

**ADMINISTRAÇÃO NACIONAL DE ESTRADAS
REPÚBLICA DE MOÇAMBIQUE**

**O ESTUDO PREPARATÓRIO
SOBRE
PLANO DE MELHORAMENTO DA ESTRADA
NO CORREDOR DE DESENVOLVIMENTO DE NACALA
(N13: CUAMBA-MANDIMBA-LICHINGA)
NA
REPÚBLICA DE MOÇAMBIQUE**

**RELATÓRIO FINAL
3 de 3
Desenhos**

Secção Cuamba-Mandimba

Fevereiro de 2010

AGÊNCIA JAPONESA DE COOPERAÇÃO INTERNACIONAL

Eight - Japan Engineering Consultants Inc.

Oriental Consultants Co., Ltd.

Mapa da Localização

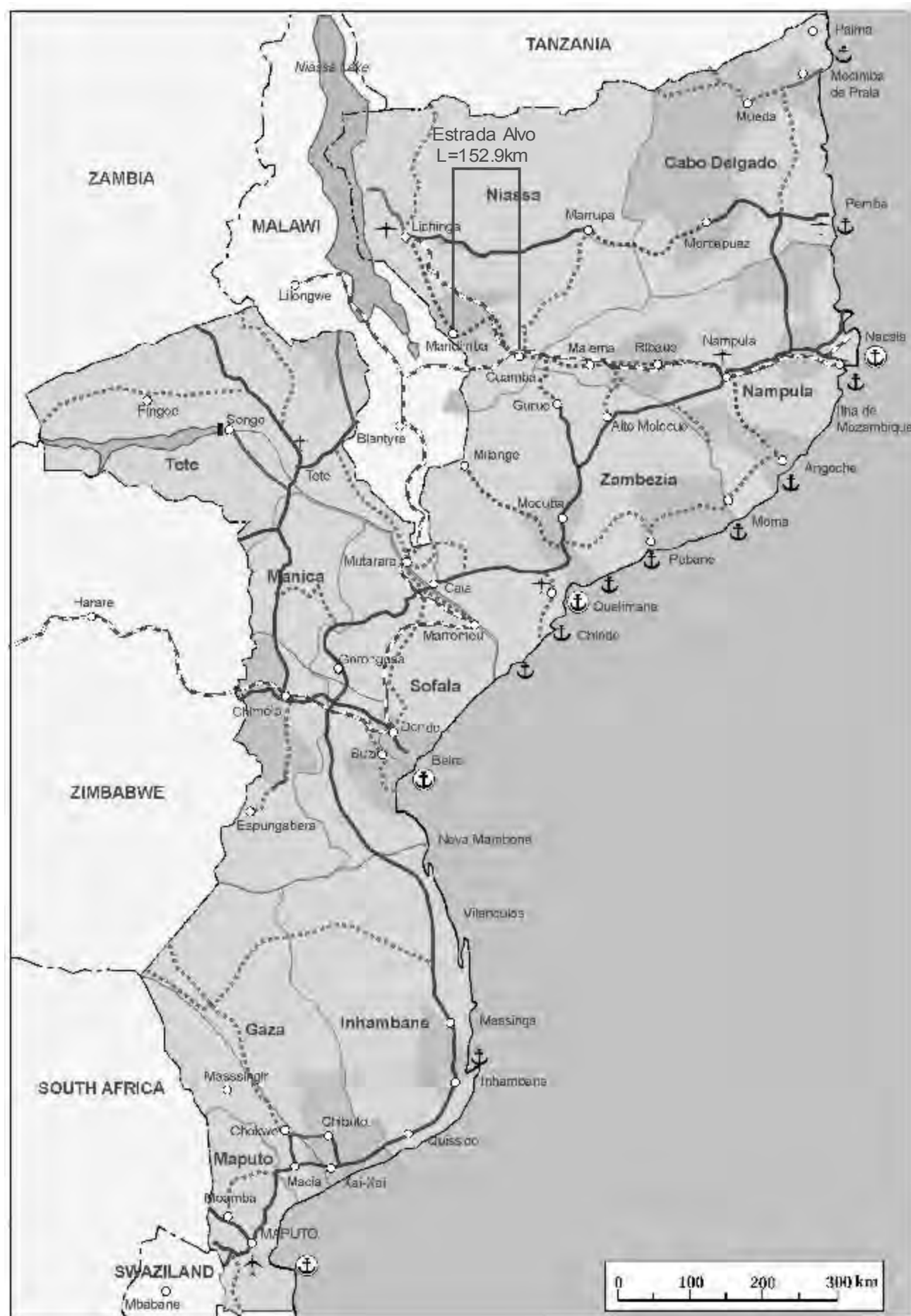
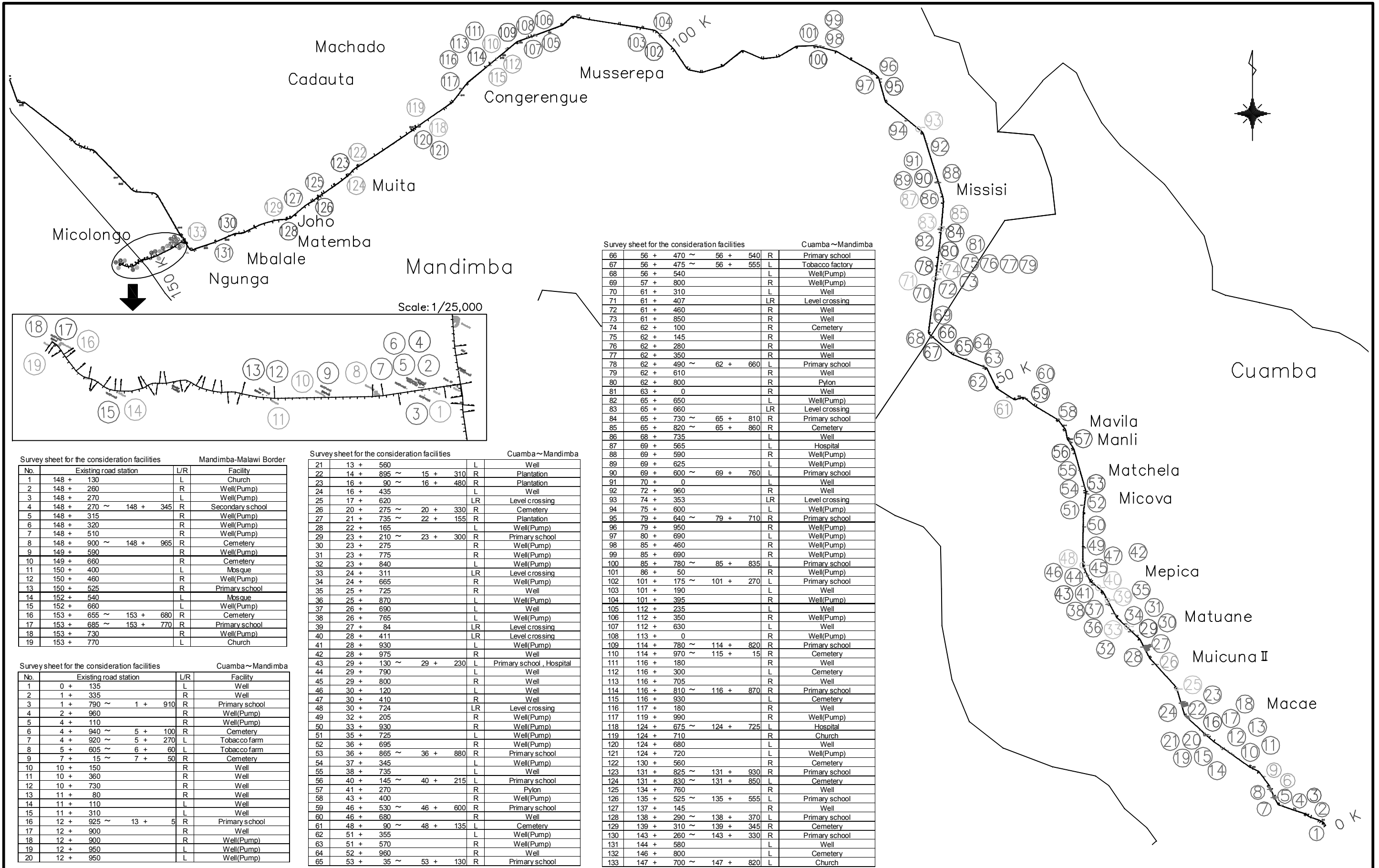


