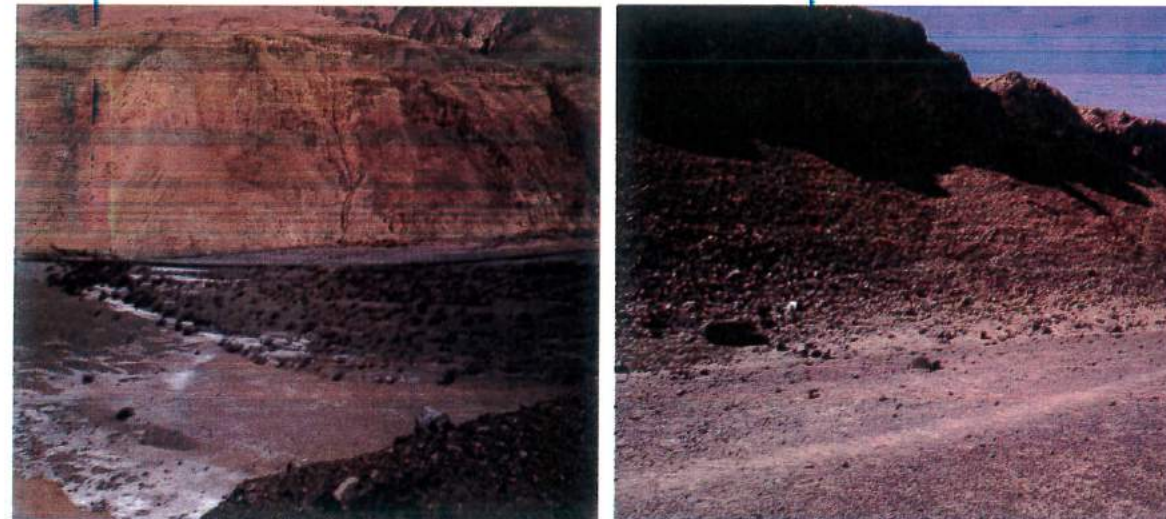




Consultancy Services for Preparation of Detailed Project Report for High Altitude Hill Roads under Phase-II in the State of Arunachal Pradesh using Satellite imagery & LiDAR technology (Package-II)



DETAILED PROJECT REPORT

PLAN & PROFILE

LADA BISAI ROAD



HIGHWAY ENGINEERING CONSULTANT

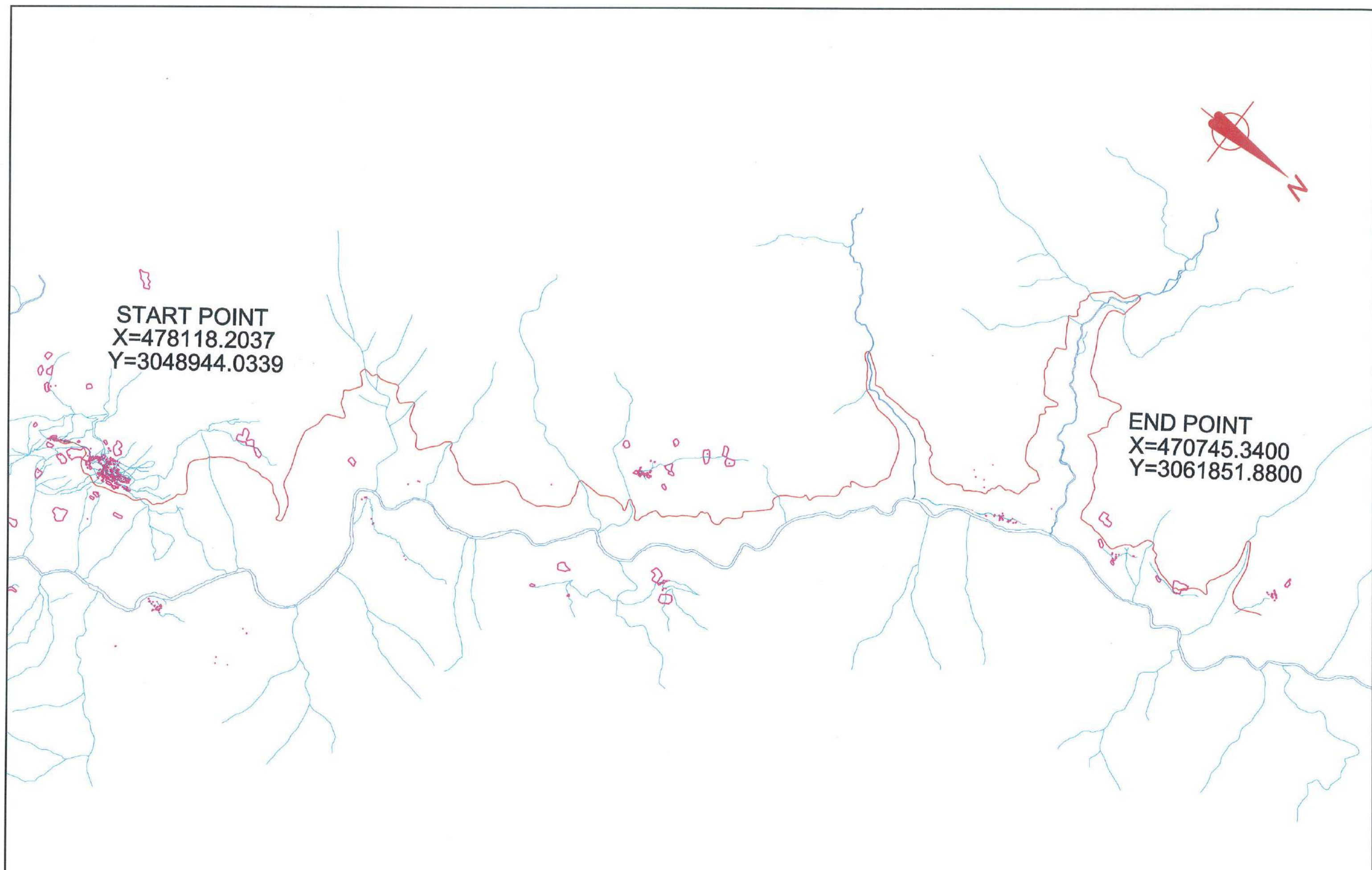
Head Office:-

**JM—89/C BEHIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P)**

Tel/Fax: 0755- 4236317

Email id:-hec_bhupal@rediffmail.com

WATER BODY
PLAN



NOTES:- 1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.	TITLE:- WATER BODY PLAN LADA - BISAI ROAD	 M/s HIGHWAY ENGINEERING CONSULTANT Head Office :- JM -89/C, BEHIND PANCHWATI MARKET SAKET NAGAR, BHOPAL (M.P) Tel/Fax : 0755-4236317			 CENTRAL PUBLIC WORKS DEPARTMENT	NAME OF WORK	CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY		
		YOGESH	M. S.	T.L.			REVISION R1	APRIL-2018	SIZE -A3
		DRAWN BY	DESIGN BY	APPROVED BY					

HORIZONTAL ALIGNMENT REPORT

Horizontal Report								
S.NO	Chainage	Northing	Eastthing	Level	Bearing	Radius	Gradient	Preceding Eleme
1	0	478118.204	3048944.034	1459.155	32 25 44.274	Straight	0.305	None
2	15.694	478126.62	3048957.281	1459.203	32 25 44.274	-50	0.305	Straight
3	61.611	478131.345	3049001.348	1459.343	339 48 42.724	Straight	0.305	Curve
4	90.345	478121.429	3049028.317	1459.766	339 48 42.724	-90	3.42	Straight
5	134.299	478096.981	3049064.319	1461.993	311 49 49.265	Straight	5.365	Curve
6	190.509	478055.098	3049101.807	1465.009	311 49 49.265	75	5.365	Straight
7	241.3	478031.117	3049145.483	1467.646	350 37 54.772	Straight	4.805	Curve
8	336.663	478015.595	3049239.575	1471.416	350 37 54.772	75	3.102	Straight
9	389.642	478025.377	3049290.528	1472.811	31 6 16.561	Straight	2.238	Curve
10	418.015	478040.035	3049314.822	1473.446	31 6 16.561	30	2.238	Straight
11	451.822	478068.687	3049329.177	1474.202	95 40 18.743	Straight	2.238	Curve
12	476.646	478093.389	3049326.723	1474.758	95 40 18.743	-125	2.238	Straight
13	616.711	478212.356	3049385.853	1477.761	31 28 15.472	Straight	2.062	Curve
14	678.774	478244.757	3049438.787	1479.04	31 28 15.472	-30	2.062	Straight
15	705.703	478247.368	3049464.69	1479.596	340 2 23.240	Straight	2.062	Curve
16	731.315	478238.625	3049488.763	1480.124	340 2 23.240	Straight	2.062	Straight
17	751.315	478232.956	3049507.913	1480.536	350 27 25.932	55	2.062	Transition
18	775.242	478234.166	3049531.621	1481.029	15 22 59.002	55	2.062	Curve
19	795.242	478241.753	3049550.094	1481.442	25 48 1.694	Straight	2.062	Transition
20	856.613	478268.464	3049605.347	1482.435	25 48 1.694	-100	0.677	Straight
21	952.728	478265.665	3049697.762	1481.823	330 43 50.361	Straight	-1.106	Curve
22	983.987	478250.382	3049725.031	1481.477	330 43 50.361	200	-1.106	Straight
23	1042.361	478229.625	3049779.367	1480.832	347 27 12.551	Straight	-1.106	Curve
24	1131.341	478210.295	3049866.222	1479.847	347 27 12.551	-250	-1.106	Straight
25	1183.664	478193.687	3049915.739	1479.235	335 27 42.934	Straight	-1.243	Curve
26	1273.794	478156.256	3049997.729	1478.002	335 27 42.934	100	-1.493	Straight
27	1308.891	478147.523	3050031.536	1477.468	355 34 16.265	Straight	-1.526	Curve
28	1387.581	478141.447	3050109.992	1476.255	355 34 16.265	-75	-1.812	Straight
29	1447.897	478114.37	3050162.078	1474.59	309 29 37.815	Straight	-3.631	Curve
30	1517.918	478060.335	3050206.611	1472.048	309 29 37.815	75	-3.631	Straight
31	1587.552	478033.118	3050268.008	1469.665	2 41 24.761	Straight	-2.528	Curve
32	1653.114	478036.195	3050333.498	1468.846	2 41 24.761	-30	-0.494	Straight
33	1683.363	478023.401	3050359.505	1468.697	304 55 13.736	Straight	-0.494	Curve
34	1709.673	478001.828	3050374.566	1468.567	304 55 13.736	75	-0.494	Straight
35	1737.661	477982.363	3050394.451	1468.429	326 18 7.340	Straight	-0.494	Curve
36	1765.846	477966.726	3050417.9	1468.277	326 18 7.340	-30	-0.725	Straight
37	1781.876	477954.77	3050428.291	1468.134	295 41 12.083	Straight	-1.061	Curve
38	1933.81	477817.851	3050494.146	1464.975	295 41 12.083	-75	-2.333	Straight
39	1961.856	477790.915	3050501.351	1464.32	274 15 40.690	Straight	-2.333	Curve
40	1986.554	477766.285	3050503.186	1463.744	274 15 40.690	30	-2.333	Straight
41	2015.989	477742.409	3050518.32	1463.115	330 28 37.655	Straight	-1.695	Curve
42	2035.831	477732.632	3050535.586	1462.848	330 28 37.655	-75	-1	Straight
43	2057.713	477719.243	3050552.796	1462.713	313 45 37.399	Straight	-0.235	Curve
44	2082.547	477701.307	3050569.972	1462.746	313 45 37.399	-30	0.291	Straight
45	2114.055	477672.08	3050577.082	1462.837	253 35 7.105	Straight	0.291	Curve
46	2132.281	477654.597	3050571.932	1462.82	253 35 7.105	Straight	-1.121	Straight
47	2157.281	477631.074	3050563.557	1462.097	244 2 9.637	-75	-4.565	Transition
48	2166.253	477623.261	3050559.156	1461.687	237 10 52.867	-75	-4.565	Curve
49	2191.253	477603.907	3050543.38	1460.546	227 37 55.399	Straight	-4.565	Transition
50	2293.74	477528.187	3050474.315	1455.659	227 37 55.399	250	-4.948	Straight
51	2356.902	477476.667	3050438.066	1452.75	242 6 27.547	Straight	-4.039	Curve
52	2443.979	477399.705	3050397.33	1449.615	242 6 27.547	75	-3.518	Straight
53	2508.144	477337.589	3050393.658	1448.7	291 7 31.993	Straight	1.565	Curve
54	2531.443	477315.855	3050402.056	1449.115	291 7 31.993	75	1.79	Straight
55	2562.354	477290.095	3050418.741	1449.668	314 44 21.365	Straight	1.79	Curve
56	2691.22	477198.559	3050509.448	1447.434	314 44 21.365	-40	-3.728	Straight
57	2708.821	477183.774	3050518.734	1446.778	289 31 41.081	Straight	-3.728	Curve
58	2731.597	477162.308	3050526.348	1445.928	289 31 41.081	30	-3.728	Straight
59	2754.522	477145.532	3050541.148	1445.074	333 18 41.715	Straight	-3.728	Curve
60	2773.702	477136.918	3050558.285	1444.359	333 18 41.715	-75	-3.728	Straight

Horizontal Report								
S.NO	Chainage	Northing	Eastthing	Level	Bearing	Radius	Gradient	Preceding Eleme
61	2795.769	477124.269	3050576.269	1443.536	316 27 14.225	Straight	-3.728	Curve
62	2847.468	477088.652	3050613.742	1441.684	316 27 14.225	250	-3.12	Straight
63	2889.656	477062.299	3050646.623	1440.497	326 7 22.429	Straight	-2.745	Curve
64	3007.704	476996.497	3050744.63	1437.257	326 7 22.429	75	-2.745	Straight
65	3042.985	476984.312	3050777.395	1436.264	353 4 33.165	Straight	-2.935	Curve
66	3071.209	476980.91	3050805.412	1435.419	353 4 33.165	-120	-3.004	Straight
67	3105.1	476972.158	3050838.038	1434.401	336 53 37.560	Straight	-3.004	Curve
68	3174.528	476944.912	3050901.896	1432.507	336 53 37.560	75	-1.125	Straight
69	3238.284	476946.258	3050963.735	1432.433	25 35 59.431	Straight	-0.237	Curve
70	3242.932	476948.266	3050967.927	1432.42	25 35 59.431	-75	-0.31	Straight
71	3292.364	476953.945	3051016.136	1432.078	347 50 10.644	Straight	-1.002	Curve
72	3374.523	476936.634	3051096.45	1431.254	347 50 10.644	85	-1.002	Straight
73	3421.474	476939.593	3051142.711	1430.784	19 29 3.676	Straight	-1.002	Curve
74	3432.263	476943.192	3051152.883	1430.676	19 29 3.676	-75	-1.002	Straight
75	3476.901	476945.06	3051196.825	1430.228	345 22 59.989	Straight	-1.008	Curve
76	3519.992	476934.186	3051238.521	1429.79	345 22 59.989	100	-1.024	Straight
77	3569.286	476933.764	3051287.316	1429.281	13 37 37.454	Straight	-1.043	Curve
78	3609.147	476943.156	3051326.055	1428.862	13 37 37.454	75	-1.058	Straight
79	3654.466	476966.102	3051364.338	1428.382	48 14 54.394	Straight	-1.06	Curve
80	3702.54	477001.967	3051396.35	1427.872	48 14 54.394	-75	-1.06	Straight
81	3750.066	477025.401	3051436.785	1427.29	11 56 27.456	Straight	-1.553	Curve
82	3750.578	477025.507	3051437.286	1427.282	11 56 27.456	85	-1.561	Straight
83	3777.446	477035.094	3051462.266	1426.806	30 3 7.384	Straight	-1.981	Curve
84	3848.906	477070.88	3051524.119	1425.167	30 3 7.384	250	-2.357	Straight
85	3946.112	477134.495	3051596.809	1422.875	52 19 48.646	Straight	-2.357	Curve
86	3974.555	477157.009	3051614.191	1422.213	52 19 48.646	75	-2.04	Straight
87	4028.268	477207.243	3051629.696	1421.886	93 21 49.676	Straight	0.027	Curve
88	4050.874	477229.81	3051628.369	1421.892	93 21 49.676	-18	0.027	Straight
89	4082.469	477248.724	3051648.596	1421.843	352 47 34.691	Straight	-0.544	Curve
90	4086.103	477248.268	3051652.201	1421.822	352 47 34.691	-75	-0.648	Straight
91	4112.521	477240.454	3051677.294	1421.551	332 36 40.979	Straight	-1.404	Curve
92	4120.15	477236.944	3051684.068	1421.435	332 36 40.979	-25	-1.623	Straight
93	4151.635	477210.6	3051697.221	1420.792	260 27 10.534	Straight	-2.282	Curve
94	4194.533	477168.296	3051690.106	1419.813	260 27 10.534	-100	-2.282	Straight
95	4208.044	477155.164	3051686.973	1419.505	252 42 43.361	Straight	-2.282	Curve
96	4322.619	477045.765	3051652.924	1416.134	252 42 43.361	-120	-4.235	Straight
97	4375.063	477000.621	3051627.062	1413.903	227 40 19.444	Straight	-4.255	Curve
98	4428.782	476960.906	3051590.889	1411.617	227 40 19.444	-100	-4.255	Straight
99	4454.904	476944.097	3051570.991	1410.506	212 42 20.326	Straight	-4.255	Curve
100	4561.259	476886.631	3051481.497	1406.436	212 42 20.326	125	-3.061	Straight
101	4664.731	476802.867	3051425.886	1404.038	260 8 2.948	Straight	-1.906	Curve
102	4783.738	476685.621	3051405.496	1401.769	260 8 2.948	-250	-1.906	Straight
103	4831.924	476639.234	3051392.729	1400.85	249 5 26.574	Straight	-1.906	Curve
104	5074.611	476412.528	3051306.117	1396.599	249 5 26.574	250	-2.116	Straight
105	5106.58	476382.017	3051296.645	1395.832	256 25 3.327	Straight	-2.683	Curve
106	5280.754	476212.715	3051255.742	1391.239	256 25 3.327	75	-0.765	Straight
107	5329.618	476164.899	3051259.995	1390.865	293 44 50.203	Straight	-0.765	Curve
108	5465.393	476040.62	3051314.672	1389.826	293 44 50.203	-100	-0.765	Straight
109	5506.731	476000.458	3051323.138	1389.51	270 3 44.221	Straight	-0.765	Curve
110	5592.738	475914.451	3051323.232	1388.603	270 3 44.221	75	-1.809	Stra

Horizontal Report								
S.NO	Chainage	Northing	Eastthing	Level	Bearing	Radius	Gradient	Preceding Eleme
121	6293.925	475453.815	3051380.54	1372.581	302 54 37.397	Straight	-2.816	Curve
122	6429.387	475340.093	3051454.14	1367.874	302 54 37.397	-25	-3.472	Straight
123	6462.452	475309.501	3051451.474	1366.759	227 7 51.265	Straight	-3.273	Curve
124	6537.113	475254.781	3051400.68	1364.445	227 7 51.265	-75	-3.035	Straight
125	6565.62	475238.029	3051377.827	1363.575	205 21 12.256	Straight	-3.118	Curve
126	6587.416	475228.696	3051358.13	1362.88	205 21 12.256	25	-3.256	Straight
127	6620.806	475200.959	3051344.37	1361.758	281 52 33.070	Straight	-3.467	Curve
128	6662.255	475160.396	3051352.9	1360.27	281 52 33.070	25	-3.668	Straight
129	6699.676	475140.763	3051380.688	1358.897	7 38 17.546	Straight	-3.668	Curve
130	6791.442	475152.96	3051471.639	1356.279	7 38 17.546	-25	-0.676	Straight
131	6824.559	475137.442	3051498.184	1356.147	291 44 24.475	Straight	-0.374	Curve
132	6844.522	475118.899	3051505.578	1356.072	291 44 24.475	25	-0.374	Straight
133	6883.969	475105.003	3051538.224	1355.868	22 8 46.752	Straight	-1.089	Curve
134	6902.138	475111.852	3051555.053	1355.596	22 8 46.752	-75	-1.909	Straight
135	6947.281	475115.652	3051599.355	1354.279	347 39 34.643	Straight	-3.757	Curve
136	7020.948	475099.908	3051671.32	1351.446	347 39 34.643	-75	-3.997	Straight
137	7035.763	475095.338	3051685.387	1350.849	336 20 30.780	Straight	-4.062	Curve
138	7134.488	475055.722	3051775.815	1346.723	336 20 30.780	40	-4.202	Straight
139	7199.489	475078.318	3051829.32	1344.246	69 26 55.601	Straight	-2.825	Curve
140	7263.686	475138.429	3051851.856	1343.072	69 26 55.601	-75	-1.41	Straight
141	7316.922	475177.837	3051885.976	1342.321	28 46 45.292	Straight	-1.41	Curve
142	7372.659	475204.671	3051934.828	1341.535	28 46 45.292	-25	-1.41	Straight
143	7405.079	475200.275	3051964.701	1340.943	314 28 44.519	Straight	-2.415	Curve
144	7538.266	475105.245	3052058.019	1335.09	314 28 44.519	30	-5.143	Straight
145	7600.058	475117.239	3052108.034	1331.93	72 29 32.089	Straight	-5.037	Curve
146	7727.161	475238.454	3052146.271	1328.87	72 29 32.089	-180	0	Straight
147	7861.491	475340.605	3052228.659	1327.492	29 44 1.217	Straight	-2.452	Curve
148	7905.532	475362.448	3052266.902	1326.412	29 44 1.217	-75	-2.452	Straight
149	7930.788	475371.081	3052290.509	1325.792	10 26 22.563	Straight	-2.452	Curve
150	7961.644	475376.673	3052320.855	1325.031	10 26 22.563	75	-2.539	Straight
151	8025.351	475411.924	3052371.625	1323.251	59 6 27.684	Straight	-3.051	Curve
152	8112.572	475486.772	3052416.407	1320.29	59 6 27.684	-55	-3.658	Straight
153	8222.552	475489.715	3052508.911	1316.267	304 32 13.591	Straight	-3.658	Curve
154	8318.243	475410.889	3052563.162	1312.769	304 32 13.591	75	-3.646	Straight
155	8329.297	475402.277	3052570.076	1312.367	312 58 53.506	Straight	-3.643	Curve
156	8419.232	475336.483	3052631.39	1309.101	312 58 53.506	-75	-3.62	Straight
157	8448.551	475311.719	3052646.734	1308.039	290 34 59.911	Straight	-3.62	Curve
158	8503.909	475259.895	3052666.196	1306.066	290 34 59.911	75	-3.197	Straight
159	8547.105	475225.909	3052691.884	1304.936	323 34 57.652	Straight	-2.296	Curve
160	8585.867	475202.897	3052723.076	1304.053	323 34 57.652	25	-2.197	Straight
161	8634.859	475216.909	3052762.161	1303.069	75 51 49.862	Straight	-1.818	Curve
162	8679.027	475259.739	3052772.948	1302.325	75 51 49.862	-30	-1.638	Straight
163	8710.057	475281.162	3052793.468	1301.816	16 36 1.785	Straight	-1.638	Curve
164	8773.074	475299.166	3052853.859	1300.784	16 36 1.785	75	-1.638	Straight
165	8791.237	475306.402	3052870.47	1300.485	30 28 32.634	Straight	-1.68	Curve
166	8892.376	475357.697	3052957.636	1298.466	30 28 32.634	75	-2.267	Straight
167	8918.303	475374.409	3052977.288	1297.878	50 16 54.997	Straight	-2.267	Curve
168	8949.077	475398.081	3052996.953	1297.181	50 16 54.997	-75	-2.267	Straight
169	8990.861	475421.337	3053031.018	1296.234	18 21 40.450	Straight	-2.267	Curve
170	9091.084	475452.908	3053126.139	1294.278	18 21 40.450	-75	-1.678	Straight
171	9124.245	475456.172	3053158.867	1293.722	353 1 43.435	Straight	-1.678	Curve
172	9207.984	475446.008	3053241.987	1292.261	353 1 43.435	-75	-1.962	Straight
173	9251.794	475428.644	3053281.533	1291.332	319 33 35.804	Straight	-2.278	Curve
174	9412.922	475324.128	3053404.165	1287.044	319 33 35.804	-75	-2.762	Straight
175	9418.732	475320.192	3053408.437	1286.883	315 7 17.401	Straight	-2.762	Curve
176	9551.707	475226.364	3053502.664	1284.345	315 7 17.401	-75	-1.374	Straight
177	9569.797	475212.184	3053513.826	1284.096	301 18 6.689	Straight	-1.374	Curve
178	9609.27	475178.457	3053534.334	1283.554	301 18 6.689	75	-1.374	Straight
179	9668.09	475144.577	3053580.575	1282.746	346 14 14.565	Straight	-1.374	Curve
180	9710.872	475134.399	3053622.129	1282.158	346 14 14.565	150	-1.374	Straight

Horizontal Report								
S.NO	Chainage	Northing	Eastthing	Level	Bearing	Radius	Gradient	Preceding Eleme
181	9816.413	475145.912	3053724.862	1280.683	26 33 3.277	Straight	-1.614	Curve
182	9924.261	475194.119	3053821.337	1278.288	26 33 3.277	-75	-2.826	Straight
183	9973.462	475200.642	3053869.217	1276.785	348 57 53.215	Straight	-3.154	Curve
184	10130.259	475170.629	3054023.115	1272.656	348 57 53.215	-75	-2.111	Straight
185	10175.482	475149.507	3054062.329	1271.702	314 25 1.599	Straight	-2.111	Curve
186	10228.004	475111.992	3054099.089	1270.593	314 25 1.599	75	-2.111	Straight
187	10245.512	475101.023	3054112.684	1270.223	327 47 32.011	Straight	-2.111	Curve
188	10407.533	475014.668	3054249.773	1267.269	327 47 32.011	-75	-1.73	Straight
189	10431.564	474998.848	3054267.726	1266.812	309 26 1.429	Straight	-2.104	Curve
190	10517.796	474932.245	3054322.499	1264.375	309 26 1.429	-75	-3.549	Straight
191	10596.06	474858.519	3054334.889	1261.411	249 38 41.035	Straight	-3.814	Curve
192	10622.969	474833.29	3054325.528	1260.385	249 38 41.035	75	-3.814	Straight
193	10653.337	474803.48	3054320.937	1259.236	272 50 38.901	Straight	-3.667	Curve
194	10671.54	474785.3	3054321.841	1258.588	272 50 38.901	-75	-3.457	Straight
195	10705.989	474751.704	3054315.726	1257.465	246 31 36.067	Straight	-3.06	Curve
196	10842.972	474626.058	3054261.163	1253.862	246 31 36.067	30	-2.547	Straight
197	10903.151	474584.118	3054289.445	1252.316	1 27 39.036	Straight	-2.628	Curve
198	11154.217	474590.518	3054540.43	1245.678	1 27 39.036	-75	-2.171	Straight
199	11201.538	474577.211	3054585.026	1244.729	325 18 37.909	Straight	-1.842	Curve
200	11254.758	474546.922	3054628.787	1243.781	325 18 37.909	75	-1.775	Straight
201	11274.934	474537.795	3054646.712	1243.423	340 43 26.319	Straight	-1.775	Curve
202	11336.698	474517.406	3054705.014	1241.835	340 43 26.319	75	-3.41	Straight
203	11365.911	474513.307	3054733.751	1240.723	3 2 26.697	Straight	-4.205	Curve
204	11462.989	474518.457	3054830.693	1236.345	3 2 26.697	75	-4.529	Straight
205	11509.637	474534.8	3054873.585	1234.232	38 40 37.735	Straight	-4.529	Curve
206	11532.859	474549.312	3054891.714	1233.181	38 40 37.735	-15	-4.529	Straight
207	11571.663	474532.585	3054915.224	1231.423	250 27 34.863	Straight	-4.529	Curve
208	11685.228	474425.56	3054877.24	1228.43	250 27 34.863	20	-0.291	Straight
209	11737.265	474403.446	3054908.819	1228.279	39 32 5.859	Straight	-0.291	Curve
210	11758.065	474416.687	3054924.861	1228.218	39 32 5.859	-75	-0.291	Straight
211	11783.126	474429.145	3054946.471	1227.981	20 23 23.555	Straight	-1.938	Curve
212	11810.31	474438.616	3054971.952	1227.15	20 23 23.555	75	-4.175	Straight
213	11835.569	474451.2	3054993.716	1225.924	39 41 10.357	Straight	-5.025	Curve
214	11857.024	474464.901	3055010.226	1224.846	39 41 10.357	75	-5.025	Straight
215	11883.419	474484.948	3055027.186	1223.52	59 51 0.480	Straight	-5.025	Curve
216	11954.652	474546.544	3055062.964	1220.911	59 51 0.480	-25	-1.32	Straight
217	11990.41	474557.151	3055093.988	1220.633	337 54 0.326	Straight	-0.705	Curve
218	12005.51	474551.47	3055107.978	1220.526	337 54 0.326	-25	-0.705	Straight
219	12034.175	474529.268	3055123.554	1220.324	272 12 14.653	Straight	-0.705	Curve
220	12061.338	474502.126	3055124.599	1220.132	272 12 14.653	75	-0.705	Straight
221	12102.416	474463.521	3055137.064	1219.843	303 35 8.732	Straight	-0.705	Curve
222	12140.837	474431.515	3055158.318	1219.572	303 35 8.732	-25	-0.705	Straight
223	12153.008	474420.164	3055162.368	1219.486	275 41 30.985	Straight	-0.705	Curve
224	12169.726	474403.529	3055164.026	1219.351	275 41 30.985	25	-1.003	Straight
225	12180.91	474393.012	3055167.547	1219.223	301 19 24.905	Straight	-1.292	Curve
226	12256.934	474328.069	3055207.069	1217.559	301 19 24.905	30	-2.673	Straight
227	12294.268	474314.39	3055239.254	1216.565	12 37 32.250	Straight	-2.638	Curve
228	12351.025	474326.796	3055294.639	1215.097	12 37 32.250	-50	-2.533	Straight
229	12408.393	474308.017	3055345.559	1213.673	306 53 13.097	Straight	-2.452	Curve
230	12446.439	474277.587	3055368.396	1212.74	306 53 13.097	75	-2.452	Straight
231	12473.005	474259.575	3055387.734	1212.088	327 10 54.488	Straight	-2.461	Curve
232	12548.155	474218.845	3055450.89	1210.207	327 10 54.488	-75	-2.545	Straight
233	12569.861	474204.624	3055467.188	1209.652	310 35 58.816	Straight	-2.57	Curve
234	12605.216	474177.779	3055490.196	1208.741	310 35 58.816	75	-2.576	Straight
235	12624.13	474165.114	3055504.176	1208.254	325 2 56.476	Straight	-2.576	Curve
236	12691.374	474126.592	3055559.291	1206.528	325 2 56.476	75	-2.528	Straight
237	12700.905	474121.642	3055567.429	1206.287	332 19 49.838	Straight	-2.51	Curve
238	12770.19	474089.468	3055628.791	1204.596	332 19 49.838	-50	-2.373	Straight
239	12825.486	474044.284	3055655.564	1203.3	268 58 1.298	Straight	-2.339	Curve
240	12865.628	474004.148	3055654.841	1202.364	268 58 1.298	25	-2.318	Straight

Horizontal Report								
S.NO	Chainage	Northing	Eastthing	Level	Bearing	Radius	Gradient	Preceding Eleme
241	12900.451	473979.176	3055674.97	1201.561	348 46 31.098	Straight	-2.293	Curve
242	12921.626	473975.054	3055695.74	1201.077	348 46 31.098	-25	-2.278	Straight
243	12943.598	473962.43	3055712.861	1200.577	298 25 10.123	Straight	-2.272	Curve
244	12947.835	473958.704	3055714.877	1200.481	298 25 10.123	20	-2.272	Straight
245	12975.838	473949.272	3055738.861	1199.871	18 38 35.188	Straight	-1.873	Curve
246	13007.423	473959.369	3055768.788	1199.429	18 38 35.188	75	-0.929	Straight
247	13031.686	473970.677	3055790.135	1199.261	37 10 43.671	Straight	-0.628	Curve
248	13056.952	473985.945	3055810.266	1199.103	37 10 43.671	-75	-0.628	Straight
249	13114.374	474000.678	3055864.324	1198.724	353 18 42.863	Straight	-0.946	Curve
250	13136.541	473998.097	3055886.34	1198.446	353 18 42.863	-50	-1.558	Straight
251	13212.748	473944.936	3055930.394	1196.626	265 59 6.602	Straight	-2.699	Curve
252	13239.358	473918.391	3055928.531	1195.907	265 59 6.602	75	-2.699	Straight
253	13281.306	473877.893	3055937.145	1194.775	298 1 53.062	Straight	-2.699	Curve
254	13297.663	473863.456	3055944.832	1194.334	298 1 53.062	75	-2.699	Straight
255	13343.026	473832.065	3055976.618	1193.11	332 41 9.777	Straight	-2.699	Curve
256	13389.688	473810.653	3056018.078	1191.881	332 41 9.777	-75	-2.457	Straight
257	13415.898	473794.841	3056038.815	1191.27	312 39 47.335	Straight	-2.207	Curve
258	13475.816	473750.781	3056079.42	1190.112	312 39 47.335	-40	-1.748	Straight
259	13529.147	473701.463	3056083.274	1189.179	236 16 19.895	Straight	-1.748	Curve
260	13549.811	473684.277	3056071.8	1188.818	236 16 19.895	20	-1.748	Straight
261	13578.759	473658.032	3056075.366	1188.312	319 12 7.143	Straight	-1.748	Curve
262	13710.997	473571.628	3056175.472	1187.317	319 12 7.143	-75	0.343	Straight
263	13716.483	473567.895	3056179.491	1187.336	315 0 39.746	Straight	0.343	Curve
264	13886.175	473447.928	3056299.504	1186.767	315 0 39.746	-30	-0.36	Straight
265	13909.892	473426.561	3056308.295	1186.682	269 42 53.982	Straight	-0.36	Curve
266	13942.902	473393.551	3056308.131	1186.563	269 42 53.982	-30	-0.36	Straight
267	13971.891	473368.933	3056295.059	1186.609	214 21 3.680	Straight	0.733	Curve
268	13989.377	473359.066	3056280.622	1186.798	214 21 3.680	50	1.429	Straight
269	14057.231	473298.97	3056262.511	1188.417	292 6 21.203	Straight	2.876	Curve
270	14092.582	473266.218	3056275.814	1189.556	292 6 21.203	75	3.568	Straight
271	14129.77	473236.557	3056297.61	1191.018	320 30 54.981	Straight	4.295	Curve
272	14197.414	473193.544	3056349.817	1194.265	320 30 54.981	75	4.975	Straight
273	14211.306	473185.751	3056361.294	1194.956	331 7 41.370	Straight	4.975	Curve
274	14353.838	473116.93	3056486.109	1202.049	331 7 41.370	-75	5.051	Straight
275	14379.654	473100.856	3056506.148	1203.416	311 24 22.163	Straight	5.534	Curve
276	14406.692	473080.577	3056524.031	1204.98	311 24 22.163	-25	6.039	Straight
277	14423.431	473065.369	3056530.245	1206.017	273 2 34.088	Straight	6.352	Curve
278	14431.795	473057.017	3056530.689	1206.555	273 2 34.088	18	6.479	Straight
279	14465.652	473041.147	3056555.059	1208.748	20 48 46.810	Straight	6.479	Curve
280	14516.816	473059.327	3056602.885	1212.063	20 48 46.810	-15	6.479	Straight
281	14545.348	473045.784	3056623.207	1213.907	271 49 46.201	Straight	6.381	Curve
282	14554.86	473036.277	3056623.511	1214.51	271 49 46.201	75	6.284	Straight
283	14589.218	473003.373	3056632.299	1216.608	298 4 34.946	Straight	5.933	Curve
284	14619.869	472976.328	3056646.725	1218.379	298 4 34.946	75	5.621	Straight
285	14652.346	472951.818	3056667.645	1220.151	322 53 13.069	Straight	5.289	Curve
286	14844.483	472835.885	3056820.864	1229.781	322 53 13.069	-75	4.232	Straight
287	14931.453	472758.5	3056848.521	1232.85	256 26 47.785	Straight	3.094	Curve
288	14948.949	472741.491	3056844.421	1233.391	256 26 47.785	75	3.094	Straight
289	14966.779	472723.827	3056842.332	1233.943	270 4 3.640	Straight	3.094	Curve
290	14995.149	472695.457	3056842.366	1234.82	270 4 3.640	50	3.094	Straight
291	15026.795	472665.893	3056852.085	1235.799	306 19 53.390	Straight	3.094	Curve
292	15054.077	472643.914	3056868.249	1236.644	306 19 53.390	30	3.094	Straight
293	15080.398	472631.741	3056890.638	1237.456	356 36 2.525	Straight	3.059	Curve
294	15084.951	472631.471	3056895.183	1237.595	356 36 2.525	-15	3.042	Straight
295	15121.484	472604.526	3056903.332	1238.682	217 3 13.130	Straight	2.911	Curve
296	15150.787	472586.869	3056879.945	1239.52	217 3 13.130	15	2.805	Straight
297	15180.817	472561.684	3056881.886	1240.348	331 45 23.544	Straight	2.733	Curve
298	15196.245	472554.382	3056895.477	1240.769	331 45 23.544	75	2.733	Straight
299	15224.541	472545.954	3056922.313	1241.502	353 22 21.137	Straight	2.21	Curve
300	15293.233	472538.026	3056990.546	1242.226	353 22 21.137	-75	-0.103	Straight

Horizontal Report								
S.NO	Chainage	Northing	Eastthing	Level	Bearing	Radius	Gradient	Preceding Eleme
301	15312.62	472533.338	3057009.303	1242.142	338 33 41.434	Straight	-0.756	Curve
302	15342.849	472522.29	3057037.44	1241.773	338 33 41.434	-75	-1.475	Straight
303	15371.337	472507.15	3057061.37	1241.353	316 47 55.217	Straight	-1.494	Curve
304	15450.135	472453.208	3057118.81	1240.024	316 47 55.217	-75	-1.878	Straight
305	15500.722	472409.172	3057141.71	1239.038	278 9 10.415	Straight	-1.963	Curve
306	15550.081	472360.312	3057148.709	1238.069	278 9 10.415	75	-1.963	Straight
307	15579.143	472333.047	3057158.233	1237.499	300 21 15.532	Straight	-1.975	Curve
308	15654.521	472268.003	3057196.324	1235.743	300 21 15.532	-75	-2.634	Straight
309	15726.797	472198.57	3057199.655	1233.839	245 8 19.806	Straight	-2.634	Curve
310	15780.748	472149.62	3057176.974	1232.418	245 8 19.806	75	-2.634	Straight
311	15795.742	472135.478	3057172.067	1232.023	256 35 36.465	Straight	-2.634	Curve
312	15909.09	472025.218	3057145.786	1229.208	256 35 36.465	-75	-2.315	Straight
313	15919.8	472015.012	3057142.569	1228.962	248 24 43.591	Straight	-2.283	Curve
314	16037.213	471905.835	3057099.369	1226.344	248 24 43.591	-75	-2.225	Straight
315	16060.385	471885.937	3057087.677	1225.804	230 42 38.006	Straight	-2.473	Curve
316	16151.967	471815.056	3057029.684	1222.999	230 42 38.006	-75	-3.654	Straight
317	16167.218	471804.312	3057018.897	1222.426	219 3 35.467	Straight	-3.851	Curve
318	16285.493	471729.783	3056927.057	1216.969	219 3 35.467	-75	-5.378	Straight
319	16316.111	471715.807	3056900.054	1215.262	195 40 10.795	Straight	-5.773	Curve
320	16436.338	471683.335	3056784.295	1207.993	195 40 10.795	-75	-6.023	Straight
321	16453.284	471680.632	3056767.602	1206.977	182 43 25.980	Straight	-5.959	Curve
322	16613.685	471673.009	3056607.383	1197.742	182 43 25.980	75	-5.704	Straight
323	16641.459	471666.641	3056580.511	1196.158	203 56 32.061	Straight	-5.704	Curve
324	16778.87	471610.877	3056454.924	1188.316	203 56 32.061	-75	-5.774	Straight
325	16787.279	471607.902	3056447.063	1187.829	197 31 4.489	Straight	-5.827	Curve
326	16879.792	471580.055	3056358.841	1182.184	197 31 4.489	75	-6.268	Straight
327	16920.291	471558.272	3056325.282	1179.786	228 27 25.698	Straight	-4.939	Curve
328	16984.322	471510.348	3056282.818	1177.505	228 27 25.698	75	-2.267	Straight
329	17011.666	471487.063	3056268.773	1177.13	249 20 47.720	Straight	-0.48	Curve
330	17026.991	471472.723	3056263.368	1177.122	249 20 47.720	-75	0.137	Straight
331	17057.372	471447.206	3056247.263	1177.163	226 8 15.183	Straight	0.137	Curve
332	17082.572	471429.037	3056229.802	1177.198	226 8 15.183	75	0.137	Straight
333	17103.229	471412.372	3056217.706	1177.226	241 55 6.696	Straight	0.137	Curve
334	17133.36	471385.788	3056203.523	1177.231	241 55 6.696	-75	-0.2	Straight
335	17147.155	471374.281	3056195.949	1177.189	231 22 46.707	Straight	-0.416	Curve
336	17200.48	471332.619	3056162.666	1176.745	231 22 46.707	-75	-1.249	Straight
337	17230.586	471313.445	3056139.718	1176.316	208 22 49.039	Straight	-1.485	Curve
338	17266.462	471296.392	3056108.154	1175.783	208 22 49.039	75	-1.485	Straight
339	17290.654	471281.688	3056089.075	1175.423	226 51 42.369	Straight	-1.485	Curve
340	17334.555	471249.653	3056059.057	1174.859	226 51 42.369	25	-0.44	Straight
341	17349.631	471236.292	3056052.58	1174.863	261 24 49.382	Straight	0.502	Curve
342	17370.472	471215.684	3056049.469	1174.977	261 24 49.382	25	0.545	Straight
343	17429.089	471191.663	3056088.796	1175.311	35 45 13.482	Straight	0.968	Curve
344	17465.967	471213.211	3056118.723	1176.093	35 45 13.482	-75	3.273	Straight
345	17468.388	471214.593	3056120.711	1176.174	33 54 14.742	Straight	3.424	Curve
346	17660.223	471321.6	3056279.928	1185.786	33 54 14.742	75	3.87	Straight
347	17687.655	471340.68	3056299.425	1186.848	54 51 38.835	Straight	3.87	Curve
348	17816.345	471445.917	3056373.494	1191.864	54 51 38.835	-25	4.012	Straight
349	17846.884	471455.661	3056400.463	1193.102	344 52 10.177	Straight	4.083	Curve
350	17895.533	471442.963	3056447.425	1195.088	344 52 10.177	75	4.083	Straight
351	17944.672	471446.027	3056495.593	1197.095	22 24 33.790	Straight	4.083	Curve
352	17999.048	471466.756	3056545.862	1199.311	22 24 33.790	-75	4.033	Straight
353	18028.785	471472.418	3056574.858	1200.497	359 41 29.438	Straight	3.944	Curve
354	18212.654	471471.428	3056758.724	1207.7	359 41 29.438	75	3.917	Straight
355	18222.73	471472.05	3056768.774	1208.095	7 23 21.835	Straight	3.917	Curve
356	18336.484	471486.68	3056881.582	1212.683	7 23 21.835	-75	4.415	Straight
357	18347.214	471487.296	3056892.286	1213.156	359 11 31.581	Straight	4.415	Curve
358	18439.404	471488.996	3056984.467	1217.227	359 11 31.581	-75	4.415	Straight
359	18459.173	471483.13	3057003.969	1218.085	344 5 23.213	Straight	4.2	Curve
360	18481.997	471476.873	3057025.919	1219.003	344 5 23.213	75	3.844	Straight

Horizontal Report								
S.NO	Chainage	Northing	Eastthing	Level	Bearing	Radius	Gradient	Preceding Eleme
361	18551.856	471489.466	3057092.092	1221.307	37 27 30.302	Straight	2.752	Curve
362	18564.991	471497.454	3057102.518	1221.663	37 27 30.302	-75	2.71	Straight
363	18591.985	471509.705	3057126.41	1222.395	16 50 9.593	Straight	2.71	Curve
364	18655.733	471528.168	3057187.425	1224.122	16 50 9.593	75	2.71	Straight
365	18688.613	471544.178	3057215.843	1225.013	41 57 18.376	Straight	2.71	Curve
366	18713.952	471561.118	3057234.687	1225.703	41 57 18.376	-75	2.865	Straight
367	18714.066	471561.194	3057234.771	1225.707	41 52 6.611	Straight	2.869	Curve
368	18766.396	471596.12	3057273.74	1227.695	41 52 6.611	-75	4.729	Straight
369	18808.554	471614.206	3057311.21	1229.902	9 39 41.245	Straight	5.376	Curve
370	18865.398	471623.745	3057367.248	1232.959	9 39 41.245	25	5.376	Straight
371	18888.357	471636.762	3057385.183	1234.193	62 16 47.531	Straight	5.376	Curve
372	18914.411	471659.826	3057397.302	1235.594	62 16 47.531	-25	5.376	Straight
373	18936.365	471672.654	3057414.25	1236.774	11 57 54.398	Straight	5.376	Curve
374	18958.207	471677.182	3057435.617	1237.948	11 57 54.398	25	5.376	Straight
375	18991.311	471700.694	3057455.416	1239.728	87 50 5.847	Straight	5.376	Curve
376	19026.542	471735.9	3057456.747	1241.616	87 50 5.847	-75	5.232	Straight
377	19092.504	471792.613	3057486.095	1244.728	37 26 37.197	Straight	4.205	Curve
378	19137.304	471819.85	3057521.663	1246.464	37 26 37.197	75	3.665	Straight
379	19147.305	471826.441	3057529.176	1246.83	45 5 2.720	Straight	3.665	Curve
380	19196.262	471861.11	3057563.743	1248.625	45 5 2.720	-75	3.665	Straight
381	19245.277	471882.489	3057606.883	1250.421	7 38 23.432	Straight	3.665	Curve
382	19303.467	471890.225	3057664.557	1252.553	7 38 23.432	-75	3.665	Straight
383	19331.948	471888.626	3057692.822	1253.597	345 52 55.049	Straight	3.665	Curve
384	19353.797	471883.296	3057714.011	1254.398	345 52 55.049	75	3.665	Straight
385	19367.668	471881.173	3057727.698	1254.906	356 28 42.739	Straight	3.665	Curve
386	19434.797	471877.049	3057794.7	1257.366	356 28 42.739	-75	3.665	Straight
387	19498.398	471848.253	3057849.282	1259.697	307 53 26.843	Straight	3.665	Curve
388	19518.252	471832.585	3057861.475	1260.427	307 53 26.843	75	3.729	Straight
389	19548.86	471812.877	3057884.617	1261.622	331 16 27.015	Straight	4.082	Curve
390	19633.619	471772.14	3057958.945	1265.489	331 16 27.015	25	4.932	Straight
391	19660.059	471772.832	3057984.16	1266.793	31 52 6.680	Straight	4.932	Curve
392	19699.126	471793.458	3058017.338	1268.72	31 52 6.680	-25	4.932	Straight
393	19730.841	471791.147	3058046.878	1270.284	319 11 2.078	Straight	4.932	Curve
394	19772.453	471763.948	3058078.371	1272.337	319 11 2.078	75	4.932	Straight
395	19790.972	471753.687	3058093.732	1273.25	333 19 54.640	Straight	4.932	Curve
396	19839.036	471732.115	3058136.682	1275.621	333 19 54.640	-25	4.932	Straight
397	19849.435	471725.676	3058144.752	1276.134	309 29 57.336	Straight	4.932	Curve
398	19859.76	471717.709	3058151.32	1276.643	309 29 57.336	25	4.932	Straight
399	19868.596	471712.015	3058158.016	1277.079	329 44 57.276	Straight	4.932	Curve
400	19911.574	471690.363	3058195.143	1279.14	329 44 57.276	100	4.123	Straight
401	19947.722	471678.129	3058228.948	1280.267	350 27 36.929	Straight	2.114	Curve
402	19969.137	471674.58	3058250.067	1280.635	350 27 36.929	-25	1.618	Straight
403	20010.34	471643.89	3058270.184	1281.302	256 1 50.976	Straight	1.618	Curve
404	20019.449	471635.051	3058267.986	1281.449	256 1 50.976	25	1.618	Straight
405	20041.465	471614.149	3058272.147	1281.805	306 29 20.070	Straight	1.618	Curve
406	20053.379	471604.571	3058279.232	1281.998	306 29 20.070	-25	1.618	Straight
407	20070.998	471588.008	3058284.075	1282.283	266 6 34.428	Straight	1.618	Curve
408	20076.594	471582.425	3058283.695	1282.374	266 6 34.428	23	1.618	Straight
409	20107.18	471558.953	3058299.651	1282.868	342 18 15.213	Straight	1.618	Curve
410	20113.458	471557.044	3058305.632	1282.97	342 18 15.213	-23	1.618	Straight
411	20138.331	471539.262	3058321.267	1283.372	280 20 38.039	Straight	1.618	Curve
412	20180.542	471497.737	3058328.846	1284.055	280 20 38.039	23	1.618	Straight
413	20208.436	471479.228	3058347.412	1284.513	349 49 50.289	Straight	1.763	Curve
414	20222.528	471476.74	3058361.282	1284.776	349 49 50.289	45	1.97	Straight
415	20235.258	471476.283	3058373.961	1285.039	6 2 18.833	Straight	2.157	Curve
416	20274.291	471480.389	3058412.778	1285.993	6 2 18.833	15	2.73	Straight
417	20278.895	471481.563	3058417.211	1286.12	23 37 31.014	Straight	2.798	Curve
418	20282.632	471483.061	3058420.635	1286.226	23 37 31.014	-15	2.853	Straight
419	20303.433	471477.743	3058439.057	1286.851	304 10 22.559	Straight	3.158	Curve
420	20319.818	471464.187	3058448.26	1287.379	304 10 22.559	25	3.233	Straight

Horizontal Report								
S.NO	Chainage	Northing	Eastthing	Level	Bearing	Radius	Gradient	Preceding Eleme
421	20333.506	471455.473	3058458.594	1287.821	335 32 36.898	Straight	3.233	Curve
422	20345.214	471450.625	3058469.252	1288.2	335 32 36.898	45	3.233	Straight
423	20357.053	471447.19	3058480.546	1288.583	350 37 1.854	Straight	3.233	Curve
424	20412.705	471438.117	3058535.453	1290.382	350 37 1.854	-75	3.233	Straight
425	20421.898	471436.067	3058544.409	1290.679	343 35 37.755	Straight	3.233	Curve
426	20452.389	471427.455	3058573.658	1291.665	343 35 37.755	-25	3.233	Straight
427	20480.283	471407.67	3058591.242	1292.554	279 39 55.869	Straight	3.021	Curve
428	20533.947	471354.768	3058600.252	1293.911	279 39 55.869	75	2.034	Straight
429	20551.5	471337.965	3058605.188	1294.239	293 4 31.859	Straight	1.711	Curve
430	20560.461	471329.721	3058608.7	1294.385	293 4 31.859	-75	1.547	Straight
431	20578.486	471312.452	3058613.714	1294.634	279 18 17.593	Straight	1.215	Curve
432	20597.119	471294.065	3058616.726	1294.829	279 18 17.593	-75	0.873	Straight
433	20617.272	471273.98	3058617.29	1294.967	263 54 33.222	Straight	0.502	Curve
434	20638.721	471252.652	3058615.014	1295.061	263 54 33.222	25	0.429	Straight
435	20659.839	471233.171	3058621.385	1295.151	312 18 31.482	Straight	0.429	Curve
436	20709.554	471196.406	3058654.849	1295.365	312 18 31.482	-75	0.429	Straight
437	20731.527	471178.236	3058667.066	1295.431	295 31 20.375	Straight	0.124	Curve
438	20767.443	471145.825	3058682.541	1295.367	295 31 20.375	-25	-0.481	Straight
439	20805.462	471113.06	3058671.867	1295.063	208 23 26.444	Straight	-1.12	Curve
440	20836.237	471098.427	3058644.793	1294.638	208 23 26.444	75	-1.617	Straight
441	20847.115	471092.58	3058635.632	1294.463	216 42 2.298	Straight	-1.617	Curve
442	20877.957	471074.148	3058610.903	1293.964	216 42 2.298	-45	-1.617	Straight
443	20916.109	471066.191	3058574.749	1293.347	168 7 24.718	Straight	-1.617	Curve
444	20928.11	471068.661	3058563.005	1293.153	168 7 24.718	75	-1.617	Straight
445	20946.387	471070.216	3058544.84	1292.846	182 5 9.218	Straight	-1.798	Curve
446	20966.542	471069.483	3058524.698	1292.455	182 5 9.218	-75	-2.082	Straight
447	20985.577	471071.198	3058505.792	1292.033	167 32 39.995	Straight	-2.351	Curve
448	21000.674	471074.454	3058491.051	1291.662	167 32 39.995	15	-2.563	Straight
449	21009.035	471073.949	3058482.813	1291.442	199 28 54.175	Straight	-2.681	Curve
450	21088.758	471047.36	3058407.654	1288.916	199 28 54.175	25	-3.395	Straight
451	21105.157	471037.384	3058395.009	1288.36	237 3 51.547	Straight	-3.395	Curve
452	21226.733	470935.347	3058328.909	1285.629	237 3 51.547	75	-1.526	Straight
453	21238.935	470924.613	3058323.135	1285.443	246 23 10.019	Straight	-1.526	Curve
454	21293.471	470874.643	3058301.289	1284.611	246 23 10.019	75	-1.526	Straight
455	21321.207	470847.775	3058295.076	1284.188	267 34 27.253	Straight	-1.526	Curve
456	21370.596	470798.429	3058292.986	1283.434	267 34 27.253	75	-1.526	Straight
457	21380.118	470788.916	3058293.187	1283.289	274 50 54.721	Straight	-1.526	Curve
458	21447.314	470721.961	3058298.867	1282.263	274 50 54.721	-75	-1.536	Straight
459	21484.618	470685.536	3058292.836	1281.681	246 21 2.401	Straight	-1.585	Curve
460	21609.786	470570.88	3058242.626	1279.627	246 21 2.401	-75	-1.656	Straight
461	21628.805	470554.606	3058232.882	1279.312	231 49 16.657	Straight	-1.656	Curve
462	21673.146	470519.751	3058205.474	1278.571	231 49 16.657	25	-1.696	Straight
463	21710.741	470485.724	3058208.393	1277.925	317 59 3.778	Straight	-1.74	Curve
464	21741.56	470465.096	3058231.29	1277.387	317 59 3.778	-25	-1.744	Straight
465	21788.271	470425.077	3058227.406	1276.573	210 55 46.819	Straight	-1.744	Curve
466	21807.47	470415.209	3058210.937	1276.238	210 55 46.819	25	-1.744	Straight
467	21854.163	470375.203	3058207.039	1275.4	317 56 27.136	Straight	-1.855	Curve
468	21967.981	470298.956	3058291.544	1273.186	317 56 27.136	-25	-1.966	Straight
469	22031.8	470255.658	3058271.177	1271.932	171 40 35.911	Straight	-1.966	Curve
470	22063.512	470260.249	3058239.8	1271.308	171 40 35.911	-75	-1.966	Straight
471	22071.699	470261.873	3058231.779	1271.147	165 25 19.734	Straight	-1.966	Curve
472	22116.315	470273.103	3058188.6	1270.27	165 25 19.734	75	-1.966	Straight
473	22134.005	470275.505	3058171.116	1269.922	178 56 9.168	Straight	-1.995	Curve
474	22190.542	470276.554	3058114.588	1268.444	178 56 9.168	55	-3.234	Straight
475	22249.61	470248.673	3058065.711	1266.319	240 28 10.615	Straight	-3.672	Curve
476	22347.824	470163.218	3058017.303	1262.713	240 28 10.615	-75	-3.672	Straight
477	22373.21	470143.646	3058001.325	1261.78	221 4 32.533	Straight	-3.672	Curve
478	22419.108	470113.489	3057966.726	1260.362	221 4 32.533	75	-2.338	Straight
479	22434.904	470101.937	3057955.995	1260.034	233 8 36.498	Straight	-1.81	Curve
480	22508.654	470042.927	3057911.759	1259.111	233 8 36.498	25	-1.169	Straight

Horizontal Report								
S.NO	Chainage	Northing	Eastthing	Level	Bearing	Radius	Gradient	Preceding Eleme
481	22526.22	470026.448	3057906.806	1258.905	273 24 2.839	Straight	-1.169	Curve
482	22557.958	469994.766	3057908.689	1258.534	273 24 2.839	-25	-1.169	Straight
483	22574.847	469978.834	3057904.135	1258.337	234 41 37.319	Straight	-1.169	Curve
484	22606.383	469953.099	3057885.909	1257.969	234 41 37.319	75	-1.169	Straight
485	22650.486	469911.865	3057872.145	1257.453	268 23 10.599	Straight	-1.183	Curve
486	22707.63	469854.744	3057870.535	1256.627	268 23 10.599	-75	-1.709	Straight
487	22719.657	469842.8	3057869.236	1256.415	259 11 53.920	Straight	-1.82	Curve
488	22807.932	469756.089	3057852.693	1254.585	259 11 53.920	25	-2.133	Straight
489	22840.093	469729.147	3057865.864	1253.9	332 54 24.716	Straight	-2.099	Curve
490	22927.44	469689.366	3057943.626	1252.414	332 54 24.716	-23	-1.303	Straight
491	22973.145	469651.028	3057947.64	1251.852	219 2 58.174	Straight	-1.222	Curve
492	23023.465	469619.327	3057908.562	1251.237	219 2 58.174	75	-1.222	Straight
493	23049.119	469600.105	3057891.762	1250.924	238 38 51.201	Straight	-1.222	Curve
494	23161.42	469504.201	3057833.332	1248.121	238 38 51.201	-75	-3.684	Straight
495	23168.008	469498.733	3057829.661	1247.879	233 36 52.014	Straight	-3.684	Curve
496	23216.82	469459.437	3057800.705	1246.173	233 36 52.014	75	-2.605	Straight
497	23234.866	469443.767	3057791.842	1245.805	247 24 2.721	Straight	-1.478	Curve
498	23308.616	469375.681	3057763.502	1245.078	247 24 2.721	-23	-1.393	Straight
499	23320.566	469366.304	3057756.311	1244.896	217 37 53.456	Straight	-1.645	Curve
500	23342.176	469353.109	3057739.197	1244.492	217 37 53.456	15	-2.1	Straight
501	23373.92	469327.237	3057742.951	1243.747	338 52 57.601	Straight	-2.428	Curve
502	23393.927	469320.029	3057761.615	1243.261	338 52 57.601	-75	-2.428	Straight
503	23409.727	469312.832	3057775.648	1242.877	326 48 43.146	Straight	-2.428	Curve
504	23419.764	469307.338	3057784.048	1242.631	326 48 43.146	-75	-2.501	Straight
505	23430.941	469300.547	3057792.911	1242.345	318 16 26.567	Straight	-2.629	Curve
506	23457.815	469282.66	3057812.968	1241.597	318 16 26.567	-18	-2.936	Straight
507	23487.353	469256.333	3057813.548	1240.68	224 14 59.839	Straight	-3.274	Curve
508	23531.189	469225.744	3057782.148	1239.153	224 14 59.839	23	-3.571	Straight
509	23553.252	469205.588	3057775.494	1238.365	279 12 36.262	Straight	-3.571	Curve
510	23576.876	469182.268	3057779.275	1237.521	279 12 36.262	-23	-3.571	Straight
511	23596.39	469163.988	3057774.344	1236.824	230 35 54.333	Straight	-3.571	Curve
512	23637.868	469131.937	3057748.016	1235.343	230 35 54.333	23	-3.571	Straight
513	23666.817	469104.908	3057746.436	1234.38	302 42 45.110	Straight	-2.759	Curve
514	23721.177	469059.169	3057775.814	1233.405	302 42 45.110	-55	-1.462	Straight
515	23768.237	469013.998	3057782.323	1232.717	253 41 15.985	Straight	-1.462	Curve
516	23776.768	469005.811	3057779.928	1232.593	253 41 15.985	75	-1.462	Straight
517	23860.483	468929.325	3057801.376	1231.372	317 38 30.499	Straight	-1.414	Curve
518	24082.084	468780.019	3057965.127	1228.912	317 38 30.499	75	-0.802	Straight
519	24133.244	468760.562	3058011.375	1228.56	356 43 30.970	Straight	-0.579	Curve
520	24245.084	468754.174	3058123.032	1227.913	356 43 30.970	-45	-0.579	Straight
521	24286.202	468734.652	3058157.604	1227.675	304 22 19.589	Straight	-0.579	Curve
522	24413.455	468629.619	3058229.447	1226.938	304 22 19.589	45	-0.579	Straight
523	24538.435	468665.531	3058310.346	1227.176	103 30 5.565	Straight	1.315	Curve
524	24719.17	468841.272	3058268.149	1231.97	103 30 5.565	-75	3.153	Straight
525	24738.707	468860.645	3058266.1	1232.585	88 34 36.626	Straight	3.153	Curve
526	24766.556	468888.485	3058266.791	1233.464	88 34 36.626	15	3.153	Straight
527	24787.165	468903.491	3058255.094	1234.113	167 17 53.188	Straight	3.153	Curve
528	24870.207	468921.75	3058174.084	1236.731	167 17 53.188	-100	3.153	Straight
529	25021.766	469035.874	3058097.454	1241.51	80 27 41.616	Straight	3.153	Curve
530	25217.383	469228.786	3058129.87	1247.191	80 27 41.616	-75	1.921	Straight
531	25244.471	469254.122	3058139.034	1247.654	59 46 2.184	Straight	1.498	Curve
532	25476.962	469454.99	3058256.096	1250.6	59 46 2.184	75	1.259	Straight
533	25485.62	469462.705	3058260.014	1250.709	66 22 53.323	Straight	1.259	Curve
534	25713.655	469671.639	3058351.375	1256.313	66 22 53.323	-150	3.327	Straight
535	25834.324	469752.235	3058436.796	1260.328	20 17 21.446	Straight	3.327	Curve
536	25918.632	469781.469	3058515.873	1263.132	20 17 21.446	25	3.327	Straight
537	25929.777	469787.499	3058525.136	1263.503	45 49 54.154	Straight	3.327	Curve
538	25951.386	469802.999	3058540.193	1264.222	45 49 54.154	-25	3.327	Straight
539	25958.382	469807.275	3058545.702	1264.455	29 47 47.825	Straight	3.327	Curve
540	26004.328	469830.106	3058585.574	1265.945	29 47 47.825	75	2.945	Straight

