	6858.09	-1.90	1.90		1.58	-1.70	3.48		0.20
64	164.09	7022.18	-1.88	1.90		1.59	-1.70	3.48		0.18
65	29.59	7051.77	-1.88	1.90		1.59	-1.70	3.47		0.18
66	87.93	7139.70	-1.87	1.90		1.60	-1.50	3.47		0.37
67	47.32	7187.02	-1.87	1.90		1.61	-1.45	3.47		0.42
68	34.71	7221.73	-1.86	1.90		1.61	-1.40	3.47		0.46
69	55.67	7277.40	-1.86	1.90		1.61	-1.35	3.47		0.51
70	103.40	7380.80	-1.85	1.90		1.62	-1.25	3.47		0.60
71	87.37	7468.17	-1.84	1.90		1.63	-1.25	3.46		0.59
72	59.69	7527.86	-1.83	1.90		1.63	-1.25	3.46		0.58
73	48.33	7576.19	-1.83	1.90		1.63	-1.25	3.46		0.58
74	21.78	7597.97	-1.82	1.90		1.63	-1.25	3.46		0.57
75	138.95	7736.92	-1.81	1.90		1.64	-1.20	3.45		0.61
76	44.37	7781.29	-1.81	1.90		1.64	-1.20	3.45		0.61
77	111.25	7892.54	-1.79	1.90		1.65	-1.20	3.44		0.59
78	62.30	7954.84	-1.79	1.96		1.81	-1.30	3.60		0.49
79	153.61	8108.45	-1.77	1.97		1.81	-1.40	3.59		0.37
80	39.16	8147.61	-1.77	1.98		1.81	-1.45	3.58		0.32
81	65.44	8213.05	-1.76	1.98		1.82	-1.45	3.58		0.31
82	71.73	8284.78	-1.75	1.99		1.82	-1.45	3.57		0.30
83	33.50	8318.28	-1.75	1.99		1.82	-1.45	3.57		0.30
84	80.07	8398.35	-1.74	2.00		1.82	-1.45	3.56		0.29
85	94.98	8493.33	-1.73	2.00		1.83	-1.45	3.56		0.28
86	315.05	8808.38	-1.70	2.03		1.85	-1.45	3.55		0.25
87	23.75	8832.13	-1.70	2.03		1.85	-1.45	3.55		0.25
88	132.67	8964.80	-1.68	2.03		1.86	-1.45	3.54		0.23
89	26.47	8991.27	-1.68	2.03		1.86	-1.40	3.54		0.28
90	82.51	9073.78	-1.67	2.03		1.87	-1.40	3.54		0.27
91	58.94	9132.72	-1.67	2.03		1.87	-1.40	3.54		0.27
92	66.61	9199.33	-1.66	2.03		1.88	-1.25	3.54		0.41
93	38.52	9237.85	-1.66	2.03		1.89	-1.20	3.54		0.46
94	67.36	9305.21	-1.65	2.04		1.90	-1.05	3.55		0.60
95	29.90	9335.11	-1.64	2.05		1.90	-1.00	3.54		0.64
96	29.89	9365.00	-1.63	2.06		1.90	-1.00	3.53		0.63
97	96.48	9461.48	-1.61	2.06		1.90	-1.00	3.51		0.61
98	57.01	9518.49	-1.59	2.06		1.90	-1.00	3.49		0.59
99	25.29	9543.78	-1.59	2.06		1.90	-1.00	3.48		0.59
100	26.68	9570.46	-1.58	2.07		1.90	-1.00	3.47		0.58

QUADRO
COTAS CARACTERISTICAS DE IMPLANTACAO DO LEITO REGULARIZADO

PERFIL	DISTANCIAS (m)		COTAS DA OBRA (m)				ALTURAS (m)		PROFUNDI	
	PARCIAIS	TOTAIS	SOL. CANAL	BERMA		P. AGUA	TERRENO	AGUA	RECUBRIM.	SOLEIRA
101	100.52	9670.98	-1.55	2.07		1.89	-1.00	3.45		0.55
102	48.19	9719.17	-1.54	2.08		1.89	-1.00	3.43		0.54
103	46.71	9765.88	-1.53	2.09		1.89	-1.00	3.42		0.53
104	62.30	9828.18	-1.51	2.11		1.89	-1.00	3.40		0.51
105	134.21	9952.39	-1.47	2.11		1.92	-1.00	3.39		0.47
106	57.97	10020.36	-1.46	2.12		1.93	-1.00	3.39		0.46
107	276.52	10296.88	-1.38	2.19		1.99	-1.00	3.37		0.38
108	53.72	10350.60	-1.37	2.21		2.00	-1.00	3.37		0.37
109	80.40	10431.00	-1.35	2.23		2.01	-1.00	3.36		0.35
110	28.81	10459.81	-1.34	2.23		2.02	-1.00	3.36		0.34
111	78.13	10537.94	-1.32	2.25		2.04	-1.00	3.36		0.32
112	231.21	10769.15	-1.26	2.31		2.09	-1.00	3.35		0.26
113	162.09	10931.24	-1.21	2.35		2.13	-1.05	3.34		0.16
114	433.40	11364.64	-1.10	2.47		2.27	-1.20	3.37		-0.10
115	115.00	11479.64	-1.07	2.50		2.30	-1.20	3.37		-0.13
116	84.34	11563.98	-1.04	2.52		2.33	-1.15	3.37		-0.11
117	107.54	11671.52	-1.02	2.55		2.36	-1.15	3.37		-0.13
118	80.92	11752.44	-0.99	2.57		2.38	-1.10	3.37		-0.11
119	236.36	11988.80	-0.93	2.63		2.39	-1.10	3.32		-0.17
120	29.76	12018.56	-0.92	2.64		2.39	-1.10	3.32		-0.18
121	347.77	12366.33	-0.83	2.73		2.41	-1.40	3.24		-0.57
122	48.28	12414.61	-0.80	2.80		2.65	-1.10	3.45		-0.30
123	110.74	12525.35	-0.74	2.81		2.65	-0.60	3.40		0.14
124	50.96	12576.31	-0.72	2.82		2.65	-0.40	3.37		0.32
125	98.27	12674.58	-0.66	2.83		2.66	-0.40	3.32		0.26
126	43.01	12717.59	-0.64	2.83		2.66	-0.40	3.30		0.24
127	52.09	12769.68	-0.61	2.84		2.66	-0.40	3.27		0.21
128	34.01	12803.69	-0.60	2.84		2.66	-0.40	3.25		0.20
129	32.97	12836.66	-0.58	2.84		2.66	-0.40	3.24		0.18
130	43.74	12880.40	-0.55	2.85		2.67	-0.30	3.22		0.25
131	77.78	12958.18	-0.51	2.86		2.68	-0.10	3.19		0.41
132	210.21	13168.39	-0.40	2.88		2.70	0.10	3.10		0.50
133	150.87	13319.26	-0.32	2.89		2.72	0.30	3.04		0.62
134	40.52	13359.78	-0.30	2.90		2.73	0.30	3.02		0.60
135	47.93	13407.71	-0.27	2.90		2.73	0.30	3.01		0.57
136	54.03	13461.74	-0.24	2.91		2.74	0.35	2.99		0.59
137	60.05	13521.79	-0.21	2.92		2.75	0.35	2.96		0.56
138	80.91	13602.70	-0.17	2.92		2.77	0.35	2.93		0.52
139	89.22	13691.92	-0.12	2.93		2.78	0.40	2.90		0.52
140	64.90	13756.82	-0.09	2.94		2.79	0.40	2.88		0.49
141	42.53	13799.35	-0.06	2.96		2.80	0.40	2.86		0.46
142	95.58	13894.93	-0.01	3.02		2.82	0.40	2.83		0.41
143	59.32	13954.25	0.02	3.05		2.83	0.50	2.81		0.48
144	195.57	14139.82	0.12	3.15		2.87	0.50	2.75		0.38
145	66.91	14206.73	0.17	3.20		2.88	0.50	2.71		0.33
146	61.88	14268.61	0.22	3.25		2.89	0.50	2.67		0.28
147	95.62	14364.23	0.29	3.32		2.82	0.60	2.54		0.31
148	26.92	14391.15	0.31	3.34		2.81	0.60	2.50		0.29
149	52.83	14443.98	0.35	3.38		2.77	0.60	2.42		0.25
150	30.42	14474.40	0.37	3.40		2.83	0.50	2.46		0.23

QUADRO
COTAS CARACTERISTICAS DE IMPLANTACAO DO LEITO REGULARIZADO

PERFIL	DISTANCIAS (m)		COTAS DA OBRA (m)				ALTURAS (m)		PROFUNDI	
Nº	PARCIAIS	TOTAIS	SOL. CANAL	BERMA		P. AGUA	TERRENO	AGUA	RECOBRIM.	A SOLEIRA
151	223.50	14798.00	0.61	3.78		3.52	0.70	2.91		0.09
152	105.00	14903.00	0.69	3.90		3.75	0.80	3.06		0.11
153	87.48	14990.48	0.76	3.94		3.79	0.80	3.04		0.04
154	170.90	15161.38	0.88	4.02		3.87	1.00	2.99		0.12
155	37.92	15199.30	0.91	4.04		3.89	1.00	2.98		0.09
156	139.65	15338.95	1.02	4.11		3.96	0.80	2.94		-0.22
157	64.74	15403.69	1.07	4.16		4.00	1.10	2.94		0.03
158	181.10	15584.79	1.20	4.29		4.12	1.20	2.92		-0.00
159	56.69	15641.48	1.24	4.34		4.15	1.30	2.91		0.06
160	82.93	15724.41	1.31	4.40		4.21	1.40	2.90		0.09
161	34.11	15758.52	1.33	4.42		4.23	1.50	2.90		0.17
162	95.46	15853.98	1.40	4.49		4.30	1.50	2.89		0.10
163	46.16	15900.14	1.44	4.53		4.33	1.50	2.89		0.06
164	60.34	15960.48	1.48	4.57		4.37	1.50	2.89		0.02
165	70.54	16031.02	1.53	4.63		4.42	1.40	2.88		-0.13
166	43.39	16074.41	1.57	4.66		4.45	1.20	2.88		-0.37
167	79.56	16153.97	1.63	4.72		4.50	1.40	2.87		-0.23
168	29.68	16183.65	1.65	4.74		4.52	1.50	2.87		-0.15
169	88.19	16271.84	1.71	4.81		4.58	1.80	2.87		0.09
170	51.32	16323.16	1.75	4.84		4.62	1.80	2.86		0.05
171	77.79	16400.95	1.81	4.90		4.67	1.80	2.86		-0.01
172	45.32	16446.27	1.85	4.94		4.70	1.50	2.85		-0.35
173	73.92	16520.19	1.90	4.99		4.75	1.60	2.85		-0.30
174	73.92	16594.11	1.96	5.05		4.83	1.70	2.87		-0.26
175	182.24	16776.35	2.09	5.18		5.03	2.05	2.94		-0.04
176	69.18	16845.53	2.14	5.23		5.06	2.05	2.91		-0.09
177	75.00	16920.53	2.20	5.29		5.09	2.20	2.89		0.00
178	214.22	17134.75	2.44	5.53		5.34	2.60	2.91		0.16
179	82.98	17217.73	2.53	5.63		5.44	2.60	2.91		0.07
180	75.29	17293.02	2.62	5.71		5.53	2.70	2.92		0.08
181	82.72	17375.74	2.71	5.81		5.63	2.70	2.92		-0.01
182	22.48	17398.22	2.73	5.83		5.66	2.70	2.92		-0.03
183	71.56	17469.78	2.81	5.91		5.74	2.70	2.93		-0.11
184	41.51	17511.29	2.86	5.96		5.79	2.70	2.93		-0.16
185	49.01	17560.30	2.91	6.02		5.84	2.80	2.93		-0.11
186	29.46	17589.76	2.95	6.05		5.88	2.90	2.93		-0.05
187	93.21	17682.97	3.05	6.15		5.99	3.00	2.94		-0.05
188	104.92	17787.89	3.17	6.27		6.11	3.20	2.94		0.03
189	33.67	17821.56	3.21	6.31		6.15	3.20	2.94		-0.01
190	72.59	17894.15	3.29	6.39		6.24	3.25	2.95		-0.04
191	51.84	17945.99	3.34	6.45		6.30	3.30	2.95		-0.04
192	23.21	17969.20	3.37	6.48		6.32	3.35	2.95		-0.02
193	44.17	18013.37	3.42	6.53		6.38	3.40	2.96		-0.02
194	26.21	18039.58	3.45	6.56		6.41	3.45	2.96		0.00
195	46.17	18085.75	3.50	6.61		6.46	3.50	2.96		-0.00
196	46.98	18132.73	3.55	6.66		6.52	3.55	2.96		-0.00
197	31.67	18164.40	3.59	6.70		6.55	3.60	2.97		0.01
198	158.04	18322.44	3.76	6.88		6.74	3.80	2.98		0.04
199	65.86	18388.30	3.84	6.95		6.81	3.90	2.97		0.06
200	21.10	18409.40	3.86	6.98		6.83	4.00	2.96		0.14

COTAS CARACTERISTICAS DE IMPLANTACAO DO LEITO REGULARIZADO

PERFIL	DISTANCIAS (m)		COTAS DA OBRA (m)					ALTURAS (m)		PROFUNDI	
	Nº	PARCIAIS	TOTAIS	SOL. CANAL	BERMA		P. AGUA	TERRENO	AGUA	RECOBRIM.	SOLEIRA
201		35.28	18444.68	3.90	7.02		6.86	4.10	2.96		0.20
202		35.67	18480.35	3.94	7.06		6.90	4.20	2.96		0.25
203		52.97	18533.32	4.00	7.12		6.95	4.30	2.95		0.30
204		41.37	18574.69	4.09	7.24		6.99	4.40	2.90		0.31
205		20.00	18594.69	4.14	7.30		7.15	4.50	3.01		0.36
206		119.91	18714.60	4.40	7.56		7.32	4.80	2.92		0.40
207		48.56	18763.16	4.51	7.59		7.40	5.10	2.88		0.59
208		32.42	18795.58	4.59	7.66		7.44	5.00	2.86		0.41
209		74.70	18870.28	4.75	7.70		7.55	5.10	2.80		0.35
210		60.06	18930.34	4.89	7.84		7.64	5.15	2.75		0.26
211		165.19	19095.53	5.25	8.03		7.88	5.20	2.62		-0.05
212		31.22	19126.75	5.32	8.10		7.92	5.25	2.60		-0.07
213		37.36	19164.11	5.41	8.18		7.98	5.30	2.57		-0.11
214		40.79	19204.90	5.50	8.27		8.04	5.40	2.54		-0.10
215		83.92	19288.82	5.69	8.46		8.16	5.50	2.47		-0.19
216		21.04	19309.86	5.73	8.51		8.20	5.60	2.47		-0.13
217		24.17	19334.03	5.79	8.56		8.25	5.70	2.46		-0.09
218		63.85	19397.88	5.93	8.71		8.38	6.00	2.45		0.07
219		111.25	19509.13	6.18	8.95		8.60	6.10	2.42		-0.08
220		52.75	19561.88	6.29	9.07		8.71	6.40	2.41		0.11
221		39.49	19601.37	6.38	9.16		8.78	6.50	2.40		0.12
222		65.19	19666.56	6.53	9.31		8.92	6.70	2.39		0.17
223		47.39	19713.95	6.63	9.41		9.01	6.80	2.38		0.17
224		48.09	19762.04	6.74	9.52		9.12	6.80	2.38		0.06
225		32.87	19794.91	6.81	9.59		9.19	6.70	2.37		-0.11
226		45.04	19839.95	6.91	9.69		9.29	6.85	2.37		-0.06
227		77.30	19917.25	7.09	9.87		9.46	7.15	2.37		0.06
228		58.65	19976.90	7.22	10.00		9.59	7.25	2.37		0.03
229		58.16	20035.06	7.35	10.13		9.72	7.30	2.37		-0.05

Folha 5 / 5

HIDROPROJECTO-AE1/04

INCLINAÇÕES DA SOLEIRA DO CANAL.....:

ENTRE P- 1 E P- 94	i= 0.1021 %	ENTRE P- 94 E P-121	i= 0.2679 %
ENTRE P-121 E P-144	i= 0.5357 %	ENTRE P-144 E P-177	i= 0.7480 %
ENTRE P-177 E P-203	i= 1.1161 %	ENTRE P-203 E P-229	i= 2.2308 %

INCLINAÇÕES DA BERMA DO CANAL.....:

ENTRE P- 77 E P- 78	i= 0.9631 %	ENTRE P- 78 E P- 87	i= 0.0798 %
ENTRE P- 92 E P- 94	i= 0.0944 %	ENTRE P- 94 E P- 96	i= 0.3345 %
ENTRE P- 98 E P-100	i= 0.1924 %	ENTRE P-101 E P-104	i= 0.2545 %
ENTRE P-105 E P-106	i= 0.1725 %	ENTRE P-106 E P-121	i= 0.2600 %
ENTRE P-121 E P-122	i= 1.4499 %	ENTRE P-122 E P-140	i= 0.1043 %
ENTRE P-140 E P-144	i= 0.5493 %	ENTRE P-144 E P-150	i= 0.7472 %
ENTRE P-150 E P-152	i= 1.1666 %	ENTRE P-152 E P-156	i= 0.4817 %
ENTRE P-156 E P-177	i= 0.7461 %	ENTRE P-177 E P-198	i= 1.1342 %
ENTRE P-198 E P-203	i= 1.1381 %	ENTRE P-203 E P-205	i= 2.9331 %
ENTRE P-205 E P-206	i= 2.1683 %	ENTRE P-206 E P-207	i= 0.6178 %
ENTRE P-207 E P-208	i= 2.1592 %	ENTRE P-208 E P-209	i= 0.5355 %
ENTRE P-209 E P-210	i= 2.3310 %	ENTRE P-210 E P-211	i= 1.1502 %
ENTRE P-211 E P-229	i= 2.2352 %		

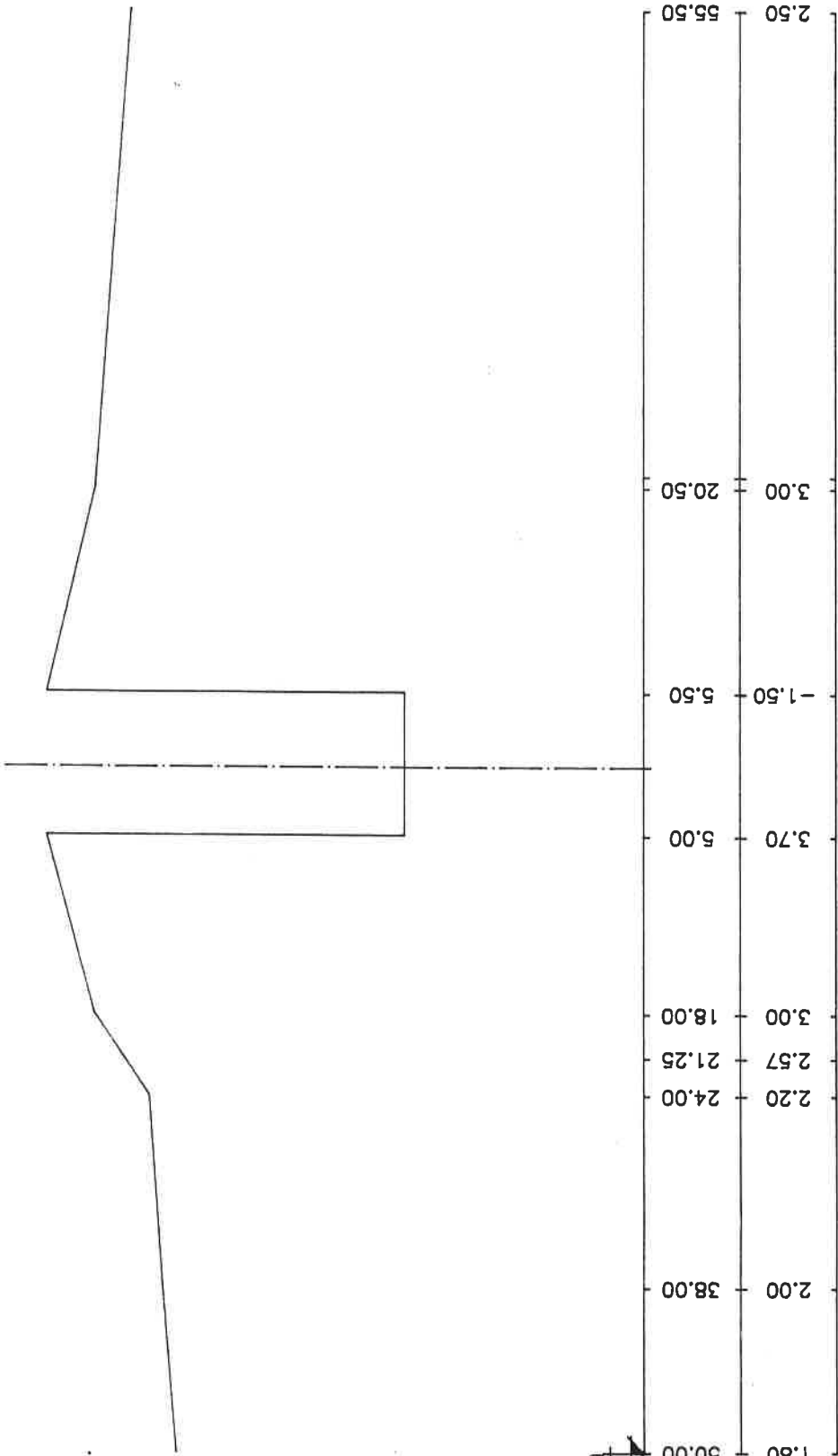
PERFIS TRANSVERSAIS

PERFIL 1 RIO PRANTO

AREA DE ATERRO (m²) .. = 0.00

AREA DE ESCAVACAO (m²) = 0.00

M.E.



ESCALAS

V=1:100

H=1:500

-5.00

DISTANCIAS AO EIXO (m)	50.00	2.00	38.00	2.20	2.57	3.00	5.00	3.70	5.50	3.00	20.50	55.50
COTAS DO TERRENO (m)	1.80	2.00	38.00	2.20	2.57	3.00	5.00	3.70	5.50	3.00	20.50	55.50
DISTANCIAS AO EIXO (m)												
COTAS DA VALA REGULARIZADA (m)												

- -2.60 - 0.00 -

PERFIL 5 RIO PRANTO

AREA DE ATERRO (m²) .. = 0.00

AREA DE ESCAVACAO (m²) = 0.00

M.E.

ESCALAS

V=1:100

H=1:500

-5.00

DISTANCIAS AO EIXO (m)	COTAS DO TERRENO (m)
50.00	0.90
38.00	0.90
34.00	2.50
29.00	2.50
27.00	1.30
17.00	1.30
12.00	-2.35
10.30	-2.35
14.00	-2.35
18.00	1.21
21.00	2.40
26.00	2.40
29.00	0.70
40.00	0.70

DISTANCIAS AO EIXO (m)	COTAS DA VALA REGULARIZADA (m)
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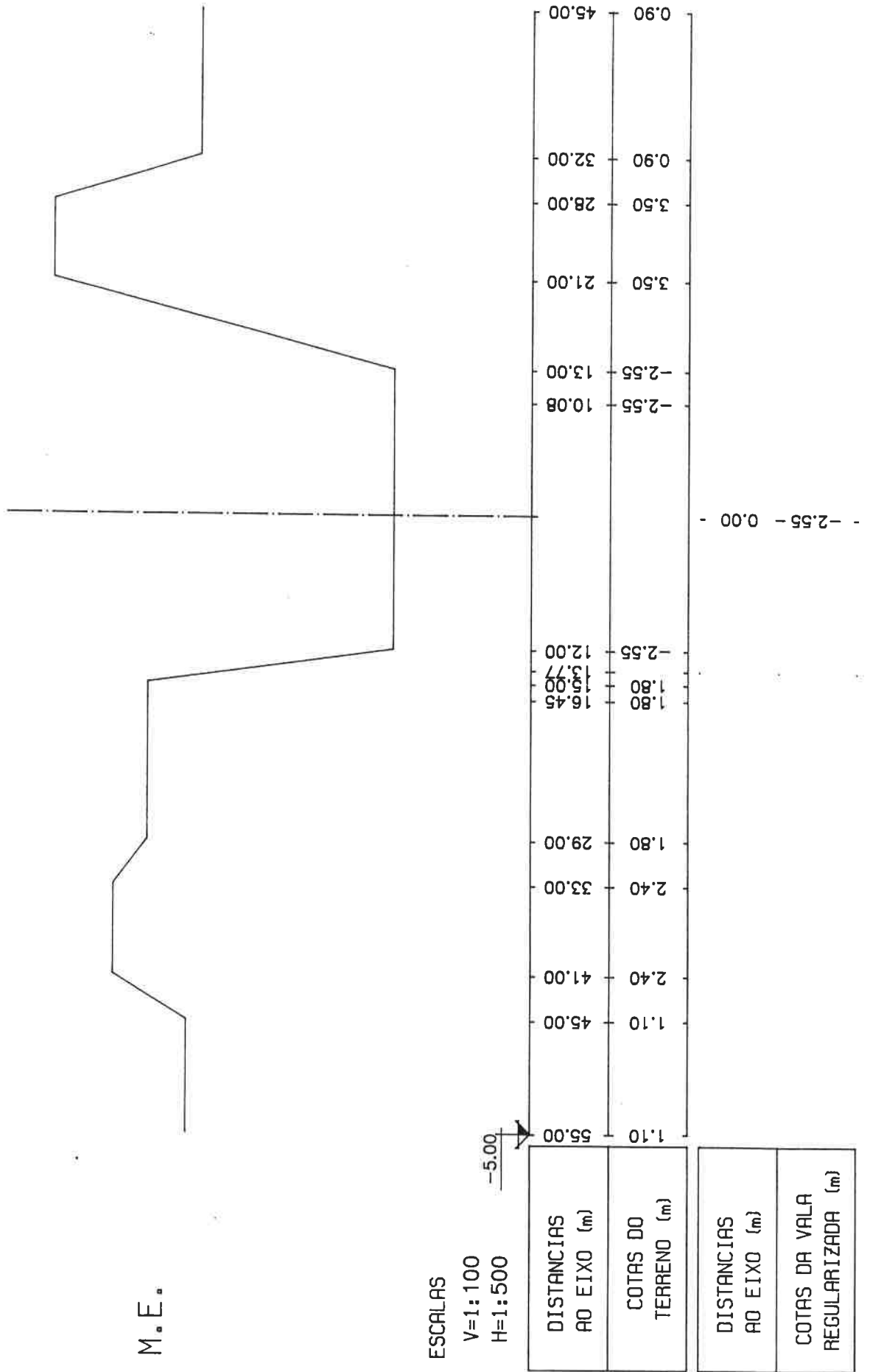
- -2.55 - 0.00

PERFIL 10 RIO PRANTO

AREA DE ATERRO (m²) .. = 0.00

AREA DE ESCAVACAO (m²) = 0.00

M.E.