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Survey sheet for the consideration facilities Mandimba-Malawi Border

No.	Existing road station	L/R	Facility
1	148 + 130	L	Church
2	148 + 260	R	Well(Pump)
3	148 + 270	L	Well(Pump)
4	148 + 270 ~ 148 + 345	R	Secondary school
5	148 + 315	R	Well(Pump)
6	148 + 320	R	Well(Pump)
7	148 + 510	R	Well(Pump)
8	148 + 900 ~ 148 + 965	R	Cemetery
9	149 + 590	R	Well(Pump)
10	149 + 660	R	Cemetery
11	150 + 400	L	Mosque
12	150 + 460	R	Well(Pump)
13	150 + 525	R	Primary school
14	152 + 540	L	Mosque
15	152 + 660	L	Well(Pump)
16	153 + 655 ~ 153 + 680	R	Cemetery
17	153 + 685 ~ 153 + 770	R	Primary school
18	153 + 730	R	Well(Pump)
19	153 + 770	L	Church

Survey sheet for the consideration facilities Cuamba~Mandimba

No.	Existing road station	L/R	Facility
21	13 + 560	L	Well
22	14 + 895 ~ 15 + 310	R	Plantation
23	16 + 90 ~ 16 + 480	R	Plantation
24	16 + 435	L	Well
25	17 + 620	LR	Level crossing
26	20 + 275 ~ 20 + 330	R	Cemetery
27	21 + 735 ~ 22 + 155	R	Plantation
28	22 + 165	L	Well(Pump)
29	23 + 210 ~ 23 + 300	R	Primary school
30	23 + 275	R	Well(Pump)
31	23 + 775	R	Well(Pump)
32	23 + 840	L	Well(Pump)
33	24 + 311	LR	Level crossing
34	24 + 665	R	Well(Pump)
35	25 + 725	R	Well
36	25 + 870	L	Well(Pump)
37	26 + 690	L	Well
38	26 + 765	L	Well(Pump)
39	27 + 84	LR	Level crossing
40	28 + 411	LR	Level crossing
41	28 + 930	L	Well(Pump)
42	28 + 975	R	Well
43	29 + 130 ~ 29 + 230	L	Primary school, Hospital
44	29 + 790	R	Well
45	29 + 800	R	Well
46	30 + 120	L	Well
47	30 + 410	R	Well
48	30 + 724	LR	Level crossing
49	32 + 205	R	Well(Pump)
50	33 + 930	R	Well(Pump)
51	35 + 725	L	Well(Pump)
52	36 + 695	R	Well(Pump)
53	36 + 865 ~ 36 + 880	R	Primary school
54	37 + 345	L	Well(Pump)
55	38 + 735	L	Well
56	40 + 145 ~ 40 + 215	R	Primary school
57	41 + 270	R	Pylon
58	43 + 400	R	Well(Pump)
59	46 + 530 ~ 46 + 600	R	Primary school
60	46 + 680	R	Well
61	48 + 90 ~ 48 + 135	L	Cemetery
62	51 + 355	L	Well(Pump)
63	51 + 570	R	Well(Pump)
64	52 + 960	R	Well
65	53 + 35 ~ 53 + 130	R	Primary school

