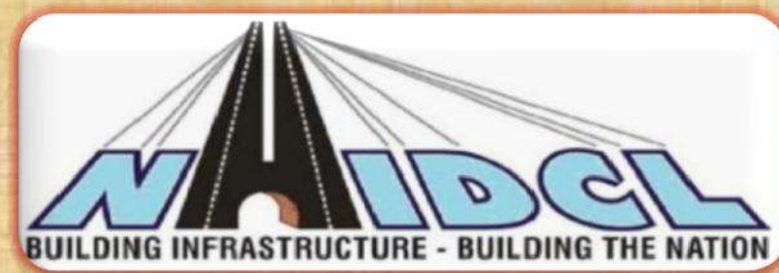


Consultancy Services for Carrying out Feasibility Study, Preparation of Detailed Project Report and providing pre-construction services in respect of 2 laning of *Maram-Peren-Dimapur section on NH 129A* (Manipur & Nagaland) on Engineering, Procurement and Construction mode in the state of Manipur & Nagaland. (Package No. NHIDCL/DPR/SN-DMP-PC/Manipur/2016)

Package-IIB

**Design Ch. Km-56+840 to Km-75+000
Survey Ch. Km-57+995 to Km-74+800**



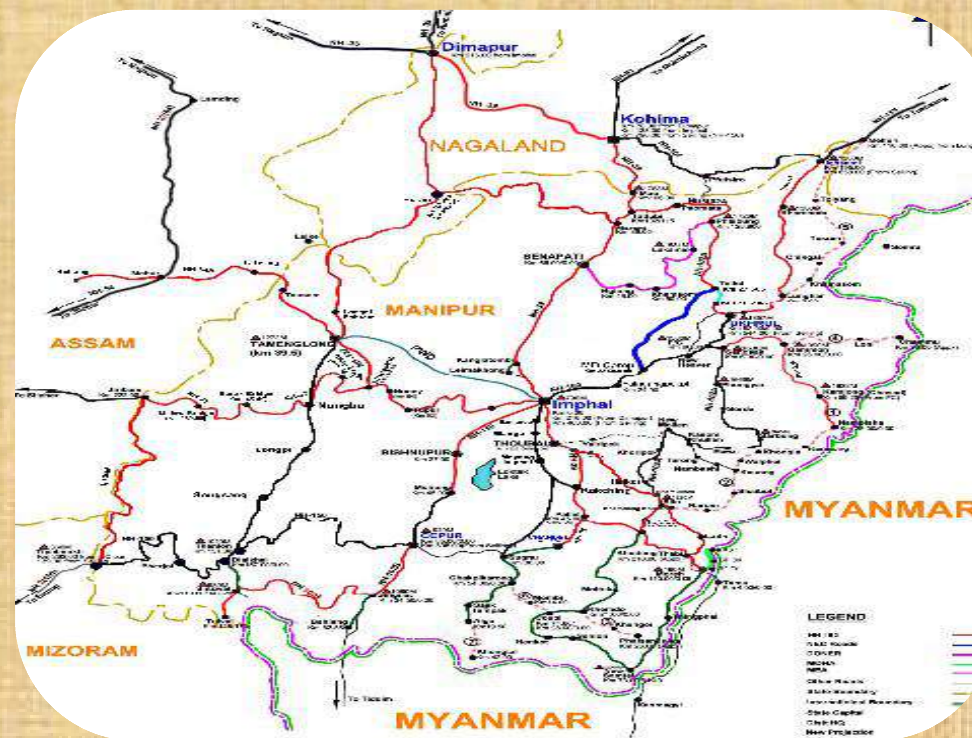
**National Highways &
Infrastructure
Development Corporation
Ltd.**

**PTI Building, 3rd Floor, 4,
Parliament Street,
New Delhi-110001**



Final Detailed Project Report

**Volume IX – Drawing Volume
Part A : Road Works
Part B : Structural Works**



**C. E. Testing Company Pvt. Ltd.
124-A, NSC Bose Road, Kolkata -92**

PART A : ROADWORKS

PACKAGE -IIB

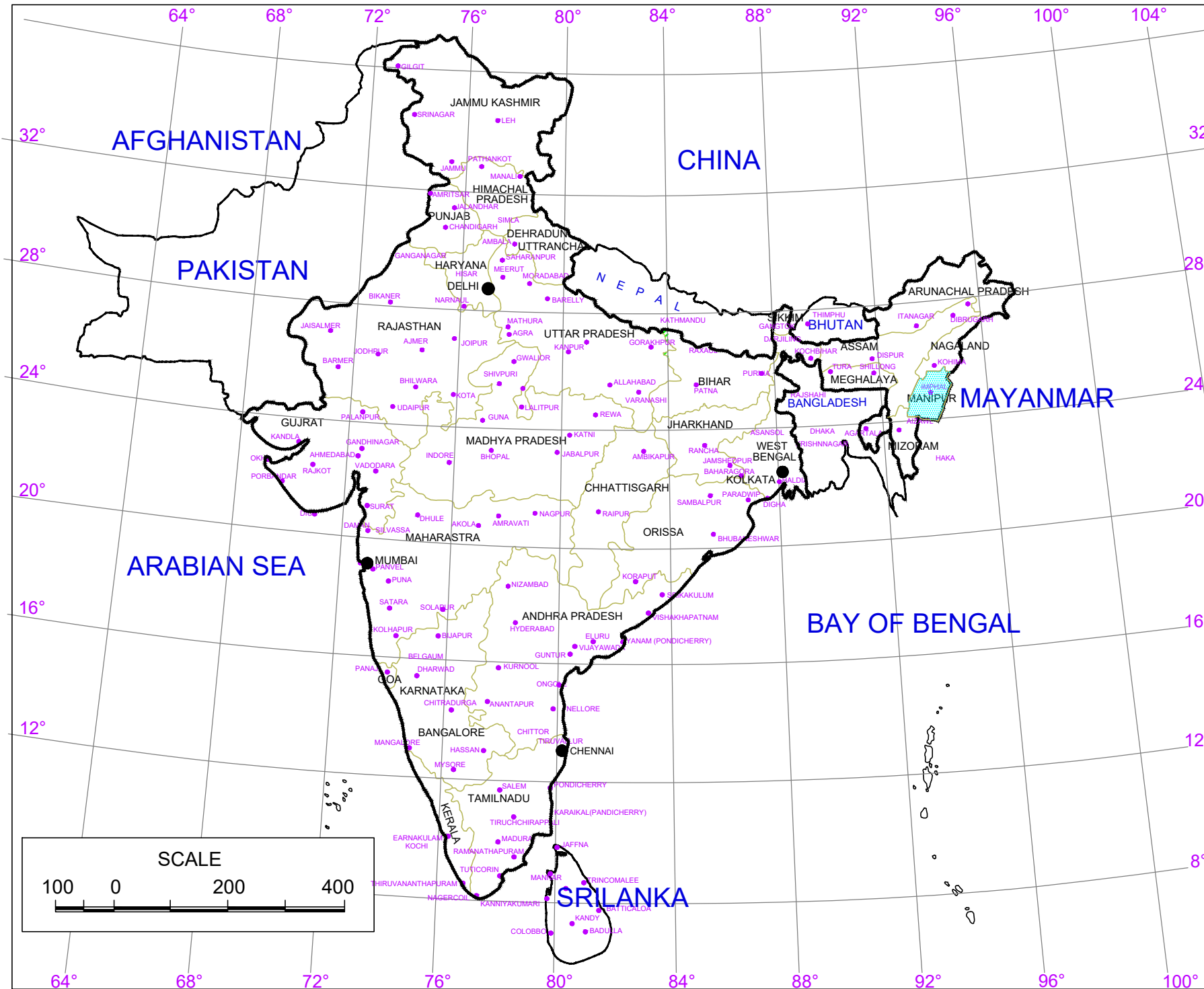
DESIGN CH KM 56+840 TO KM 75+000
SURVEY CH KM 57+995 TO KM 74+800

CONTENT

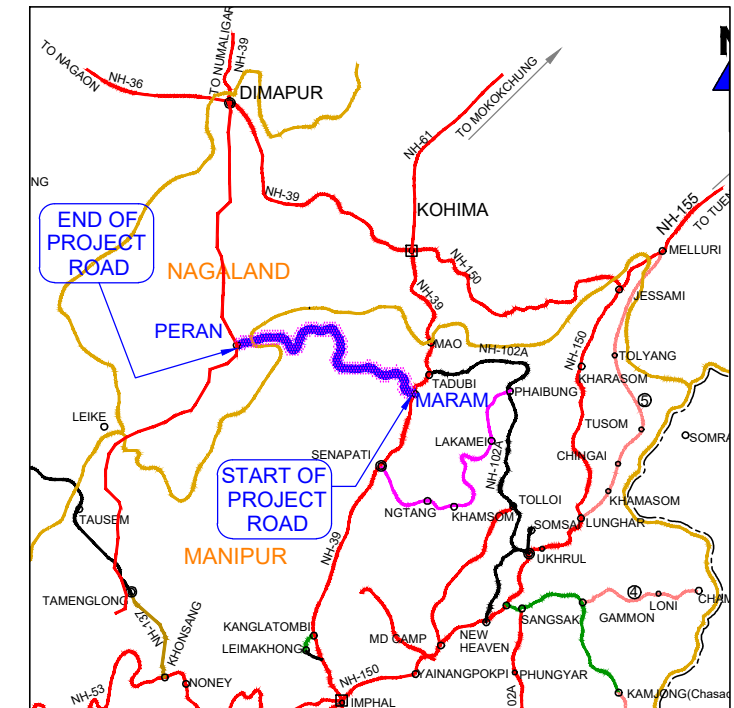
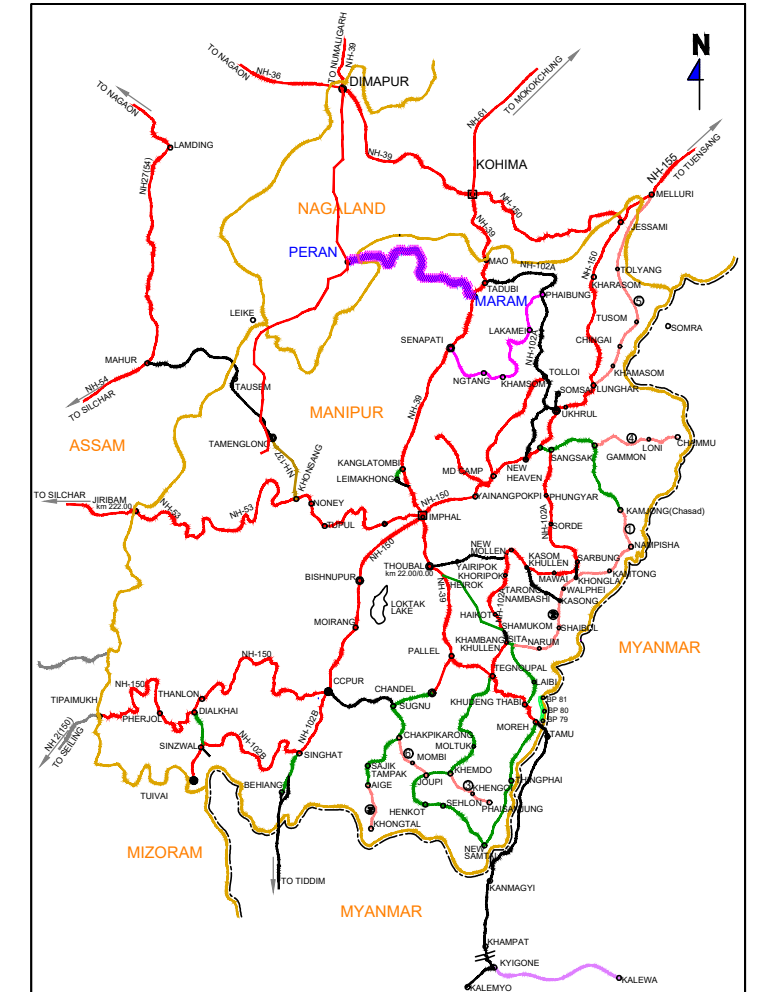
SL. NO	TITLE OF DRAWINGS	DRAWING NO.	NO. OF SHEETS
	PART A : ROADWORKS		
01	LOCATION PLAN	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/LP	01
02	KEY PLAN	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/KP	01
03	LIST OF CONTROL PILLAR	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PILLER	15
04	TYPICAL CROSS SECTION	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS	16
05	LEGEND	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/LEG	01
06	PLAN & PROFILE	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PP	19
07	HORIZONTAL ALIGNMENT REPORT	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/HAR	12
08	VERTICAL ALIGNMENT REPORT	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/VAR	01
09	CURVE DETAIL REPORT	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/CDR	03
10	MISCELLANEOUS DRAWINGS		
(i)	CURVE COMPONENT	CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC- 01	01
(ii)	TYPICAL DETAILS OF ROAD SIGN	CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC- 02	03
(iii)	TYPICAL DETAILS OF PAVEMENT MARKING	CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC- 03	02
(iv)	DETAILS OF KM STONE,	CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC- 04	03
(v)	DETAILS OF CRASH BARRIER	CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC- 05	01
(vi)	DETAILS OF RETAINING WALL & BREAST WALL	CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC- 06	02
(vii)	TYPICAL DETAILS OF PICK-UP BUS STOP	CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC- 07	01
(viii)	TYPICAL DETAILS OF PASSENGER SHELTER	CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC- 08	01
(ix)	TYPICAL DETAILS OF MINOR INTERSECTION	CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC-09	01
(x)	TYPICAL DETAILS OF GANTRY GIRDER FOR OVERHEAD SIGN	CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC-10	01
	PART B : STRUCTURAL WORK	(REFER SEPARATE DRAWING VOLUME)	
	PART-C DETAILED CROSS SECTION	(REFER SEPARATE DRAWING VOLUME)	

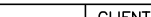
KEY PLAN

LOCATION PLAN



LOCATION MAP



					Scale :- N.T.S 	CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	LOCATION PLAN		CONSULTANT : CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/LP				
							DATE: FEB, 2020	SUBMISSION TYPE : FRAFT DETAILED PROJECT REPORT		REVISION MKD. - R0	SHEET NO. - 01			
REVISIONS							PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)					DRAWN BY	DESIGNED BY	CHECKED BY
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.										