Horizontal Report								
S.NO	Chainage	Northing	Eastthing	Level	Bearing	Radius	Gradient	Preceding Eleme
541	26030.046	469846.427	3058605.287	1266.639	49 26 38.122	Straight	2.449	Curve
542	26053.249	469864.056	3058620.374	1267.155	49 26 38.122	-25	2.001	Straight
543	26084.46	469870.966	3058648.768	1267.688	337 54 51.739	Straight	1.493	Curve
544	26156.407	469843.915	3058715.436	1268.762	337 54 51.739	75	1.493	Straight
545	26172.18	469839.559	3058730.565	1268.997	349 57 50.434	Straight	1.493	Curve
546	26230.48	469829.399	3058787.973	1269.868	349 57 50.434	-75	1.493	Straight
547	26241.584	469826.663	3058798.724	1270.033	341 28 50.155	Straight	1.493	Curve
548	26329.893	469798.614	3058882.46	1271.937	341 28 50.155	45	4.106	Straight
549	26437.204	469862.488	3058936.444	1277.964	118 6 47.232	Straight	5.864	Curve
550	26492.832	469911.554	3058910.231	1281.226	118 6 47.232	-75	5.864	Straight
551	26528.006	469945.268	3058901.4	1283.289	91 14 33.076	Straight	5.864	Curve
552	26554.145	469971.402	3058900.834	1284.821	91 14 33.076	-75	5.864	Straight
553	26570.113	469987.282	3058902.183	1285.758	79 2 38.610	Straight	5.864	Curve
554	26604.882	470021.417	3058908.791	1287.796	79 2 38.610	-75	5.864	Straight
555	26612.521	470028.83	3058910.622	1288.244	73 12 29.497	Straight	5.864	Curve
556	26630.271	470045.823	3058915.75	1289.285	73 12 29.497	-75	5.835	Straight
557	26652.387	470065.756	3058925.146	1290.546	56 18 44.423	Straight	5.569	Curve
558	26685.73	470093.499	3058943.64	1292.336	56 18 44.423	15	5.168	Straight
559	26705.355	470111.714	3058942.433	1293.327	131 16 27.914	Straight	4.932	Curve
560	26756.352	470150.041	3058908.792	1295.686	131 16 27.914	-25	4.319	Straight
561	26772.436	470164.61	3058902.655	1296.365	94 24 42.557	Straight	4.125	Curve
562	26798.17	470190.267	3058900.675	1297.387	94 24 42.557	75	3.816	Straight
563	26838.878	470228.062	3058886.948	1298.84	125 30 37.755	Straight	3.327	Curve
564	26904.706	470281.647	3058848.712	1300.773	125 30 37.755	75	2.624	Straight
565	26906.545	470283.131	3058847.625	1300.821	126 54 54.917	Straight	2.624	Curve
566	26950.448	470318.232	3058821.256	1301.973	126 54 54.917	-15	2.624	Straight
567	26980.65	470341.938	3058830.245	1302.766	11 33 4.470	Straight	2.624	Curve
568	27070.38	470359.905	3058918.158	1305.121	11 33 4.470	75	2.624	Straight
569	27096.234	470369.304	3058942.106	1305.799	31 18 8.920	Straight	2.624	Curve
570	27149.043	470396.741	3058987.228	1307.17	31 18 8.920	75	2.48	Straight
571	27161.56	470404.104	3058997.332	1307.475	40 51 51.985	Straight	2.396	Curve
572	27213.388	470438.014	3059036.527	1308.627	40 51 51.985	75	2.055	Straight
573	27233.722	470453.228	3059049.925	1309.044	56 23 54.655	Straight	2.055	Curve
574	27254.115	470470.213	3059061.211	1309.463	56 23 54.655	-75	2.055	Straight
575	27265.12	470478.9	3059067.95	1309.69	47 59 29.978	Straight	2.055	Curve
576	27344.506	470537.887	3059121.078	1311.418	47 59 29.978	75	2.753	Straight
577	27372.908	470562.047	3059135.687	1312.301	69 41 22.652	Straight	3.466	Curve
578	27459.377	470643.14	3059165.7	1315.661	69 41 22.652	75	3.938	Straight
579	27462.145	470645.753	3059166.613	1315.77	71 48 16.426	Straight	3.938	Curve
580	27517.588	470698.423	3059183.926	1317.953	71 48 16.426	-25	3.938	Straight
581	27532.76	470710.574	3059192.619	1318.551	37 1 54.164	Straight	3.938	Curve
582	27579.006	470738.426	3059229.537	1320.364	37 1 54.164	75	3.863	Straight
583	27584.23	470741.715	3059233.595	1320.565	41 1 23.134	Straight	3.845	Curve
584	27648.929	470784.181	3059282.406	1322.98	41 1 23.134	25	3.619	Straight
585	27666.209	470798.97	3059290.663	1323.601	80 37 33.536	Straight	3.589	Curve
586	27704.241	470836.494	3059296.858	1324.966	80 37 33.536	-75	3.589	Straight
587	27714.641	470846.606	3059299.257	1325.339	72 40 50.403	Straight	3.589	Curve
588	27727.675	470859.049	3059303.137	1325.807	72 40 50.403	-75	3.589	S

Horizontal Report								
S.NO	Chainage	Northing	Eastthing	Level	Bearing	Radius	Gradient	Preceding Eleme
601	28178.317	471182.922	3059486.33	1347.079	350 34 42.069	Straight	5.949	Curve
602	28225.953	471175.124	3059533.325	1349.91	350 34 42.069	45	5.867	Straight
603	28248.434	471177.021	3059555.491	1351.194	19 12 5.953	Straight	5.557	Curve
604	28283.844	471188.667	3059588.931	1353.075	19 12 5.953	-75	5.067	Straight
605	28315.203	471192.581	3059619.815	1354.596	355 14 40.811	Straight	4.633	Curve
606	28341.58	471190.394	3059646.102	1355.77	355 14 40.811	75	4.269	Straight
607	28362.06	471191.487	3059666.488	1356.615	10 53 22.671	Straight	3.985	Curve
608	28421.957	471202.802	3059725.307	1358.916	10 53 22.671	75	3.826	Straight
609	28428.01	471204.184	3059731.199	1359.148	15 30 50.303	Straight	3.826	Curve
610	28451.712	471210.524	3059754.037	1360.055	15 30 50.303	75	3.826	Straight
611	28460.053	471213.197	3059761.933	1360.374	21 53 9.205	Straight	3.826	Curve
612	28508.21	471231.148	3059806.62	1362.216	21 53 9.205	-75	3.826	Straight
613	28524.459	471235.53	3059822.233	1362.838	9 28 22.041	Straight	3.826	Curve
614	28577.301	471244.227	3059874.355	1364.86	9 28 22.041	-45	3.826	Straight
615	28636.526	471218.19	3059922.85	1367.12	294 3 52.792	Straight	3.748	Curve
616	28663.433	471193.622	3059933.821	1368.109	294 3 52.792	75	3.605	Straight
617	28677.999	471180.981	3059941.011	1368.629	305 11 31.485	Straight	3.528	Curve
618	28757.552	471115.968	3059986.859	1371.274	305 11 31.485	75	3.19	Straight
619	28781.759	471098.759	3060003.734	1372.047	323 41 5.601	Straight	3.19	Curve
620	28839.932	471064.307	3060050.609	1373.902	323 41 5.601	25	3.19	Straight
621	28861.745	471060.16	3060071.325	1374.598	13 40 31.372	Straight	3.19	Curve
622	28870.777	471062.296	3060080.101	1374.886	13 40 31.372	-25	3.19	Straight
623	28900.155	471052.821	3060106.148	1375.823	306 20 46.288	Straight	3.19	Curve
624	28926.871	471031.303	3060121.982	1376.676	306 20 46.288	-75	3.19	Straight
625	28950.38	471010.51	3060132.744	1377.426	288 23 11.870	Straight	3.19	Curve
626	29015.303	470948.901	3060153.222	1379.497	288 23 11.870	75	3.19	Straight
627	29025.426	470939.54	3060157.053	1379.819	296 7 11.020	Straight	3.173	Curve
628	29075.557	470894.529	3060179.123	1381.375	296 7 11.020	25	3.033	Straight
629	29095.76	470881.702	3060194.02	1381.982	342 25 19.671	Straight	2.977	Curve
630	29136.822	470869.301	3060233.165	1383.185	342 25 19.671	45	2.912	Straight
631	29205.562	470896.768	3060289.026	1385.187	69 56 39.910	Straight	2.912	Curve
632	29234.112	470923.587	3060298.817	1386.018	69 56 39.910	-25	2.912	Straight
633	29259.824	470939.553	3060317.523	1386.767	11 0 59.724	Straight	2.912	Curve
634	29313.208	470949.754	3060369.924	1388.321	11 0 59.724	25	2.912	Straight
635	29341.834	470968.51	3060389.468	1389.155	76 37 24.159	Straight	2.912	Curve
636	29378.914	471004.584	3060398.047	1390.234	76 37 24.159	-25	2.912	Straight
637	29392.787	471016.531	3060404.744	1390.639	44 49 42.461	Straight	2.957	Curve
638	29422.827	471037.708	3060426.048	1391.578	44 49 42.461	-25	3.296	Straight
639	29435.095	471043.922	3060436.484	1391.991	16 42 45.723	Straight	3.435	Curve
640	29450.379	471048.317	3060451.123	1392.53	16 42 45.723	75	3.608	Straight
641	29471.3	471057.032	3060470.067	1393.309	32 41 42.799	Straight	3.845	Curve
642	29495.075	471069.875	3060490.075	1394.255	32 41 42.799	-75	4.114	Straight
643	29503.8	471074.15	3060497.675	1394.619	26 1 49.507	Straight	4.213	Curve
644	29556.575	471097.31	3060545.096	1396.87	26 1 49.507	-200	4.27	Straight
645	29618.424	471115.497	3060603.953	1399.511	8 18 43.098	Straight	4.27	Curve
646	29662.548	471121.876	3060647.614	1401.395	8 18 43.098	75	4.27	Straight
647	29672.63	471123.998	3060657.462	1401.825	16 0 48.479	Straight	4.27	Curve
648	29736.071	471141.5	3060718.442	1404.534	16 0 48.479	-75	4.27	Straight
649	29746.891	471143.725	3060729.02	1404.996	7 44 52.479	Straight	4.283	Curve
650	29806.434	471151.753	3060788.02	1407.58	7 44 52.479	-20	4.394	Straight
651	29830.221	471141.815	3060808.106	1408.63	299 36 15.016	Straight	4.438	Curve
652	29837.587	471135.411	3060811.745	1408.958	299 36 15.016	15	4.451	Straight
653	29855.616	471127.985	3060826.996	1409.763	8 28 11.445	Straight	4.485	Curve
654	29874.55	471130.773	3060845.724	1410.616	8 28 11.445	-20	4.52	Straight
655	29896.812	471122.376	3060865.113	1411.622	304 41 40.498	Straight	4.52	Curve
656	29947.664	471080.565	3060894.058	1413.92	304 41 40.498	30	4.52	Straight
657	29960.902	471071.667	3060903.714	1414.519	329 58 37.403	Straight	4.52	Curve
658	29983.794	471060.212	3060923.535	1415.553	329 58 37.403	-75	4.52	Straight
659	30007.984	471044.969	3060942.183	1416.647	311 29 49.796	Straight	4.52	Curve
660	30052.233	471011.827	3060971.502	1418.565	311 29 49.796	40	3.51	Straight

Horizontal Report								
S.NO	Chainage	Northing	Easting	Level	Bearing	Radius	Gradient	Preceding Eleme
661	30066.288	471003.135	3060982.454	1418.997	331 37 44.099	Straight	2.631	Curve
662	30109.579	470982.564	3061020.545	1419.549	331 37 44.099	75	-0.076	Straight
663	30119.484	470978.446	3061029.546	1419.511	339 11 45.580	Straight	-0.696	Curve
664	30141.301	470970.697	3061049.94	1419.335	339 11 45.580	75	-0.811	Straight
665	30172.068	470965.89	3061080.112	1419.086	2 42 1.853	Straight	-0.811	Curve
666	30238.292	470969.01	3061146.262	1418.548	2 42 1.853	-15	-0.817	Straight
667	30273.103	470944.331	3061158.414	1418.261	229 43 47.974	Straight	-0.83	Curve
668	30293.353	470928.88	3061145.324	1418.093	229 43 47.974	-75	-0.837	Straight
669	30299.025	470924.696	3061141.498	1418.045	225 23 50.078	Straight	-0.84	Curve
670	30364.901	470877.792	3061095.241	1417.484	225 23 50.078	25	-0.865	Straight
671	30384.86	470859.74	3061088.046	1417.311	271 8 27.124	Straight	-0.866	Curve
672	30430.844	470813.765	3061088.961	1416.967	271 8 27.124	45	-0.017	Straight
673	30462.721	470784.71	3061100.368	1417.297	311 43 40.418	Straight	2.089	Curve
674	30490.435	470764.027	3061118.814	1418.13	311 43 40.418	-75	3.921	Straight
675	30514.495	470743.829	3061131.7	1419.112	293 20 49.116	Straight	4.091	Curve
676	30578.676	470684.904	3061157.134	1421.738	293 20 49.116	75	4.091	Straight
677	30591.449	470673.663	3061163.168	1422.26	303 6 16.760	Straight	4.091	Curve
678	30626.181	470644.569	3061182.137	1423.681	303 6 16.760	-75	4.091	Straight
679	30637.071	470635.048	3061187.403	1424.126	294 47 6.549	Straight	4.091	Curve
680	30678.535	470597.403	3061204.786	1425.822	294 47 6.549	-75	4.091	Straight
681	30693.509	470583.274	3061209.669	1426.435	283 20 45.266	Straight	4.091	Curve
682	30743.208	470534.917	3061221.141	1428.468	283 20 45.266	-75	4.091	Straight
683	30744.494	470533.664	3061221.427	1428.52	282 21 50.369	Straight	4.091	Curve
684	30786.36	470492.768	3061230.391	1430.124	282 21 50.369	-75	3.428	Straight
685	30800.764	470478.49	3061232.11	1430.596	271 21 37.354	Straight	3.139	Curve
686	30820.515	470458.743	3061232.579	1431.177	271 21 37.354	-75	2.743	Straight
687	30828.522	470450.745	3061232.342	1431.391	265 14 38.828	Straight	2.583	Curve
688	30872.045	470407.371	3061228.733	1432.388	265 14 38.828	-75	2.213	Straight
689	30879.232	470400.248	3061227.795	1432.547	259 45 12.037	Straight	2.213	Curve
690	30950.844	470329.778	3061215.056	1434.132	259 45 12.037	-75	2.213	Straight
691	30960.987	470319.95	3061212.584	1434.356	252 0 17.246	Straight	2.213	Curve
692	31048.191	470237.011	3061185.643	1436.286	252 0 17.246	-75	2.213	Straight
693	31048.766	470236.465	3061185.463	1436.299	251 33 56.124	Straight	2.213	Curve
694	31124.931	470164.209	3061161.379	1437.984	251 33 56.124	25	2.213	Straight
695	31196.624	470142.278	3061205.791	1440.477	55 52 28.211	Straight	5.985	Curve
696	31289.429	470219.103	3061257.855	1446.174	55 52 28.211	75	6.14	Straight
697	31297.742	470226.228	3061262.128	1446.684	62 13 30.391	Straight	6.14	Curve
698	31393.345	470310.817	3061306.679	1452.554	62 13 30.391	75	6.14	Straight
699	31396.098	470313.275	3061307.917	1452.723	64 19 39.673	Straight	6.14	Curve
700	31496.717	470403.962	3061351.508	1458.958	64 19 39.673	75	6.516	Straight
701	31518.442	470424.623	3061357.972	1460.403	80 55 27.485	Straight	6.786	Curve
702	31645.424	470550.016	3061378.002	1469.2	80 55 27.485	75	6.935	Straight
703	31649.157	470553.715	3061378.499	1469.459	83 46 35.171	Straight	6.935	Curve
704	31792.479	470696.193	3061394.037	1479.388	83 46 35.171	-75	6.912	Straight
705	31812.881	470715.926	3061398.963	1480.798	68 11 26.924	Straight	6.906	Curve
706	31858.902	470758.653	3061416.06	1483.976	68 11 26.924	-75	6.906	Straight
707	31888.365	470783.187	3061432.031	1486.011	45 40 57.201	Straight	6.906	Curve
708	31913.689	470801.306	3061449.724	1487.758	45 40 57.201	-75	6.839	Straight
709	31919.018	470804.983	3061453.578	1488.121	41 36 43.633	Straight	6.756	Curve
710	31972.633	470840.588	3061493.664	1491.519	41 36 43.633	-25	5.922	Straight
711	31988.466	470846.788	3061507.946	1492.439	5 19 30.500	Straight	5.74	Curve
712	32029.698	470850.615	3061549	1494.805	5 19 30.500	45	5.74	Straight
713	32043.167	470853.839	3061562.026	1495.579	22 28 27.229	Straight	5.74	Curve
714	32054.428	470858.143	3061572.431	1496.225	22 28 27.229	-15	5.74	Straight
715	32066.512	470858.019	3061584.191	1496.919	336 18 59.183	Straight	5.736	Curve
716	32204.661	470802.527	3061710.704	1497.878	336 18 59.183	-25	-5.926	Straight
717	32206.834	470801.569	3061712.654	1497.749	331 20 12.506	Straight	-5.926	Curve
718	32241.678	470784.855	3061743.228	1495.684	331 20 12.506	20	-5.926	Straight
719	32243.495	470784.057	3061744.86	1495.577	336 32 36.901	Straight	-5.926	Curve
720	32293.335	470764.218	3061790.582	1492.623	336 32 36.901	50	-5.926	Straight
721	32299.128	470762.225	3061796.018	1492.28	343 10 55.720	Straight	-5.926	Curve
722	32357.487	470745.34	3061851.88	1489	343 10 55.720	Straight	-5.276	Straight

VERTICAL ALIGNMENT REPORT

Vertical Report							
S.NO	Chainage	Northing	Eastthing	Level	Gradient	Vertical Radius	Preceding Eleme
1	0	478118.204	3048944.034	1459.155	0.305	Straight	None
2	68.795	478128.866	3049008.091	1459.365	0.305	691.771 Sag	Straight
3	103.795	478115.863	3049040.548	1460.357	5.365	Straight	Curve
4	209.958	478042.44	3049116.502	1466.052	5.365	-5600.178 Hog	Straight
5	385.075	478023.139	3049286.549	1472.709	2.238	Straight	Curve
6	522.023	478138.364	3049330.443	1475.773	2.238	-22889.032 Hog	Straight
7	562.286	478174.885	3049346.975	1476.639	2.062	Straight	Curve
8	817.238	478251.326	3049569.897	1481.895	2.062	-2843.466 Hog	Straight
9	907.322	478278.271	3049654.547	1482.326	-1.106	Straight	Curve
10	1134.275	478209.641	3049869.083	1479.815	-1.106	-36125.989 Hog	Straight
11	1285.725	478151.959	3050008.852	1477.822	-1.526	Straight	Curve
12	1378.497	478142.148	3050100.934	1476.406	-1.526	-3173.379 Hog	Straight
13	1445.304	478116.342	3050160.395	1474.684	-3.631	Straight	Curve
14	1561.185	478036.488	3050241.994	1470.477	-3.631	2390.916 Sag	Straight
15	1636.185	478035.4	3050316.588	1468.93	-0.494	Straight	Curve
16	1754.848	477972.828	3050408.749	1468.344	-0.494	-4768.103 Hog	Straight
17	1842.548	477900.094	3050454.589	1467.104	-2.333	Straight	Curve
18	1997.734	477755.545	3050506.051	1463.483	-2.333	2858.238 Sag	Straight
19	2072.734	477708.394	3050563.185	1462.717	0.291	Straight	Curve
20	2122.322	477664.15	3050574.746	1462.861	0.291	-705.381 Hog	Straight
21	2156.574	477631.71	3050563.864	1462.129	-4.565	Straight	Curve
22	2211.769	477588.749	3050529.555	1459.609	-4.565	-14370.972 Hog	Straight
23	2266.769	477548.114	3050492.491	1456.993	-4.948	Straight	Curve
24	2309.229	477516.427	3050464.239	1454.892	-4.948	5246.337 Sag	Straight
25	2384.229	477452.515	3050425.282	1451.718	-3.518	Straight	Curve
26	2455.321	477389.319	3050392.801	1449.216	-3.518	1039.191 Sag	Straight
27	2510.483	477335.407	3050394.501	1448.74	1.79	Straight	Curve
28	2578.957	477278.301	3050430.428	1449.965	1.79	-1086.284 Hog	Straight
29	2638.897	477235.725	3050472.619	1449.384	-3.728	Straight	Curve
30	2822.734	477105.692	3050595.814	1442.531	-3.728	4069.722 Sag	Straight
31	2862.734	477078.479	3050625.121	1441.236	-2.745	Straight	Curve
32	3017.303	476991.671	3050752.92	1436.993	-2.745	-13563.426 Hog	Straight
33	3052.455	476983.17	3050786.795	1435.983	-3.004	Straight	Curve
34	3154.137	476952.914	3050883.141	1432.928	-3.004	1085.159 Sag	Straight
35	3187.137	476940.96	3050913.854	1432.438	0.037	Straight	Curve
36	3220.74	476940.589	3050947.174	1432.45	0.037	-6400.523 Hog	Straight
37	3287.244	476954.852	3051011.097	1432.129	-1.002	Straight	Curve
38	3463.086	476947.299	3051183.213	1430.367	-1.002	260743.378 Hog	Straight
39	3613.086	476944.184	3051329.857	1428.82	-1.06	Straight	Curve
40	3718.477	477012.644	3051408.142	1427.703	-1.06	-6400.000 Hog	Straight
41	3801.523	477047.151	3051483.106	1426.284	-2.357	Straight	Curve
42	3969.482	477152.993	3051611.09	1422.325	-2.357	1600.001 Sag	Straight
43	4007.63	477186.734	3051628.075	1421.88	0.027	Straight	Curve
44	4062.562	477240.89	3051631.387	1421.895	0.027	-3490.535 Hog	Straight
45	4143.163	477219.031	3051697.197	1420.986	-2.282	Straight	Curve
46	4245.212	477119.675	3051675.928	1418.657	-2.282	-3964.912 Hog	Straight
47	4323.426	477044.995	3051652.682	1416.1	-4.255	Straight	Curve
48	4485	476927.835	3051545.666	1409.225	-4.255	6386.571 Sag	Straight
49	4635	476831.28	3051434.4	1404.604	-1.906	Straight	Curve

Vertical Report							
S.NO	Chainage	Northing	Eastthing	Level	Gradient	Vertical Radius	Preceding Eleme
50	4867.604	476605.903	3051379.996	1400.17	-1.906	31820.388 Sag	Straight
51	4952.604	476526.501	3051349.66	1398.663	-1.639	Straight	Curve
52	5047.693	476437.673	3051315.724	1397.105	-1.639	-5643.272 Hog	Straight
53	5122.693	476366.355	3051292.861	1395.377	-2.968	Straight	Curve
54	5233.134	476259.003	3051266.925	1392.099	-2.968	2042.653 Sag	Straight
55	5278.134	476215.261	3051256.357	1391.259	-0.765	Straight	Curve
56	5545	475962.189	3051323.18	1389.217	-0.765	-4575.387 Hog	Straight
57	5695	475839.715	3051382.379	1385.61	-4.044	Straight	Curve
58	5859.793	475768.07	3051528.717	1378.947	-4.044	2612.302 Sag	Straight
59	5959.793	475700.391	3051468.547	1376.817	-0.216	Straight	Curve
60	6069.62	475634.798	3051382.114	1376.581	-0.216	-5116.327 Hog	Straight
61	6169.62	475543.525	3051343.386	1375.388	-2.17	Straight	Curve
62	6260.168	475477.15	3051356.541	1373.423	-2.17	-5222.656 Hog	Straight
63	6335.168	475419.191	3051402.948	1371.257	-3.606	Straight	Curve
64	6407.096	475358.806	3051442.029	1368.663	-3.606	16642.400 Sag	Straight
65	6502.096	475280.446	3051424.503	1365.508	-3.035	Straight	Curve
66	6552.588	475244.602	3051389.061	1363.976	-3.035	-15814.416 Hog	Straight
67	6652.588	475169.857	3051350.911	1360.624	-3.668	Straight	Curve
68	6741.491	475146.321	3051422.132	1357.364	-3.668	1669.912 Sag	Straight
69	6796.491	475153.123	3051476.677	1356.252	-0.374	Straight	Curve
70	6868.111	475103.922	3051522.668	1355.984	-0.374	-2217.283 Hog	Straight
71	6943.111	475116.43	3051595.258	1354.435	-3.757	Straight	Curve
72	6966.41	475111.564	3051618.042	1353.56	-3.757	-22685.872 Hog	Straight
73	7067.41	475082.639	3051714.374	1349.541	-4.202	Straight	Curve
74	7162.5	475054	3051803.204	1345.546	-4.202	2686.787 Sag	Straight
75	7237.5	475113.91	3051842.664	1343.441	-1.41	Straight	Curve
76	7378.175	475206.774	3051939.915	1341.457	-1.41	-2679.146 Hog	Straight
77	7478.175	475148.12	3052015.916	1338.181	-5.143	Straight	Curve
78	7566.31	475096.559	3052083.62	1333.648	-5.143	31909.484 Sag	Straight
79	7607.024	475123.882	3052110.13	1331.58	-5.015	Straight	Curve
80	7620.934	475137.148	3052114.315	1330.882	-5.015	1600.048 Sag	Straight
81	7701.178	475213.675	3052138.455	1328.87	0	Straight	Curve
82	7782.791	475288.101	3052170.875	1328.87	0	-1835.089 Hog	Straight
83	7827.791	475321.257	3052201.127	1328.318	-2.452	Straight	Curve
84	7950.895	475374.725	3052310.283	1325.299	-2.452	-12443.310 Hog	Straight
85	8100.895	475476.751	3052410.411	1320.717	-3.658	Straight	Curve
86	8270.622	475450.117	3052536.164	1314.508	-3.658	393921.562 Sag	Straight
87	8420.622	475335.457	3052632.329	1309.05	-3.62	Straight	Curve
88	8489.543	475273.343	3052661.146	1306.555	-3.62	3398.641 Sag	Straight
89	8534.543	475234.176	3052682.445	1305.224	-2.296	Straight	Curve
90	8573.129	475210.459	3052712.826	1304.339	-2.296	12923.464 Sag	Straight
91	8658.129	475239.474	3052767.844	1302.667	-1.638	Straight	Curve
92	8784.499	475303.25	3052864.517	1300.597	-1.638	-15901.911 Hog	Straight
93	8884.499	475353.702	3052950.847	1298.645	-2.267	Straight	Curve
94	8999.927	475424.193	3053039.622	1296.028	-2.267	12727.480 Sag	Straight
95	9074.927	475447.818	3053110.804	1294.549	-1.678	Straight	Curve
96	9168.713	475450.775	3053203.007	1292.976	-1.678	-13829.350 Hog	Straight
97	9318.713	475385.237	3053332.464	1289.646	-2.762	Straight	Curve
98	9420	475319.297	3053409.335	1286.848	-2.762	7201.543 Sag	Straight

NOTES:-

TITLE

VERTICAL REPORT

LADA TO BISAI ROAD



MANISH

M. S.

T.L.

DRAWN BY

DESIGN BY

APPROVED BY

HIGHWAY ENGINEERING CONSULTANT

HEAD OFFICE :-

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CENTRAL PUBLIC WORKS DEPARTMENT

NAME OF WORK

CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY

REVISION - 2

APRIL-2018

SIZE - A3

SHEET- 01

Vertical Report							
S.NO	Chainage	Northing	Easthing	Level	Gradient	Vertical Radius	Preceding Eleme
99	9520	475248.737	3053480.196	1284.78	-1.374	Straight	Curve
100	9794.968	475137.728	3053705.061	1281.003	-1.374	-8901.774 Hog	Straight
101	9953.421	475201.82	3053849.271	1277.417	-3.154	Straight	Curve
102	9996.896	475196.156	3053892.219	1276.045	-3.154	10553.903 Sag	Straight
103	10106.896	475175.101	3054000.185	1273.15	-2.111	Straight	Curve
104	10247.566	475099.929	3054114.422	1270.18	-2.111	19661.872 Sag	Straight
105	10322.566	475059.954	3054177.881	1268.739	-1.73	Straight	Curve
106	10409.267	475013.727	3054251.23	1267.239	-1.73	-5966.896 Hog	Straight
107	10533.621	474919.057	3054331.192	1263.792	-3.814	Straight	Curve
108	10640.539	474816.254	3054321.393	1259.715	-3.814	8681.682 Sag	Straight
109	10750.539	474710.841	3054297.981	1256.216	-2.547	Straight	Curve
110	10870.243	474599.742	3054262.344	1253.167	-2.547	-40831.298 Hog	Straight
111	10955.243	474585.446	3054341.52	1250.914	-2.755	Straight	Curve
112	11070.15	474588.375	3054456.39	1247.748	-2.755	14383.963 Sag	Straight
113	11211.183	474571.722	3054592.958	1244.554	-1.775	Straight	Curve
114	11276.578	474537.253	3054648.264	1243.394	-1.775	-3676.360 Hog	Straight
115	11377.854	474513.94	3054745.678	1240.201	-4.529	Straight	Curve
116	11606.977	474499.305	3054903.412	1229.824	-4.529	1297.678 Sag	Straight
117	11661.977	474447.472	3054885.016	1228.498	-0.291	Straight	Curve
118	11763.113	474419.766	3054928.859	1228.204	-0.291	-1215.200 Hog	Straight
119	11820.643	474442.871	3054981.36	1226.674	-5.025	Straight	Curve
120	11902.229	474501.213	3055036.634	1222.574	-5.025	1414.686 Sag	Straight
121	11963.346	474553.16	3055068.538	1220.823	-0.705	Straight	Curve
122	12158.226	474414.973	3055162.886	1219.449	-0.705	-3864.045 Hog	Straight
123	12234.252	474347.444	3055195.278	1218.165	-2.673	Straight	Curve
124	12275.527	474316.084	3055220.895	1217.062	-2.673	54017.247 Sag	Straight
125	12394.527	474317.819	3055335.815	1214.013	-2.452	Straight	Curve
126	12465.158	474264.165	3055381.374	1212.281	-2.452	-89108.931 Hog	Straight
127	12575.158	474200.602	3055470.635	1209.515	-2.576	Straight	Curve
128	12667.32	474140.372	3055539.576	1207.141	-2.576	50760.462 Sag	Straight
129	12787.32	474079.095	3055642.317	1204.192	-2.339	Straight	Curve
130	12835.803	474033.969	3055655.378	1203.058	-2.339	140733.334 Sag	Straight
131	12930.803	473971.674	3055704.217	1200.868	-2.272	Straight	Curve
132	12962.5	473949.378	3055725.769	1200.148	-2.272	3345.409 Sag	Straight
133	13017.5	473963.221	3055778.091	1199.35	-0.628	Straight	Curve
134	13102.864	474001.138	3055852.834	1198.814	-0.628	-3621.534 Hog	Straight
135	13177.864	473977.797	3055920.988	1197.567	-2.699	Straight	Curve
136	13364.231	473822.334	3055995.46	1192.537	-2.699	10516.719 Sag	Straight
137	13464.231	473759.3	3056071.569	1190.314	-1.748	Straight	Curve
138	13605.556	473640.523	3056095.652	1187.844	-1.748	4064.844 Sag	Straight
139	13690.556	473584.984	3056159.998	1187.247	0.343	Straight	Curve
140	13734.406	473555.224	3056192.167	1187.397	0.343	-6401.403 Hog	Straight
141	13804.791	473505.464	3056241.946	1187.252	-0.756	Straight	Curve
142	13820.683	473494.229	3056253.185	1187.132	-0.756	16381.082 Sag	Straight
143	13885.683	473448.276	3056299.156	1186.769	-0.36	Straight	Curve
144	13944.472	473391.983	3056308.082	1186.558	-0.36	2510.120 Sag	Straight
145	14019.472	473335.837	3056262.207	1187.409	2.628	Straight	Curve
146	14044.556	473311.19	3056259.272	1188.068	2.628	5112.899 Sag	Straight
147	14164.556	473214.438	3056324.458	1192.63	4.975	Straight	Curve

Vertical Report							
S.NO	Chainage	Northing	Easthing	Level	Gradient	Vertical Radius	Preceding Eleme
148	14349.806	473118.876	3056482.579	1201.847	4.975	5346.655 Sag	Straight
149	14430.194	473058.616	3056530.604	1206.451	6.479	Straight	Curve
150	14535.757	473054.636	3056619.96	1213.29	6.479	-9798.825 Hog	Straight
151	14668.213	472942.244	3056680.298	1220.977	5.127	Straight	Curve
152	14792.29	472867.378	3056779.242	1227.339	5.127	-5832.880 Hog	Straight
153	14910.892	472778.895	3056850.556	1232.214	3.094	Straight	Curve
154	15070.656	472633.873	3056881.176	1237.156	3.094	-27733.604 Hog	Straight
155	15170.656	472569.05	3056875.171	1240.07	2.733	Straight	Curve
156	15208.989	472549.332	3056907.161	1241.118	2.733	-2970.327 Hog	Straight
157	15333.989	472525.528	3057029.193	1241.904	-1.475	Straight	Curve
158	15367.518	472509.692	3057058.521	1241.41	-1.475	-20478.867 Hog	Straight
159	15467.518	472439.952	3057129.995	1239.69	-1.963	Straight	Curve
160	15577.909	472334.117	3057157.618	1237.523	-1.963	-10562.043 Hog	Straight
161	15648.727	472273.002	3057193.397	1235.895	-2.634	Straight	Curve
162	15802.006	472129.384	3057170.615	1231.858	-2.634	33605.919 Sag	Straight
163	15939.37	471996.815	3057135.369	1228.521	-2.225	Straight	Curve
164	16041.208	471902.161	3057097.801	1226.255	-2.225	-7749.188 Hog	Straight
165	16339.969	471709.363	3056877.083	1213.848	-6.08	Straight	Curve
166	16420.975	471687.484	3056799.087	1208.922	-6.08	26548.569 Sag	Straight
167	16520.975	471677.415	3056699.988	1203.03	-5.704	Straight	Curve
168	16767.742	471615.393	3056465.094	1188.955	-5.704	-15836.068 Hog	Straight
169	16857.159	471586.868	3056380.424	1183.602	-6.268	Straight	Curve
170	16899.018	471571.994	3056341.445	1180.978	-6.268	1599.864 Sag	Straight
171	16943.988	471540.537	3056309.567	1178.792	-3.458	Straight	Curve
172	16966.103	471523.984	3056294.901	1178.027	-3.458	1530.077 Sag	Straight
173	17021.103	471478.233	3056265.444	1177.114	0.137	Straight	Curve
174	17111.788	471404.821	3056213.677	1177.238	0.137	-6400.426 Hog	Straight
175	17215.624	471321.818	3056152.087	1176.538	-1.485	Straight	Curve
176	17317.831	471261.857	3056070.493	1175.02	-1.485	1600.000 Sag	Straight
177	17350.321	471235.61	3056052.477	1174.867	0.545	Straight	Curve
178	17422.322	471188.496	3056082.839	1175.26	0.545	1600.000 Sag	Straight
179	17509.071	471237.287	3056154.477	1178.084	5.967	Straight	Curve
180	17566.925	471269.558	3056202.494	1181.536	5.967	-2907.258 Hog	Straight
181	17627.893	471303.566	3056253.095	1184.535	3.87	Straight	Curve
182	17766.15	471404.87	3056344.604	1189.886	3.87	35226.398 Sag	Straight
183	17841.15	471456.513	3056394.805	1192.868	4.083	Straight	Curve
184	17982.645	471460.503	3056530.699	1198.645	4.083	-33157.916 Hog	Straight
185	18037.645	471472.371	3056583.718	1200.845	3.917	Straight	Curve
186	18284.293	471479.968	3056829.824	1210.506	3.917	10338.084 Sag	Straight
187	18335.788	471486.591	3056880.892	1212.652	4.415	Straight	Curve
188	18445.433	471485.669	3056990.485	1217.493	4.415	-6400.000 Hog	Straight
189	18554.567	471491.115	3057094.244	1221.381	2.71	Straight	Curve
190	18709.593	471558.204	3057231.445	1225.582	2.71	2812.614 Sag	Straight
191	18784.593	471606.511	3057288.625	1228.614	5.376	Straight	Curve
192	19017.232	471726.596	3057456.395	1241.122	5.376	-6426.707 Hog	Straight
193	19127.232	471813.727	3057513.667	1246.095	3.665	Straight	Curve
194	19512.694	471836.971	3057858.062	1260.221	3.665	8678.289 Sag	Straight
195	19622.694	471777.391	3057949.364	1264.95	4.932	Straight	Curve
196	19897.009	471697.701	3058182.561	1278.48	4.932	-1799.252 Hog	Straight

NOTES:-

TITLE

VERTICAL REPORT

LADA TO BISAI ROAD



MANISH

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HEAD OFFICE :-

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CENTRAL PUBLIC WORKS DEPARTMENT

NAME OF WORK

CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY

REVISION - 2

APRIL-2018

SIZE - A3

SHEET- 02

Vertical Report							
S.NO	Chainage	Northing	Easthing	Level	Gradient	Vertical Radius	Preceding Eleme
197	19956.651	471676.649	3058237.753	1280.433	1.618	Straight	Curve
198	20198.545	471482.983	3058338.343	1284.346	1.618	6809.158 Sag	Straight
199	20308.545	471473.514	3058441.928	1287.014	3.233	Straight	Curve
200	20468.727	471418.22	3058586.783	1292.193	3.233	-5439.845 Hog	Straight
201	20621.273	471270.001	3058616.865	1294.986	0.429	Straight	Curve
202	20713.396	471193.5	3058657.361	1295.381	0.429	-5942.973 Hog	Straight
203	20834.996	471099.017	3058645.885	1294.659	-1.617	Straight	Curve
204	20933.598	471069.593	3058557.598	1293.064	-1.617	-7088.868 Hog	Straight
205	21059.627	471057.076	3058435.117	1289.905	-3.395	Straight	Curve
206	21114.505	471029.538	3058389.927	1288.042	-3.395	4011.603 Sag	Straight
207	21189.505	470966.592	3058349.149	1286.197	-1.526	Straight	Curve
208	21438.998	470730.247	3058298.164	1282.391	-1.526	-76421.558 Hog	Straight
209	21538.998	470635.723	3058271.022	1280.8	-1.656	Straight	Curve
210	21639.073	470546.535	3058226.535	1279.142	-1.656	-85359.459 Hog	Straight
211	21714.073	470483.494	3058210.868	1277.867	-1.744	Straight	Curve
212	21811.798	470412.675	3058207.435	1276.162	-1.744	-38375.332 Hog	Straight
213	21896.798	470346.641	3058238.694	1274.586	-1.966	Straight	Curve
214	22132.653	470275.467	3058172.467	1269.949	-1.966	-4563.330 Hog	Straight
215	22210.506	470273.334	3058094.997	1267.755	-3.672	Straight	Curve
216	22379.135	470139.753	3057996.859	1261.563	-3.672	2996.148 Sag	Straight
217	22454.135	470086.549	3057944.46	1259.748	-1.169	Straight	Curve
218	22648.973	469913.376	3057872.202	1257.471	-1.169	-10851.448 Hog	Straight
219	22753.603	469809.455	3057862.874	1255.744	-2.133	Straight	Curve
220	22836.375	469731.08	3057862.691	1253.978	-2.133	10977.602 Sag	Straight
221	22936.375	469683.873	3057950.601	1252.301	-1.222	Straight	Curve
222	23070.84	469581.555	3057880.461	1250.658	-1.222	-2639.854 Hog	Straight
223	23135.84	469526.046	3057846.641	1249.064	-3.684	Straight	Curve
224	23199.559	469473.333	3057810.945	1246.716	-3.684	1600.130 Sag	Straight
225	23244.953	469434.455	3057787.966	1245.688	-0.847	Straight	Curve
226	23282.728	469399.581	3057773.45	1245.368	-0.847	-4745.612 Hog	Straight
227	23357.728	469339.393	3057733.468	1244.14	-2.428	Straight	Curve
228	23413.333	469310.858	3057778.665	1242.79	-2.428	-8745.619 Hog	Straight
229	23513.333	469238.204	3057794.939	1239.79	-3.571	Straight	Curve
230	23649.458	469121.541	3057743.176	1234.929	-3.571	2138.655 Sag	Straight
231	23694.568	469081.558	3057761.434	1233.794	-1.462	Straight	Curve
232	23847.017	468939.24	3057792.291	1231.566	-1.462	28288.595 Sag	Straight
233	23957.017	468864.284	3057872.709	1230.172	-1.073	Straight	Curve
234	24021.876	468820.584	3057920.637	1229.476	-1.073	22256.950 Sag	Straight
235	24131.876	468760.653	3058010.01	1228.568	-0.579	Straight	Curve
236	24436.933	468614.488	3058247.05	1226.803	-0.579	5359.852 Sag	Straight
237	24636.933	468761.307	3058287.349	1229.377	3.153	Straight	Curve
238	25138.414	469150.909	3058116.784	1245.187	3.153	-6410.314 Hog	Straight
239	25259.798	469267.363	3058146.751	1247.865	1.259	Straight	Curve
240	25511.48	469486.399	3058270.375	1251.035	1.259	6771.401 Sag	Straight
241	25651.48	469614.672	3058326.465	1254.245	3.327	Straight	Curve
242	25984.566	469820.286	3058568.424	1265.326	3.327	-5179.735 Hog	Straight
243	26079.566	469872.352	3058644.082	1267.615	1.493	Straight	Curve
244	26285.056	469812.855	3058839.945	1270.682	1.493	1715.906 Sag	Straight
245	26360.056	469798.967	3058912.06	1273.441	5.864	Straight	Curve

Vertical Report							
S.NO	Chainage	Northing	Easthing	Level	Gradient	Vertical Radius	Preceding Eleme
246	26627.887	470043.541	3058915.061	1289.145	5.864	-8316.711 Hog	Straight
247	26897.292	470275.611	3058853.018	1300.578	2.624	Straight	Curve
248	27127.5	470385.548	3058968.821	1306.62	2.624	-14927.082 Hog	Straight
249	27212.5	470437.433	3059035.856	1308.608	2.055	Straight	Curve
250	27316.703	470517.229	3059102.472	1310.749	2.055	3983.468 Sag	Straight
251	27391.703	470579.673	3059142.21	1312.997	3.938	Straight	Curve
252	27557.582	470725.524	3059212.434	1319.528	3.938	-28682.017 Hog	Straight
253	27657.582	470790.867	3059287.832	1323.291	3.589	Straight	Curve
254	27773.595	470901.044	3059321.659	1327.455	3.589	35442.315 Sag	Straight
255	27883.595	471008.006	3059337.378	1331.574	3.899	Straight	Curve
256	27945.046	471069.415	3059335.366	1333.97	3.899	3658.746 Sag	Straight
257	28020.046	471140.016	3059352.79	1337.663	5.949	Straight	Curve
258	28220.04	471176.092	3059527.491	1349.561	5.949	-7231.674 Hog	Straight
259	28373.587	471193.664	3059677.808	1357.066	3.826	Straight	Curve
260	28621.823	471230.407	3059914.787	1366.563	3.826	-18873.127 Hog	Straight
261	28741.823	471128.822	3059977.794	1370.773	3.19	Straight	Curve
262	29019.29	470945.153	3060154.58	1379.624	3.19	-35921.769 Hog	Straight
263	29119.29	470874.596	3060216.451	1382.675	2.912	Straight	Curve
264	29388.827	471013.528	3060402.167	1390.523	2.912	8837.541 Sag	Straight
265	29508.827	471076.356	3060502.192	1394.832	4.27	Straight	Curve
266	29739.421	471142.352	3060721.681	1404.677	4.27	53953.446 Sag	Straight
267	29874.421	471130.754	3060845.596	1410.61	4.52	Straight	Curve
268	30036.085	471023.922	3060960.802	1417.917	4.52	-1599.039 Hog	Straight
269	30121.332	470977.789	3061031.273	1419.497	-0.811	Straight	Curve
270	30224.739	470968.372	3061132.724	1418.658	-0.811	263276.256 Hog	Straight
271	30369.039	470874.62	3061092.592	1417.448	-0.866	Straight	Curve
272	30418	470826.607	3061088.705	1417.024	-0.866	1513.094 Sag	Straight
273	30493	470762.083	3061120.489	1418.233	4.091	Straight	Curve
274	30753.325	470525.037	3061223.318	1428.882	4.091	-4986.576 Hog	Straight
275	30846.95	470432.38	3061230.814	1431.832	2.213	Straight	Curve
276	31148.592	470141.682	3061164.817	1438.508	2.213	1273.219 Sag	Straight
277	31198.592	470143.907	3061206.895	1440.596	6.14	Straight	Curve
278	31466.466	470376.697	3061338.402	1457.044	6.14	8042.662 Sag	Straight
279	31530.403	470436.435	3061359.859	1461.224	6.935	Straight	Curve
280	31701.982	470606.229	3061384.226	1473.123	6.935	384607.966 Hog	Straight
281	31811.982	470715.09	3061398.634	1480.736	6.906	Straight	Curve
282	31909.334	470798.19	3061446.681	1487.459	6.906	-6430.287 Hog	Straight
283	31984.334	470846.068	3061503.882	1492.202	5.74	Straight	Curve
284	32066.353	470858.082	3061584.045	1496.909	5.74	-3641.147 Hog	Straight
285	32111.353	470840.007	3061625.255	1499.214	4.504	Straight	Curve
286	32127.436	470833.547	3061639.984	1499.939	4.504	-462.391 Hog	Straight
287	32175.664	470814.174	3061684.15	1499.596	-5.926	Straight	Curve
288	32304.993	470760.528	3061801.631	1491.932	-5.926	7691.367 Sag	Straight
289	32354.993	470746.062	3061849.492	1489.132	-5.276	Straight	Curve
290	32357.487	470745.34	3061851.88	1489	-5.276	Straight	Straight

NOTES:-

TITLE

VERTICAL REPORT

LADA TO BISAI ROAD



MANISH

M.S.

T.L.

DRAWN BY

DESIGN BY

APPROVED BY

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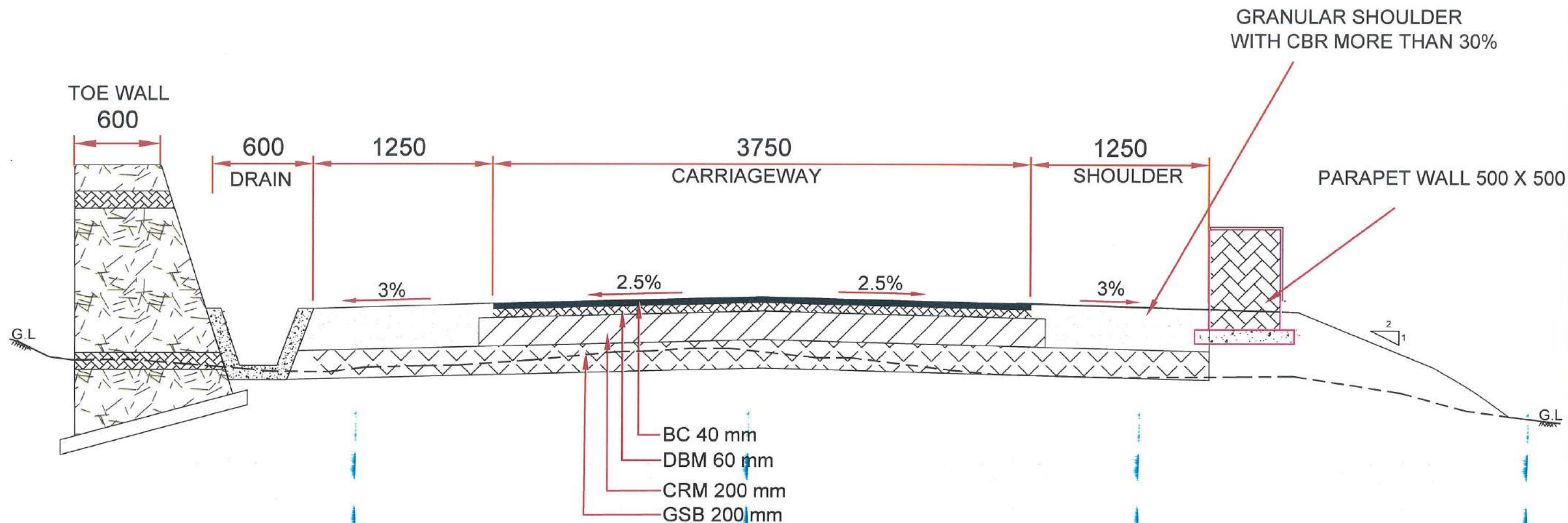
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APRIL-2018

SIZE - A3

SHEET- 03

TYPICAL CROSS SECTIONS



TYPICAL CROSS SECTION FOR CUTTING HEIGHT LESS THAN 0.5 METER
TCS-1

NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TYPICAL CROSS SECTION FOR
CUTTING HEIGHT LESS THAN 0.5 METER



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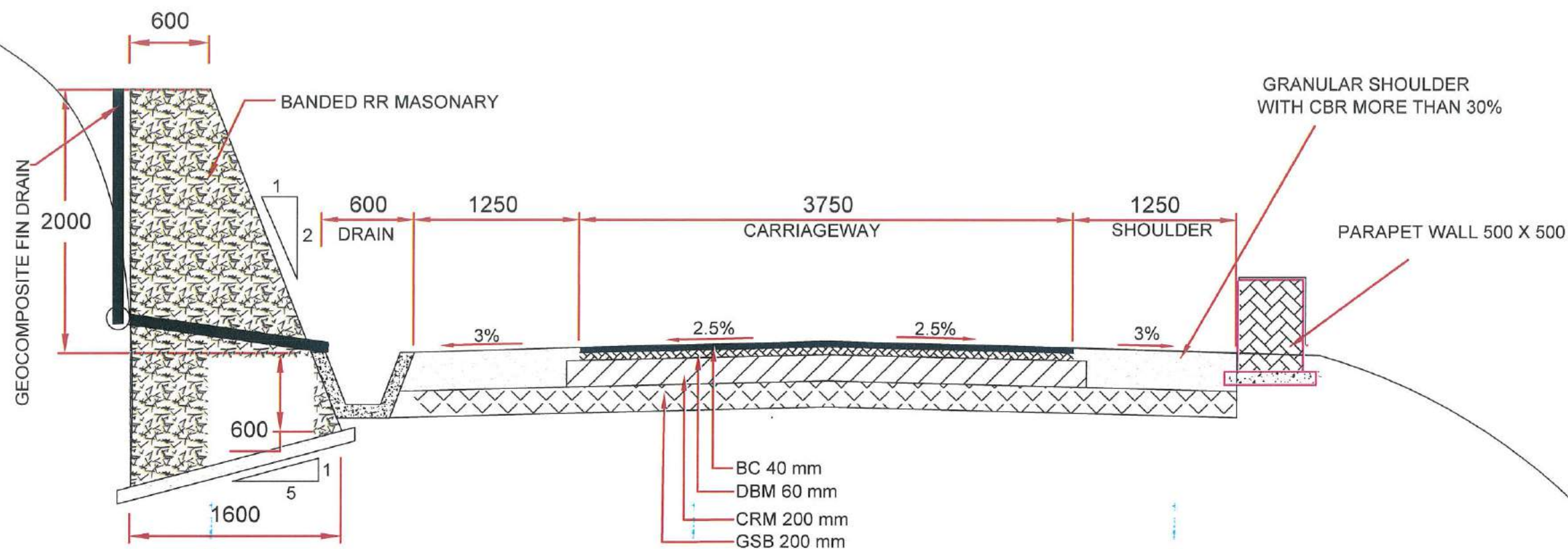
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SHEET NO.01



TYPICAL CROSS SECTION FOR CUTTING HEIGHT UPTO 2 METER
TCS-2

NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TYPICAL CROSS SECTION FOR CUTTING
HEIGHT UPTO 2 METER



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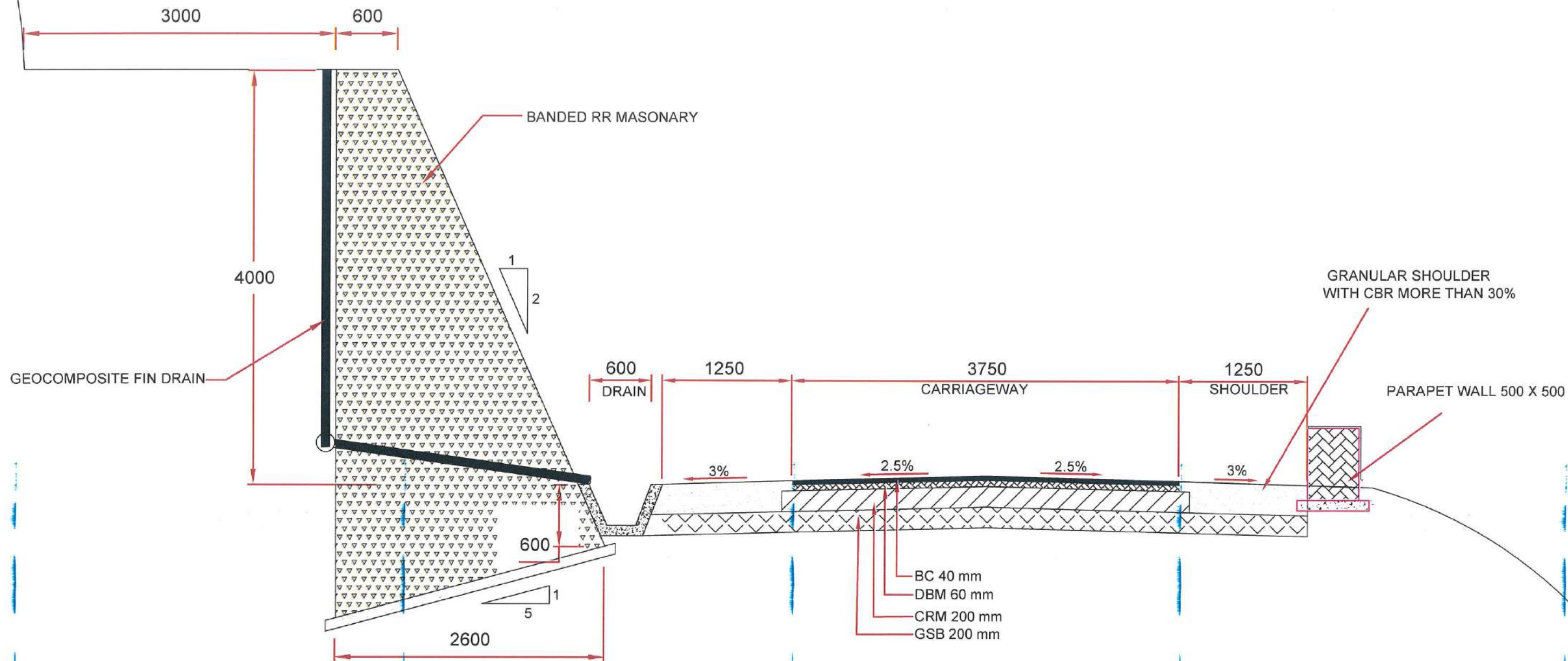
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SIZE -A3

SHEET NO. 02



TYPICAL CROSS SECTION FOR CUTTING HEIGHT MORE THAN 4 METER BUT LESS THAN 8 METER

TCS-3

NOTES:-

- ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TYPICAL CROSS SECTION FOR
CUTTING HEIGHT MORE THAN
4 METER BUT LESS THAN 8 METER



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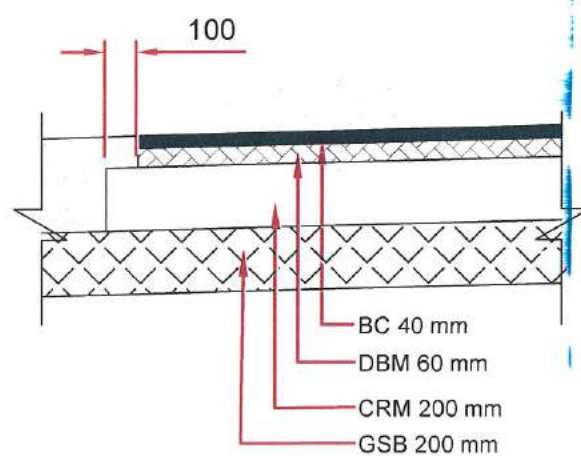
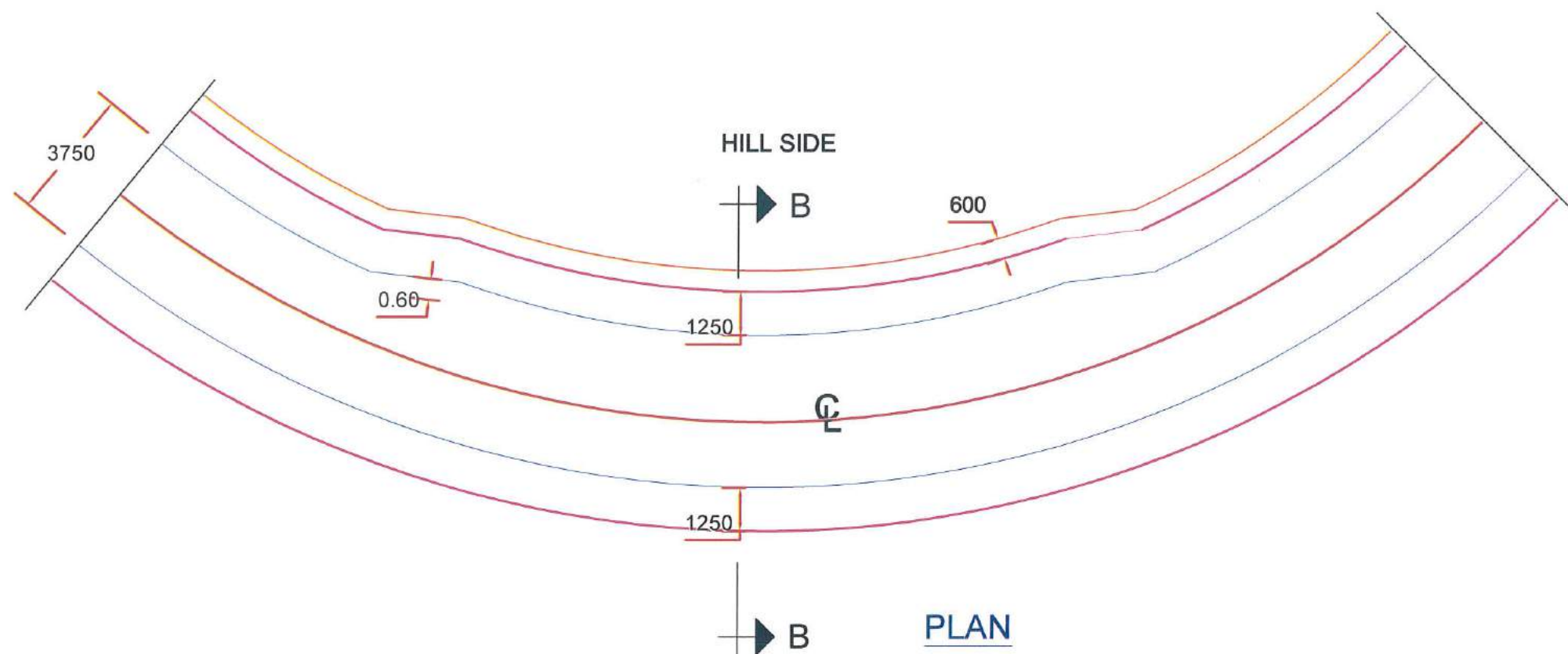
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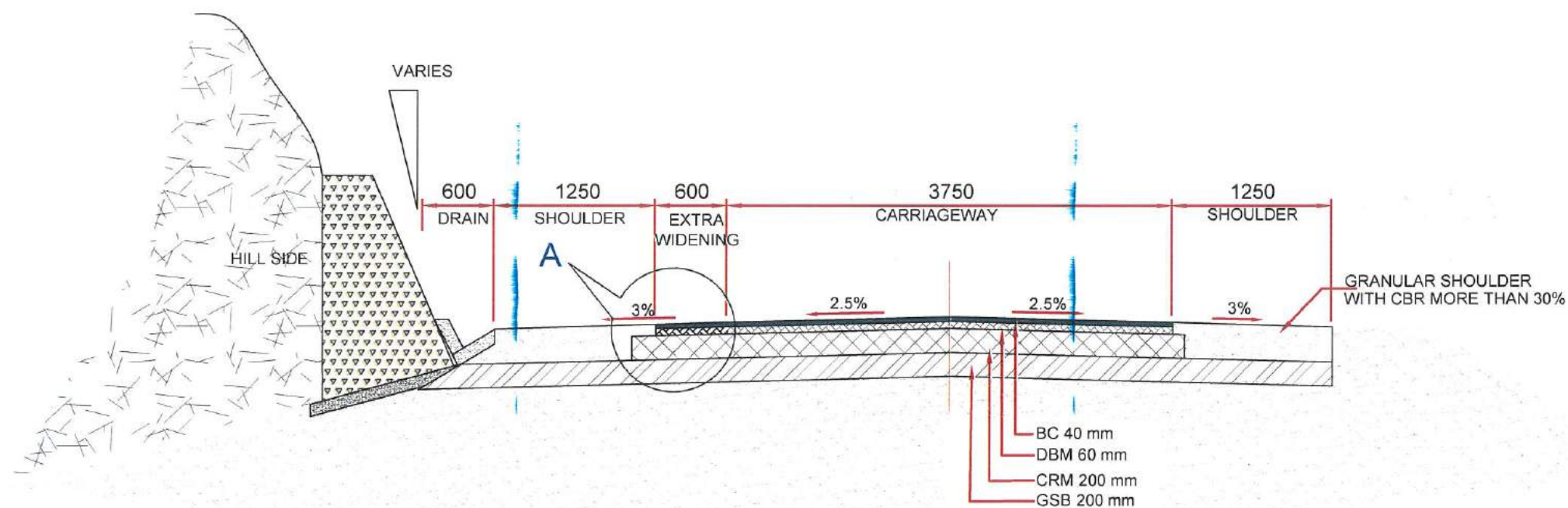
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SHEET NO.03