Survey sheet for the consideration facilities Cuamba~Mandimba

No.	Existing road station	L/R	Facility
66	56 + 470 ~ 56 + 540	R	Primary school
67	56 + 475 ~ 56 + 555	L	Tobacco factory
68	56 + 540	L	Well(Pump)
69	57 + 800	R	Well(Pump)
70	61 + 310	L	Well
71	61 + 407	LR	Level crossing
72	61 + 460	R	Well
73	61 + 850	R	Well
74	62 + 100	R	Cemetery
75	62 + 145	R	Well
76	62 + 280	R	Well
77	62 + 350	R	Well
78	62 + 490 ~ 62 + 660	L	Primary school
79	62 + 610	R	Well
80	62 + 800	R	Pylon
81	63 + 0	R	Well
82	65 + 650	L	Well(Pump)
83	65 + 660	LR	Level crossing
84	65 + 730 ~ 65 + 810	R	Primary school
85	65 + 820 ~ 65 + 860	R	Cemetery
86	68 + 735	L	Well
87	69 + 565	L	Hospital
88	69 + 590	R	Well(Pump)
89	69 + 625	L	Well(Pump)
90	69 + 600 ~ 69 + 760	L	Primary school
91	70 + 0	L	Well
92	72 + 960	R	Well
93	74 + 353	LR	Level crossing
94	75 + 600	L	Well(Pump)
95	79 + 640 ~ 79 + 710	R	Primary school
96	79 + 950	R	Well(Pump)
97	80 + 690	L	Well(Pump)
98	85 + 460	R	Well(Pump)
99	85 + 690	R	Well(Pump)
100	85 + 780 ~ 85 + 835	L	Primary school
101	86 + 50	R	Well(Pump)
102	101 + 175 ~ 101 + 270	L	Primary school
103	101 + 190	L	Well
104	101 + 395	R	Well(Pump)
105	112 + 235	L	Well
106	112 + 350	R	Well(Pump)
107	112 + 630	L	Well
108	113 + 0	R	Well(Pump)
109	114 + 780 ~ 114 + 820	R	Primary school
110	114 + 970 ~ 115 + 15	R	Cemetery
111	116 + 180	R	Well
112	116 + 300	L	Cemetery
113	116 + 705	R	Well
114	116 + 810 ~ 116 + 870	R	Primary school
115	116 + 930	L	Cemetery
116	117 + 180	R	Well
117	119 + 990	R	Well(Pump)
118	124 + 675 ~ 124 + 725	L	Hospital
119	124 + 710	R	Church
120	124 + 680	L	Well
121	124 + 720	L	Well(Pump)
122	130 + 560	R	Cemetery
123	131 + 825 ~ 131 + 930	R	Primary school
124	131 + 830 ~ 131 + 850	L	Cemetery
125	134 + 760	R	Well
126	135 + 525 ~ 135 + 555	L	Primary school
127	137 + 145	R	Well
128	138 + 290 ~ 138 + 370	L	Primary school
129	139 + 310 ~ 139 + 345	R	Cemetery
130	143 + 260 ~ 143 + 330	R	Primary school
131	144 + 580	L	Well
132	146 + 800	L	Cemetery
133	147 + 700 ~ 147 + 820	L	Church

Survey sheet for the consideration facilities Cuamba~Mandimba

No.	Existing road station	L/R	Facility
1	0 + 135	L	Well
2	1 + 335	R	Well
3	1 + 790 ~ 1 + 910	R	Primary school
4	2 + 960	R	Well(Pump)
5	4 + 110	R	Well(Pump)
6	4 + 940 ~ 5 + 100	R	Cemetery
7	4 + 920 ~ 5 + 270	L	Tobacco farm
8	5 + 605 ~ 6 + 60	L	Tobacco farm
9	7 + 15 ~ 7 + 50	R	Cemetery
10	10 + 150	R	Well
11	10 + 360	R	Well
12	10 + 730	R	Well
13	11 + 80	R	Well
14	11 + 110	L	Well
15	11 + 310	L	Well
16	12 + 925 ~ 13 + 5	R	Primary school
17	12 + 900	R	Well
18	12 + 900	R	Well(Pump)
19	12 + 950	L	Well(Pump)
20	12 + 950	L	Well(Pump)

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REMARKS:

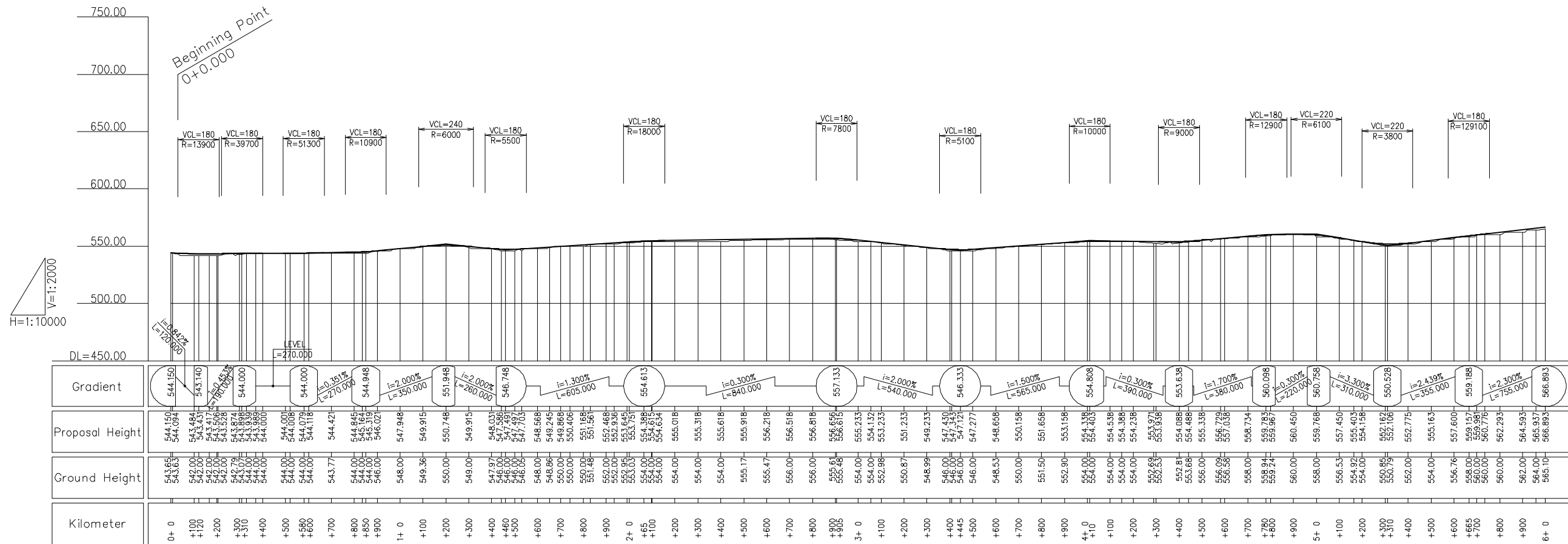
THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR (N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
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DRAWING TITLE: Location Map of the Consideration Facilities