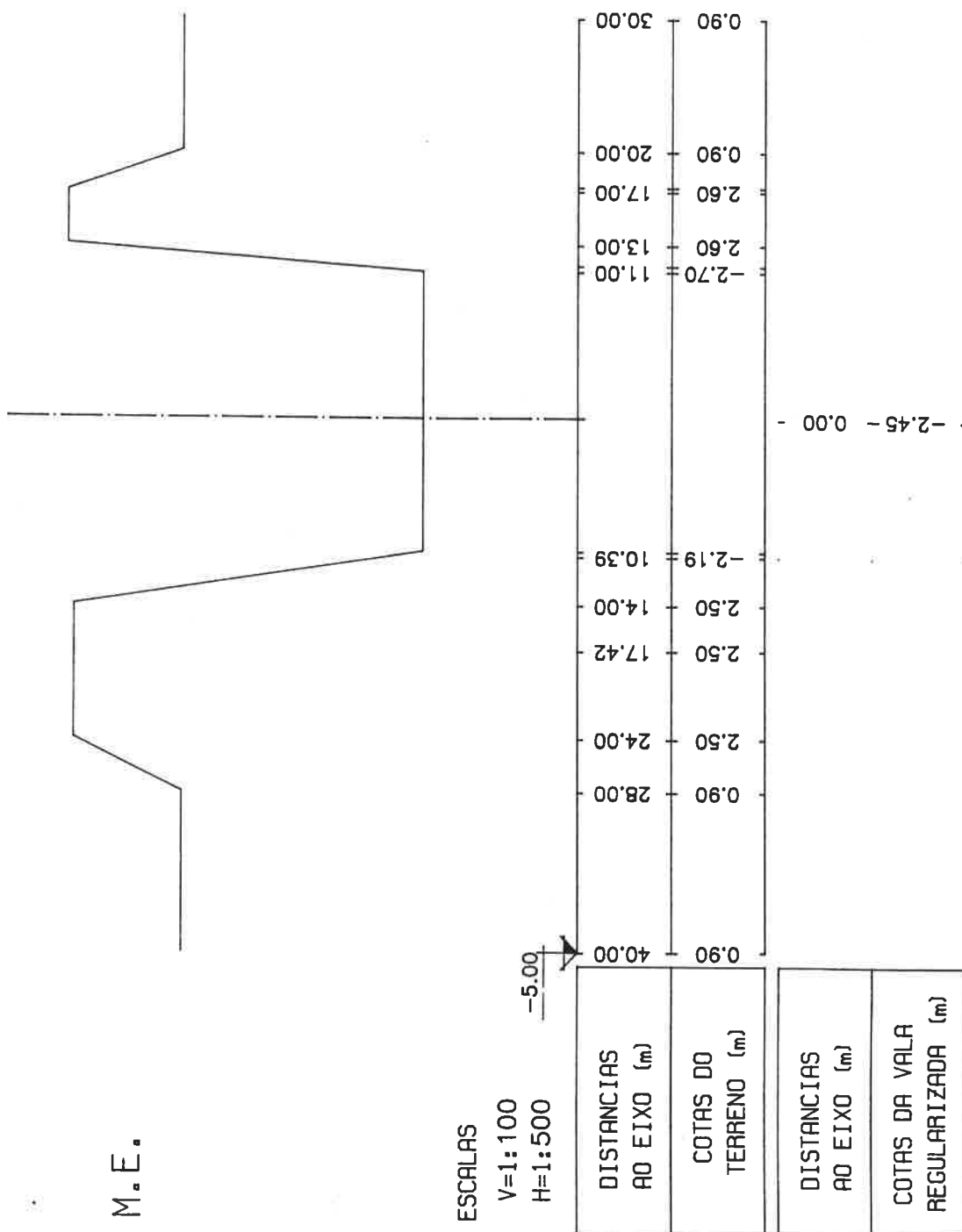


AREA DE ATERRO (m2) .. = 0.00

AREA DE ATERRO (m2) .. = 0.00

AREA DE ESCAVACAO (m2) = 0.00

ΣΕ

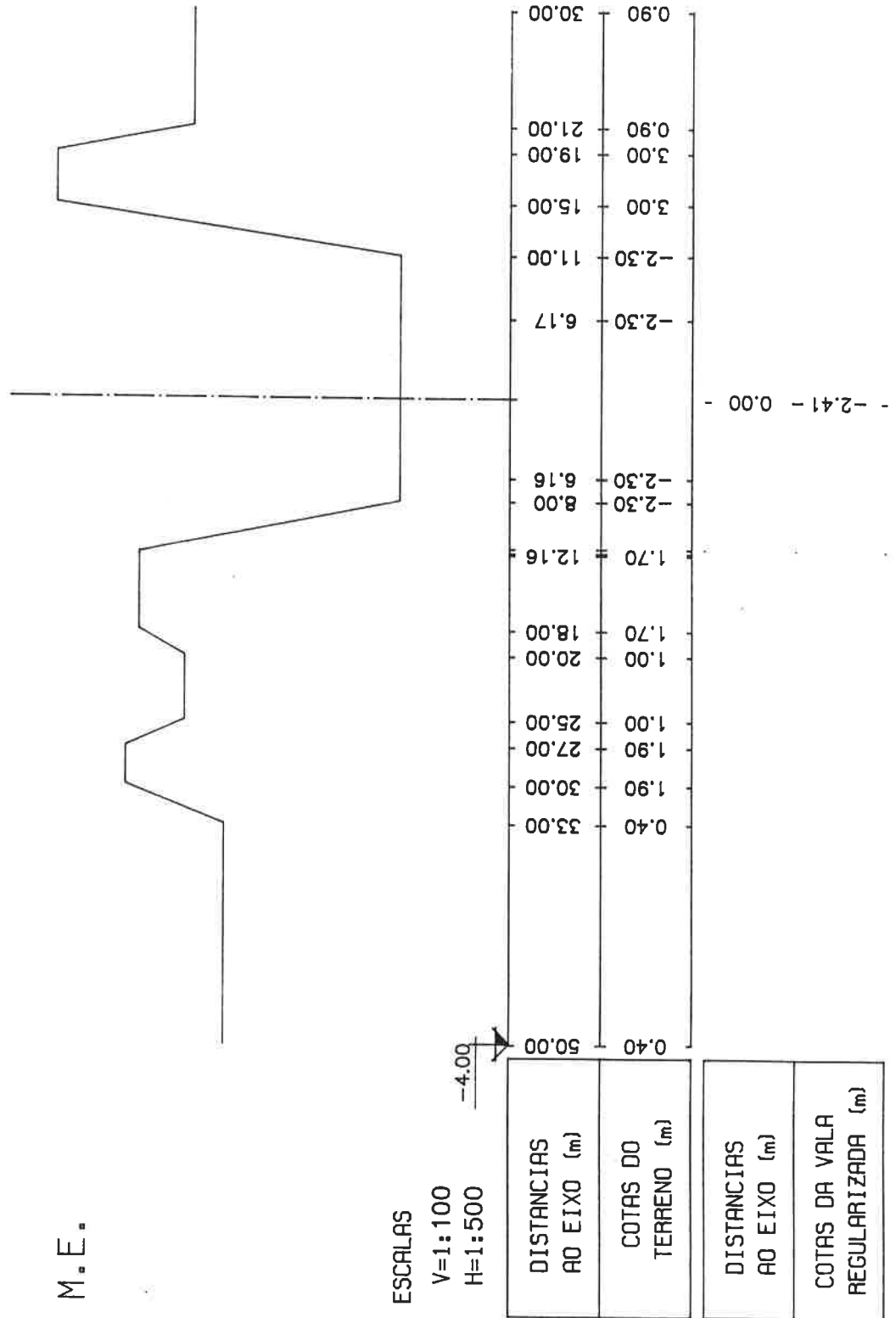


PERFIL 20 RIO PRANTO

AREA DE ATERRO (m²) ..= 0.00

AREA DE ESCAVACAO (m²) = 0.00

M.E.

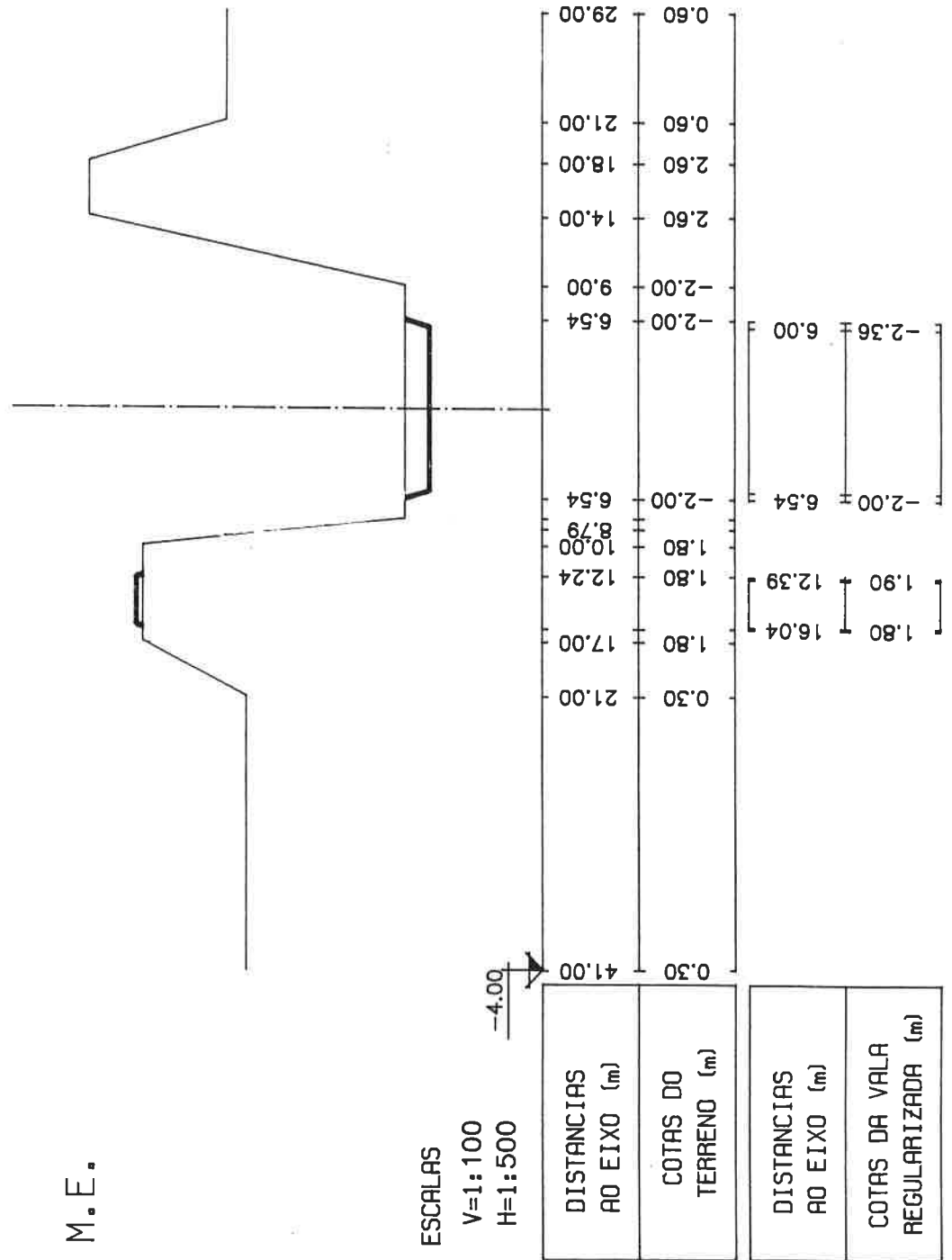


PERFIL 25 RIO PRANTO

AREA DE ATERRO (m²) .. = 0.46

AREA DE ESCAVACAO (m²) = 6.09

M.E.

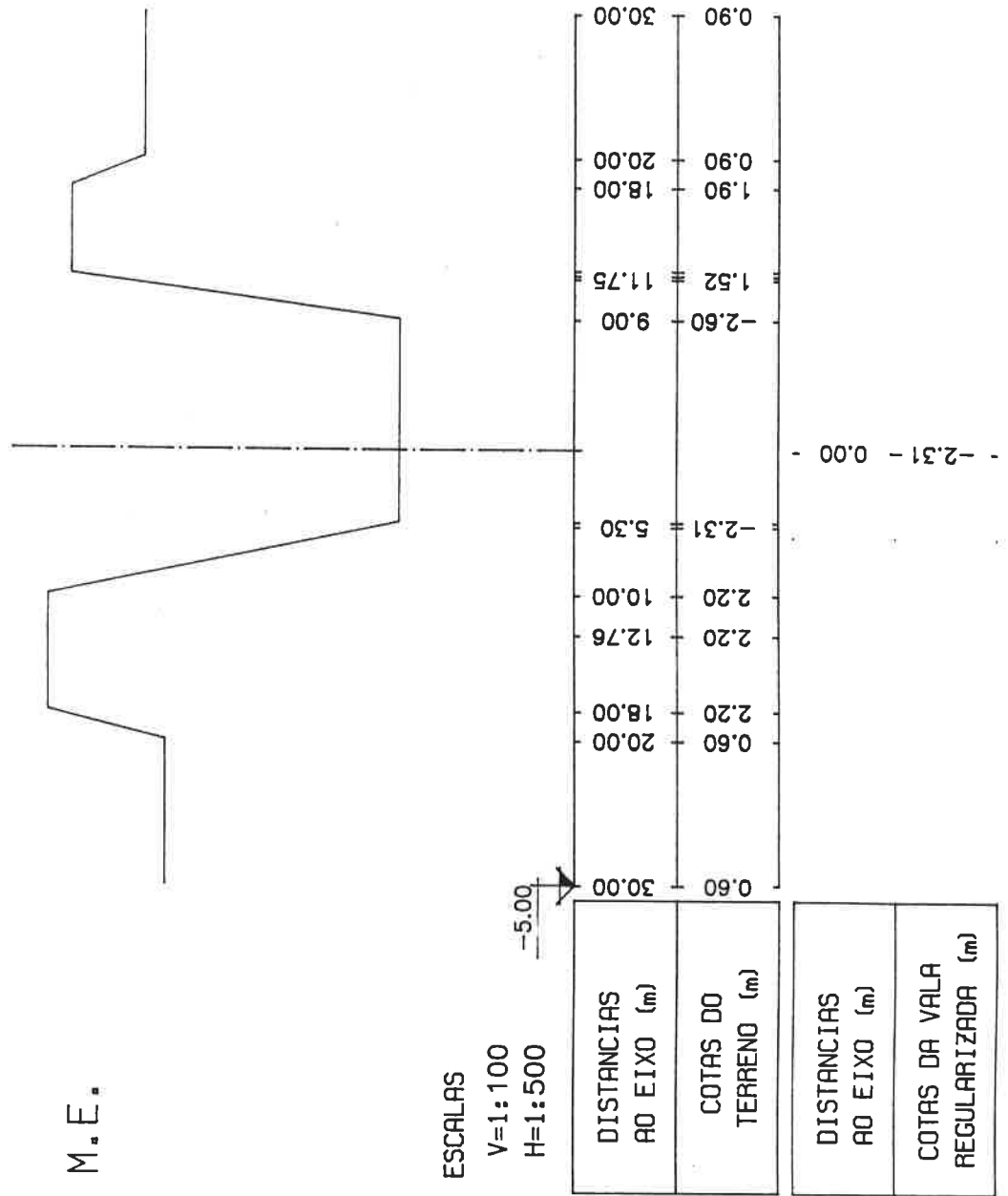


PERFIL 30 RIO PRANTO

AREA DE ATERRO (m²) .. = 0.00

AREA DE ESCAVACAO (m²) = 0.00

M.E.

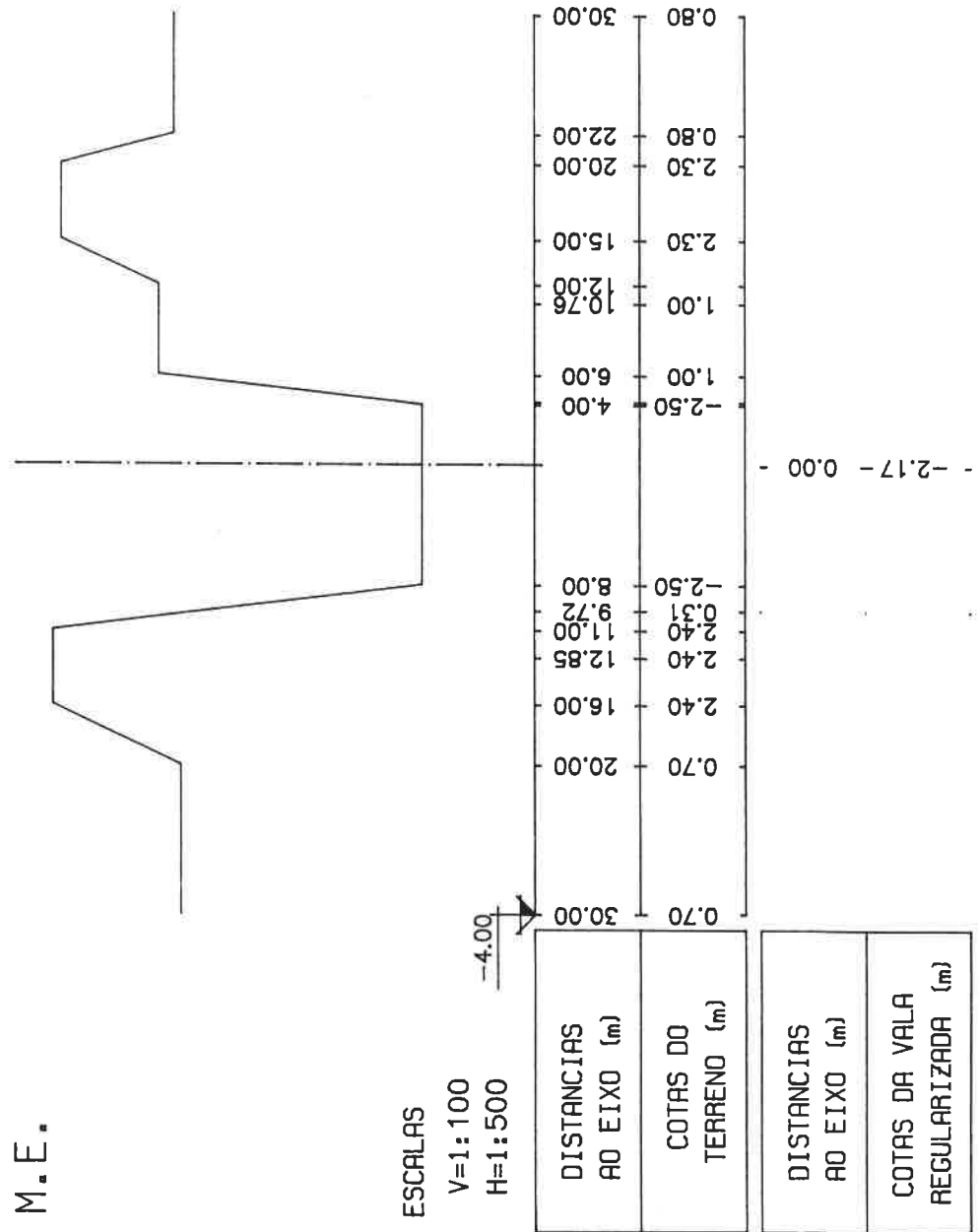


PERFIL 35 RIO PRANTO

AREA DE ATERRO (m²) .. = 0.00

AREA DE ESCAVACAO (m²) = 0.00

M.E.

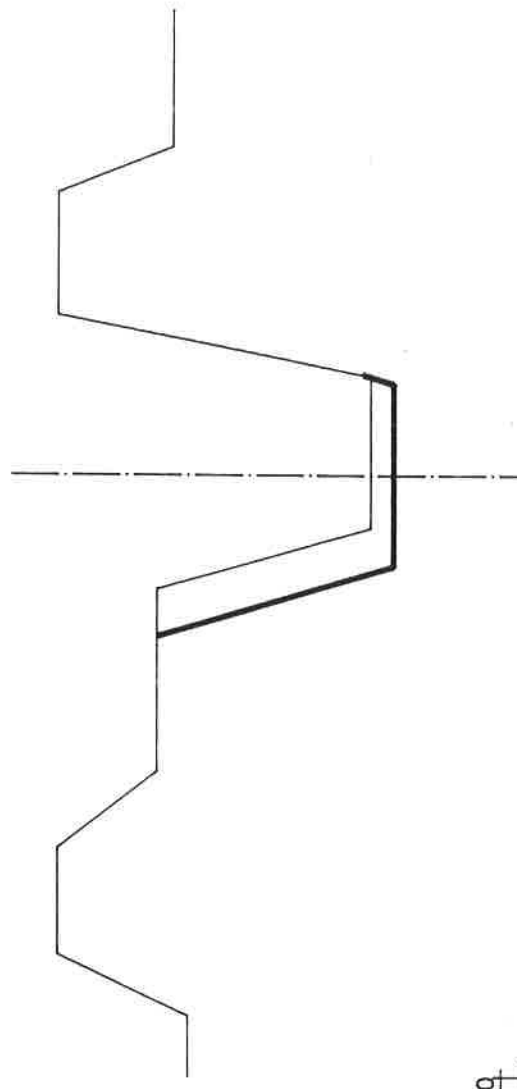


PERFIL 40 RIO PRANTO

AREA DE ATERRO (m²) .. = 0.00

AREA DE ESCAVACAO (m²) = 12.27

M.E.



ESCALAS

V=1:100

H=1:500

4.00

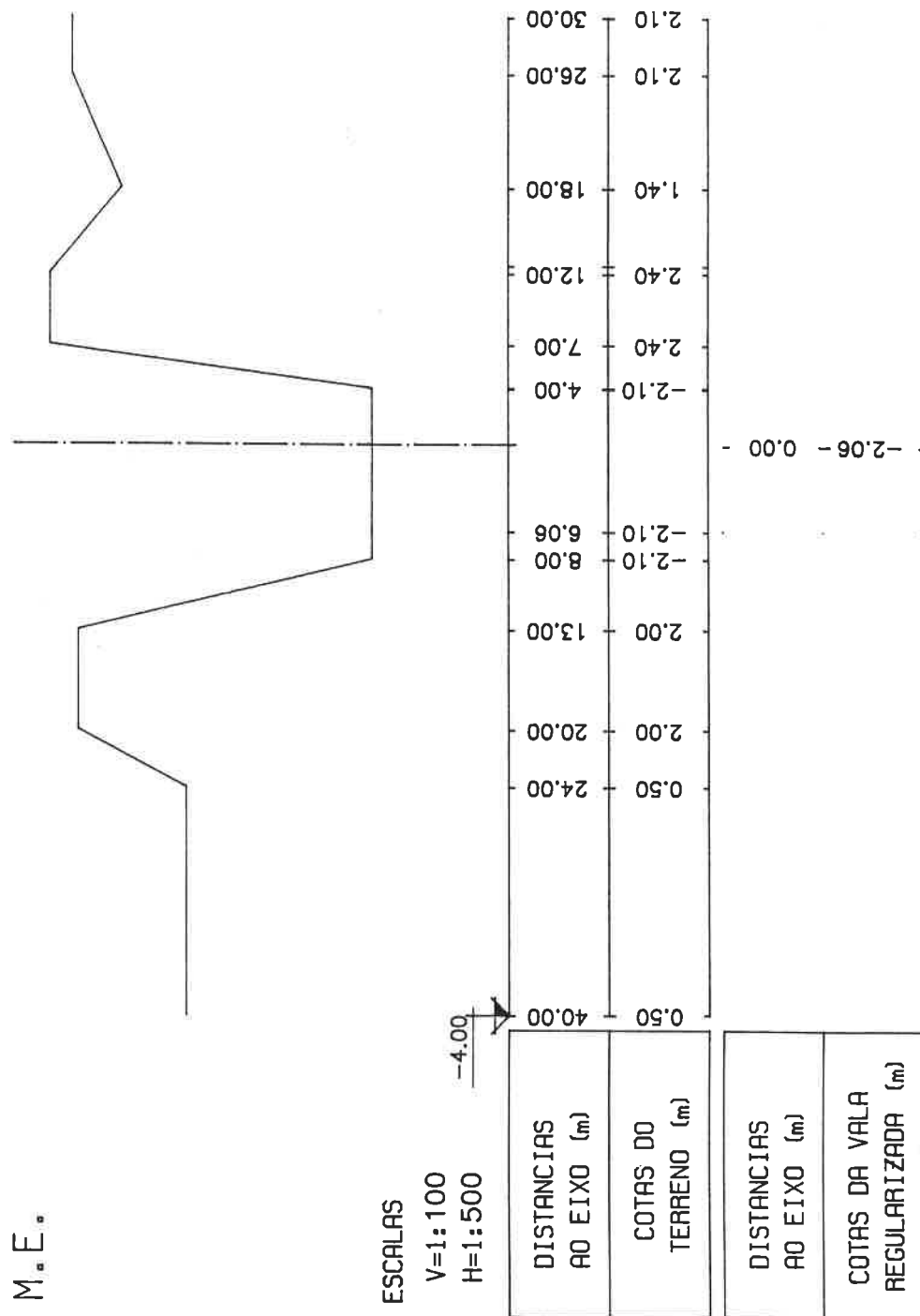
DISTANCIAS AO EIXO (m)	COTAS DO TERRENO (m)	DISTANCIAS AO EIXO (m)	COTAS DA VALA REGULARIZADA (m)
39.50	0.60	1.00	1.00
35.50	0.60	10.65	10.65
31.50	2.30	6.00	6.00
24.50	2.30	2.10	2.10
19.50	1.00	6.00	6.00
10.65	1.00	10.65	10.65
7.50	1.00	2.10	2.10
3.50	-1.80	6.00	6.00
6.45	-1.80	2.10	2.10
10.50	2.30	6.00	6.00
18.50	2.30	2.10	2.10
21.50	0.80	6.00	6.00
30.50	0.80	2.10	2.10

PERFIL 45 RIO PRANTO

AREA DE ATERRO (m²) .. = 0.00

AREA DE ESCAVACAO (m²) = 0.00

M.E.