DETAIL A



SECTION AT B-B
TCS-5

NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TYPICAL CROSS SECTION
OF
FOR CURVE LOCATION



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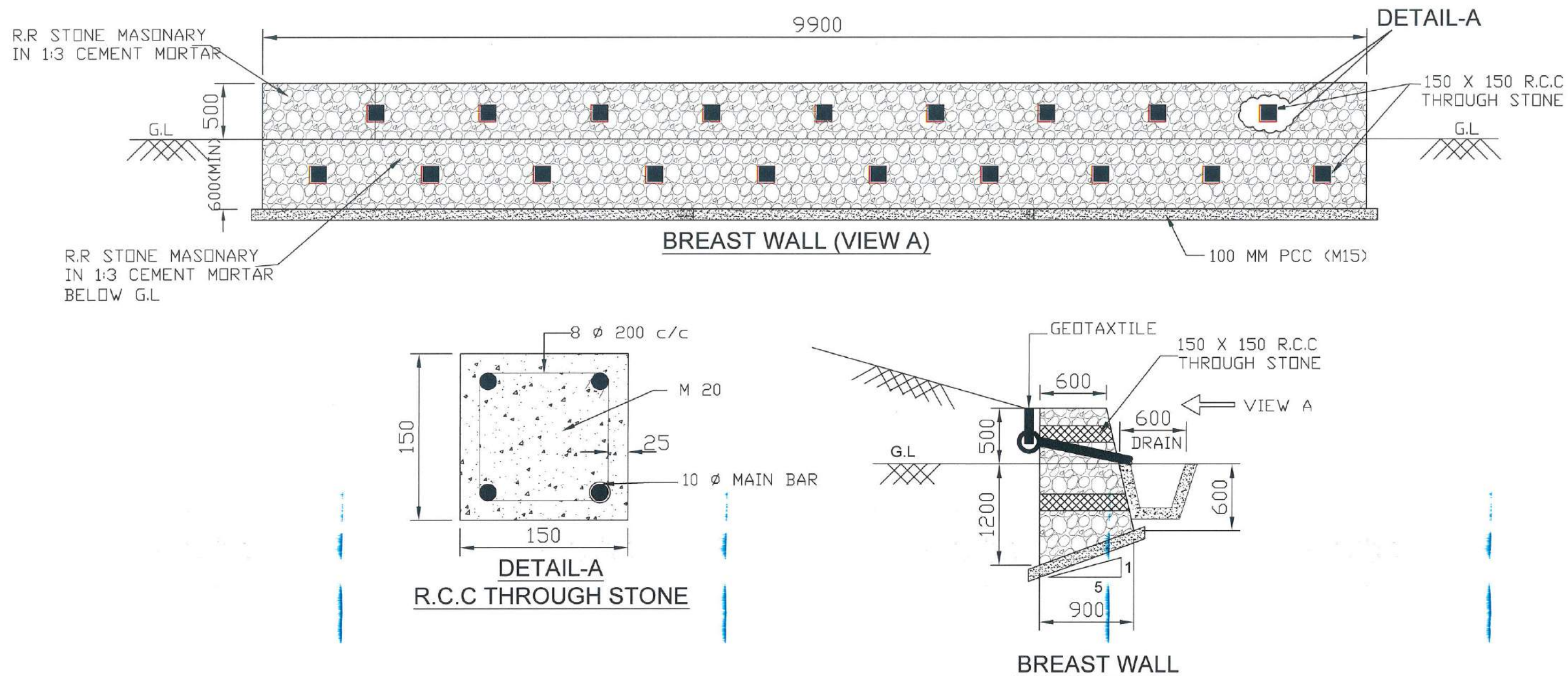
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SIZE -A3

SHEET NO.05



TYPICAL DETAILS OF BREAST WALL / TOE WALL FOR SECTION HAVING CUTTING HEIGHT LESS THAN 0.5 METER

TCS-7

NOTES:-

- ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

**BREAST WALL/
TOE WALL FOR SECTION HAVING
CUTTING HEIGHT LESS THEN 0.5
METER**



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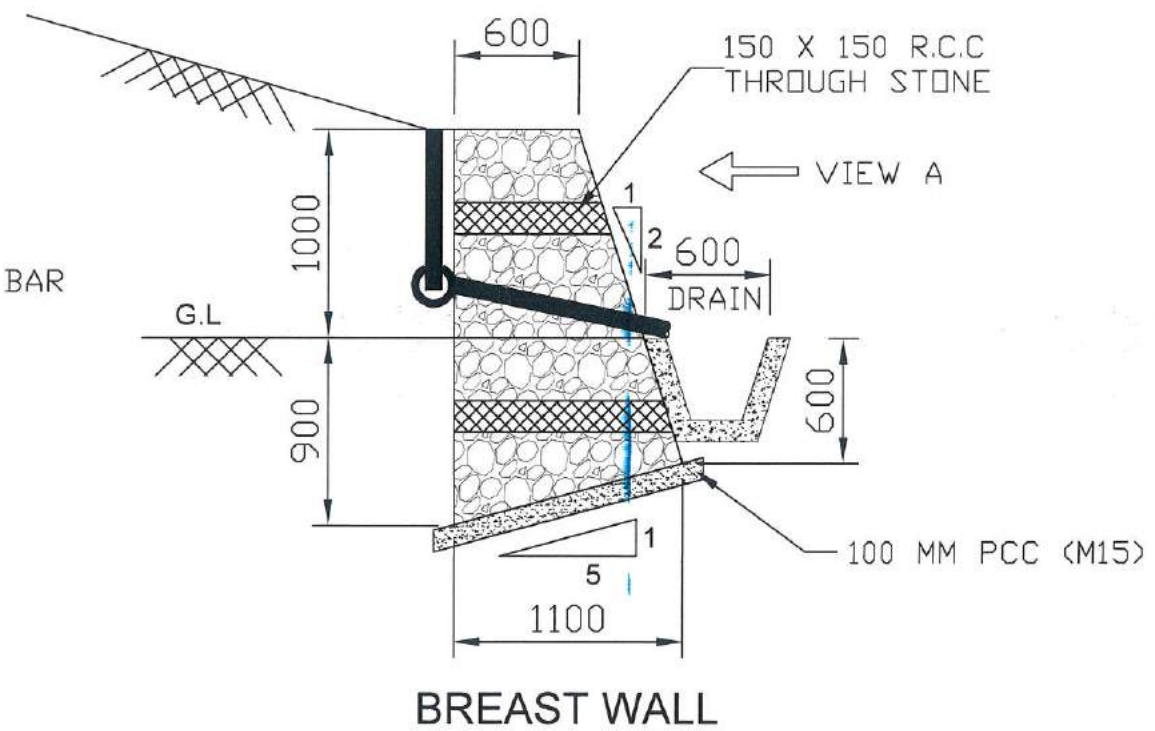
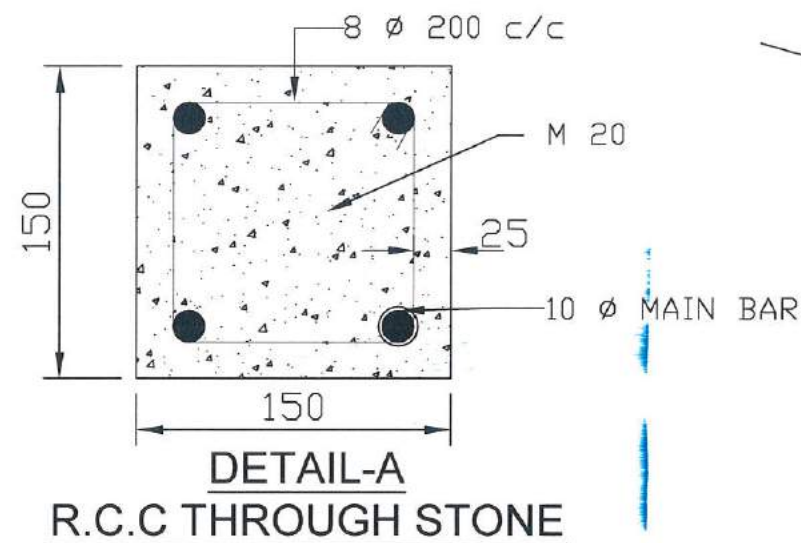
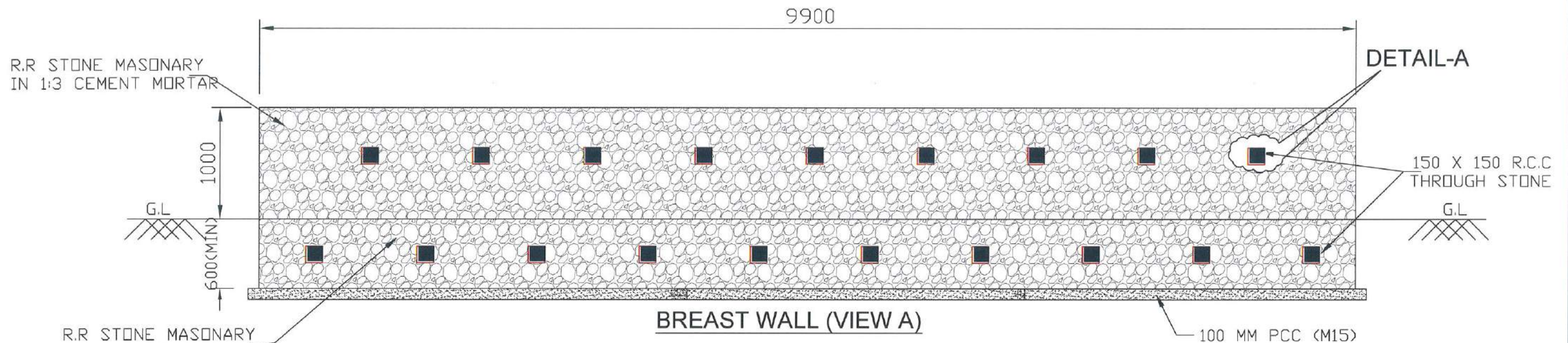
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SIZE -A3

SHEET NO.07



QUANTITY OF RRM = 1.52 Cum
QUANTITY OF DRY STONE = 0.0 CUM

TCS-8

NOTES:-

- ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

BREAST WALL
HEIGHT UPTO 1M
ABOVE G.L.



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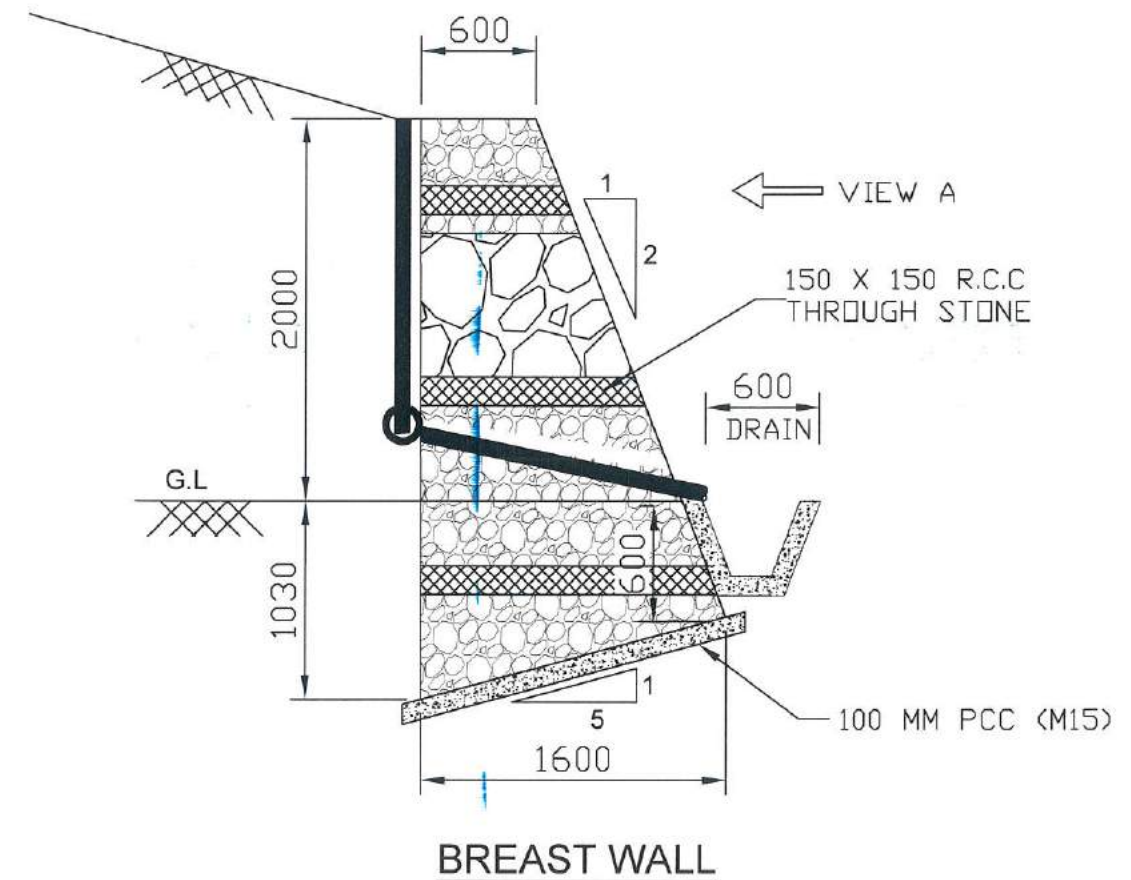
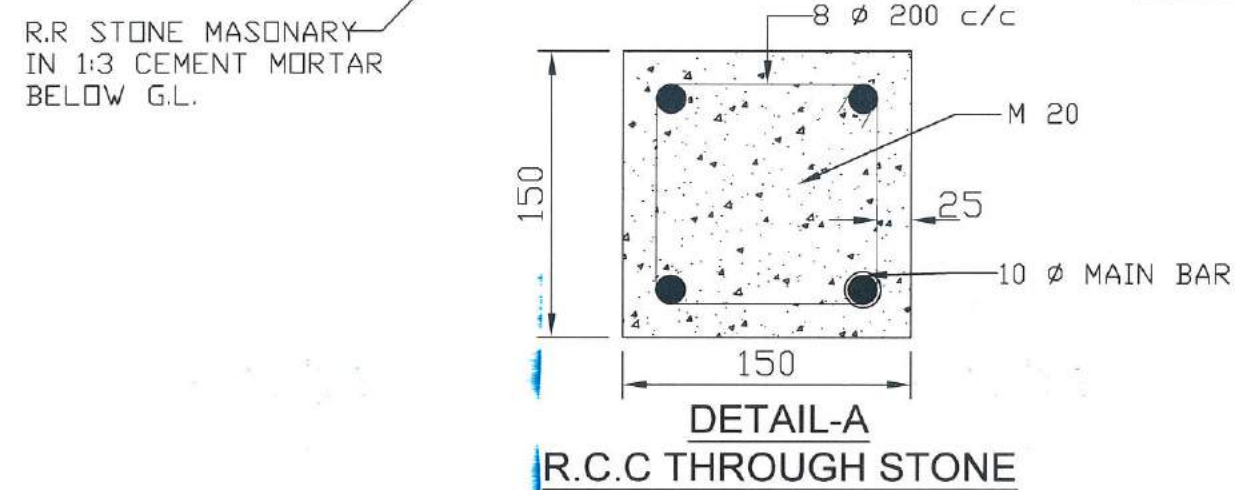
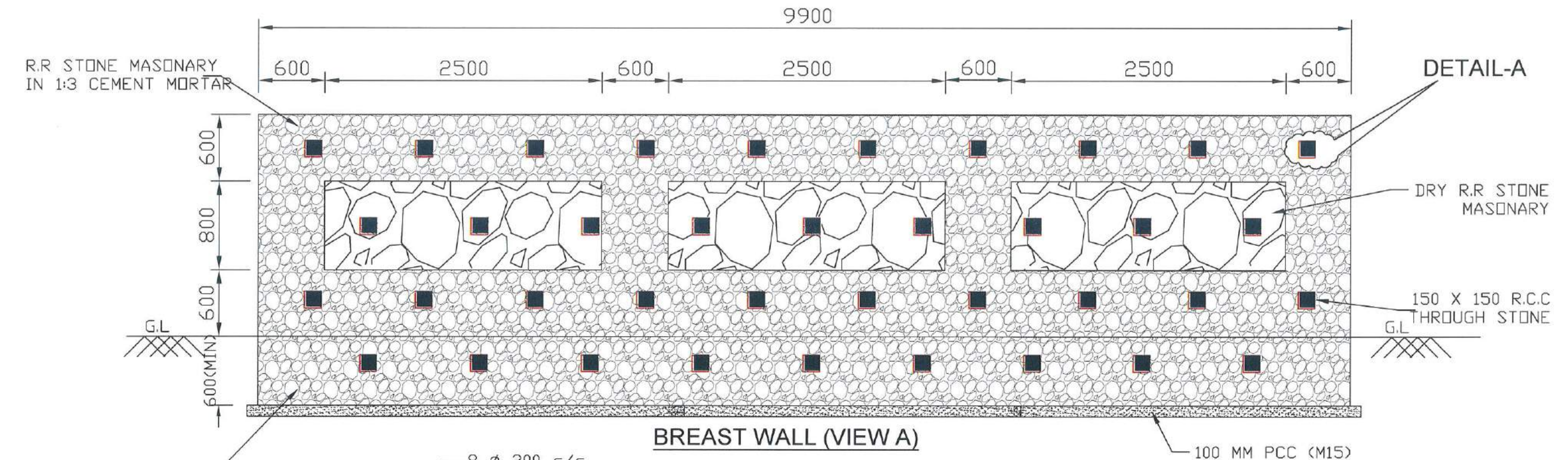
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SIZE -A3

SHEET NO.08



QUANTITY OF RRM = 2.46 Cum
QUANTITY OF DRY STONE = 0.74 CUM

TCS-9

NOTES:-

- ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

**BREAST WALL HEIGHT
UPTO 2M ABOVE G.L**



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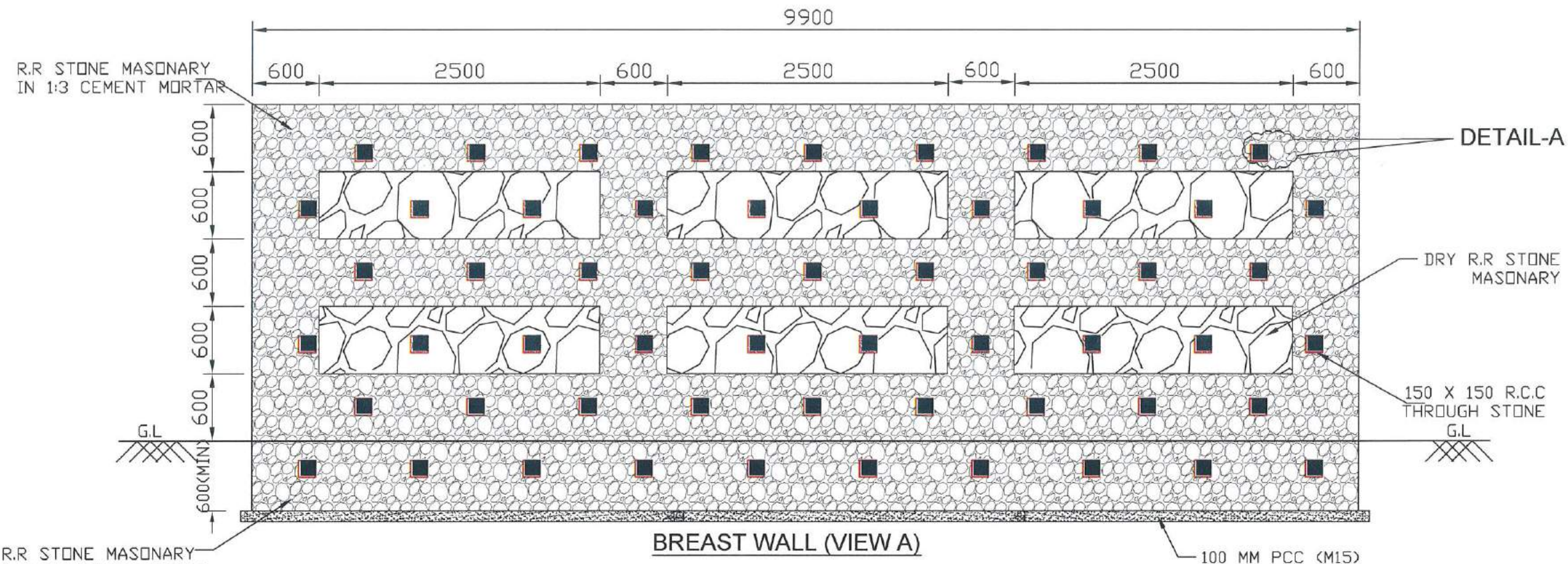
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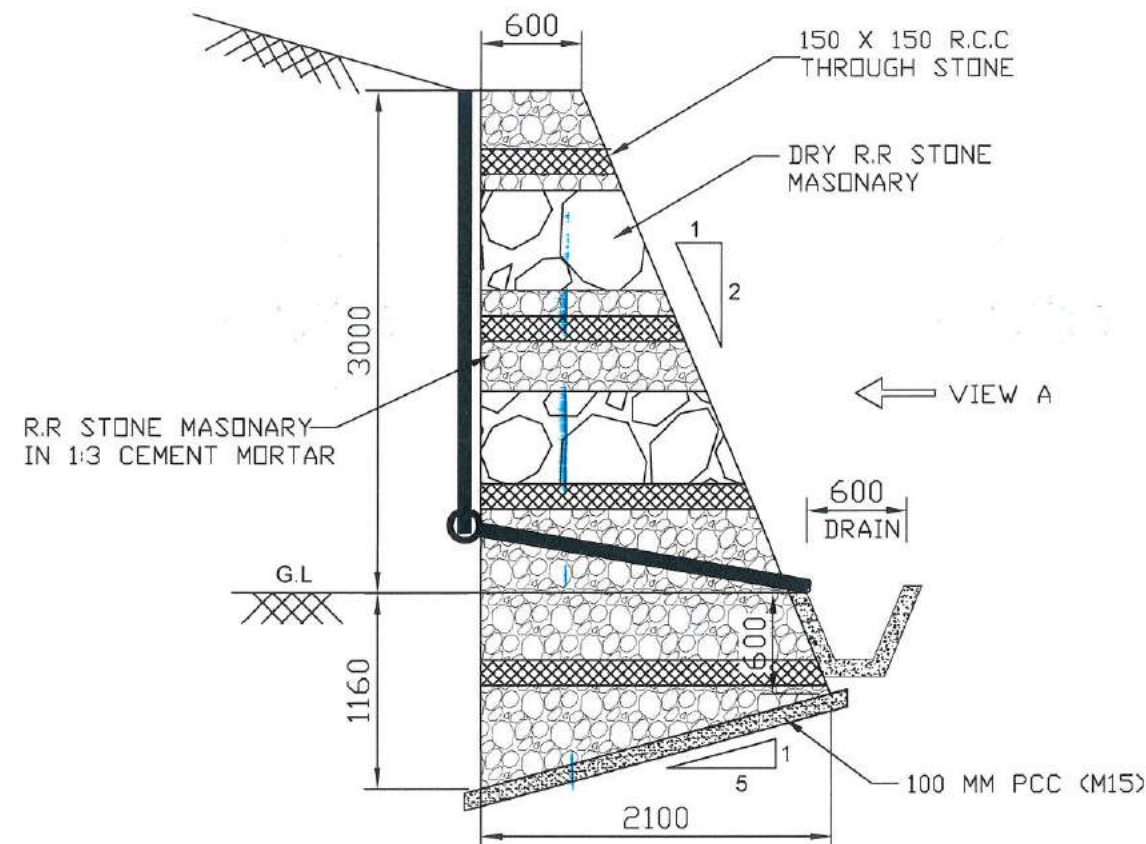
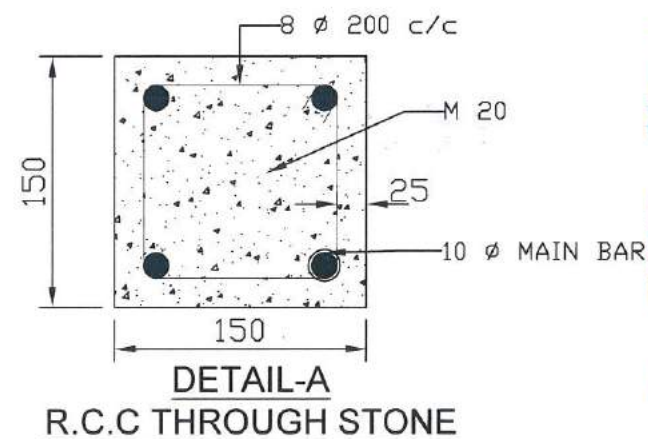
SIZE -A3

SHEET NO.09



R.R. Stone Masonry
in 1:3 cement mortar
below G.L.

BREAST WALL (VIEW A)



BREAST WALL

QUANTITY OF RRM = 3.806 Cum
QUANTITY OF DRY STONE = 1.40 CUM

TCS-10

NOTES:-

- ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

**BREAST WALL
HEIGHT UPTO 3M
ABOVE G.L.**



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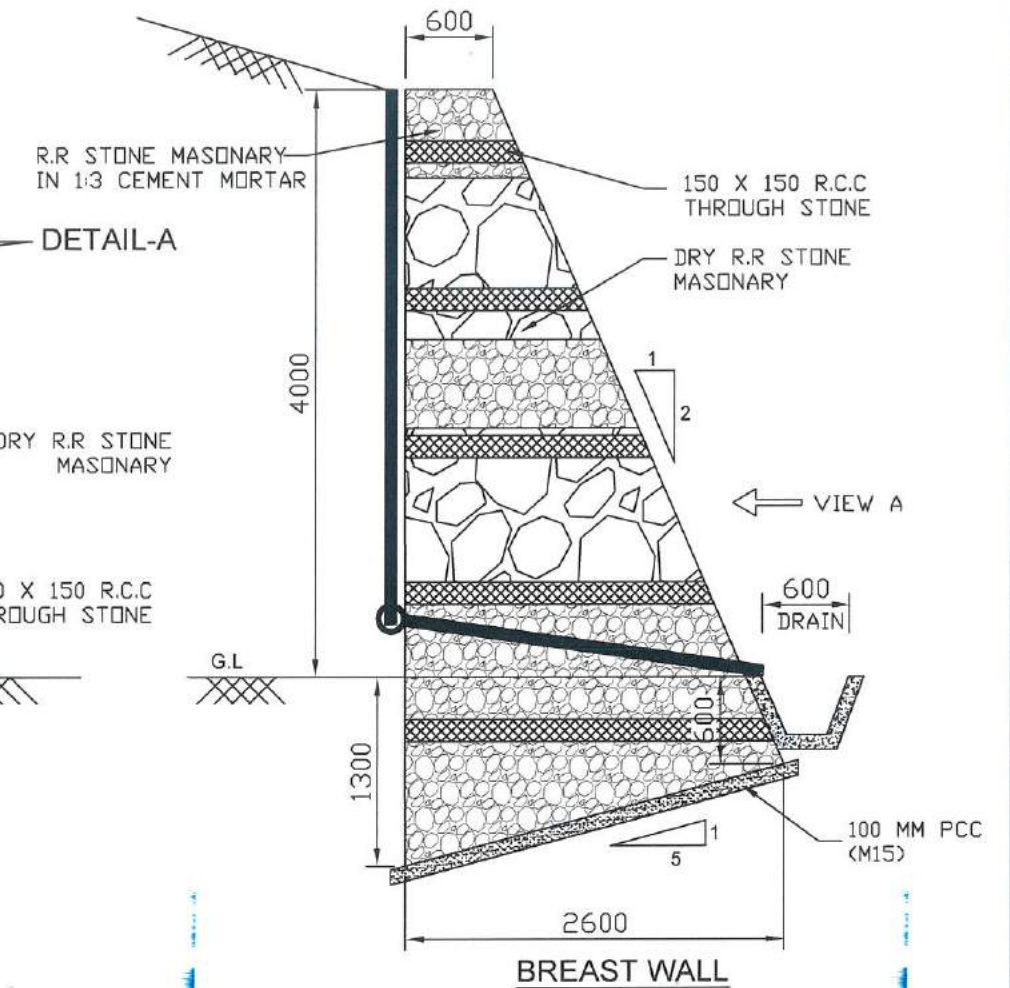
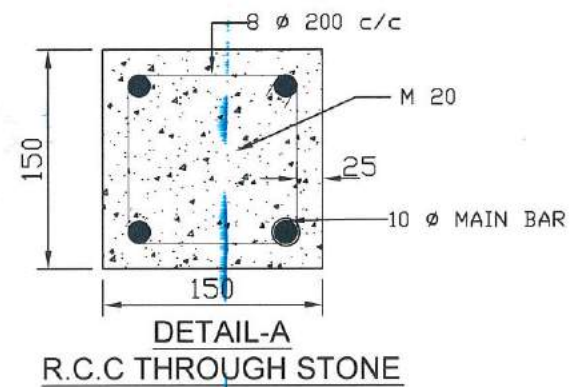
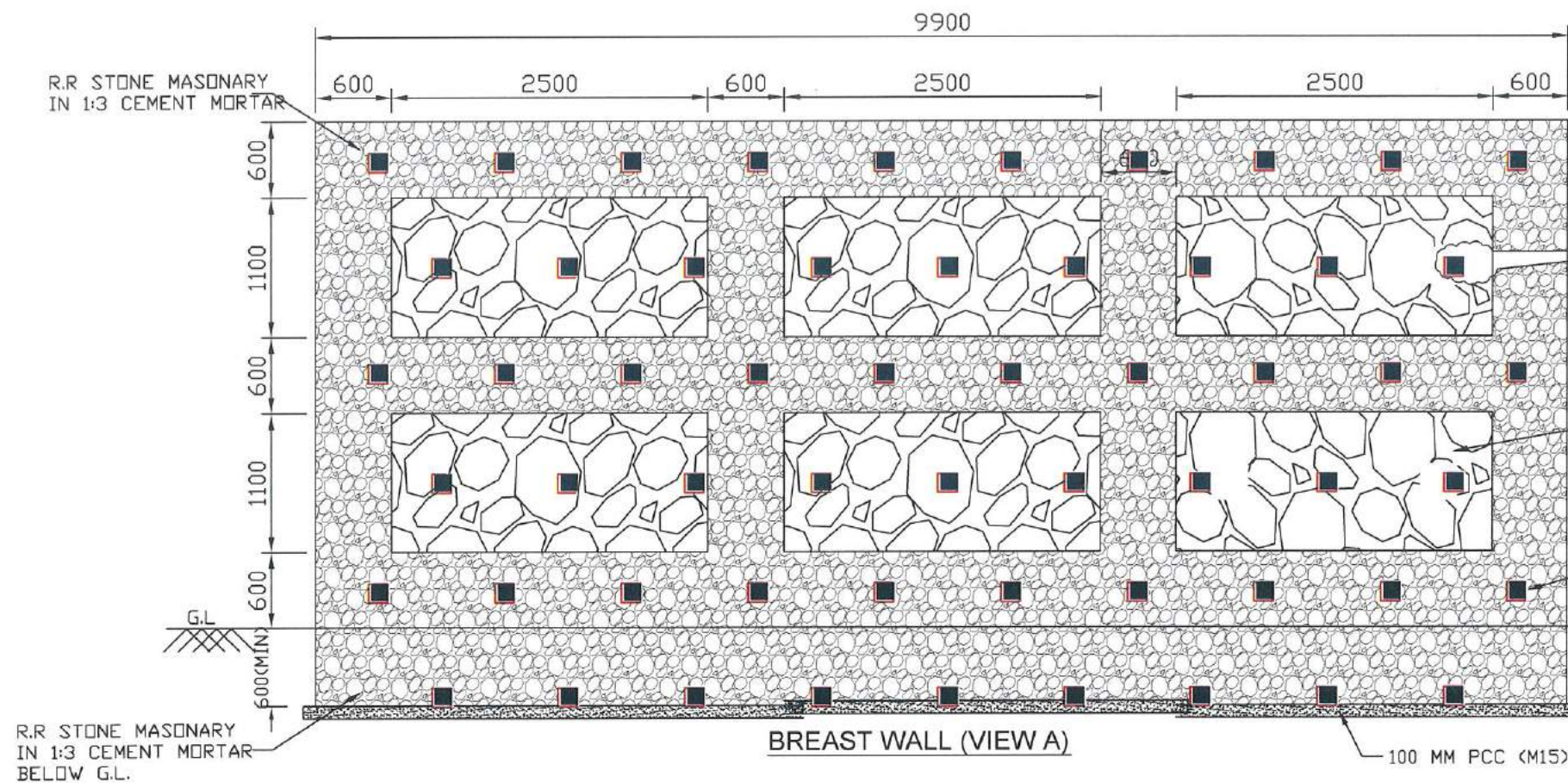
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SIZE -A3

SHEET NO.10



QUANTITY OF RRM = 4.48 Cum
QUANTITY OF DRY STONE = 2.71 CUM

TCS-11

NOTES:-

- ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

BREAST WALL
HEIGHT UPTO 4M
ABOVE G.L.



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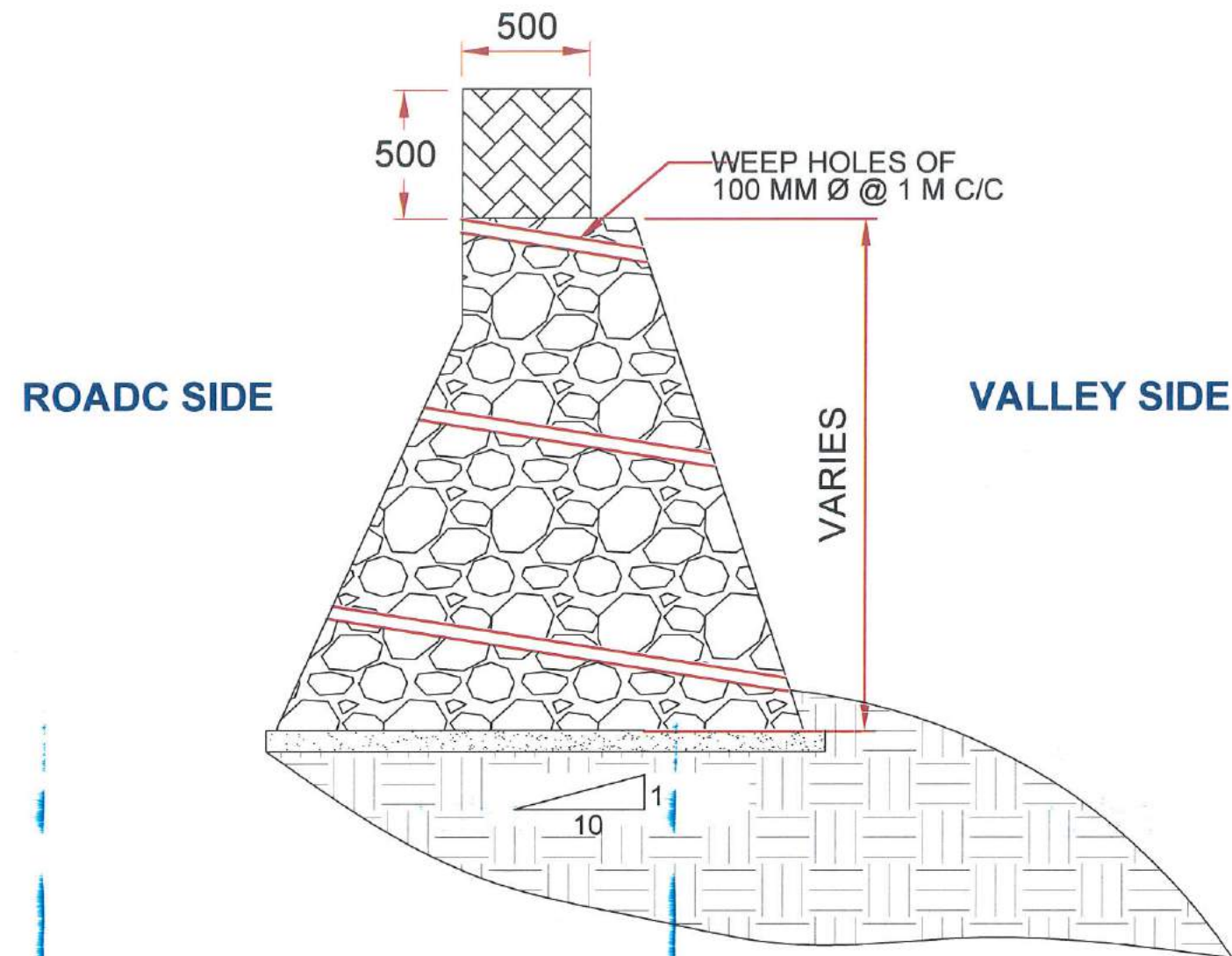
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SIZE -A3

SHEET NO.11



RETAINING WALL

TCS-12

NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

DETAIL OF RETAINING WALL



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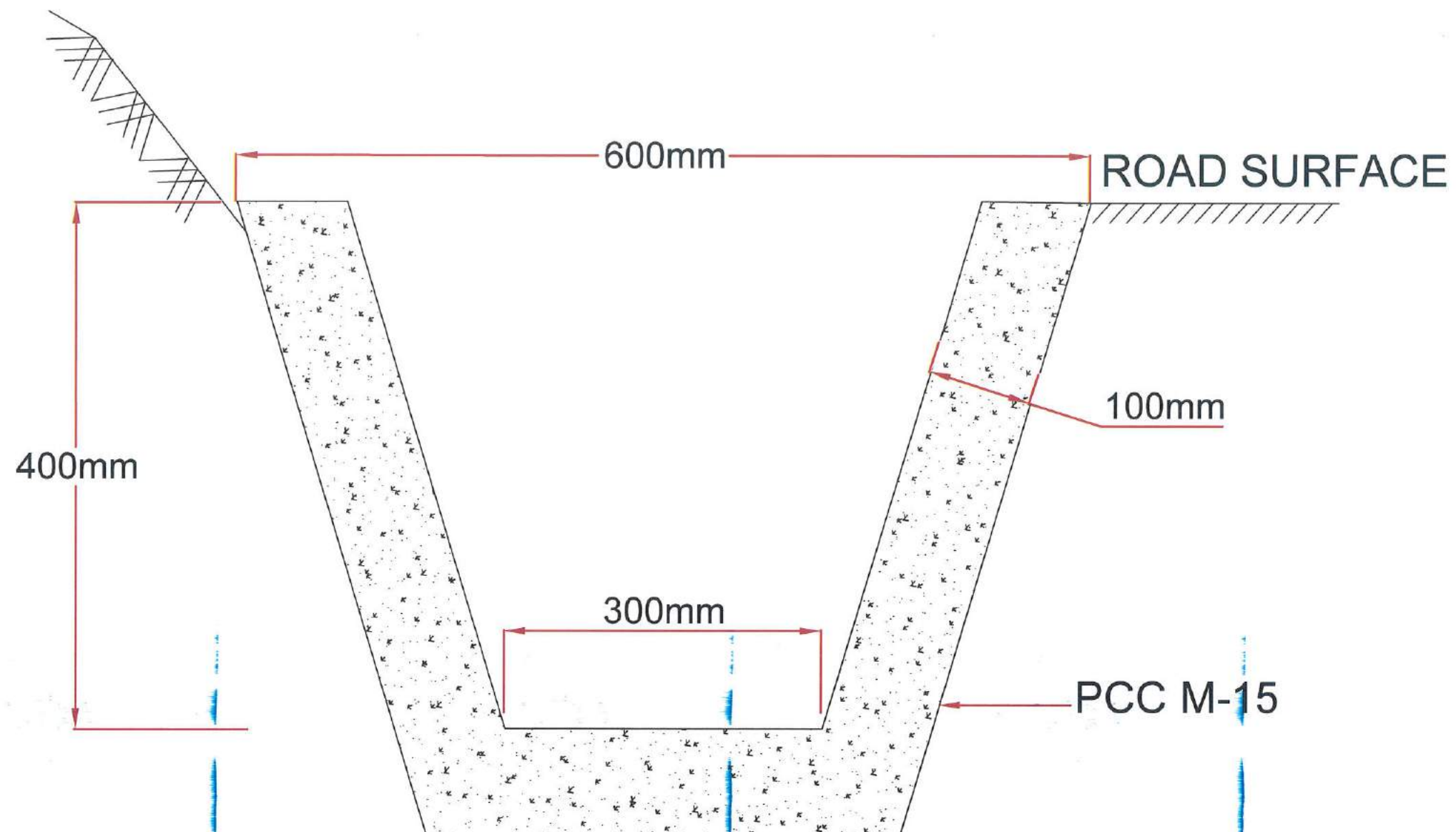
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SIZE -A3

SHEET NO.12



LINED DRAIN TCS-13

NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

DETAIL OF SIDE DRAIN



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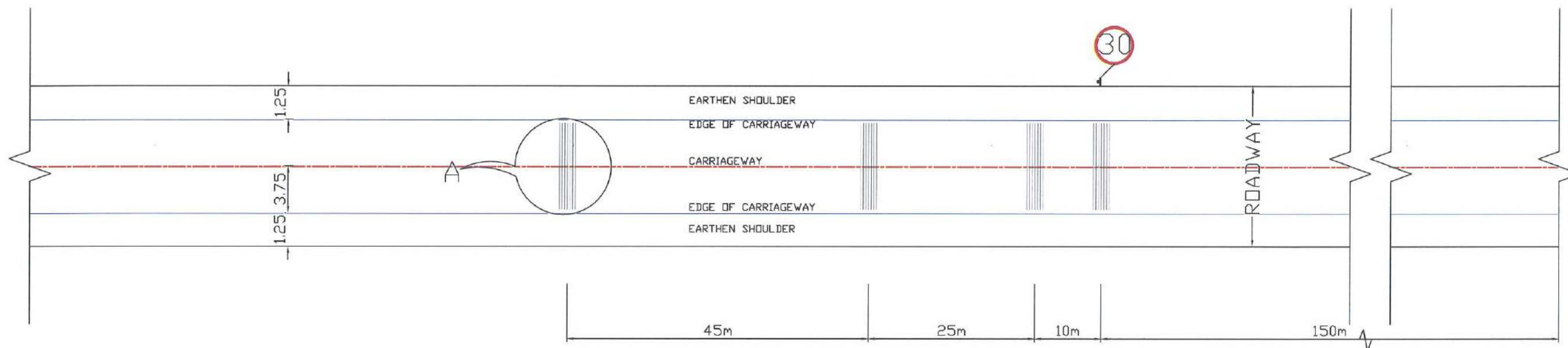
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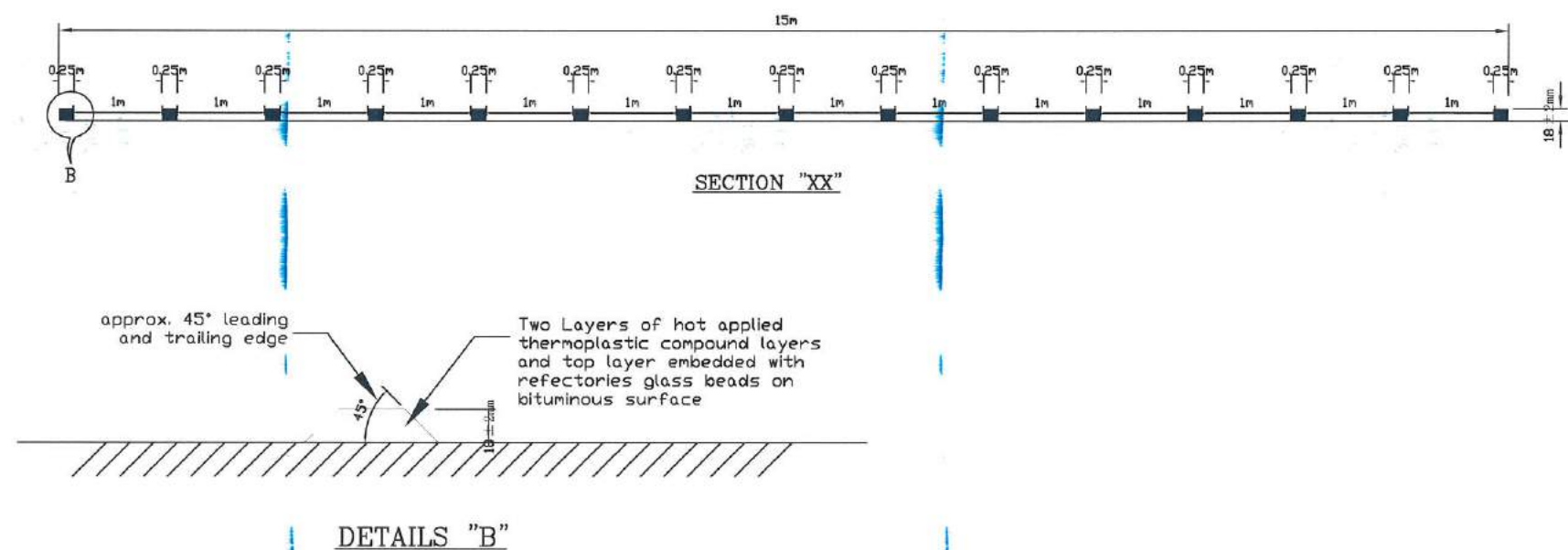
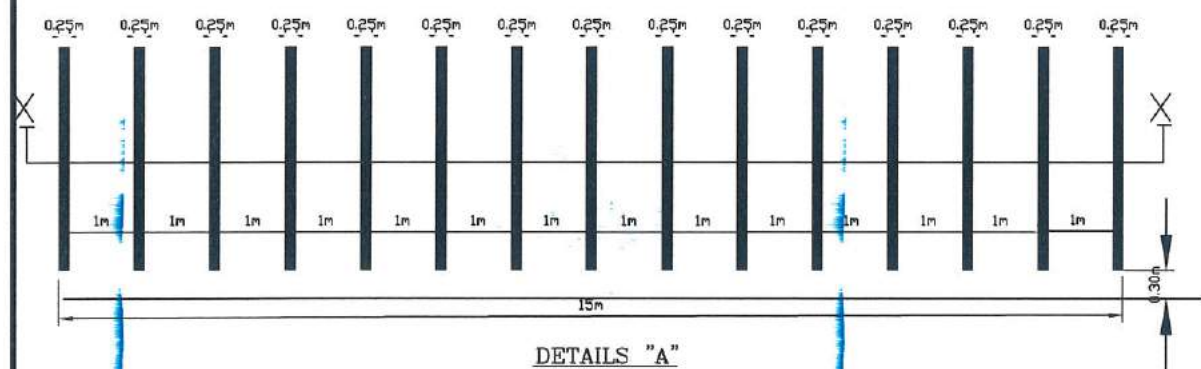
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SHEET NO.13



TYPICAL DETAIL OF TRANSVERSE RUMBLE STRIP



TCS-14

NOTES:-

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RUMBLE STRIP



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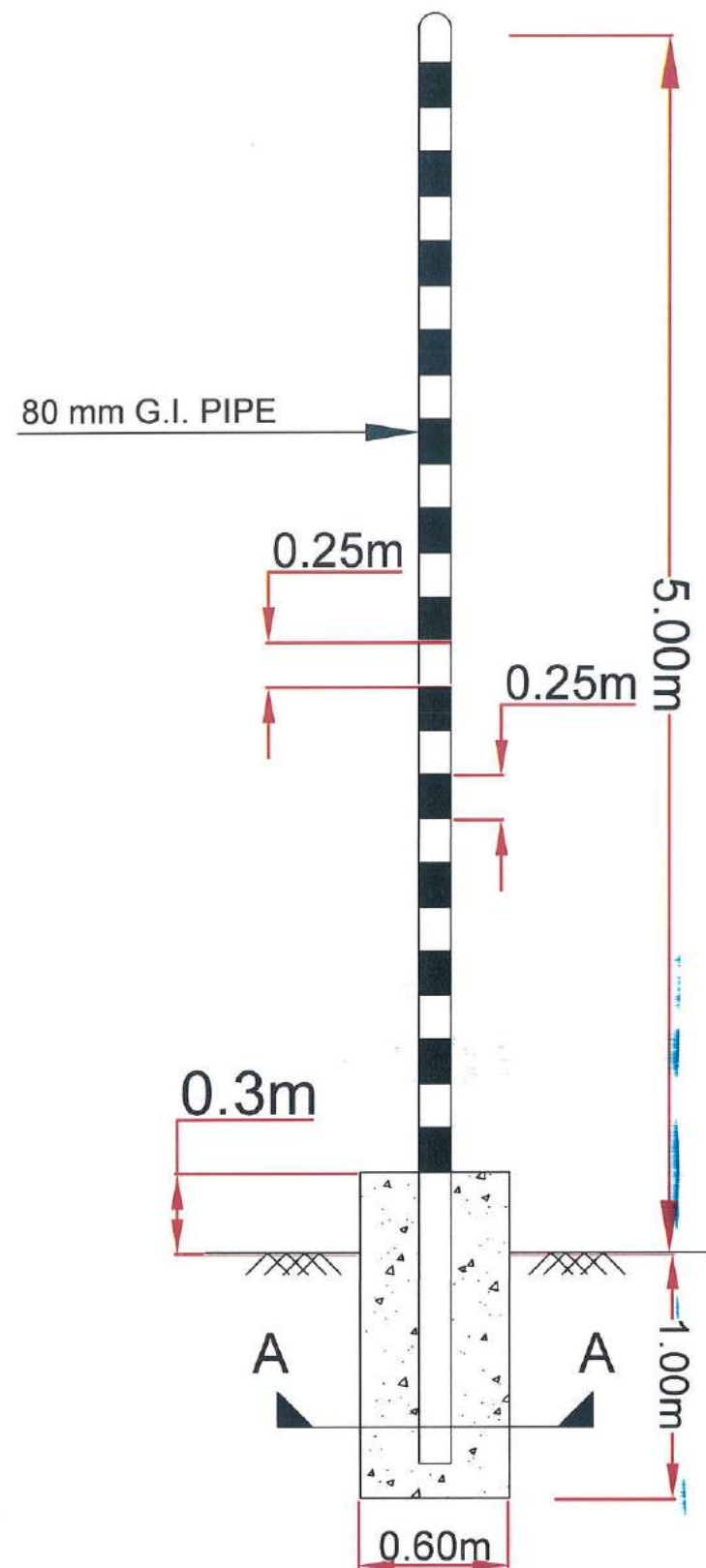
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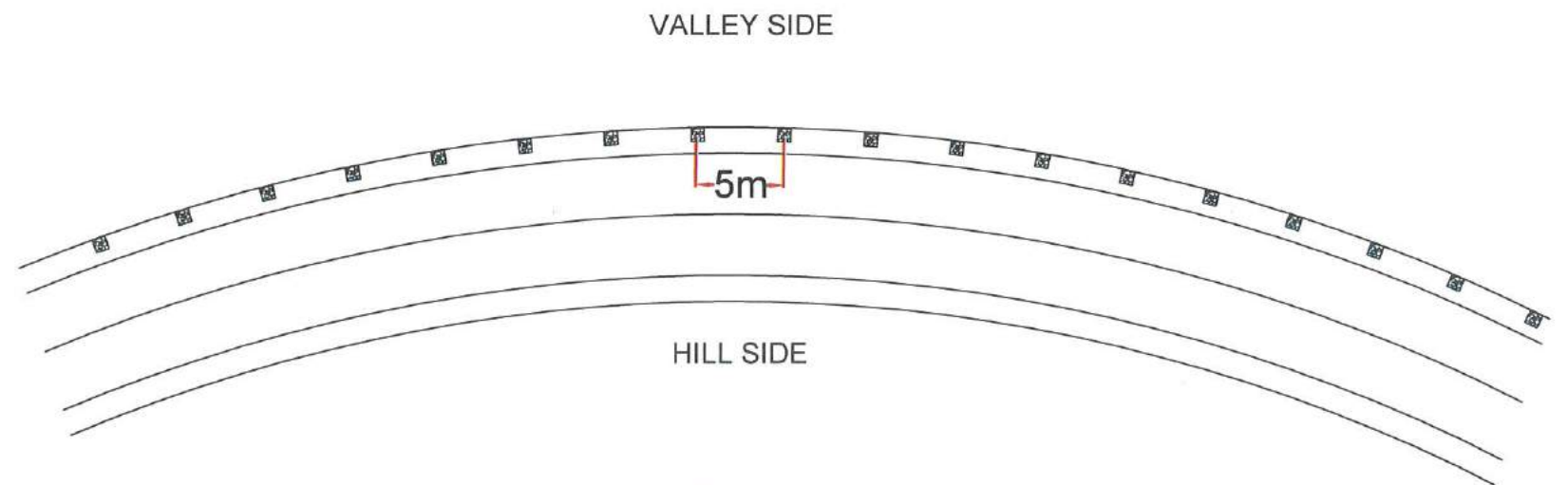
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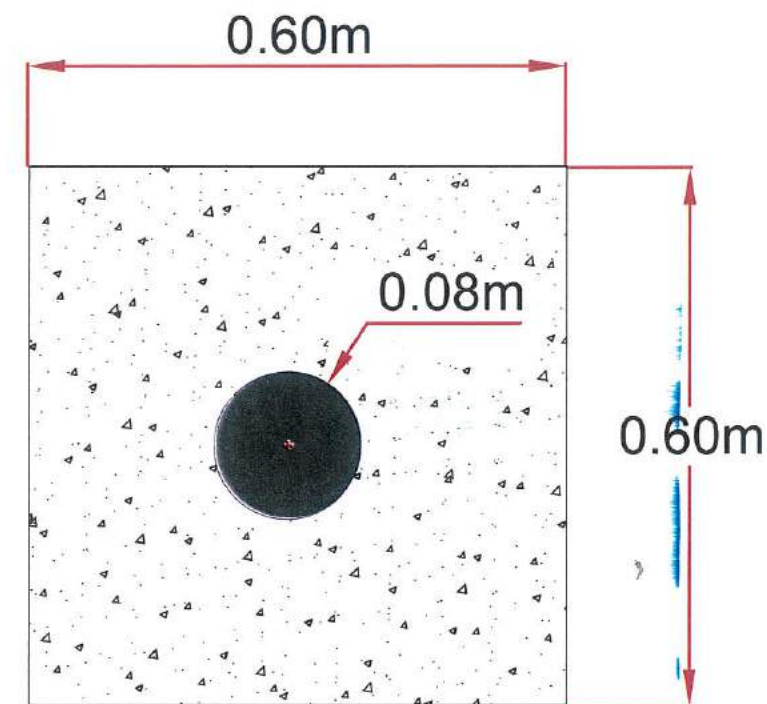
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SNOW MARKER



LOCATION PLAN



SECTION AT A-A

TCS-15

NOTES:-

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DETAIL OF SHOW MARKER



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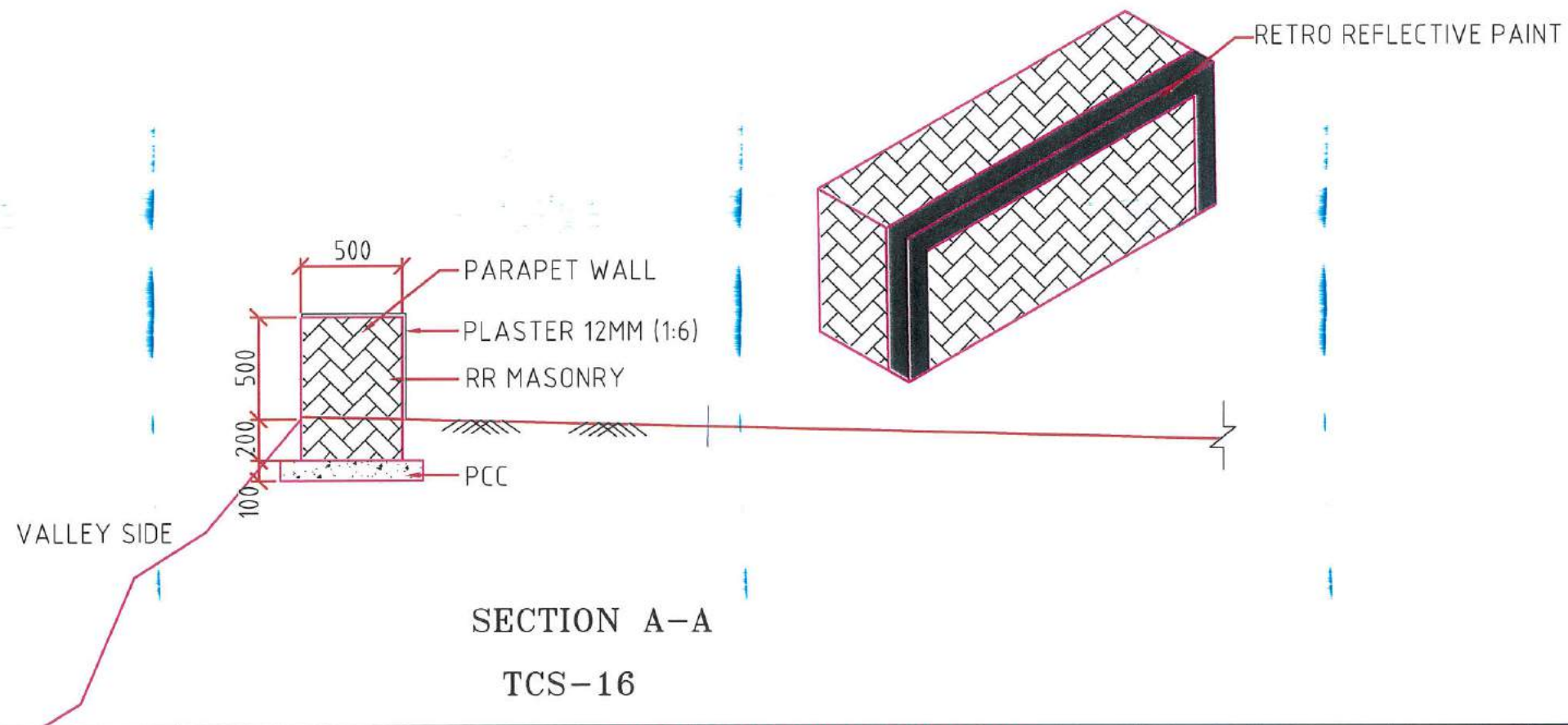
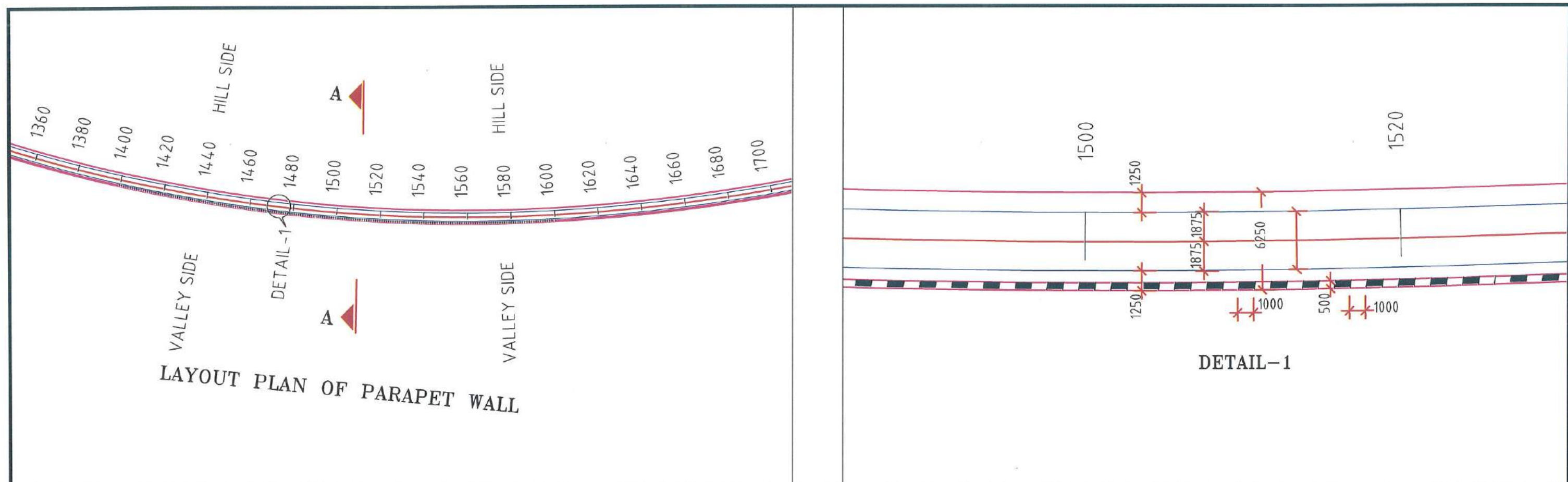
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SHEET NO.15



NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

DETAIL OF PARAPET WALL



HIGHWAY ENGINEERING CONSULTANT

HEAD OFFICE :-

JM -89/C. BEHIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P.)
Tel/Fax : 0755-4236317
E-mail:- hec_bhopal@rediffmail.com

YOGESH

M. S.

T.L.