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DATE		

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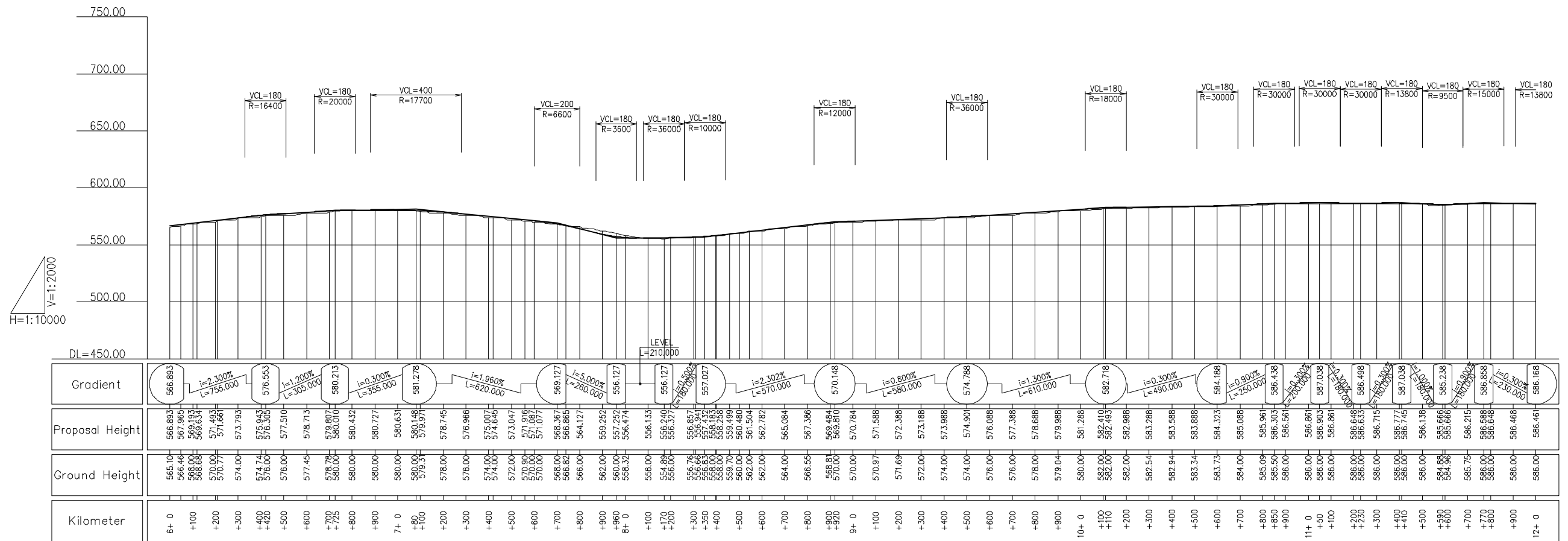
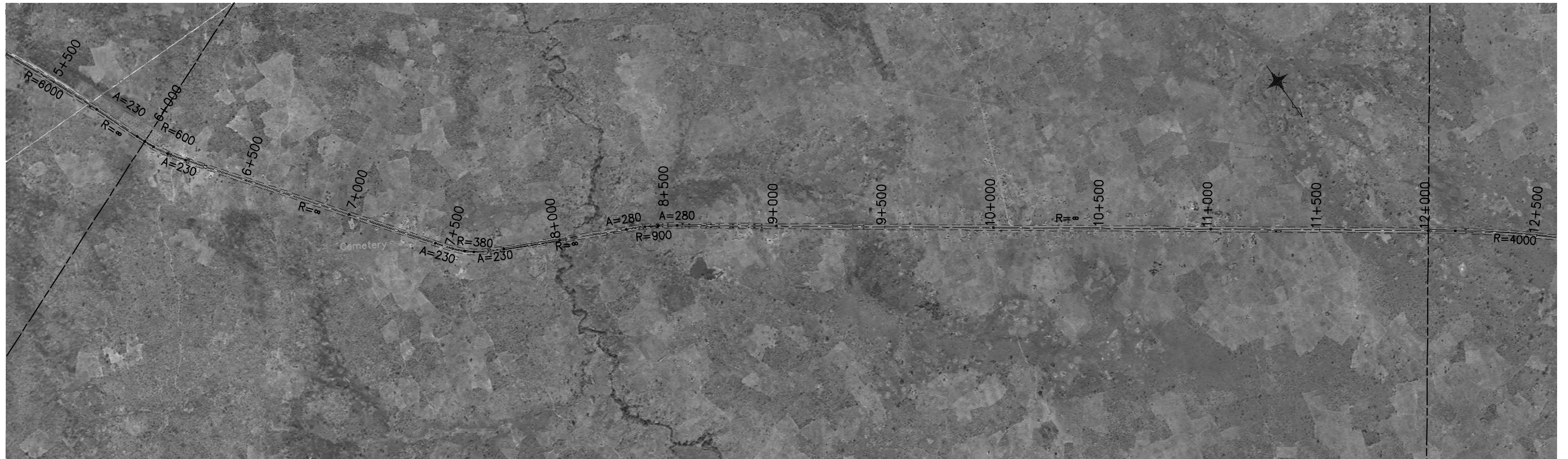
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THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR (N13: CUAMBA-MANDIMBA-LICHINGA)