LIST OF CONTROL PILLAR

TRAVERS

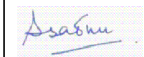
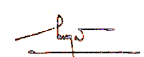
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A1	610247.959	2811286.440	1425.606
A2	610264.321	2811130.788	1433.228
BM1-1	610180.439	2811105.502	1436.673
A3	610136.172	2811147.351	1440.546
A4	610011.955	2811173.566	1448.812
A5	609958.660	2811145.312	1452.281
A6	609936.293	2811086.836	1455.504
BM1-2	609937.036	2811080.581	1455.871
A7	609876.432	2811002.596	1460.978
A8	609804.511	2811013.702	1463.301
GPS1	609774.402	2811004.596	1465.156
A9	609641.788	2811014.695	1471.220
A10	609564.175	2811038.948	1474.548
A11	609476.239	2810981.616	1477.446
A12	609428.533	2810966.310	1480.229
BM2-1	609417.100	2810956.223	1481.335
A13	609318.122	2810905.642	1486.653
BM2-2	609247.706	2810916.847	1492.501
A14	609200.471	2810932.930	1494.834
A15	609090.626	2810898.482	1498.621
BM2-3	609029.115	2810838.480	1501.950
A16	608949.344	2810864.104	1503.817
GPS-2	608865.048	2810947.918	1509.275
A-17	608839.961	2811025.018	1510.717
A-18	608928.579	2811113.118	1514.785
BM-3/1	608938.027	2811129.490	1515.951
A-19	609024.238	2811245.517	1521.682
A-20	609078.198	2811279.069	1524.672
BM-3/2	609074.180	2811316.488	1524.888
A-21	609082.879	2811330.613	1525.032
A-22	609168.690	2811373.113	1524.461
A-23	609135.806	2811427.315	1523.311
BM-3/3	609118.850	2811435.327	1523.117
A-24	609080.185	2811510.009	1523.282
A-25	609116.811	2811605.070	1526.497
GPS-3	609091.054	2811617.981	1526.814
A-26	608964.122	2811623.195	1525.649
BM-4/1	608911.133	2811613.245	1525.050
A-27	608785.417	2811598.883	1525.163
BM-4/2	608736.645	2811577.369	1525.075
A-28	608643.351	2811560.032	1522.056
A-29	608519.324	2811495.020	1517.503
BM-4/3	608339.359	2811503.431	1515.122
A-30	608316.823	2811582.211	1513.353
GPS-4	608340.274	2811693.103	1510.013
A-31	608356.556	2811784.118	1508.319
BM-5/1	608376.340	2811882.594	1504.866
A-32	608339.379	2811993.743	1496.978
BM-5/2	608319.876	2811998.321	1496.512
A-33	608320.561	2812021.056	1495.394
A-34	608105.522	2812006.533	1489.350
A-35	608063.087	2811982.229	1487.754
A-36	607976.685	2811988.068	1483.373

TRAVERS

Pt. No.	Easting (m)	Northing (m)	R.L. (m)
BM-5/3	607956.108	2811979.048	1482.238
A-37	607875.591	2811965.260	1480.187
A-38	607832.458	2811923.834	1480.964
A-39	607740.406	2811969.911	1481.619
A-40	607726.398	2812055.978	1479.903
GPS-5	607706.344	2812055.863	1479.192
GPS-5A	607590.579	2812121.360	1474.372
A-41	607554.114	2812244.996	1466.197
BM-6/1	607447.623	2812301.853	1459.376
A-42	607414.657	2812425.593	1455.510
A-43	607456.401	2812509.577	1450.483
A-44	607415.204	2812529.906	1447.363
BM-6/2	607333.370	2812544.254	1443.246
GPS-6	607337.434	2812674.223	1437.344
A-45	607338.644	2812712.363	1435.928
A-46	607330.786	2812805.502	1431.087
A-47	607393.770	2812855.358	1427.481
BM-7/1	607387.537	2812901.210	1424.727
A-48	607396.769	2812941.175	1422.427
A-49	607540.288	2812952.406	1416.161
A-50	607544.904	2813004.270	1413.443
BM-7/2	607482.983	2813059.616	1408.651
A-51	607494.143	2813172.101	1404.201
BM-7/3	607578.149	2813267.902	1398.313
A-52	607628.456	2813302.464	1394.929
A-53	607723.777	2813479.458	1385.725
GPS-7	607721.406	2813492.679	1385.470
A-54	607801.337	2813562.528	1383.284
BM-8/1	607666.943	2813563.026	1391.604
A-55	607639.932	2813602.213	1394.505
A-56	607587.204	2813498.186	1403.560
A-57	607510.000	2813460.348	1411.221
BM-8/2	607470.717	2813455.890	1414.055
A-58	607394.167	2813468.018	1419.573
A-59	607337.023	2813440.539	1423.780
BM-8/3	607212.258	2813384.506	1429.991
A-60	607180.118	2813384.859	1430.953
GPS-8	607088.216	2813439.043	1430.734
A-61	607077.226	2813455.344	1430.729
A-62	606986.576	2813498.155	1430.085
BM-9/1	606773.057	2813434.056	1434.038
A-63	606761.889	2813436.098	1434.112
A-64	606728.768	2813463.853	1434.852
A-65	606743.131	2813496.642	1435.279
A-66	606779.804	2813561.744	1435.423
A-67	606735.842	2813599.244	1433.752
BM-9/2	606724.358	2813582.847	1434.566
A-68	606630.718	2813544.578	1436.604
BM-9/3	606588.930	2813441.504	1439.241
A-69	606579.957	2813435.570	1439.239
A-70	606479.349	2813460.962	1440.121
A-71	606408.358	2813414.343	1442.663
GPS-9	606410.899	2813401.885	1442.932
A-72	606289.617	2813284.550	1445.940

TRAVERS

Pt. No.	Easting (m)	Northing (m)	R.L. (m)
BM-10/1	606253.749	2813269.622	1446.836
A-73	606181.498	2813253.759	1448.177
A-74	606053.272	2813114.019	1448.814
BM-10/2	606026.605	2812966.713	1449.829
GPS-10	605876.319	2812898.378	1454.338
GPS-10A	605785.379	2812832.364	1454.781
A-75	605765.667	2812831.872	1454.342
A-76	605685.181	2812743.147	1450.205
A-77	605622.268	2812715.800	1446.872
BM-11/1	605618.536	2812711.108	1446.369
A-78	605545.421	2812701.875	1442.828
A-79	605416.164	2812626.886	1438.933
A-80	605355.573	2812632.519	1436.190
BM-11/2	605341.634	2812617.898	1435.849
A-81	605230.896	2812577.129	1437.457
A-82	605153.648	2812608.348	1441.948
A-83	605119.017	2812648.101	1443.190
BM-11/3	605105.587	2812644.001	1443.425
A-84	605039.406	2812793.785	1448.486
GPS-11	604992.876	2812829.187	1449.834
BM-12/1	604849.585	2812957.185	1457.496
BM-12/2	604982.131	2813208.137	1458.240
A-85	605036.448	2813298.908	1459.030
A-86	605059.118	2813392.482	1456.381
BM-12/3	605139.737	2813565.378	1453.863
A-87	605142.732	2813572.208	1454.177
GPS-12	605126.625	2813716.824	1451.176
A-88	605236.435	2813768.320	1448.313
A-89	605286.092	2813856.986	1448.730
A-90	605236.088	2814015.587	1443.642
BM-13/1	605267.301	2813882.668	1447.914
BM-13/2	605183.883	2814110.485	1438.027
A-91	605194.428	2814184.804	1434.938
BM-13/3	605284.396	2814496.875	1412.767
A-92	605268.806	2814552.850	1409.170
GPS-13	605205.244	2814604.254	1407.390
A-93	605211.661	2814617.081	1406.364
A-94	605326.582	2814636.314	1399.029
BM-14/1	605338.312	2814667.016	1397.401
A-95	605378.174	2814696.938	1393.549
A-96	605376.767	2814782.815	1388.663
BM-14/2	605360.152	2814780.787	1388.822
A-97	605536.743	2814839.179	1378.409
A-98	605575.249	2814880.319	1374.220
BM-14/3	605543.160	2814960.618	1371.225
A-99	605596.762	2815050.389	1364.578
GPS-14	605572.969	2815134.826	1359.240
A-100	605571.478	2815205.501	1357.829
BM-15/1	605424.196	2815236.835	1350.718
A-101	605443.649	2815334.182	1342.789
A-102	605541.555	2815489.036	1329.093
A-103	605539.130	2815548.321	1327.515
BM-15/2	605532.410	2815551.375	1327.457
A-104	605672.543	2815570.531	1319.901

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	LIST OF CONTROL PILLAR SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 & OHSAS18001 Certified Company 124-A, N.S.C. Bose Road, Kolkata - 700092	DWG NO:-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PILLAR						
										REVISION MKD. - R0		SHEET NO. - 01 OF 15				
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	DRAWN BY  U. MALIK				DESIGNED BY  B.DAS		CHECKED BY  S.SADHU		ISSUED BY  B.KONER	
REVISIONS																

TRAVERS

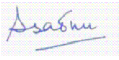
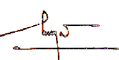
Pt. No.	Easting (m)	Northing (m)	R.L. (m)
BM-15/3	605700.938	2815608.687	1316.399
A-105	605751.114	2815660.561	1311.807
A-106	605766.878	2815751.691	1308.214
GPS-15	605755.074	2815753.363	1308.142
GPS-15A	605641.820	2815658.434	1305.876
A-107	605512.377	2815680.557	1309.997
BM-16/1	605479.607	2815652.050	1309.672
A-108	605421.450	2815567.778	1309.610
BM-16/2	605374.240	2815537.452	1305.620
A-109	605371.472	2815529.750	1305.562
A-110	605381.295	2815483.447	1307.239
A-111	605312.317	2815430.201	1310.120
A-112	605276.711	2815314.026	1316.130
A-113	605214.209	2815248.456	1320.033
GPS-16	605222.953	2815244.877	1319.993
A-114	605201.170	2815192.393	1326.211
A-115	605221.063	2815128.635	1330.416
BM-17/1	605193.122	2815098.096	1332.318
A-116	605092.704	2815007.854	1341.393
BM-17/2	605024.523	2815013.215	1345.594
A-117	604997.892	2815024.757	1346.531
A-118	604888.060	2814988.464	1357.627
BM-17/3	604801.121	2814949.484	1367.093
A-119	604724.795	2814944.470	1373.591
A-120	604692.527	2814904.561	1377.606
A-121	604629.074	2814767.073	1384.219
GPS-17	604666.272	2814693.990	1389.034
A-122	604665.800	2814674.980	1389.472
A-123	604663.481	2814580.387	1392.081
BM-18/1	604754.463	2814518.477	1394.899
A-124	604749.327	2814511.239	1395.609
A-125	604708.199	2814438.514	1399.854
A-126	604608.904	2814418.631	1409.546
A-127	604574.123	2814368.437	1414.181
BM-18/2	604572.359	2814353.903	1414.422
A-128	604471.170	2814276.373	1420.402
A-129	604383.712	2814249.460	1426.289
BM-18/3	604380.436	2814243.694	1426.165
A-130	604342.731	2814235.935	1427.937
A-131	604279.576	2814146.124	1434.091
A-132	604151.862	2814107.276	1438.681
GPS-18	604125.826	2814104.274	1440.179
A-133	604095.191	2814121.538	1442.051
A-134	603982.637	2814113.220	1449.575
A-135	603848.352	2814143.598	1458.336
BM-19/1	603815.713	2814099.300	1463.209
A-136	603773.064	2814048.732	1468.513
A-137	603756.296	2813989.997	1473.152
A-138	603736.752	2813918.119	1472.983
BM-19/2	603764.113	2813879.114	1473.785
A-139	603707.542	2813608.513	1489.158
A-140	603669.372	2813515.370	1497.360
GPS-19	603611.701	2813507.234	1502.392
A-141	603532.575	2813657.491	1519.724