DRAWN BY

DESIGN BY

APPROVED BY



NAME OF WORK

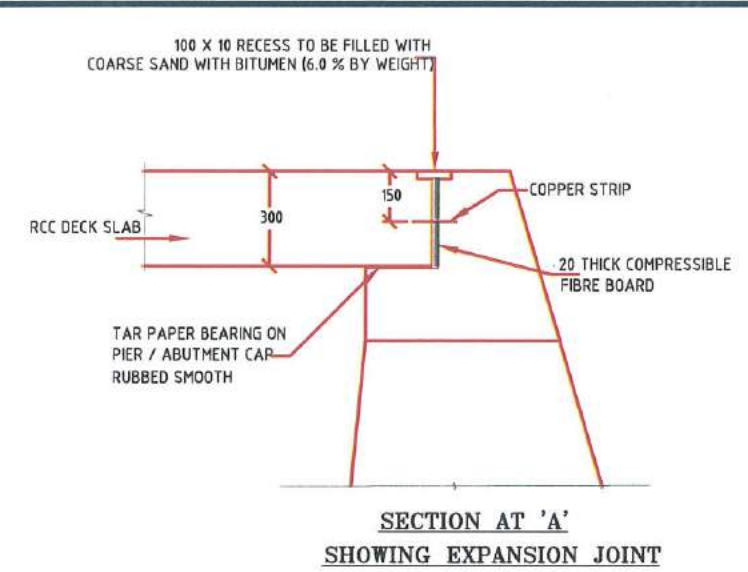
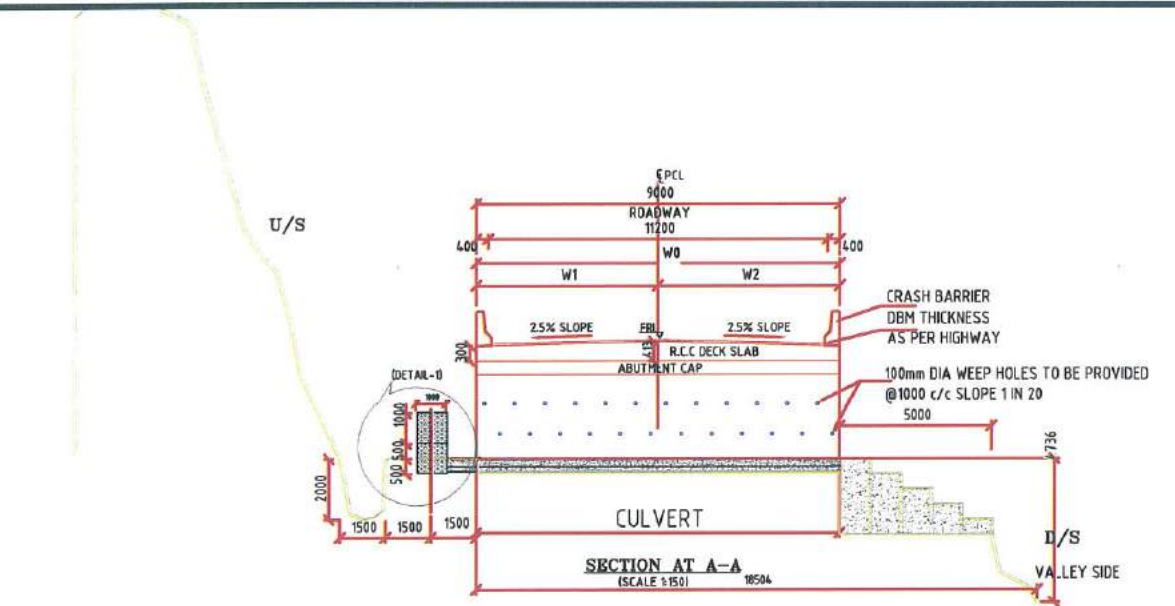
CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO - CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY

REVISION -RI

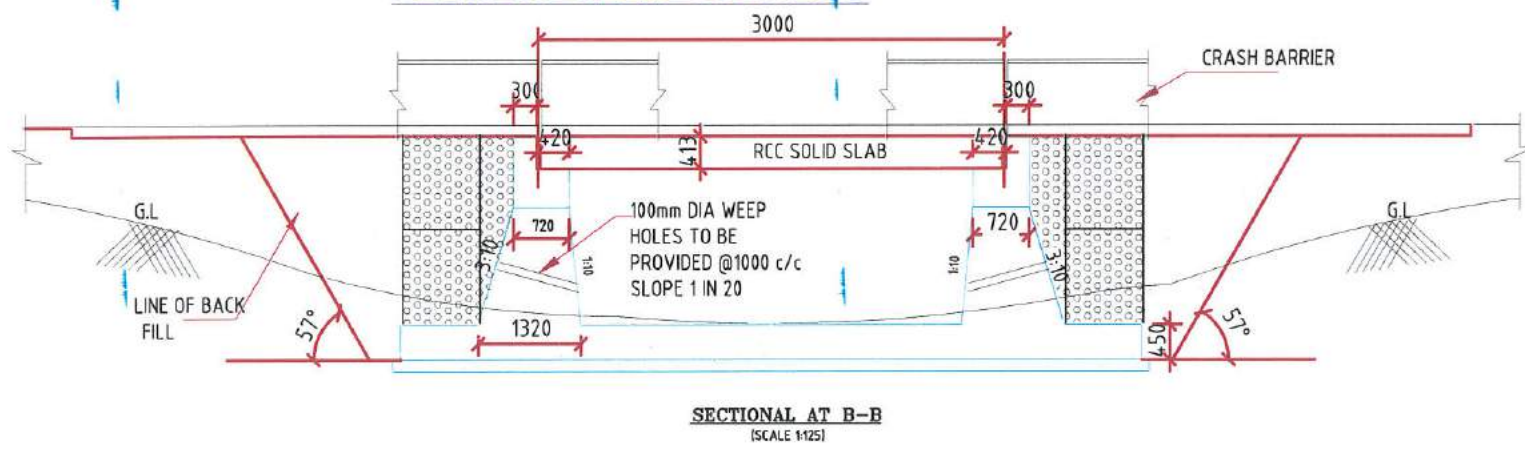
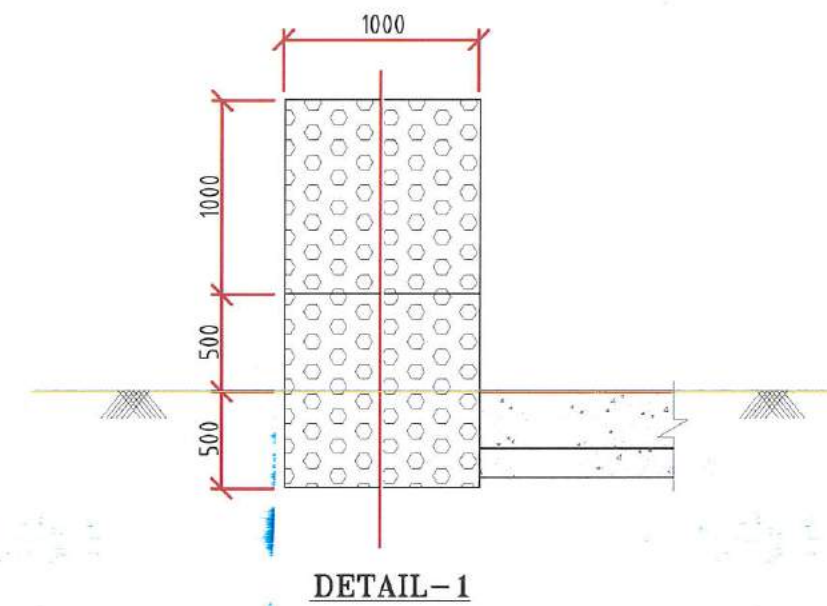
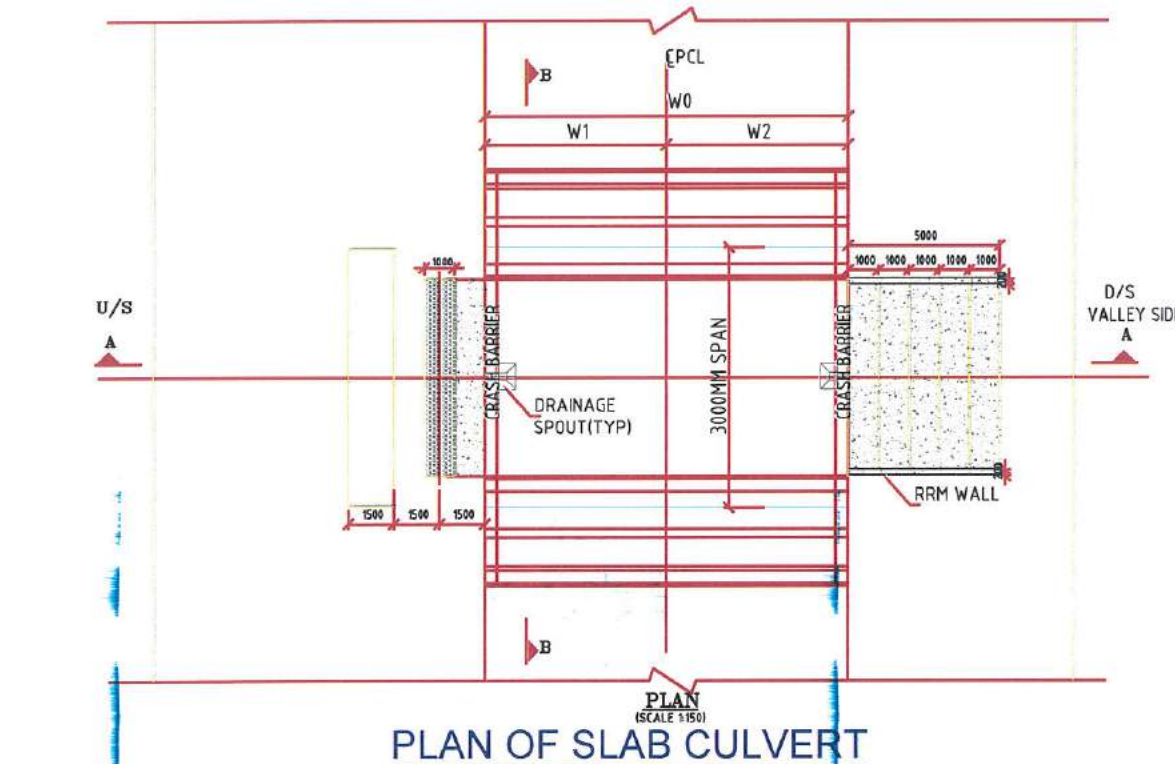
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SIZE -A3

SHEET NO.16

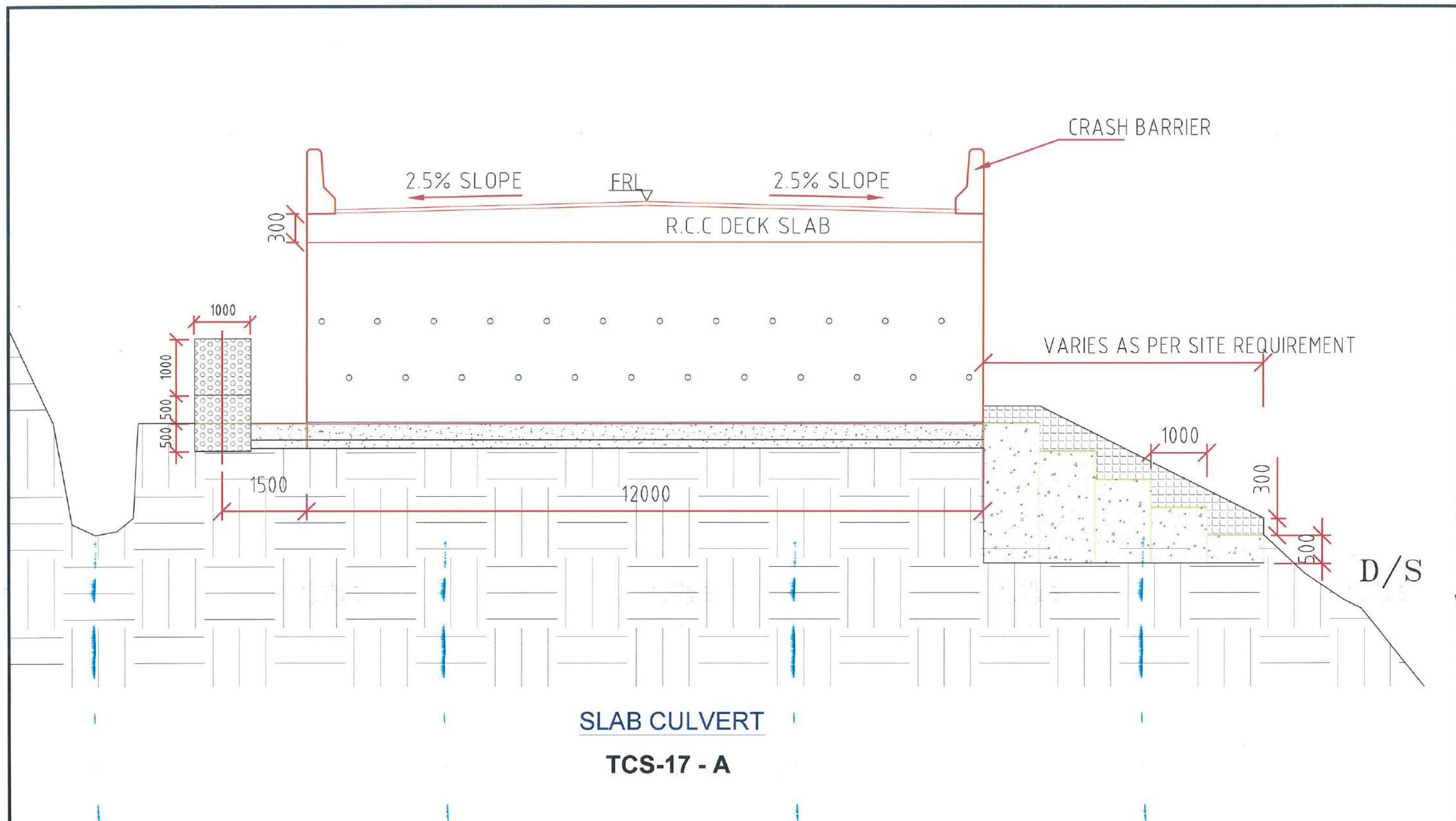


- NOTES:**
- ALL DIMENSIONS ARE IN MM AND LEVELS IN METRES, UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. NO DIMENSION IS TO BE SCALED.
 - PROPOSED CULVERT IS DESIGNED FOR ONE LANE OF IRC 70R LOADING OR TWO LANE OF IRC CLASS A WHICHEVER GOVERNS.
 - MINIMUM GRADE OF CONCRETE SHALL BE AS FOLLOWS:
 - FOR LEVELING COURSE----- M10
 - FOR FOUNDATION & SUBSTRUCTURE ----- M15
 - FOR SUPERSTRUCTURE----- M25
 - CLEAR COVER TO OUTER MOST STEEL SHALL BE AS FOLLOWS.
 - FOR SUPERSTRUCTURE ----- 40mm
 - FOR SUBSTRUCTURE ----- 50mm
 - FOR FOUNDATION ----- 75mm
 - HIGH YIELD STRENGTH DEFORMED BARS OF GRADE DESIGNATION Fe-500 CONFORMING TO IS:1786 SHALL ONLY BE USED.
 - BACK FILLING BEHIND ABUTMENTS & RETURN WALLS SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX-6 OF IRC:78-2000 HAVING PROPERTIES OF $d=20^\circ$ & $C=0$, $\phi=30^\circ$, $q_d=18$ KN/M
 - 600mm THICK FILTER MEDIA SHALL BE PROVIDED BEHIND ABUTMENT AND RETURN WALLS AS PER MORTH SPECIFICATIONS SECTION 3500.
 - WEEP HOLES, OF 100mm ϕ SPACED AT 1000 c/c BOTH HORIZONTALLY AND VERTICALLY SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUTMENT & RETURN WALLS ABOVE 150MM. FROM LWL OR GL WHICHEVER IS HIGHER.
 - FILLER TYPE EXPANSION JOINTS OF PROVEN QUALITY SHALL BE PROVIDED IN TERMS OF MODIFIED INTERIM SPECIFICATIONS IN ANNEXURE-1 TO MORTH CIRCULAR No. RW/NH-34/059/1/96-S&R DATED 30.11.2000. THE MATERIAL SPECIFICATIONS OF THE FILLER JOINTS SHALL BE IN ACCORDANCE WITH SECTION 2605 OF MORTH SPECIFICATIONS, FOURTH REVISION.
 - NOMINAL STEEL OR TEMPERATURE REINFORCEMENT OF TOR B @ 150 MM C/C IN BOTH DIRECTIONS IN ABUTMENT & RETURNS ON ALL FACES SHALL BE PROVIDED.
 - SAFETY BARRIERS OR BARICADES SHALL BE PROVIDED AS SAFETY FOR TRAFFIC MOVEMENT DURING WIDENING OF SLAB CULVERT.



TCS-17

NOTES:- 1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.		 HEC Civil Consultancy Services HIGHWAY ENGINEERING CONSULTANT HEAD OFFICE :- JM -89/C, BEHIND PANCHWATI MARKET SAKET NAGAR, BHOPAL (M.P) Tel/Fax : 0755-4236317 E-mail - hec_bhopal@rediffmail.com		 CPWD CENTRAL PUBLIC WORKS DEPARTMENT	NAME OF WORK CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO - CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY						
GENERAL ARRANGEMENT DRAWING FOR SLAB CULVERTS 1X3m <table><tr><td>YOGESH</td><td>M. S.</td><td>T.L.</td></tr><tr><td>DRAWN BY</td><td>DESIGN BY</td><td>APPROVED BY</td></tr></table>						YOGESH	M. S.	T.L.	DRAWN BY	DESIGN BY	APPROVED BY
YOGESH	M. S.	T.L.									
DRAWN BY	DESIGN BY	APPROVED BY									



NOTES:-

- ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

SLAB CULVERT



HIGHWAY ENGINEERING CONSULTANT

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YOGESH

M. S.

T.L.

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DEPARTMENT

NAME OF WORK

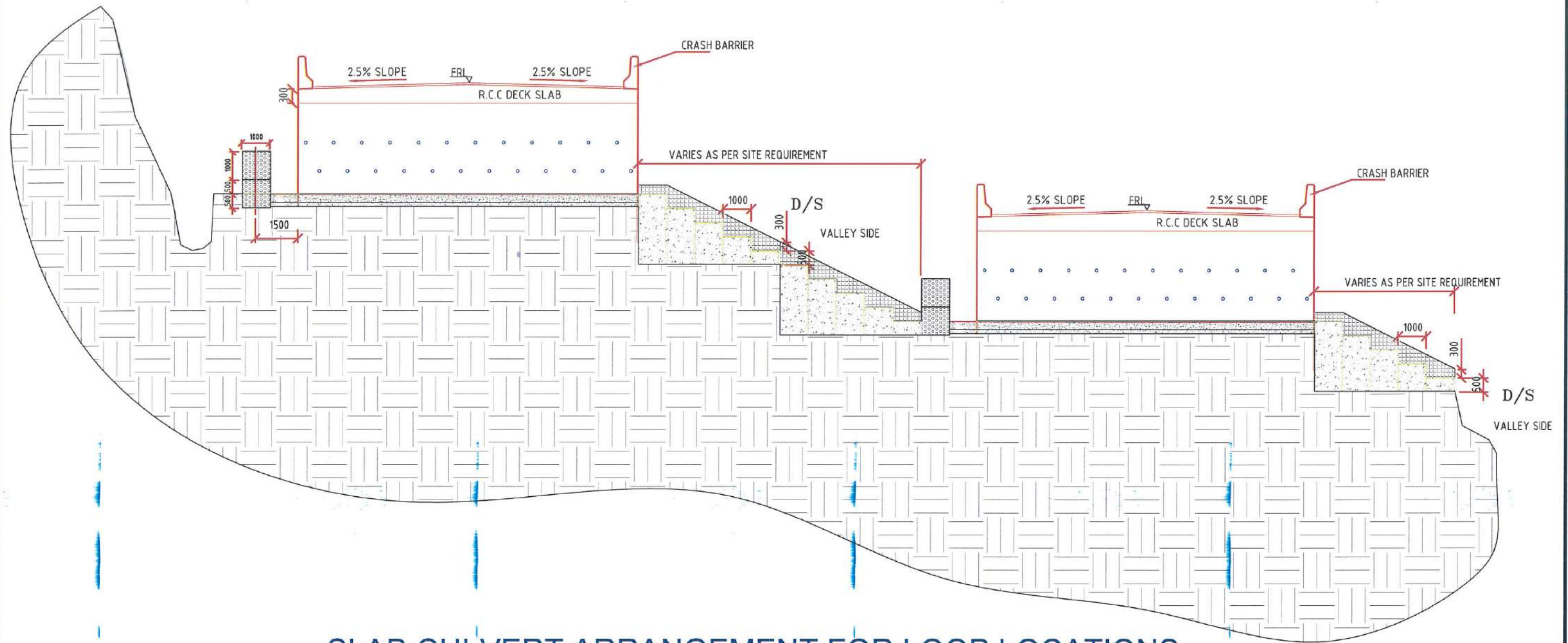
CONSULTANCY SERVICES FOR PREPARATION
OF DETAILED PROJECT REPORT (DPR) FOR
HIGH ALTITUDE ROADS TO INDO - CHINA
BORDER UNDER PHASE-II IN THE STATE OF
ARUNACHAL PRADESH USING SATELLITE
IMAGERY

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APRIL - 2018

SIZE -A3

SHEET NO. 18



SLAB CULVERT ARRANGEMENT FOR LOOP LOCATIONS

TCS-17 - B

NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

SLAB CULVERT ARRANGEMENT FOR LOOP LOCATIONS



YOGESH

M. S.

T.L.

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SAKET NAGAR, BHOPAL (M.P.)
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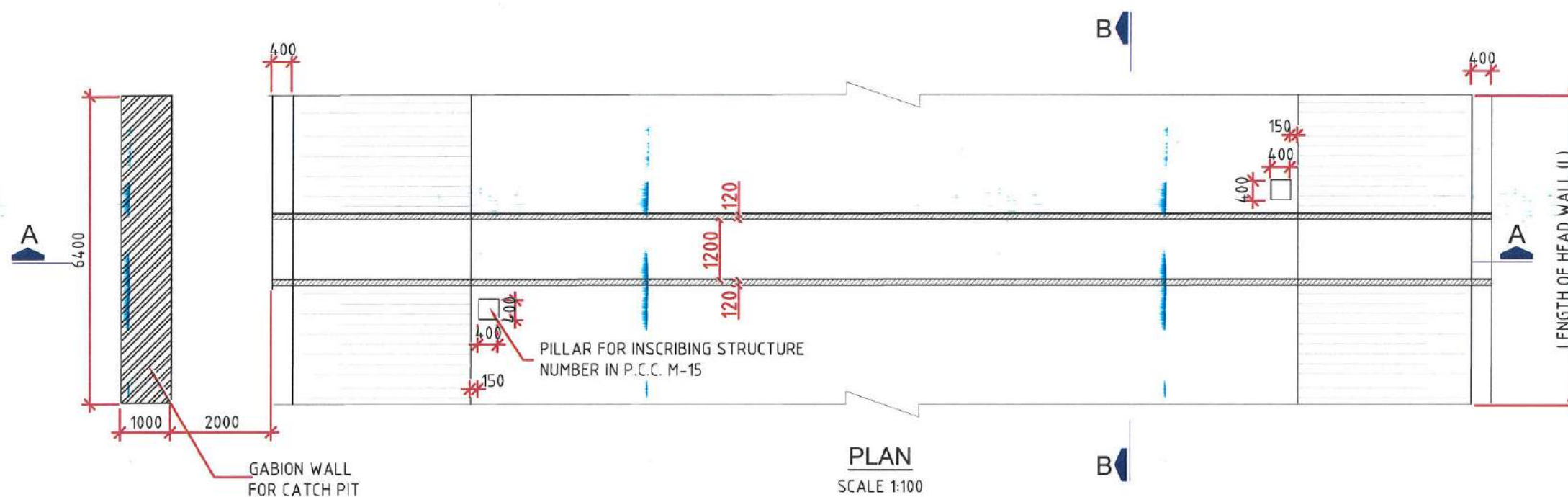
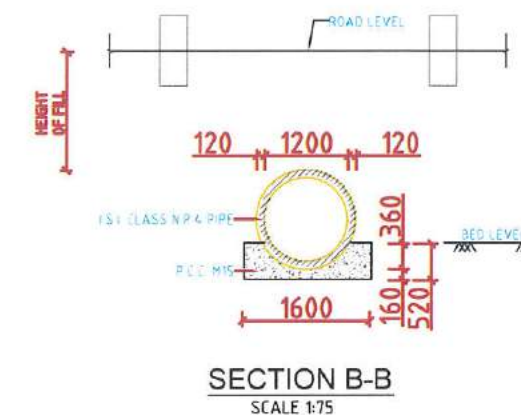
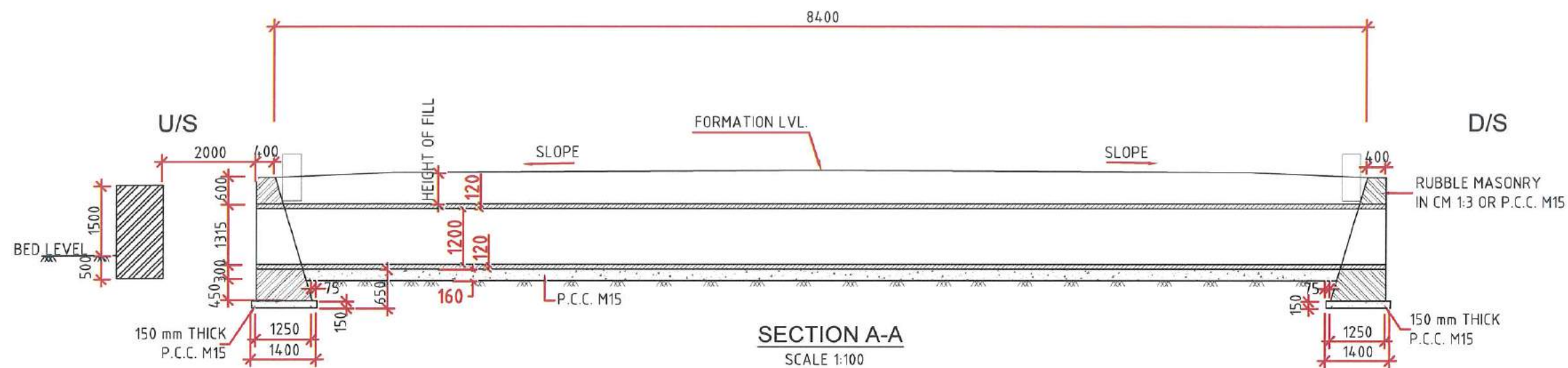
CONSULTANCY SERVICES FOR PREPARATION
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HIGH ALTITUDE ROADS TO INDO - CHINA
BORDER UNDER PHASE-II IN THE STATE OF
ARUNACHAL PRADESH USING SATELLITE
IMAGERY

REVISION -R1

APRIL - 2018

SIZE -A3

SHEET NO.19



- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS NOTED OTHERWISE.
 2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 3. LONGITUDINAL SLOPE OF PIPE SHOULD BE MINIMUM 1:1000.
 4. CUSHION 600mm MINIMUM THICKNESS TO BE MAINTAINED BELOW FORMATION LEVEL.
 5. ALL PIPES SHALL CONFORM TO CLASS NP4 AS PER IS 458 OF 2003.
 6. ROAD CROSS SECTION AND SLOPE SHOWN IN THE DRAWING IS INDICATIVE ONLY. RELEVANT ROAD DRAWINGS SHALL BE REFERRED FOR THESE DETAILS.

NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

GENERAL ARRANGEMENT DRAWING
FOR HPC 1X1200



HIGHWAY ENGINEERING CONSULTANT

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NAME OF WORK

CONSULTANCY SERVICES FOR PREPARATION
OF DETAILED PROJECT REPORT (DPR) FOR
HIGH ALTITUDE ROADS TO INDO - CHINA
BORDER UNDER PHASE-II IN THE STATE OF
ARUNACHAL PRADESH USING SATELLITE
IMAGERY

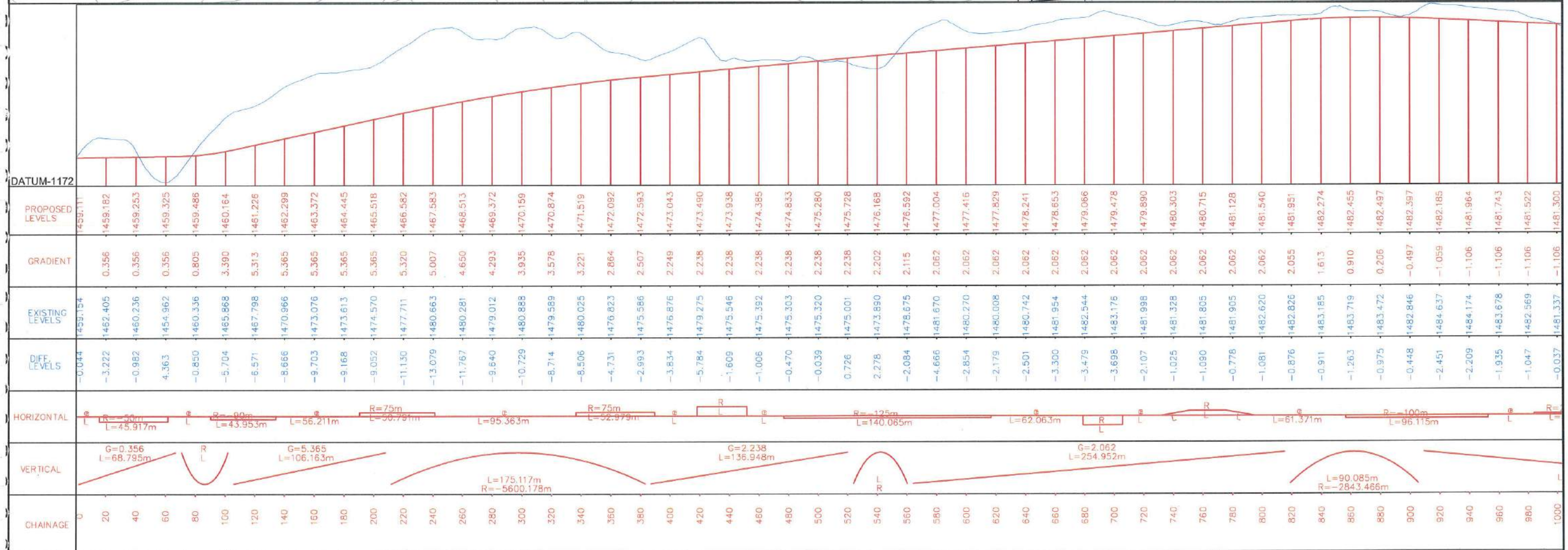
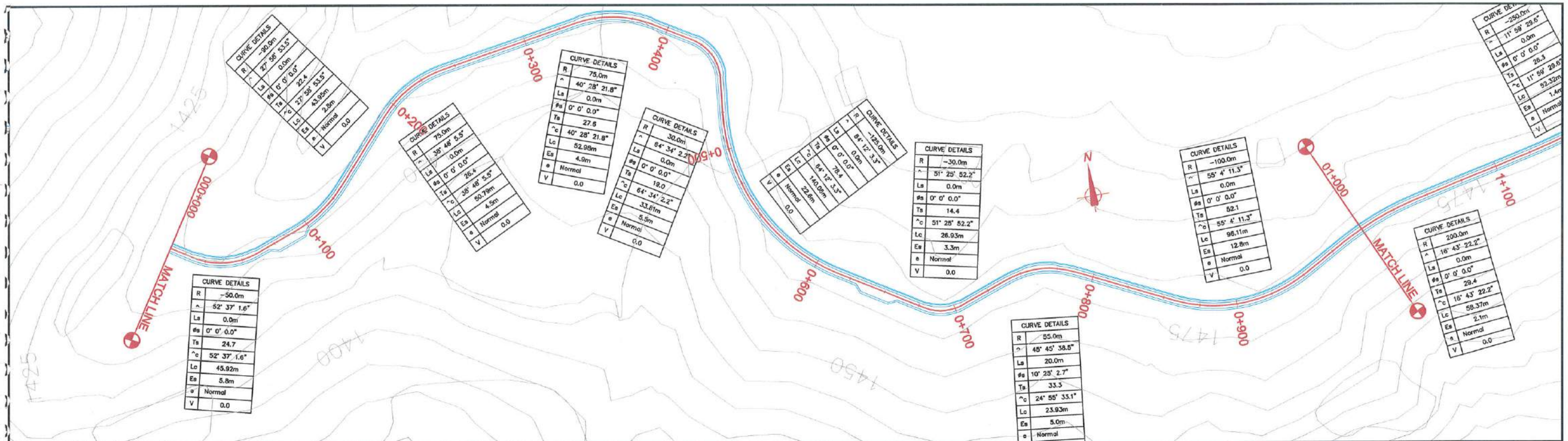
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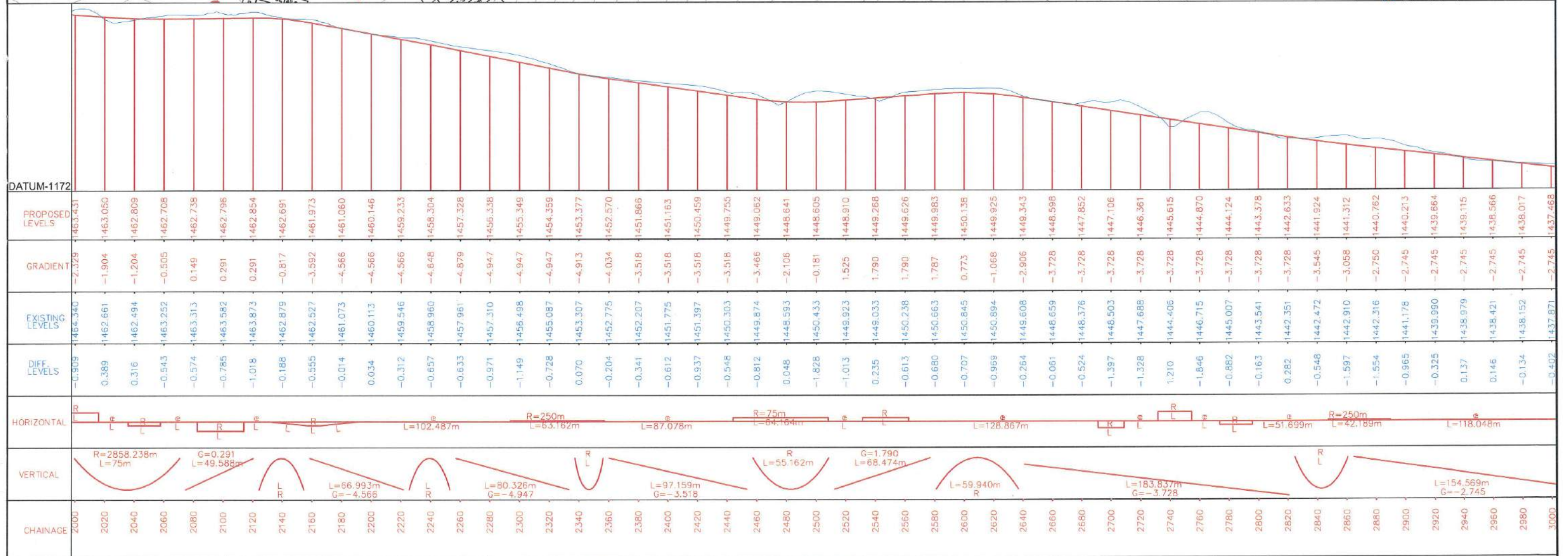
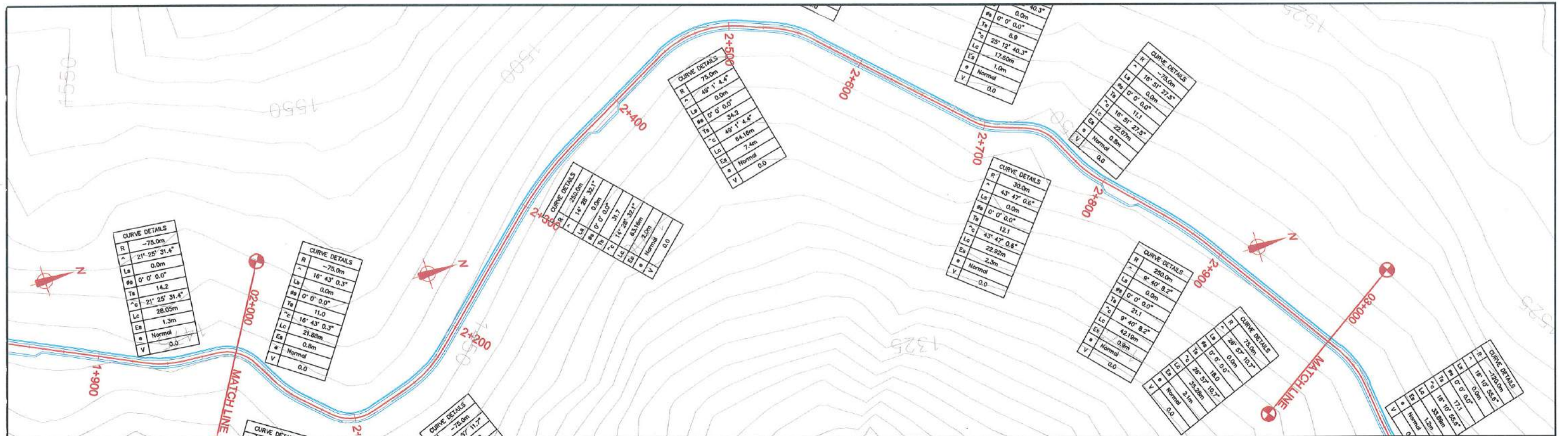
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SHEET NO. 20

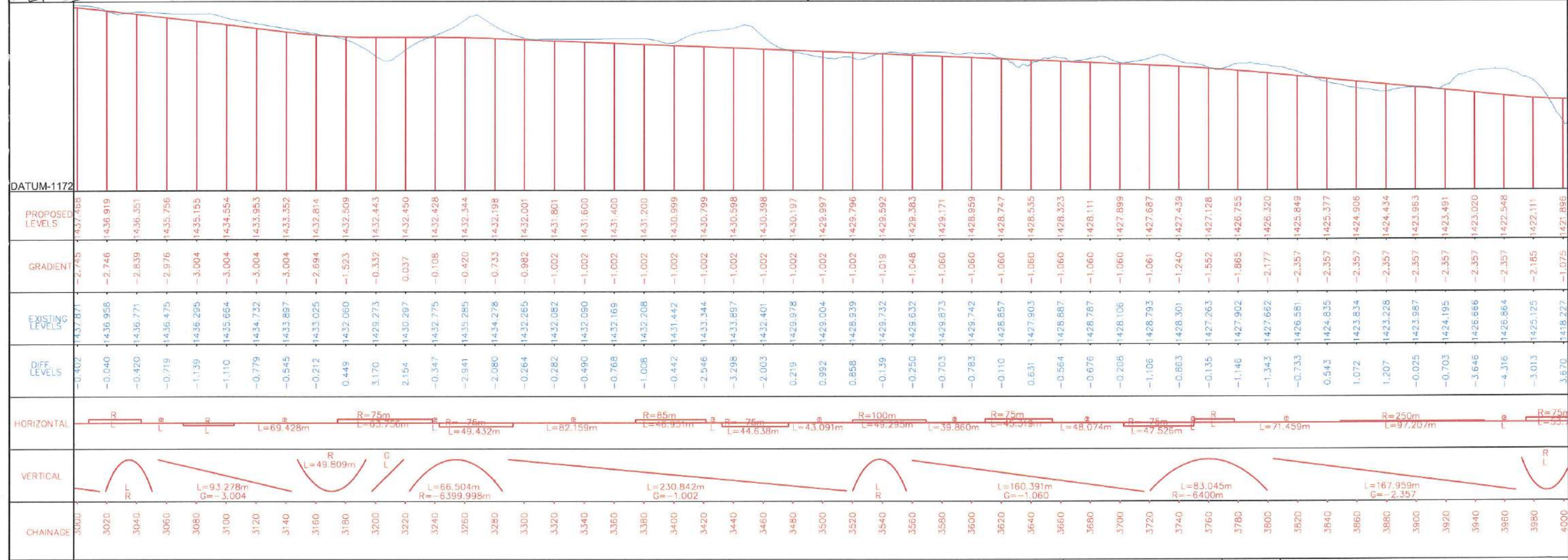
PLAN & PROFILE



NOTES:- 1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.		TITLE:- ALIGNMENT PLAN CH KM 01+000 TO 01+000 LADA - BISAI ROAD		 M/s HIGHWAY ENGINEERING CONSULTANT Head Office :- JM -89/C, BEHIND PANCHWATI MARKET SAKET NAGAR, BHOPAL (M.P) Tel/Fax : 0755-4236317		 CENTRAL PUBLIC WORKS DEPARTMENT		NAME OF WORK CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY	
YOGESH DRAWN BY		M. S. DESIGN BY		T.L. APPROVED BY		REVISION R1		APRIL-2018	SIZE -A3
									SHEET NO. 01



NOTES:- 1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.	TITLE:- ALIGNMENT PLAN CH KM 02+000 TO 03+000 LADA - BISAI ROAD	M/s HIGHWAY ENGINEERING CONSULTANT Head Office :- JM -89/C, BEHIND PANCHWATI MARKET SAKET NAGAR, BHOPAL (M.P) Tel/Fax : 0755-4236317			 CENTRAL PUBLIC WORKS DEPARTMENT	NAME OF WORK	CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY		
		YOGESH	M. S.	T.L.		REVISION RI	APRIL-2018	SIZE -A3	SHEET NO. 03
		DRAWN BY	DESIGN BY	APPROVED BY					



NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TITLE:-

ALIGNMENT PLAN

CH KM 03+000 TO 04+000

LADA - BISAI ROAD

M/s HIGHWAY ENGINEERING CONSULTANT

Head Office :- JM -89/C, BEHIND PANCHWATI MARKET

SAKET NAGAR, BHOPAL (M.P)

Tel/Fax : 0755-4236317

YOGESH

M. S.

T.L.

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NAME OF WORK

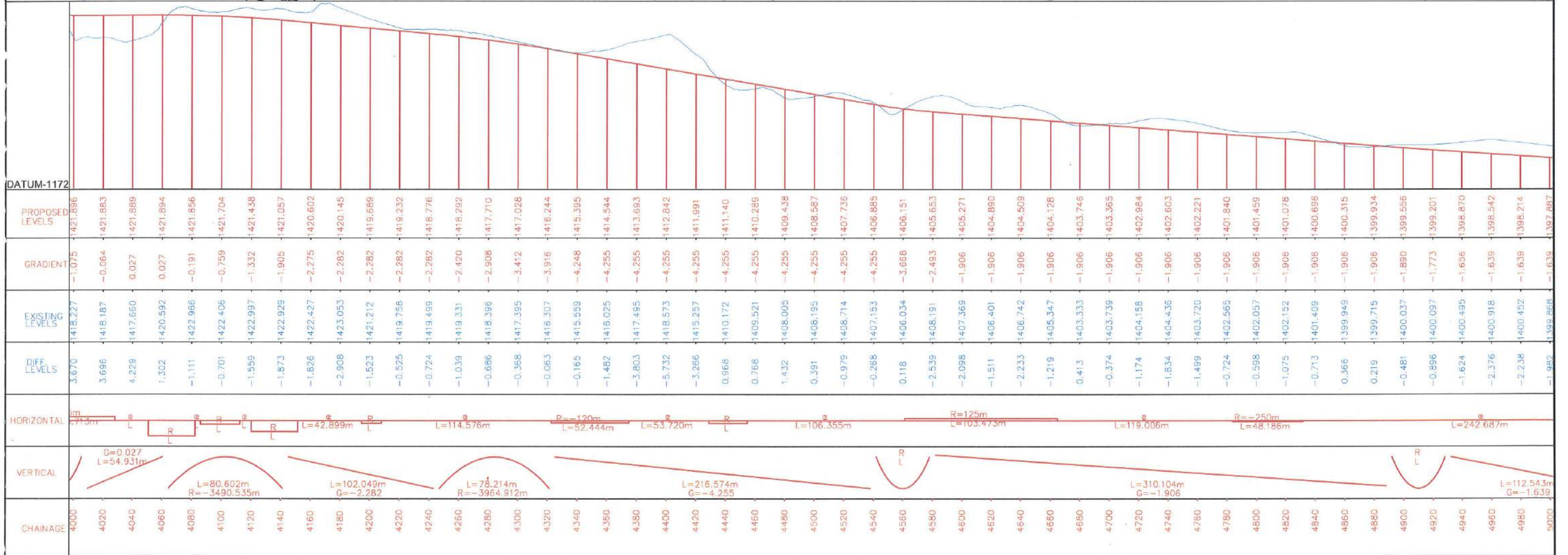
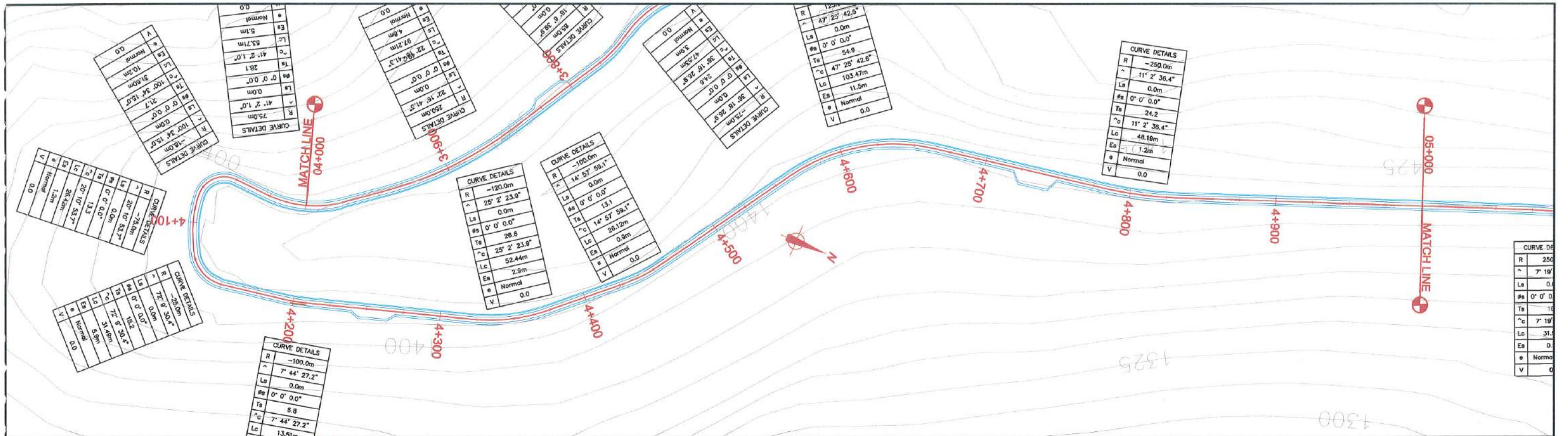
CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY

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APRIL-2018

SIZE -A3

SHEET NO. 04



NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TITLE:-

ALIGNMENT PLAN
CH KM 04+000 TO 05+000
LADA - BISAI ROAD

M/s HIGHWAY ENGINEERING CONSULTANT

Head Office :- JM -89/C, BEHIND PANCHWATI MARKET
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NAME OF WORK

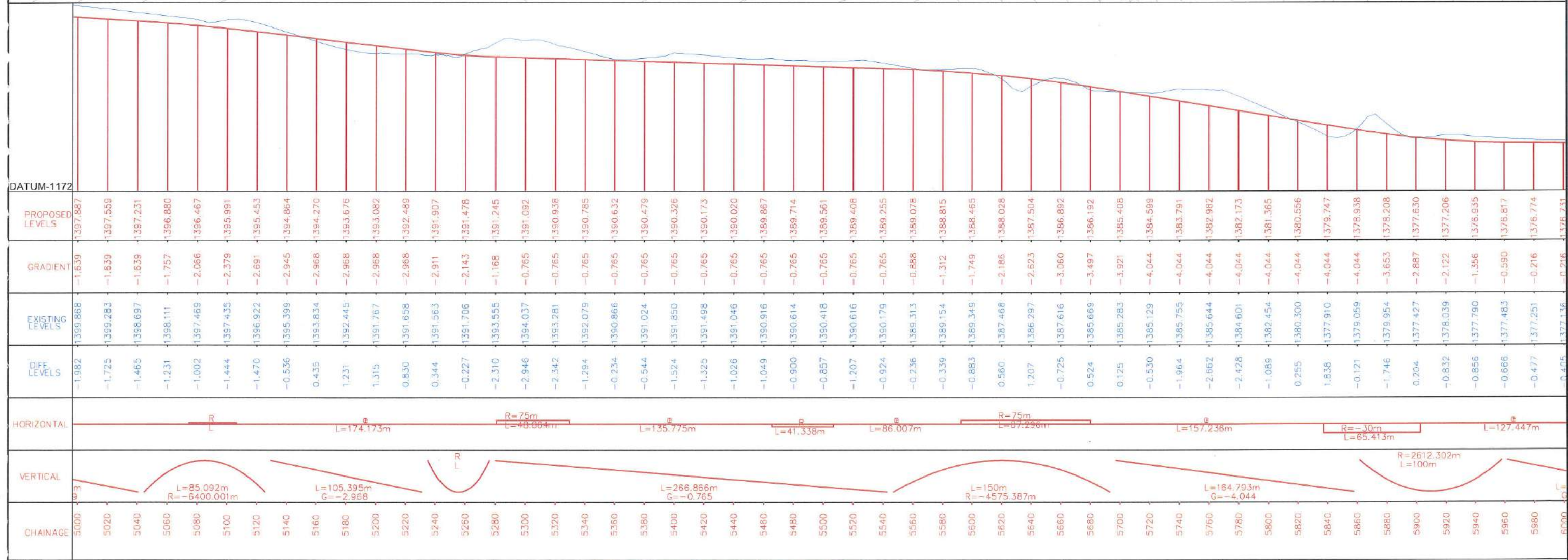
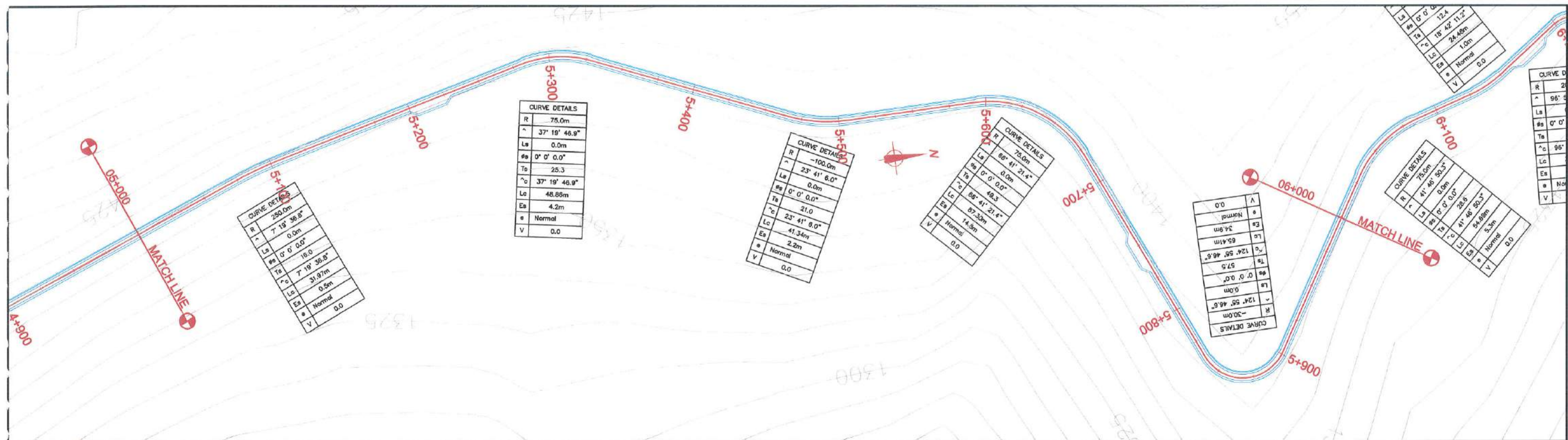
CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY

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SHEET NO. 05



NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TITLE:-

ALIGNMENT PLAN
CH KM 05+000 TO 06+000
LADA - BISAI ROAD

M/s HIGHWAY ENGINEERING CONSULTANT

Head Office :- JM -89/C, BEHIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P.)
Tel/Fax : 0755-4236317

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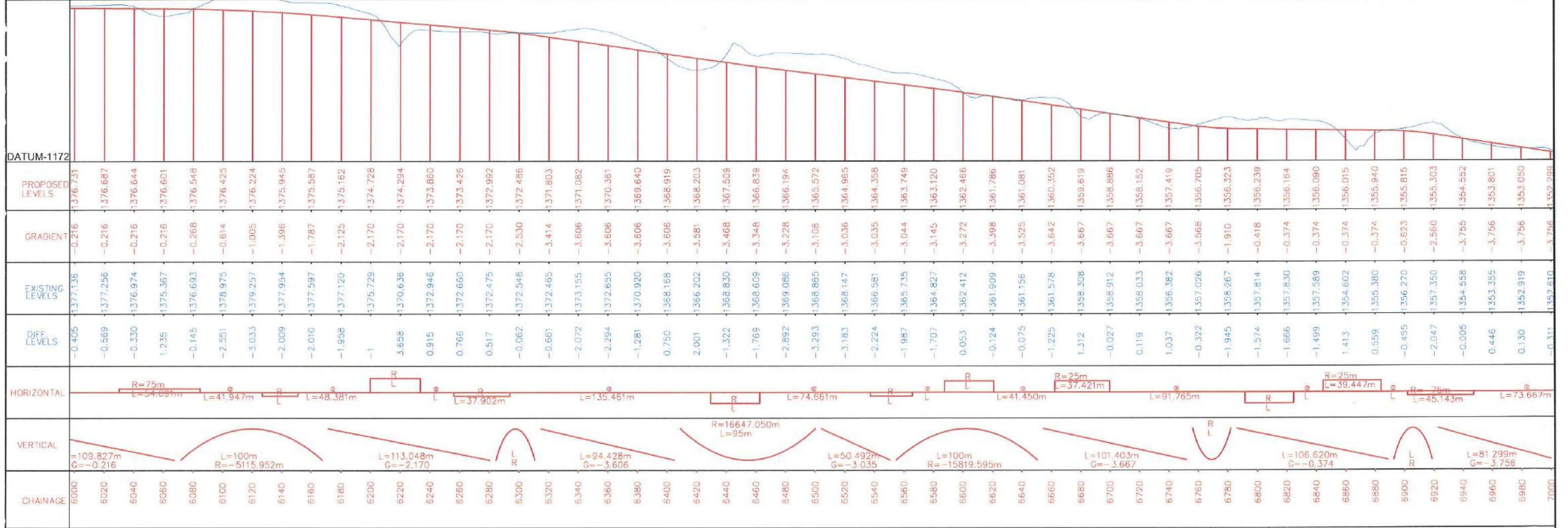
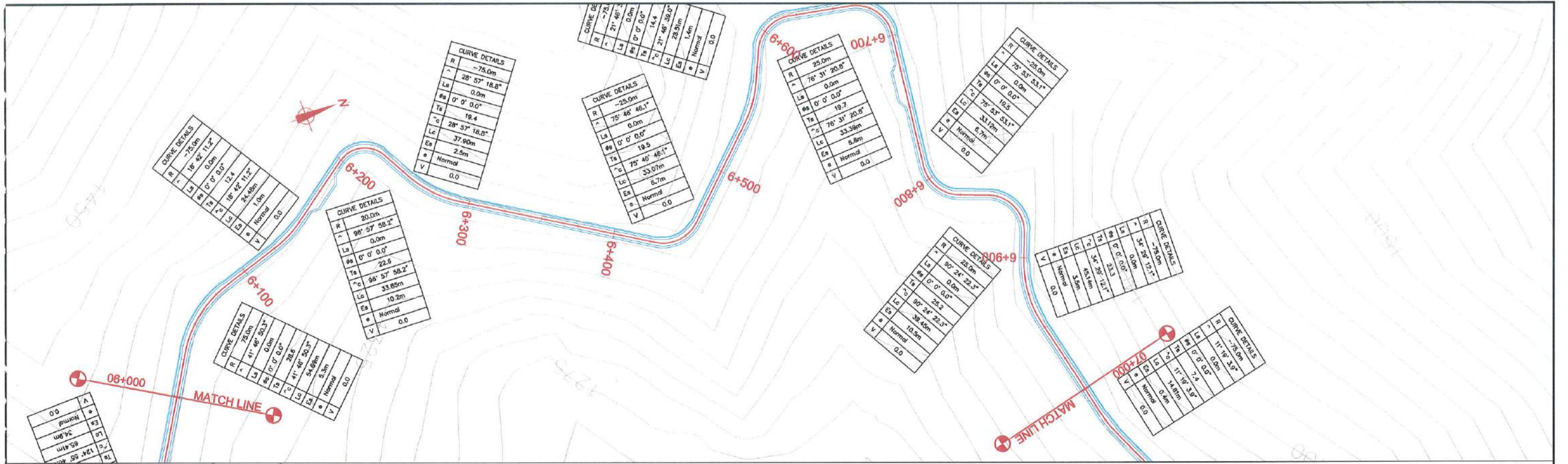
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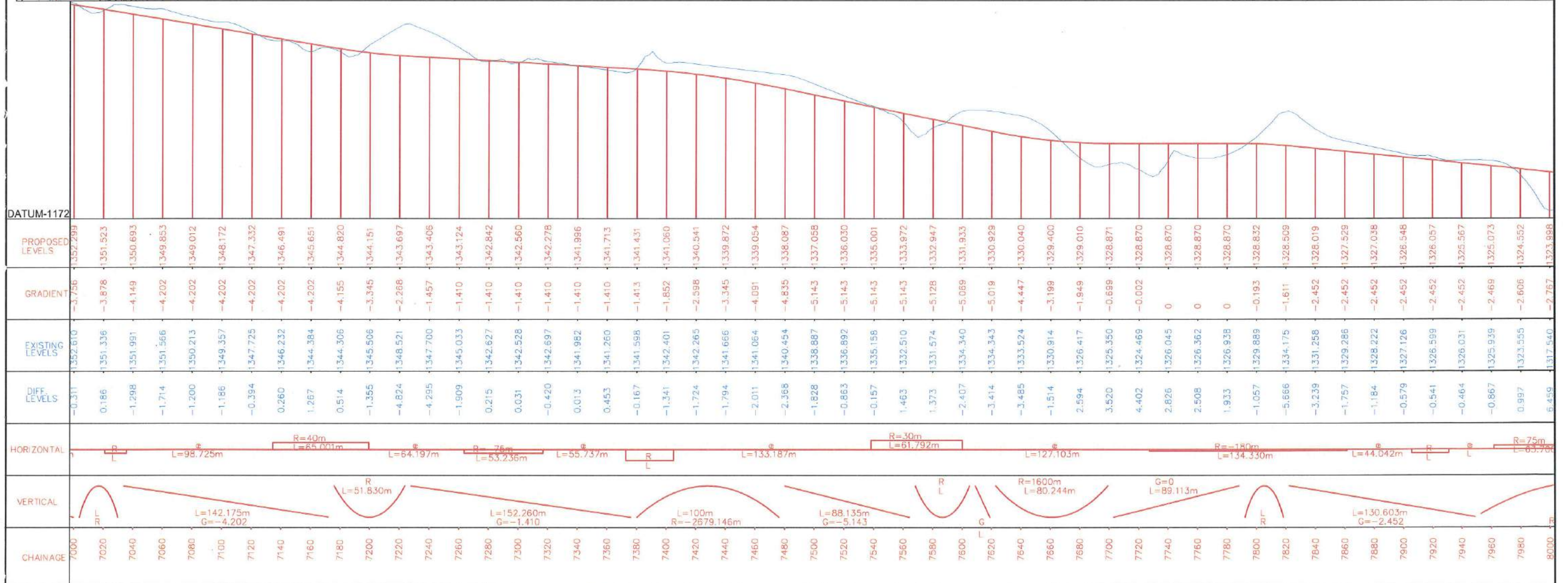
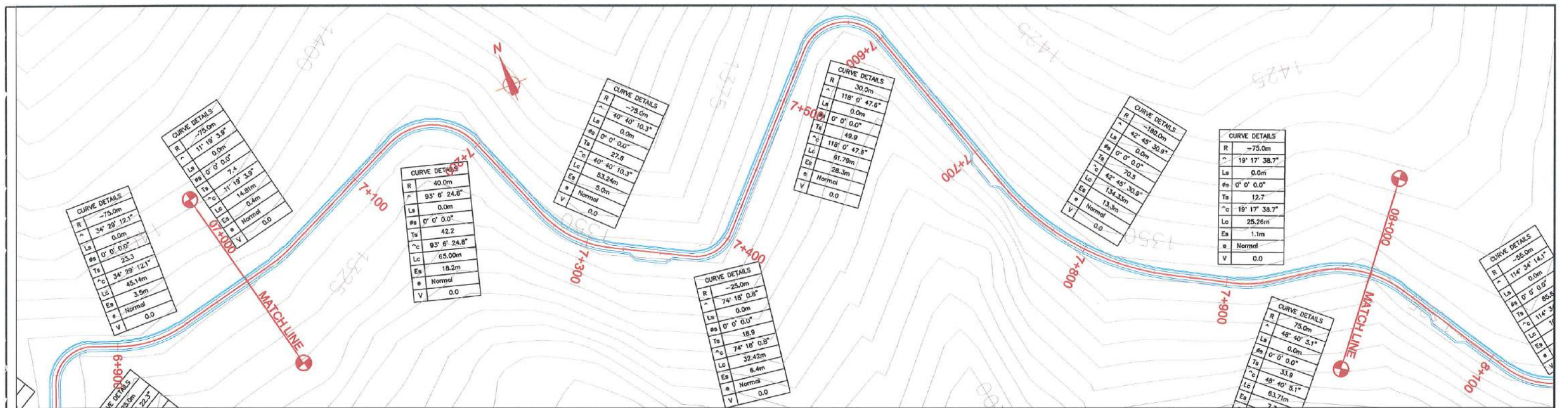
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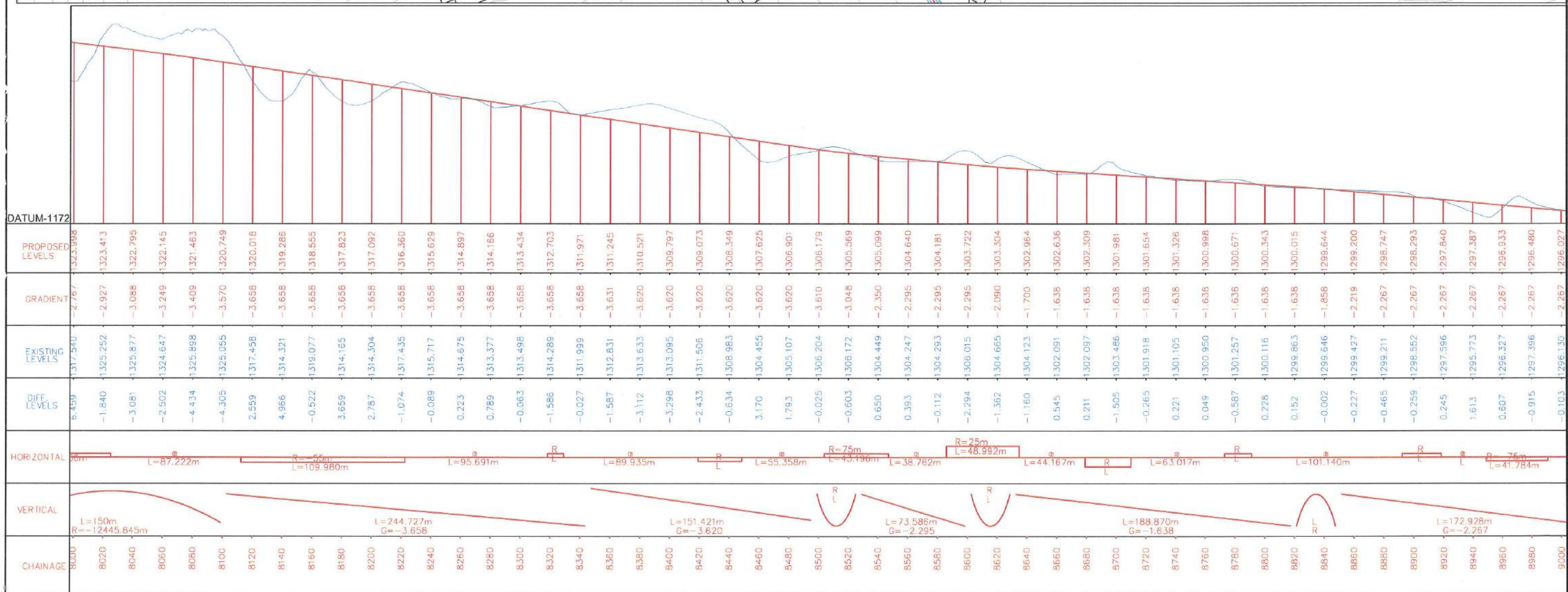
SHEET NO. 06