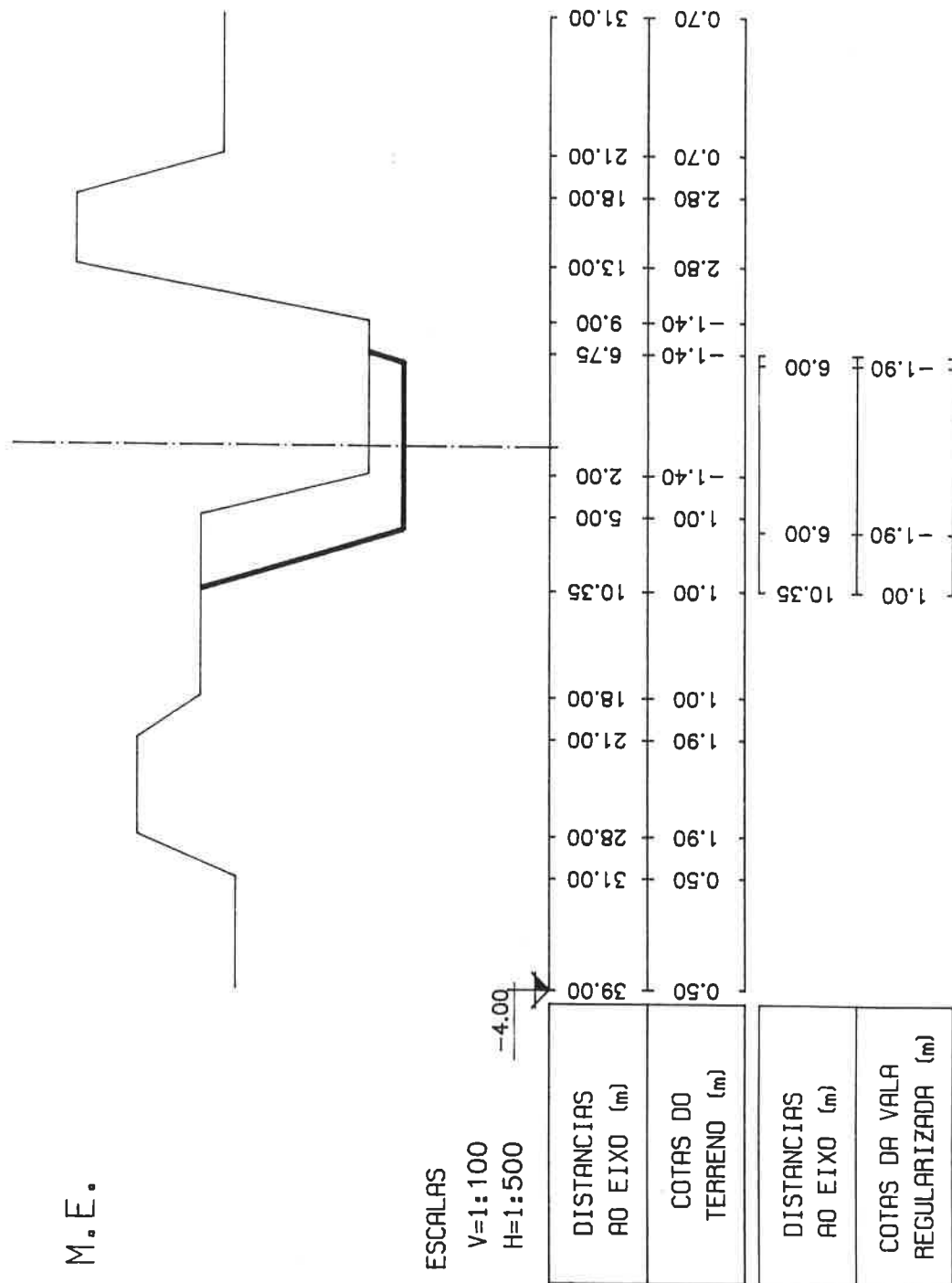


PERFIL 50 RIO PRANTO

AREA DE ATERRO (m²) ..= 0.00

AREA DE ESCAVACAO (m²) = 18.49

M.E.



AREA DE ATERRO (m2) . = 0.00

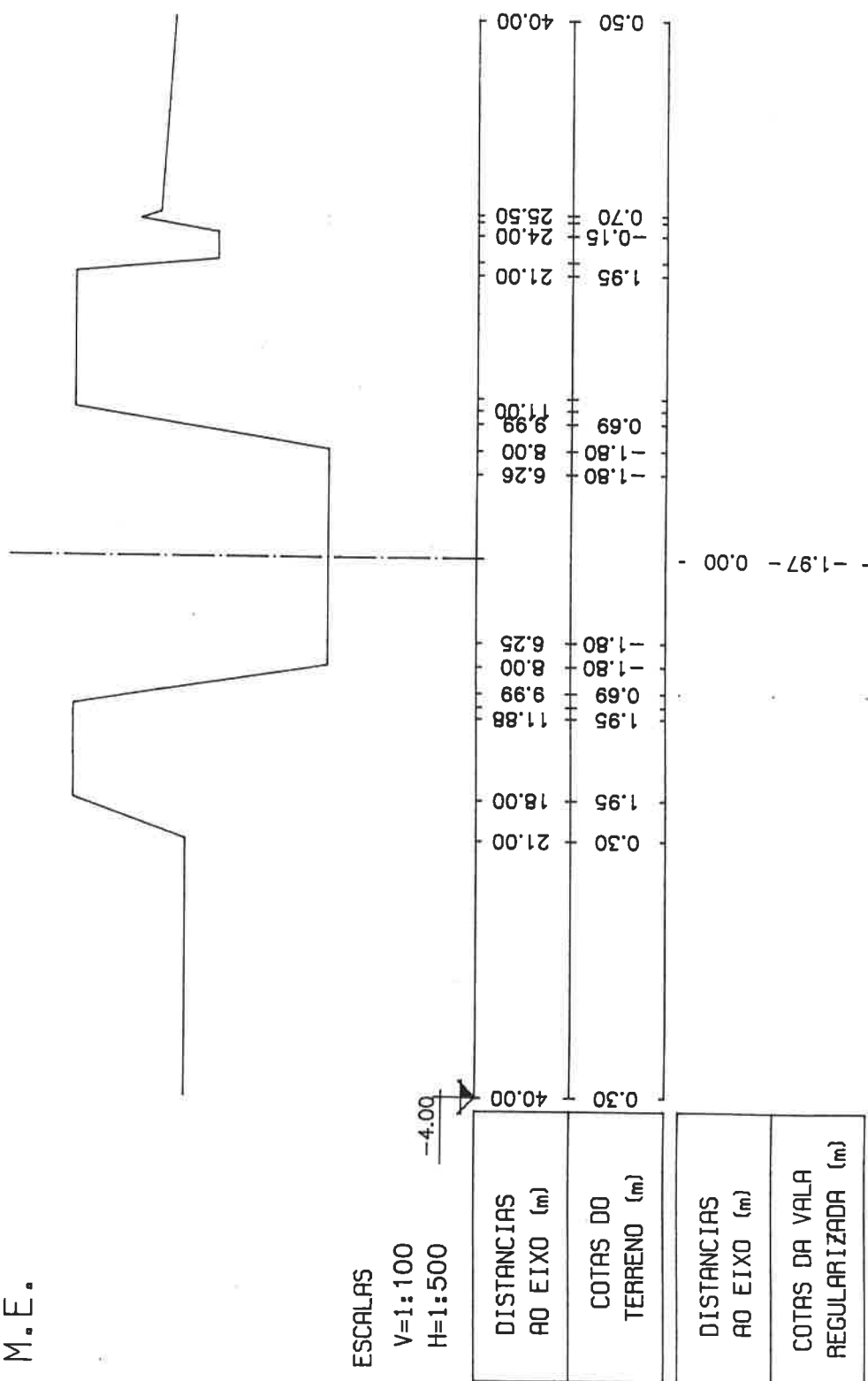
AREA DE ESCAVACAO (m2) = 0.00

Σ

ESCALAS

$$V=1:100$$

H=1:500

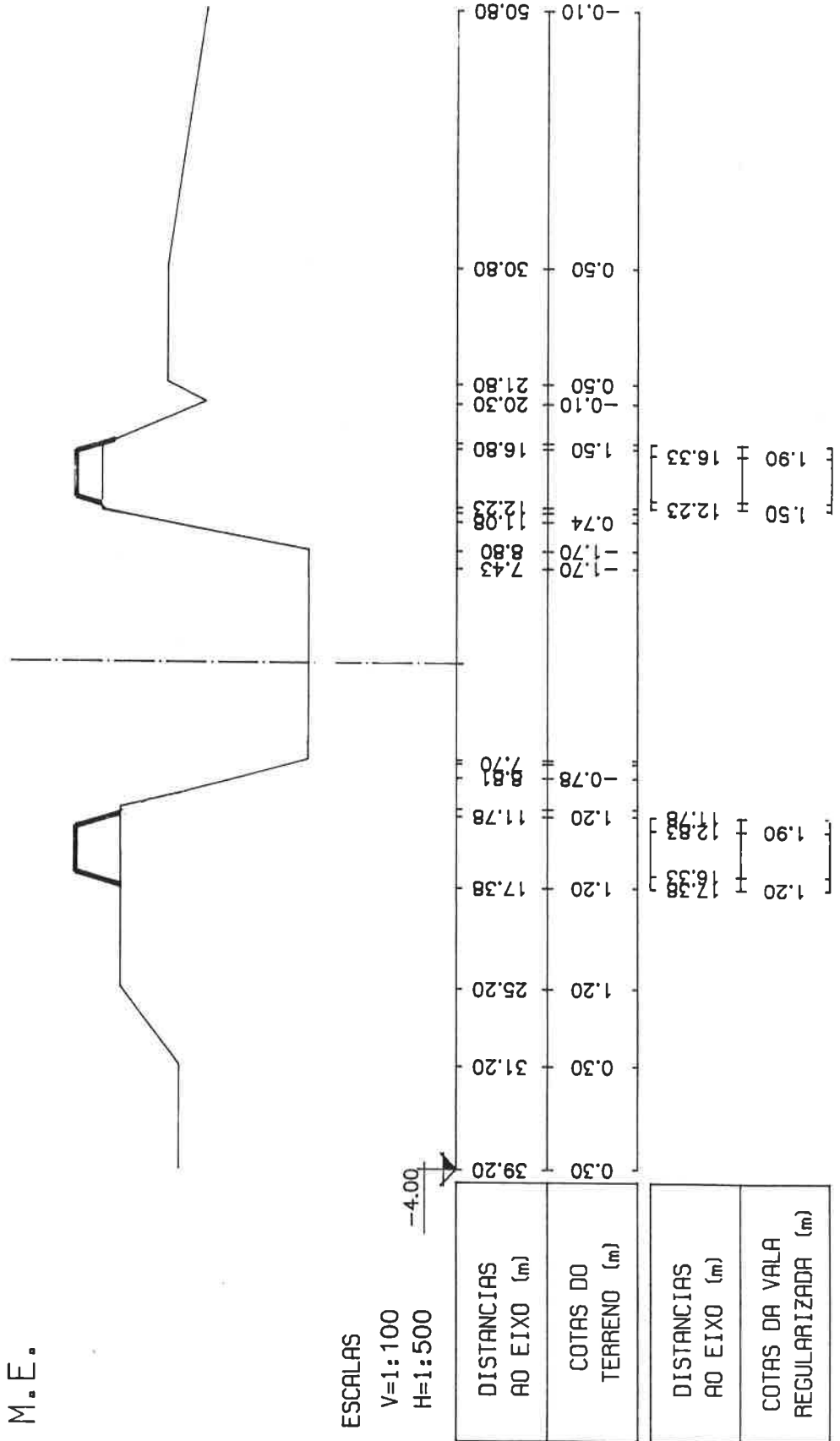


PERFIL 60 RIO PRANTO

AREA DE ATERRO (m²) .. = 4.13

AREA DE ESCAVACAO (m²) = 0.00

M.E.

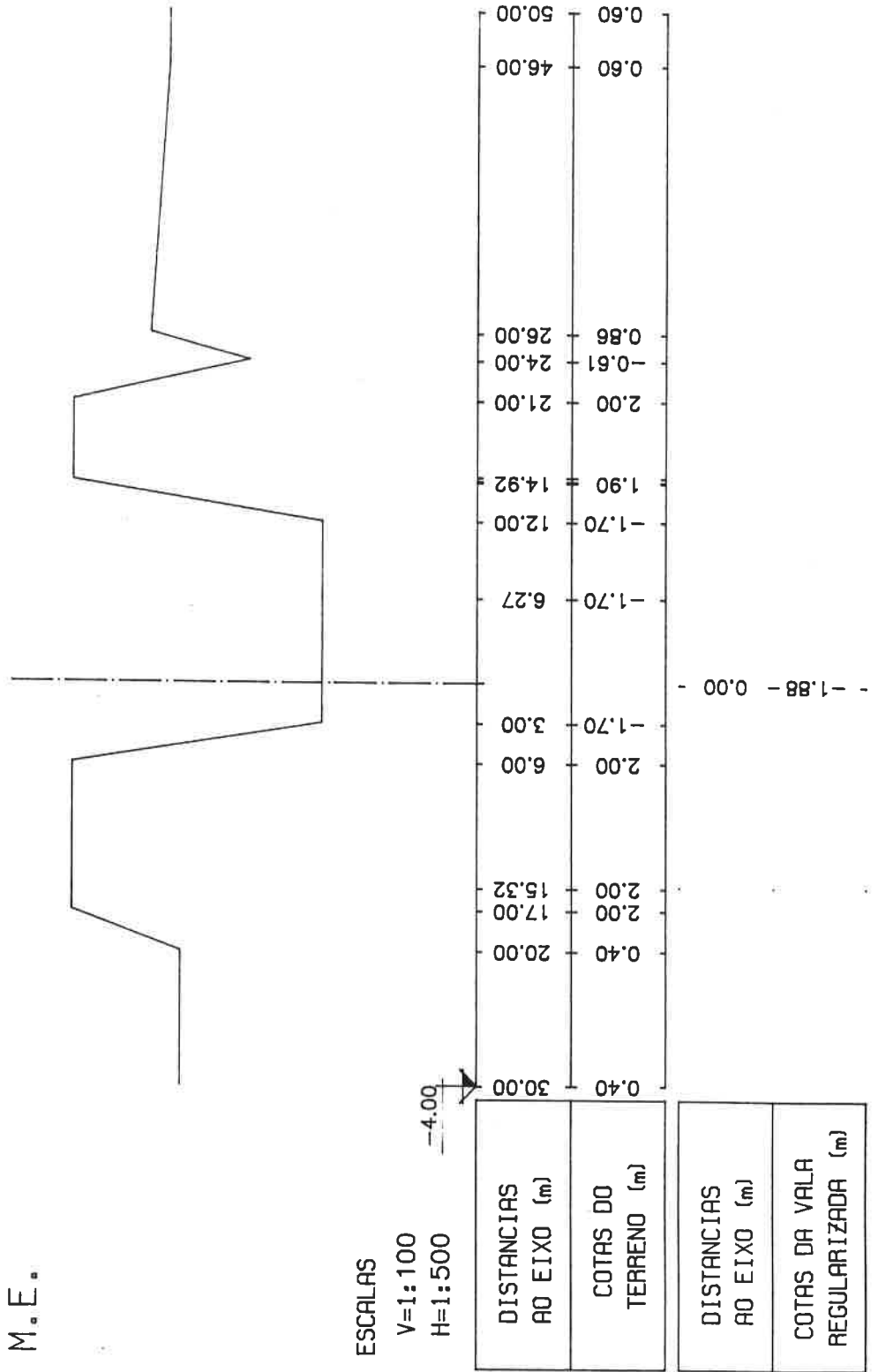


PERFIL 65 RIO PRANTO

AREA DE ATERRO (m²) .. = 0.00

AREA DE ESCAVACAO (m²) = 0.00

M.E.

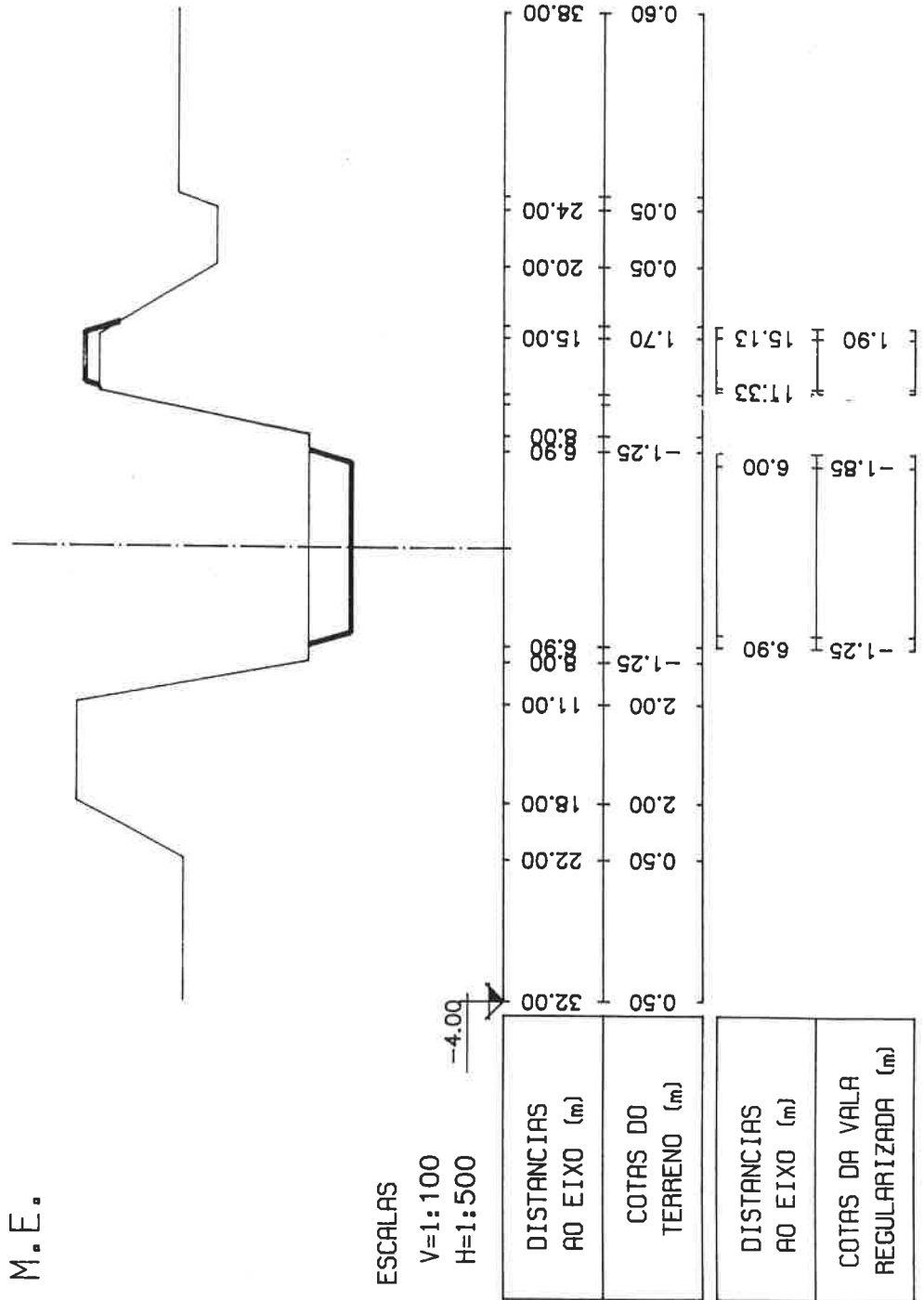


PERFIL 70 RIO PRANTO

AREA DE ATERRO (m²) .. = 1.66

AREA DE ESCAVACAO (m²) = 7.74

M.E.

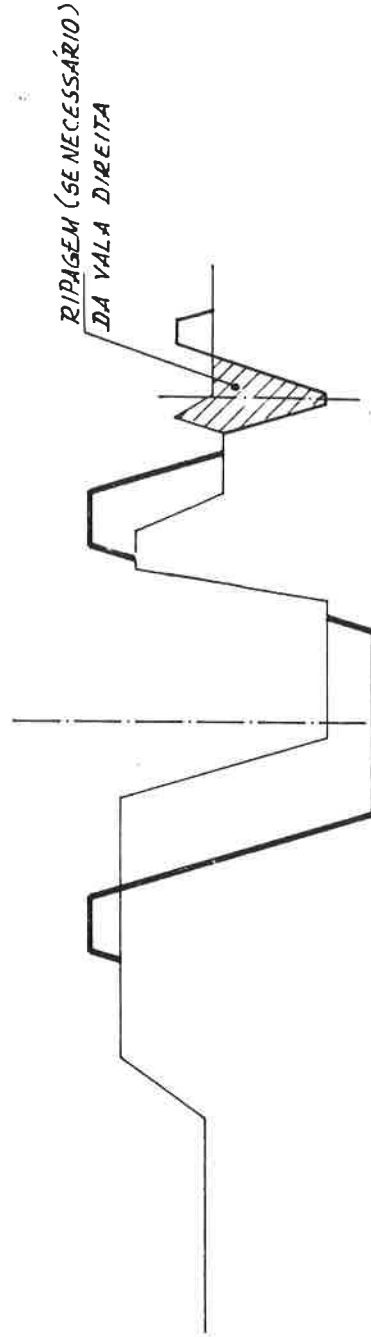


PERFIL 75 RIO PRANTO

AREA DE ATERRO (m²) .. = 8.62

AREA DE ESCAVACAO (m²) = 24.23

M.E.



ESCALAS

V=1:100

H=1:500

-4.00

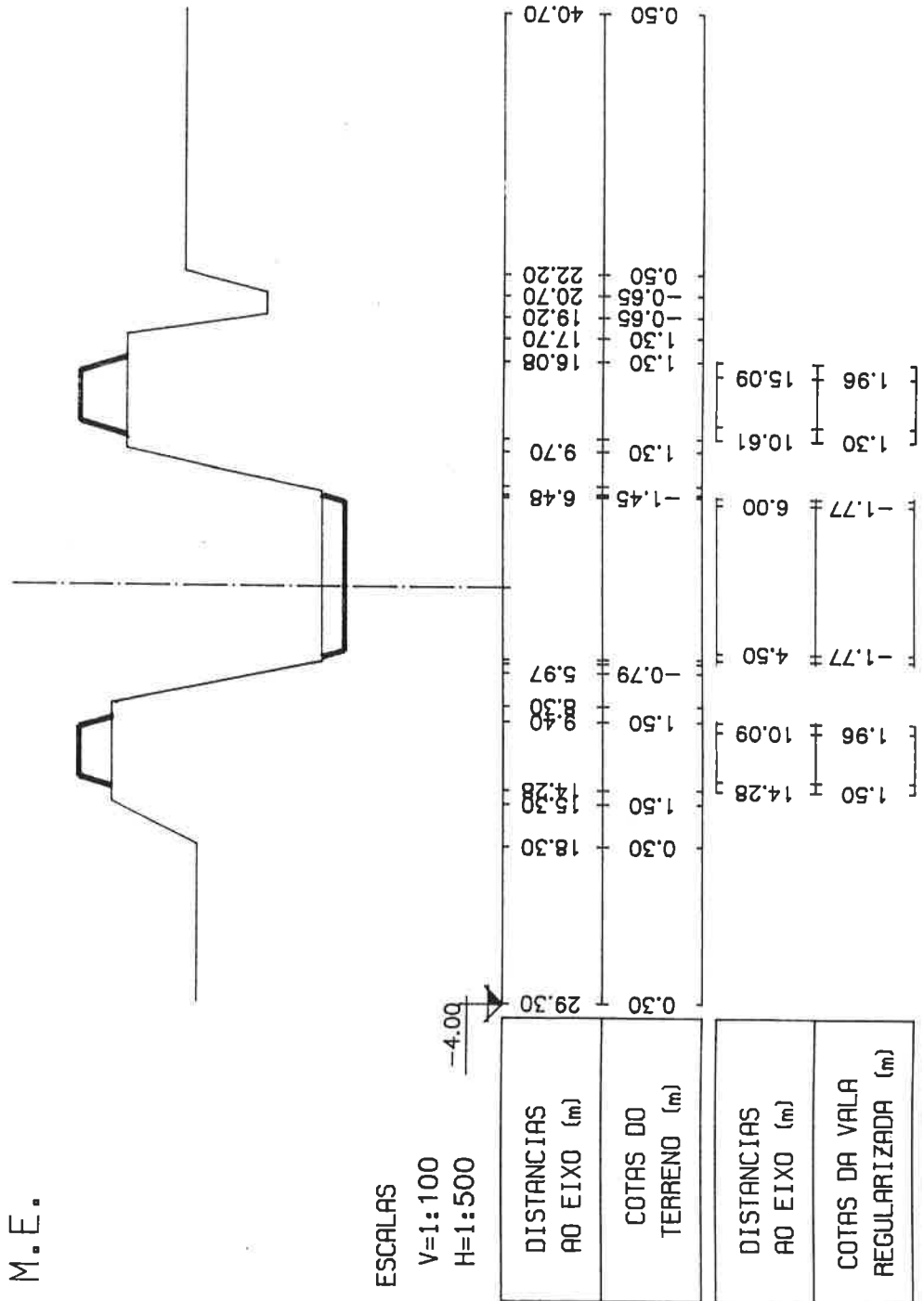
DISTANCIAS AO EIXO (m)	COTAS DO TERRENO (m)	DISTANCIAS AO EIXO (m)	COTAS DA VALA REGULARIZADA (m)
0.40	40.00	0.40	15.66
26.00	0.40	1.90	11.56
22.00	1.50	1.81	6.00
15.66	1.50	1.90	1.81
10.96	1.50	1.90	1.81
5.00	1.50	1.90	1.81
1.00	-1.20	1.90	1.81
8.92	-1.20	1.90	1.81
10.67	1.30	1.90	1.81
12.50	1.30	1.90	1.81
15.00	0.16	1.90	1.81
17.68	0.16	1.90	1.81
20.00	0.16	1.90	1.81
21.50	0.30	1.90	1.81
30.00	0.30	1.90	1.81

PERFIL 80 RIO PRANTO

AREA DE ATERRO (m²) .. = 5.06

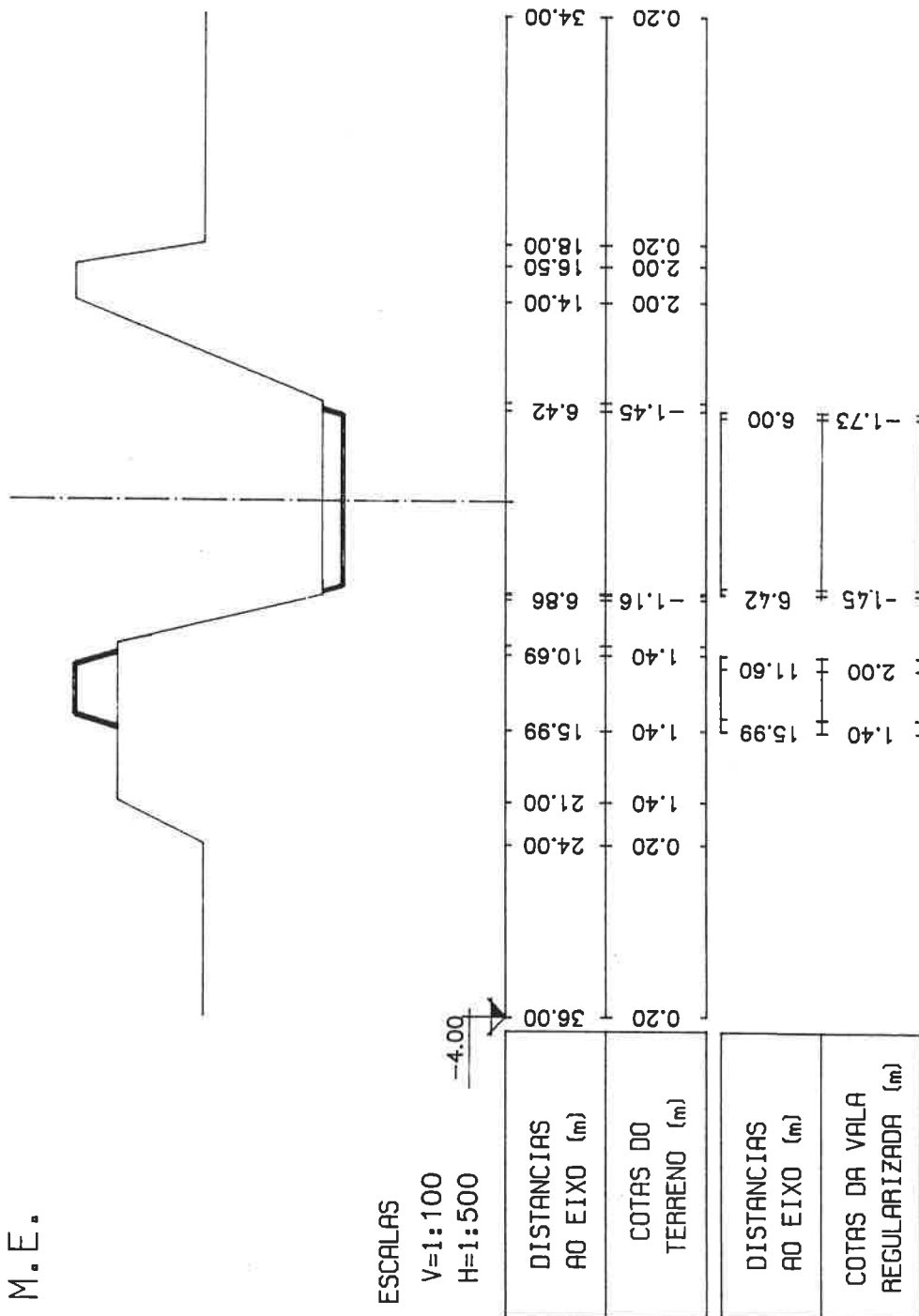
AREA DE ESCAVACAO (m²) = 4.78

M.E.