TRAVERS

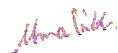
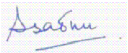
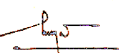
Pt. No.	Easting (m)	Northing (m)	R.L. (m)
A-142	603549.938	2813743.061	1526.572
BM-20/1	603546.003	2813756.713	1527.926
A-143	603588.576	2813809.757	1533.037
A-144	603569.853	2813863.550	1537.105
A-145	603515.092	2813943.821	1539.654
A-146	603465.863	2814041.053	1544.506
BM-20/2	603444.900	2814068.012	1545.557
A-147	603405.821	2814223.752	1554.813
BM-20/3	603396.059	2814232.511	1555.665
A-148	603343.978	2814325.340	1566.680
A-149	603295.839	2814359.715	1572.906
GPS-20	603293.317	2814386.300	1574.140
GPS-20A	603369.83	2814407.252	1575.122
B-1	603378.287	2814399.742	1575.251
B-2	603450.106	2814467.944	1581.469
B-3	603534.239	2814503.544	1584.485
A-4	603625.131	2814619.401	1593.281
B-5	603648.124	2814655.894	1595.719
B-6	603634.501	2814707.650	1597.831
B-7	603581.454	2814726.650	1602.342
BM-21/1	603556.722	2814723.384	1603.580
B-8	603529.232	2814753.901	1604.267
B-9	603441.291	2814801.990	1609.665
B-10	603395.836	2814863.691	1613.100
B-11	603392.783	2814931.436	1615.920
BM-21/2	603366.066	2814928.341	1615.955
B-12	603304.902	2814954.728	1618.116
GPS-21	603261.362	2814915.071	1619.450
B-13	603223.348	2814921.894	1621.119
B-14	603167.620	2814943.650	1620.714
BM-22/1	603157.706	2814955.086	1619.956
B-15	603097.382	2815129.401	1611.005
B-16	603083.189	2815196.110	1608.471
BM-22/2	603081.654	2815213.272	1607.857
B-17	603177.360	2815227.354	1602.878
B-18	603205.793	2815296.942	1601.613
B-19	603222.739	2815359.570	1599.673
B-20	603271.506	2815379.727	1598.992
BM-22/3	603292.944	2815431.304	1597.401
B-21	603359.723	2815521.427	1595.294
GPS-22	603340.404	2815532.948	1595.455
B-22	603309.873	2815573.772	1596.745
B-23	603209.602	2815660.109	1594.860
B-24	603165.353	2815676.992	1595.731
BM-23/1	603158.589	2815664.273	1595.931
B-25	603086.142	2815623.026	1595.548
B-26	602993.511	2815636.460	1588.871
B-27	602911.082	2815628.181	1584.295
BM-23/2	602864.334	2815669.894	1581.924
B-28	602865.078	2815746.915	1579.118
B-29	602853.721	2815822.084	1575.059
B-30	602860.765	2815862.831	1572.847
BM-23/3	602848.064	2815875.030	1572.250
B-31	602853.208	2815907.773	1570.628

TRAVERS

Pt. No.	Easting (m)	Northing (m)	R.L. (m)
B-32	602757.635	2816016.634	1561.709
GPS-23	602751.501	2816022.141	1561.136
B-33	602744.791	2816084.610	1557.287
B-34	602689.059	2816165.308	1550.596
BM-24/1	602683.360	2816202.308	1548.120
B-35	602670.476	2816238.707	1547.917
B-36	602527.360	2816226.780	1543.833
B-37	602513.086	2816177.849	1543.842
BM-24/2	602522.648	2816176.771	1543.635
B-38	602519.282	2816041.978	1542.773
B-39	602544.839	2815983.396	1541.153
BM-24/3	602516.646	2815909.520	1539.011
B-40	602485.776	2815864.118	1538.318
B-41	602479.567	2815796.817	1536.654
B-42	602504.767	2815715.855	1534.775
GPS-24	602502.420	2815655.883	1534.047
B-43	602453.329	2815614.954	1533.250
B-44	602488.511	2815545.685	1535.193
B-45	602451.932	2815493.080	1538.044
B-46	602446.725	2815390.285	1536.785
BM-25/1	602456.037	2815385.409	1537.168
B-47	602411.380	2815302.664	1537.223
B-48	602368.998	2815277.794	1535.652
B-49	602320.706	2815316.778	1532.246
BM-25/2	602234.210	2815324.626	1526.189
B-50	602187.149	2815345.241	1522.944
B-51	602087.603	2815340.183	1524.802
BM-25/3	602049.551	2815358.865	1525.428
B-52	601992.747	2815402.052	1526.635
B-53	601965.271	2815355.186	1529.673
GPS-25	601984.422	2815328.635	1531.190
GPS-25A	602024.022	2815160.109	1539.724
B-54	602013.879	2815125.709	1541.385
B-55	602048.792	2815049.398	1544.317
B-56	602093.385	2815041.299	1546.722
B-57	602085.230	2814928.173	1553.068
BM-26/1	602106.436	2814906.954	1555.309
B-58	602065.141	2814835.551	1562.462
B-59	602039.334	2814740.719	1567.885
A-60	602056.534	2814700.950	1569.457
BM-26/2	602075.173	2814703.509	1569.711
B-61	602195.767	2814672.829	1576.774
B-62	602241.008	2814657.031	1580.299
B-63	602297.147	2814658.932	1583.227
B-64	602290.668	2814616.111	1586.063
GPS-26	602258.312	2814586.914	1588.892
B-65	602211.023	2814576.483	1592.280
BM-27/1	602179.968	2814503.813	1595.690
B-66	602089.121	2814376.257	1605.607
BM-27/2	602014.525	2814374.626	1611.166
B-67	601999.037	2814382.943	1612.279
B-68	601834.007	2814326.704	1623.476
B-69	601797.060	2814356.507	1627.227
B-70	601737.120	2814361.209	1630.901

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	LIST OF CONTROL PILLAR SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092	DWG NO:-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PILLAR			
					DATE: FEB, 2020					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	REVISION MKD. - R0		SHEET NO. - 02 OF 15
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.						DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
REVISIONS										 U. MALIK	 B.DAS	 S.SADHU	 B.KONER

TRAVERS				TRAVERS				TRAVERS			
Pt. No.	Easting (m)	Northing (m)	R.L. (m)	Pt. No.	Easting (m)	Northing (m)	R.L. (m)	Pt. No.	Easting (m)	Northing (m)	R.L. (m)
BM-72/3	601726.689	2814349.860	1632.272	GPS-31	599238.235	2814563.403	1769.130	C-44	598297.851	2817132.955	1719.845
B-71	601689.674	2814368.091	1635.945	BM-32/1	599166.967	2814556.923	1769.209	BM-36/2	598245.966	2817171.450	1723.811
B-72	601687.880	2814316.026	1639.439	C-9	599076.742	2814571.151	1768.308	C-45	598008.313	2817279.852	1743.387
B-73	601688.901	2814245.243	1643.532	C-10	598990.141	2814517.925	1768.347	C-46	597969.703	2817332.349	1746.762
B-74	601640.900	2814235.302	1647.512	BM-32/2	598892.758	2814451.566	1766.763	GPS-36	597911.989	2817348.270	1747.890
B-75	601619.004	2814283.415	1651.480	C-11	598832.451	2814491.624	1767.072	C-47	597864.372	2817372.246	1746.863
B-76	601584.370	2814275.588	1653.197	C-12	598794.985	2814534.010	1766.320	C-48	597873.421	2817469.657	1739.513
GPS-27	601556.285	2814232.410	1656.649	C-13	598687.008	2814597.666	1764.322	BM-37/1	597886.644	2817513.562	1736.536
B-77	601480.836	2814227.352	1660.397	BM-32/3	598658.704	2814632.621	1764.041	C-49	597935.442	2817611.897	1731.725
BM-28/1	601400.389	2814211.273	1661.513	C-14	598646.985	2814659.925	1762.576	C-50	597993.111	2817678.409	1732.969
B-78	601338.834	2814319.937	1663.415	C-15	598587.905	2814721.247	1760.799	C-51	598085.697	2817703.868	1735.860
B-79	601279.881	2814375.695	1663.438	GPS-32	598579.142	2814843.603	1756.851	C-52	598112.114	2817742.885	1735.922
B-80	601252.579	2814479.304	1665.161	C-16	598585.472	2814867.177	1755.787	BM-37/2	598099.931	2817776.174	1736.484
BM-28/2	601232.744	2814495.387	1665.189	BM-33/1	598535.824	2814994.470	1749.281	C-53	598105.783	2817910.200	1736.928
B-81	601068.011	2814618.861	1664.458	C-17	598645.455	2815098.684	1744.122	C-54	598092.507	2817941.052	1736.035
BM-28/3	600991.301	2814754.379	1669.958	C-18	598655.235	2815136.430	1742.878	BM-37/3	598153.543	2817960.336	1735.740
GPS-28	600953.704	2814854.937	1679.522	C-19	598629.185	2815203.142	1739.198	GPS-37	598246.664	2817953.915	1736.797
B-82	600905.390	2814946.821	1686.888	BM-33/2	598640.643	2815264.291	1734.753	C-55	598300.801	2817993.378	1736.537
BM-29/1	600754.486	2815024.027	1697.088	C-20	598649.277	2815285.980	1733.421	C-56	598303.177	2818071.785	1737.483
B-83	600720.894	2815055.388	1699.917	C-21	598628.453	2815393.782	1730.995	C-57	598332.492	2818123.308	1735.893
B-84	600659.999	2815133.196	1708.131	C-22	598651.159	2815467.256	1728.487	BM-38/1	598320.478	2818205.540	1733.276
B-85	600609.059	2815175.884	1714.723	C-23	598724.798	2815565.437	1723.300	C-58	598300.269	2818294.082	1731.543
BM-29/2	600670.492	2815224.503	1720.299	C-24	598683.226	2815615.269	1722.111	BM-38/2	598258.174	2818420.840	1724.851
B-86	600679.309	2815265.790	1723.852	BM-33/3	598658.359	2815620.788	1720.807	C-59	598246.655	2818510.552	1716.589
B-87	600614.810	2815313.639	1729.084	GPS-33	598563.043	2815681.884	1713.159	C-60	598291.963	2818648.867	1706.913
B-88	600599.530	2815458.182	1739.140	C-25	598543.932	2815742.462	1709.750	BM-38/3	598276.579	2818658.408	1705.894
BM-29/3	600533.549	2815478.912	1743.582	C-26	598562.009	2815765.208	1708.094	GPS-38	598227.680	2818703.171	1704.394
B-89	600520.988	2815512.956	1744.794	C-27	598664.795	2815799.960	1700.820	C-61	598261.054	2818891.951	1695.886
GPS-29	600454.013	2815515.484	1747.189	C-28	598740.002	2815794.360	1697.283	BM-39/1	598223.539	2818951.172	1691.618
B-90	600398.418	2815539.337	1748.679	BM-34/1	598730.902	2815800.150	1696.970	C-63	598169.974	2819192.666	1688.352
B-91	600372.009	2815675.887	1748.835	C-29	598758.565	2815856.797	1695.010	C-64	598208.833	2819195.157	1687.785
BM-30/1	600368.392	2815660.400	1748.511	C-30	598748.201	2815929.773	1691.986	C-65	598294.663	2819094.293	1684.396
B-92	600330.598	2815669.221	1749.639	C-31	598725.479	2815991.469	1691.353	BM-39/2	598308.062	2819098.476	1684.296
B-93	600198.051	2815684.888	1749.842	BM-34/2	598734.997	2816076.994	1688.262	A-66	598487.130	2819089.125	1680.531
B-94	600190.194	2815647.001	1750.630	C-32	598742.830	2816092.131	1687.658	A-67	598560.747	2819109.063	1677.584
BM-30/2	600181.518	2815611.627	1750.874	C-33	598800.223	2816146.622	1683.454	BM-39/3	598569.104	2819127.919	1676.617
B-95	600119.085	2815477.551	1753.578	C-34	598851.587	2816169.506	1679.441	C-68	598602.946	2819143.159	1674.048
BM-30/3	600105.424	2815363.278	1759.833	C-35	598921.869	2816231.373	1671.733	C-69	598680.026	2819118.282	1667.795
B-96	600059.623	2815307.446	1761.175	BM-34/3	598923.142	2816245.735	1671.224	GPS-39	598687.644	2819092.031	1666.539
B-97	600033.556	2815254.345	1759.894	C-36	599008.218	2816322.211	1664.425	BM-40/1	598712.998	2818934.093	1656.037
B-98	600060.116	2815166.430	1757.630	C-37	599010.693	2816413.402	1662.128	C-70	598774.015	2818889.143	1651.894
B-99	599933.427	2815056.874	1757.656	GPS-34	599024.553	2816439.657	1660.779	C-71	598871.784	2818931.014	1646.275
GPS-30	599871.957	2815033.583	1756.779	C-38	599067.517	2816460.073	1656.455	BM-40/2	598971.120	2818916.601	1641.441
GPS-30A	599768.652	2815059.140	1757.135	BM-35/1	599077.942	2816483.313	1654.282	C-72	598971.546	2818827.877	1636.189
C-1	599761.669	2815065.309	1757.402	BM-35/2	599227.697	2816661.276	1644.049	BM-40/3	599022.295	2818831.251	1634.250
C-2	599665.880	2815073.428	1756.701	C-39	599235.331	2816676.743	1643.762	C-73	599096.254	2818798.780	1631.256
C-3	599630.441	2815031.684	1757.829	BM-35/3	599073.258	2816762.615	1659.126	GPS-40	599130.224	2818832.785	1629.770
BM-31/1	599616.236	2814990.936	1757.929	GPS-35	599026.438	2816754.657	1663.123	GPS-40A	599197.348	2818831.292	1627.491
C-4	599530.515	2814856.520	1760.943	GPS-35A	598892.950	2816804.742	1668.570	D1	599241.414	2818805.915	1627.465
C-5	599501.518	2814766.266	1763.039	C-40	598866.416	2816845.023	1669.175	D-2	599244.668	2818760.216	1629.89
C-6	599501.079	2814724.455	1763.857	C-41	598777.323	2816850.689	1676.207	D-3	599238.06	2818723.856	1630.3
BM-31/2	599479.318	2814705.814	1764.256	BM-31/1	598608.475	2816954.138	1692.275	D-4	599316.837	2818666.418	1618.606
C-7	599412.567	2814686.189	1764.207	C-42	598414.565	2817010.700	1707.484	D-5	599330.021	2818725.867	1618.394
C-8	599356.743	2814627.617	1766.440	C-43	598351.335	2817106.097	1714.785	BM-41/1	599339.722	2818756.93	1617.283