NOTES:- 1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.			TITLE:- ALIGNMENT PLAN CH KM 06+000 TO 07+000 LADA - BISAI ROAD			M/s HIGHWAY ENGINEERING CONSULTANT Head Office :- JM -89/C, BEHIND PANCHWATI MARKET SAKET NAGAR, BHOPAL (M.P.) Tel/Fax : 0755-4236317			 CENTRAL PUBLIC WORKS DEPARTMENT			NAME OF WORK CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY		
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SIZE -A3			SHEET NO. 07											



NOTES:- 1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.		TITLE:- ALIGNMENT PLAN CH KM 07+000 TO 08+000 LADA - BISAI ROAD		M/s HIGHWAY ENGINEERING CONSULTANT Head Office :- JM -89/C, BEHIND PANCHWATI MARKET SAKET NAGAR, BHOPAL (M.P) Tel/Fax : 0755-4236317		CENTRAL PUBLIC WORKS DEPARTMENT		NAME OF WORK CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY	
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						SIZE -A3		SHEET NO. 08	



NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TITLE:-

ALIGNMENT PLAN
CH KM 08+000 TO 09+000
LADA - BISAI ROAD

M/s HIGHWAY ENGINEERING CONSULTANT
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Tel/Fax : 0755-4236317

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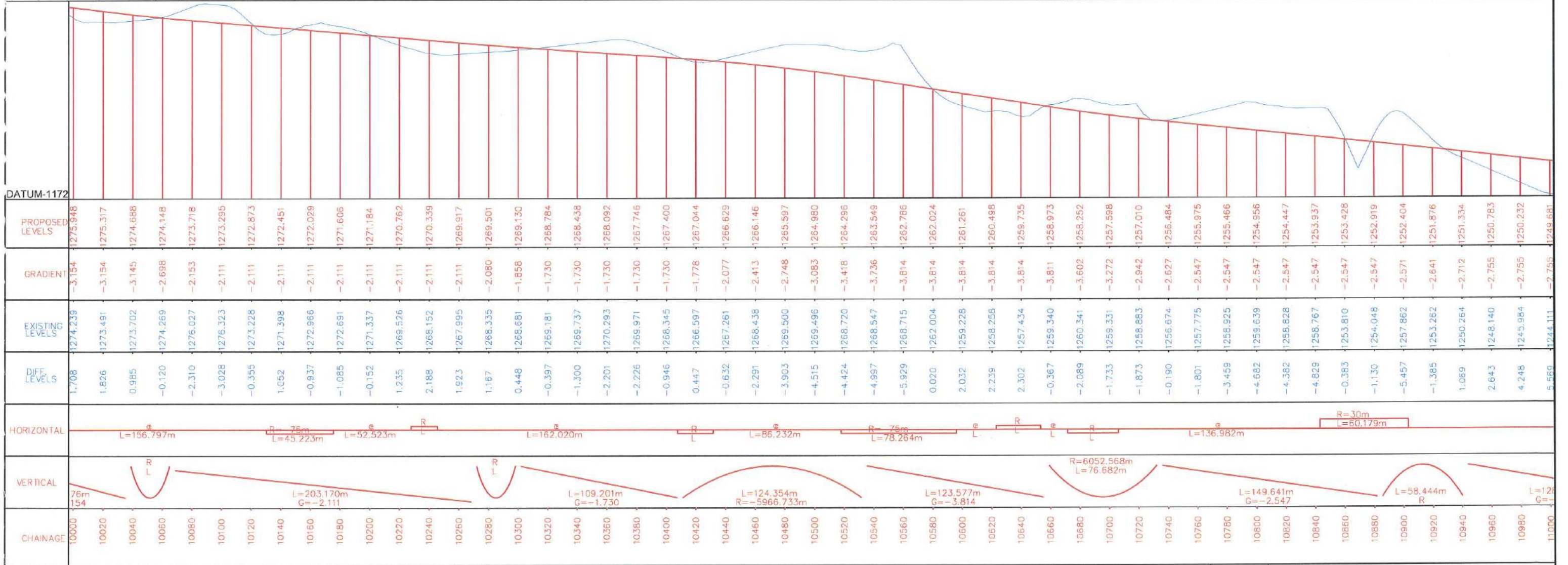
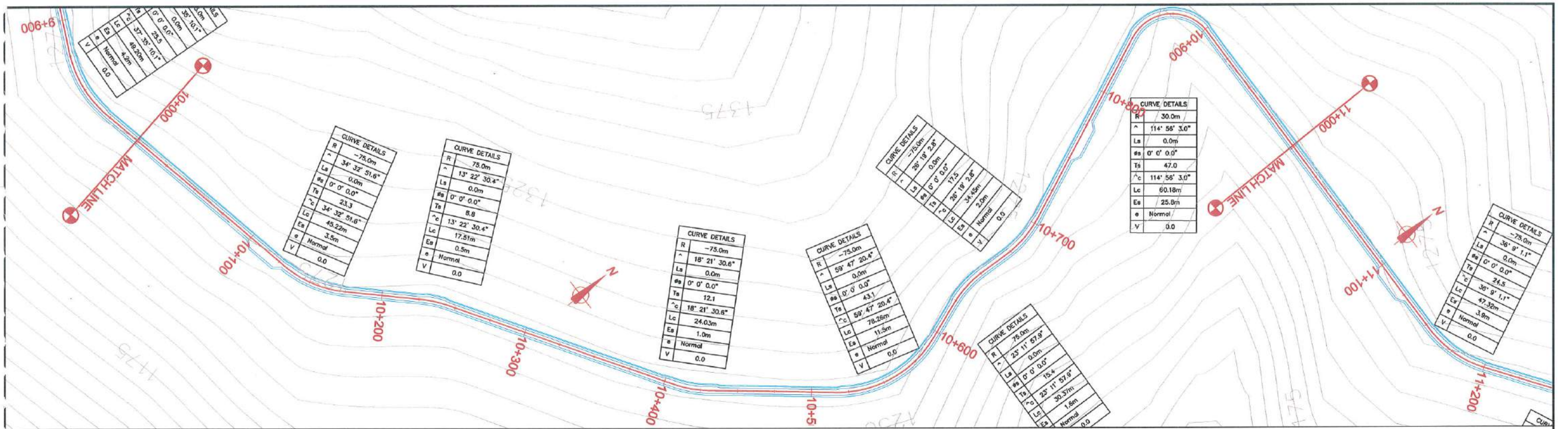
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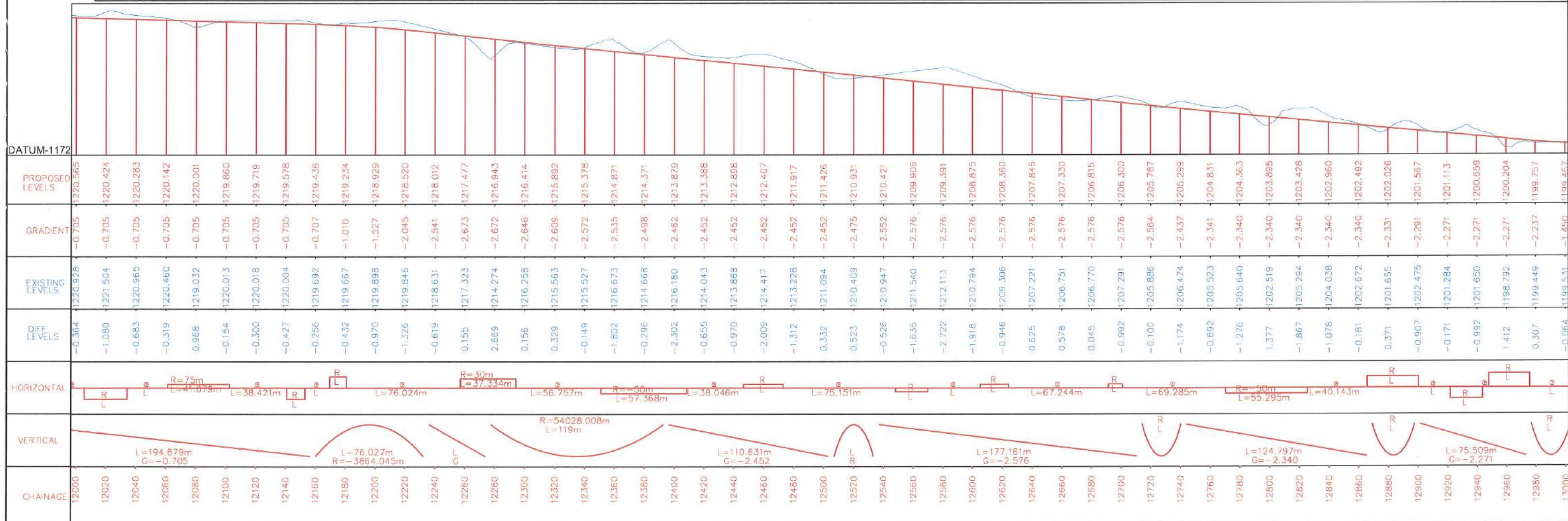
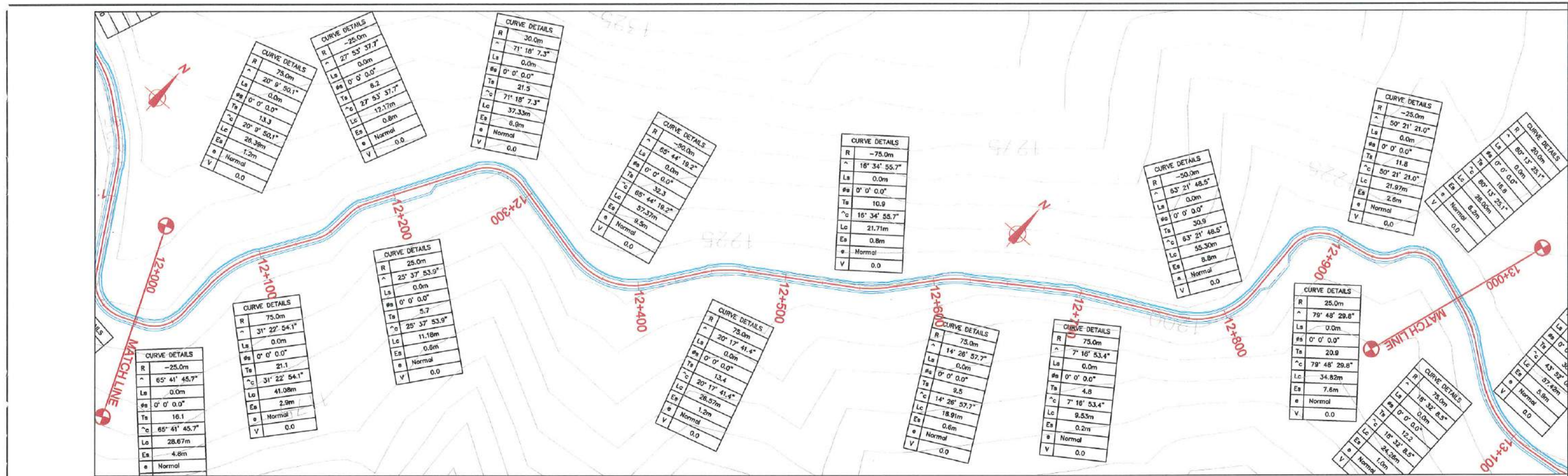
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SIZE -A3

SHEET NO. 09



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								SIZE -A3	
								SHEET NO. 11	



NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TITLE:-

ALIGNMENT PLAN
CH KM 12+000 TO 13+000
LADA - BISAI ROAD

M/s HIGHWAY ENGINEERING CONSULTANT
Head Office :- JM -89/C, BEHIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P)
Tel/Fax : 0755-4236317

YOGESH
DRAWN BY

M. S.
DESIGN BY

T.L.
APPROVED BY

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NAME OF WORK

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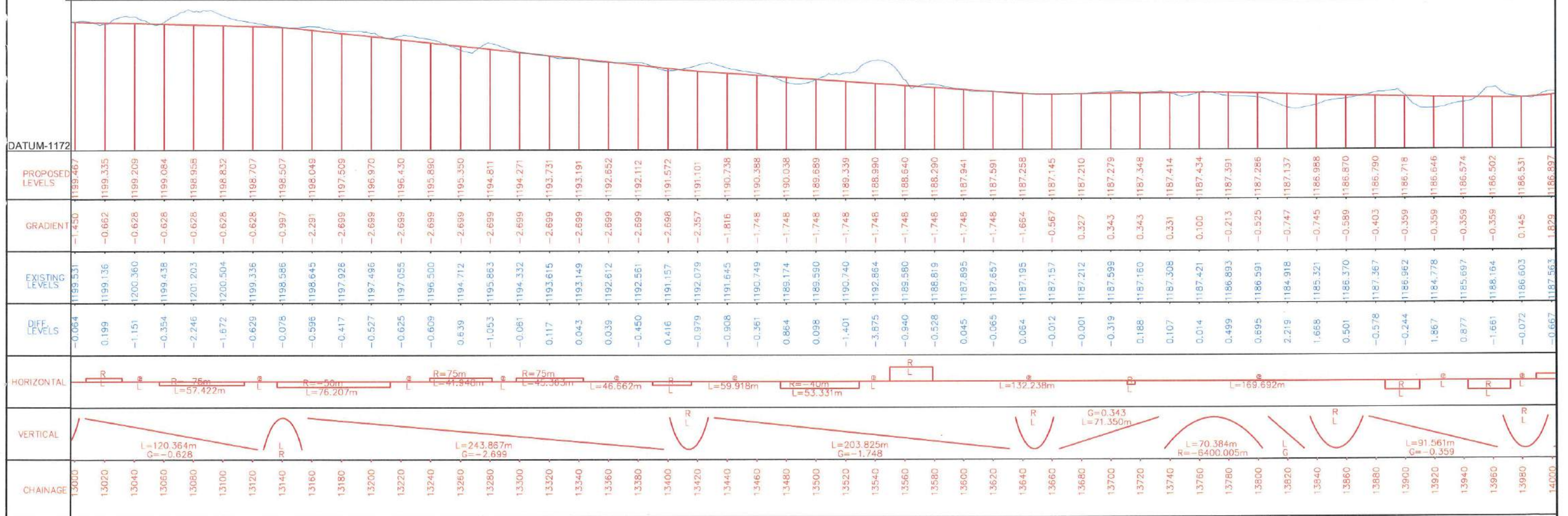
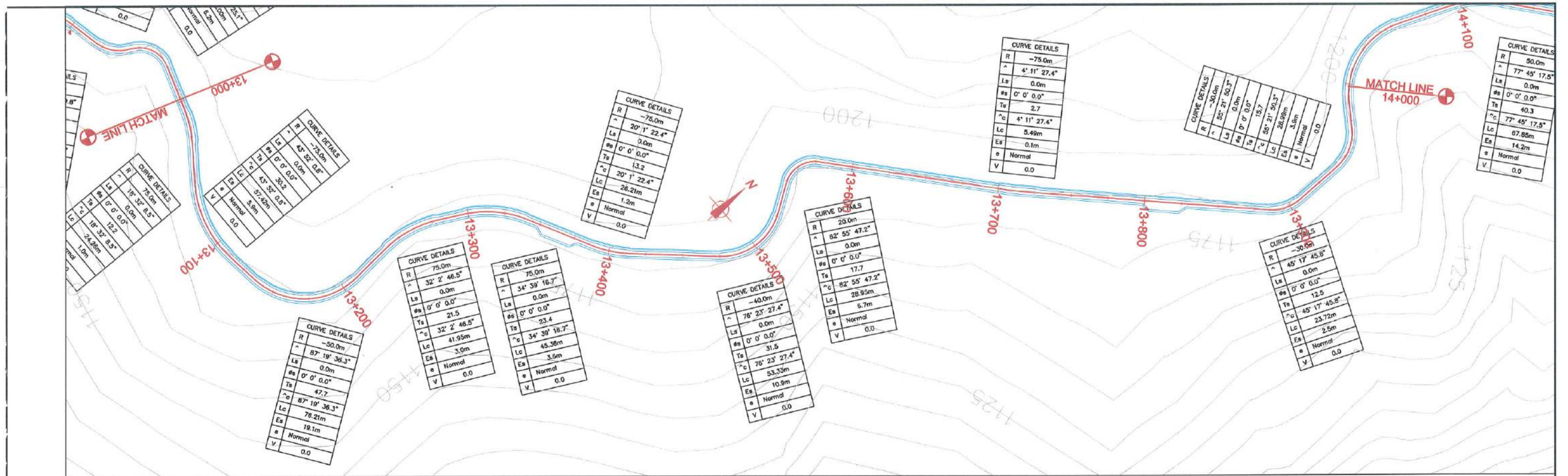
REVISION

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APRIL-2018

SIZE -A3

SHEET NO. 13



NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TITLE:-

ALIGNMENT PLAN
CH KM 13+000 TO 14+000
LADA - BISAI ROAD

M/s HIGHWAY ENGINEERING CONSULTANT
Head Office :- JM -89/C, BEHIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P.)
Tel/Fax : 0755-4236317

YOGESH	M. S.	T.L.
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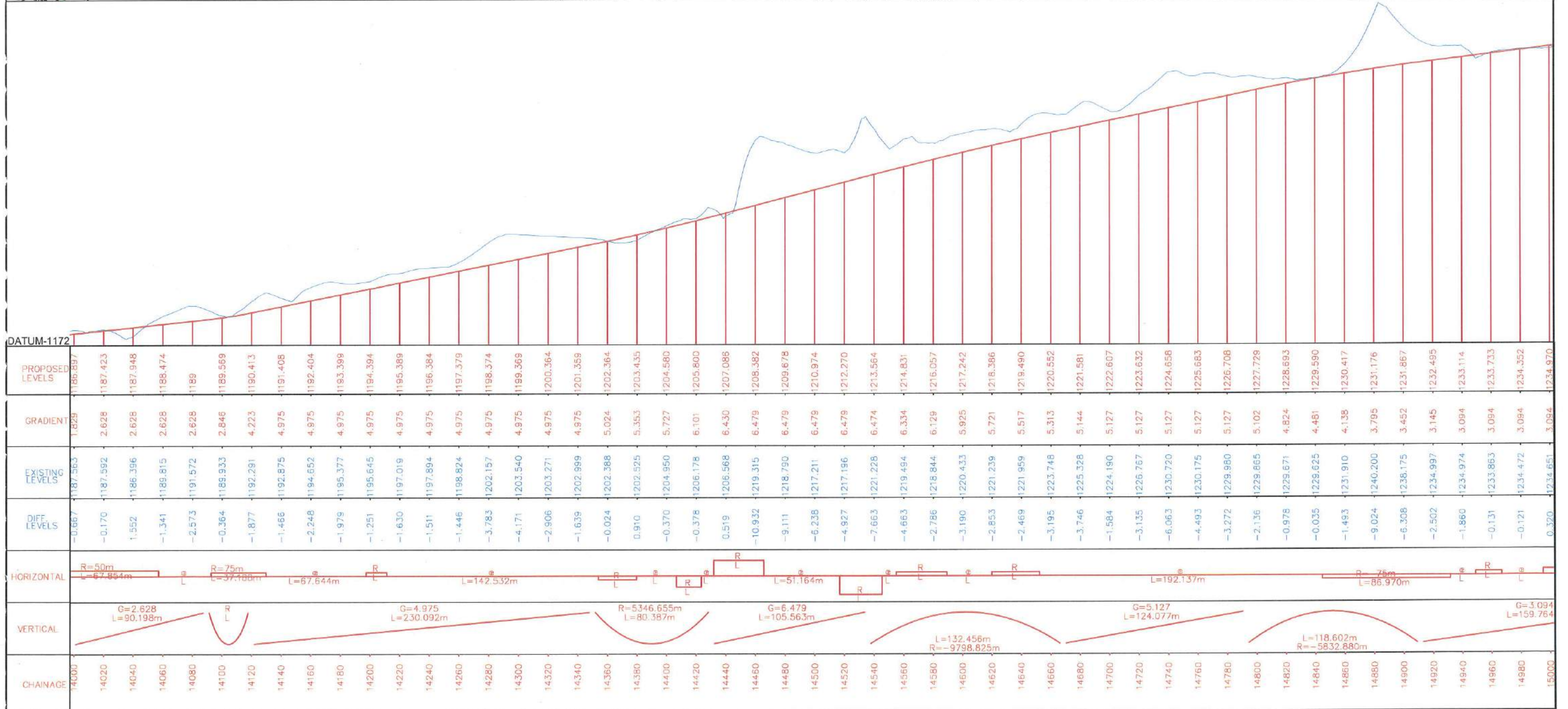
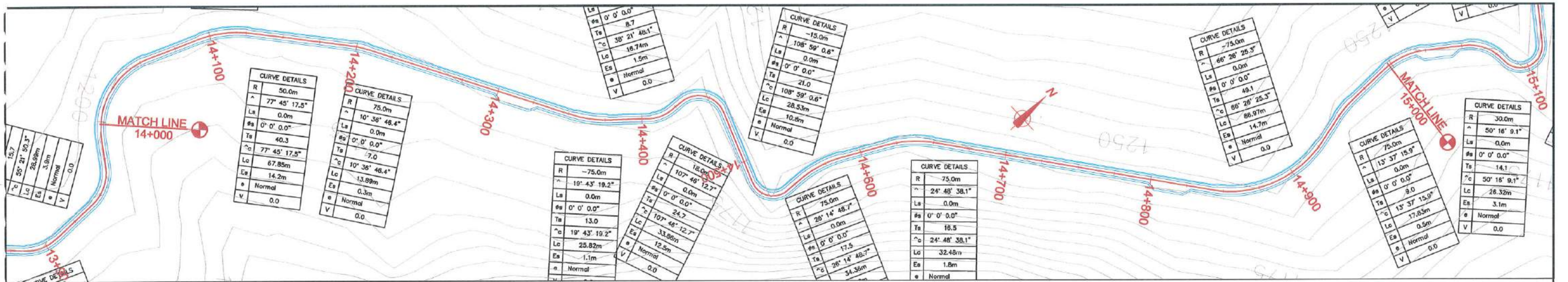
NAME OF WORK
CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY

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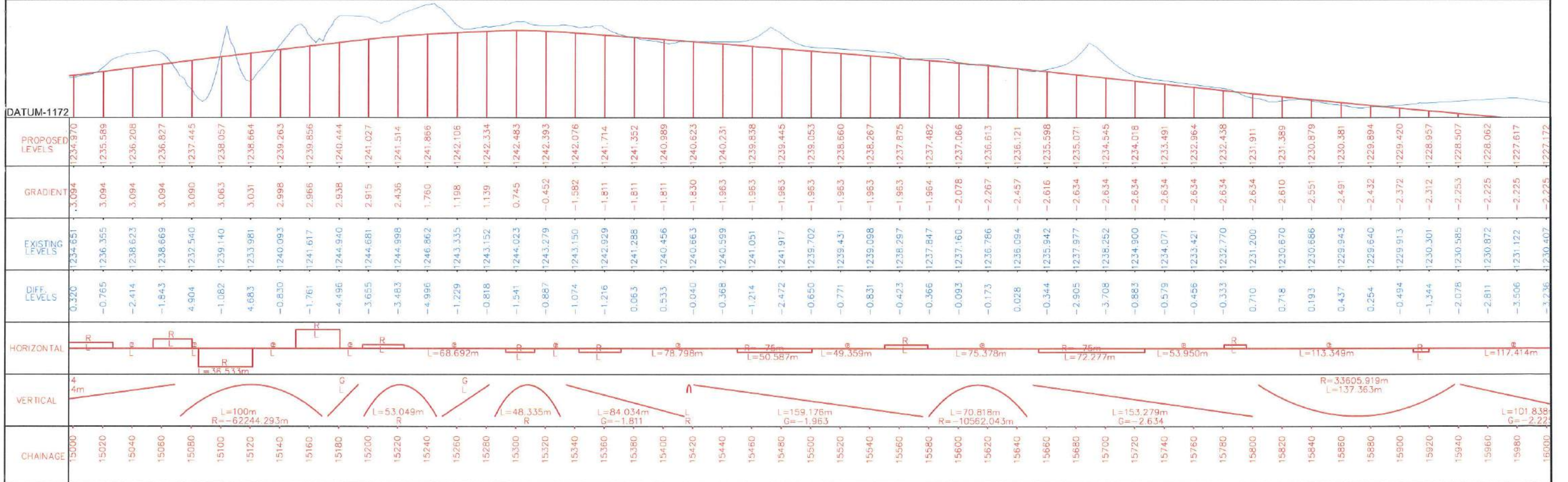
APRIL-2018

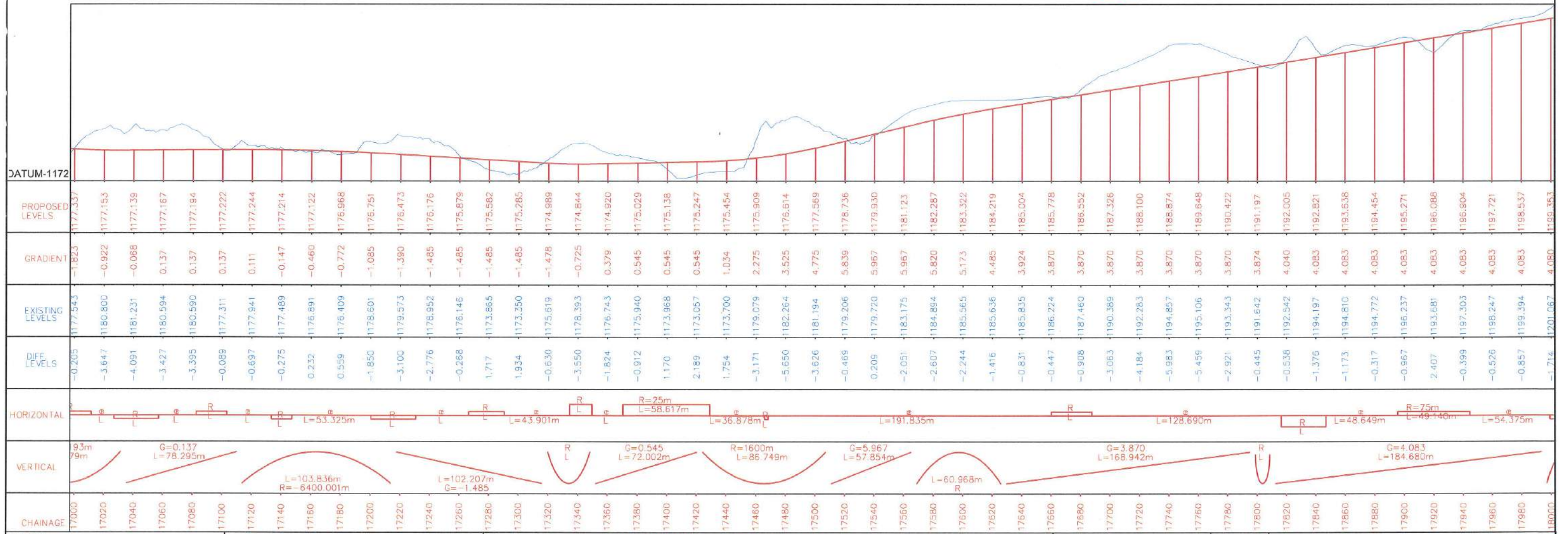
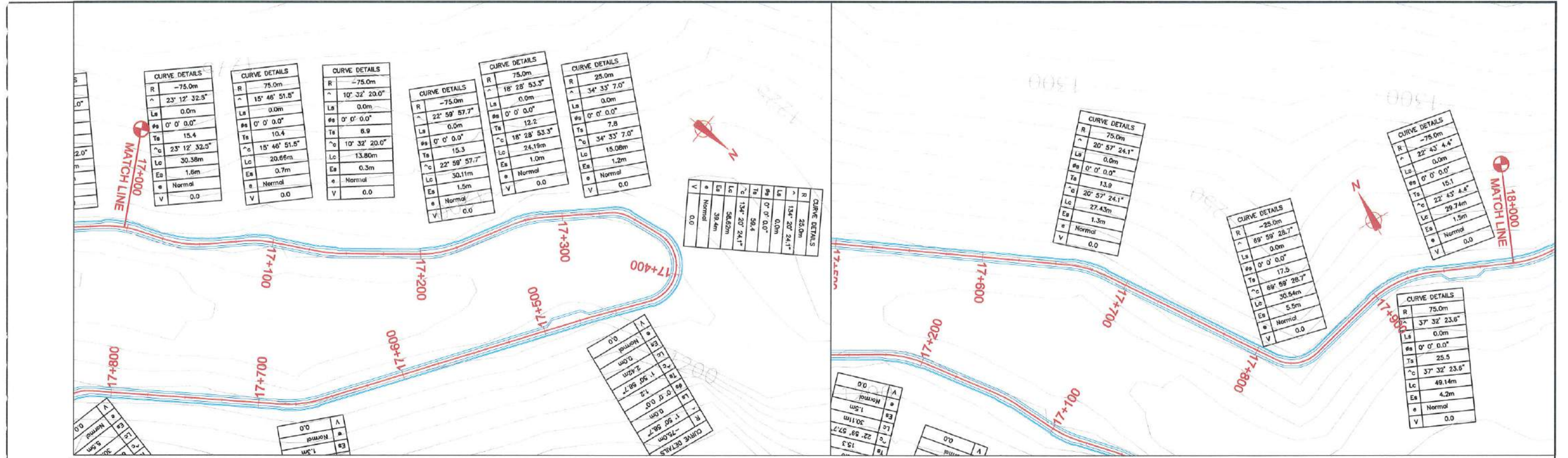
SIZE -A3

SHEET NO. 14



NOTES:- 1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.	TITLE:- ALIGNMENT PLAN CH KM 14+000 TO 15+000 LADA - BISAI ROAD	 M/s HIGHWAY ENGINEERING CONSULTANT Head Office :- JM -89/C, BEHIND PANCHWATI MARKET SAKET NAGAR, BHOPAL (M.P) Tel/Fax : 0755-4236317			 CENTRAL PUBLIC WORKS DEPARTMENT	NAME OF WORK CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY			
		YOGESH	M. S.	T.L.		REVISION R1	APRIL-2018	SIZE -A3	SHEET NO. 15
		DRAWN BY	DESIGN BY	APPROVED BY					





NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TITLE:-

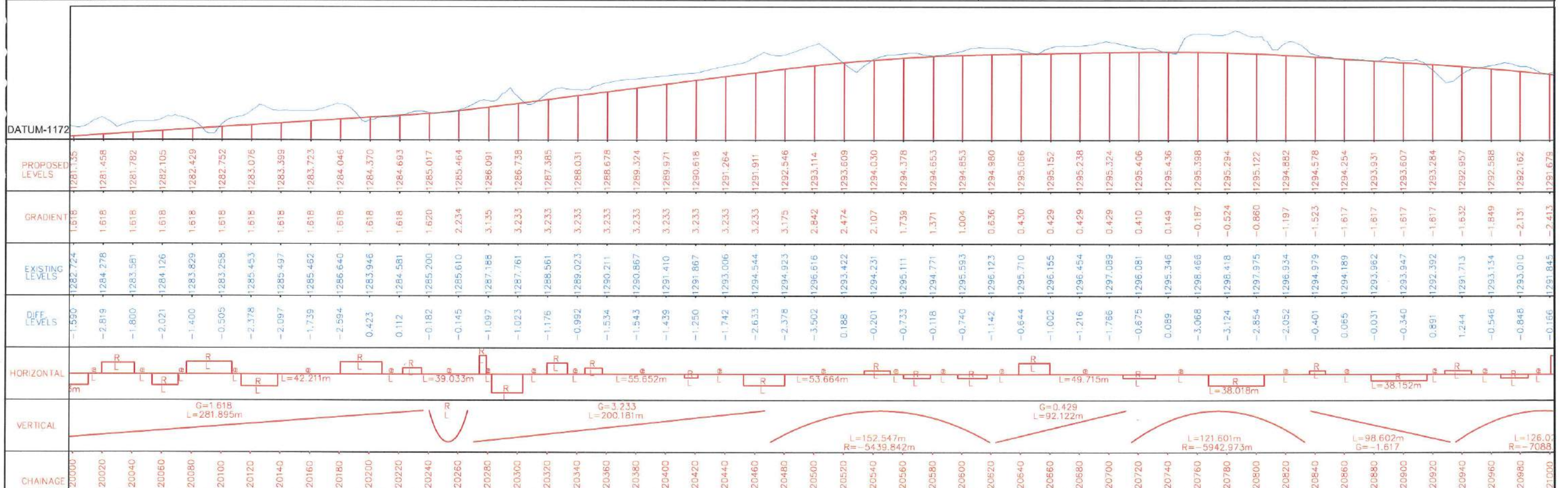
ALIGNMENT PLAN
CH KM 17+000 TO 18+000
LADA - BISAI ROAD

M/s HIGHWAY ENGINEERING CONSULTANT
Head Office :- JM -89/C, BEHIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P)
Tel/Fax : 0755-4236317

YOGESH	M. S.	T.L.
DRAWN BY	DESIGN BY	APPROVED BY

CENTRAL PUBLIC WORKS DEPARTMENT

NAME OF WORK	CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY		
	REVISION RI	APRIL-2018	SIZE -A3
		SHEET NO. 18	



NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TITLE:-

ALIGNMENT PLAN
CH KM 20+000 TO 21+000
LADA - BISAI ROAD

M/s HIGHWAY ENGINEERING CONSULTANT
Head Office :- JM -89/C, BEHIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P)
Tel/Fax : 0755-4236317

YOGESH	M. S.	T.L.
DRAWN BY	DESIGN BY	APPROVED BY

CENTRAL PUBLIC WORKS DEPARTMENT

NAME OF WORK

CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY

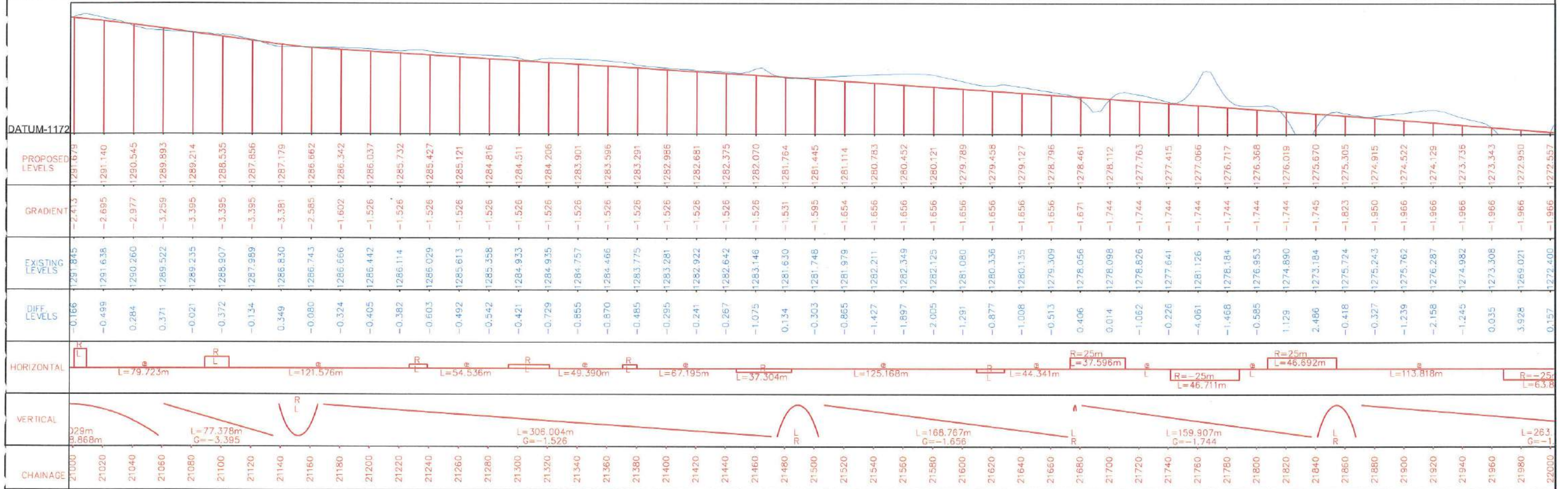
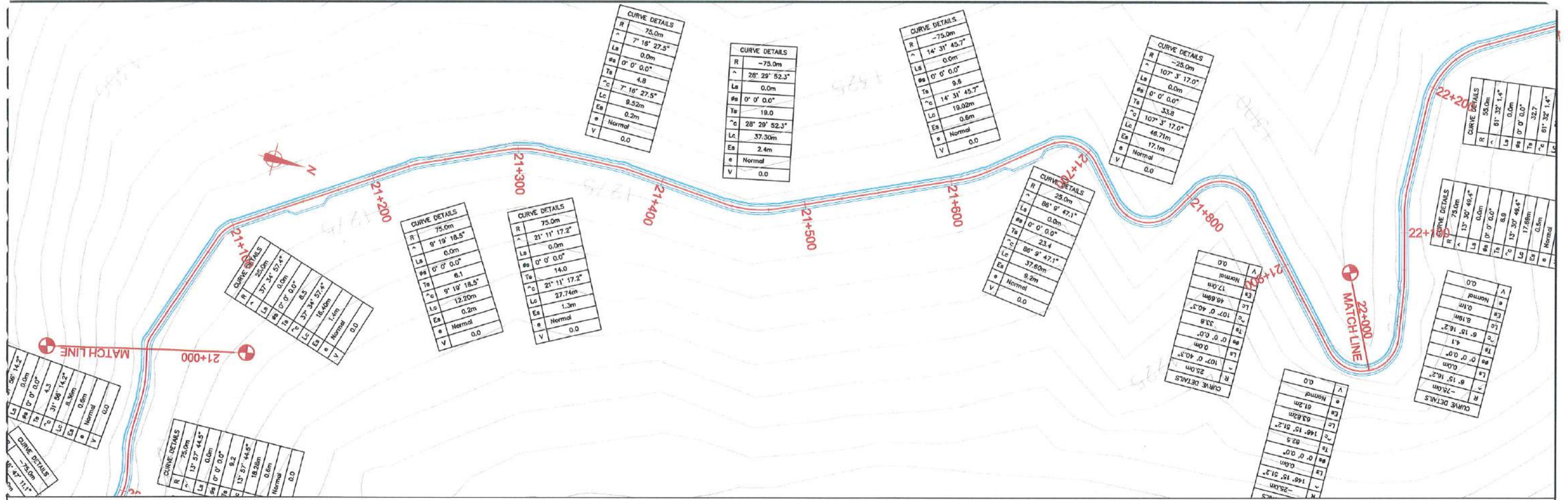
REVISION

RI

APRIL-2018

SIZE -A3

SHEET NO. 21



NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TITLE:-

ALIGNMENT PLAN
CH KM 21+000 TO 22+000
LADA - BISAI ROAD

M/s HIGHWAY ENGINEERING CONSULTANT
Head Office :- JM -89/C, BEHIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P)
Tel/Fax : 0755-4236317

CPWD

CENTRAL PUBLIC WORKS DEPARTMENT

NAME OF WORK

CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY

YOGESH
DRAWN BY

M. S.
DESIGN BY

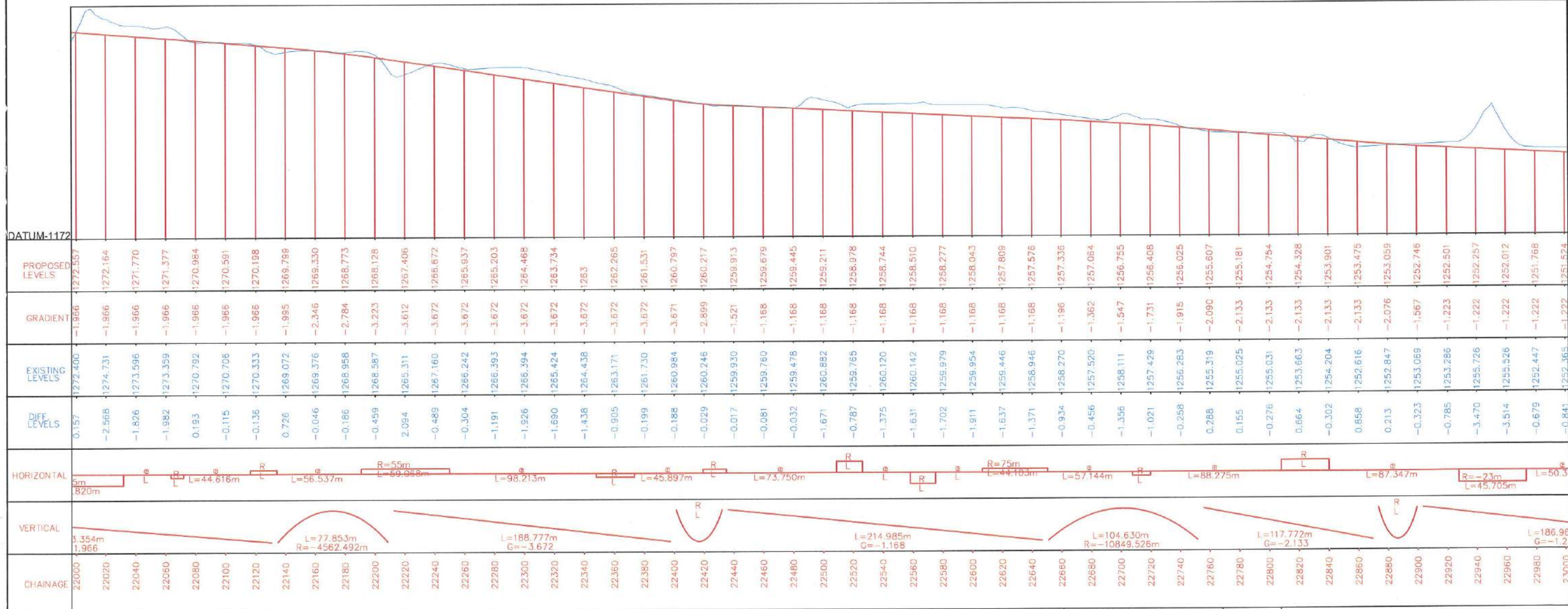
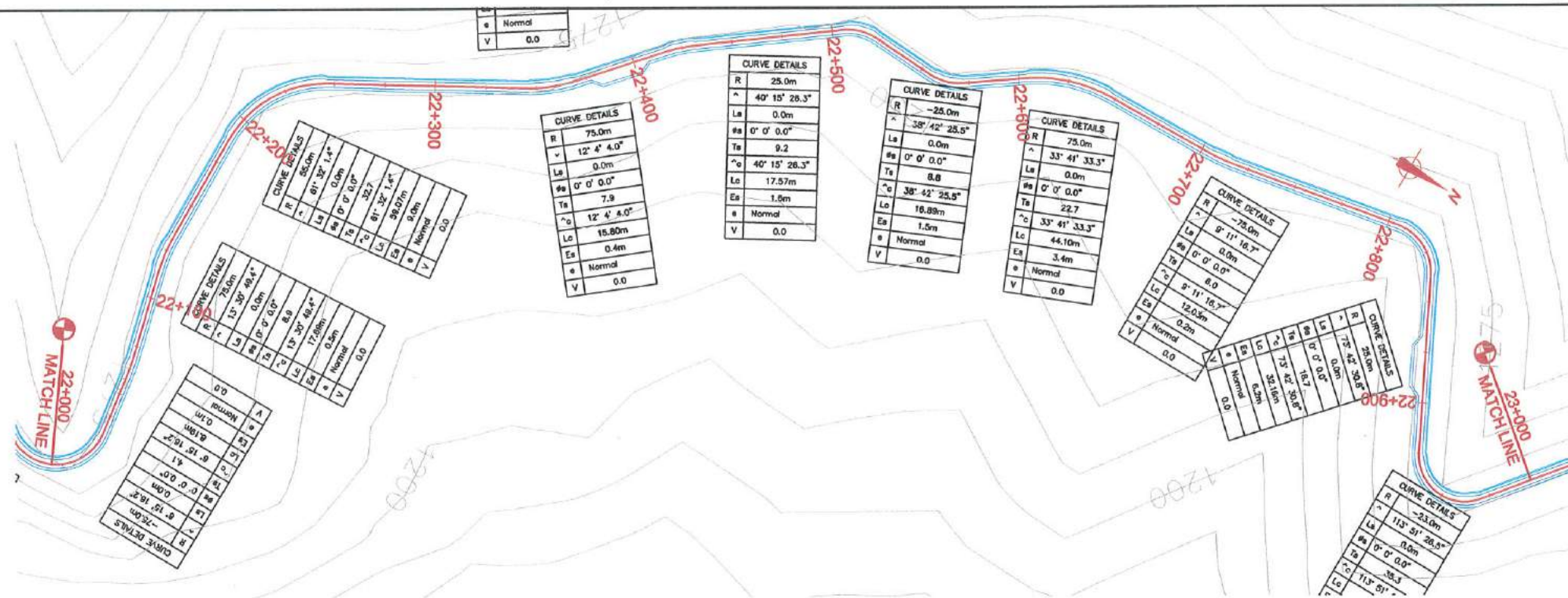
T.L.
APPROVED BY

REVISION
R1

APRIL-2018

SIZE -A3

SHEET NO. 22



NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TITLE:-

ALIGNMENT PLAN
CH KM 22+000 TO 23+000
LADA - BISAI ROAD

M/s HIGHWAY ENGINEERING CONSULTANT
Head Office :- JM -89/C, BEHIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P.)
Tel/Fax : 0755-4236317

YOGESH	M. S.	T.L.
DRAWN BY	DESIGN BY	APPROVED BY

CENTRAL PUBLIC WORKS DEPARTMENT

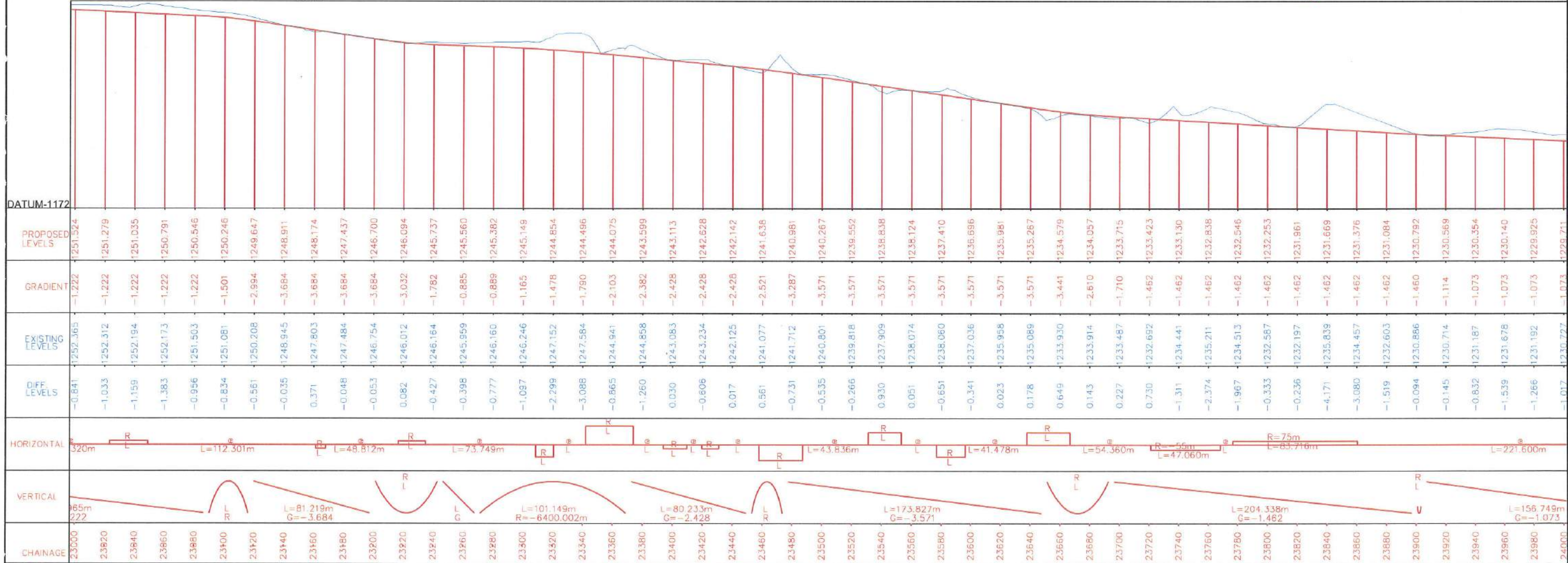
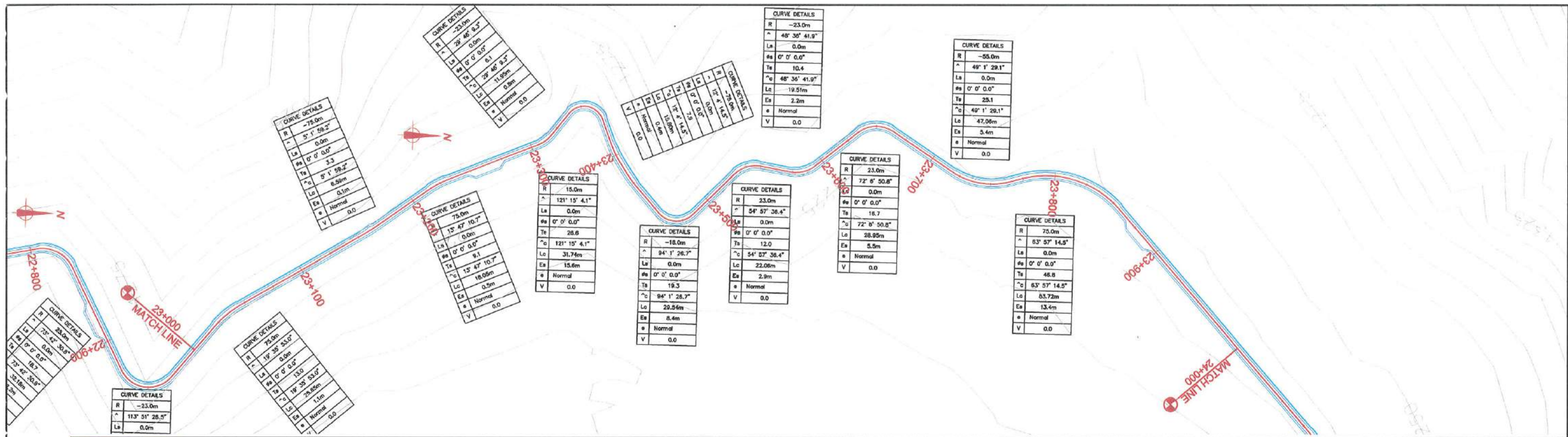
NAME OF WORK
CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY

REVISION
R1

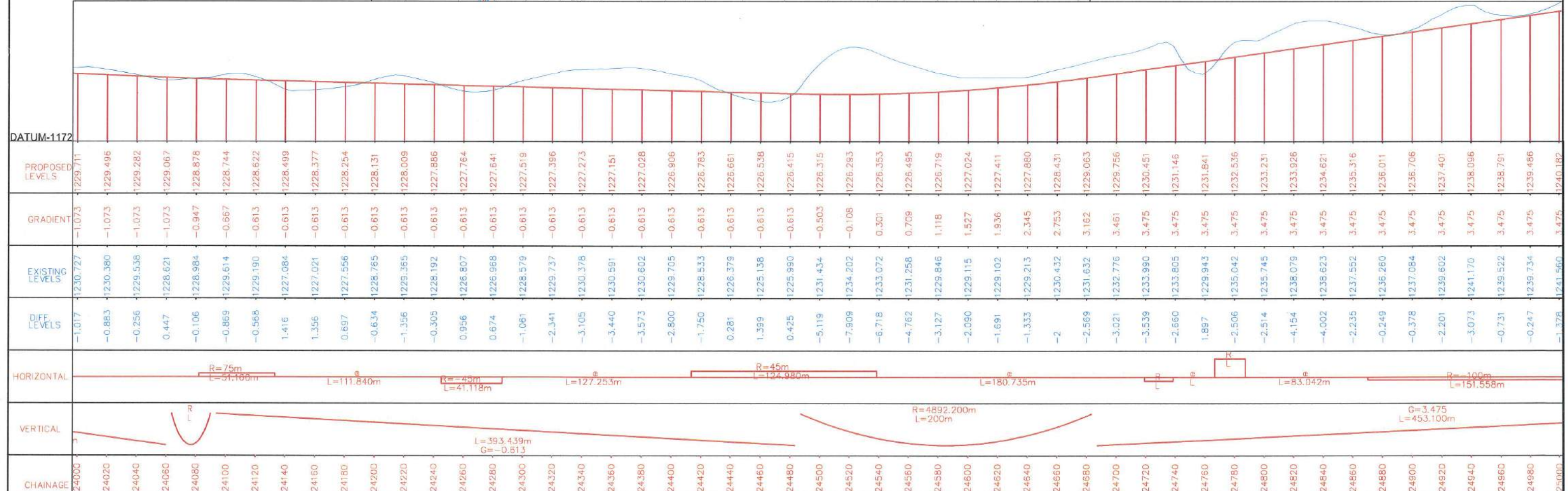
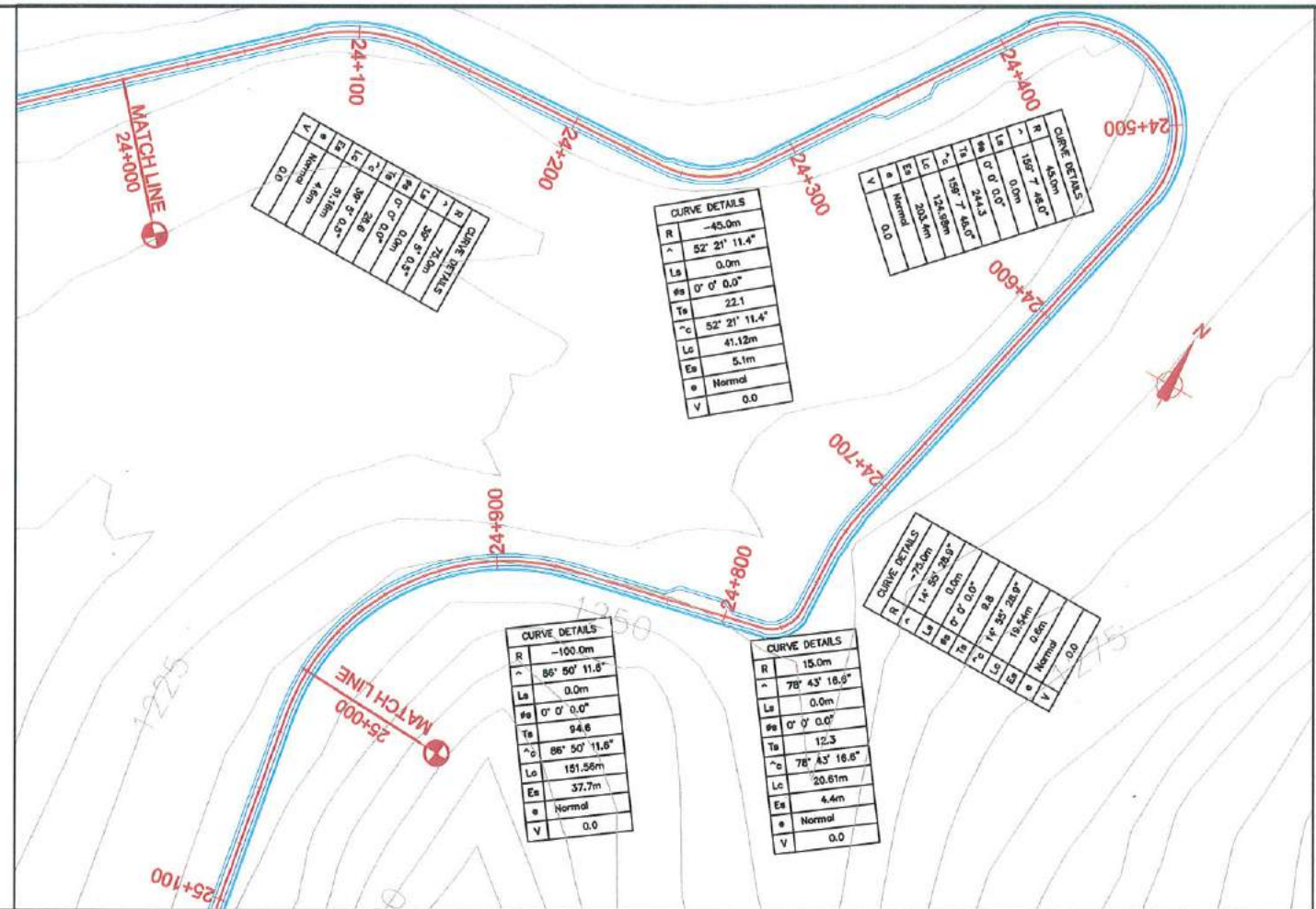
APRIL-2018

SIZE -A3

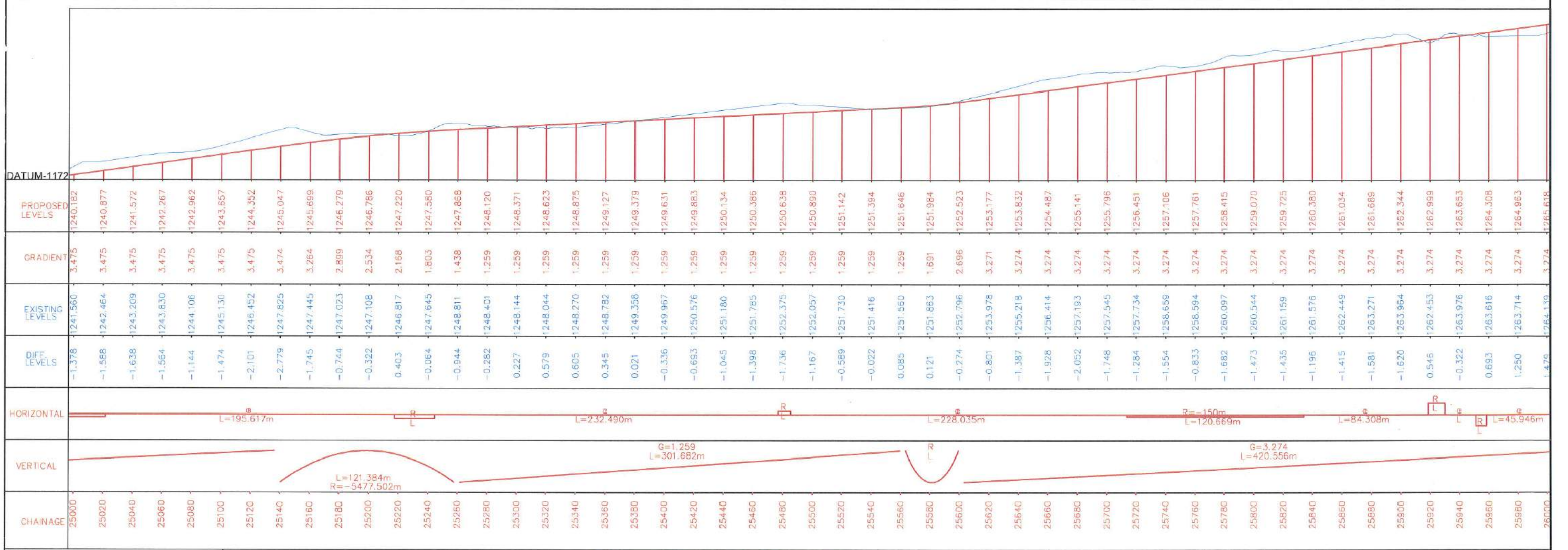
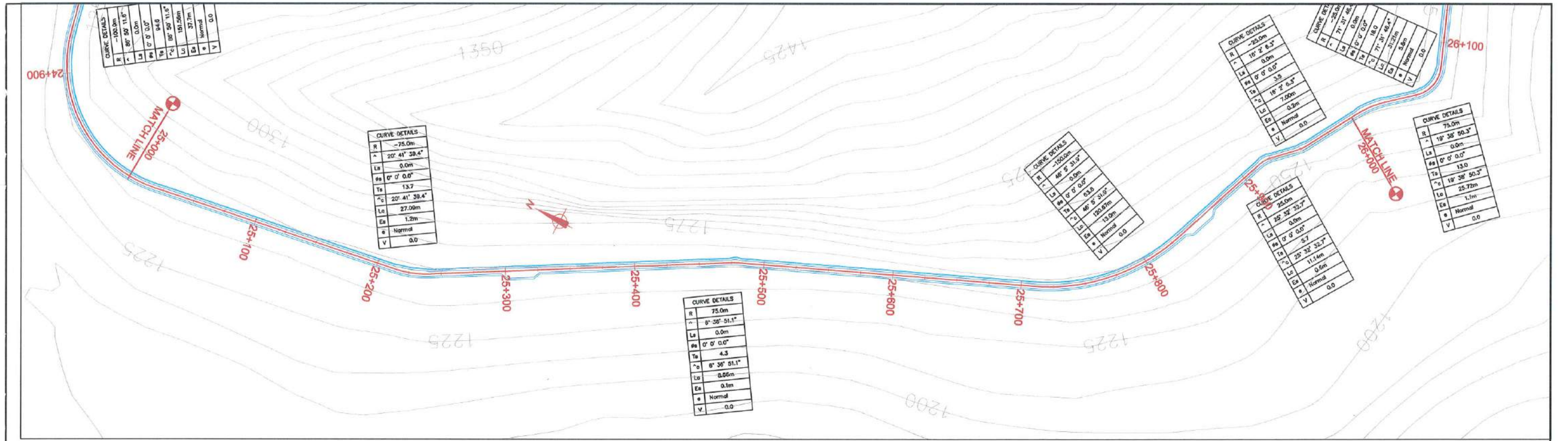
SHEET NO. 23



NOTES:- 1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.		TITLE:- ALIGNMENT PLAN CH KM 23+000 TO 24+000 LADA - BISAI ROAD		 M/s HIGHWAY ENGINEERING CONSULTANT Head Office :- JM -89/C, BEHIND PANCHWATI MARKET SAKET NAGAR, BHOPAL (M.P.) Tel/Fax : 0755-4236317			 CENTRAL PUBLIC WORKS DEPARTMENT		NAME OF WORK CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY	
YOGESH DRAWN BY		M. S. DESIGN BY		T.L. APPROVED BY			REVISION R1		APRIL-2018	SIZE -A3
										SHEET NO. 24