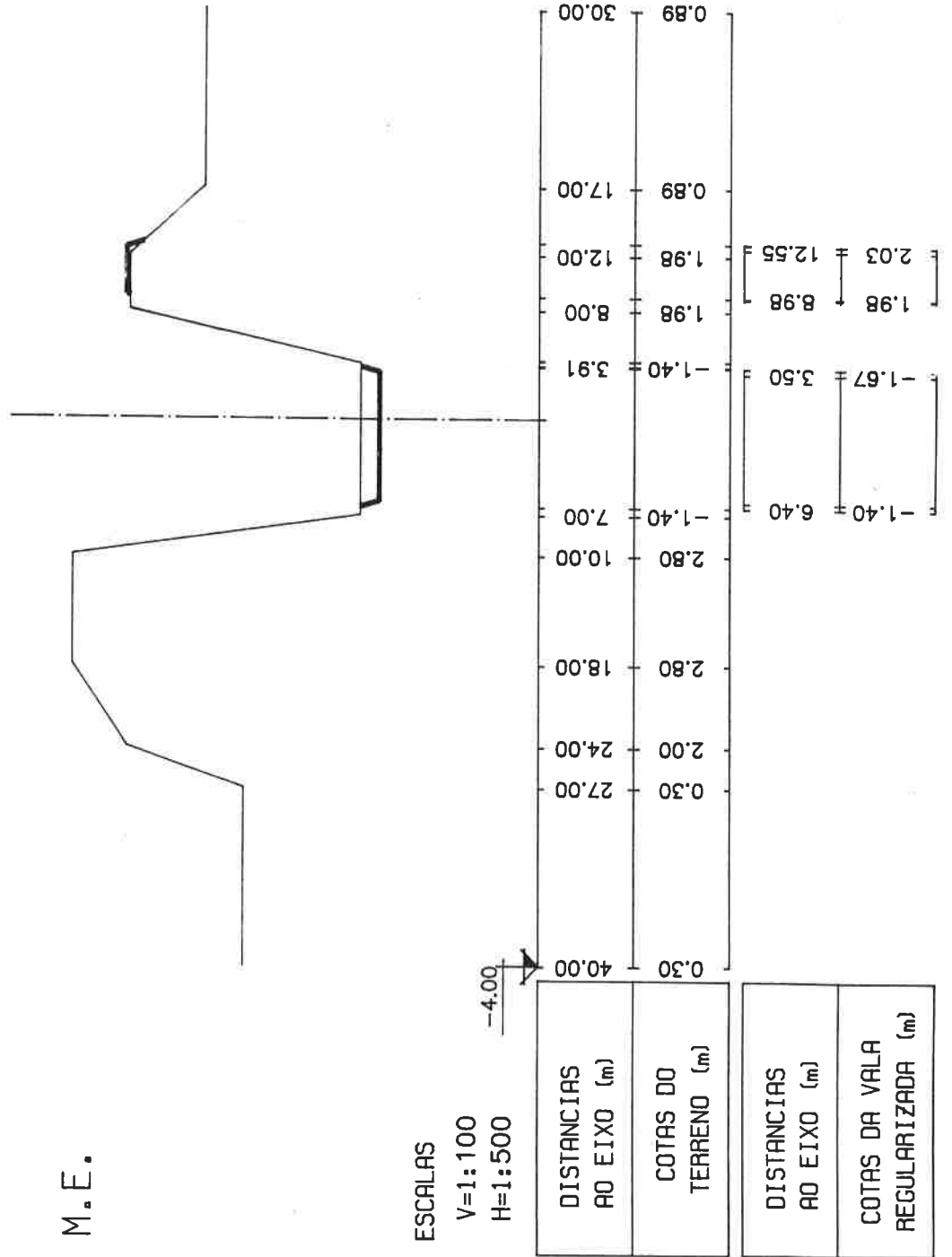


PERFIL 85 RIO PRANTO
 AREA DE ATERRO (m²) = 2.65
 AREA DE ESCAVACAO (m²) = 4.37

M.E.



AREA DE ESCAVACAO (m2) = 3.18

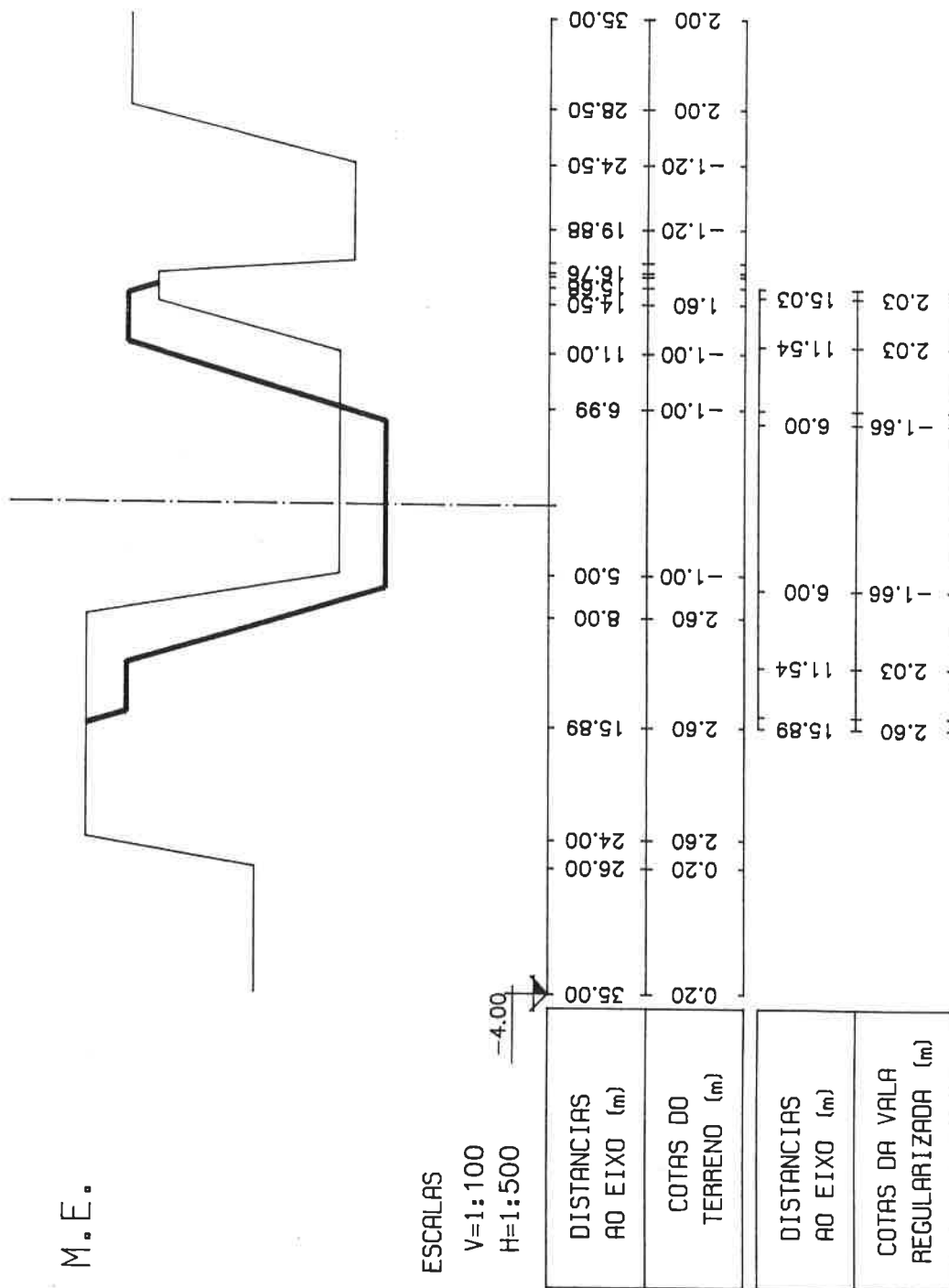
$$\sum_{i=1}^n$$


PERFIL 92 RIO PRANTO

AREA DE ATERRO (m²) ..= 11.69

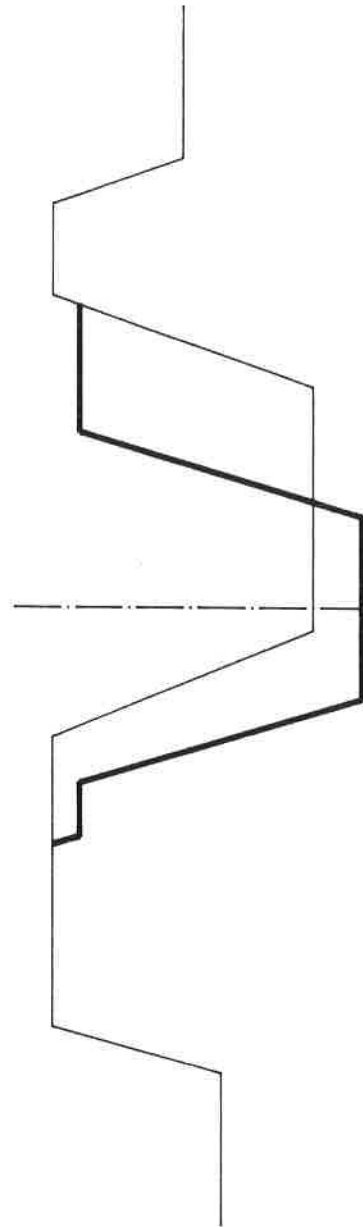
AREA DE ESCAVACAO (m²) = 22.05

M.E.



PERFIL 95 RIO PRANTO
 AREA DE ATERRO (m²) .. = 22.40
 AREA DE ESCAVACAO (m²) = 24.85

M.E.



ESCALAS

V=1:100

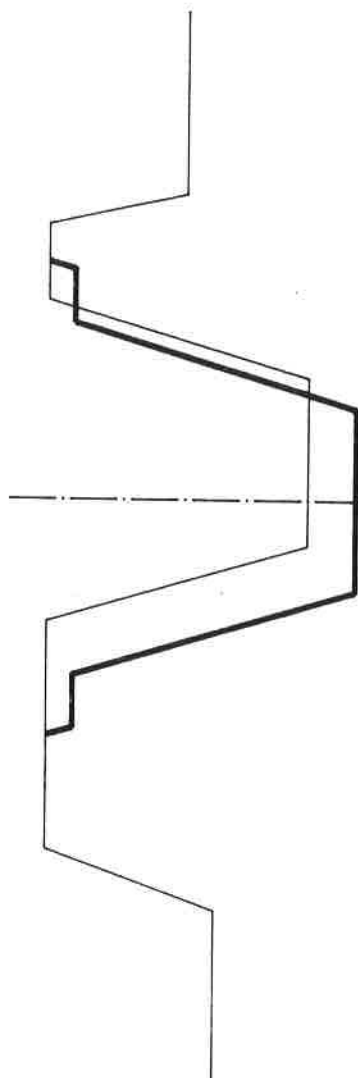
H=1:500

-4.00

DISTANCIAS AO EIXO (m)	COTAS DO TERRENO (m)	DISTANCIAS AO EIXO (m)	COTAS DA VALA REGULARIZADA (m)
40.50	0.20	2.40	15.56
0.20	0.20	2.40	2.05
30.50	2.40	6.00	-1.64
27.50	8.50	11.54	2.05
15.56	2.40	11.54	2.05
1.50	-1.00	6.00	-1.64
14.50	-1.00	11.54	2.05
19.88	2.05	19.88	2.05
26.50	2.40		
29.50	0.70		
39.50	0.70		

PERFIL 96 RIO PRANTO AREA DE ATERRO (m²) .. = 3.09 AREA DE ESCAVACAO (m²) = 23.79

M.E.



ESCALAS

V=1:100

H=1:500

-4.00

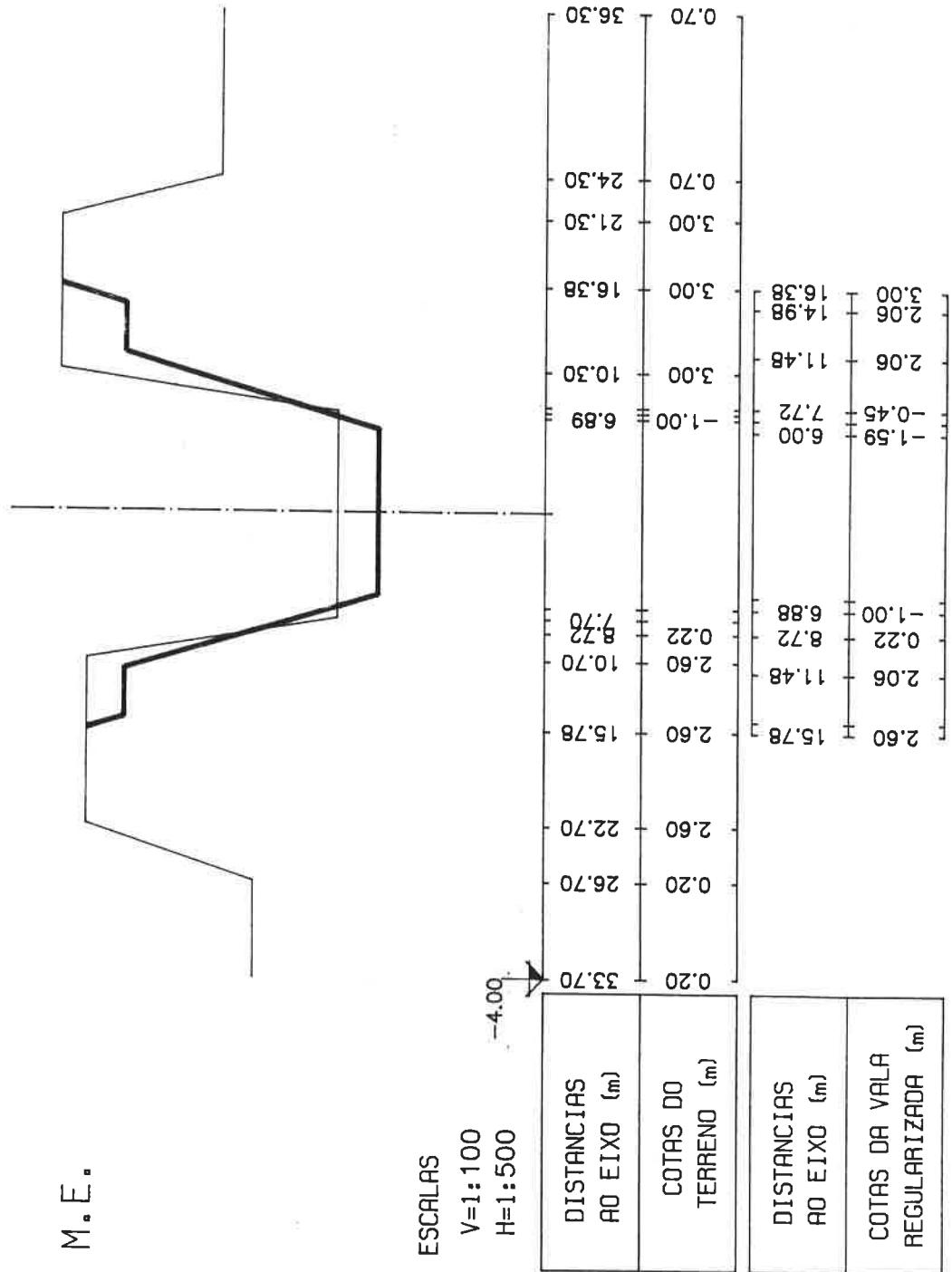
DISTANCIAS AO EIXO (m)	COTAS DO TERRENO (m)	DISTANCIAS AO EIXO (m)	COTAS DA VALA REGULARIZADA (m)
38.00	0.20	2.40	15.54
27.00	0.20	2.40	11.54
23.00	2.40	2.06	6.00
15.54	2.40	-1.63	6.00
8.00	2.40	-1.63	6.00
3.00	-1.00	2.06	11.54
8.95	-1.00	2.06	15.03
12.50	2.06	2.06	15.03
15.55	2.40		
18.00	2.40		
20.00	0.60		
32.00	0.60		

PERFIL 98 RIO PRANTO

AREA DE ATERRO (m²) .. = 0.61

AREA DE ESCAVACAO (m²) = 19.12

M.E.

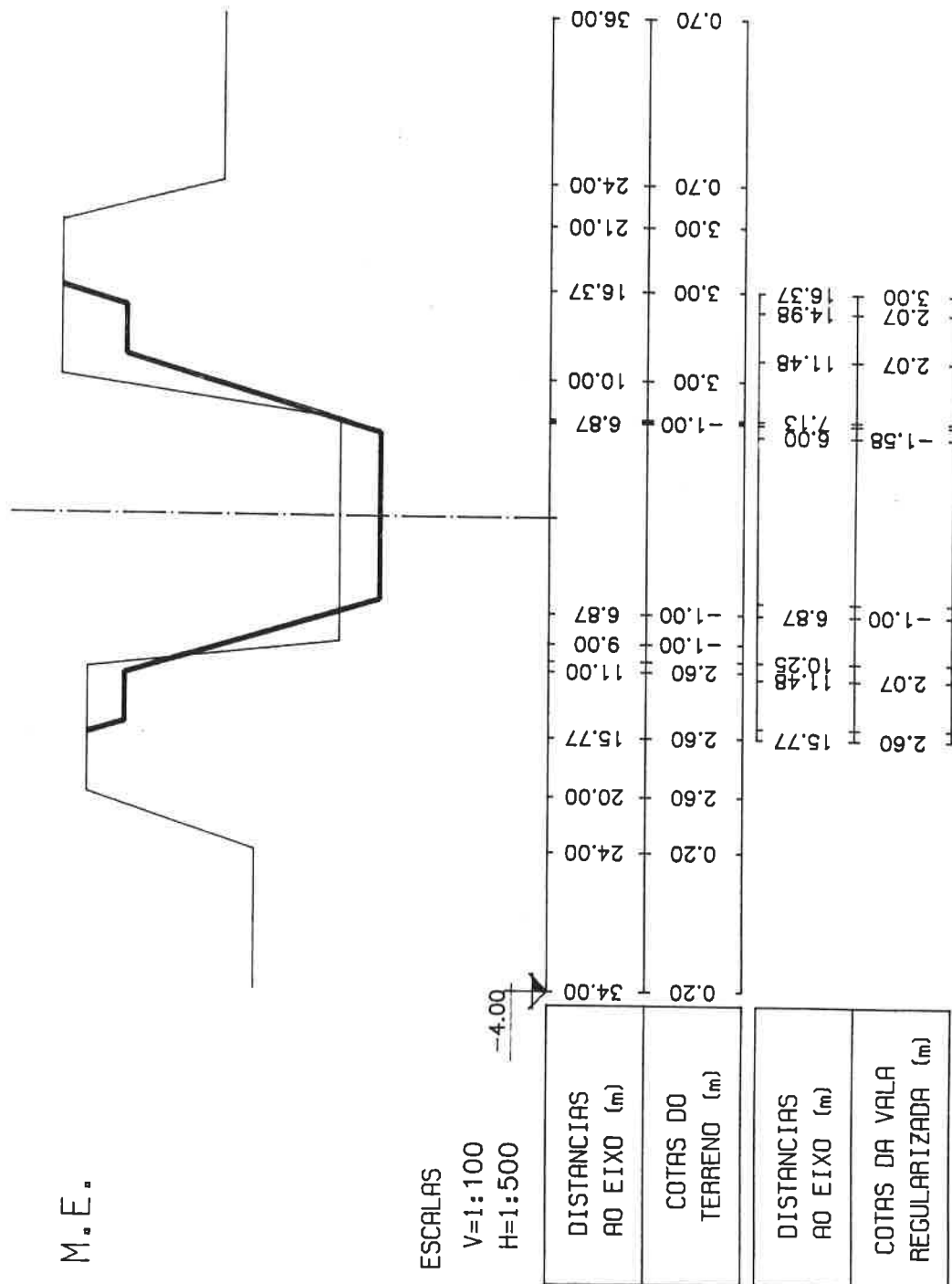


PERFIL 100 RIO PRANTO

AREA DE ATERRO (m²) .. = 2.41

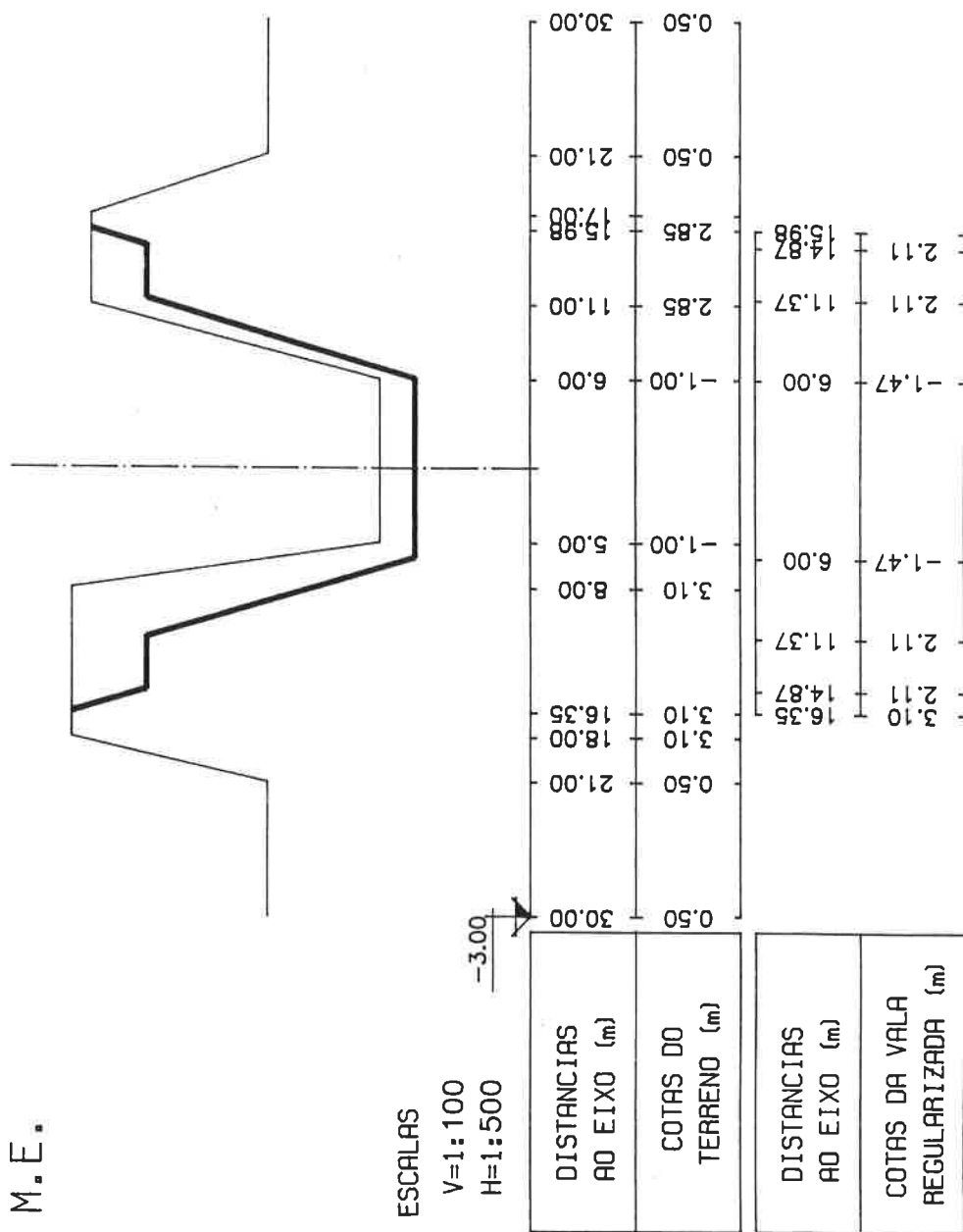
AREA DE ESCAVACAO (m²) = 18.92

M.E.