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	LIST OF CONTROL PILLAR	CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company 124-A, N.S.C. Bose Road, Kolkata - 700092	DWG NO:-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PILLAR			
					REVISION MKD. - R0					SHEET NO. - 03 OF 15			
					DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.				 U. MALIK	 B.DAS	 S.SADHU	 B.KONER		
REVISIONS													

TRAVERS

Pt. No.	Easting (m)	Northing (m)	R.L. (m)
D-6	599355.873	2818783.157	1615.957
D-7	599393.508	2818905.849	1610.688
D-8	599414.252	2818981.527	1609.466
BM-41/2	599407.957	2818987.302	1609.452
D-9	599404.046	2819028.735	1608.54
D-10	599362.59	2819126.884	1602.691
D-11	599297.294	2819200.893	1598.718
D-12	599246.61	2819268.707	1591.589
GPS-41	599241.691	2819333.786	1587.455
D-13	599317.243	2819377.251	1584.515
D-14	599321.859	2819420.059	1583.86
BM-42/1	599323.629	2819457.342	1581.643
D-15	599433.154	2819521.849	1575.273
BM-42/2	599483.805	2819528.386	1573.615
D-16	599561.038	2819515.452	1571.322
BM-42/3	599655.974	2819558.658	1568.723
D-17	599760.657	2819492.694	1565.883
D-18	599840.29	2819489.258	1563.214
D-19	599869.341	2819469.448	1562.184
GPS-42	599966.016	2819468.257	1558.493
D-20	599986.135	2819453.618	1557.907
D21	600052.678	2819445.16	1556.945
D-22	600111.738	2819391.634	1553.89
BM-43/1	600138.431	2819396.174	1553.319
D-23	600165.292	2819385.485	1552.08
D-24	600218.431	2819382.99	1548.7
D-25	600275.051	2819340.782	1545.9
BM-43/2	600340.899	2819325.152	1542.396
D-26	600343.948	2819317.543	1542.622
D-27	600416.431	2819384.659	1541.497
BM-43/3	600419.139	2819402.609	1541.209
D-28	600477.09	2819462.288	1543.386
D-29	600482.273	2819525.628	1542.063
D-30	600466.592	2819590.23	1541.421
D-31	600444.334	2819654.129	1537.681
D-32	600411.465	2819735.565	1530.685
D-33	600421.321	2819760.792	1529.578
GPS-43	600409.832	2819765.777	1529.005
D-34	600371.958	2819836.891	1525.847
D-35	600312.778	2819929.649	1518.194
BM-44/1	600245.012	2819987.287	1509.564
D-36	600235.171	2820014.083	1507.714
D-37	600178.476	2820149.387	1500.574
D-38	600183.198	2820223.9	1499.789
BM-44/2	600176.88	2820234.446	1499.411
D-39	600216.461	2820369.428	1492.563
BM-44/3	600235.777	2820390.556	1490.82
D-40	600326.231	2820459.055	1484
D-41	600436.077	2820543.896	1472.653
GPS-44	600491.664	2820591.178	1466.51
D-42	600553.656	2820615.565	1461.478
D-43	600595.67	2820749.684	1459.143
BM-45/1	600531.68	2820712.653	1457.146
D-44	600412.754	2820672.634	1448.806

TRAVERS

Pt. No.	Easting (m)	Northing (m)	R.L. (m)
BM-45/2	600350.075	2820662.941	1446.533
D-45	600229.03	2820661.262	1439.541
D-46	600169.015	2820671.673	1436.355
BM-45/3	600152.377	2820665.854	1435.447
GPS-45	600035.366	2820652.786	1424.7
GPS-45A	599940.527	2820608.656	1422.411
D-47	599853.011	2820586.872	1417.437
D-48	599754.824	2820545.422	1412.506
D-49	599517.789	2820505.827	1411.535
BM-46/1	599474.879	2820478.818	1413.699
D-50	599447.235	2820482.761	1415.023
D-51	599371.952	2820496.517	1413.762
D-52	599329.093	2820610.205	1415.809
BM-46/2	599321.886	2820672.731	1413.948
D-53	599236.180	2820656.525	1418.682
D-54	599213.237	2820703.290	1421.137
GPS-46	599194.096	2820726.467	1422.241
D-55	599127.420	2820794.633	1421.970
D-56	599102.636	2820727.142	1423.807
BM-47/1	599052.399	2820736.714	1423.277
D-57	599041.618	2820791.318	1423.775
D-58	598934.409	2820725.002	1427.986
D-59	598812.723	2820698.242	1435.771
BM-47/2	598782.630	2820704.258	1438.290
D-60	598755.478	2820831.225	1443.176
BM-47/3	598720.874	2820895.217	1444.111
D-61	598702.800	2820949.666	1445.130
D-62	598688.570	2820997.987	1446.075
D-63	598644.492	2821021.290	1446.169
GPS-47	598627.229	2821056.309	1446.947
D-64	598574.453	2821143.067	1450.186
BM-48/1	598527.591	2821205.446	1456.869
D-65	598423.648	2821242.947	1460.840
D-66	598385.405	2821329.586	1462.999
BM-48/2	598378.173	2821340.285	1463.301
D-67	598369.736	2821423.086	1468.175
D-68	598303.934	2821517.051	1470.592
BM-48/3	598246.981	2821525.176	1473.988
D-69	598114.482	2821651.066	1488.454
BM-48/4	598156.560	2821683.584	1486.362
GPS-48	598232.352	2821688.268	1482.488
D-70	598310.094	2821672.282	1477.629
D-71	598409.090	2821713.670	1471.302
BM-49/1	598427.916	2821748.225	1469.917
D-72	598470.638	2821790.857	1468.936
D-73	598495.275	2821806.018	1467.962
BM-49/2	598523.356	2821931.786	1463.300
D-74	598576.173	2822042.612	1461.949
D-75	598646.681	2822151.035	1461.467
D-76	598711.699	2822240.019	1464.712
D-77	598731.038	2822297.356	1467.007
D-78	598763.164	2822283.976	1466.607
GPS-49	598780.230	2822252.060	1467.004
D-79	598873.381	2822234.304	1469.779

TRAVERS

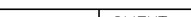
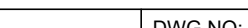
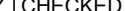
Pt. No.	Easting (m)	Northing (m)	R.L. (m)
BM-50/1	598869.732	2822251.375	1470.281
D-80	598924.272	2822306.504	1470.427
D-81	598969.319	2822302.553	1470.145
D-82	599076.932	2822319.666	1468.102
BM-50/2	599112.015	2822365.753	1470.973
D-83	599189.518	2822371.529	1472.851
D-84	599228.852	2822413.882	1473.113
BM-50/3	599311.230	2822438.344	1470.649
D-85	599419.961	2822532.748	1465.441
D-86	599520.682	2822595.340	1464.455
GPS-50	599522.934	2822610.773	1463.964
GPS-50A	599293.429	2822599.252	1455.144
E-1	599220.559	2822591.985	1454.954
BM-51/1	599156.272	2822595.735	1455.908
E-2	599016.315	2822635.581	1459.916
E-3	598928.041	2822668.822	1469.431
BM-51/2	598877.888	2822661.761	1474.398
E-4	598813.208	2822695.760	1479.371
BM-51/3	598745.611	2822718.601	1482.745
GPS-51	598711.185	2822778.738	1484.680
E-5	598677.258	2822895.001	1484.859
BM-52/1	598693.297	2822993.042	1484.811
E-6	598690.238	2823087.511	1479.376
E-7	598707.971	2823250.214	1468.869
E-8	598697.391	2823320.171	1466.670
BM-52/2	598705.256	2823370.170	1466.039
E-9	598733.862	2823418.594	1465.122
E-10	598732.683	2823471.294	1465.701
E-11	598763.339	2823513.362	1465.146
BM-52/3	598735.418	2823530.126	1464.301
GPS-52	598754.310	2823608.064	1464.396
E-12	598767.613	2823705.054	1465.202
E-13	598787.543	2823768.504	1467.682
E-14	598744.995	2823808.326	1471.724
BM-53/1	598681.234	2823762.442	1476.324
E-15	598648.129	2823745.826	1478.535
E-16	598628.569	2823669.513	1481.129
E-17	598599.415	2823639.031	1482.532
BM-53/2	598540.866	2823610.537	1485.952
E-18	598488.845	2823624.571	1488.889
E-19	598440.196	2823583.414	1493.299
E-20	598419.705	2823536.151	1497.874
E-21	598421.316	2823492.644	1502.121
E-22	598363.570	2823465.101	1509.387
BM-53/3	598347.952	2823406.958	1515.578
E-23	598306.117	2823392.485	1517.681
GPS-53	598302.192	2823330.846	1520.222
E-24	598205.294	2823340.261	1519.394
E-25	598090.345	2823307.881	1524.942
E-26	598098.735	2823280.139	1527.209
BM-54/1	598109.697	2823283.568	1528.064
E-27	598177.118	2823137.919	1542.028
BM-54/2	598183.154	2823051.860	1550.737
E-28	598060.963	2823015.895	1562.453

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	LIST OF CONTROL PILLAR	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092	DWG NO:-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PILLAR			
					DATE: FEB, 2020					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	REVISION MKD. - R0	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.									
REVISIONS													

Pt. No.	Easting (m)	Northing (m)	R.L. (m)
E-29	598005.524	2822978.351	1566.495
BM-54/3	597987.534	2822916.996	1572.669
E-30	597876.129	2822877.022	1581.272
E-31	597789.666	2822806.799	1588.949
GPS-54	597787.737	2822781.719	1590.773
E-32	597787.941	2822749.088	1593.777
E-33	597818.037	2822696.140	1599.725
E-34	597749.888	2822625.393	1608.978
BM-55/1	597752.338	2822611.916	1609.525
E-35	597682.139	2822616.735	1617.948
E-36	597623.749	2822594.234	1622.435
E-37	597598.016	2822615.747	1625.124
E-38	597576.722	2822673.132	1630.116
BM-55/2	597543.486	2822698.618	1633.645
E-39	597517.912	2822764.608	1637.542
E-40	597375.083	2822867.866	1648.914
E-41	597317.417	2822890.983	1654.520
BM-55/3	597289.037	2822925.199	1657.187
E-42	597237.197	2822987.145	1663.559
GPS-55	597212.444	2823000.310	1665.761
GPS-55A	597104.950	2823026.721	1674.059
E-43	596964.464	2823065.405	1688.810
BM-56/1	596905.997	2823063.375	1690.615
E-44	596872.874	2822986.428	1695.280
E-45	596845.415	2822906.807	1696.143
BM-56/2	596848.937	2822844.245	1696.874
E-46	596818.441	2822794.045	1698.981
E-47	596719.320	2822751.457	1697.389
E-48	596630.967	2822694.683	1690.822
BM-56/3	596618.524	2822654.635	1687.229
E-49	596592.100	2822605.857	1683.042
GPS-56	596606.505	2822566.101	1681.888
E-50	596603.223	2822503.555	1682.468
E-51	596573.732	2822503.553	1683.849
E-52	596452.379	2822587.802	1694.234
BM-57/1	596435.221	2822594.796	1696.504
E-53	596248.795	2822585.845	1709.539
E-54	596226.285	2822552.302	1710.735
E-55	596193.625	2822464.227	1714.248
BM-57/2	596176.999	2822439.571	1714.802
E-56	596079.066	2822322.817	1713.679
BM-57/3	596072.612	2822303.327	1714.090
E-57	596009.774	2822288.779	1711.721
GPS-57	595982.316	2822210.904	1713.422
E-58	595949.652	2822225.937	1713.412
E-59	595931.861	2822350.554	1710.221
BM-58/1	595883.502	2822472.897	1707.878
BM-58/2	595786.935	2822584.629	1716.310
E-60	595685.988	2822730.677	1715.378
E-61	595690.127	2822794.018	1713.588
E-60	595685.982	2822730.681	1715.387
BM-58/3	595728.000	2822882.601	1711.224
E-62	595790.723	2822960.401	1712.012
GPS-58	595798.634	2823001.847	1711.893