NOTES:- 1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.			TITLE:- ALIGNMENT PLAN CH KM 24+000 TO 25+000 LADA - BISAI ROAD			 M/s HIGHWAY ENGINEERING CONSULTANT Head Office :- JM -89/C, BEHIND PANCHWATI MARKET SAKET NAGAR, BHOPAL (M.P) Tel/Fax : 0755-4236317			 CENTRAL PUBLIC WORKS DEPARTMENT			NAME OF WORK CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY		
YOGESH DRAWN BY			M. S. DESIGN BY			T.L. APPROVED BY			REVISION R1			APRIL-2018		
SIZE -A3			SHEET NO. 25											



NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

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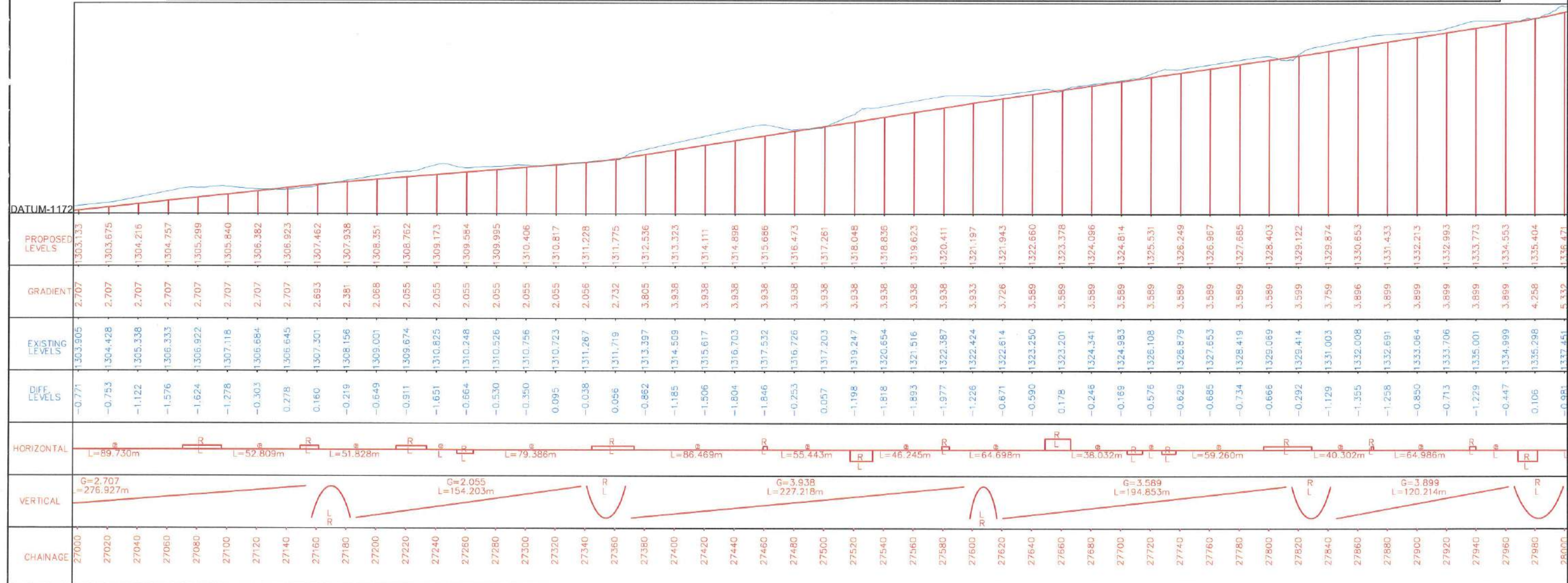
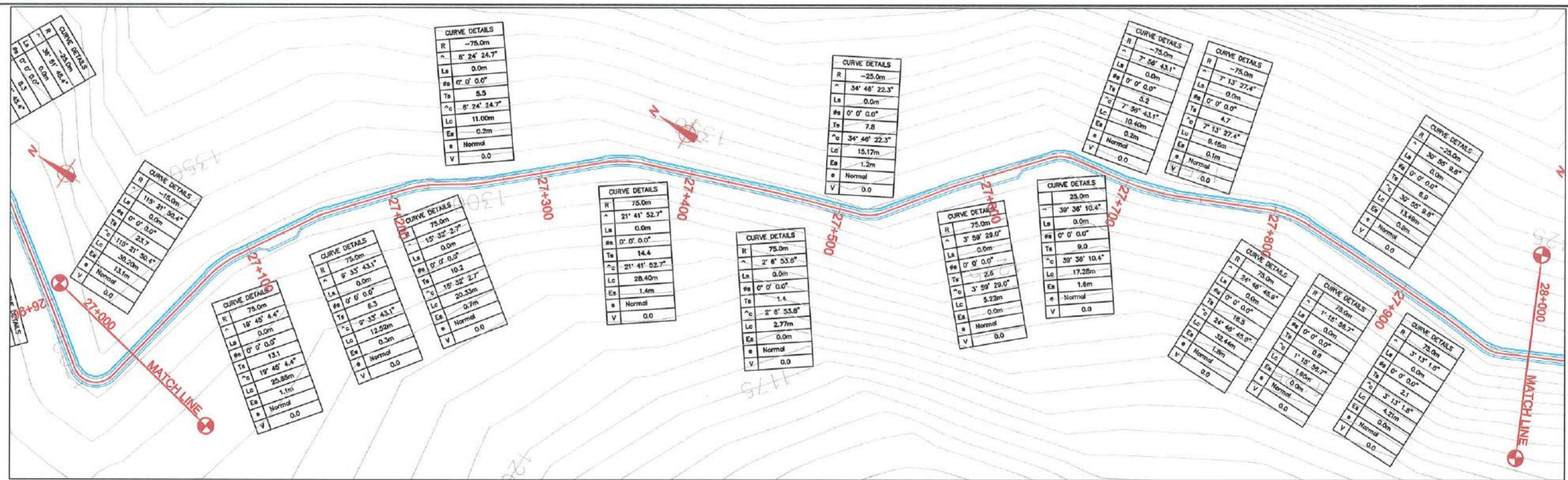
ALIGNMENT PLAN
CH KM 25+000 TO 26+000
LADA - BISAI ROAD

M/s HIGHWAY ENGINEERING CONSULTANT
Head Office :- JM -89/C, BEHIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P.)
Tel/Fax : 0755-4236317

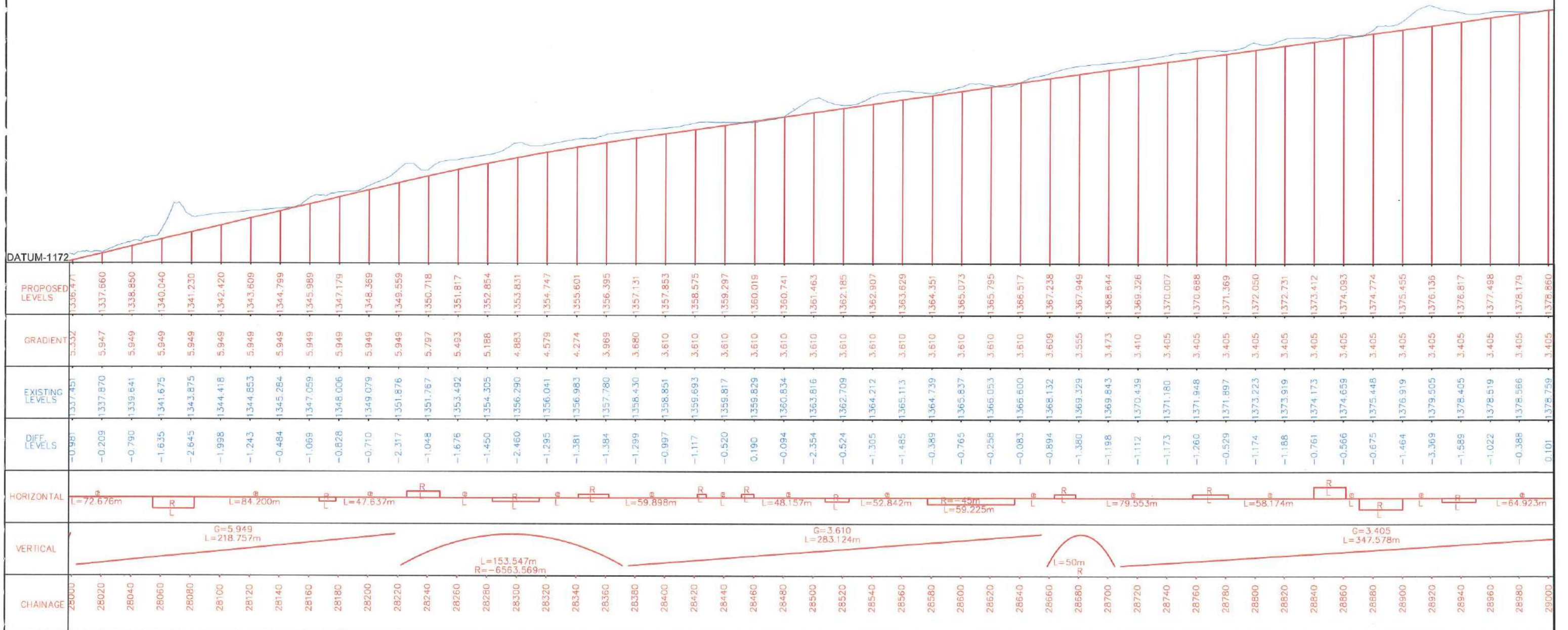
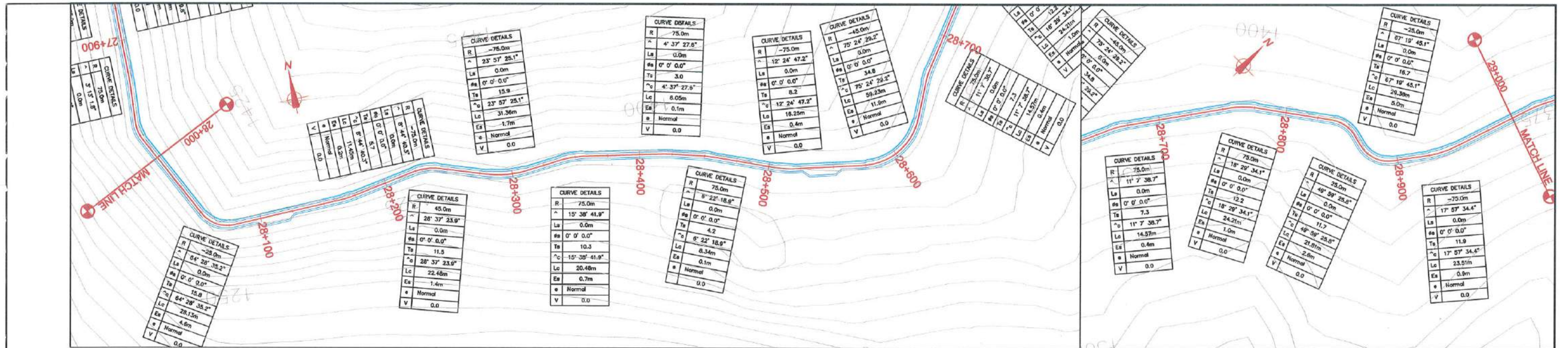
YOGESH	M. S.	T.L.
DRAWN BY	DESIGN BY	APPROVED BY

CENTRAL PUBLIC WORKS
DEPARTMENT

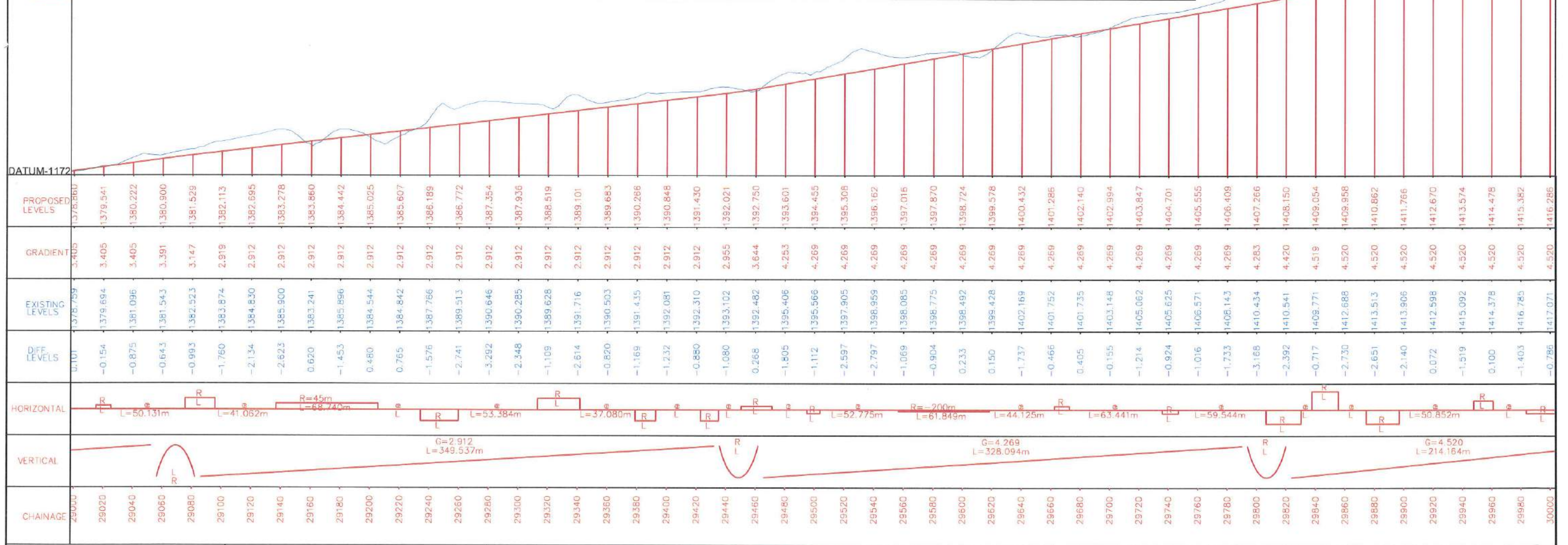
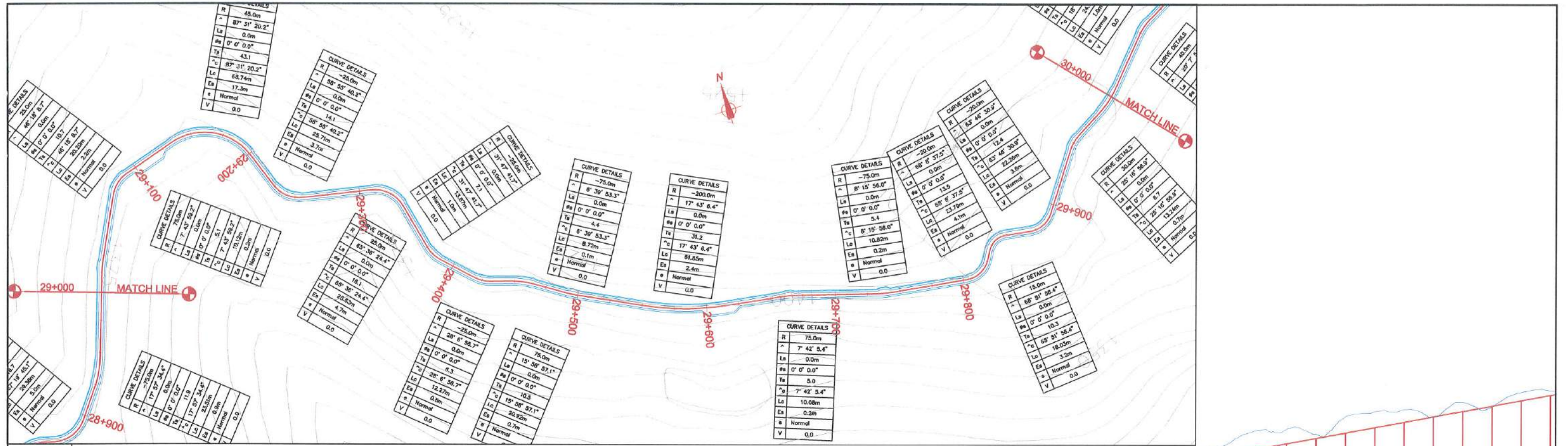
NAME OF WORK	CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY		
REVISION R1	APRIL-2018	SIZE -A3	SHEET NO. 26



NOTES:- 1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.	TITLE:- ALIGNMENT PLAN CH KM 27+000 TO 28+000 LADA - BISAI ROAD	 M/s HIGHWAY ENGINEERING CONSULTANT Head Office :- JM -89/C, BEHIND PANCHWATI MARKET SAKET NAGAR, BHOPAL (M.P) Tel/Fax : 0755-4236317			 CENTRAL PUBLIC WORKS DEPARTMENT	NAME OF WORK CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY
		YOGESH	M. S.	T.L.		REVISION R1 APRIL-2018 SIZE -A3 SHEET NO. 28
		DRAWN BY	DESIGN BY	APPROVED BY		



NOTES:- 1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.		TITLE:- ALIGNMENT PLAN CH KM 28+000 TO 29+000 LADA - BISAI ROAD		 M/s HIGHWAY ENGINEERING CONSULTANT Head Office :- JM -89/C, BEHIND PANCHWATI MARKET SAKET NAGAR, BHOPAL (M.P.) Tel/Fax : 0755-4236317		 CENTRAL PUBLIC WORKS DEPARTMENT		NAME OF WORK CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY	
YOGESH DRAWN BY		M. S. DESIGN BY		T.L. APPROVED BY		REVISION R1		APRIL-2018	SIZE -A3
								SHEET NO. 29	



NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

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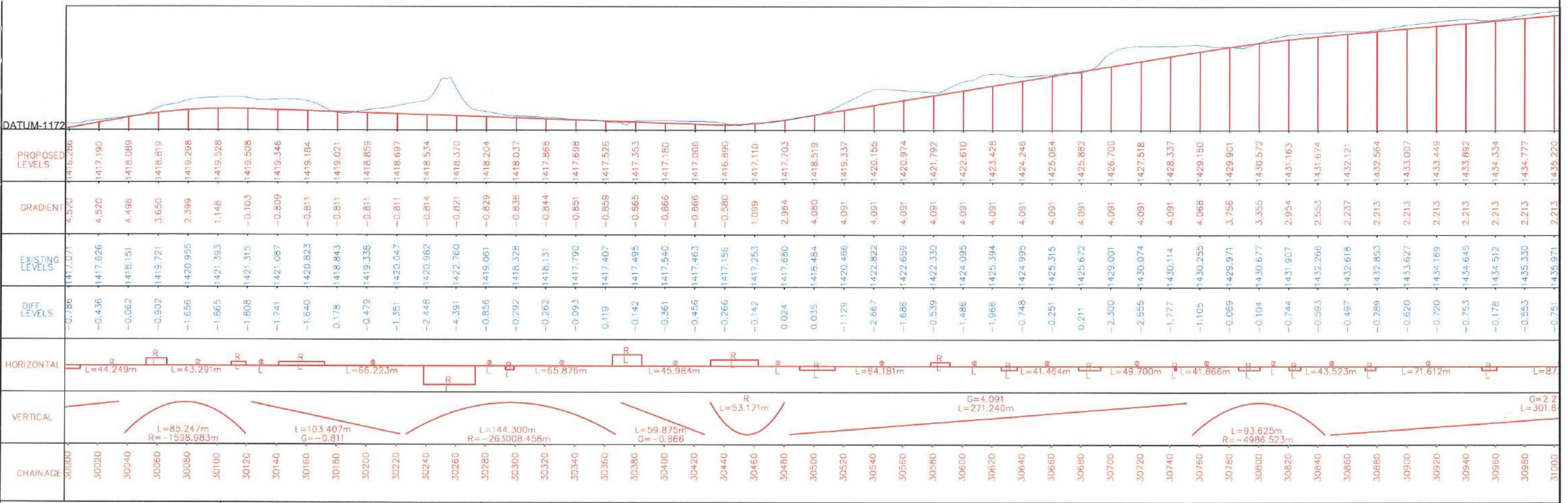
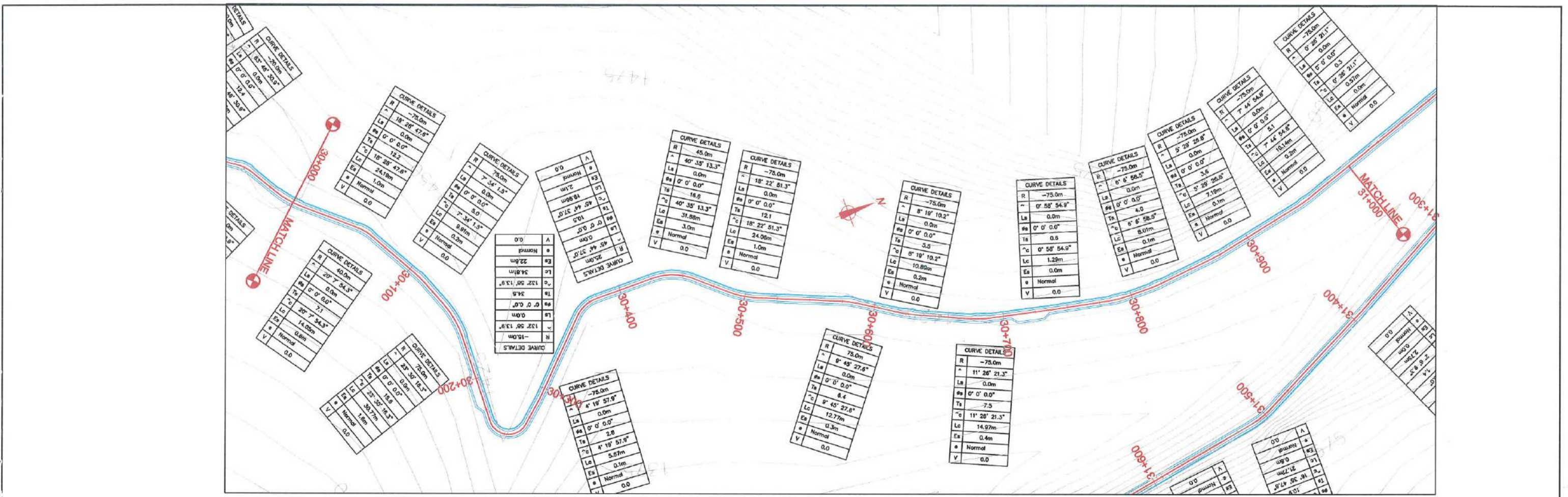
ALIGNMENT PLAN
CH KM 29+000 TO 30+000
LADA - BISAI ROAD

M/s HIGHWAY ENGINEERING CONSULTANT
Head Office :- JM -89/C, BEHIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P)
Tel/Fax : 0755-4236317

YOGESH	M. S.	T.L.
DRAWN BY	DESIGN BY	APPROVED BY

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NAME OF WORK	CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY		
	REVISION R1	APRIL-2018	SIZE -A3
		SHEET NO. 30	



NOTES:-
1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

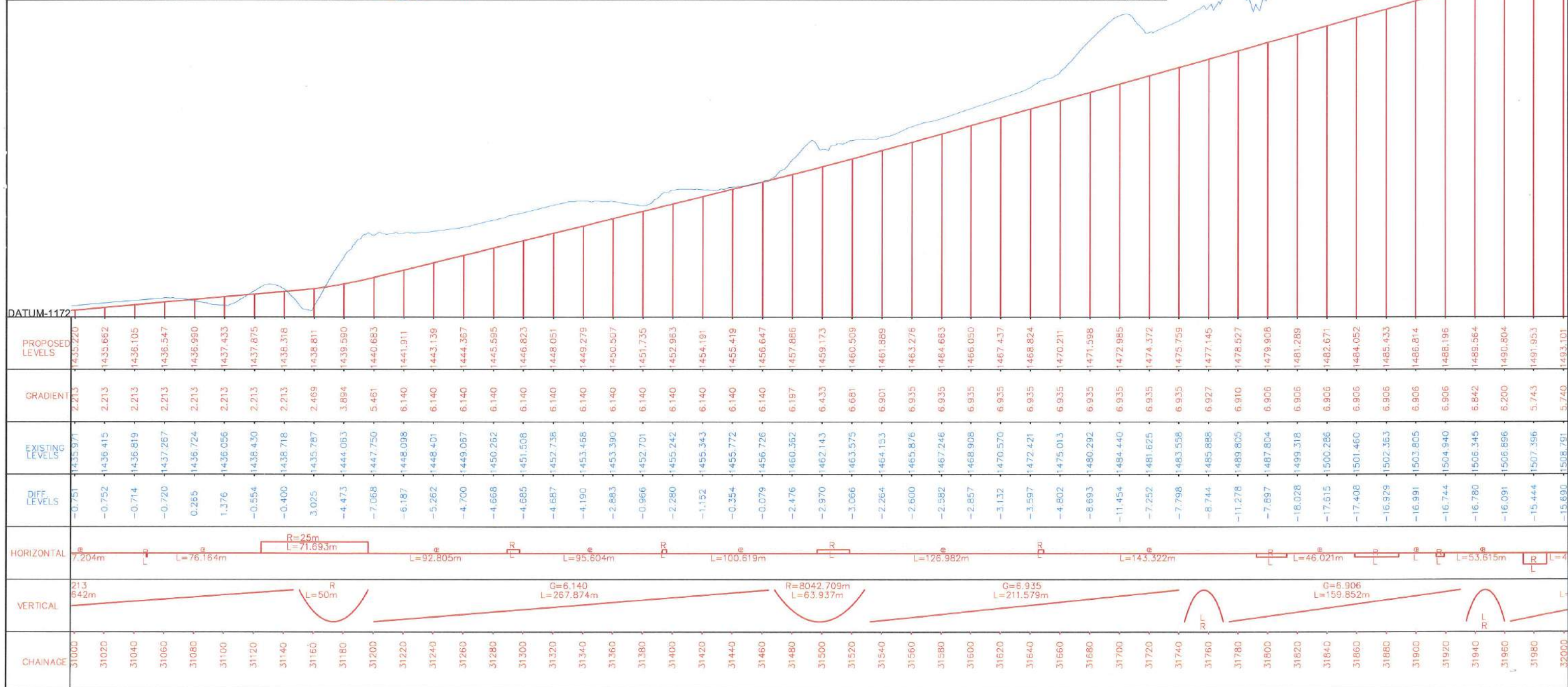
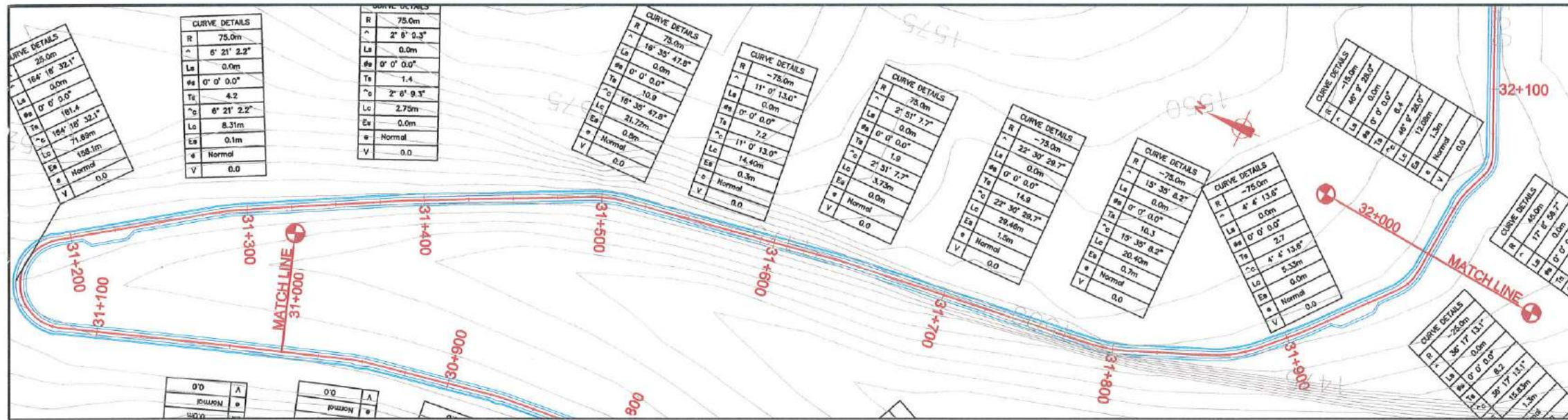
TITLE:-
ALIGNMENT PLAN
CH KM 30+000 TO 31+000
LADA - BISAI ROAD

M/s HIGHWAY ENGINEERING CONSULTANT
Head Office :- JM -89/C, BEHIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P.)
Tel/Fax : 0755-4236317

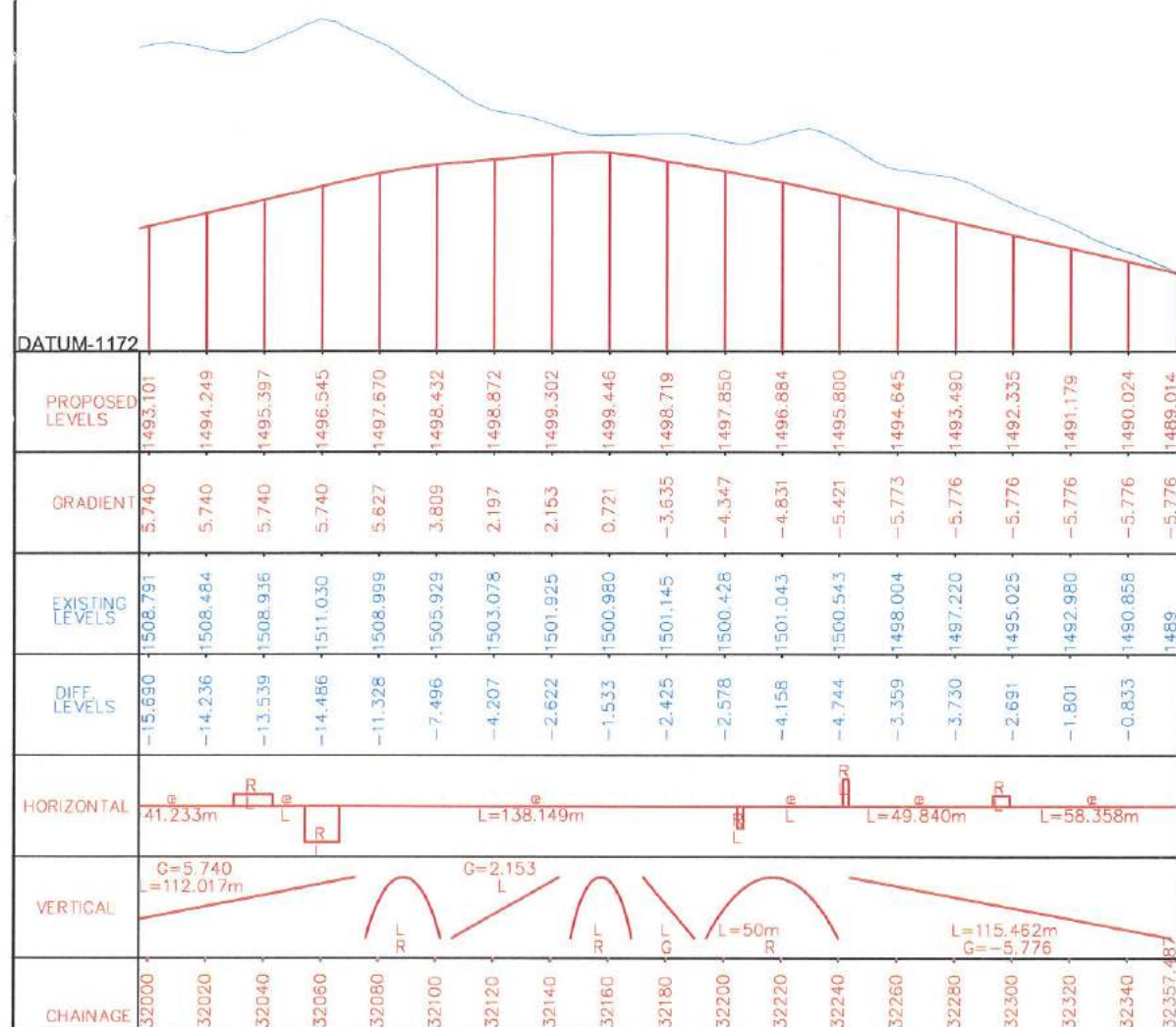
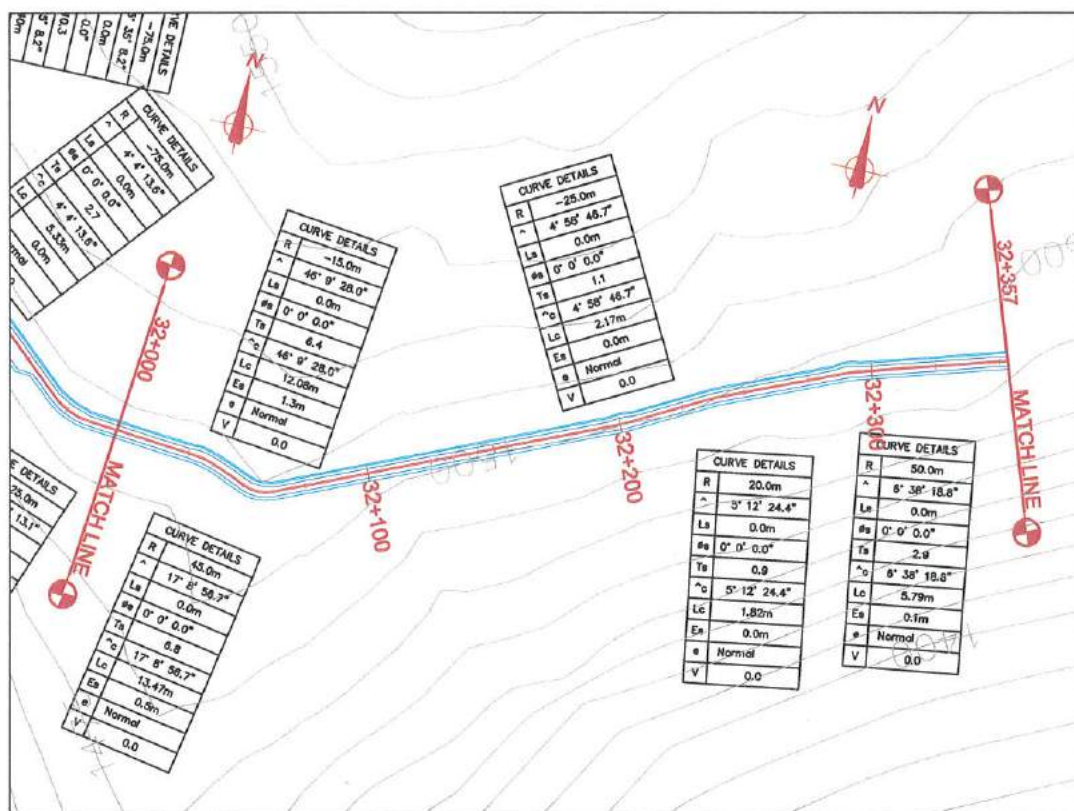
YOGESH	M. S.	T.L.
DRAWN BY	DESIGN BY	APPROVED BY

CENTRAL PUBLIC WORKS
DEPARTMENT

NAME OF WORK	CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY		
REVISION R1	APRIL-2018	SIZE -A3	SHEET NO. 31

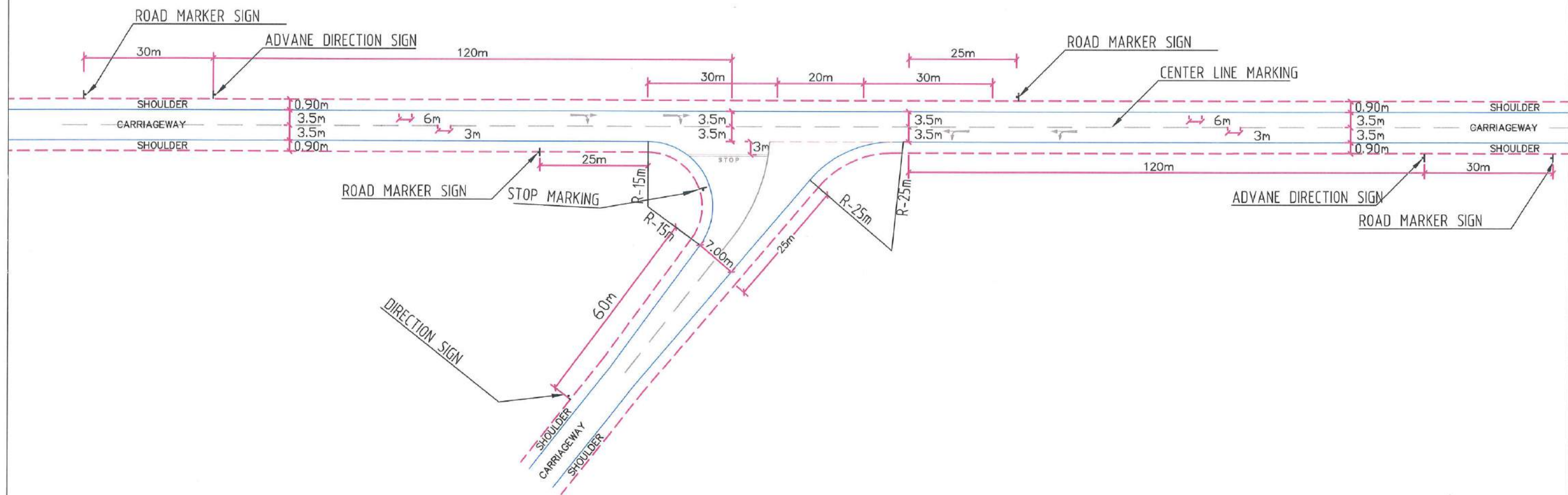


NOTES:- 1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.			TITLE:- ALIGNMENT PLAN CH KM 31+000 TO 32+000 LADA - BISAI ROAD			M/s HIGHWAY ENGINEERING CONSULTANT Head Office :- JM -89/C, BEHIND PANCHWATI MARKET SAKET NAGAR, BHOPAL (M.P) Tel/Fax : 0755-4236317			 CENTRAL PUBLIC WORKS DEPARTMENT			NAME OF WORK CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY		
YOGESH DRAWN BY			M. S. DESIGN BY			T.L. APPROVED BY			REVISION R1			APRIL-2018		
SIZE -A3			SHEET NO. 32											



NOTES:- 1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.	TITLE:- ALIGNMENT PLAN CH KM 32+000 TO 32+357 LADA - BISAI ROAD	M/s HIGHWAY ENGINEERING CONSULTANT Head Office :- JM -89/C, BEHIND PANCHWATI MARKET SAKET NAGAR, BHOPAL (M.P) Tel/Fax : 0755-4236317	 CENTRAL PUBLIC WORKS DEPARTMENT	NAME OF WORK	CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY		
				REVISION R1	APRIL-2018	SIZE -A3	SHEET NO. 33

JUNCTION DRAWINGS



NOTES:-
1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TYPICAL LAYOUT
JUNCTION ("Y" TYPE)

HIGHWAY ENGINEERING CONSULTANT

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SAKET NAGAR, BHOPAL (M.P.)
Tel/Fax : 0755-4236317
Email id : hec_bhopal@rediffmail.com



YOGESH

M. S.

T.L.

DRAWN BY

DESIGN BY

APPROVED BY



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NAME OF
WORK

REVISION
R1

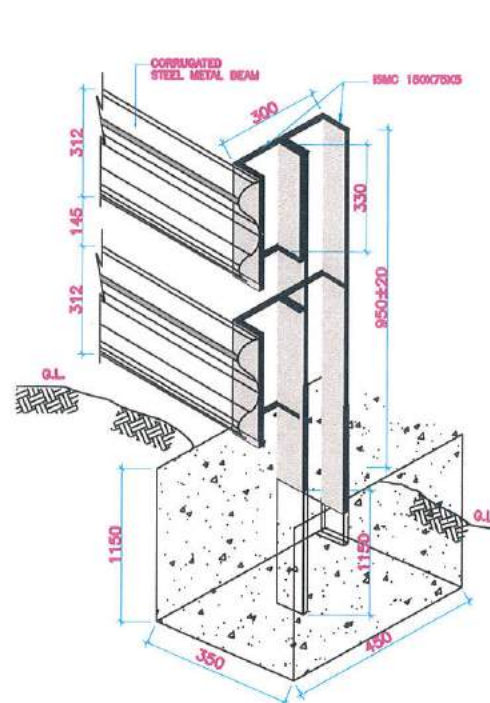
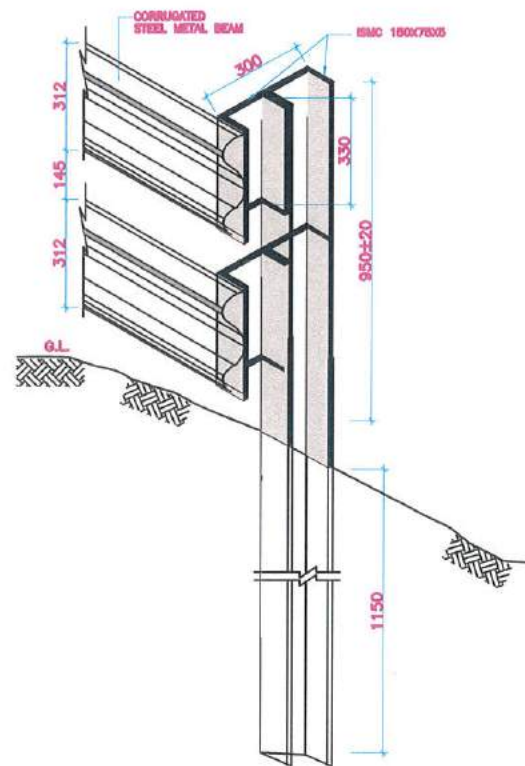
CONSULTANCY SERVICES FOR PREPARATION
OF DETAILED PROJECT REPORT (DPR) FOR
HIGH ALTITUDE ROADS TO INDO CHINA
BORDER UNDER PHASE-II IN THE STATE OF
ARUNACHAL PRADESH USING SATELLITE
IMAGERY

APRIL-2018

SIZE -A3

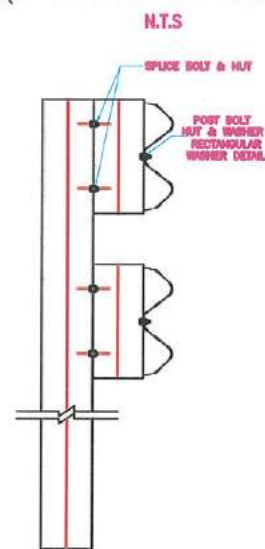
SHEET NO. 02

MISCELLANEOUS DRAWINGS

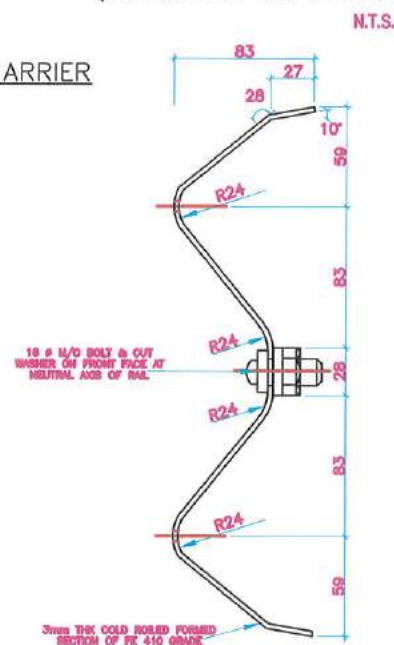


TYPICAL SECTION OF
METAL W- DOUBLE BEAM CRASH BARRIER
(ANCHORED ON CONCRETE FOUNDATION)

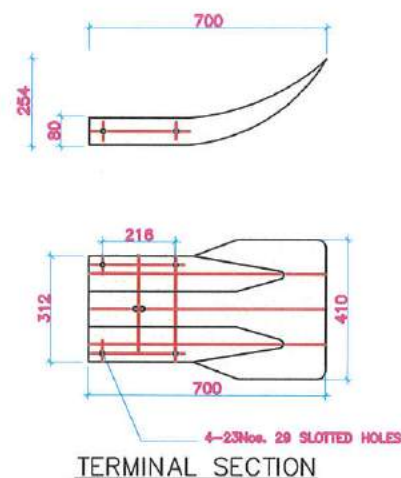
TYPICAL SECTION OF
METAL W- DOUBLE BEAM CRASH BARRIER
(ANCHORED ON GROUND)



ARRANGEMENT AT POST
N.T.S

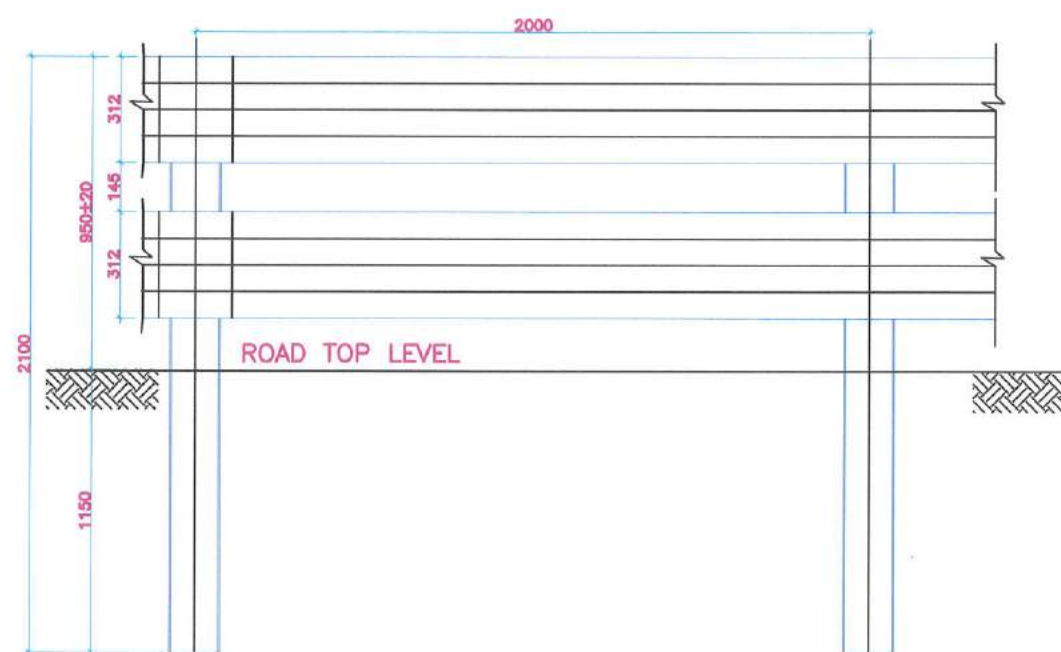


W - BEAM
SCALE:- 1 : 5



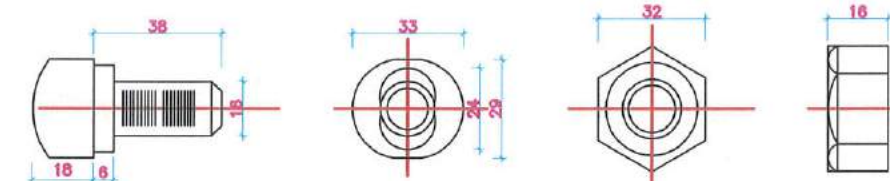
TERMINAL SECTION

SCALE:- 1 : 15



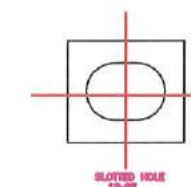
12° END TERMINAL

SCALE:- 1 : 15



SPLICE BOLT AND NUT

SCALE:- 1 : 50



RECTANGULAR
WASHER

SCALE:- 1 : 1.5

POST BOLT AND HOLE		
HOLE DIA. mm	POST BOLT AND NUT mm	WASHER DIA. mm
18	16 X 460	RECTANGULAR

CONSTRUCTION NOTES

- CORRUGATED METAL BEAM SHALL BE 3MM THICK.
- W-BEAM SHALL BE COLD ROLL FORMED SECTION.
- ALL RAW MATERIAL SHALL CONFORM TO IS 5986 (Gr.Fe 410-ST-42). HOT DIP GALVANISED TO 550 gm/Sqm. SPACERS SHALL BE AS PER IS :2082-1992
- IF ANCHORED ON GROUND, MINIMUM LENGTH OF POST BELOW GROUND SHALL BE 1150mm.
- IF ANCHORED ON FOUNDATION (M-20 CONCRETE), LENGTH OF POST BELOW GROUND SHALL BE 1150mm.

- POST SHALL BE ERECTED IN SUCH A MANNER THAT FACE OF CORRUGATED STEEL METAL BEAM SHALL BE IN LINE WITH EXTREME EDGE OF PAVED SHOULDER.
- CRASH BARRIER SHALL BE ANCHORED ON CONCRETE IN CASES OF HIGH EMBANKMENT.
- CRASH BARRIER SHALL BE DRILLED IN CASE OF ROCKY STRATA AND THEN BACKFILLED WITH CONCRETE OF M20 GRADE OF SIZE 750MM X 350MM X 450MM.

NOTES:-

- ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

DETAILS OF METAL W- DOUBLE BEAM CRASH BARRIER

YOGESH

M. S.

T.L.

DRAWN BY

DESIGN BY

APPROVED BY

HIGHWAY ENGINEERING CONSULTANT

Head Office : JM-89/C BRIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P.)
Tel/Fax : 0755-4236317
Email id : hec_bhopal@rediffmail.com



CENTRAL PUBLIC WORKS DEPARTMENT

NAME OF
WORK

REVISION
R1

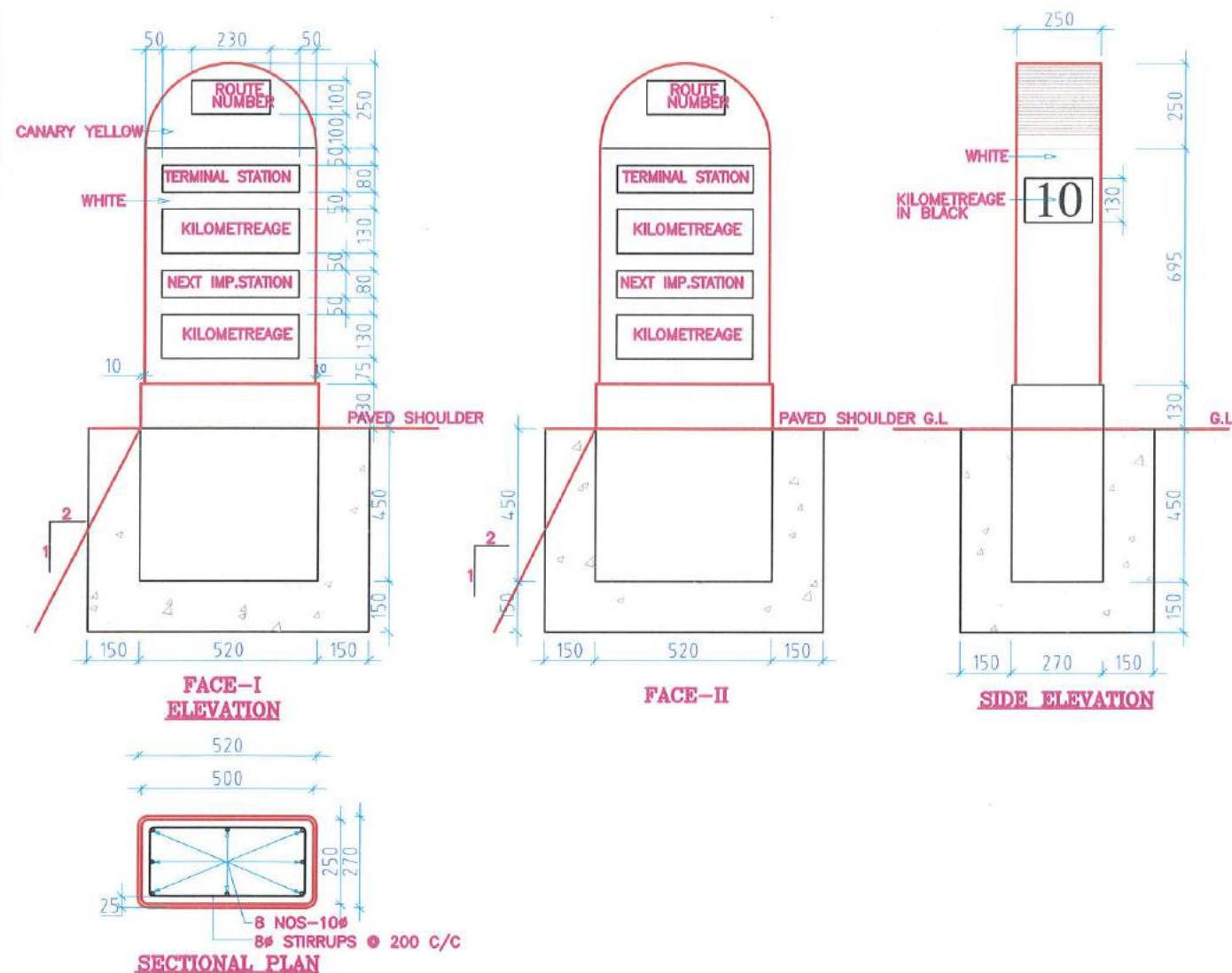
CONSULTANCY SERVICES FOR PREPARATION
OF DETAILED PROJECT REPORT (DPR) FOR
HIGH ALTITUDE ROADS TO INDO CHINA
BORDER UNDER PHASE-II IN THE STATE OF
ARUNACHAL PRADESH USING SATELLITE
IMAGERY

APRIL-2018

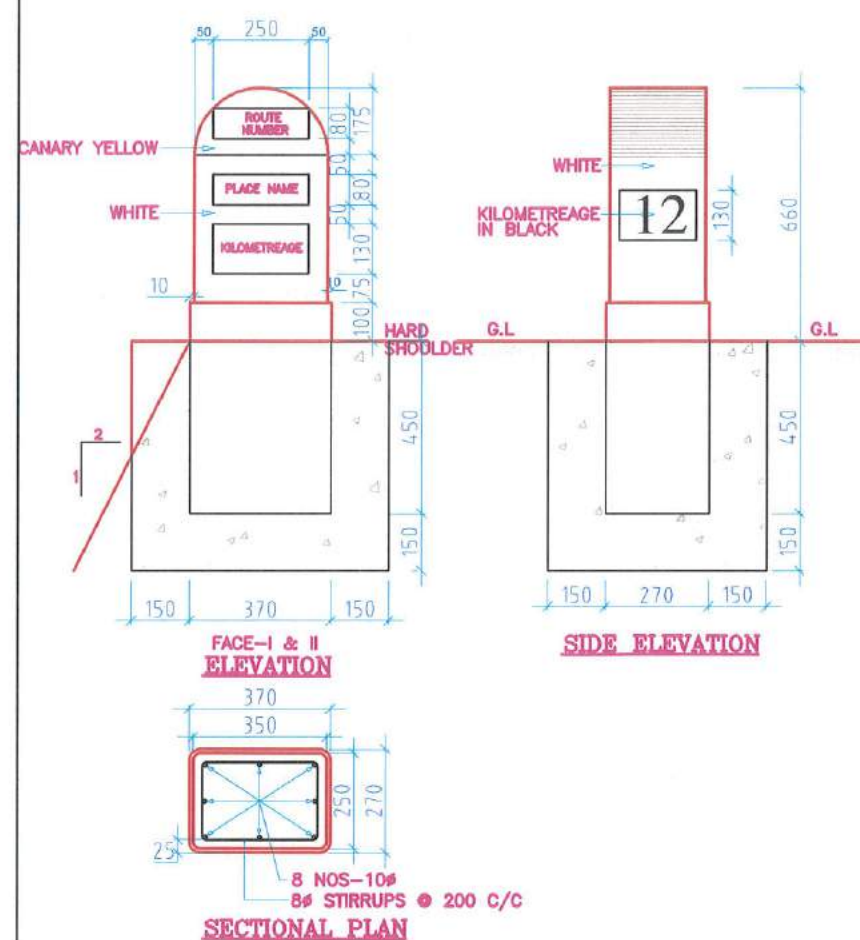
SIZE -A3

SHEET NO.03

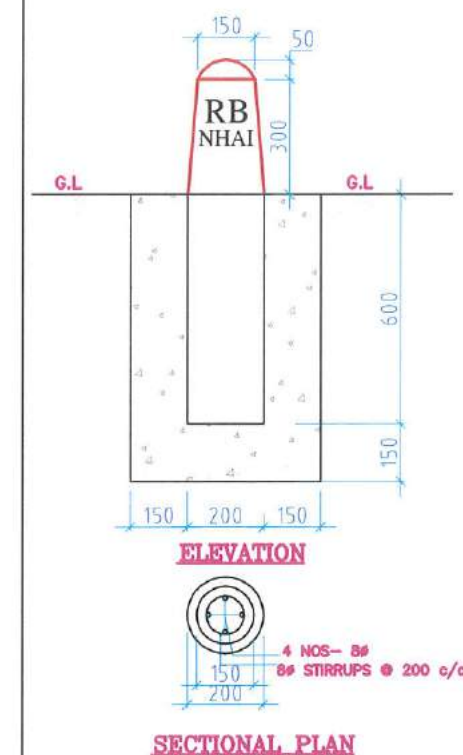
FIFTH KILOMETRE STONE



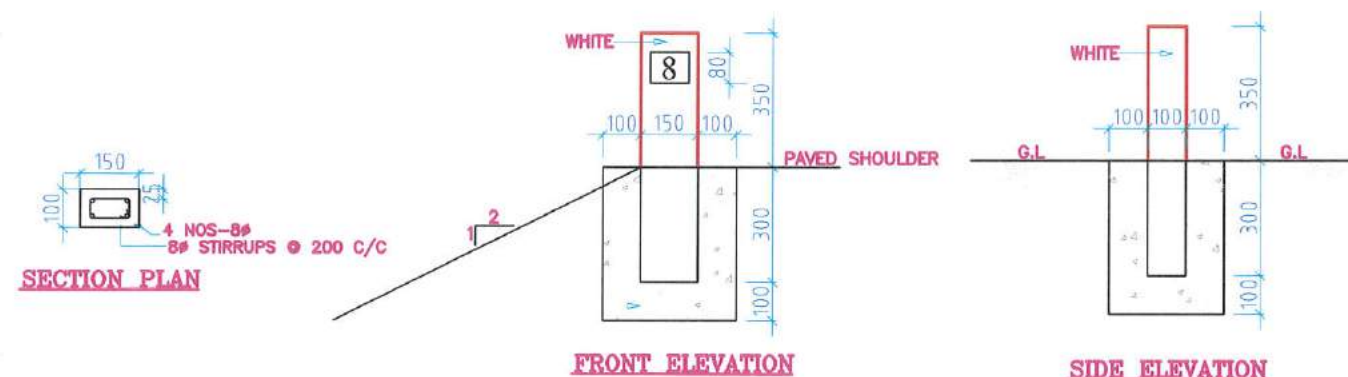
KILOMETRE STONE



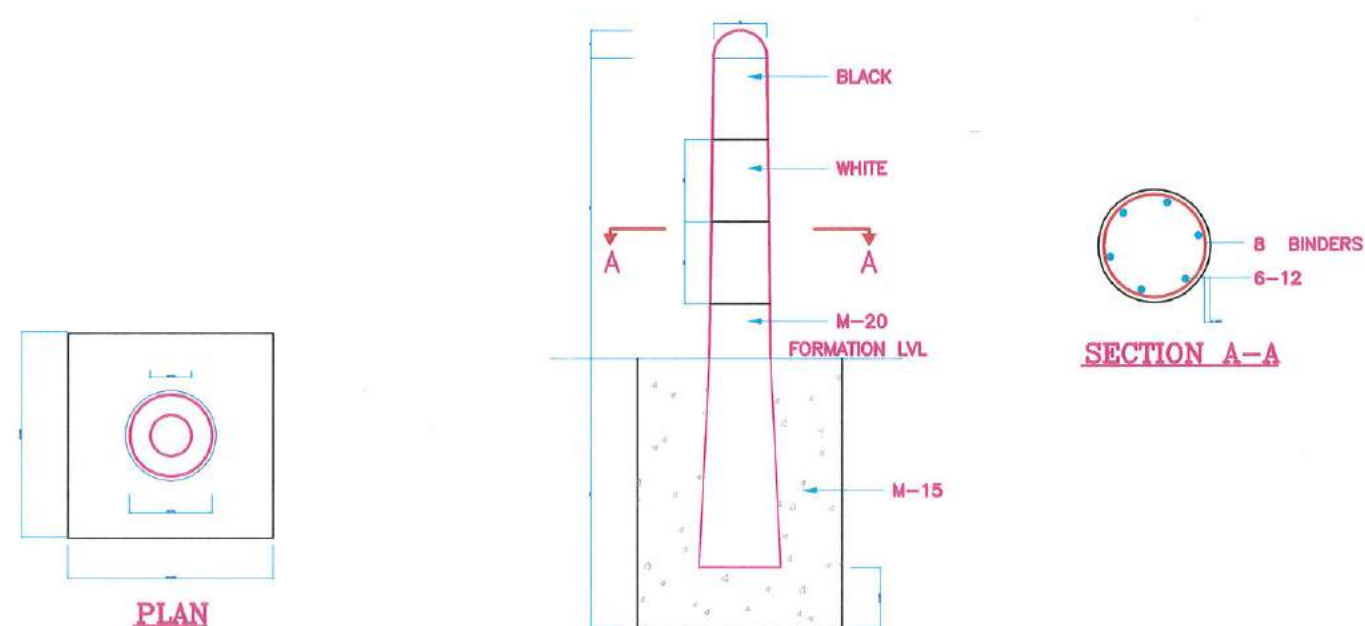
BOUNDARY STONE



HECTOMETRE STONE



TYPICAL DETAILS OF GUARDPOST



NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TYPICAL DRAWING FOR KMSTONE,
HECTOMETRE STONE,
BOUNDARY STONE & GUARD POST

HIGHWAY ENGINEERING CONSULTANT

Head Office : JM-89/C BRHIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P.)
Tel/Fax : 0755-4236317
Email id : hec_bhopal@rediffmail.com



YOGESH

M. S.

T.L.