AREA DE ATERRO (m2) ..= 0.00
AREA DE ESCAVACAO (m2) = 29.68

M. E.



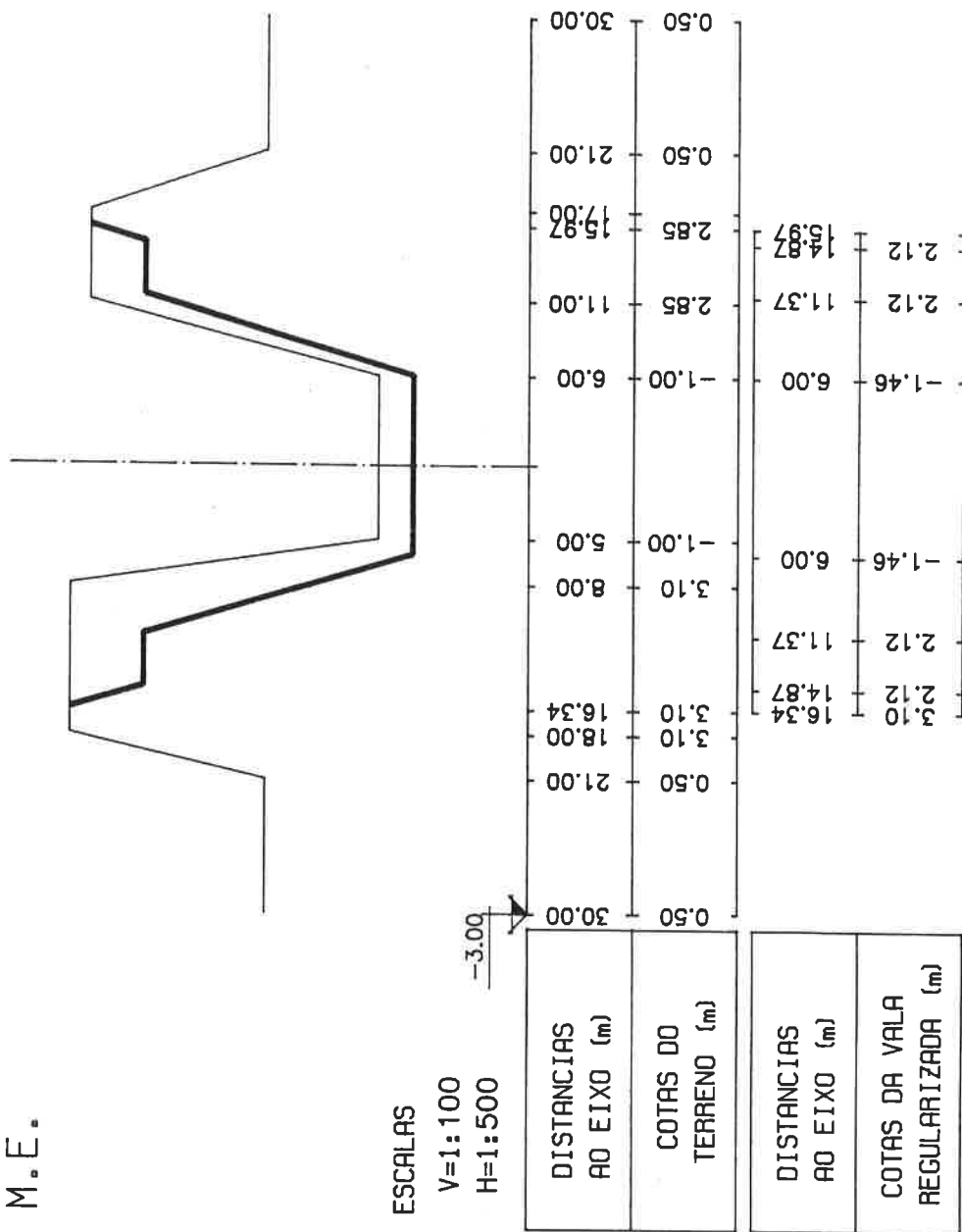


PERFIL 106 RIO PRANTO

AREA DE ATERRO (m2) .. = 0.00

AREA DE ESCAVACAO (m2) = 29.36

M.E.



AREA DE ATERRO (m2) $\therefore = 1.24$

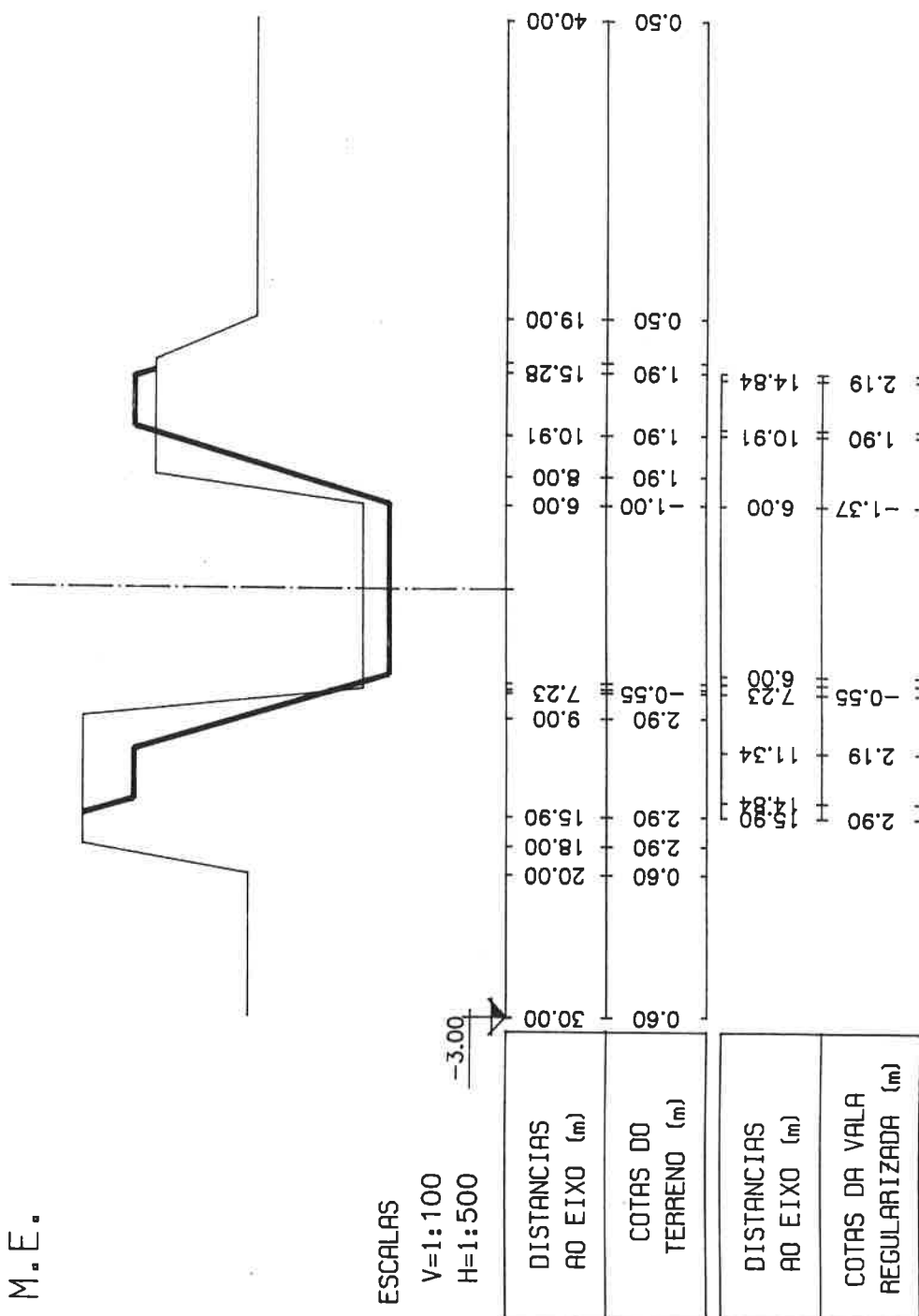
AREA DE ESCAVACAO (m2) = 18.02

ΣΠΕΙΡΑ

ESCALAS

$$V=1:100$$

H=1:500



...

...

...

...

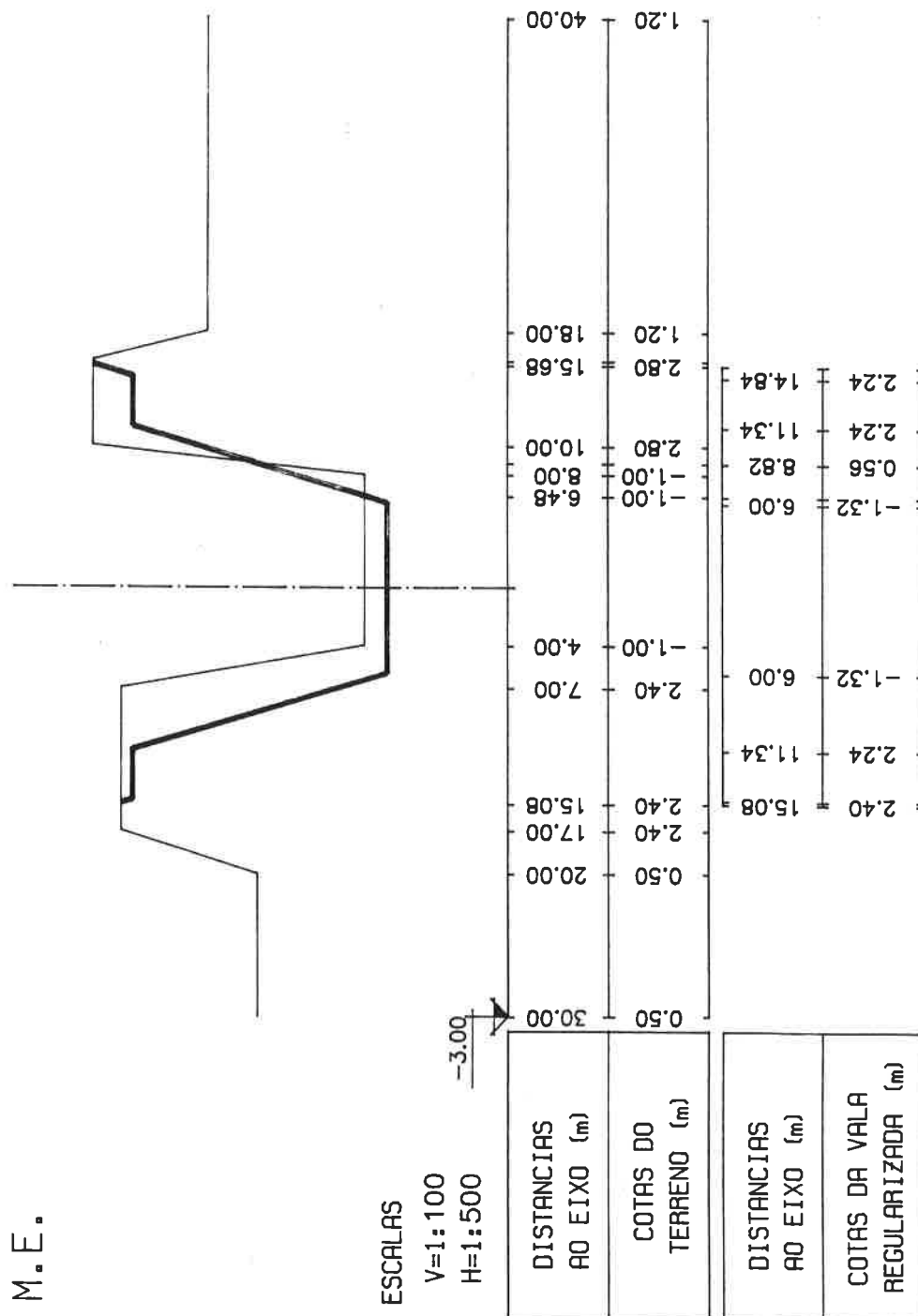


PERFIL 111 RIO PRANTO

AREA DE ATERRO (m²) .. = 1.19

AREA DE ESCAVACAO (m²) = 20.96

M.E.

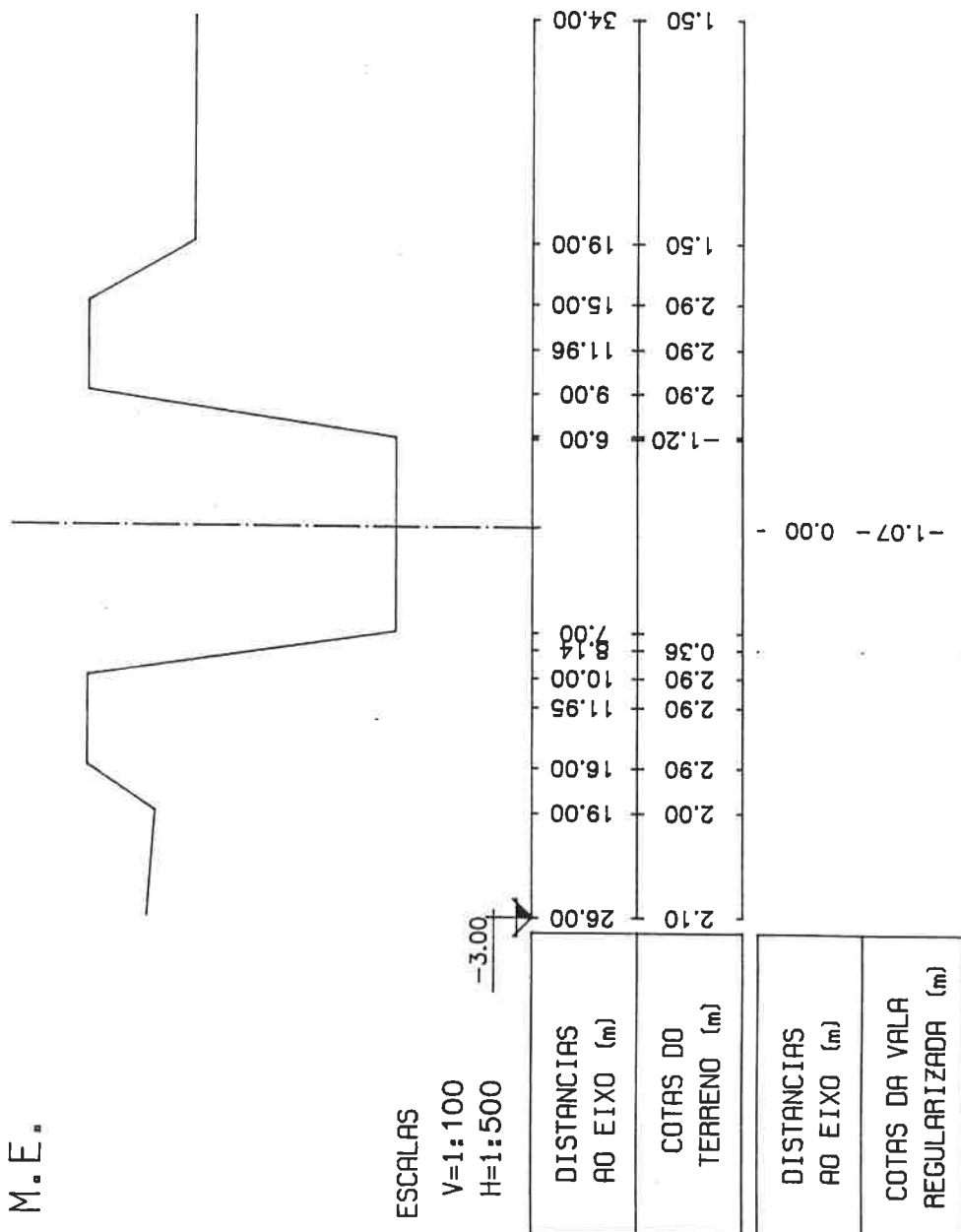


PERFIL 115 RIO PRANTO

AREA DE ATERRO (m²) .. = 0.00

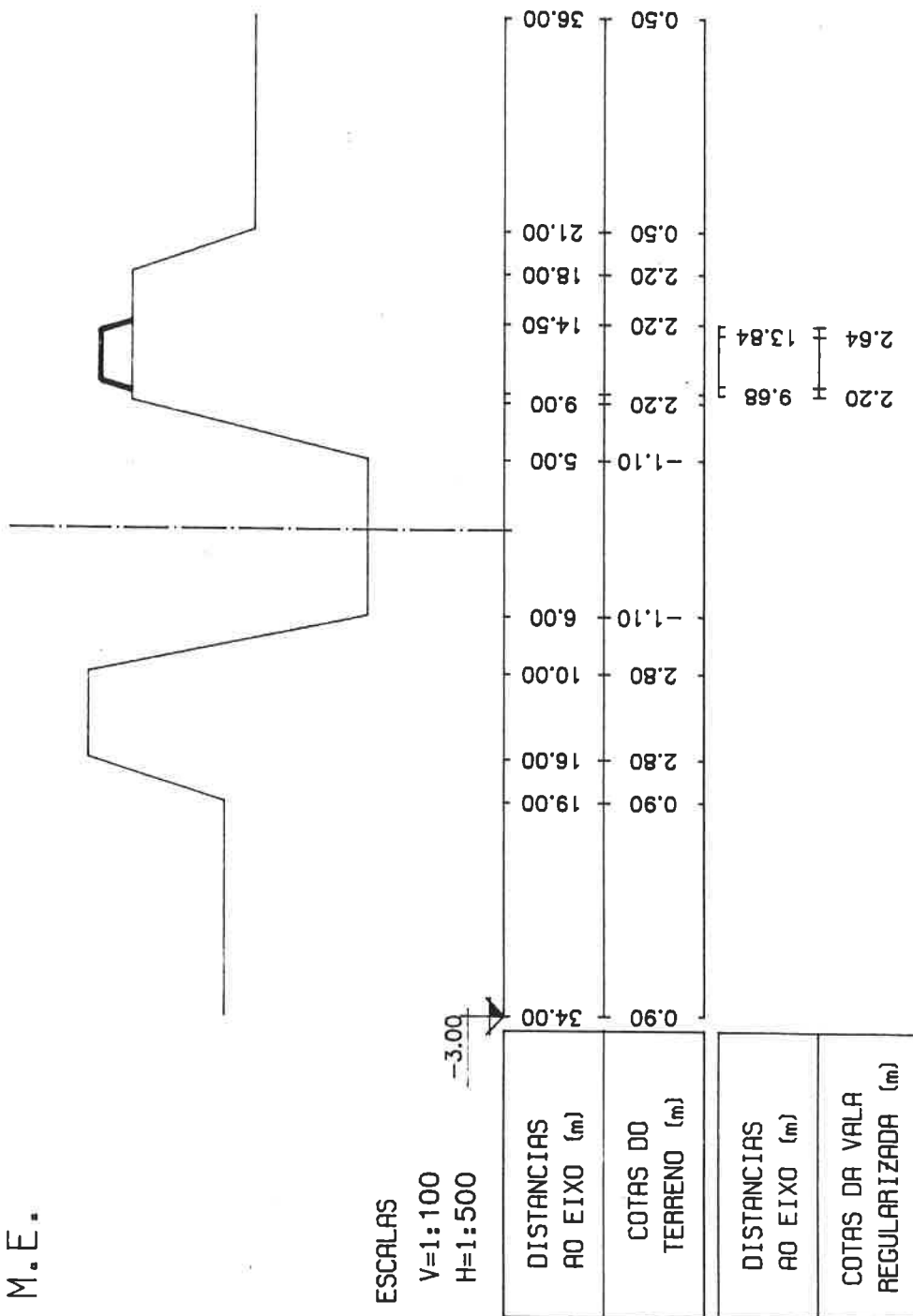
AREA DE ESCAVACAO (m²) = 0.00

M.E.



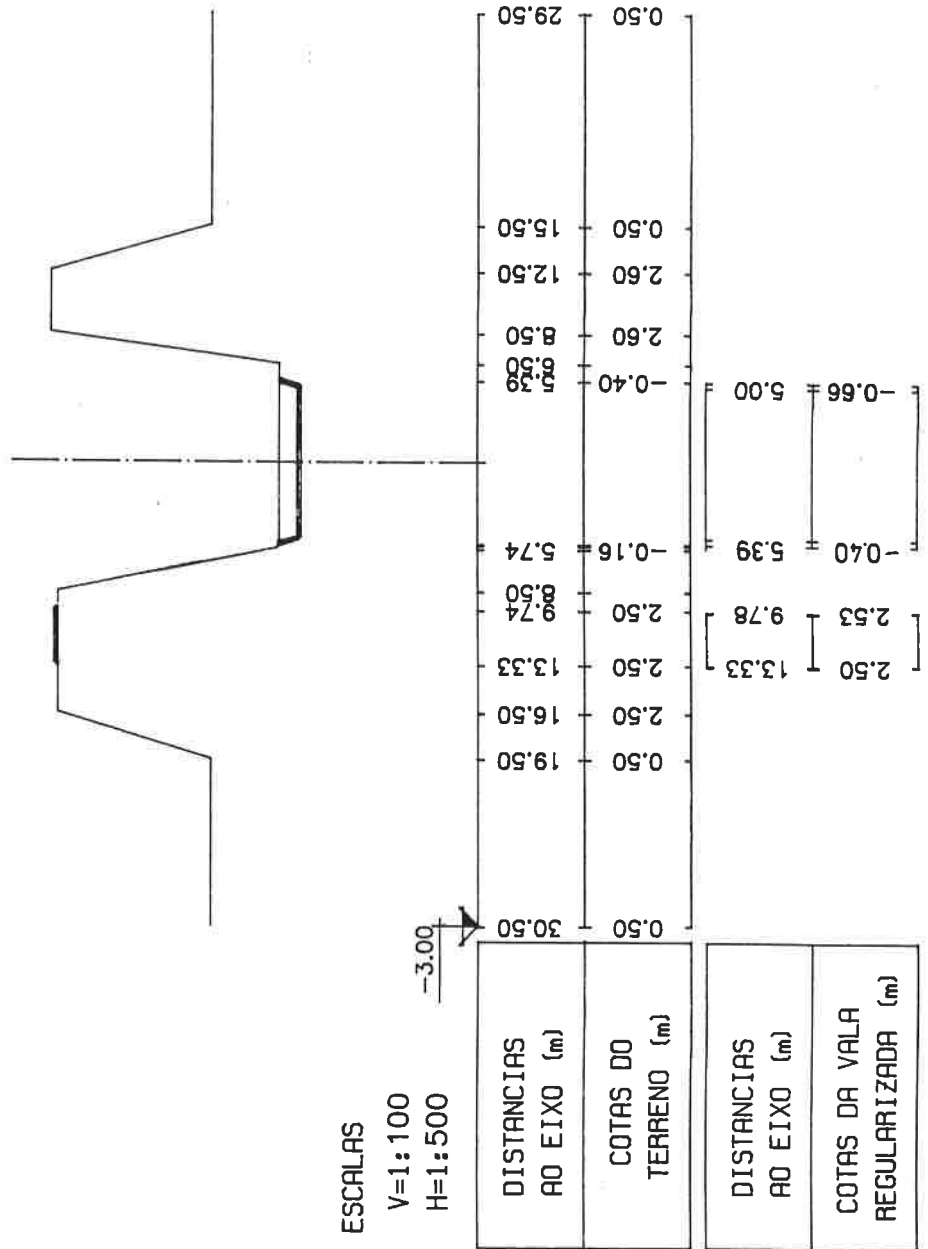
PERFIL 120 RIO PRANTO
 AREA DE ATERRO (m²) ..= 1.83
 AREA DE ESCAVACAO (m²) = 0.00

M.E.



PERFIL 125 RIO PRANTO
 AREA DE ATERRO (m²) = 0.12
 AREA DE ESCAVACAO (m²) = 3.35

M.E.

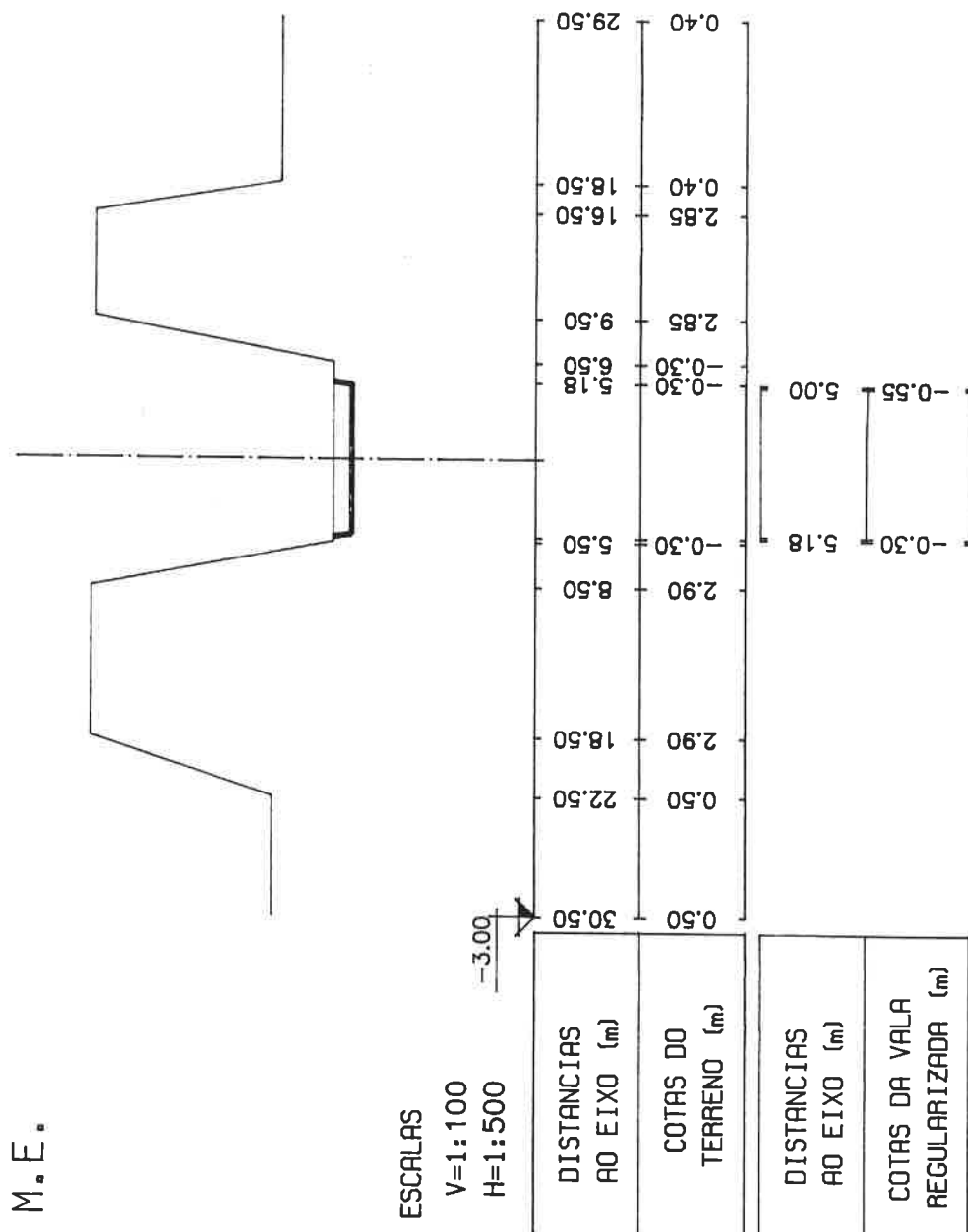


PERFIL 130 RIO PRANTO

AREA DE ATERRO (m²) .. = 0.00

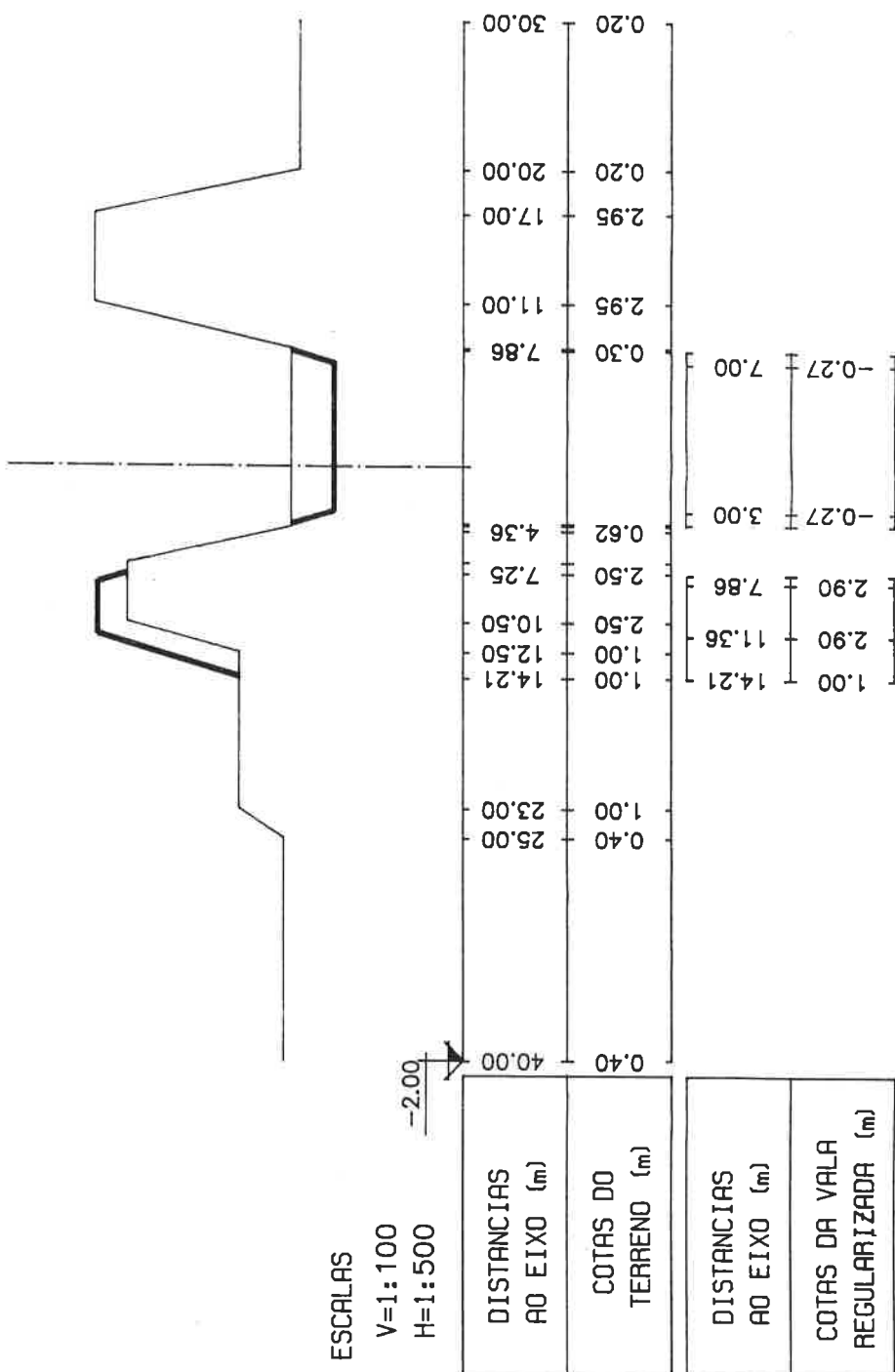
AREA DE ESCAVACAO (m²) = 2.55

M.E.