Pt. No.	Easting (m)	Northing (m)	R.L. (m)
BM-59/1	595829.450	2823187.347	1711.836
E-63	595891.419	2823285.496	1712.330
BM-59/2	595858.844	2823384.068	1712.036
E-64	595861.308	2823466.726	1709.585
E-65	595787.991	2823588.767	1708.036
BM-59/3	595771.888	2823627.312	1707.319
E-66	595712.913	2823790.036	1705.203
GPS-59	595694.321	2823811.486	1705.864
E67	595628.473	2823959.211	1713.546
E68	595574.272	2824004.893	1719.668
BM60/1	595573.041	2824036.750	1721.724
E69	595612.287	2824124.071	1728.802
E70	595573.733	2824159.548	1730.320
BM60/2	595562.719	2824194.016	1730.873
E71	595565.627	2824316.377	1727.986
E72	595497.937	2824422.630	1728.449
BM60/3	595482.056	2824436.109	1729.078
E73	595446.627	2824541.307	1733.853
E74	595429.271	2824603.791	1732.685
GPS-60	595411.753	2824622.601	1732.535
GPS-60A	595316.779	2824728.188	1730.348
F-1	595259.905	2824773.892	1727.081
F-2	595118.604	2824815.567	1721.307
F-3	595013.643	2824830.332	1718.665
BM-61/1	594911.044	2824866.509	1714.693
F-4	594877.747	2824926.143	1712.732
F-5	594819.476	2824944.917	1711.099
F-6	594755.655	2824929.354	1705.706
F-7	594659.150	2824845.209	1693.767
F-8	594616.226	2824829.602	1689.232
BM-61/2	594611.259	2824814.075	1688.092
F-9	594559.863	2824794.008	1685.110
F-10	594527.309	2824740.312	1683.368
GPS-61	594509.378	2824732.223	1683.254
GPS-61	594509.378	2824732.223	1683.254
F-11	594431.150	2824838.921	1687.924
F-12	594348.266	2824881.674	1689.095
BM-62/1	594323.277	2824887.592	1689.543
F-13	594251.982	2824905.019	1688.417
F-14	594145.169	2824893.376	1688.333
BM-62/2	594079.387	2824899.390	1687.960
F-15	593913.871	2824901.668	1690.368
F-16	593836.083	2824930.894	1691.231
BM-62/3	593823.312	2824926.865	1690.499
F-17	593726.336	2824854.592	1689.599
GPS-62	593675.577	2824776.453	1691.335
GPS62T	593675.577	2824776.453	1691.335
F18	593586.756	2824698.990	1696.488
BM63/1	593595.510	2824649.592	1701.535
F19	593566.679	2824579.488	1708.266
F20	593487.416	2824608.338	1712.311
BM63/2	593465.624	2824562.628	1715.250
F21	593451.278	2824527.808	1718.622
F22	593397.387	2824515.265	1723.042

Pt. No.	Easting (m)	Northing (m)	R.L. (m)
F23	593321.123	2824465.226	1727.309
F24	593264.853	2824365.035	1732.907
GPS63	593256.523	2824240.477	1741.956
GPS63T	593256.523	2824240.477	1741.956
F-25	593233.165	2824211.443	1745.418
F-26	593246.057	2824091.487	1756.181
F-27	593271.839	2824038.622	1760.548
F-28	593310.418	2824006.267	1764.627
BM-64/1	593305.223	2823936.592	1769.348
BM-64/2	593226.094	2823773.618	1785.509
F-29	593070.849	2823643.374	1801.880
F-30	593023.159	2823624.664	1806.537
BM-64/3	593026.282	2823613.807	1806.879
F-31	592998.307	2823598.912	1809.704
F-32	592982.774	2823544.030	1814.663
F-33	592982.780	2823489.322	1821.194
BM-64/4	592978.487	2823471.028	1823.567
F-34	592950.665	2823442.286	1826.973
GPS-64	592907.498	2823490.841	1833.039
F35	592860.537	2823521.882	1838.293
F36	592750.746	2823470.169	1844.761
BM65/1	592739.085	2823451.085	1846.615
F37	592690.472	2823416.963	1851.362
BM65/2	592661.474	2823330.010	1856.718
F38	592617.427	2823267.427	1862.290
F39	592617.546	2823197.482	1866.366
F40	592570.377	2823103.211	1873.371
BM65/3	592577.480	2823082.662	1873.775
F41	592574.426	2822975.617	1878.778
F42	592563.870	2822873.071	1883.798
GPS65	592612.512	2822782.983	1885.780
GPS--65A	592594.546	2822588.628	1891.088
F-43	592583.676	2822489.819	1891.813
F-44	592668.734	2822265.667	1891.343
BM-66/1	592637.970	2822253.434	1890.107
F-45	592474.034	2822363.468	1884.913
BM-66/2	592425.492	2822369.571	1886.768
F-46	592363.740	2822385.306	1888.709
GPS-66	592223.385	2822370.052	1895.212
F-47	592122.685	2822387.950	1902.622
BM-67/1	592039.695	2822411.535	1906.281
F-48	591916.096	2822423.192	1913.247
BM-67/2	591823.604	2822374.102	1917.403
F-49	591614.615	2822375.790	1922.474
F-50	591582.576	2822435.448	1929.167
F-51	591564.391	2822479.929	1931.514
GPS-67	591548.755	2822487.947	1931.695
F-52	591530.414	2822539.984	1930.986
BM-68/1	591510.333	2822588.313	1928.600
F-53	591471.588	2822646.354	1925.496
F-54	591339.122	2822659.606	1926.201
BM-68/2	591303.653	2822667.961	1927.916
F-55	591249.103	2822699.866	1929.189
F-56	591205.240	2822683.147	1929.057

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PT1 Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	LIST OF CONTROL PILLAR	CONSULTANT :  CETEST Engineering Consultants AN ISO 9001, 14001 & OHSAS 18001 Certified Company	CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092. 	DWG NO.-:CET/4046/NHIDCL/NH-129A/M-P/FDPR/PILLAR			
											REVISION MKD. - R0		SHEET NO. - 05 OF 15	
											DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT				 U. MALIK	 B.DAS	 S.SADHU	 B.KONER
REVISIONS														

TRAVERS

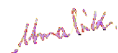
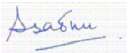
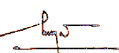
Pt. No.	Easting (m)	Northing (m)	R.L. (m)
F-57	591155.613	2822693.823	1929.315
BM-68/3	591119.758	2822660.879	1932.062
F-58	591013.449	2822725.832	1942.539
F-59	590915.198	2822742.894	1949.740
BM-68/4	590863.117	2822802.035	1953.536
F-60	590875.230	2822917.373	1962.544
GPS-68	590861.108	2822964.527	1965.383
F-61	590858.602	2823015.816	1967.852
F-62	590834.098	2823093.170	1972.114
F-63	590797.664	2823096.683	1974.055
BM-69/1	590689.619	2822945.373	1977.738
F-64	590594.696	2822882.029	1985.671
BM-69/2	590498.929	2822929.932	1995.371
F-65	590480.558	2823049.933	2003.619
BM-69/3	590411.438	2823054.947	2008.402
F-66	590303.515	2823051.547	2013.821
F-67	590180.817	2823024.439	2015.276
GPS-69	590137.222	2823025.281	2019.942
BSF-67	590180.825	2823024.463	2015.279
F-68	590100.983	2823046.695	2024.750
BM-70/1	590032.370	2823127.030	2031.511
F-69	589938.963	2823148.325	2038.833
BM-70/2	589878.948	2823104.707	2045.031
F-70	589816.030	2823111.454	2049.450
F-71	589730.187	2823078.981	2049.569
BM-70/3	589704.750	2823035.947	2048.248
F-72	589618.096	2823018.529	2043.443
F-73	589483.435	2822988.903	2030.888
GPS-70	589454.568	2822920.733	2023.653
GPS-70A	589510.477	2822819.007	2017.471
G-1	589572.756	2822695.929	2008.368
BM-71/1	589567.907	2822689.977	2007.950
G-2	589645.622	2822519.603	1995.811
G-3	589665.076	2822488.053	1993.458
BM-71/2	589665.184	2822451.200	1990.407
G-4	589691.717	2822349.776	1982.389
BM-71/3	589686.803	2822251.111	1974.543
G-5	589686.278	2822134.583	1965.026
GPS-71	589669.590	2822014.434	1954.029
G-6	589665.135	2821936.875	1947.129
G-7	589626.346	2821823.506	1933.349
BM-72/1	589612.551	2821788.101	1930.360
G-8	589600.878	2821782.716	1928.278
G-9	589615.923	2821923.803	1923.364
BM-72/2	589581.795	2822101.782	1912.940
G-10	589593.247	2822175.528	1911.360
G-11	589570.712	2822277.454	1908.632
G-12	589538.412	2822287.177	1907.286
G-13	589570.171	2822237.299	1903.843
BM-72/3	589563.783	2822232.619	1903.483
G-14	589564.217	2822167.068	1897.752
GPS-72	589557.231	2822166.582	1897.691
G-15	589509.156	2822052.751	1888.622
G-16	589466.515	2821990.052	1882.451

TRAVERS

Pt. No.	Easting (m)	Northing (m)	R.L. (m)
G-17	589466.045	2821813.697	1866.328
G-18	589482.398	2821765.194	1862.487
BM-73/1	589467.040	2821744.255	1860.495
G-19	589450.925	2821696.788	1855.878
G-20	589349.012	2821616.503	1844.584
G-21	589349.122	2821583.587	1841.924
G-22	589373.668	2821540.579	1837.164
BM-73/2	589363.067	2821545.747	1838.171
G-23	589354.182	2821426.638	1826.444
BM-73/3	589349.319	2821421.107	1826.204
G-24	589299.856	2821427.146	1822.017
G-25	589289.507	2821460.867	1819.971
GPS-73	589323.580	2821483.239	1819.343
G-26	589283.805	2821483.113	1814.563
G-27	589236.731	2821420.664	1806.549
G-28	589214.867	2821366.270	1800.719
BM-74/1	589197.859	2821407.865	1797.953
G-29	589232.920	2821564.111	1785.208
G-30	589171.199	2821561.862	1778.915
G-31	589096.275	2821531.026	1768.087
BM-74/2	589081.720	2821540.606	1766.199
G-32	589080.223	2821621.973	1759.505
G-33	589039.845	2821656.889	1755.549
G-34	589022.446	2821731.834	1749.585
BM-74/3	589024.367	2821737.095	1749.963
G-35	588995.848	2821712.097	1746.056
G-36	588968.183	2821591.789	1731.621
GPS-74	588955.902	2821580.169	1730.150
G37	588902.744	2821479.247	1718.291
G38	588847.901	2821337.757	1706.906
BM75/1	588845.981	2821305.531	1705.554
G39	588826.301	2821279.242	1703.192
G40	588754.190	2821272.379	1695.639
G41	588723.938	2821228.719	1689.486
BM75/2	588625.379	2821237.578	1675.684
G42	588583.596	2821233.672	1670.049
G43	588523.025	2821213.799	1663.713
BM75/3	588461.842	2821261.368	1656.397
G44	588457.953	2821313.783	1653.119
GPS75	588508.284	2821424.179	1651.669
GPS-75A	588496.320	2821476.840	1650.797
G45	588457.591	2821451.408	1649.600
G46	588415.280	2821398.722	1644.934
G47	588349.670	2821346.007	1636.300
G48	588291.307	2821316.572	1632.260
BM76/1	588264.950	2821323.276	1630.740
G49	588232.760	2821366.800	1628.050
G50	588175.670	2821353.088	1624.826
G51	588099.453	2821384.457	1618.619
G52	588079.822	2821438.694	1616.376
BM76/2	588090.475	2821465.121	1616.669
G53	588169.749	2821522.712	1618.476
G54	588235.345	2821532.859	1623.335
BM76/3	588292.675	2821606.333	1628.040

TRAVERS

Pt. No.	Easting (m)	Northing (m)	R.L. (m)
G55	588330.302	2821622.236	1628.286
GPS76	588351.875	2821708.805	1633.211
G56	588371.150	2821728.458	1633.673
G57	588331.197	2821789.578	1635.298
G58	588349.487	2821830.250	1637.306
G59	588332.084	2821878.078	1639.973
G60	588366.609	2821918.166	1643.135
BM77/1	588324.179	2821939.959	1642.770
G61	588326.207	2821957.174	1643.098
G62	588354.151	2821997.508	1645.399
G62	588399.347	2822046.653	1647.315
G64	588327.224	2822119.996	1645.628
BM77/2	588282.100	2822103.028	1644.003
G65	588213.098	2822144.164	1638.514
G66	588069.010	2822146.300	1627.541
BM77/3	588061.290	2822131.298	1626.323
G67	588014.936	2822105.368	1622.414
G68	587948.967	2822026.646	1617.519
GPS77	587926.788	2822018.665	1615.941
G69	587832.591	2822076.863	1606.801
G70	587798.590	2822151.187	1598.672
BM78/1	587842.023	2822180.578	1594.517
G71	587862.036	2822191.483	1593.639
G72	587868.187	2822325.855	1588.350
G73	587899.934	2822358.326	1588.526
G74	587873.311	2822419.094	1591.041
BM78/2	587902.465	2822474.953	1595.720
G75	587968.849	2822566.239	1607.541
G76	588006.810	2822589.746	1611.448
G77	588002.773	2822631.294	1614.718
BM78/3	588031.602	2822654.128	1618.448
G78	588058.662	2822719.490	1623.833
GPS78	588033.845	2822730.947	1623.033
G79	587982.664	2822773.586	1624.311
G80	587995.947	2822901.391	1629.550
G81	587992.577	2822937.045	1630.971
G82	588011.746	2823002.647	1632.721
G83	588032.383	2823044.302	1631.910
BM79/1	587991.459	2823068.640	1628.534
G84	587965.218	2823083.287	1626.910
G85	587914.650	2823084.943	1624.506
G86	587836.776	2823066.677	1621.520
BM79/2	587769.053	2823089.392	1620.260
G87	587747.833	2823157.683	1620.143
G88	587697.182	2823218.566	1620.013
BM79/3	587658.125	2823252.886	1620.381
G89	587647.149	2823318.381	1620.464
G90	587686.051	2823388.847	1617.567
GPS79	587713.351	2823549.093	1607.704
G91	587667.253	2823641.746	1602.324
BM80/1	587585.750	2823701.300	1603.497
G92	587510.298	2823762.496	1601.499
BM80/2	587434.002	2823800.795	1598.778
G93	587361.651	2823836.374	1596.286

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	LIST OF CONTROL PILLAR	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO:-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PILLAR				
										REVISION MKD. - R0		SHEET NO. - 06 OF 15		
										DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY	
MKD.					DATE	DESCRIPTION	CHKD.	APPRD.						
REVISIONS														