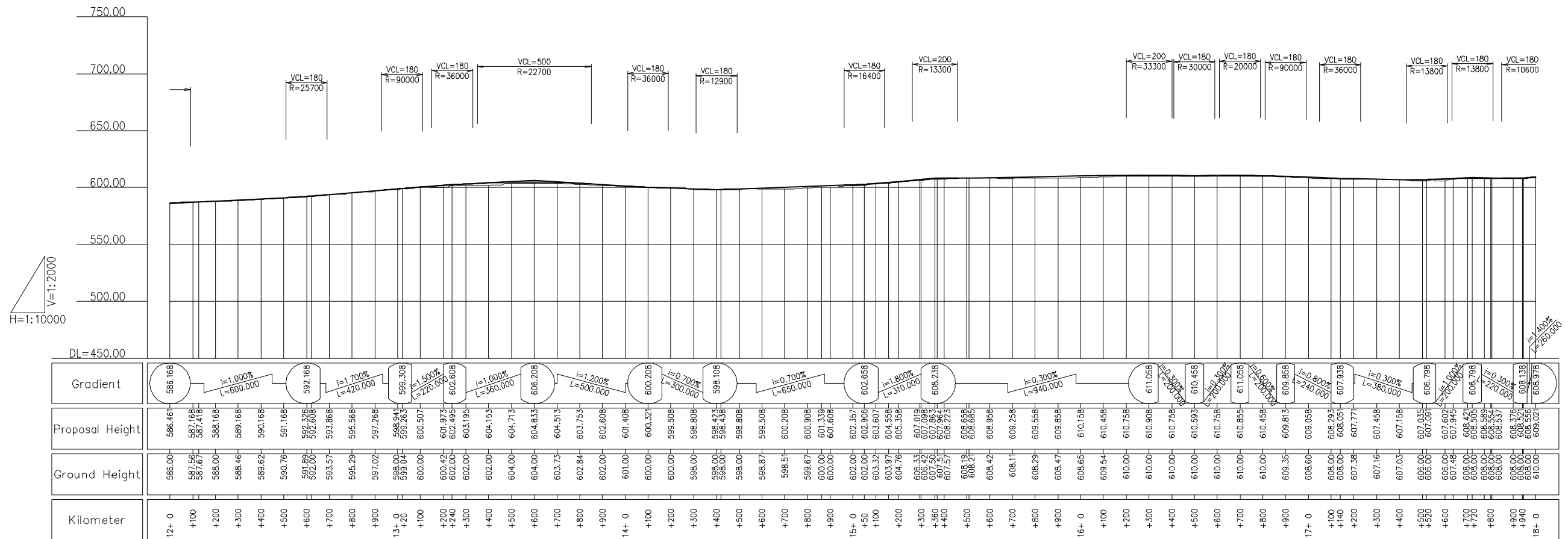
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Kilometer	Ground Height	Proposal Height	Gradient
12+0	586.00	586.46	586.168
+100	587.56	587.16	$i=1.000\%$ $L=600.000$
+200	588.00	588.168	592.168
+300	588.46	589.168	$i=1.700\%$ $L=420.000$
+400	589.62	590.168	598.941
+500	590.76	591.168	599.263
+600	591.86	592.608	$i=1.500\%$ $L=220.000$
+700	593.57	593.868	600.507
+800	595.29	595.568	601.973
+900	597.02	597.268	602.495
13+0	598.00	599.04	$i=1.000\%$ $L=360.000$
+100	600.00	600.507	603.195
+200	600.42	601.973	604.153
+300	602.00	602.495	604.713
+400	602.00	602.608	604.833
+500	604.00	604.713	604.513
+600	604.00	604.833	603.753
+700	603.73	604.513	$i=1.200\%$ $L=500.000$
+800	602.84	603.753	600.208
+900	602.00	602.608	$i=0.700\%$ $L=300.000$
14+0	601.00	601.408	598.108
+100	600.00	600.321	598.423
+200	600.00	599.508	598.438
+300	598.00	598.808	598.808
+400	598.00	598.808	599.508
+500	598.87	599.508	600.208
+600	598.87	600.208	600.908
+700	598.51	600.908	601.339
+800	599.67	600.000	601.608
+900	600.00	600.000	602.000
15+0	602.00	602.357	602.658
+50	602.00	602.906	$i=1.800\%$ $L=310.000$
+100	603.32	603.607	602.658
+200	603.97	604.558	607.019
+300	604.76	605.358	607.088
+400	606.33	607.019	607.964
+500	605.42	607.088	607.57
+600	607.57	608.223	608.238
+700	608.18	608.658	608.958
+800	608.21	608.658	609.258
+900	608.42	608.958	609.258
16+0	608.11	609.258	610.158
+100	608.29	609.558	610.458
+200	608.47	609.858	610.758
+300	608.65	610.158	610.908
+400	609.54	610.458	610.798
+500	610.00	610.758	610.593
+600	610.00	610.000	610.758
+700	610.00	610.855	611.058
+800	610.00	610.458	$i=0.300\%$ $L=940.000$
+900	609.35	609.813	611.058
17+0	608.60	609.098	610.858
+100	608.00	608.293	$i=0.800\%$ $L=240.000$
+200	608.00	608.051	607.938
+300	607.38	607.77	$i=0.300\%$ $L=360.000$
+400	607.16	607.458	606.798
+500	607.03	607.158	606.798
+600	606.00	607.035	$i=1.000\%$ $L=300.000$
+700	606.00	607.099	608.421
+800	606.00	607.945	608.505
+900	608.00	608.000	608.589
18+0	608.00	608.376	608.505
+100	608.00	608.505	608.505
+200	608.00	608.505	608.505
+400	608.00	608.505	608.505
+600	608.00	608.505	608.505
+800	608.00	608.505	608.505
+900	608.00	608.505	608.505
18+0	610.00	609.021	608.918

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REMARKS:

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Plan and Profile (3)

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