PERFIL 135 RIO PRANTO
 AREA DE ATERRO (m²) = 4.04
 AREA DE ESCAVACAO (m²) = 6.90

M.E.

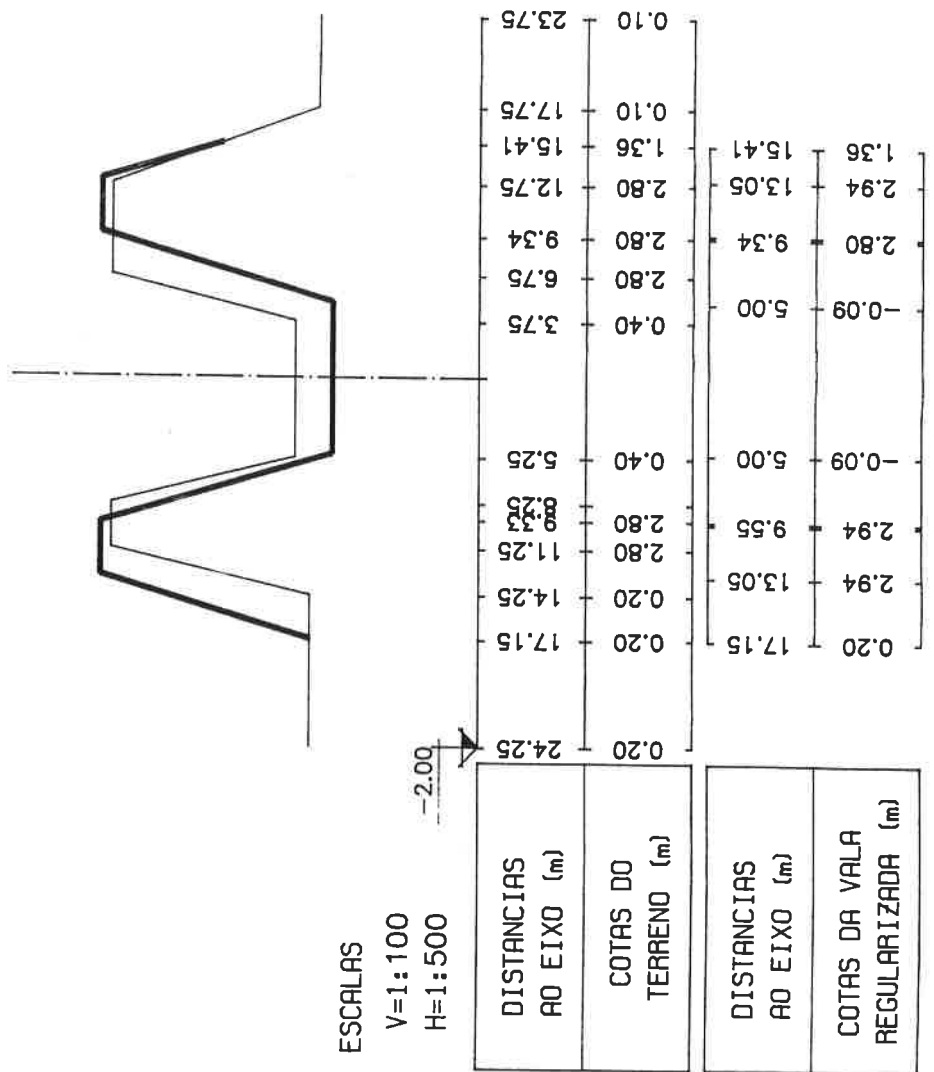


PERFIL 140 RIO PRANTO

AREA DE ATERRO (m²) .. = 7.78

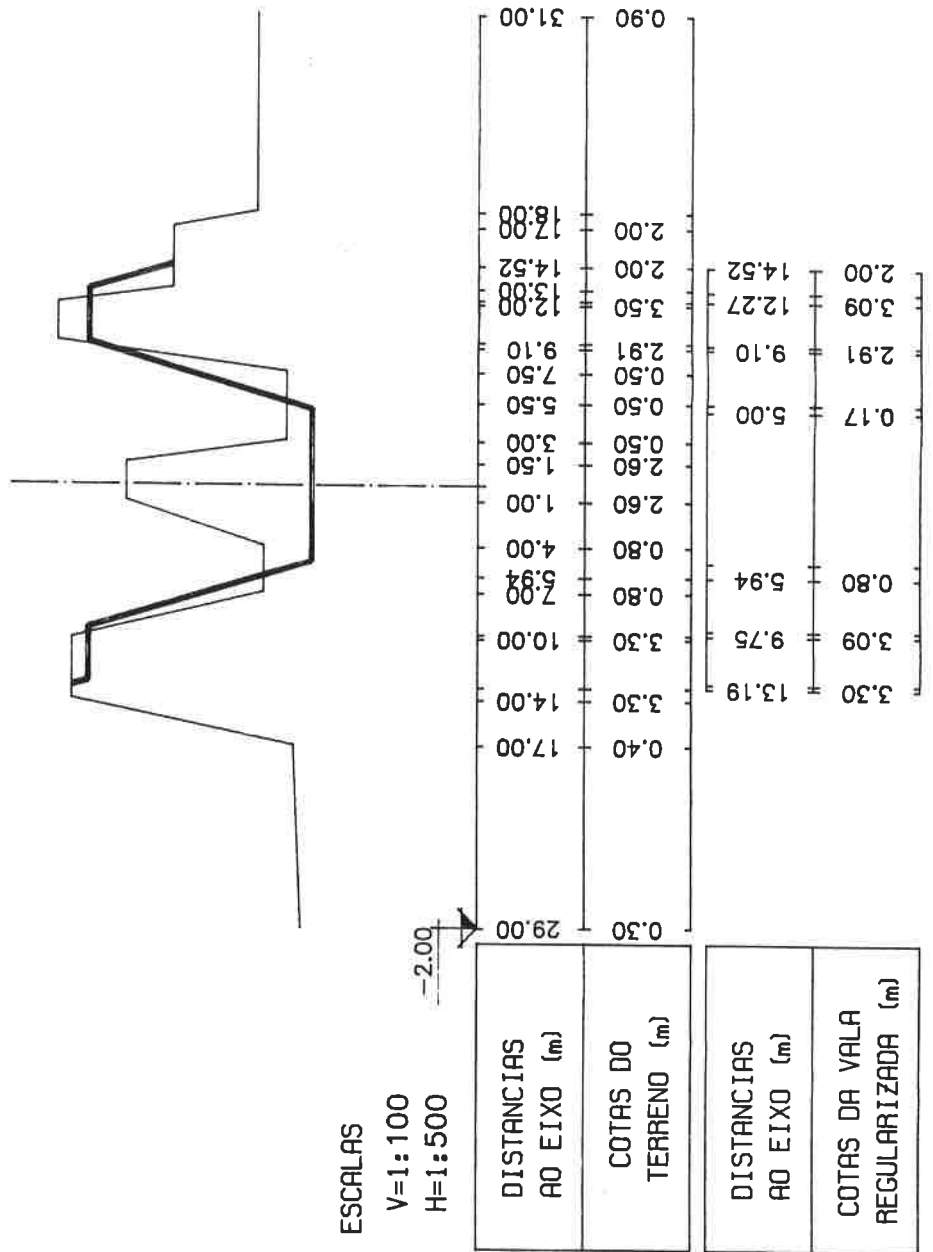
AREA DE ESCAVACAO (m²) = 12.63

M.E.



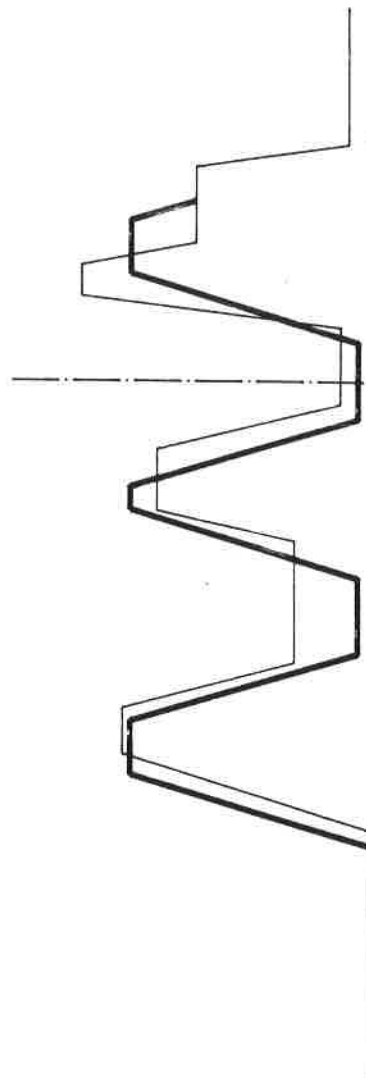
PERFIL 145 RIO PRANTO
 AREA DE ATERRO (m²) .. = 5.20
 AREA DE ESCAVACAO (m²) = 16.22

M.E.



PERFIL 150 RIO PRANTO
 AREA DE ATERRO (m²) .. = 8.41
 AREA DE ESCAVACAO (m²) = 16.03

M.E.



ESCALAS

V=1:100

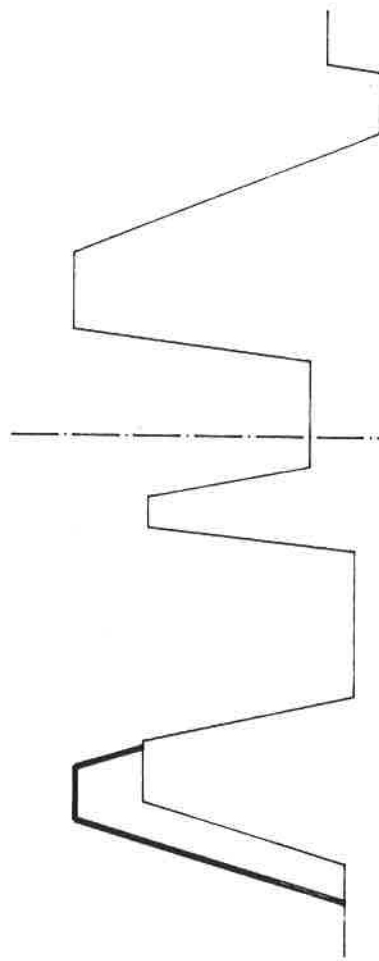
H=1:500

-2.00

DISTANCIAS AO EIXO (m)	COTAS DO TERRENO (m)	DISTANCIAS AO EIXO (m)	COTAS DA VALA REGULARIZADA (m)
0.20	45.50	0.20	30.63
30.63	30.63	30.63	25.91
24.65	24.65	24.65	24.65
21.50	21.50	22.41	23.35
18.50	18.50	17.94	0.37
11.72	11.72	12.97	0.37
10.50	10.50	11.72	1.20
8.50	8.50	8.47	3.35
6.44	6.44	6.97	3.35
4.50	4.50	2.50	0.37
1.50	1.50	2.50	2.50
2.85	2.85	3.92	0.37
3.92	3.92	1.32	1.32
5.50	5.50	6.97	3.35
7.50	7.50	8.16	3.35
9.00	9.00	10.47	3.35
11.75	11.75	11.75	2.50
14.00	14.00		
15.50	15.50		
24.50	24.50		

PERFIL 155 RIO PRANTO
 AREA DE ATERRO (m²) ..= 11.15
 AREA DE ESCAVACAO (m²) = 0.00

M.E.



ESCALAS

V=1:100

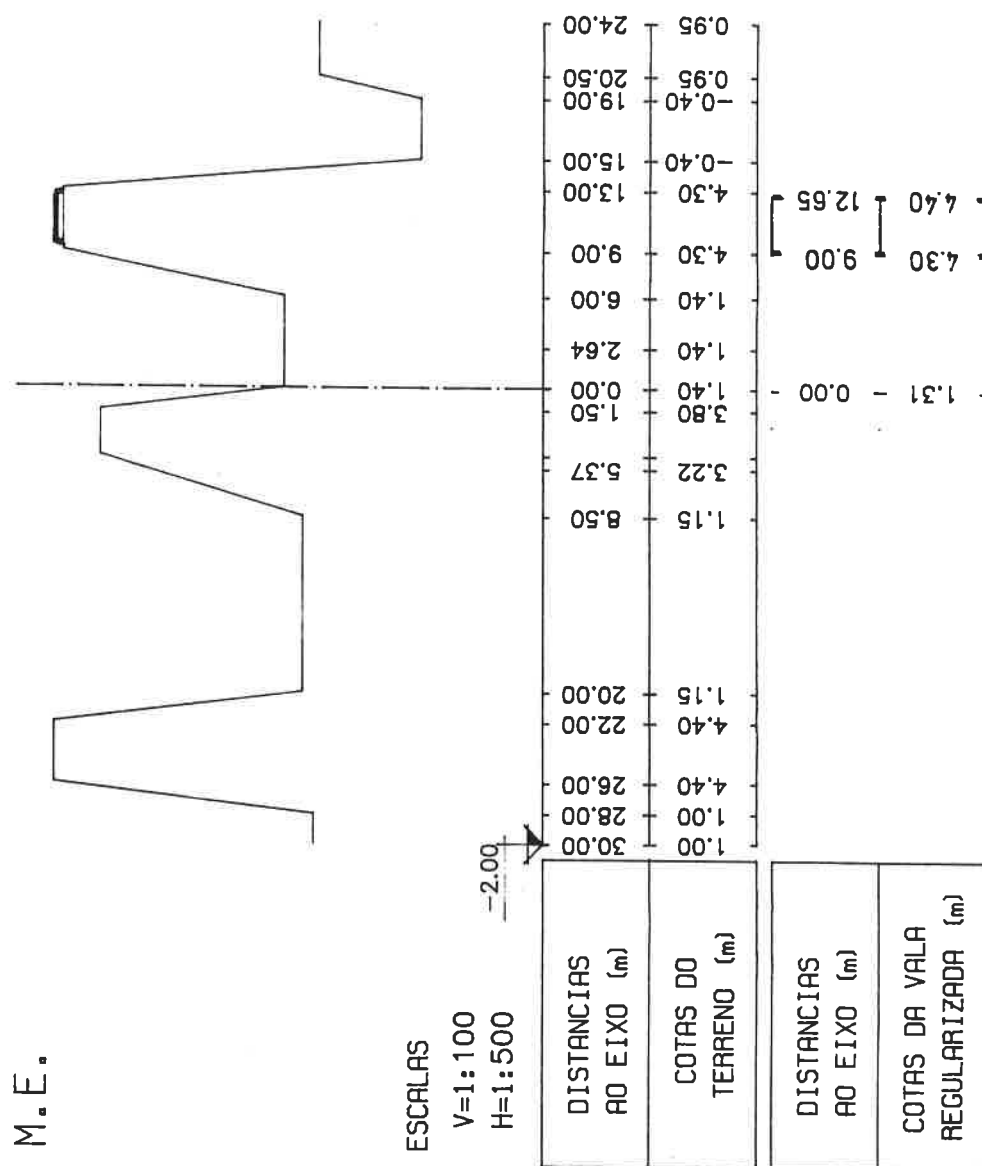
H=1:500

-2.00

DISTANCIAS AO EIXO (m)	COTAS DO TERRENO (m)	DISTANCIAS AO EIXO (m)	COTAS DA VALA REGULARIZADA (m)
34.00	0.50	0.50	0.50
30.57	0.50	30.57	4.04
28.00	0.50	25.26	4.04
24.00	3.15	21.76	4.04
20.43	3.15	20.43	5.15
17.00	0.40		
7.50	0.40		
6.00	3.10		
4.00	3.10		
2.00	1.00		
5.00	1.00		
7.00	4.10		
12.00	4.10		
20.00	0.10		
24.00	0.10		
28.00	0.80		

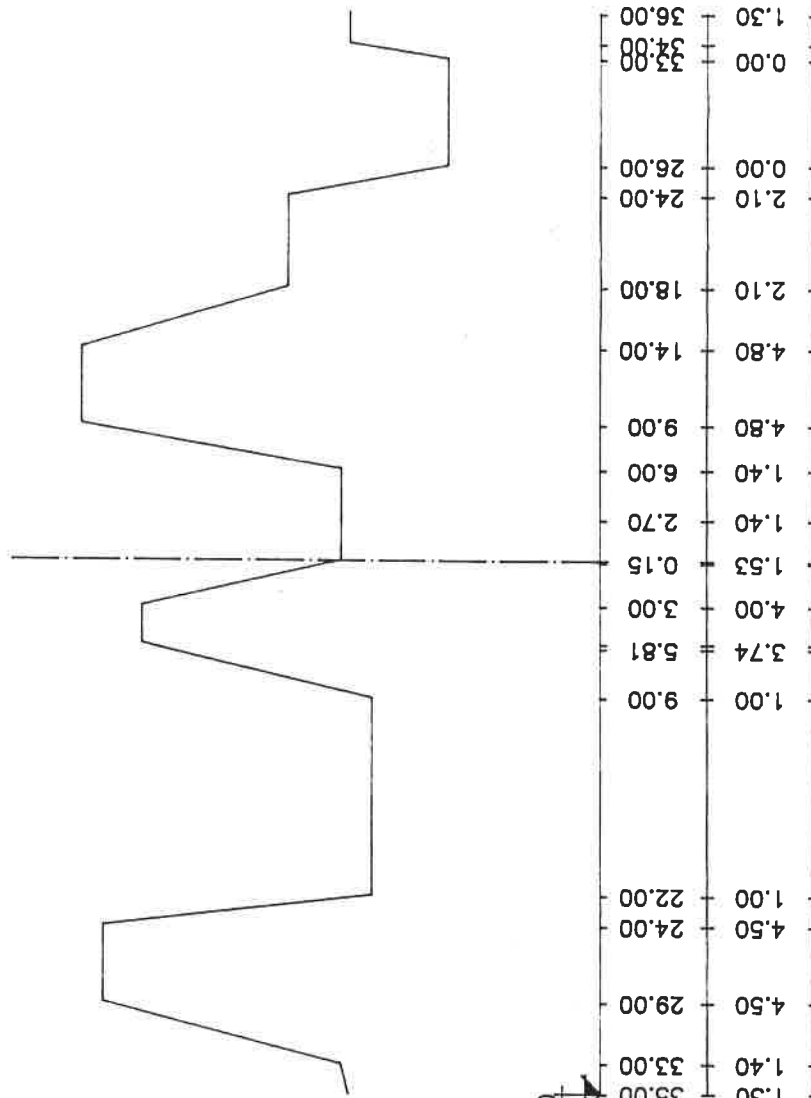
PERFIL 160 RIO PRANTO
 AREA DE ATERRO (m²) ..= 0.35
 AREA DE ESCAVACAO (m²) = 0.00

M.E.



PERFIL 165 RIO PRANTO
 AREA DE ATERRO (m²) .. = 0.00
 AREA DE ESCAVACAO (m²) = 0.00

M.E.



ESCALAS

V=1:100

H=1:500

-2.00

DISTANCIAS AO EIXO (m)	COTAS DO TERRENO (m)	1.30	1.40	33.00	29.00	4.50	24.00	1.00	9.00	5.81	3.00	1.53	2.70	1.40	6.00	4.80	9.00	4.80	14.00	2.10	18.00	24.00	0.00	33.00	36.00
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DISTANCIAS AO EIXO (m)	COTAS DA VALA REGULARIZADA (m)
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PERFIL 170 RIO PRATO

AREA DE ATERRO (m2) .. = 0.00

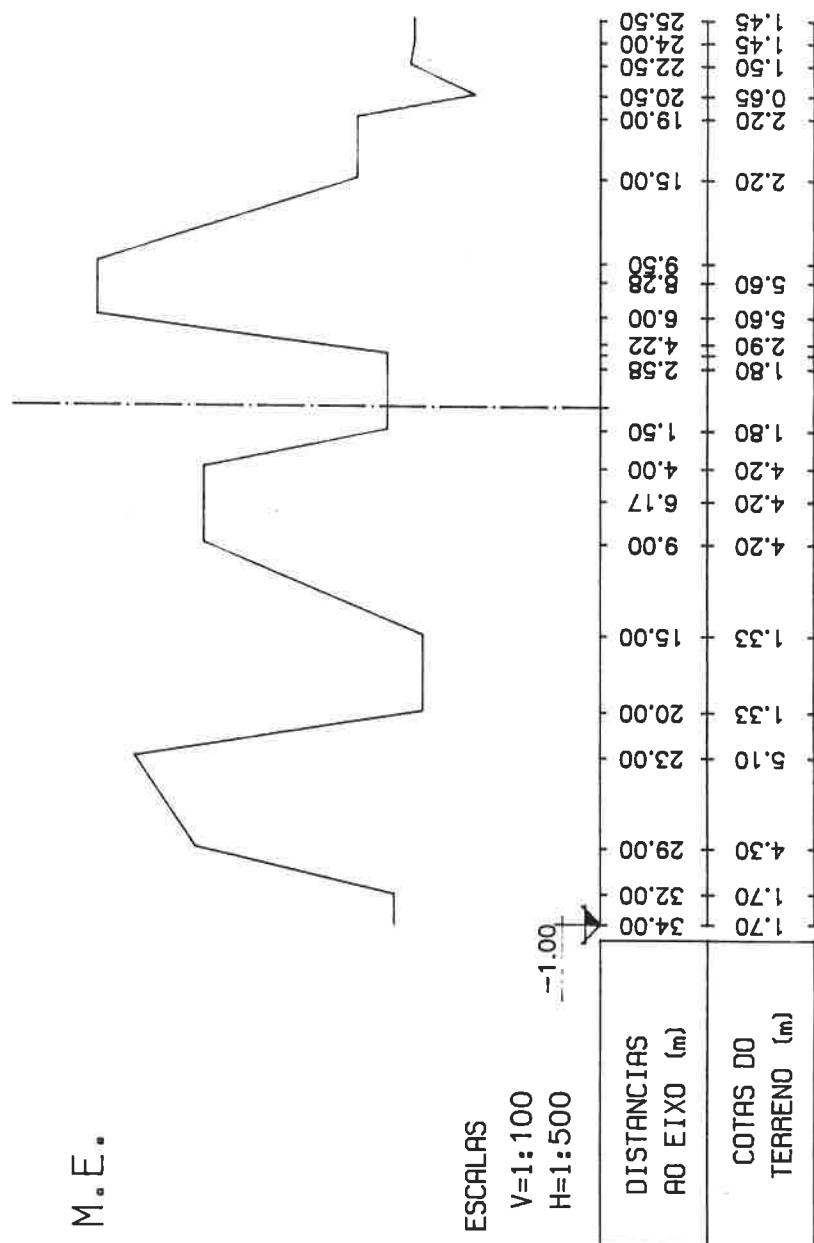
AREA DE ESCAVACAO (m2) = 0.00

M. E.

ESCALAS

$V=1:100$

H=1:500



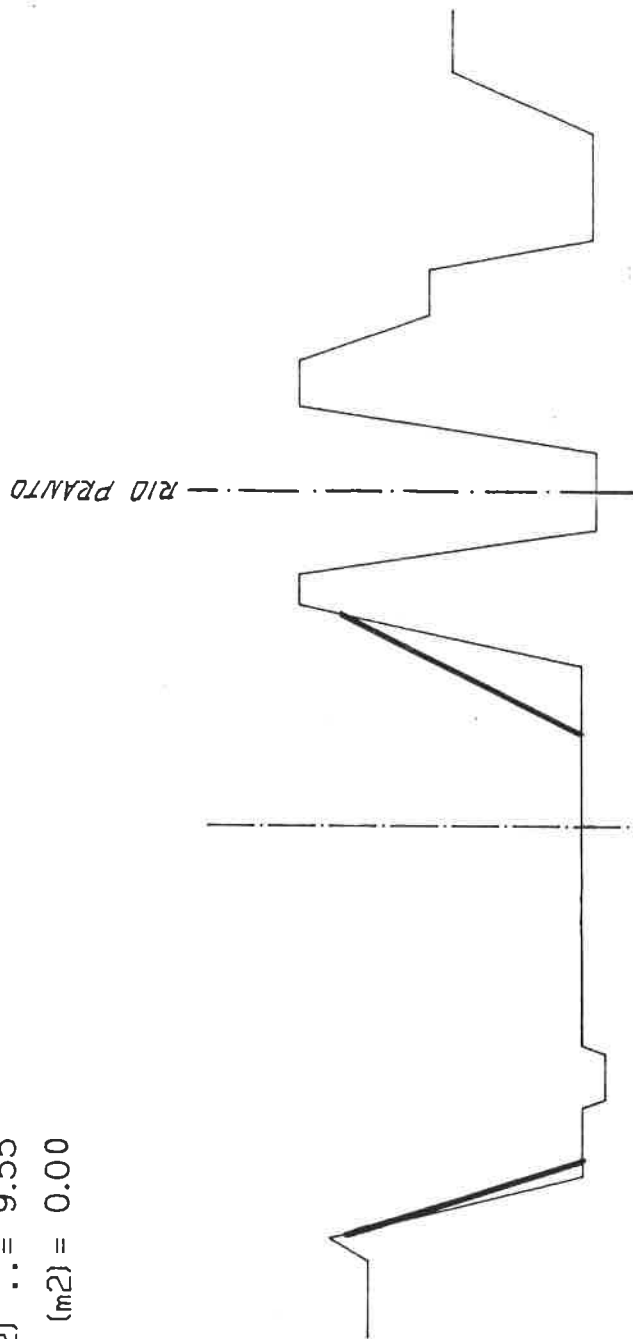
COTAS DO TERRENO (m)		DISTANCIAS AO EIXO (m)	
1.70	34.00	1.70	32.00
4.30	29.00	1.70	29.00
5.10	23.00	1.33	20.00
1.33	15.00	1.33	15.00
4.20	9.00	9.00	6.17
4.20	4.00	4.00	1.50
1.80	2.58	4.22	6.00
5.60	9.28	9.50	15.00
2.20	19.00	2.20	25.50
2.20	20.50	2.20	22.50
0.65	24.00	0.65	25.50
1.50	1.45	1.50	1.45
1.45	1.45	1.45	1.45

DISTANCIAS AO EIXO (m)	COTAS DA VALA REGULARIZADA (m)
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PERFIL 173 RIO PRANTO
AREA DE ATERRO (m²) .. = 9.55
AREA DE ESCAVACAO (m²) = 0.00

M.E.