TRAVERS

Pt. No.	Easting (m)	Northing (m)	R.L. (m)
G94	587333.754	2823925.836	1592.709
BM80/3	587254.647	2823969.521	1586.946
G95	587235.396	2824035.089	1585.389
G96	587174.529	2824138.992	1580.634
GPS80	587091.123	2824182.049	1577.595
GPS-80A	587006.958	2824207.151	1575.164
H-1	586956.139	2824226.013	1574.428
H-2	586947.364	2824319.183	1573.874
H-3	586892.602	2824389.225	1573.201
H-4	586875.636	2824442.731	1572.938
BM-81/1	586864.402	2824454.489	1573.262
H-5	586860.061	2824498.251	1571.495
H-6	586826.799	2824551.950	1568.688
H-7	586719.312	2824565.649	1562.292
H-8	586647.425	2824538.943	1557.405
BM-81/2	586633.757	2824518.251	1555.769
H-9	586544.494	2824509.924	1550.445
H-10	586438.126	2824585.583	1545.460
BM-81/3	586395.808	2824547.624	1543.813
H-11	586345.962	2824574.381	1541.134
H-12	586266.057	2824540.812	1536.115
GPS-81	586204.766	2824424.269	1528.668
H-13	586141.147	2824385.816	1524.151
H-14	586086.474	2824424.821	1522.359
H-15	586079.020	2824473.456	1520.398
BM-82/1	586061.268	2824474.363	1519.660
H-16	586029.261	2824491.453	1518.285
H-17	585990.811	2824431.537	1514.711
H-18	585989.101	2824346.972	1507.607
BM-82/2	585978.445	2824297.344	1504.666
H-19	585959.300	2824235.509	1500.093
H-20	585900.705	2824220.653	1495.946
H-21	585899.602	2824139.499	1487.819
GPS-82	585904.883	2824110.037	1485.022
H-22	585882.056	2824079.240	1481.161
H-23	585878.007	2824018.063	1476.157
H-24	585891.376	2823953.633	1471.324
BM-83/1	585851.145	2823895.640	1466.476
H-25	585811.141	2823901.199	1464.193
H-26	585714.328	2823925.539	1458.577
H-27	585678.118	2823895.681	1454.558
H-28	585625.111	2823907.142	1449.669
H-29	585598.857	2823895.962	1447.583
H-30	585613.758	2823846.309	1442.398
BM-83/2	585614.396	2823820.676	1441.221
H-31	585614.339	2823791.522	1440.204
H-32	585643.682	2823760.388	1438.572
H-33	585675.708	2823708.118	1435.916
BM-83/3	585701.676	2823694.497	1434.969

TRAVERSE

Pt. No.	Easting (m)	Northing (m)	R.L. (m)
H-34	585707.443	2823603.389	1434.907
H-35	585706.367	2823478.851	1432.463
GPS-83T	585713.526	2823468.285	1432.639
GPS-83T	585713.526	2823468.285	1432.639
H-36	585705.220	2823339.043	1430.911
H-37	585639.879	2823302.149	1428.180
BM-84/1	585607.827	2823297.977	1426.382
H-38	585545.815	2823313.365	1421.099
H-39	585322.630	2823247.117	1404.510
BM-84/2	585316.191	2823238.166	1404.640
H-40	585236.345	2823247.625	1401.321
H-41	585182.644	2823229.265	1398.699
H-42	585162.758	2823209.668	1396.585
BM-84/3	585182.679	2823172.622	1394.457
B-43	585214.159	2823093.387	1392.177
H-44	585192.849	2822951.237	1386.692
GPS-84	585208.102	2822937.093	1386.357
H-45	585223.291	2822886.192	1386.479
H-46	585126.438	2822895.873	1386.267
BM-85/1	585123.351	2822864.236	1384.789
H-47	585129.768	2822742.771	1378.485
BM-85/2	585139.367	2822562.211	1370.570
H-48	585121.705	2822443.146	1364.296
BM-85/3	585059.891	2822324.760	1359.065
H-49	585034.699	2822281.806	1358.142
H-50	585001.732	2822170.134	1357.976
H-51	584978.782	2822168.499	1358.019
BM-85	584916.300	2822223.002	1359.791
GPS-85A	584771.493	2822227.654	1361.824
H-52	584733.686	2822253.756	1361.683
H-53	584661.307	2822153.454	1360.757
H-54	584669.516	2822059.424	1363.151
BM-86/1	584709.692	2822011.830	1363.168
H-55	584730.783	2821969.375	1362.246
H-56	584714.812	2821892.114	1360.140
BM-86/2	584646.499	2821756.042	1357.533
H-57	584577.678	2821778.290	1354.657
H-58	584538.393	2821715.835	1350.135
GPS-86	584537.694	2821694.695	1349.116
H-59	584511.183	2821627.712	1344.886
H-60	584505.023	2821523.220	1338.464
H-61	584495.597	2821446.384	1336.968
H-62	584451.449	2821423.137	1336.558
BM-87/1	584439.028	2821424.604	1336.366
H-63	584414.551	2821474.625	1335.188
H-64	584346.079	2821503.658	1332.257
H-65	584304.929	2821461.541	1329.545
BM-87/2	584307.983	2821453.335	1329.548
H-66	584282.420	2821407.098	1326.756
H-67	584273.645	2821362.520	1324.442
H-68	584292.112	2821324.693	1321.356
H-69	584309.402	2821275.334	1317.095

TRAVERSE

Pt. No.	Easting (m)	Northing (m)	R.L. (m)
H-70	584343.681	2821244.100	1312.572
BM-87/3	584361.977	2821213.116	1309.008
H-71	584359.498	2821181.550	1306.477
H-72	584293.252	2820998.796	1294.286
GPS-87	584272.395	2820966.041	1293.008
H-73	584227.893	2820921.712	1287.972
H-74	584190.037	2820856.533	1281.055
BM-88/1	584181.501	2820829.879	1278.519
H-75	584151.682	2820765.145	1271.835
H-76	584117.643	2820671.554	1265.893
H-77	584089.706	2820561.926	1261.922
H-78	584060.260	2820506.572	1261.987
BM-88/2	584066.705	2820491.007	1261.784
H-79	584063.260	2820455.541	1260.668
H-80	584047.498	2820372.994	1255.851
H-81	584077.644	2820322.267	1251.073
BM-88/3	584113.774	2820298.434	1248.257
H-82	584193.116	2820222.077	1238.828
GPS-88	584209.063	2820159.656	1234.437
H-83	584131.709	2820106.697	1231.287
H-84	584049.700	2820167.813	1231.247
BM-89/1	584035.107	2820160.850	1231.153
H-85	583991.197	2820160.932	1229.993
H-86	583899.218	2820086.532	1226.215
H-87	583857.239	2820033.235	1226.523
BM-89/2	583814.991	2819993.029	1225.491
H-88	583762.406	2819991.466	1224.264
H-89	583666.658	2819914.143	1218.786
BM-89/3	583614.983	2819871.240	1215.943
H-90	583534.426	2819815.462	1212.342
H-91	583499.132	2819744.274	1212.654
H-92	583466.352	2819687.183	1211.783
GPS-89	583473.322	2819678.766	1211.687
H-93	583456.940	2819622.085	1211.662
H-94	583350.334	2819529.529	1213.939
BM-90/1	583323.394	2819487.175	1215.309
H-95	583286.482	2819458.796	1215.427
H-96	583226.299	2819390.234	1214.826
H-97	583182.156	2819313.013	1213.886
BM-90/2	583184.080	2819303.630	1214.064
H-98	583129.876	2819227.154	1217.264
H-99	583095.366	2819146.559	1221.025
H-100	583055.738	2819148.218	1221.690
BM-90/3	583029.128	2819173.094	1221.232
H-101	583033.309	2819179.324	1221.345
H-102	583008.819	2819231.233	1219.916
H-103	583031.723	2819336.017	1219.134
H-104	583052.847	2819406.842	1221.192
GPS-90	583045.540	2819449.396	1223.025
GPS-90A	583011.322	2819627.060	1228.407
I-1	583097.767	2819726.286	1236.202
BM-91/1	583107.404	2819745.790	1237.539

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	LIST OF CONTROL PILLAR	CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO:-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PILLAR			
										REVISION MKD. - R0		SHEET NO. - 07 OF 15	
										DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DFR/SN-DMP-PC/MANIPUR/2016)		SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT					
REVISIONS													

TRAVERSE				
Pt. No.	Easting (m)	Northing (m)	R.L. (m)	
I-2	583158.217	2819807.835	1240.720	
I-3	583245.985	2819851.977	1244.917	
BM-91/2	583252.245	2819866.302	1245.833	
I-4	583275.876	2819884.781	1247.301	
I-5	583274.757	2819940.748	1248.399	
I-6	583267.260	2819990.237	1248.851	
I-7	583306.209	2820049.527	1249.816	
I-8	583330.207	2820147.975	1251.051	
I-9	583308.639	2820205.153	1249.212	
GPS-91	583271.048	2820269.182	1247.967	
I-10	583314.963	2820459.411	1251.844	
I-11	583313.019	2820505.971	1256.049	
BM-92/1	583295.199	2820524.547	1257.483	
H-12	583303.593	2820580.978	1260.135	
I-13	583262.115	2820658.853	1261.440	
BM-92/2	583220.822	2820677.247	1263.198	
I-14	583192.125	2820746.110	1266.327	
I-15	583126.693	2820797.039	1270.689	
I-16	583141.870	2820860.647	1274.260	
BM-92/3	583141.392	2820906.411	1276.422	
I-17	583232.059	2820956.216	1275.516	
I-18	583322.958	2821013.592	1274.021	
I-19	583387.356	2821066.310	1273.482	
GPS-92	583418.644	2821163.352	1272.550	
I-20	583461.221	2821225.837	1272.078	
BM-93/1	583454.472	2821276.969	1271.741	
I-21	583457.460	2821399.848	1271.078	
I-22	583499.070	2821422.354	1273.478	
I-23	583511.581	2821468.688	1275.825	
BM-93/2	583502.608	2821477.464	1276.240	
I-24	583475.615	2821524.923	1278.218	
I-25	583520.348	2821583.137	1279.799	
BM-93/3	583473.581	2821689.885	1279.429	
I-26	583524.447	2821741.145	1277.034	
I-27	583642.031	2821812.424	1277.012	
GPS-93	583649.407	2821857.757	1277.343	
I-28	583685.768	2821909.412	1277.991	
I-29	583715.025	2821959.903	1276.664	
I-30	583729.378	2822071.736	1273.335	
BM-94/1	583724.901	2822078.871	1273.490	
I-31	583730.982	2822147.745	1272.047	
I-32	583728.163	2822233.797	1268.161	
BM-94/2	583718.045	2822315.217	1265.935	
I-33	583691.354	2822460.012	1264.443	
BM-94/3	583654.031	2822526.781	1265.386	
I-34	583592.637	2822660.375	1267.858	
I-35	583615.017	2822719.876	1271.959	
I-36	583625.059	2822762.927	1274.318	
I-37	583575.110	2822776.253	1274.630	
I-38	583559.443	2822834.081	1272.679	
I-39	583562.972	2822883.428	1271.681	
GPS-94	583528.743	2822910.795	1270.686	
I-40	583502.596	2822957.262	1270.182	
BM-95/1	583456.585	2822990.027	1267.728	
I-41	583398.944	2823025.515	1265.276	
I-42	583332.243	2823043.464	1262.669	

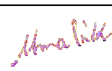
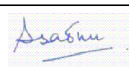
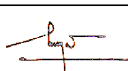
TRAVERSE			
Pt. No.	Easting (m)	Northing (m)	R.L. (m)
I-43	583198.613	2823074.756	1255.490
BM-95/2	583093.274	2823032.404	1250.972
I-44	583024.617	2823062.490	1248.363
I-45	582955.516	2823055.046	1246.688
BM-95/3	582925.737	2823012.139	1246.854
I-46	582838.835	2823023.714	1245.722
I-47	582759.009	2823009.023	1245.473
GPS-95T	582713.115	2823006.643	1245.043
GPS-95A	582612.477	2822978.190	1242.272
I-48	582576.391	2823009.434	1241.375
I-49	582518.285	2823098.522	1238.969
I-50	582491.323	2823115.106	1237.903
I-51	582431.143	2823070.652	1233.792
I-52	582387.682	2822971.078	1230.844
BM-96/1	582365.860	2822962.004	1230.106
I-53	582337.432	2823089.211	1226.885
I-54	582301.467	2823148.673	1225.998
BM-96/2	582241.408	2823192.697	1224.423
I-55	582179.178	2823256.850	1223.976
I-56	582132.417	2823239.162	1223.369
I-57	582108.544	2823191.610	1221.618
I-58	582047.786	2823173.580	1219.263
I-59	581984.821	2823105.882	1217.513
GPS-96	581910.536	2823083.142	1216.211
I-60	581859.656	2823096.448	1215.980
I-61	581825.083	2823086.544	1215.916
BM-97/1	581809.451	2823107.943	1215.693
I-62	581797.408	2823131.879	1215.243
I-63	581710.896	2823130.725	1213.935
I-64	581682.233	2823174.350	1214.151
I-65	581625.983	2823181.156	1215.207
I-66	581570.931	2823129.628	1215.172
BM-97/2	581569.969	2823119.174	1215.212
I-67	581528.580	2823092.226	1213.707
I-68	581487.103	2823042.578	1211.179
I-69	581432.732	2823009.195	1210.410
I-70	581376.853	2823037.809	1210.455
I-71	581323.134	2823031.377	1210.293
I-72	581271.441	2823031.815	1209.362
BM-97/3	581261.698	2823025.137	1209.090
I-73	581223.126	2823037.224	1207.927
I-74	581183.616	2823075.671	1208.096
GPS-97	581141.272	2823056.297	1207.731
I-75	581136.894	2823062.296	1207.409
I-76	581020.455	2823061.149	1208.552
I-77	580971.389	2822979.090	1207.765
BM-98/1	580957.081	2822953.254	1207.216
I-78	580895.843	2822880.305	1204.901
I-79	580789.624	2822877.659	1203.116
I-80	580753.922	2822825.175	1201.719
BM-98/2	580751.350	2822802.874	1201.303
I-81	580721.425	2822757.457	1198.906
I-82	580663.318	2822698.400	1196.398
I-83	580583.191	2822696.270	1192.673
BM-98/3	580572.642	2822658.649	1191.189
I-84	580548.802	2822586.397	1188.730