DRAWN BY

DESIGN BY

APPROVED BY



CENTRAL PUBLIC WORKS DEPARTMENT

NAME OF
WORK

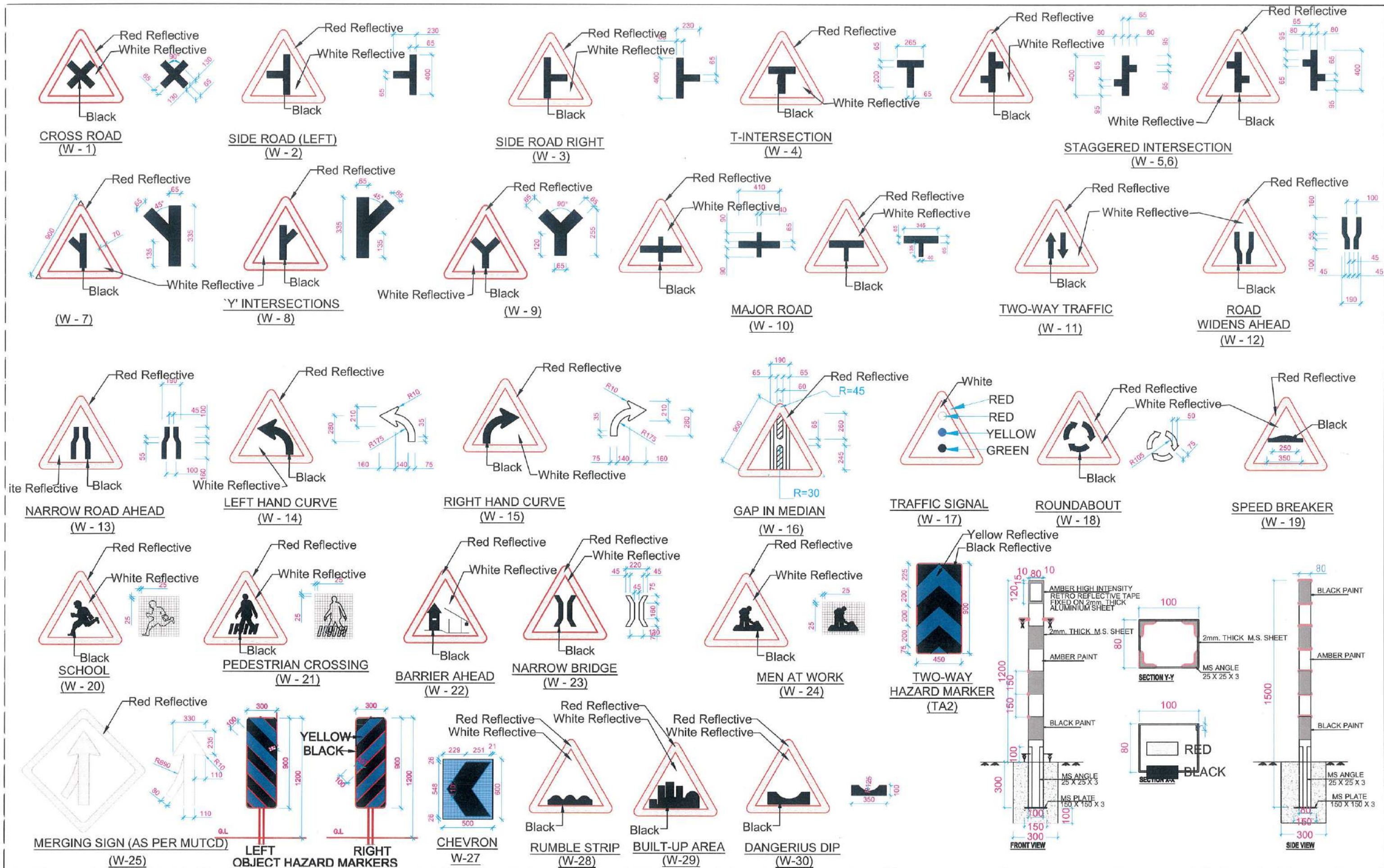
REVISION
R1

CONSULTANCY SERVICES FOR PREPARATION
OF DETAILED PROJECT REPORT (DPR) FOR
HIGH ALTITUDE ROADS TO INDO CHINA
BORDER UNDER PHASE-II IN THE STATE OF
ARUNACHAL PRADESH USING SATELLITE
IMAGERY

APRIL-2018

SIZE -A3

SHEET NO.04



NOTES:-
1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

INFORMATORY SIGNS
TYPICAL DRAWINGS (1 of 3)

HIGHWAY ENGINEERING CONSULTANT
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SAKET NAGAR, BHOPAL (M.P.)
Tel/Fax : 0755-4236317
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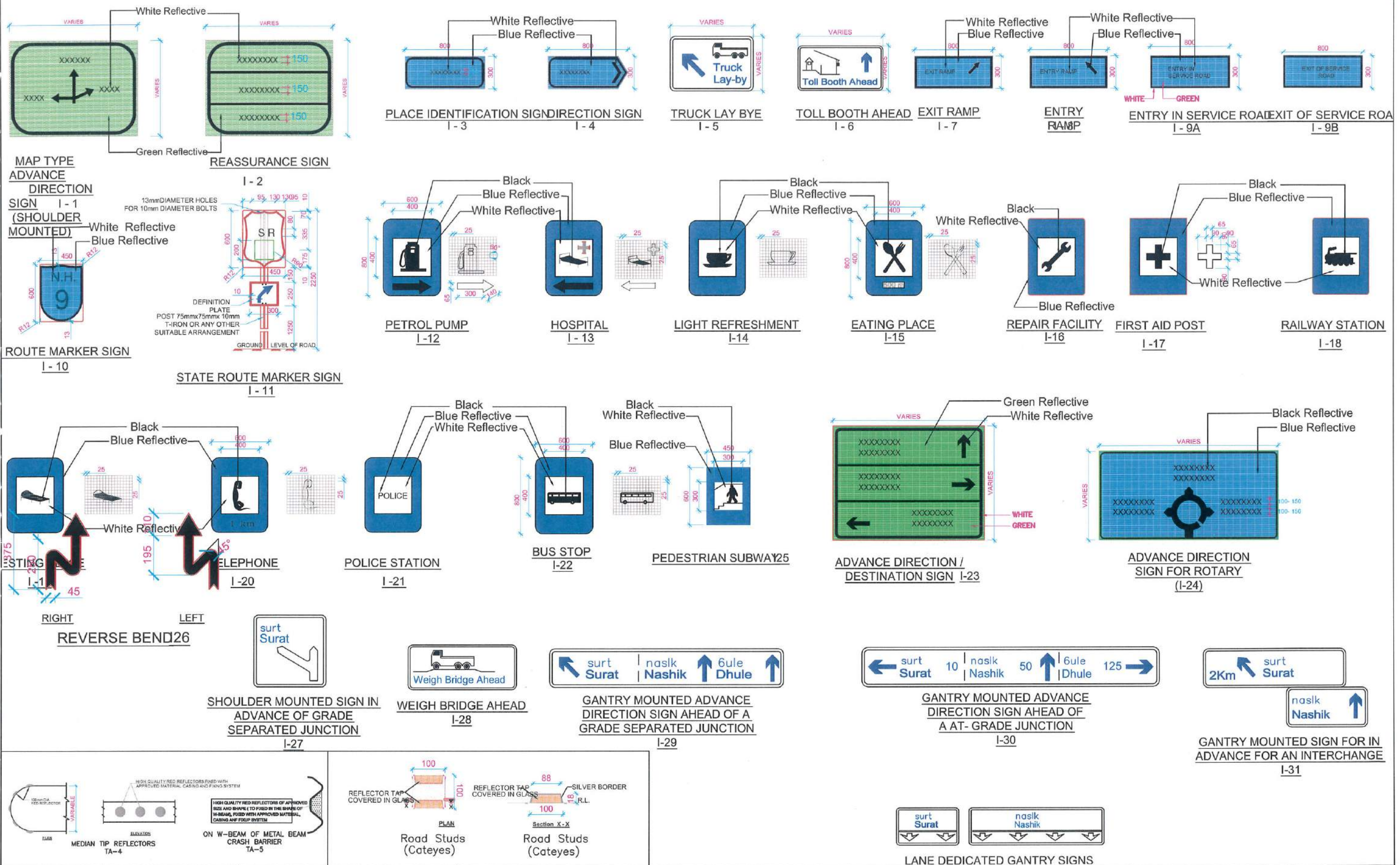
NAME OF WORK

REVISION
R1

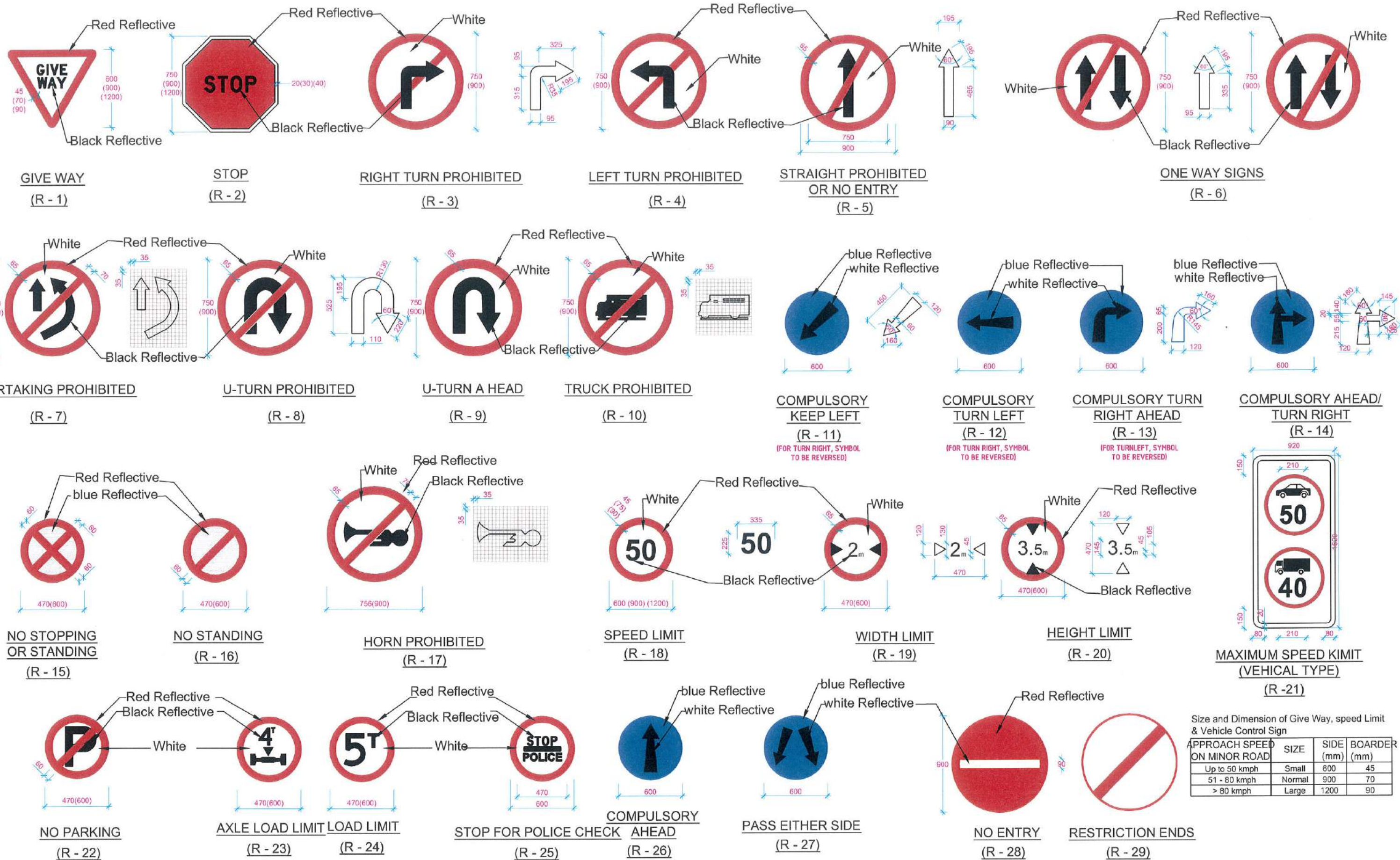
CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY

APRIL-2018 SIZE -A3 SHEET NO. 07

YOGESH	M. S.	T.L.
DRAWN BY	DESIGN BY	APPROVED BY



NOTES:- 1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.	INFORMATORY SIGNS TYPICAL DRAWINGS (2 of 3)	HIGHWAY ENGINEERING CONSULTANT Head Office : JM-89/C BRHIND PANCHWATI MARKET SAKET NAGAR, BHOPAL (M.P) Tel/Fax : 0755-4236317 Email id : hec_bhopal@rediffmail.com  HEC Civil Consultancy Services				 CENTRAL PUBLIC WORKS DEPARTMENT	NAME OF WORK CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY			
		YOGESH	M. S.	T.L.			REVISION R1	APRIL-2018	SIZE -A3	SHEET NO. 08
		DRAWN BY	DESIGN BY	APPROVED BY						



NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

REGULATORY SIGNS
TYPICAL DRAWINGS (3 of 3)

HIGHWAY ENGINEERING CONSULTANT

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SAKET NAGAR, BHOPAL (M.P.)
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Email id : hec_bhopal@rediffmail.com



YOGESH

M. S.

T.L.

DRAWN BY

DESIGN BY

APPROVED BY



CENTRAL PUBLIC WORKS DEPARTMENT

NAME OF
WORK

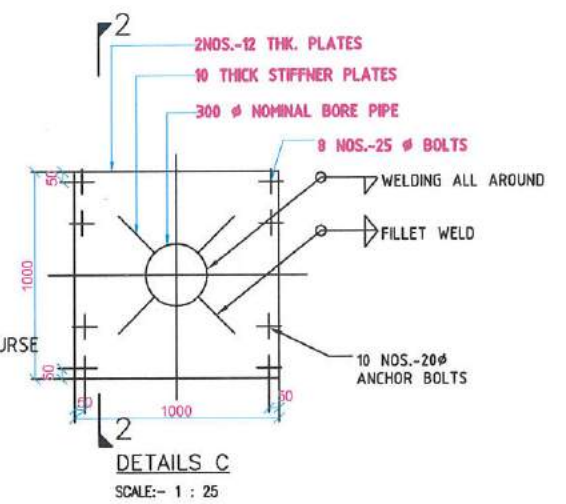
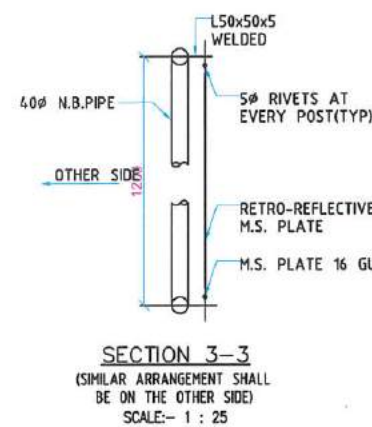
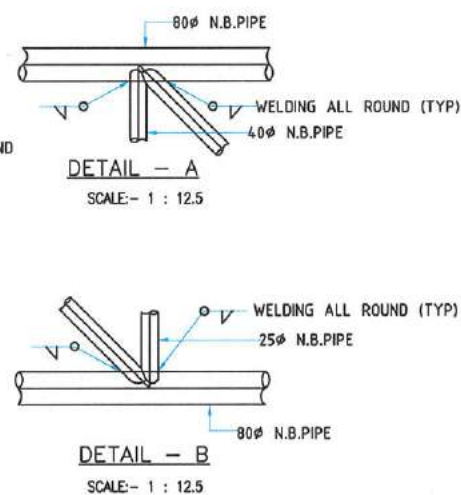
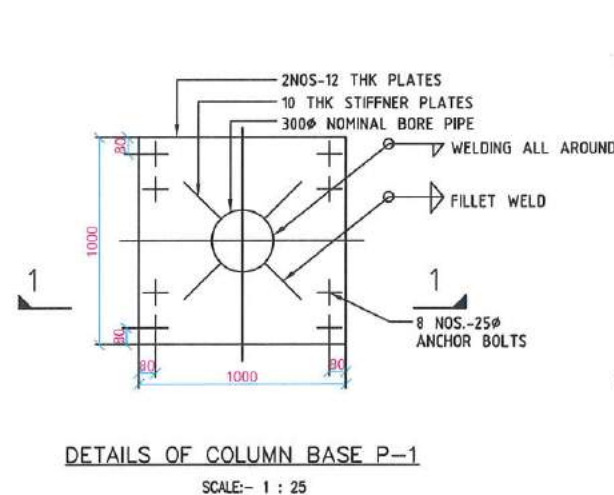
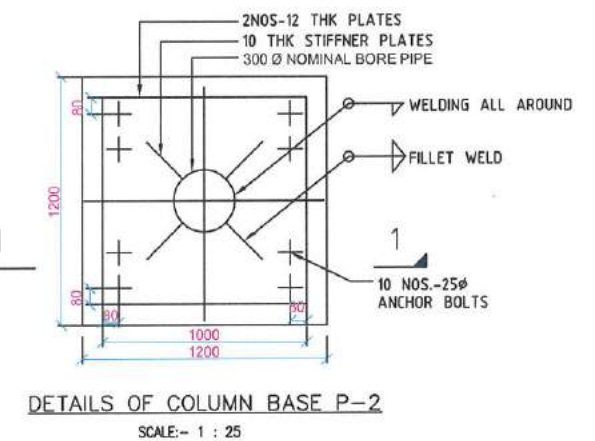
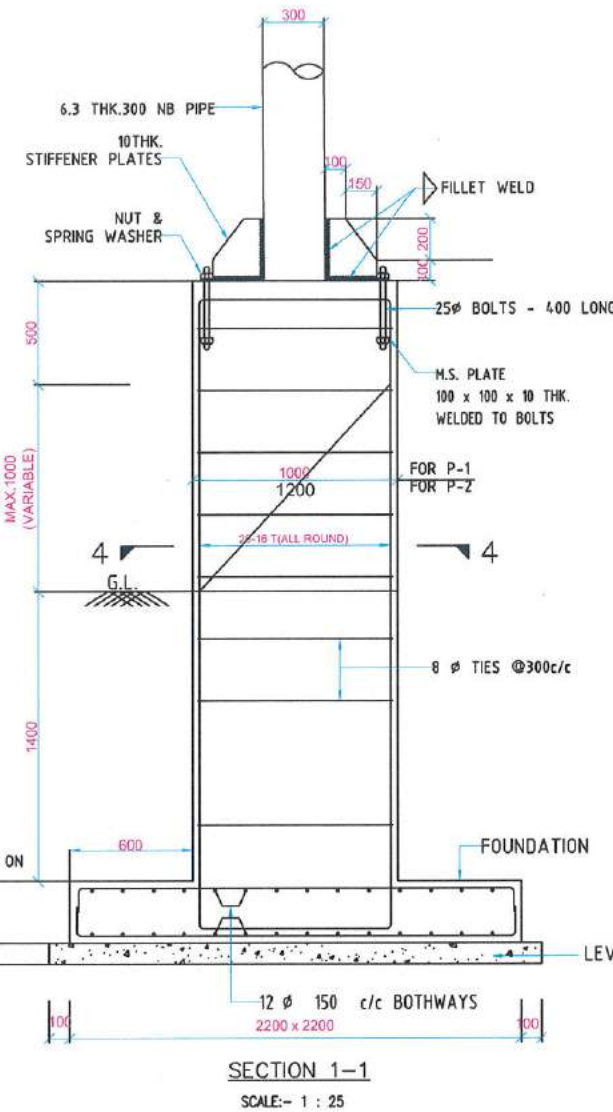
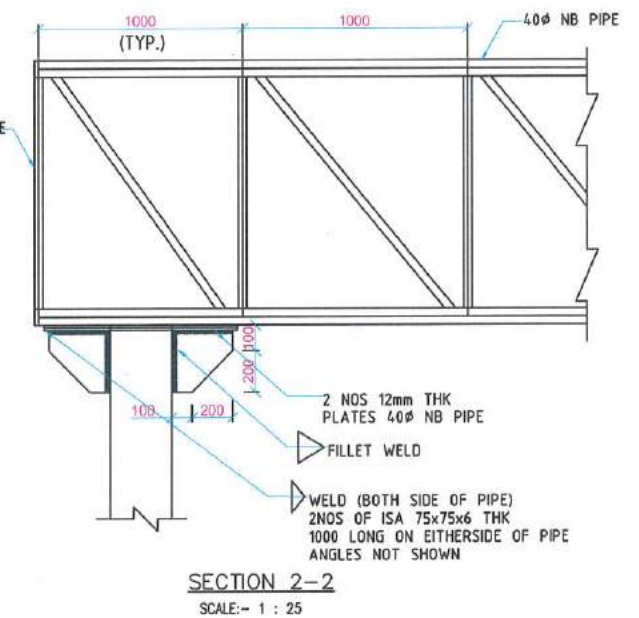
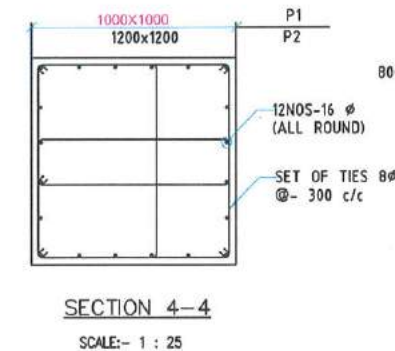
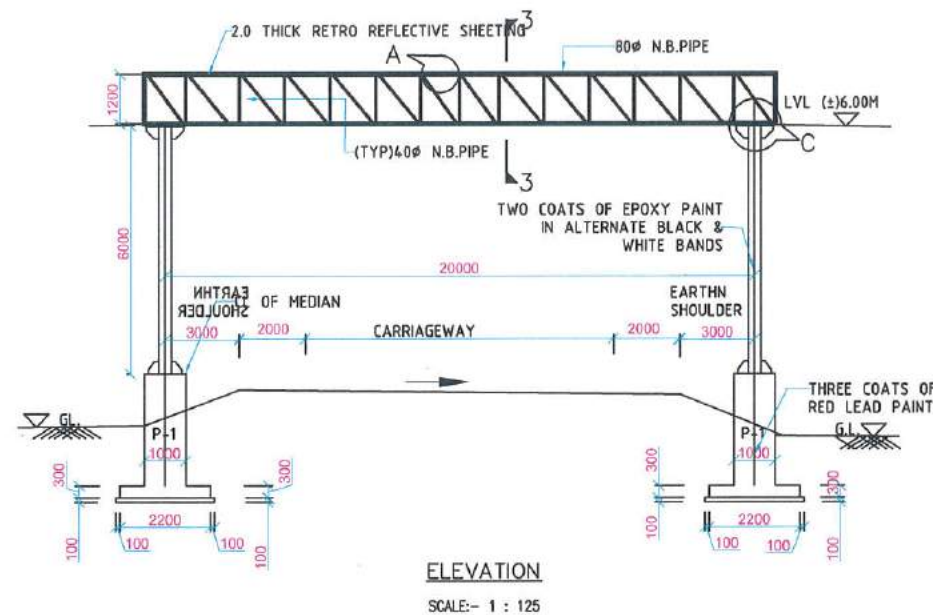
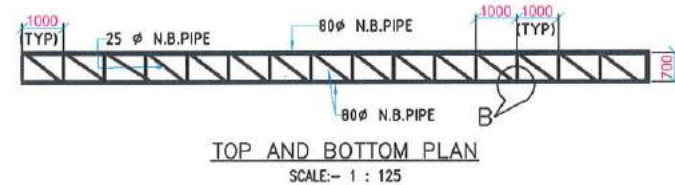
REVISION
RI

CONSULTANCY SERVICES FOR PREPARATION
OF DETAILED PROJECT REPORT (DPR) FOR
HIGH ALTITUDE ROADS TO INDO CHINA
BORDER UNDER PHASE-II IN THE STATE OF
ARUNACHAL PRADESH USING SATELLITE
IMAGERY

APRIL-2018

SIZE -A3

SHEET NO.09



- CONSTRUCTION NOTES:**
1. ALL DIMENSIONS ARE IN mm, UNLESS OTHERWISE MENTIONED.
 2. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED, AND NO DIMENSIONS SHALL BE SCALED.
 3. SAFE BEARING CAPACITY HAS BEEN TAKEN AS 10 M/Sqm.
 4. THE CONCRETE GRADE SHALL BE M-20 IN FOUNDATION AND M-15 IN LEVELLING COURSE
 5. CLEAR COVER TO THE OUTER MOST STEEL SHALL BE
 - i) PEDESTAL - 40mm
 - ii) FOUNDATION - 50mm

6. STEEL TUBES ARE DESIGNATED BY THEIR NOMINAL BORES INDICATED ON DRAWING.
7. STEEL TUBES USED ARE CLASSIFIED MEDIUM TYPE STEEL TUBES.
8. STEEL TUBES SHALL CONFORM TO GRADE Yst 210.
9. STEEL TUBES USED SHALL BE CONFORMING TO IS:1161-1998.
10. TUBULAR MEMBERS SHALL HAVE ANNULAR CUT HEAD SMOOTH FINISHED SO AS TO HAVE PROPER SEAT OVER THE SUPPORTING TUBE.
11. ELECTRODE USED SHALL CONFORM TO RELEVANT I.S. SPECIFICATIONS AND THE CHEMICAL COMPOSITION OF ELECTRODE & THE TUBE SHOULD MATCH.

12. SLAG SHALL BE REMOVED BEFORE MEASURING THE DIMENSIONS OF FILLET WELD.
13. WELDING SHALL BE DONE BY ARC WELDING.
14. 4.5mm SIZE WELD SHALL BE MADE WITH A SINGLE PASS.
15. WELD SIZE SHALL BE 4.5mm UNLESS OTHERWISE MENTIONED AND SHALL BE DONE ALL ROUND ON THE CONTACT LENGTH OF MEMBERS.
16. HIGH STRENGTH BOLTS SHALL CONFORM TO IS:4000-1992.

17. DIA. OF HOLES IN MS PLATES SHALL BE MACHINE MADE & AS FOLLOWS

DIA OF BOLTS	DIA OF HOLES.
i) 20mm.	21.5mm.
ii) 25mm.	26.5mm.
18. SIZE OF LETTERS AND COLOUR OF PAINT SHALL BE DECIDED BY THE ENGINEER.
 - i) IRC : 67-2001
 - ii) IRC : 30-1968
19. SHADE OF ANTICORROSIVE PAINT FOR PIPES SHALL BE DECIDED BY THE ENGINEER.
20. RETRO-REFLECTIVE SHEETING SHALL BE BOLTED WITH 40 MM N.B. PIPE WITH 20 MM HIGH STRENGTH BOLT.

NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TYPICAL DETAIL OF OVER HEAD SIGNS
(PORTAL TYPE)

HIGHWAY ENGINEERING CONSULTANT
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Email id : hec_bhopal@rediffmail.com



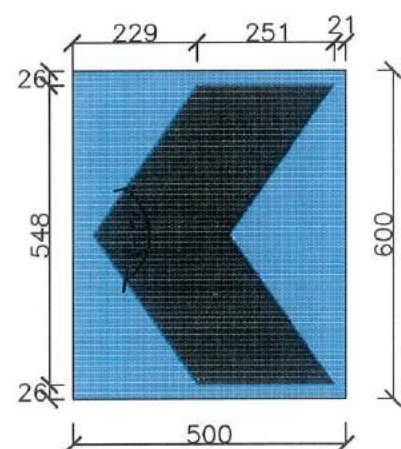
NAME OF WORK

REVISION
R1

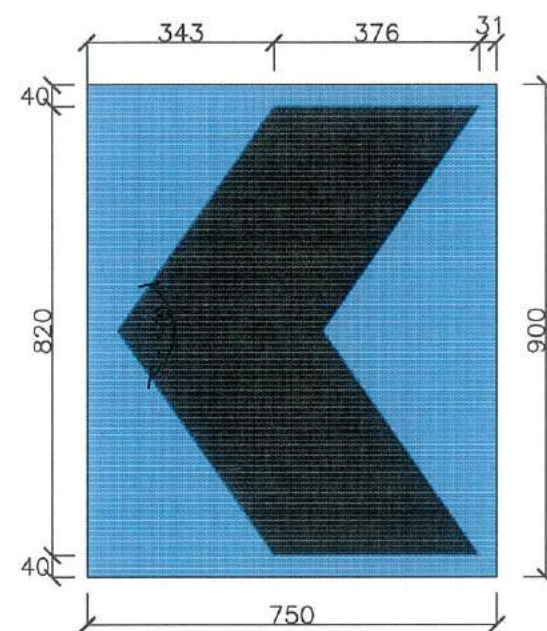
CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY

APRIL-2018 SIZE -A3 SHEET NO.10

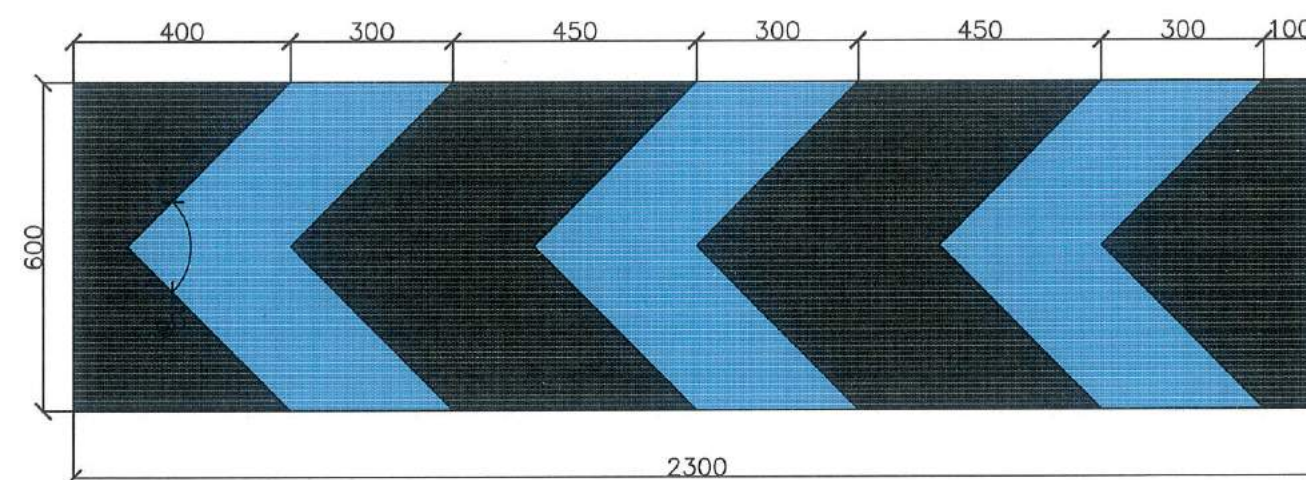
YOGESH	M. S.	T.L.
DRAWN BY	DESIGN BY	APPROVED BY



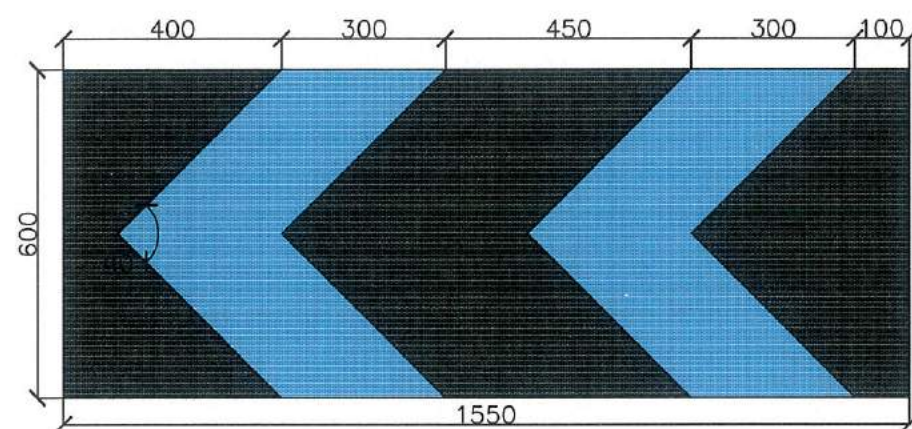
SINGLE CHEVRON
(Normal)



SINGLE CHEVRON
(>100kmph speed)



TRIPLE CHEVRON



DOUBLE CHEVRON

TABLE FOR RECOMMENDED SPACING OF SINGLE CHEVRON SIGN

CURVE RADIUS (METERS)	DISTANCE BETWEEN SINGLE CHEVRON (METERS)	
	ON CURVE	BEFORE CURVE
50	15	30
100	20	40
200	30	60
300	45	90
400	60	120
500	70	140
>500	80	150

NOTES:-

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TYPICAL DETAILS OF CHEVRON

HIGHWAY ENGINEERING CONSULTANT

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CENTRAL PUBLIC WORKS DEPARTMENT

NAME OF
WORK

REVISION
R1

CONSULTANCY SERVICES FOR PREPARATION
OF DETAILED PROJECT REPORT (DPR) FOR
HIGH ALTITUDE ROADS TO INDO CHINA
BORDER UNDER PHASE-II IN THE STATE OF
ARUNACHAL PRADESH USING SATELLITE
IMAGERY

APRIL-2018

SIZE -A3

SHEET NO.11

YOGESH

M. S.

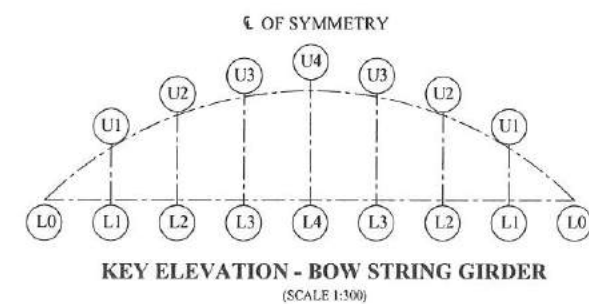
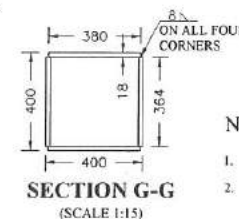
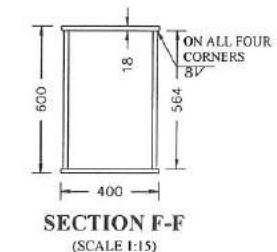
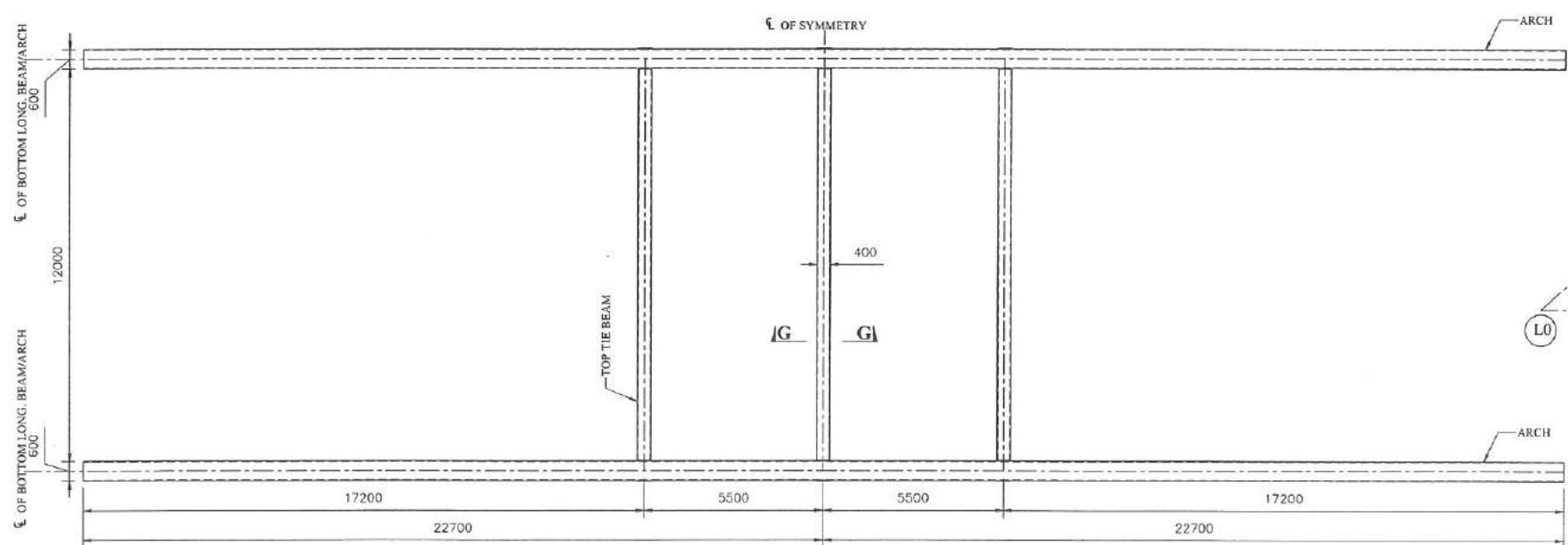
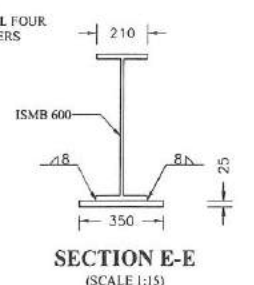
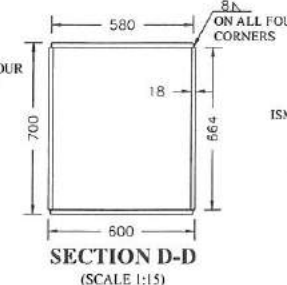
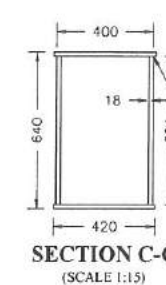
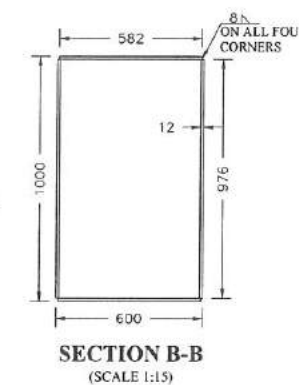
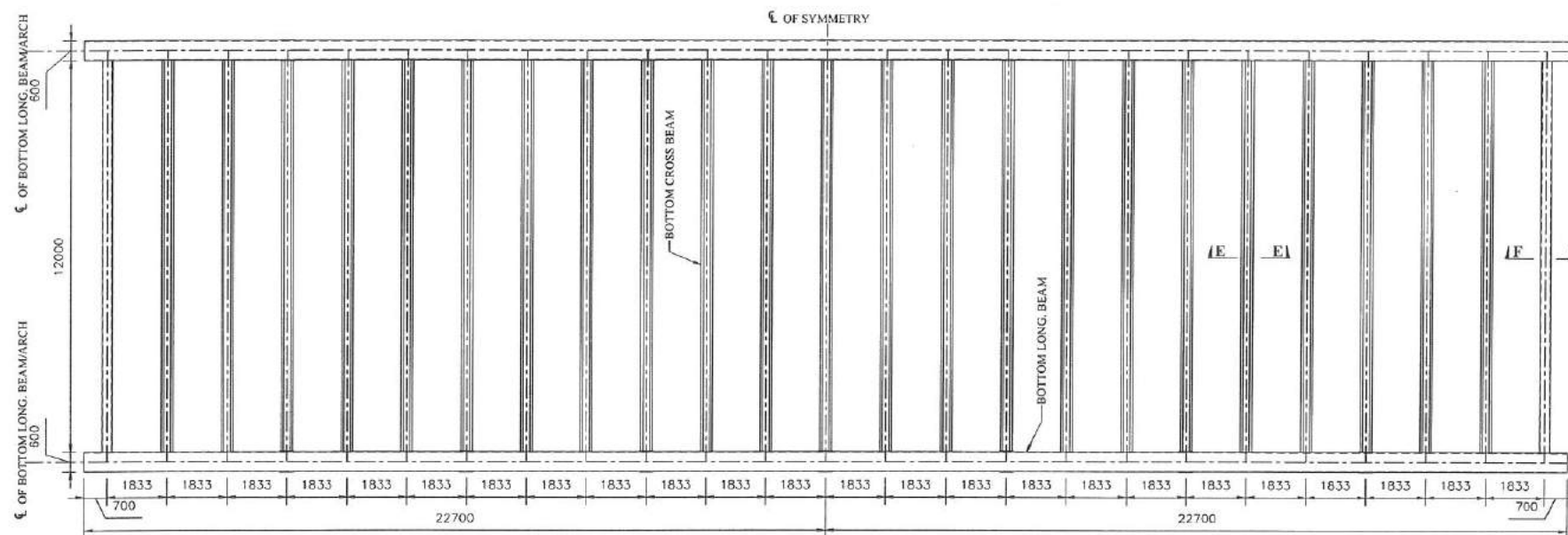
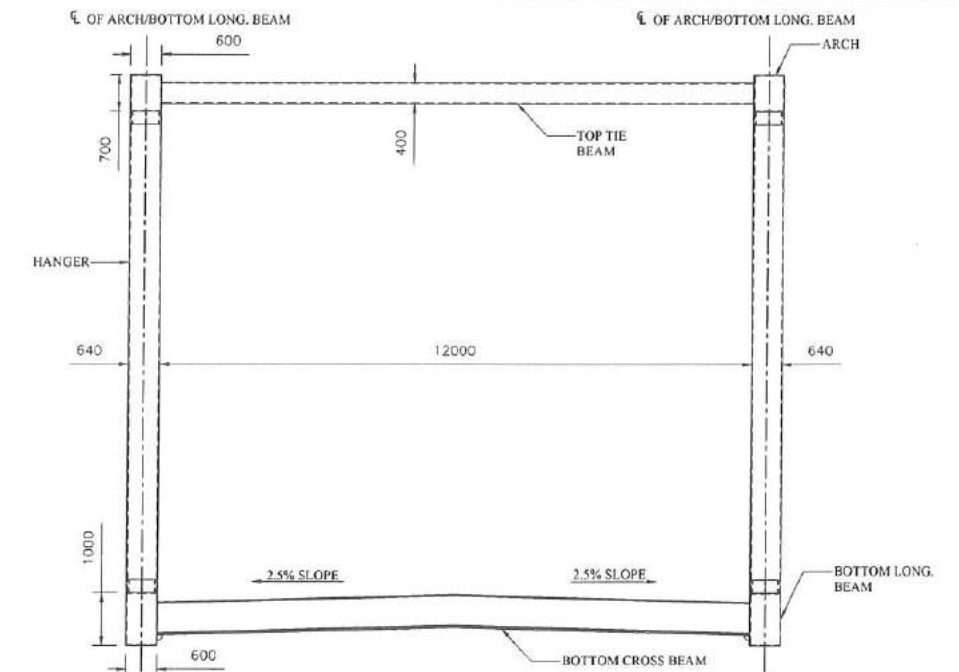
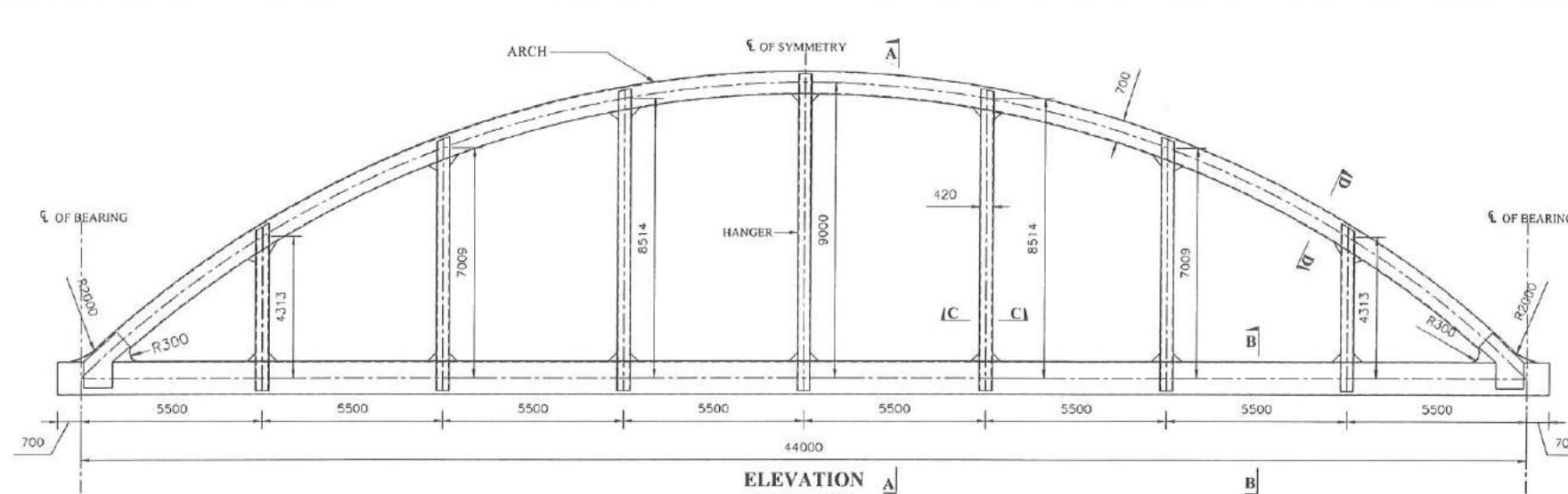
T.L.

DRAWN BY

DESIGN BY

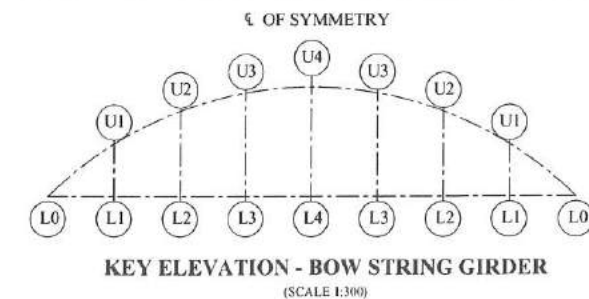
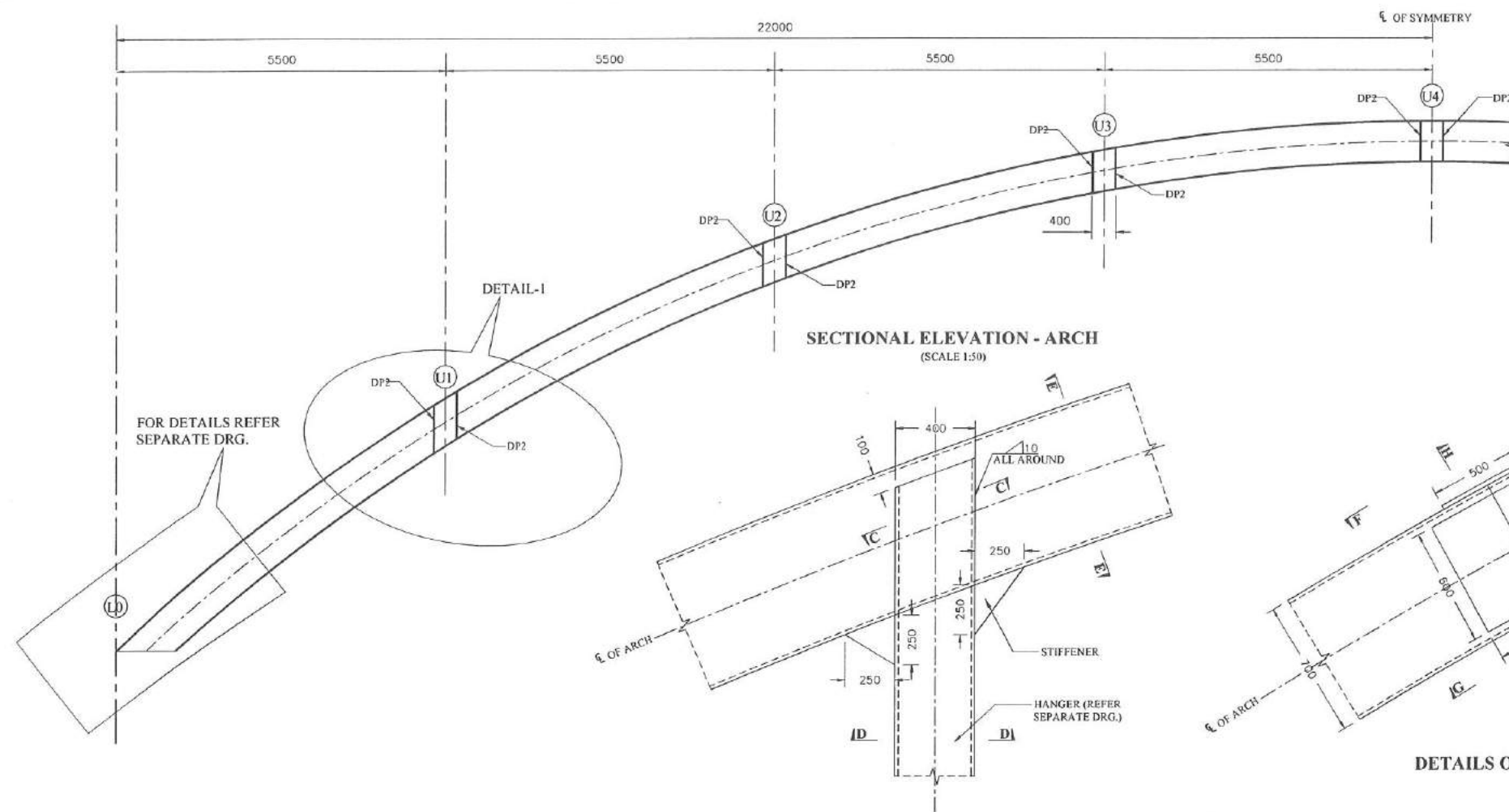
APPROVED BY

STRUCTURE DRAWING



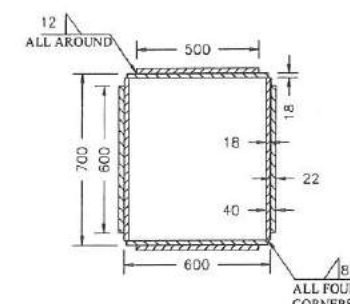
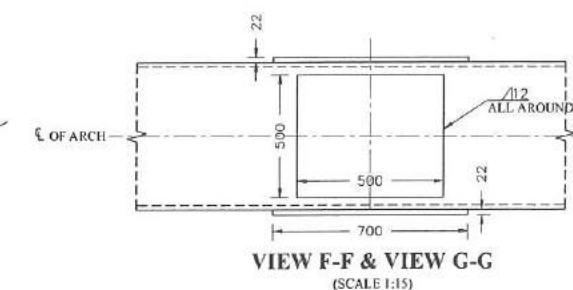
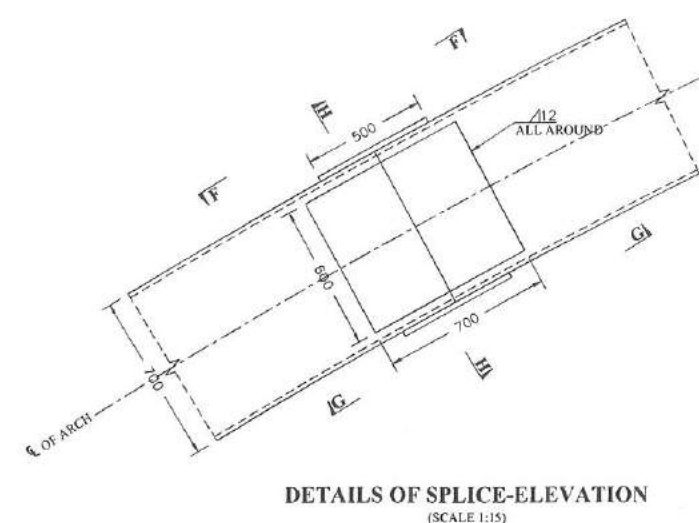
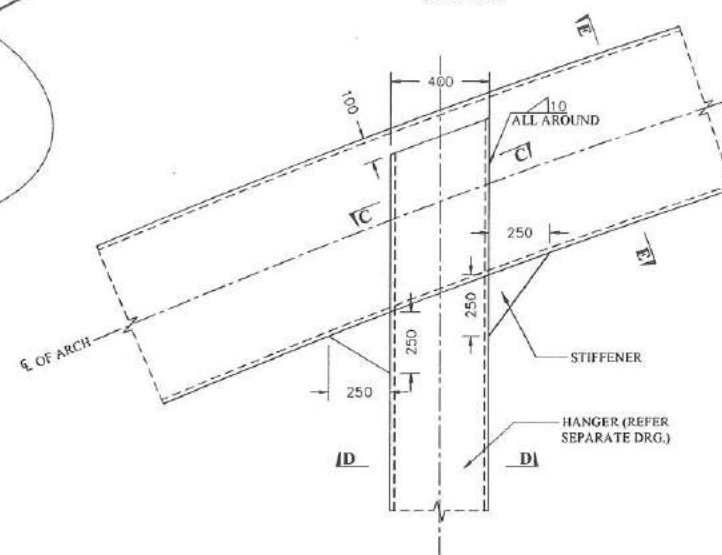
- NOTE:**
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 - Splicing of members shall be done as shown in detailed drawings.

R. D. S. O.
ROAD OVER BRIDGE
BOW STRING STEEL GIRDER
(42m CLEAR SPAN)
DETAILS OF STEEL FRAME
PROVISIONAL
RDSO/B - 10408/1

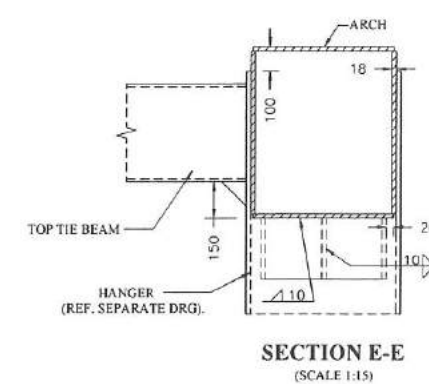
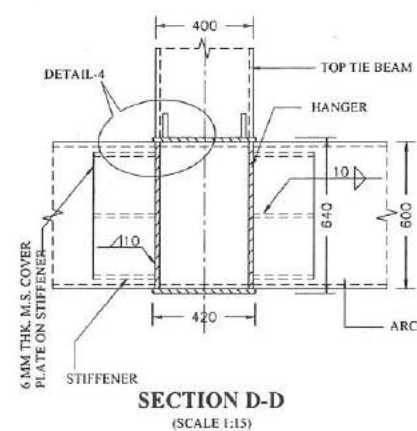
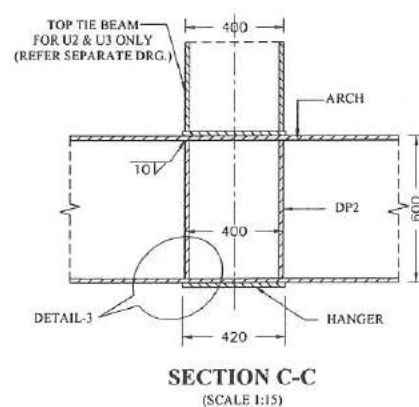
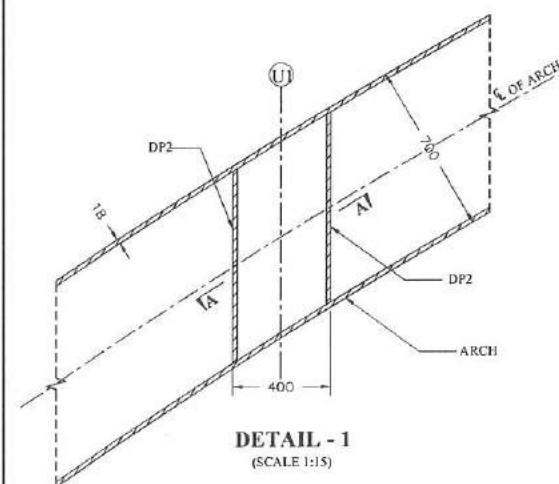


FOR DETAILS REFER SEPARATE DRG.

SECTIONAL ELEVATION - ARCH
(SCALE 1:50)

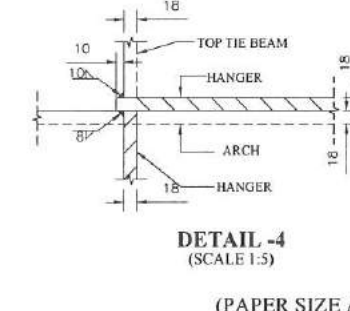
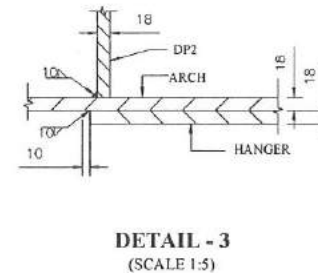
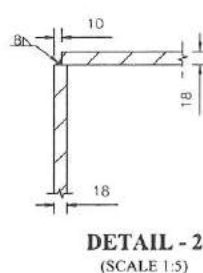
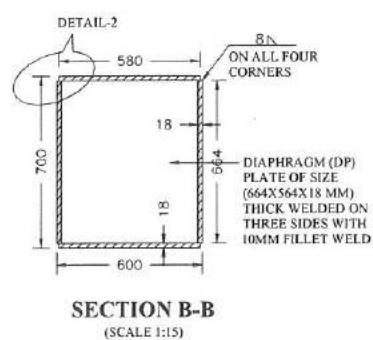
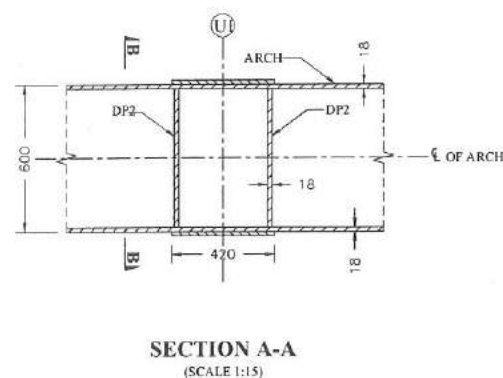


ELEVATION OF JOINT
(U1, U2, U3 & U4)
(SCALE 1:15)



NOTE:

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- Splicing of members shall be done as shown in detailed drawings.