ESCALAS

V=1:100

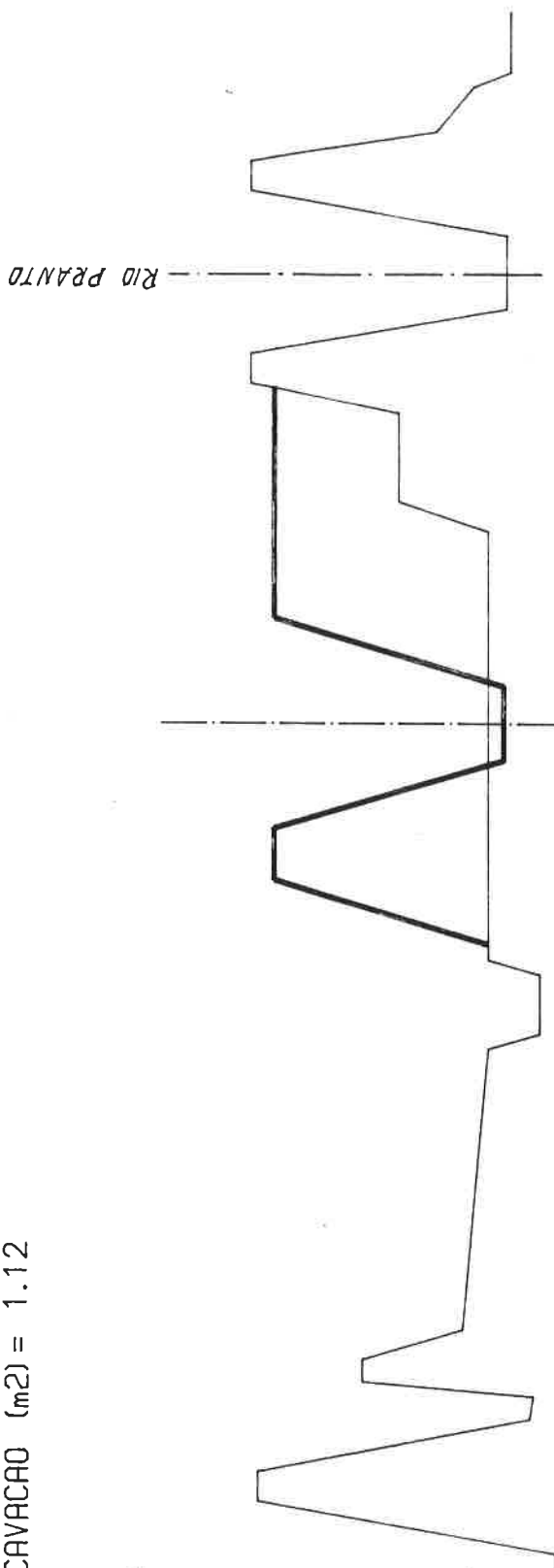
H=1:500

-1.00

DISTANCIAS AO EIXO (m)	COTAS DO TERRENO (m)	DISTANCIAS AO EIXO (m)	COTAS DA VALA REGULARIZADA (m)
33.50	4.60	4.99	27.00
28.50	5.06	1.80	22.00
27.11	1.80	1.80	1.80
23.00	1.80	6.00	4.99
18.50	1.80	10.50	14.00
15.00	1.50	13.91	
		16.50	
		19.50	
		24.50	
		27.50	
		30.50	
		33.50	
		36.50	
		38.50	
		45.50	
		49.50	
		53.50	

PERFIL 175 RIO PRANTO
 AREA DE ATERRO (m²) .. = 61.68
 AREA DE ESCAVACAO (m²) = 1.12

M.E.



ESCALAS

V=1:100

H=1:500

-1.00

DISTANCIAS AO EIXO (m)	COTAS DO TERRENO (m)
57.00	1.40
52.50	5.40
50.50	5.40
47.00	1.75
45.50	1.70
43.00	4.00
41.00	2.65
22.00	2.30
17.00	1.60
16.98	16.98
2.82	2.30
2.82	2.30
2.50	2.30
7.14	5.18
2.82	2.30
2.09	2.09
7.14	5.18
22.68	5.18
21.00	3.50
22.68	5.18
25.00	5.50
28.00	2.05
33.00	2.05
35.72	5.18
38.00	5.50
40.00	3.00
43.00	2.50
48.00	2.00

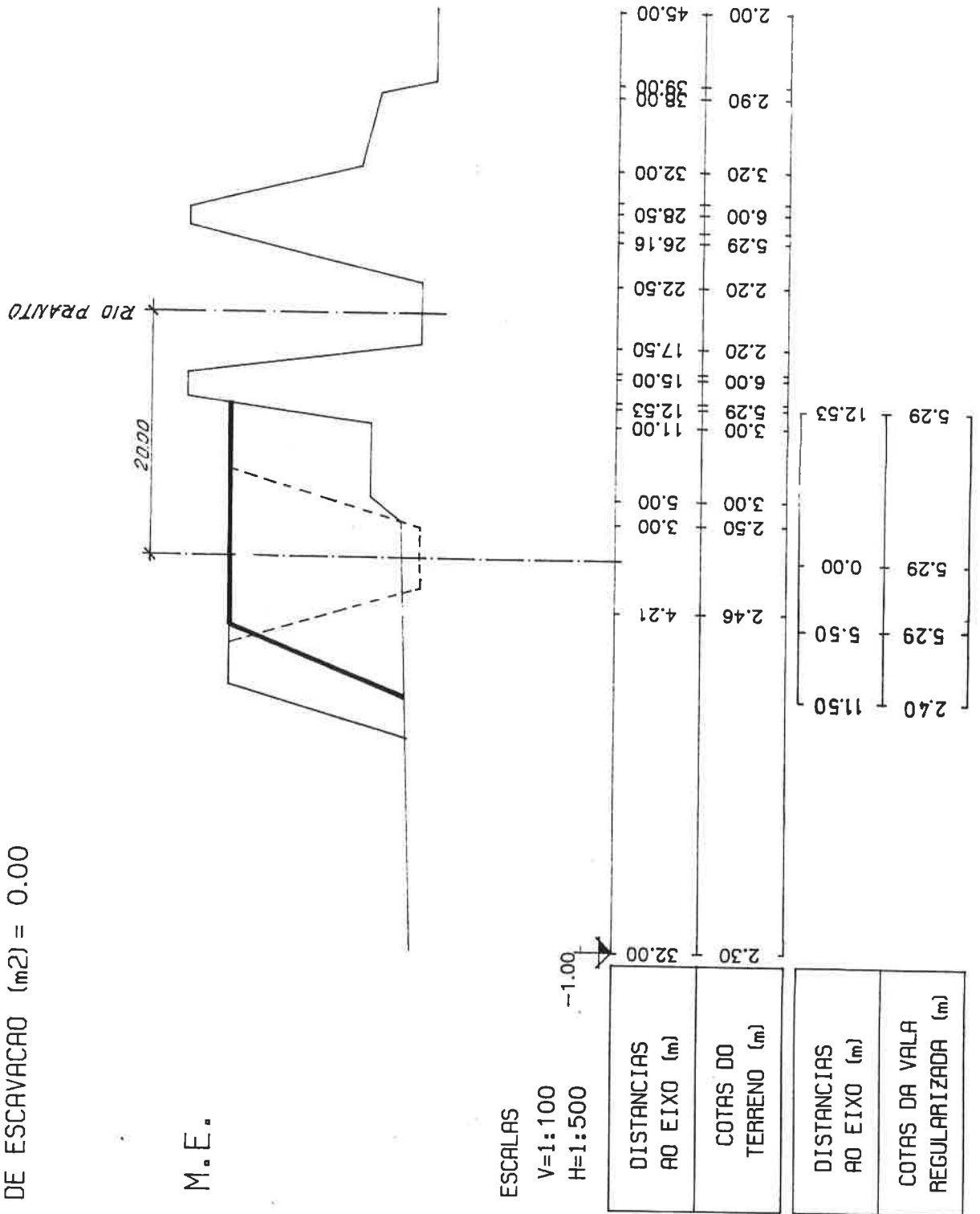
DISTANCIAS AO EIXO (m)	COTAS DA VALA REGULARIZADA (m)
14.96	2.30
10.64	5.18
7.14	5.18
2.82	2.30
2.50	2.09
7.14	5.18
22.68	5.18

PERFIL 177 RIO PRANTO

AREA DE ATERRO (m²) .. = 51.00

AREA DE ESCAVACAO (m²) = 0.00

M.E.



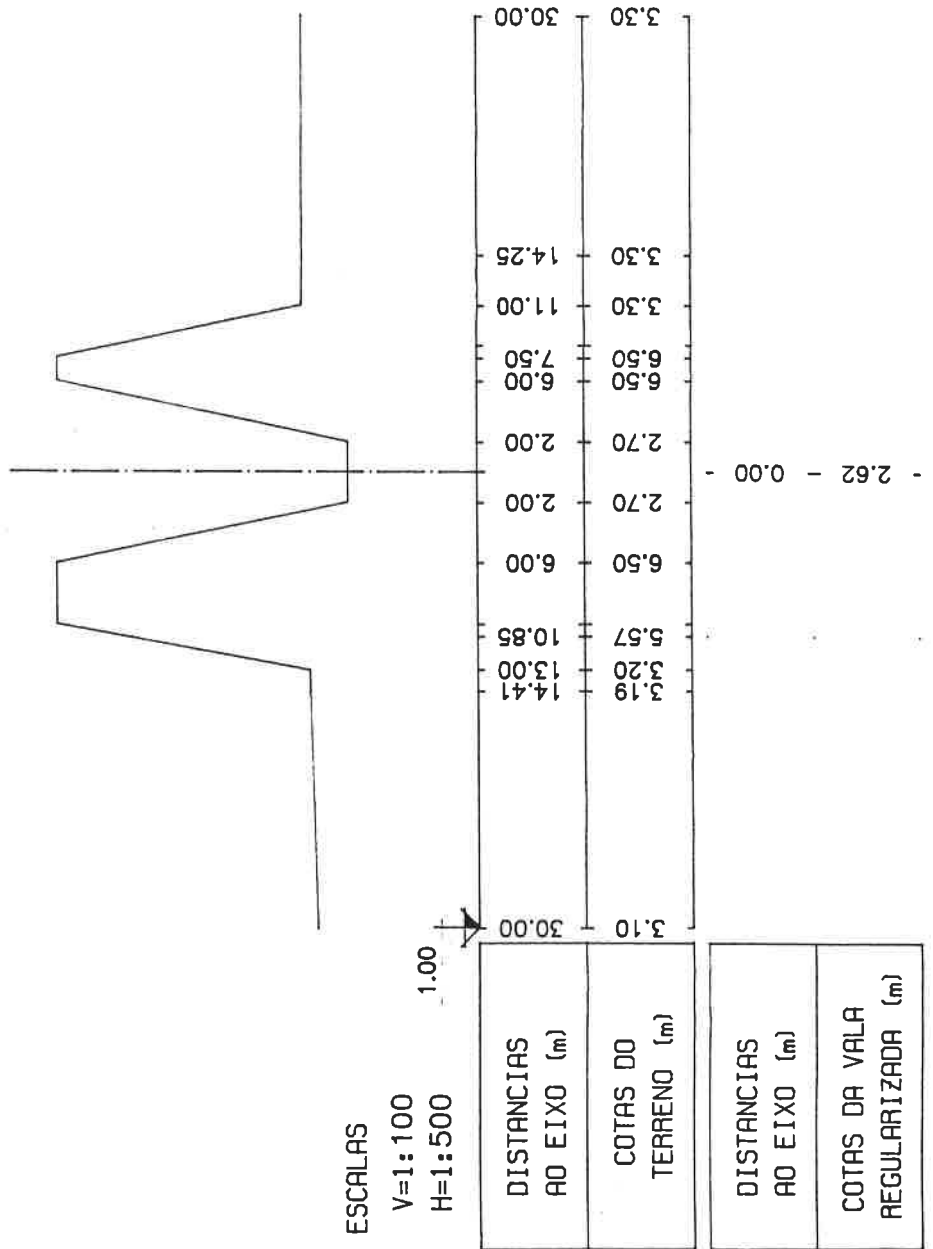


PERFIL 180 RIO PRANTO

AREA DE ATERRO (m2) .. = 0.00

AREA DE ESCAVACAO (m2) = 0.00

M.E.



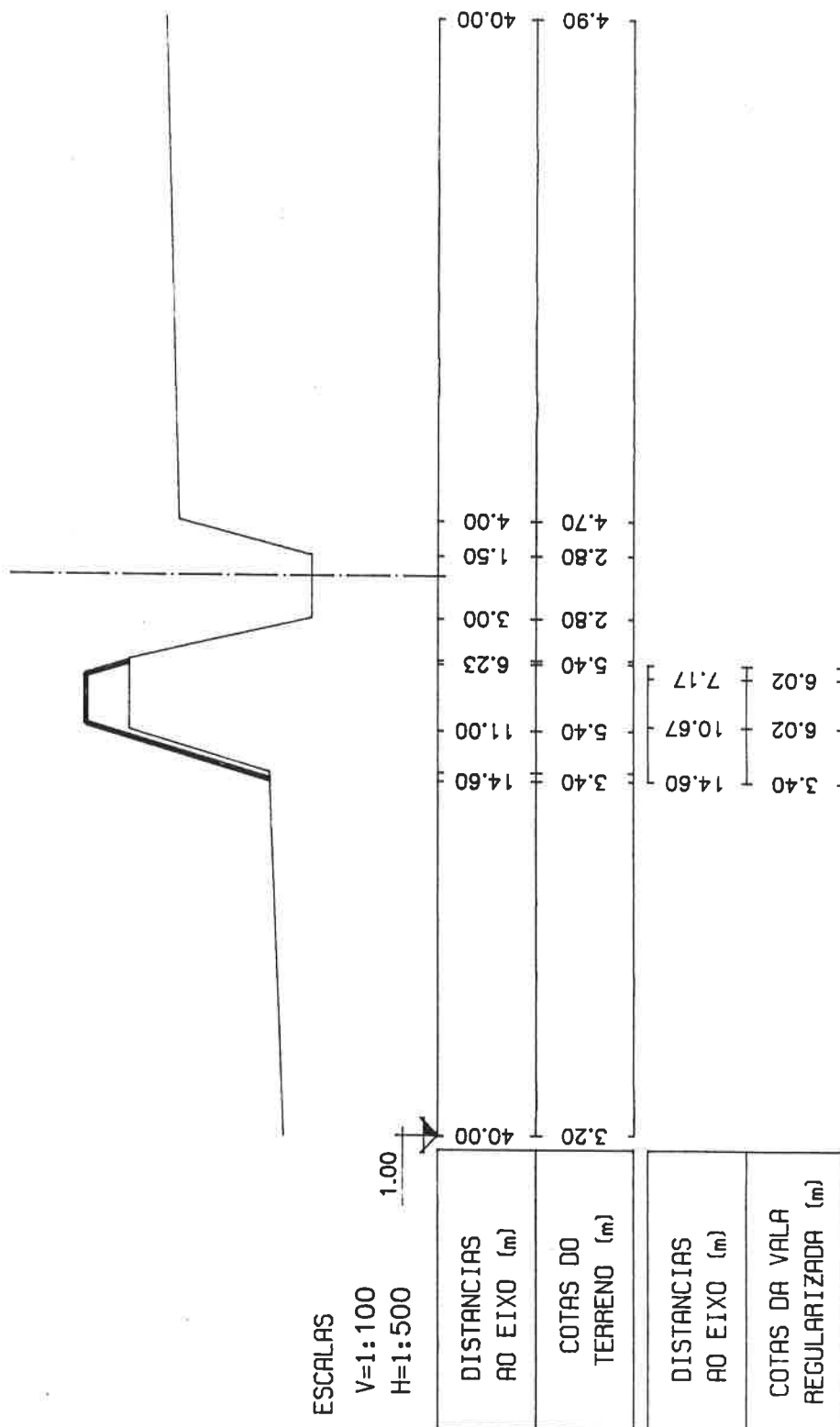


PERFIL 185 RIO PRANTO

AREA DE ATERRO (m²) .. = 3.94

AREA DE ESCAVACAO (m²) = 0.00

M.E.

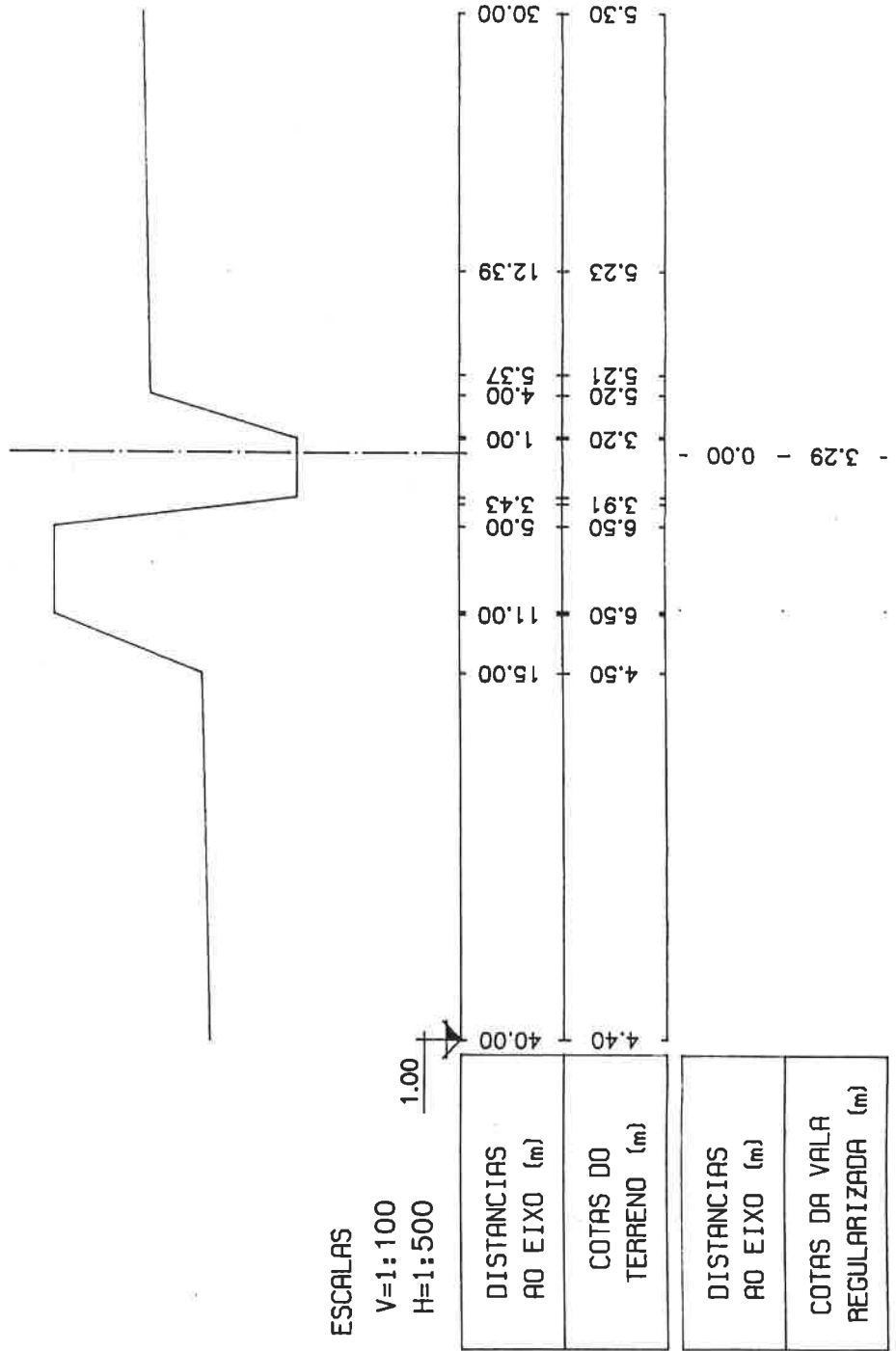


PERFIL 190 RIO PRANTO

AREA DE ATERRO (m²) .. = 0.00

AREA DE ESCAVACAO (m²) = 0.00

M.E.



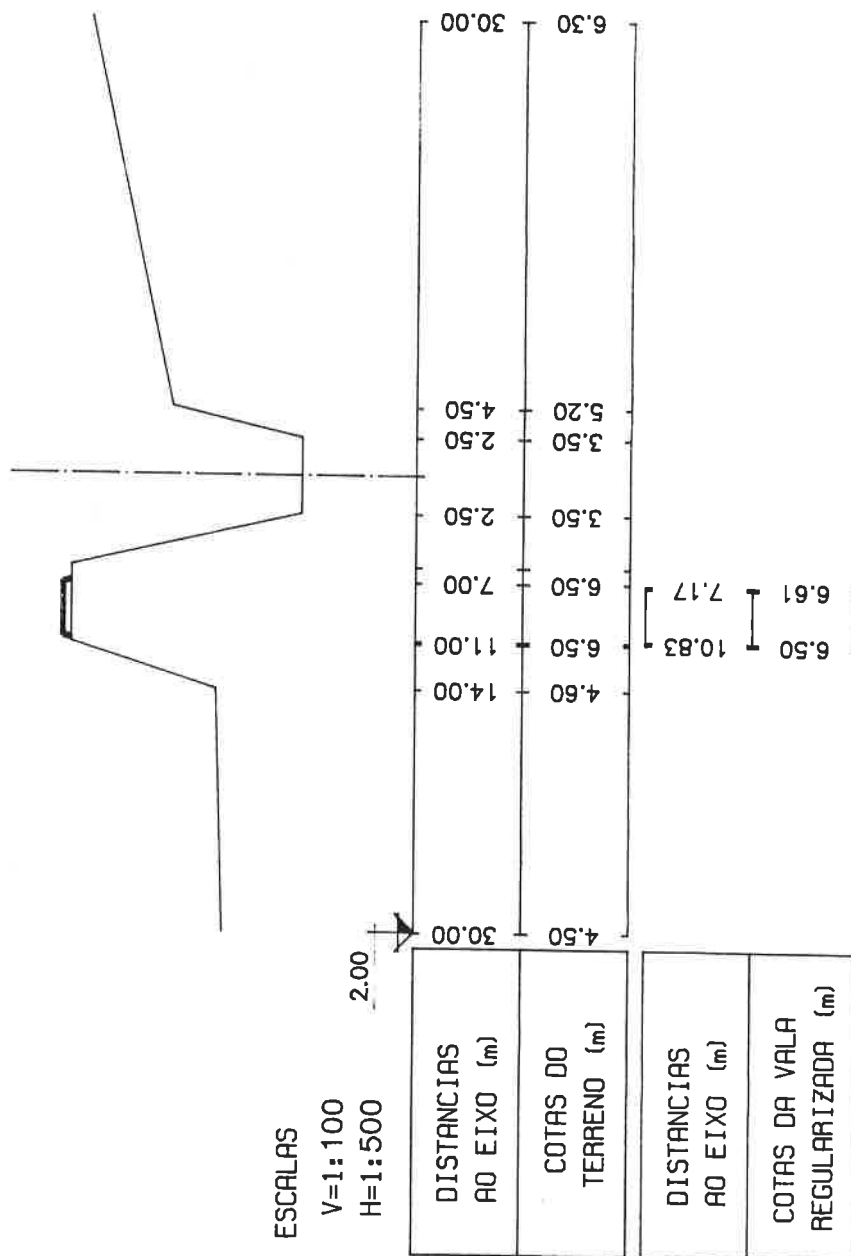


PERFIL 195 RIO PRANTO

AREA DE ATERRO (m²) = 0.40

AREA DE ESCAVACAO (m²) = 0.00

M.E.