TRAVERSE			
Pt. No.	Easting (m)	Northing (m)	R.L. (m)
I-85	580588.468	2822532.865	1186.382
BM-98/4	580604.971	2822527.811	1186.280
I-86	580640.986	2822468.833	1183.089
I-87	580630.751	2822408.379	1179.304
GPS-98	580586.815	2822370.543	1176.597
I-88	580490.363	2822331.73	1170.927
I-89	580438.445	2822344.471	1170.27
I-90	580385.616	2822275.172	1167.893
I-91	580353.634	2822192.472	1163.866
BM-99/1	580358.459	2822179.05	1163.849
I-92	580281.872	2822173.312	1159.373
I-93	580283.238	2822145.312	1157.811
I-94	580321.876	2822093.856	1154.491
I-95	580301.481	2822063.827	1150.939
BM-99/2	580220.533	2822037.081	1146.294
I-96	580167.702	2822067.524	1143.931
I-97	580149.177	2822138.665	1145.353
I-98	580157.515	2822227.468	1148.094
GPS-99	580151.584	2822242.498	1148.685
I-99	580172.35	2822314.658	1149.098
I-100	580174.899	2822364.692	1148.624
I-101	580126.26	2822401.792	1147.06
BM-100/1	580064.101	2822467.295	1143.935
I-102	580053.026	2822542.143	1140.201
I-103	580049.123	2822578.53	1137.445
I-104	580025.638	2822619.404	1133.892
BM-100/2	580017.655	2822672.729	1130.372
I-105	580022.029	2822740.025	1128.496
I-106	580014.5	2822823.331	1124.711
I-107	580007.424	2822892.04	1122.508
BM-100/3	579960.997	2822910.975	1118.387
I-108	579888.25	2822976.535	1110.596
I-109	579842.527	2822976.877	1108.454
I-110	579779.692	2822909.696	1104.506
GPS-100	579690.708	2822903.79	1102.025
GPS-100A	579606.591	2822814.254	1095.216
J-1	579563.529	2822794.149	1091.762
J-2	579471.816	2822710.612	1080.239
BM-101/1	579433.090	2822634.036	1074.228
J-3	579342.641	2822638.223	1065.848
J-4	579261.504	2822564.462	1056.882
BM-101/2	579242.40		

TRAVERSE			
Pt. No.	Easting (m)	Northing (m)	R.L. (m)
J-15	578402.334	2821967.569	968.438
J-16	578313.951	2821889.506	960.667
GPS-102	578264.070	2821813.467	956.838
J-17	578168.771	2821716.939	954.586
BM-103/1	578121.958	2821719.507	953.832
J-18	578091.443	2821736.995	952.651
J-19	578034.995	2821805.105	949.712
J-20	577954.461	2821819.221	948.189
J-21	577891.823	2821735.436	943.767
BM-103/2	577891.572	2821729.240	943.703
J-22	577841.243	2821707.570	941.207
J-23	577813.264	2821646.062	938.534
J-24	577739.601	2821634.381	931.802
BM-103/3	577704.248	2821620.347	928.865
J-25	577638.703	2821594.799	926.159
J-26	577522.047	2821537.670	918.584
J-27	577458.847	2821509.545	915.263
GPS-103	577443.774	2821491.140	913.933
J-28	577366.873	2821447.508	907.901
BM-104/1	577330.443	2821405.170	903.181
J-29	577266.818	2821367.298	898.532
J-30	577166.471	2821272.272	889.456
J-31	577199.409	2821257.380	886.735
BM-104/2	577219.060	2821271.016	884.691
J-32	577261.783	2821306.200	879.574
J-33	577331.972	2821298.016	874.985
J-34	577428.579	2821323.832	865.054
BM-104/3	577454.107	2821307.975	863.749
J-35	577497.871	2821301.554	862.342
J-36	577541.375	2821316.622	860.028
J-37	577583.111	2821370.374	855.831
J-38	577671.754	2821367.742	850.730
GPS-104	577670.184	2821345.792	848.274
J-39	577669.271	2821330.453	847.286
J-40	577594.364	2821296.983	840.906
J-41	577603.907	2821258.989	838.144
BM-105/1	577629.635	2821231.400	836.883
J-42	577645.573	2821139.582	829.319
J-43	577572.942	2821053.552	820.968
BM-105/2	577499.103	2821061.876	815.090
J-44	577413.890	2821038.029	806.360
J-45	577342.325	2820983.651	797.879
J-46	577313.335	2820959.381	793.594
BM-105/3	577313.806	2820943.618	792.162
J-47	577277.465	2820886.910	785.366
J-48	577233.346	2820857.798	780.801
J-49	577212.652	2820722.498	769.484
GPS-105	577171.022	2820688.426	764.442
GPS-105A	577035.503	2820584.893	751.335
J-50	577005.490	2820565.537	749.810
J-51	576965.508	2820520.537	748.036
J-52	576902.589	2820438.928	743.699
BM-106/1	576855.167	2820401.575	742.472
J-53	576832.257	2820387.913	742.158
J-54	576808.431	2820319.140	739.746
J-55	576748.713	2820273.292	737.146
BM-106/2	576777.503	2820260.650	737.522

TRAVERSE			
Pt. No.	Easting (m)	Northing (m)	R.L. (m)
BM-106/2	576777.503	2820260.650	737.522
J-56	576825.765	2820316.592	731.897
J-57	576883.141	2820373.377	722.761
BM-106/3	576958.987	2820415.653	716.587
J-58	576993.234	2820468.679	713.699
J-59	577057.909	2820526.393	711.198
GPS-106	577049.552	2820508.140	710.102
J-60	577001.286	2820439.264	704.839
J-61	576910.001	2820288.381	694.430
BM-107/1	576904.972	2820236.034	692.302
J-62	576824.224	2820149.389	687.182
J-63	576737.561	2820167.151	678.462
BM-107/2	576671.889	2820131.754	671.619
J-64	576626.895	2820114.750	668.071
J-65	576586.076	2820114.822	665.827
J-66	576561.519	2820129.932	664.684
J-67	576512.106	2820215.955	663.188
J-68	576485.209	2820247.346	661.197
GPS-107	576474.859	2820268.422	659.829
GPS-110	576923.577	2823686.047	719.044
GPS-110A	576991.276	2823786.583	715.55
K-1	577081.616	2823869.987	707.789
K-2	577008.262	2823812.136	705.801
BM-111/1	576875.488	2823847.958	706.679
K-3	576840.601	2823856.219	709.591
K-4	576783.476	2823970.7	718.802
BM-111/2	576789.834	2824027.572	722.125
GPS-111	576709.077	2823955.801	729.27
K-5	576688.294	2823951.961	730.964
K-6	576693.564	2823915.171	733.517
K-7	576743.454	2823876.044	739.026
BM-112/1	576755.154	2823842.326	742.616
K-8	576736.899	2823763.23	750.791
K-9	576736.756	2823720.517	755.839
K-10	576704.408	2823710.541	758.9
K-11	576693.827	2823781.254	766.888
BM-112/2	576643.905	2823815.968	772.883
K-12	576615.573	2823824.283	775.895
K-13	576587.408	2823906.673	785.264
K-14	576538.964	2823973.615	790.877
BM-112/3	576559.601	2823902.443	793.547
K-15	576560.651	2823819.619	798.347
K-16	576545.851	2823770.707	801.533
K-17	576549.724	2823713.507	804.961
K-18	576525.12	2823746.403	807.162
GPS-112	576524.875	2823788.024	810.187
K-19	576521.031	2823843.171	815.965
BM-113/1	576438.758	2823972.095	832.278
K-20	576335.419	2824060.258	844.749
BM-113/2	576364.403	2824161.98	855.885
K-21	576421.707	2824201.353	862.634
K-22	576390.939	2824234.632	866.191
K-23	576307.101	2824239.985	872.781
BM-113/3	576245.721	2824183.938	882.85
K-24	576215.608	2824173.429	886.166
K-25	576195.639	2824091.554	896.358
K-26	576167.483	2824136.998	899.7

TRAVERSE			
Pt. No.	Easting (m)	Northing (m)	R.L. (m)
K-27	576158.276	2824184.296	903.345
GPS-113	576120.431	2824246.828	907.392
K-28	576050.222	2824349.226	916.988
BM-114/1	575998.651	2824365.215	923.022
K-29	576016.021	2824294.326	928.041
K-30	575966.516	2824205.15	934.896
BM-114/2	575997.765	2824182.549	938.166
K-31	576026.302	2824053.579	952.288
BM-114/3	576033.329	2824059.519	951.932
GPS-114	576108.167	2823958.95	963.118

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	LIST OF CONTROL PILLAR		CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092.	DWG NO:-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PILLAR								
											REVISION MKD. - R0		SHEET NO. - 09 OF 15						
											DRAWN BY		DESIGNED BY		CHECKED BY		ISSUED BY		
MKD.	DATE	DESCRIPTION		CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT				 U. MALIK		 B.DAS		 S.SADHU		 B.KONER	
REVISIONS																			

TBM

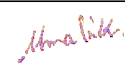
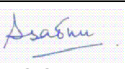
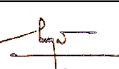
TBM No.	Easting (m)	Northing (m)	R.L. (m)
TBM-J17	602289.654	2814612.357	1584.387
TBM-54	603416.533	2814825.709	1612.149
TBM-J15	601541.411	2814229.256	1658.041
TBM-61	601993.183	2815312.346	1532.598
TBM-60	602499.583	2815653.892	1534.483
TBM-J12	603342.067	2815533.609	1596.109
TBM-56	603289.456	2814936.856	1617.628
TBM-55	603330.396	2814945.483	1617.708
TBM-90	600021.735	2820643.493	1424.487
TBM-A26	576941.035	2823816.188	705.197
TBM-A25	576944.308	2823824.122	705.214
TBM-B93	576845.674	2823864.042	710.137
TBM-B94	576837.501	2823855.186	710.189
TBM-D64	576883.137	2823596.217	720.942
TBM-D63	576886.062	2823613.357	720.474
TBM-B92	576463.368	2823945.478	827.730
TBM-D62	576689.869	2823960.278	730.762
TBM-D61	576695.659	2823950.980	730.883
TBM-B91	576443.551	2823967.863	830.760
TBM-B90	576309.008	2824132.989	850.309
TBM-B89	576298.650	2824128.949	850.521
TBM-B88	576239.096	2824179.560	884.205
TBM-B87	576224.578	2824168.815	886.282
TBM-B84	576122.103	2824222.742	906.546
TBM-B83	576129.657	2824229.109	906.602
TBM-A24	576258.790	2820765.708	645.988
TBM-A23	576260.971	2820752.797	645.445
TBM-A22	576500.462	2820459.819	650.753
TBM-A21	576490.843	2820431.145	651.293
TBM-20	577179.234	2821243.298	889.037
TBM-19	577197.049	2821250.131	887.925
TBM-18	577427.599	2821316.489	865.013
TBM-17	577430.745	2821325.754	865.033
TBM-A16	577670.077	2821326.426	848.487
TBM-A15	577656.403	2821317.200	846.649
TBM-A14	577469.099	2821051.210	812.940
TBM-A13	577390.831	2821033.594	805.150
TBM-A12	577212.563	2820776.612	774.491
TBM-A11	577221.496	2820770.234	773.855
TBM-A10	576924.504	2820455.167	745.249
TBM-A9	576917.100	2820461.500	745.199
TBM-A4	576857.780	2820181.873	689.919
TBM-A3	576800.251	2820142.952	686.087
TBM-A2	576484.292	2820243.188	662.070
TBM-A1	576487.838	2820238.017	662.447
TBM-A8	576886.433	2820366.098	723.429
TBM-A7	576875.216	2820370.663	724.293
TBM-A6	576936.246	2820340.251	697.280
TBM-A5	576907.116	2820267.412	693.760
TBM-B82	577982.303	2821813.681	948.964
TBM-B81	577968.537	2821814.510	948.503
TBM-B80	577691.272	2821616.612	928.419
TBM-B79	577668.804	2821608.084	927.720
TBM-B86	578648.273	2822115.129	984.649
TBM-B85	578637.063	2822109.781	983.710
TBM-D56	579364.618	2822644.969	1067.595
TBM-D55	579360.538	2822634.572	1067.181