R. D. S. O.
ROAD OVER BRIDGE
BOW STRING STEEL GIRDER
42m CLEAR SPAN
DETAILS OF ARCH & TOP JOINTS
PROVISIONAL
RDSO/B - 10408/2

CALCULATION REGISTER NO. DD/2014/9

AutoCAD FILE NO.: B-10408

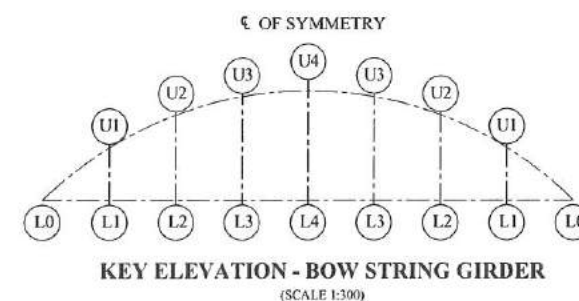
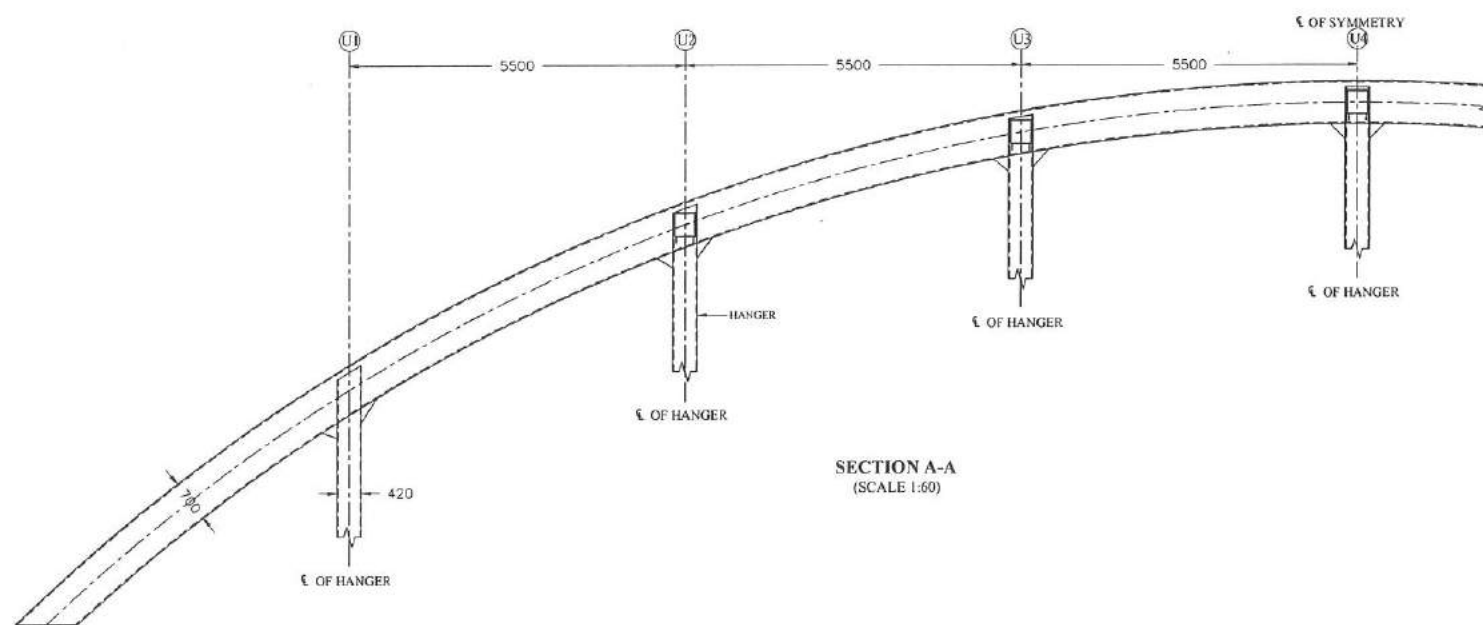
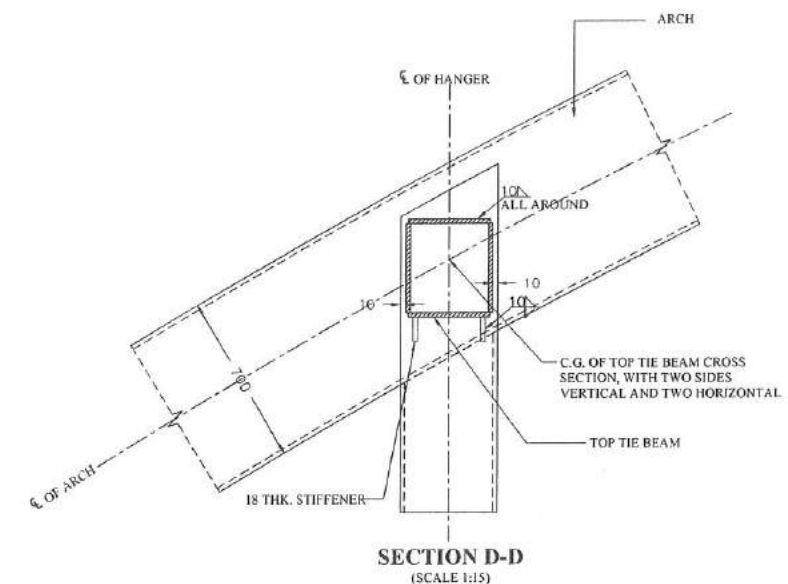
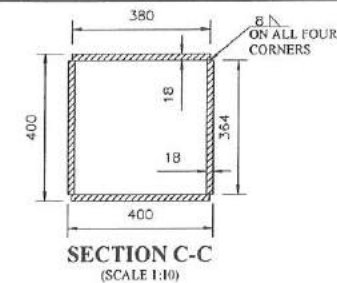
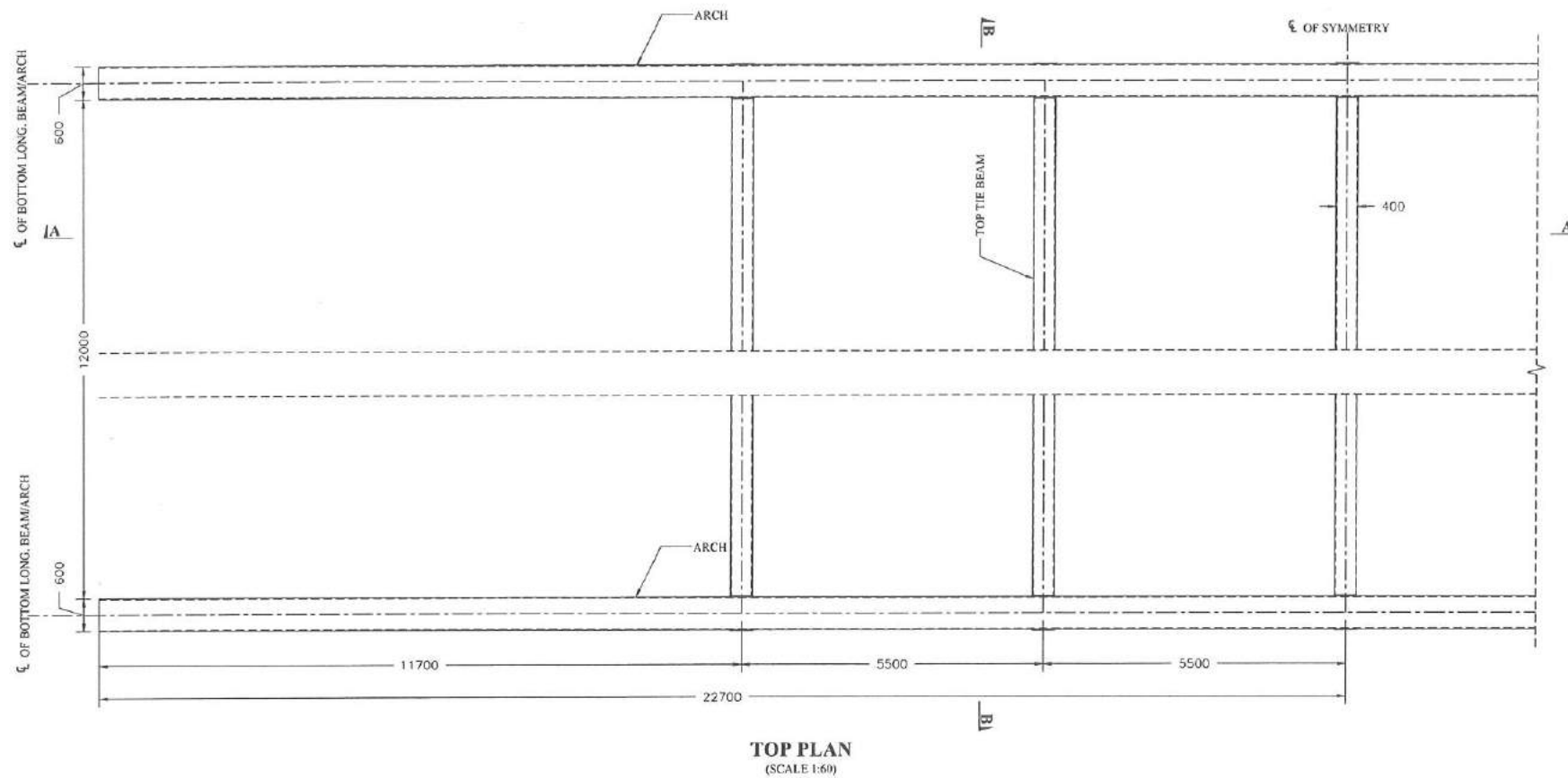
DRAWN BY: M/S Abhinav Associates
CHECKED BY: V.K. PANDEY (SSE)

DESIGNED BY:
VIVEK KUMAR (ADEN/NCR/B&S/RDSO)

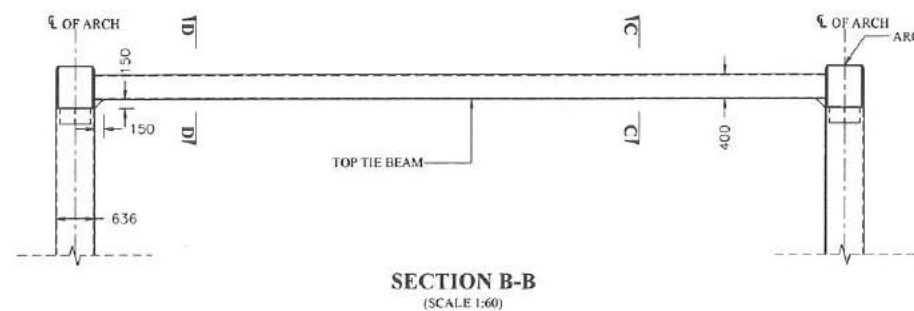
SCRUTINIZED & CHECKED BY:
SRJAN TRIPATHI (DBS/SB-I)

APPROVED BY:
A. K. DADARVA (EDBS)

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- NOTE:**
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R. D. S. O.

**ROAD OVER BRIDGE
BOW STRING STEEL GIRDER
42m CLEAR SPAN**

DETAILS OF TOP TIE BEAM

PROVISIONAL

RDSO/B - 10408/3

(PAPER SIZE A1)

CALCULATION REGISTER NO. DD/2014/9

AutoCAD FILE NO.: B-10408

DRAWN BY: M/S Abhinav Associates
CHECKED BY: V.K.PANDEY (SSE)

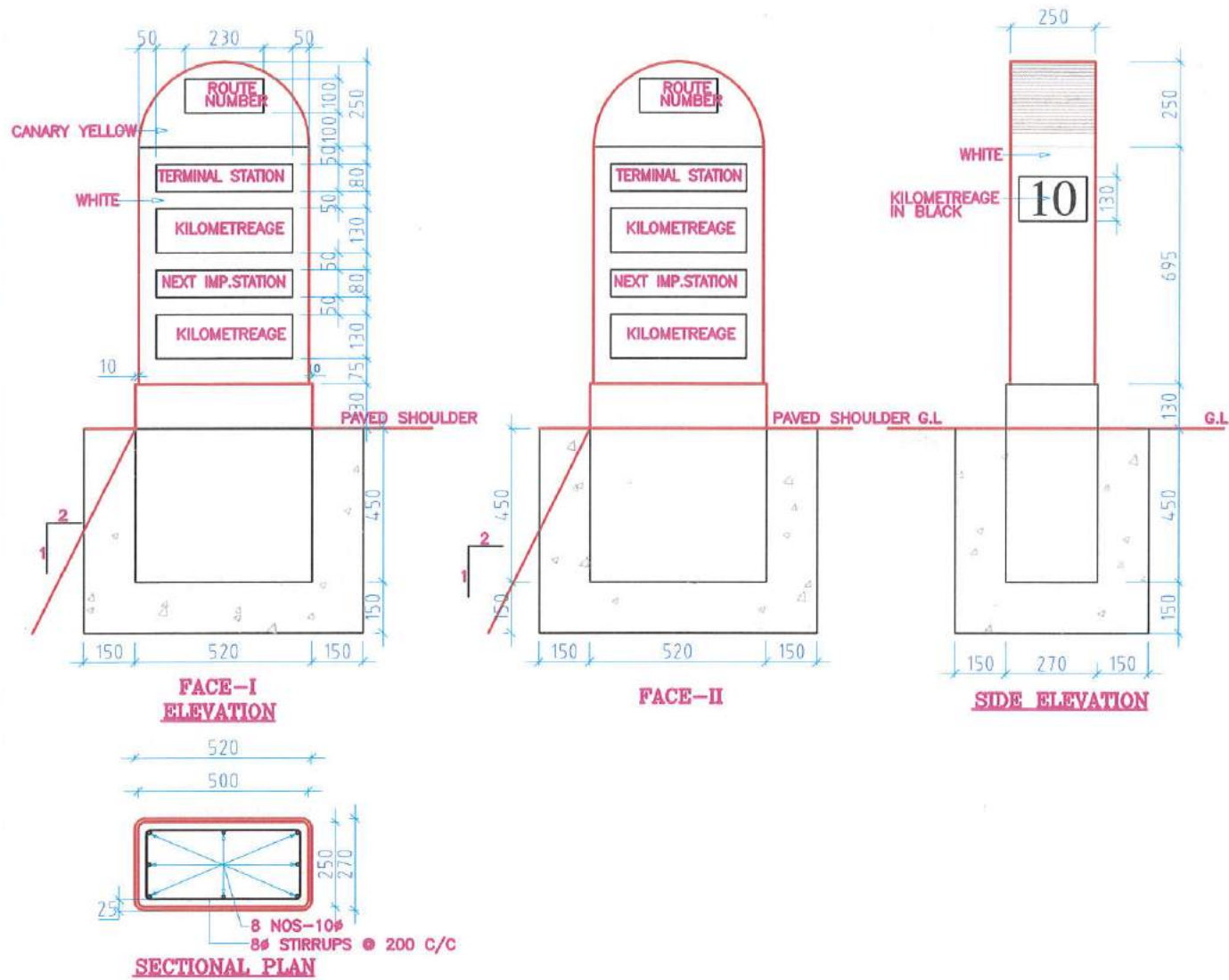
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VIVEK KUMAR (ADEN/NCR/B&S/RDSO)

SCRUTINIZED & CHECKED BY:
SRIJAN TRIPATHI (DBS/SB-I)

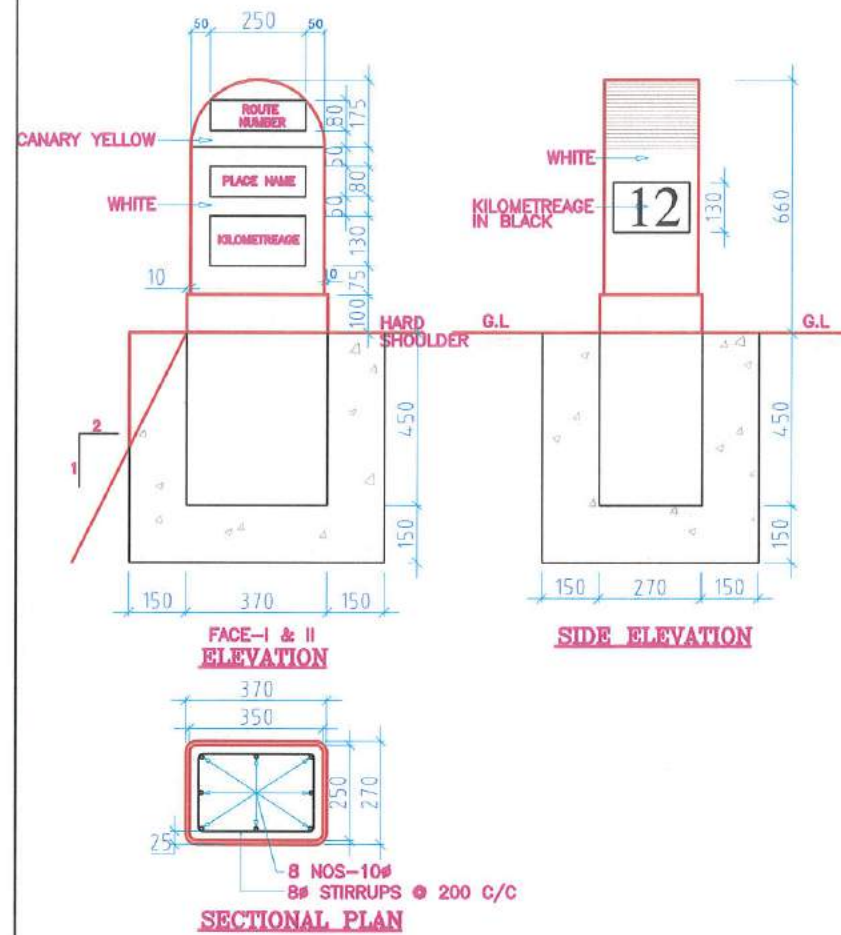
APPROVED BY:
A. K. DADARYA (EDBS)

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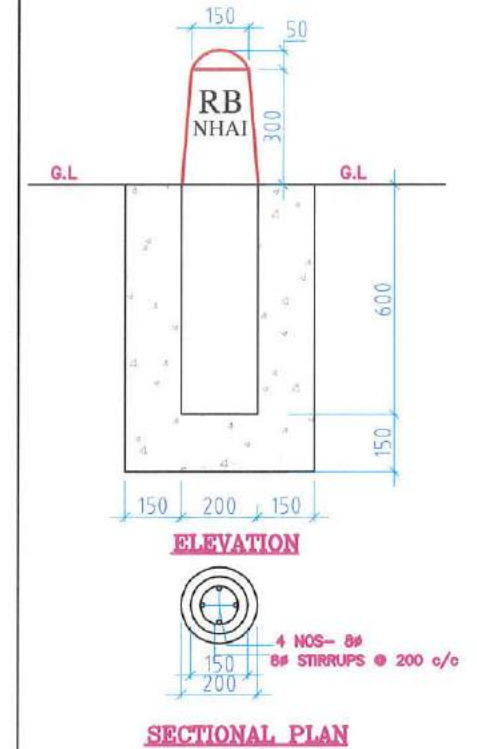
FIFTH KILOMETRE STONE



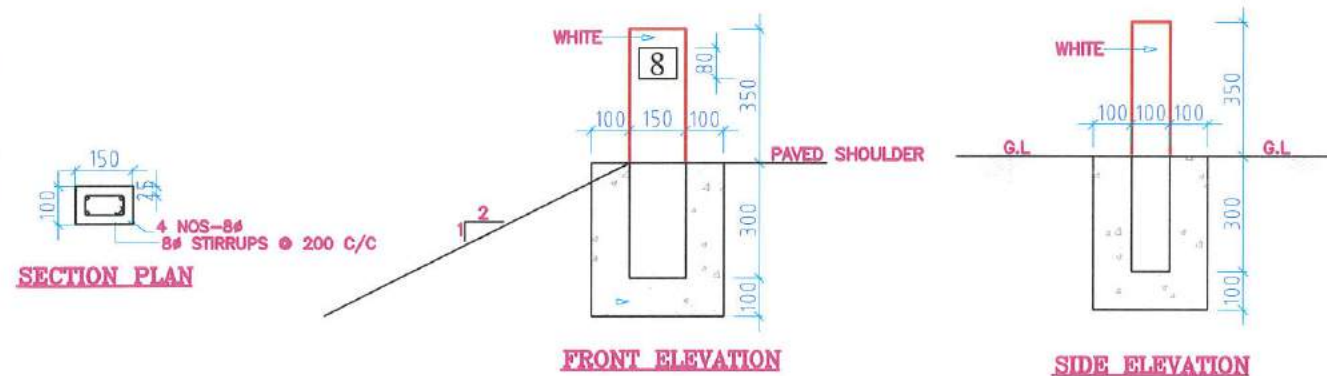
KILOMETRE STONE



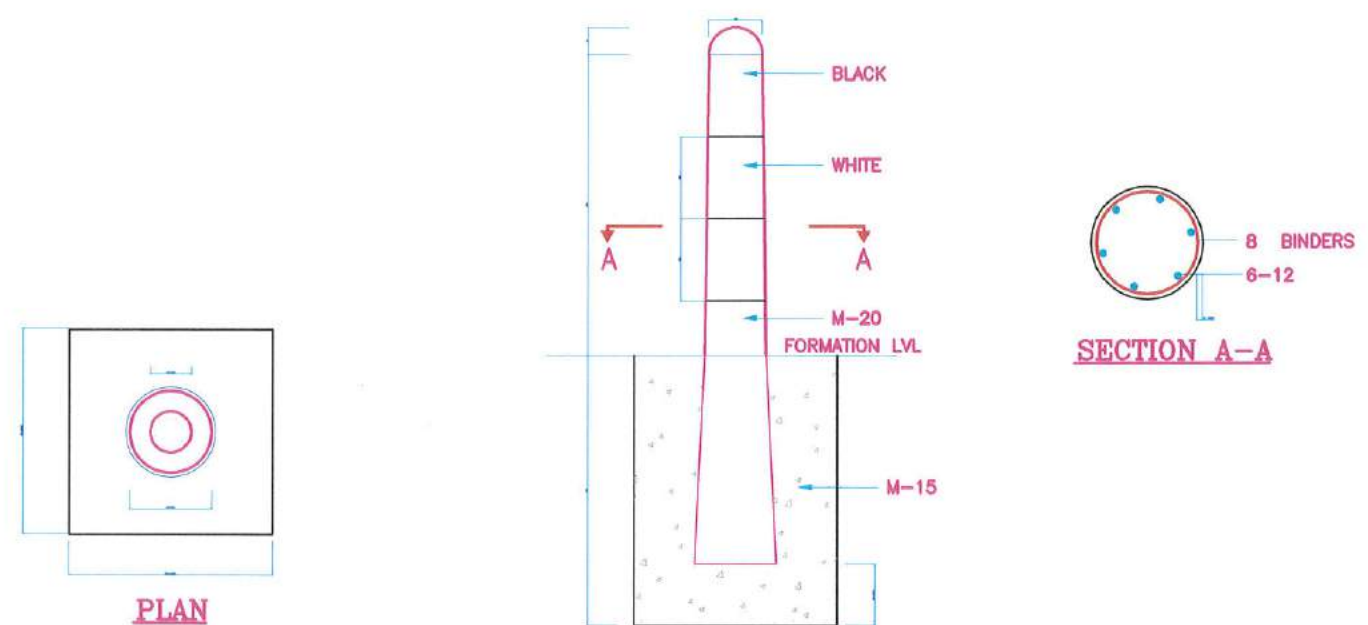
BOUNDARY STONE



HECTOMETRE STONE



TYPICAL DETAILS OF GUARDPOST



NOTES:-

1. ALL DIMENSION ARE IN MM. AND LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.

TYPICAL DRAWING FOR KMSTONE,
HECTOMETRE STONE,
BOUNDARY STONE & GUARD POST

HIGHWAY ENGINEERING CONSULTANT

Head Office : JM-89/C BRHIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P.)
Tel/Fax : 0755-4236317
Email id : hec_bhopal@rediffmail.com



YOGESH

M. S.

T.L.

DRAWN BY

DESIGN BY

APPROVED BY



CENTRAL PUBLIC WORKS DEPARTMENT

NAME OF WORK

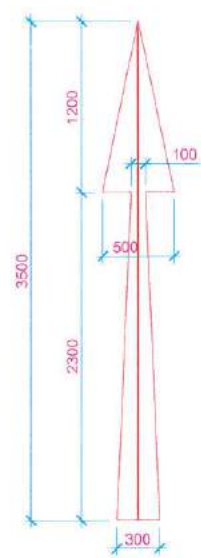
REVISION
R1

CONSULTANCY SERVICES FOR PREPARATION
OF DETAILED PROJECT REPORT (DPR) FOR
HIGH ALTITUDE ROADS TO INDO CHINA
BORDER UNDER PHASE-II IN THE STATE OF
ARUNACHAL PRADESH USING SATELLITE
IMAGERY

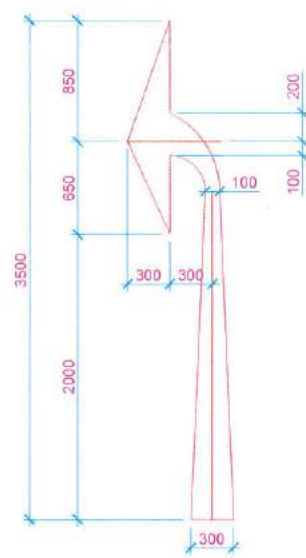
APRIL-2018

SIZE -A3

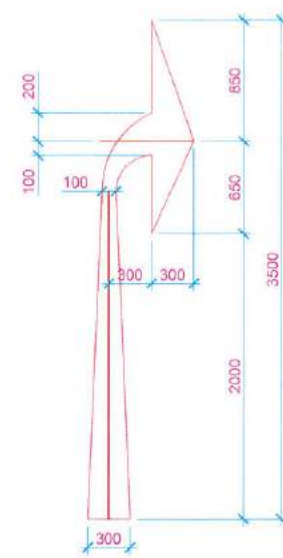
SHEET NO.04



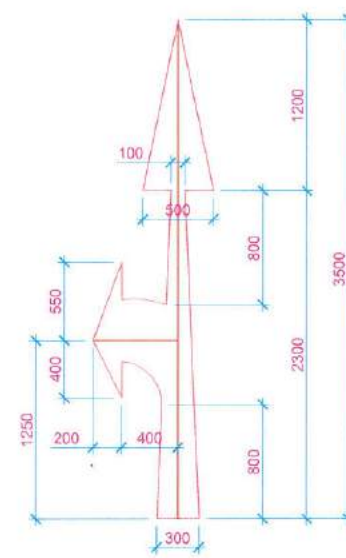
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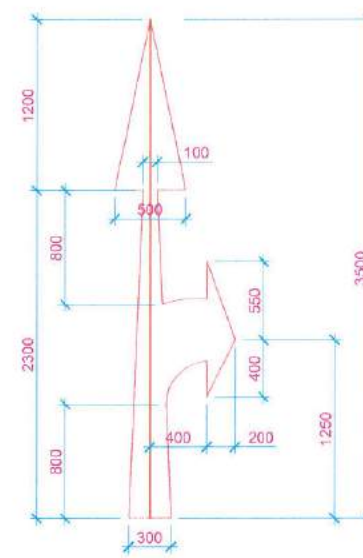
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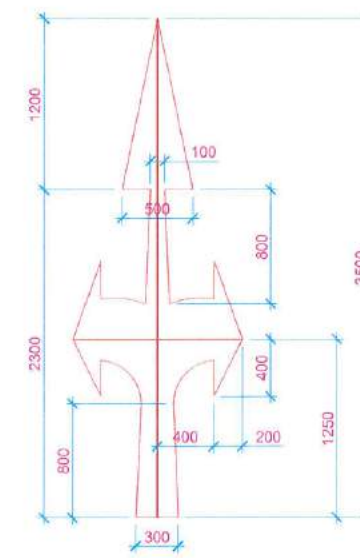
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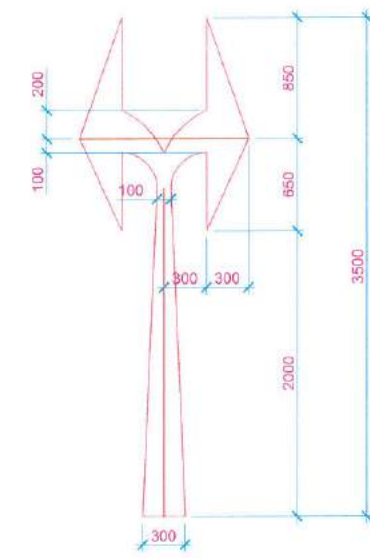
STRAIGHT & LEFT



STRAIGHT & RIGHT

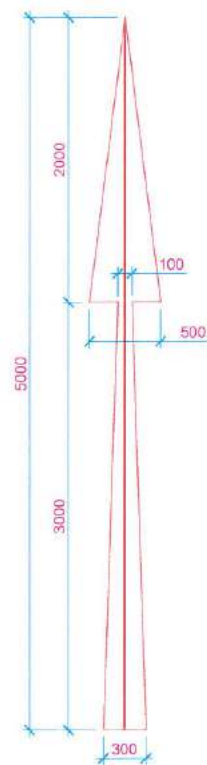


STRAIGHT & BOTH

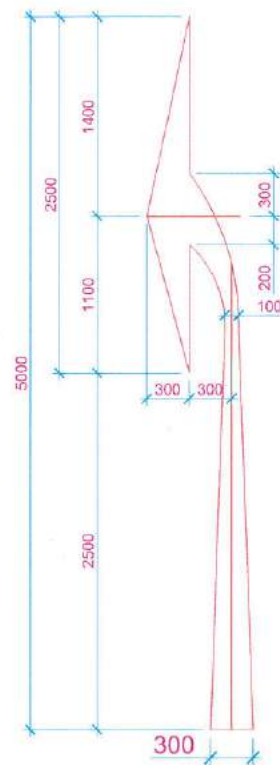


LEFT & RIGHT

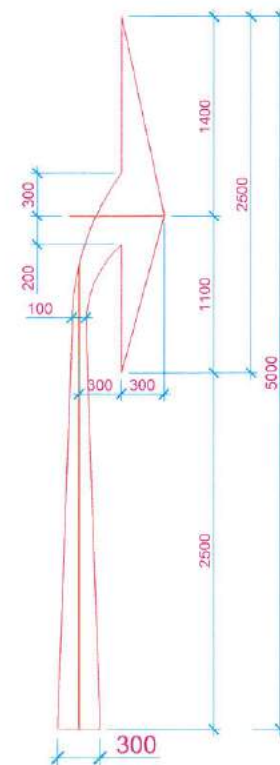
ARROW MARKING FOR ROUTE DIRECTION FOR DESIGN SPEED OF 50 KM/HR. OR LESS
(ALL THE ARROWS ARE IN WHITE COLOUR)



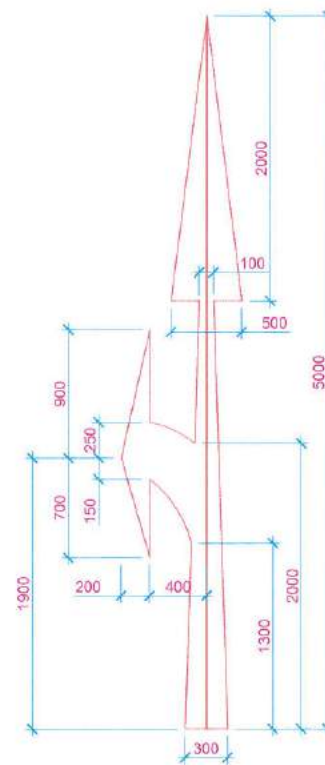
STRAIGHT



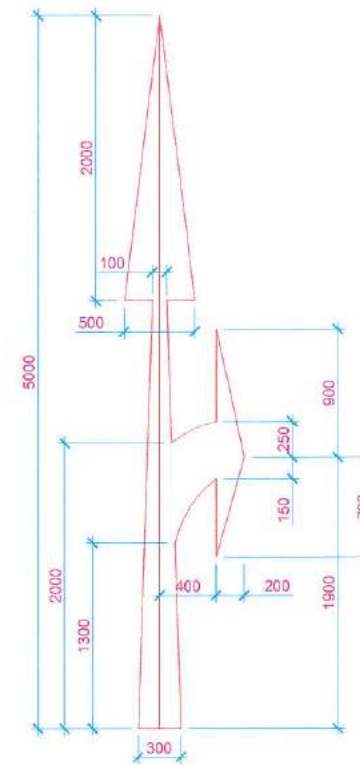
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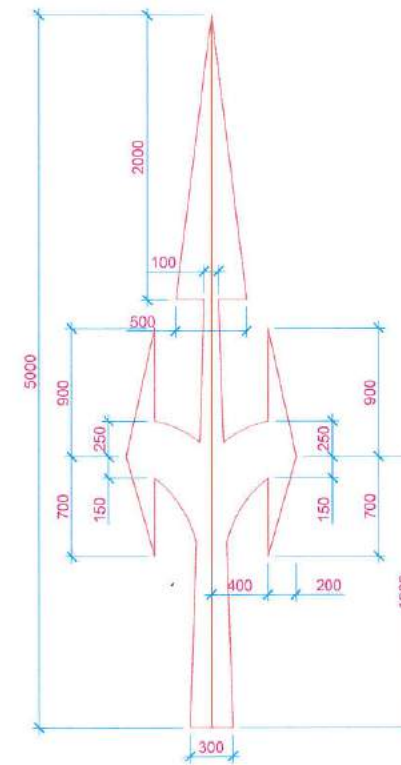
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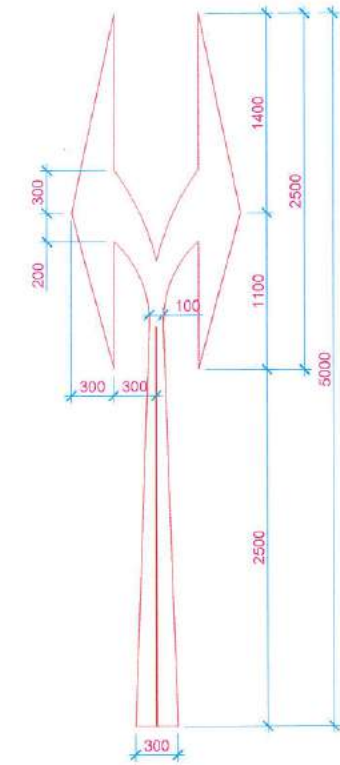
STRAIGHT & LEFT



STRAIGHT & RIGHT



STRAIGHT & BOTH



LEFT & RIGHT

ARROW MARKING FOR ROUTE DIRECTION FOR DESIGN SPEED MORE THAN 50 KM/HR.
(ALL THE ARROWS ARE IN WHITE COLOUR)

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DIRECTIONAL ARROWS FOR ROADS

HIGHWAY ENGINEERING CONSULTANT
Head Office : JM-89/C BRIND PANCHWATI MARKET
SAKET NAGAR, BHOPAL (M.P.)
Tel/Fax : 0755-4236317
Email id : hec_bhupal@rediffmail.com



CENTRAL PUBLIC WORKS DEPARTMENT

NAME OF WORK

CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR HIGH ALTITUDE ROADS TO INDO CHINA BORDER UNDER PHASE-II IN THE STATE OF ARUNACHAL PRADESH USING SATELLITE IMAGERY

REVISION
R1

APRIL-2018

SIZE -A3

SHEET NO.05

YOGESH

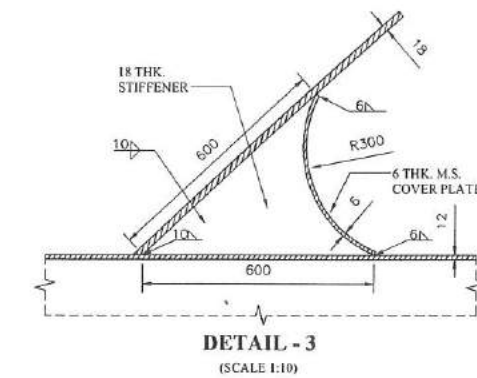
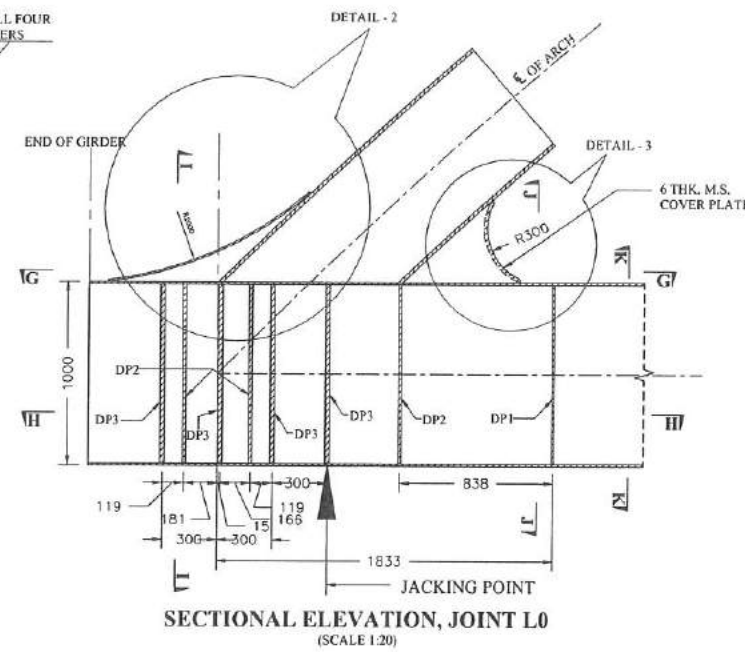
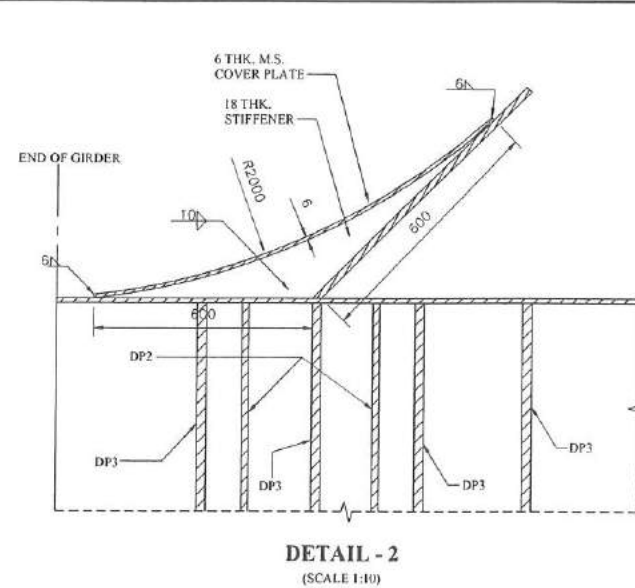
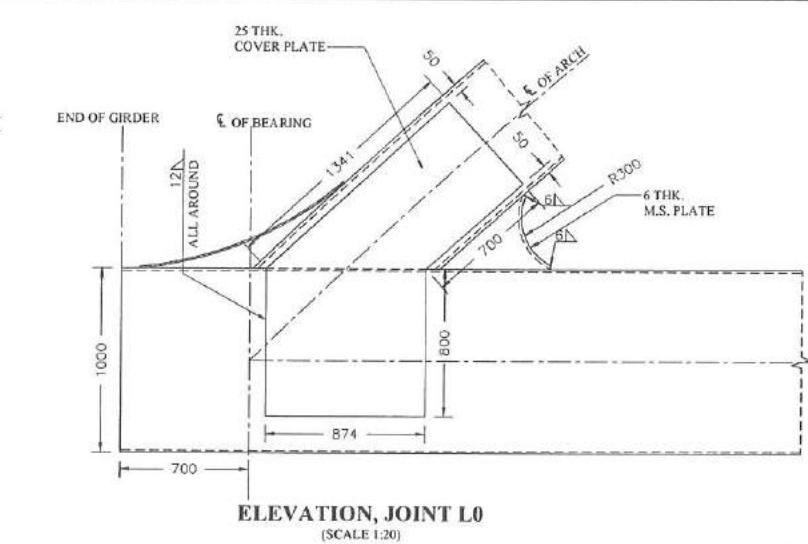
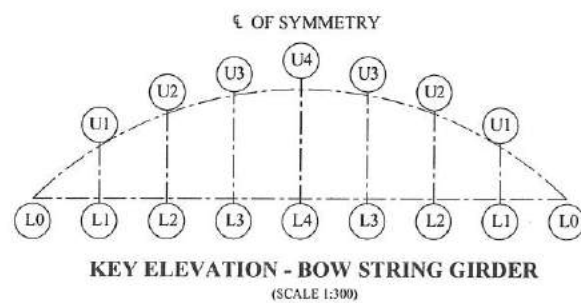
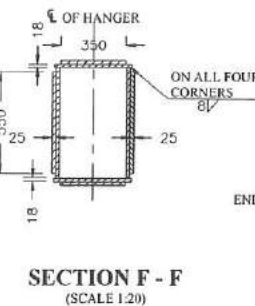
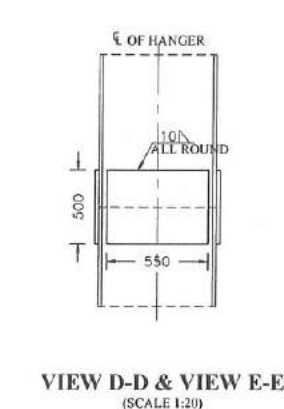
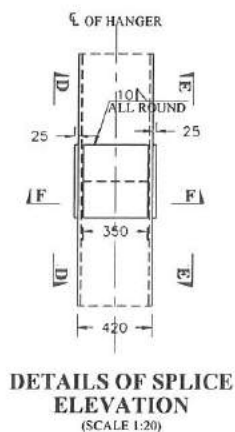
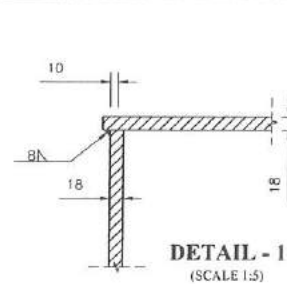
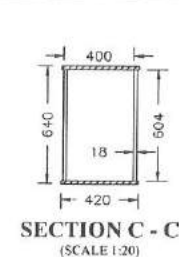
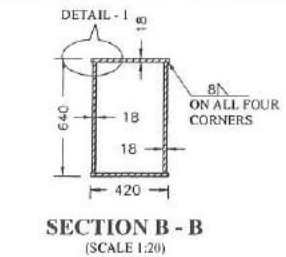
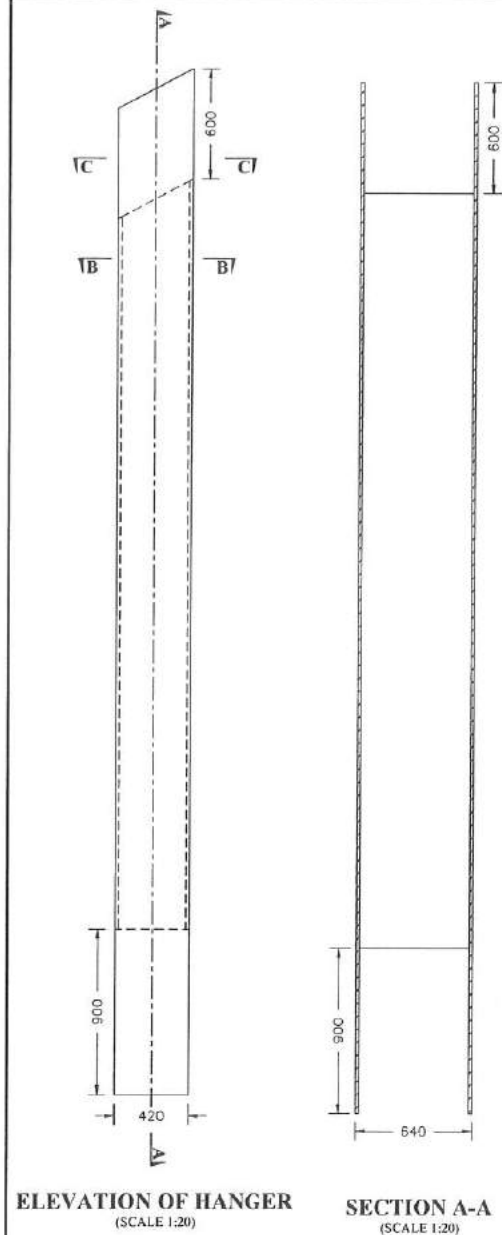
M. S.

T.L.

DRAWN BY

DESIGN BY

APPROVED BY

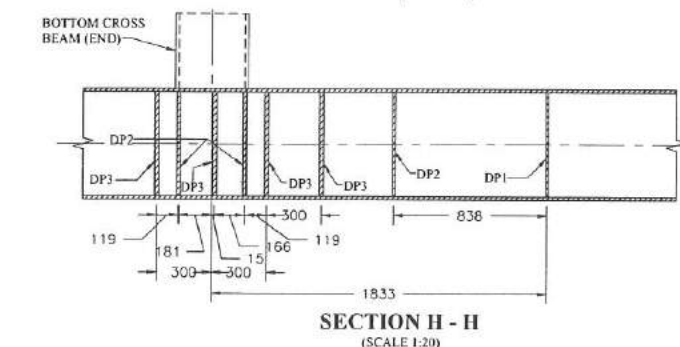
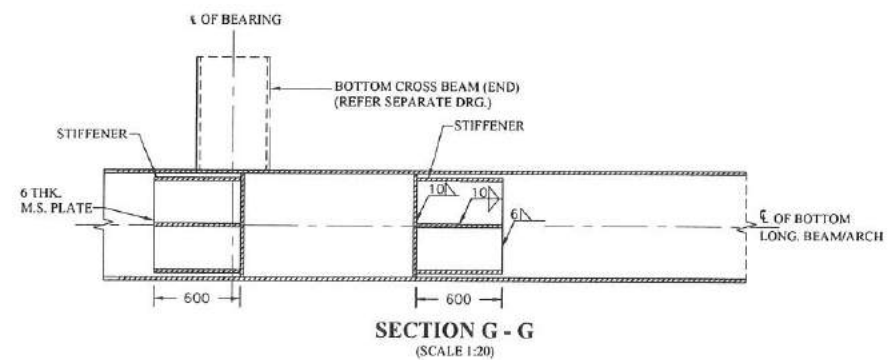
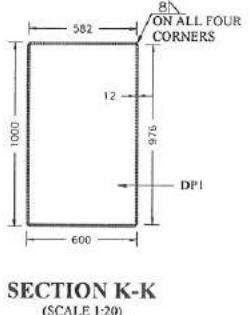
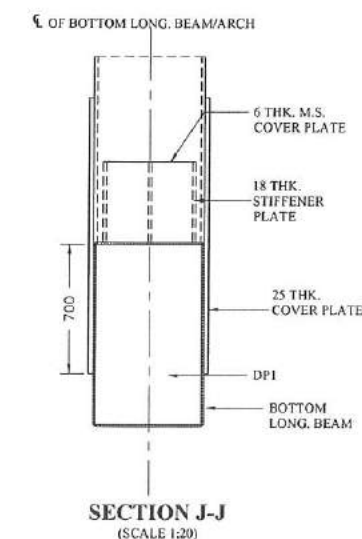
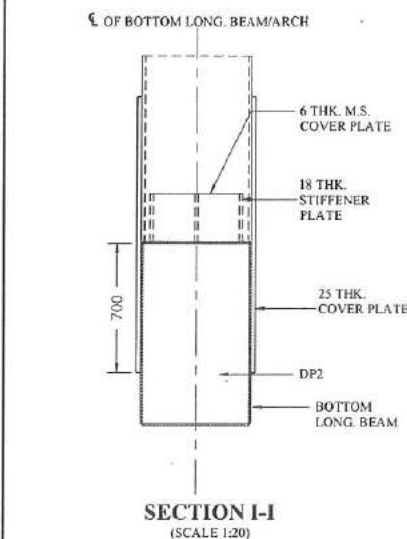


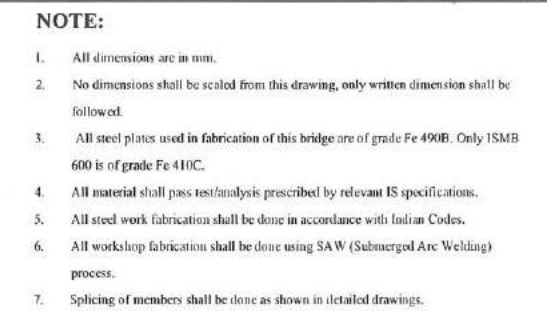
DETAILS OF DIAPHRAGM PLATE	
TYPE	THICKNESS
DP1	12
DP2	18
DP3	25

DIAPHRAGM PLATES SHOULD BE WELDED FROM ATLEAST THREE SIDED USING 10 mm. FILLET WELD

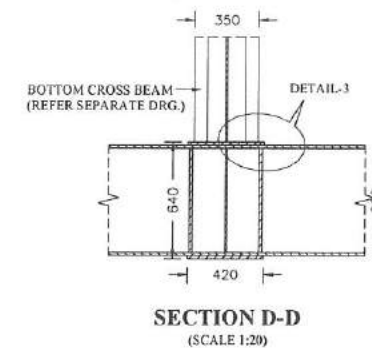
- NOTE:**
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 - No dimensions shall be scaled from this drawing, only written dimension shall be followed.
 - All steel plates used in fabrication of this bridge are of grade Fe 490B. Only ISMB 600 is of grade Fe 410C.
 - All material shall pass test/analysis prescribed by relevant IS specifications.
 - All steel work fabrication shall be done in accordance with Indian Codes.
 - All workshop fabrication shall be done using SAW (Submerged Arc Welding) process.
 - Splicing of members shall be done as shown in detailed drawings.

R. D. S. O.
ROAD OVER BRIDGE
BOW STRING STEEL GIRDER
42m CLEAR SPAN
DETAILS OF HANGER & JOINT L0
PROVISIONAL
RDSO/B - 10408/4





DETAIL - 1
(SCALE 1:20)



DETAIL-2

R1
ALL FOUR CORNERS

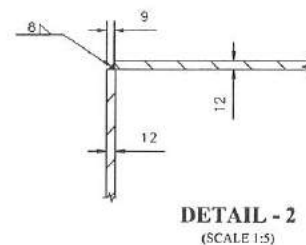
12 12

1000

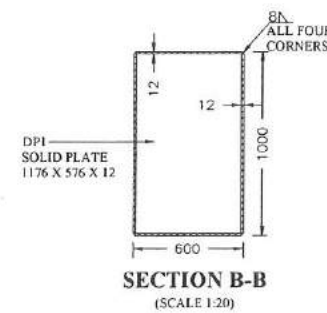
600

SECTION A-A
(SCALE 1:20)

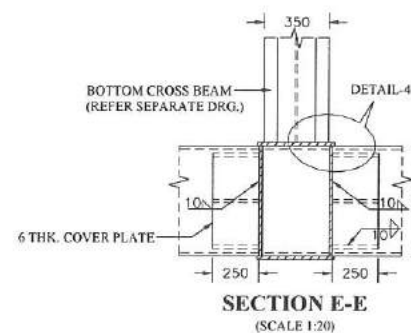
DP2
SOLID PLATE
1176 X 576 X 18



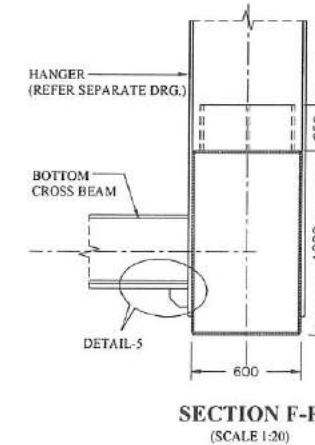
DETAIL - 2
(SCALE 1:5)



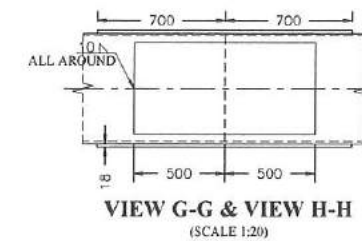
SECTION B-B
(SCALE 1:20)



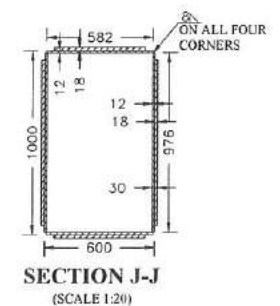
SECTION E-E
(SCALE 1:20)



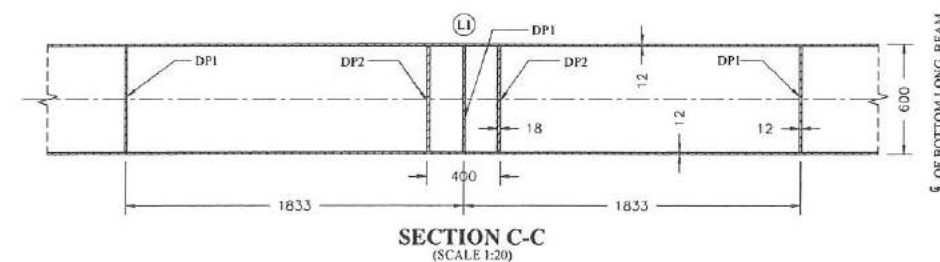
SECTION F-F
(SCALE 1:20)



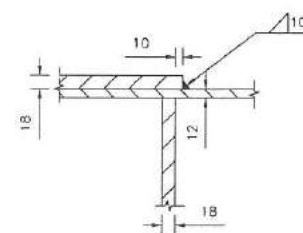
VIEW G-G & VIEW H-H
(SCALE 1:20)



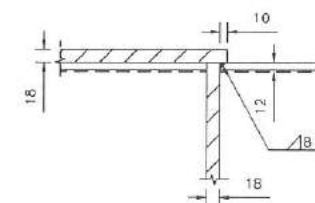
SECTION J-J
(SCALE 1:20)



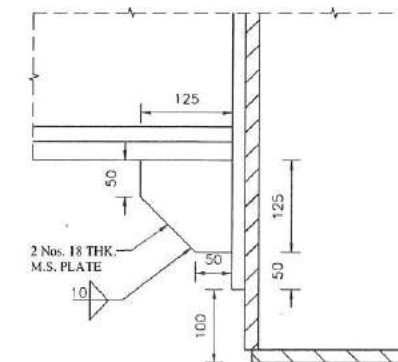
SECTION C-C
(SCALE 1:20)



DETAIL -3
(SCALE 1:5)



DETAIL -4
(SCALE 1:5)



DETAIL-5
(SCALE 1:5)

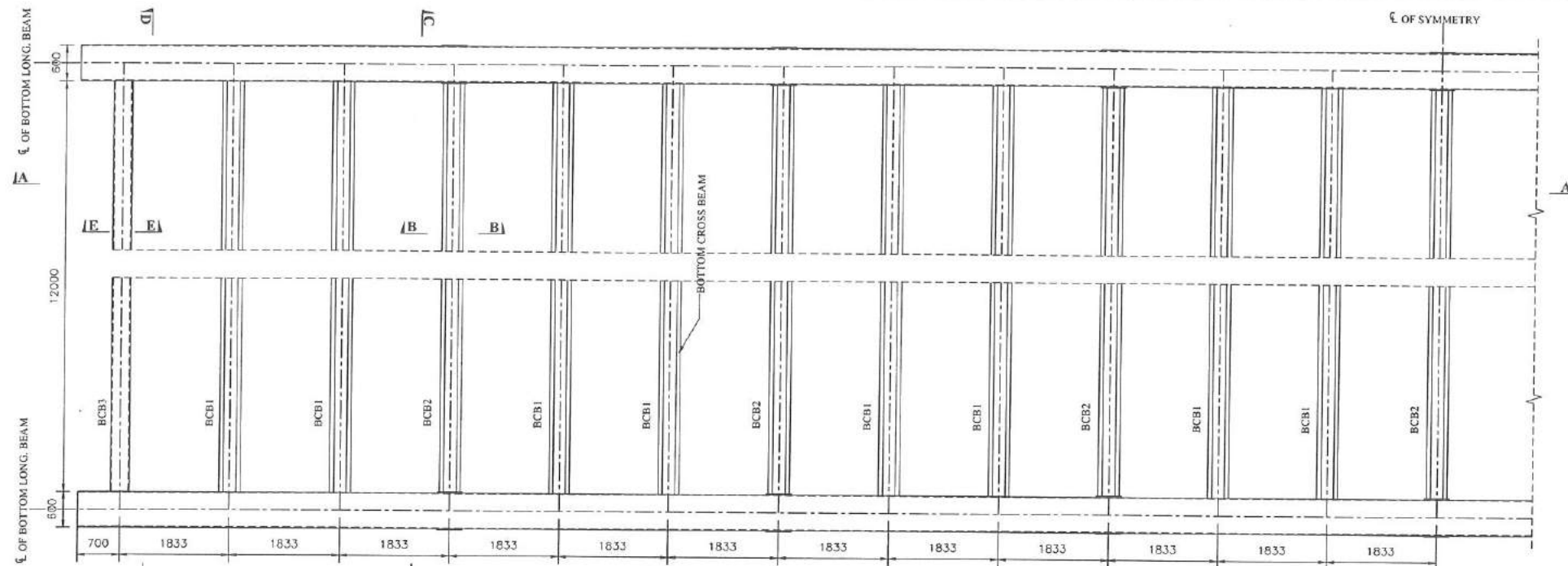
R. D. S. O.

ROAD OVER BRIDGE
BOW STRING STEEL GIRDER
42m CLEAR SPAN

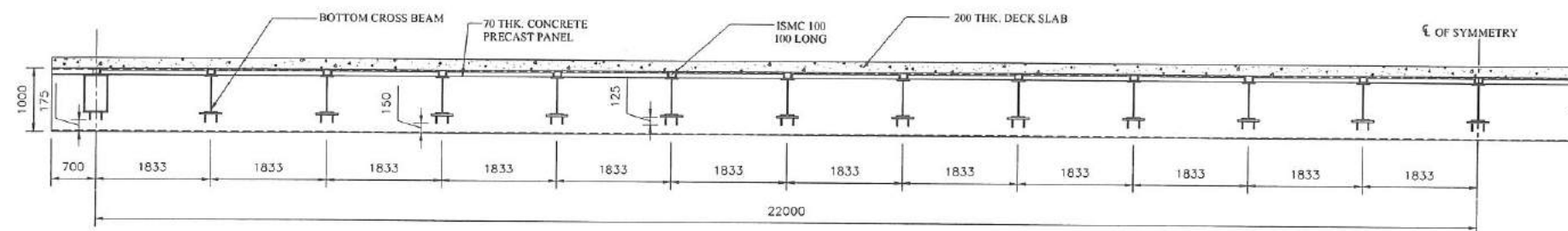
DETAILS OF BOTTOM LONG. BEAM

PROVISIONAL

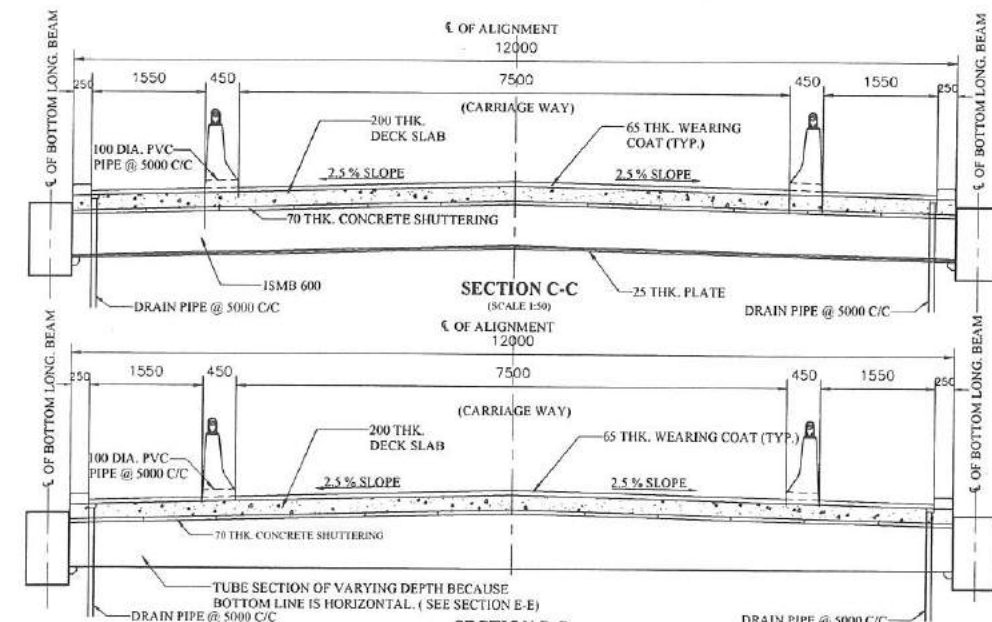
RDSO/B - 10408/5



PLAN - BOTTOM CROSS BEAM
(SCALE 1:50)

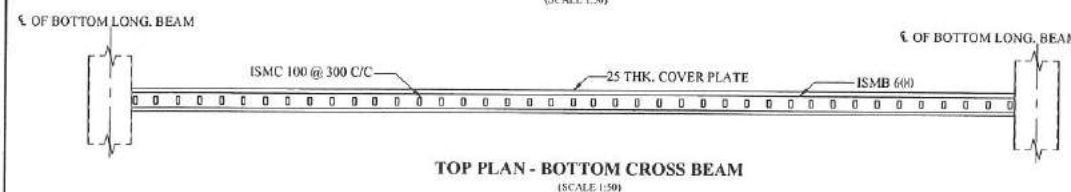


SECTION A-A
(SCALE 1:50)

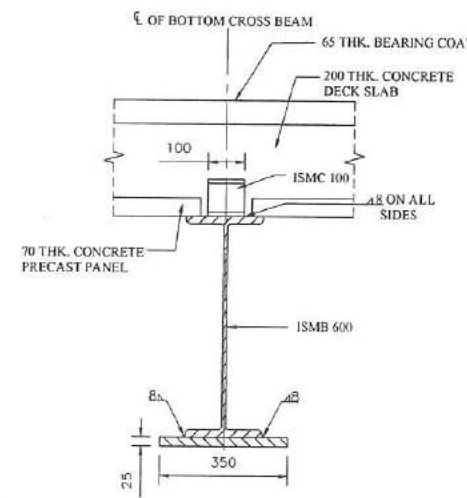


SECTION C-C
(SCALE 1:50)

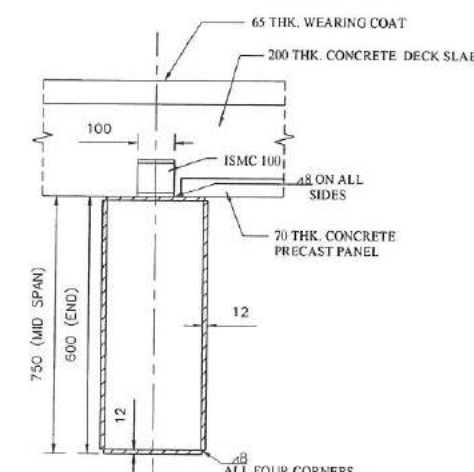
SECTION D-D
(SCALE 1:50)



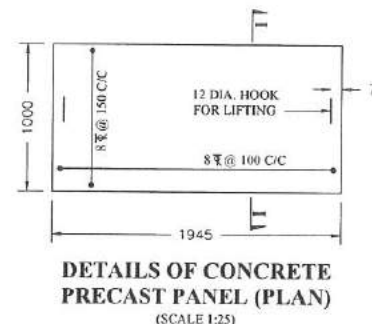
TOP PLAN - BOTTOM CROSS BEAM
(SCALE 1:50)



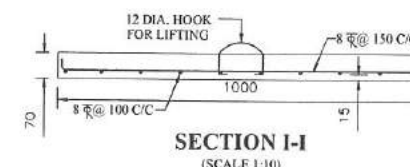
SECTION B-B
(SCALE 1:10)



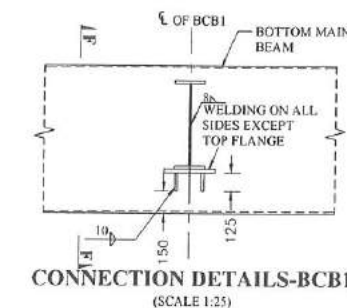
SECTION E-E
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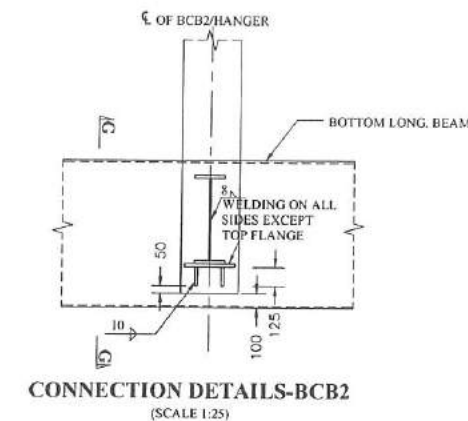
DETAILS OF CONCRETE
PRECAST PANEL (PLAN)
(SCALE 1:25)



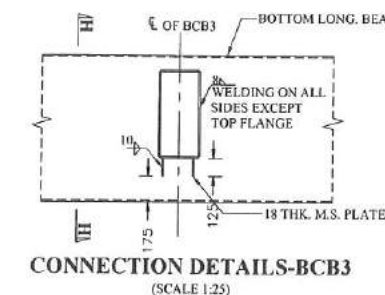
SECTION I-I
(SCALE 1:10)



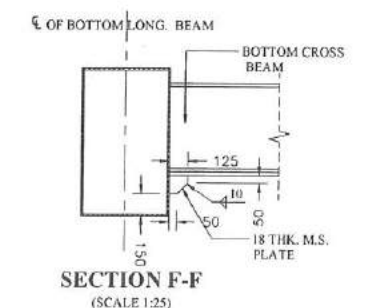
CONNECTION DETAILS-BCB1
(SCALE 1:25)



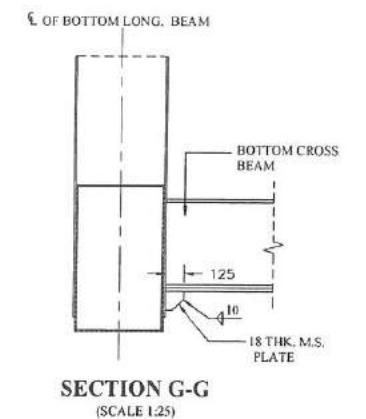
CONNECTION DETAILS-BCB2
(SCALE 1:25)



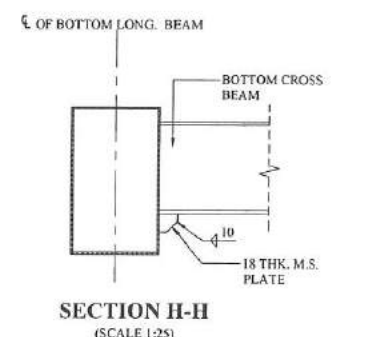
CONNECTION DETAILS-BCB3
(SCALE 1:25)



SECTION F-F
(SCALE 1:25)



SECTION G-G
(SCALE 1:25)



SECTION H-H
(SCALE 1:25)

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ROAD OVER BRIDGE
BOW STRING STEEL GIRDER
42m CLEAR SPAN
DETAILS OF BOTTOM CROSS BEAM
PROVISIONAL
RDSO/B - 10408/6

CALCULATION REGISTER NO. DD/2014/9

AutoCAD FILE NO.: B-10408

DRAWN BY: M/S Abhinav Associates
CHECKED BY: V.K.PANDEY (SSE)

DESIGNED BY:
VIVEK KUMAR (ADEN/NCR/B&S/RDSO)

SCRUTINIZED & CHECKED BY:
SRIJAN TRIPATHI (DBS/SB-I)

APPROVED BY:
A. K. DADARYA (EDBS)

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