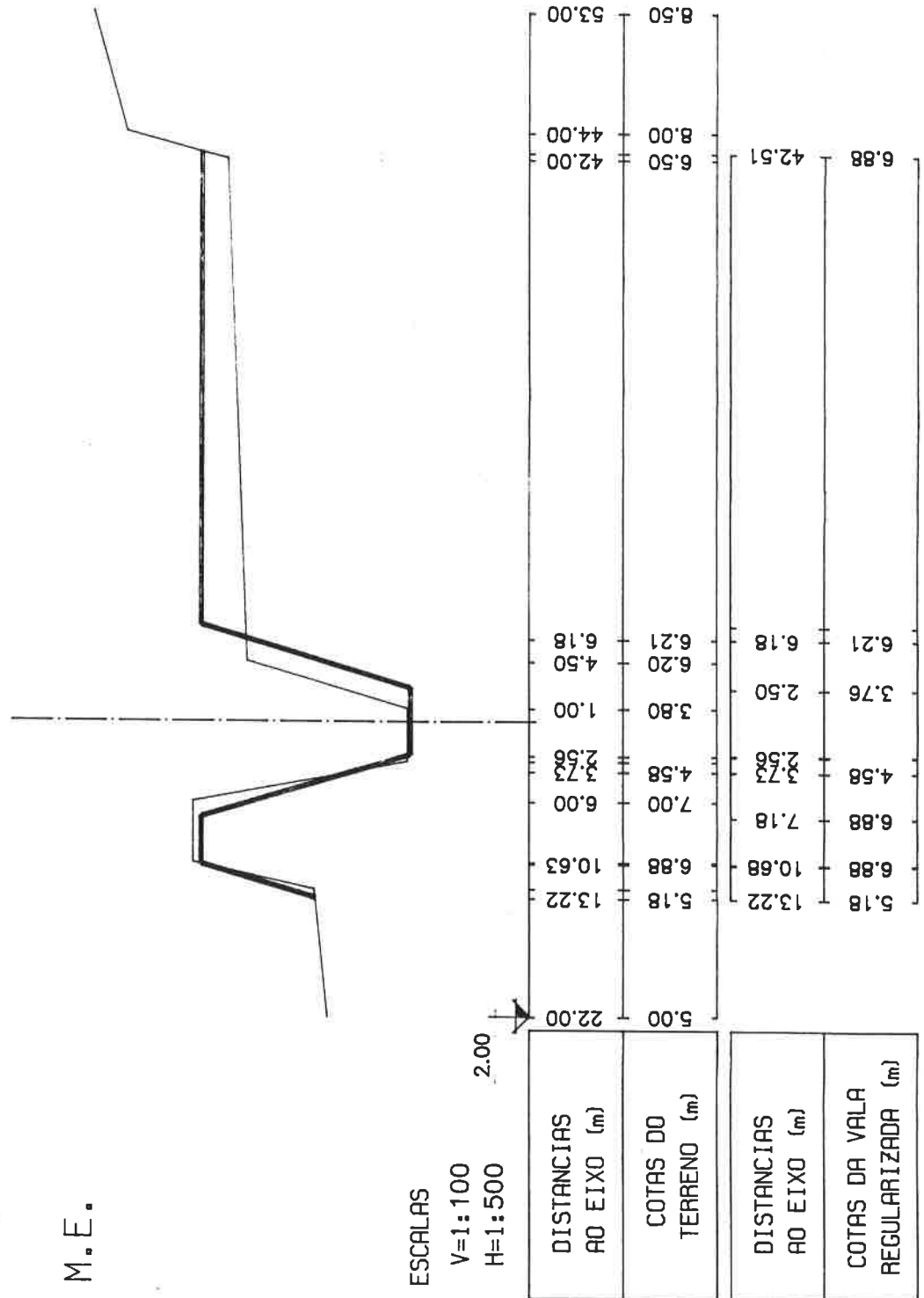


PERFIL 198 RIO PRANTO

AREA DE ATERRO (m²) ..= 19.31

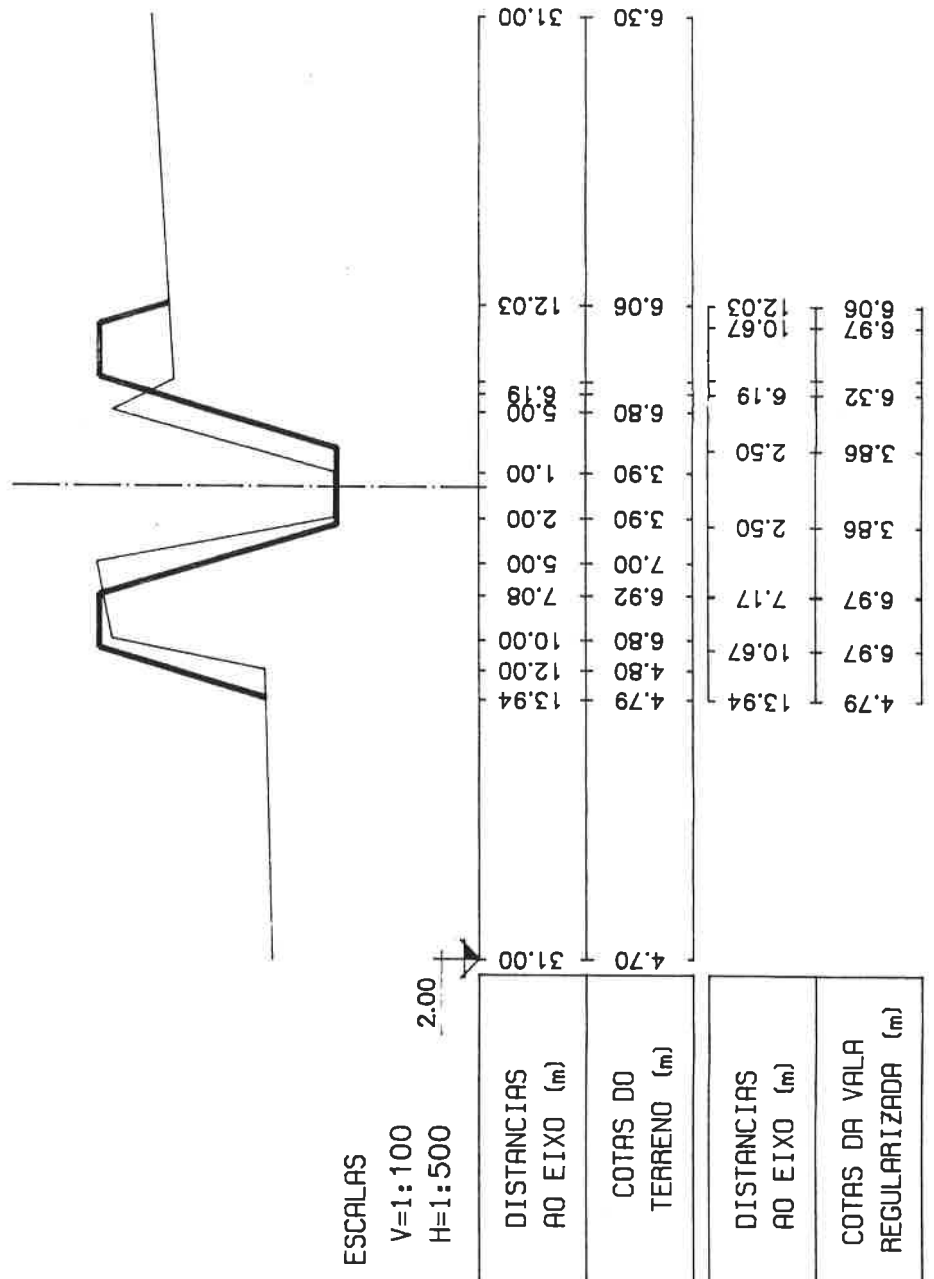
AREA DE ESCAVACAO (m²) = 6.12

M.E.



PERFIL 200 RIO PRANTO
 AREA DE ATERRO (m²) ..= 7.75
 AREA DE ESCAVACAO (m²) = 8.98

M.E.

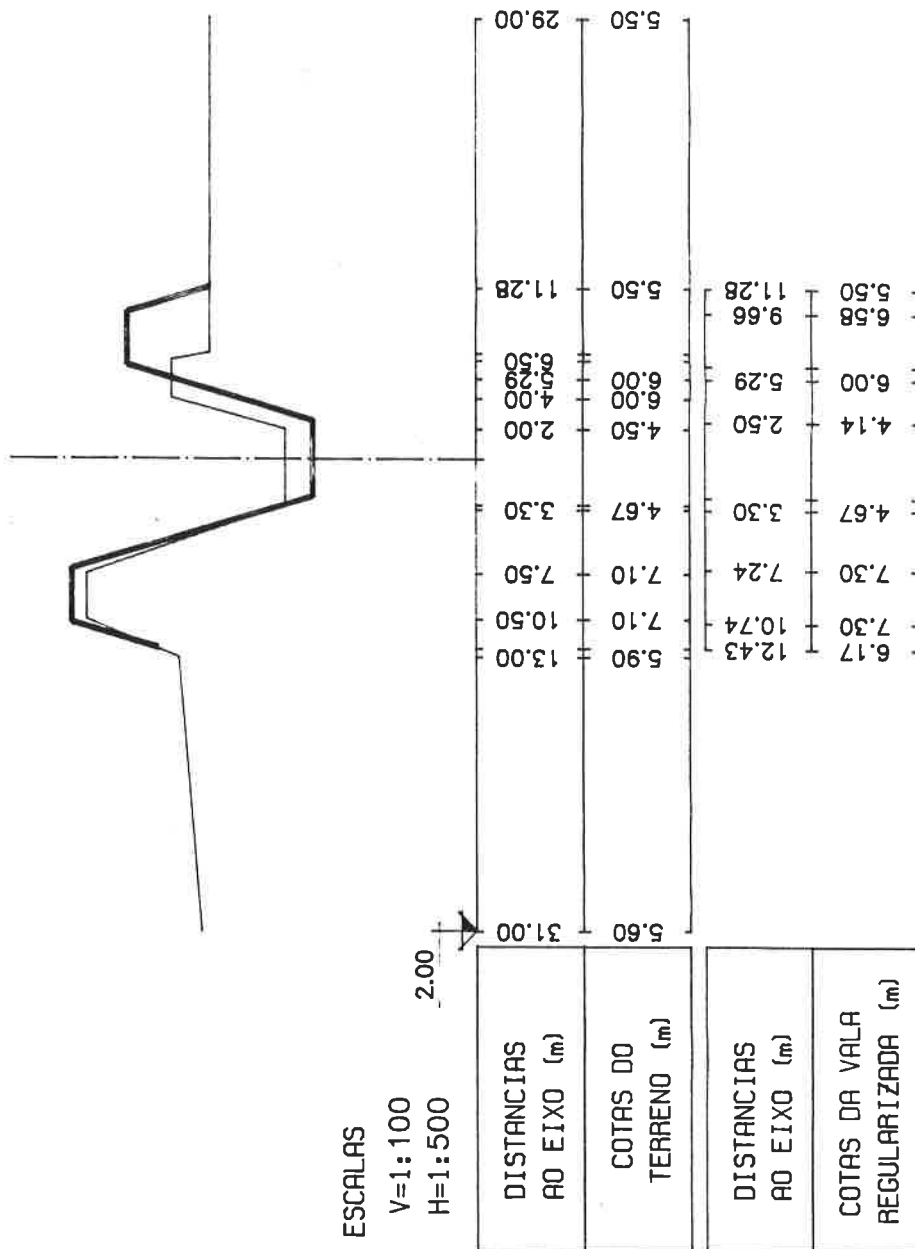


PERFIL 205 RIO PRANTO

AREA DE ATERRO (m²) ..= 6.30

AREA DE ESCAVACAO (m²) = 3.75

M.E.

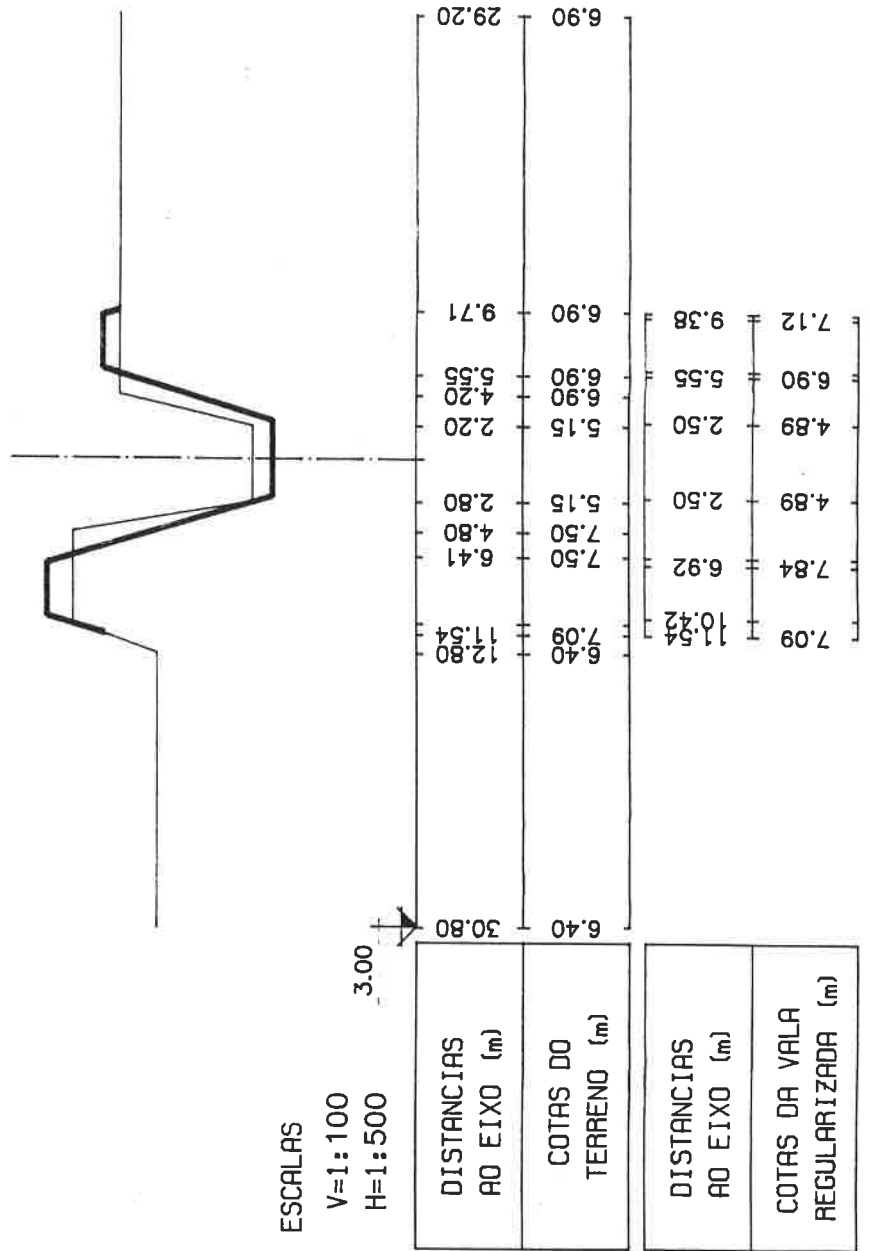


PERFIL 210 RIO PRANTO

AREA DE ATERRO (m²) .. = 2.23

AREA DE ESCAVACAO (m²) = 5.19

M.E.

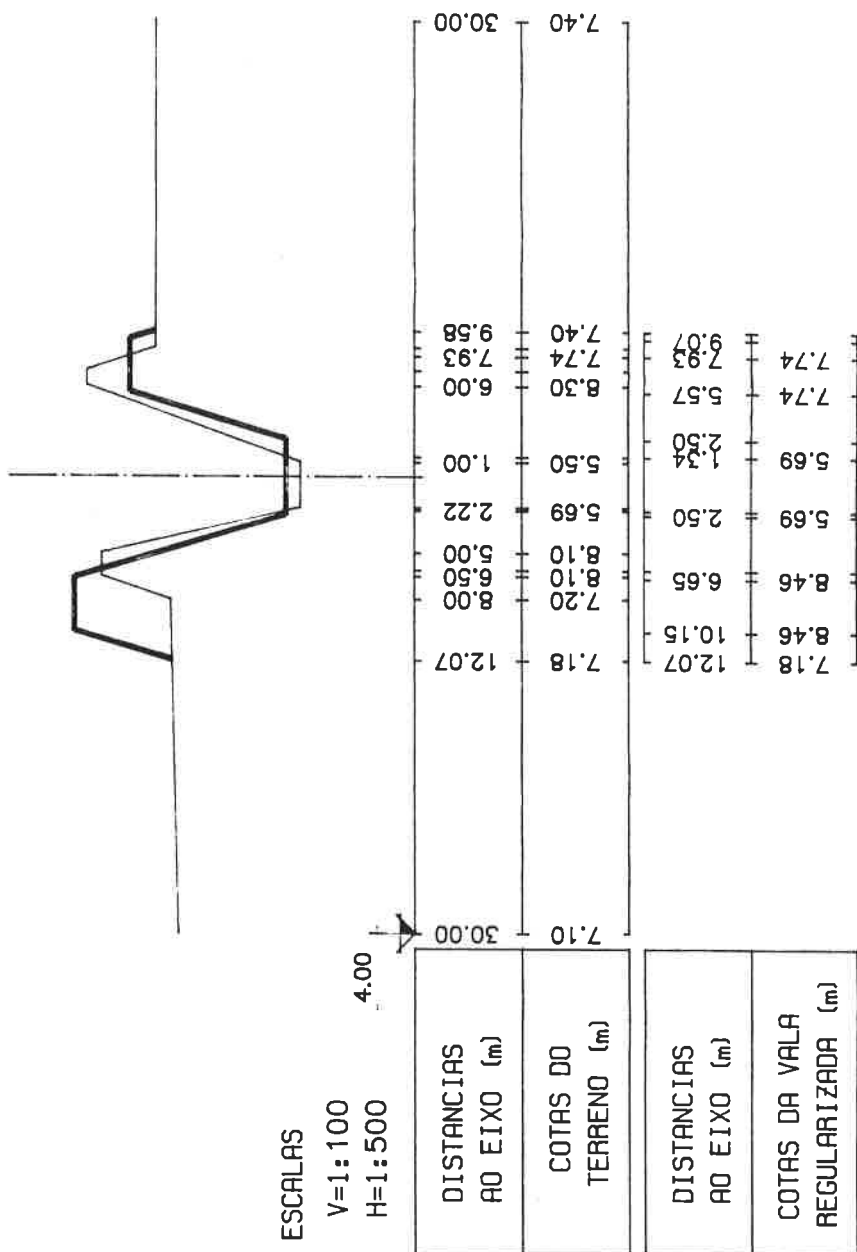


PERFIL 215 RIO PRANTO

AREA DE ATERRO (m²) .. = 6.20

AREA DE ESCAVACAO (m²) = 4.55

M.E.

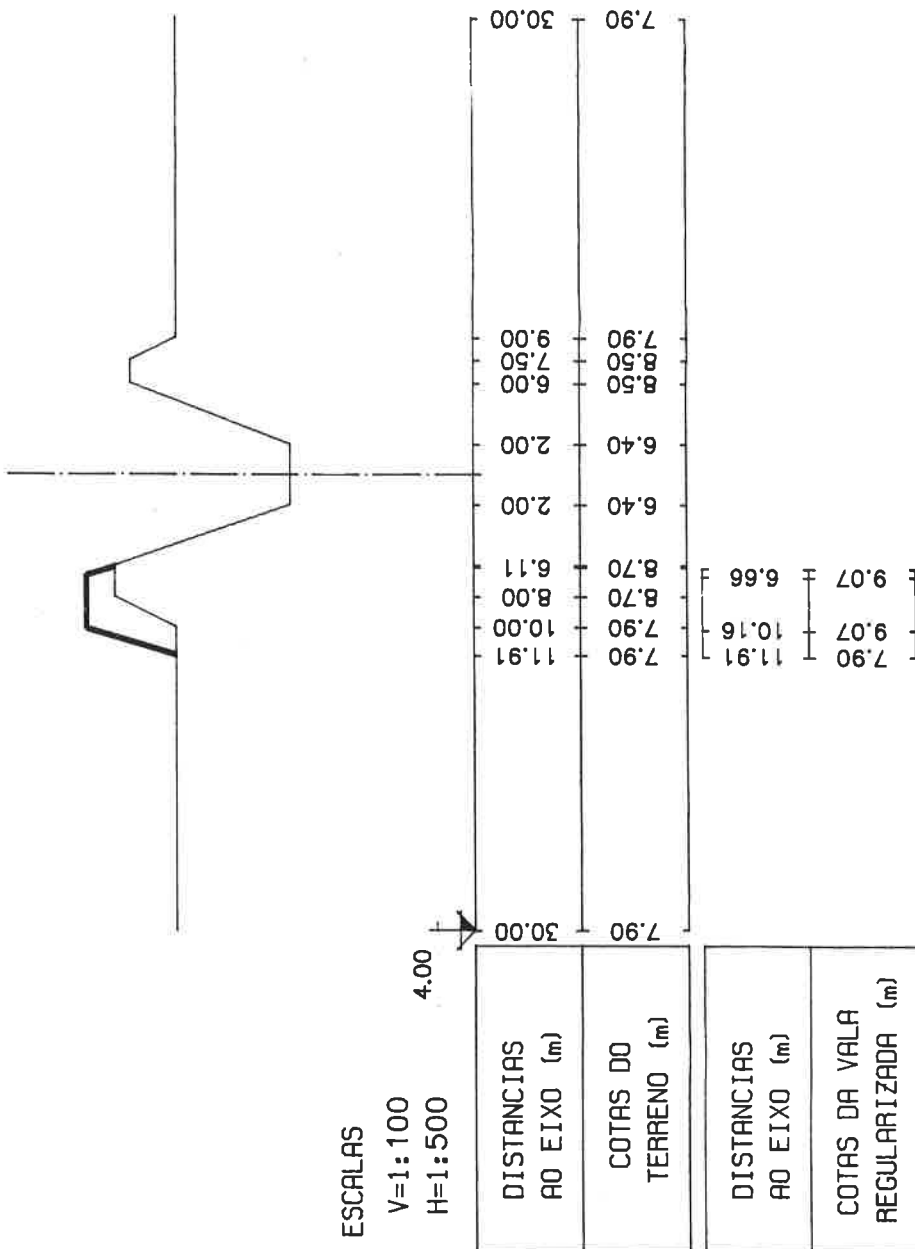


PERFIL 220 RIO PRANTO

AREA DE ATERRO (m²) ..= 3.35

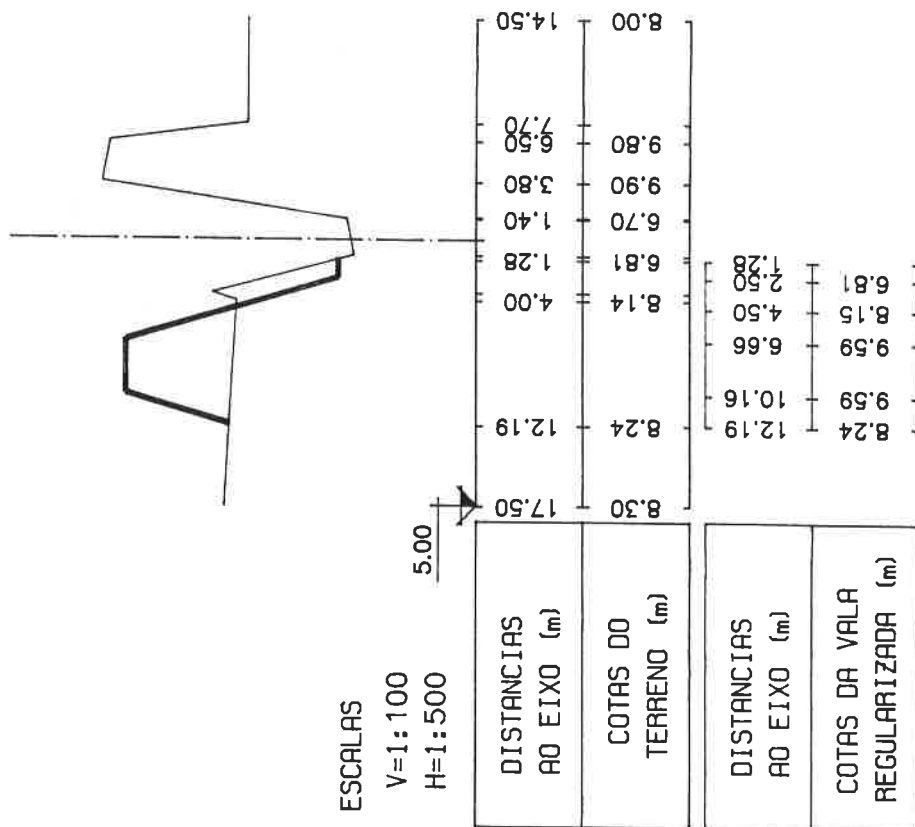
AREA DE ESCAVACAO (m²) = 0.00

M.E.



PERFIL 225 RIO PRANTO
 AREA DE ATERRO (m²) ..= 5.92
 AREA DE ESCAVACAO (m²) = 0.00

M.E.

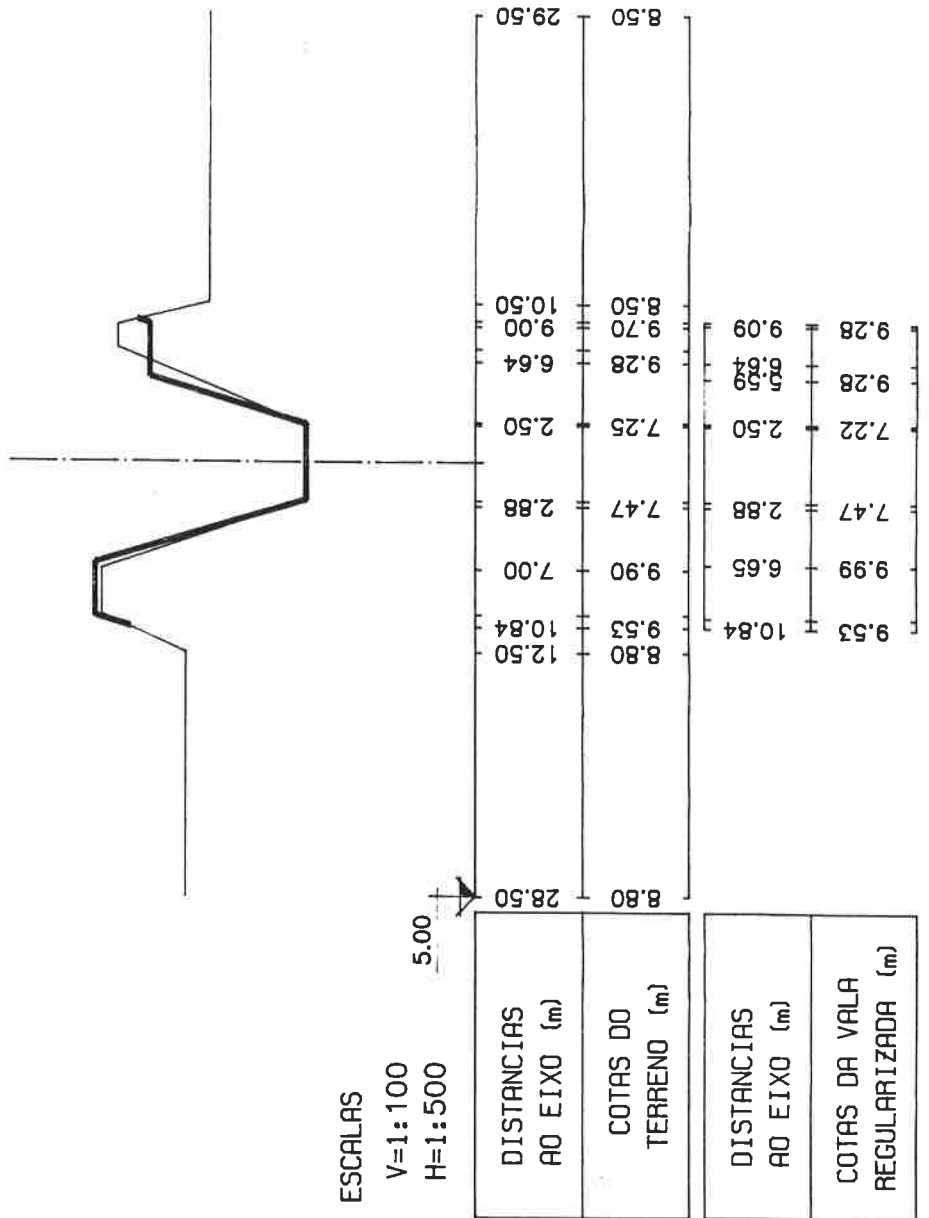


PERFIL 228 RIO PRANTO

AREA DE ATERRO (m²) .. = 1.99

AREA DE ESCAVACAO (m²) = 1.04

M.E.



PERFIL 229 RIO PRANTO
 AREA DE ATERRO (m²) = 15.92
 AREA DE ESCAVACAO (m²) = 5.18

M.E.