TBM

TBM No.	Easting (m)	Northing (m)	R.L. (m)
TBM-D60	578937.956	2822430.514	1026.650
TBM-D59	578943.837	2822434.180	1026.818
TBM-D58	579028.246	2822480.513	1033.557
TBM-D57	579036.046	2822485.339	1034.213
TBM-B72	580916.504	2822920.019	1206.725
TBM-B71	580920.699	2822907.959	1206.389
TBM-B78	580285.776	2822165.031	1159.399
TBM-B77	580294.065	2822170.628	1160.101
TBM-B76	580444.718	2822348.957	1170.747
TBM-B75	580450.015	2822340.135	1170.416
TBM-B74	580560.534	2822575.716	1188.600
TBM-B73	580568.292	2822560.794	1187.995
TBM-B70	581482.975	2823046.691	1211.696
TBM-B69	581487.096	2823037.429	1211.641
TBM-B68	581758.027	2823130.233	1215.214
TBM-B67	581766.754	2823130.845	1215.271
TBM-B66	582206.452	2823242.754	1224.041
TBM-B65	582239.012	2823194.923	1224.280
TBM-B64	582497.329	2823107.129	1238.418
TBM-B63	582507.665	2823104.851	1239.154
TBM-D54	580166.712	2822063.068	1144.625
TBM-D53	580159.666	2822079.297	1144.498
TBM-D52	580009.423	2822782.872	1127.116
TBM-D51	580019.161	2822778.997	1127.608
TBM-D50	579724.500	2822903.785	1103.660
TBM-D49	579709.144	2822902.405	1102.929
TBM-D46	583588.217	2822676.836	1269.372
TBM-D45	583592.245	2822682.960	1269.740
TBM-D44	583560.865	2822868.328	1272.387
TBM-D43	583559.874	2822873.812	1272.189
TBM-D42	582955.013	2823048.892	1247.234
TBM-D41	582966.454	2823049.218	1247.455
TBM-D48	583630.130	2821810.794	1277.020
TBM-D47	583638.727	2821805.971	1277.057
TBM-B62	583516.731	2821736.487	1277.761
TBM-B61	583488.666	2821418.578	1273.290
TBM-B60	583455.199	2821339.536	1271.254
TBM-B59	583447.626	2821197.360	1272.654
TBM-B54	583056.205	2819677.574	1232.138
TBM-B53	583014.104	2819579.519	1226.933
TBM-B58	583121.109	2820813.664	1272.430
TBM-B57	583212.752	2820691.807	1264.536
TBM-B56	583288.211	2820224.645	1249.140
TBM-B55	583302.434	2820199.629	1250.005
TBM-M44	584116.634	2820297.738	1248.477
TBM-M43	584096.493	2820312.103	1250.288
TBM-M50	583191.252	2819316.344	1214.309
TBM-M49	583197.704	2819328.680	1214.262
TBM-M48	583454.605	2819613.797	1212.163
TBM-M47	583463.797	2819628.668	1212.067
TBM-M46	583861.320	2820035.531	1227.392
TBM-M45	583868.440	2820042.021	1227.478
TBM-M42	584362.624	2821183.739	1307.028
TBM-M41	584361.356	2821215.194	1309.569
TBM-M40	584379.236	2821490.192	1334.162
TBM-M39	584380.767	2821499.659	1334.490
TBM-M38	584676.967	2821808.592	1358.529

TBM

TBM No.	Easting (m)	Northing (m)	R.L. (m)
TBM-M37	584692.026	2821843.136	1359.486
TBM-M36	584728.449	2822255.855	1362.263
TBM-M35	584730.582	2822246.578	1362.063
TBM-B52	585894.350	2823958.054	1472.102
TBM-B51	585908.179	2824123.396	1486.712
TBM-B50	586250.151	2824500.365	1533.743
TBM-B49	586272.663	2824551.622	1537.247
TBM-B48	586707.701	2824564.624	1562.214
TBM-B47	586707.449	2824555.104	1561.924
TBM-B46	586929.250	2824333.209	1574.019
TBM-B45	587004.812	2824206.244	1575.509
TBM-D40	585696.772	2823661.980	1435.030
TBM-D39	585706.025	2823661.680	1434.900
TBM-D38	585603.870	2823296.798	1426.752
TBM-D37	585588.544	2823312.912	1425.532
TBM-D36	585203.893	2822944.521	1386.894
TBM-D35	585195.282	2822940.361	1386.980
TBM-D34	584990.563	2822160.765	1358.873
TBM-D33	584970.629	2822162.823	1359.145
TBM-B44	587179.208	2824120.141	1581.501
TBM-B43	587264.379	2823963.757	1587.987
TBM-B42	587589.978	2823698.659	1603.799
TBM-B41	587657.481	2823679.774	1602.651
TBM-B40	587682.963	2823379.754	1618.536
TBM-B39	587674.656	2823384.395	1618.348
TBM-B38	587981.137	2822818.510	1626.103
TBM-B37	587982.664	2822768.731	1624.878
TBM-M34	588330.374	2822111.238	1646.027
TBM-M33	588333.309	2822120.589	1646.439
TBM-M31	587902.834	2822361.856	1589.014
TBM-M32	587893.089	2822361.629	1588.708
TBM-M30	587996.988	2822591.158	1611.413
TBM-M29	588008.602	2822590.654	1611.983
TBM-D32	588338.142	2821619.086	1629.087
TBM-D31	588328.657	2821620.773	1628.792
TBM-D30	588124.733	2821362.530	1621.427
TBM-D29	588171.705	2821347.529	1624.536
TBM-B25	589687.448	2822248.637	1974.796
TBM-B36	589205.569	2821377.977	1800.377
TBM-B35	589236.110	2821370.248	1803.045
TBM-B34	589295.654	2821427.096	1822.378
TBM-B33	589354.075	2821422.686	1827.036
TBM-B32	589343.797	2821610.355	1844.526
TBM-B31	589481.824	2821759.011	1862.648
TBM-B30	589536.480	2822273.229	1907.377
TBM-B29	589539.077	2822291.739	1907.983
TBM-B28	589615.059	2821960.940	1921.871
TBM-B27	589600.494	2821776.199	1929.104
TBM-B26	589677.305	2822101.635	1962.284
TBM-B24	589551.154	2822727.669	2011.028
TBM-B23	589510.104	2822821.657	2017.924
TBM-M28	589092.127	2821615.135	1760.900
TBM-M27	589084.692	2821606.220	1760.943
TBM-M26	588849.680	2821353.649	1708.349
TBM-M25	588858.929	2821351.294	1708.586
TBM-M23	588599.749	2821234.566	1672.714
TBM-M22	588545.374	2821204.180	1666.083

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	LIST OF CONTROL PILLAR	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092	DWG NO:-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PILLAR						
										REVISION MKD. - R0		SHEET NO. - 10 OF 15				
										DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY			
MKD.					DATE	DESCRIPTION	CHKD.	APPRD.	DATE:	 U. MALIK				 B.DAS	 S.SADHU	 B.KONER
REVISIONS																

TBM

TBM No.	Easting (m)	Northing (m)	R.L. (m)
TBM-M17	593242.958	2823901.781	1774.276
TBM-M18	593296.644	2823916.001	1771.462
TBM-M16	592982.353	2823572.303	1812.809
TBM-M15	592991.672	2823570.076	1812.824
TBM-M14	592619.682	2823270.050	1862.666
TBM-M12	592570.616	2822901.871	1883.058
TBM-M11	592561.091	2822902.752	1883.330
TBM-M13	592627.080	2823234.990	1864.298
TBM-B22	593332.237	2824467.477	1727.325
TBM-B21	593323.637	2824472.289	1727.621
TBM-B20	593460.080	2824592.339	1713.837
TBM-B19	593451.758	2824597.337	1713.998
TBM-B9	593756.294	2824888.144	1689.835
TBM-B8	594249.276	2824907.073	1688.989
TBM-B7	594263.904	2824897.166	1688.964
TBM-B6	594532.345	2824737.471	1683.982
TBM-B5	594537.719	2824747.458	1684.025
TBM-B10	593728.296	2824845.546	1689.818
TBM-B4	595125.563	2824808.997	1721.903
TBM-B3	595126.958	2824816.612	1721.869
TBM-D28	590595.359	2822877.659	1986.282
TBM-D27	590645.965	2822905.727	1982.090
TBM-M22	590476.743	2823056.035	2004.677
TBM-M21	590413.914	2823052.771	2008.387
TBM-M20	590066.921	2823079.278	2029.079
TBM-M19	589885.612	2823106.659	2044.952
TBM-D26	590865.620	2822794.640	1953.604
TBM-D25	590894.630	2822753.073	1951.496
TBM-D24	591539.015	2822547.669	1932.049
TBM-D23	591537.078	2822526.295	1931.660
TBM-D22	592174.522	2822373.904	1899.941
TBM-D21	592236.572	2822372.122	1894.509
TBM-D16	592665.614	2822238.137	1892.550
TBM-D15	592658.738	2822268.390	1891.547
TBM-D14	592593.852	2822477.795	1892.177
TBM-D13	592589.570	2822539.495	1892.253
TBM-B18	595523.473	2824391.445	1728.636
TBM-B17	595514.882	2824386.914	1728.489
TBM-B16	595617.058	2824124.532	1729.364
TBM-B15	595607.408	2824123.223	1729.166
TBM-M9	596605.202	2822528.090	1682.152
TBM-M10	596614.806	2822529.211	1682.412
TBM-M8	596897.729	2823055.537	1691.175
TBM-M7	596887.798	2823061.611	1691.561
TBM-D20	595828.210	2823176.667	1712.224
TBM-D19	595849.427	2823224.854	1712.592
TBM-D18	595752.543	2823695.796	1706.815
TBM-D17	595744.377	2823690.132	1706.359
TBM-B14	595790.629	2822584.038	1716.460
TBM-B13	595883.294	2822470.343	1708.214
TBM-B12	596131.792	2822387.679	1714.269
TBM-B11	596181.863	2822442.971	1715.191
TBM-B2	597495.998	2822777.315	1639.671
TBM-B1	597338.453	2822872.609	1652.930
TBM-M6	598711.150	2823237.785	1469.801
TBM-M5	598701.792	2823214.506	1470.519
TBM-M4	598703.719	2822828.572	1485.345

TBM

TBM No.	Easting (m)	Northing (m)	R.L. (m)
TBM-M3	598694.686	2822825.002	1485.213
TBM-M2	599357.174	2822642.001	1455.240
TBM-M1	599350.234	2822646.418	1455.271
TBM-D12	597601.137	2822599.576	1624.653
TBM-D11	597609.207	2822594.392	1624.492
TBM-D9	598023.396	2822988.658	1565.930
TBM-D8	598209.086	2823333.708	1519.751
TBM-D7	598205.811	2823342.887	1520.009
TBM-D10	598020.924	2822998.084	1565.810
TBM-D6	598733.020	2823530.977	1464.725
TBM-D5	598732.593	2823553.976	1463.853
TBM-D3	598769.190	2823797.183	1469.768
TBM-D4	598757.343	2823793.475	1470.137
TBM-D2	598447.439	2823581.389	1494.074
TBM-D1	598426.284	2823575.506	1494.843
TBM-J13	603192.119	2815262.221	1601.992
TBM-58	602693.601	2816217.099	1548.581
TBM-J16	601694.105	2814375.703	1633.642
TBM-73	600872.922	2814969.273	1688.824
TBM-72	600866.825	2814961.599	1689.159
TBM-71	600961.995	2814845.770	1678.834
TBM-69	601092.570	2814599.128	1665.034
TBM-70	601084.247	2814593.745	1664.595
TBM-67	601277.245	2814377.130	1664.126
TBM-68	601284.975	2814383.216	1663.982
TBM-66	601441.005	2814226.978	1661.476
TBM-65	602054.213	2814711.010	1569.704
TBM-64	602058.569	2814813.650	1564.596
TBM-63	602084.828	2814920.933	1552.763
TBM-62	602094.385	2814923.684	1554.091
TBM-J14	603201.144	2815258.171	1602.316
TBM-J11	603089.477	2815620.004	1596.256
TBM-59	602636.897	2816268.545	1546.489
TBM-53	603632.971	2814634.166	1594.779
TBM-52	603597.864	2814586.940	1589.909
TBM-18	600419.159	2815523.451	1749.176
TBM-57	602751.963	2816024.394	1561.688
TBM-80	599525.639	2814846.601	1761.588
TBM-J20	598578.766	2814856.342	1756.784
TBM-34	599171.359	2816708.404	1650.615
TBM-33	599228.127	2816692.284	1645.560
TBM-46	598261.402	2817164.270	1723.189
TBM-45	598768.604	2816860.140	1677.657
TBM-44	598891.115	2816804.974	1669.604
TBM-83	598626.906	2815359.357	1732.207
TBM-84	598630.524	2815345.198	1732.228
TBM-J22	599079.588	2814564.017	1768.813
TBM-J21	599077.268	2814573.523	1769.029
TBM-82	599328.485	2814621.396	1764.313
TBM-81	599424.035	2814688.867	1763.982
TBM-79	599532.543	2814842.757	1761.512
TBM-75	599851.306	2815049.830	1756.825
TBM-74	599800.503	2815050.645	1756.187
TBM-76	599684.364	2815079.650	1756.933
TBM-51	603400.225	2814409.428	1576.184
TBM-52	603392.320	2814415.212	1576.069
TBM-J10	603512.584	2813963.957	1541.182

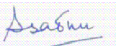
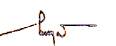
TBM

TBM No.	Easting (m)	Northing (m)	R.L. (m)
TBM-J9	603480.283	2814002.942	1542.698
TBM-J8	603292.277	2814380.482	1574.207
TBM-J4	603752.596	2813897.993	1473.661
TBM-47	604358.659	2814245.677	1426.956
TBM-48	604321.468	2814192.729	1429.664
TBM-42	604696.566	2814538.926	1393.622
TBM-43	604507.593	2814349.657	1416.195
TBM-40	605347.052	2815613.749	1306.003
TBM-39	605343.990	2815603.994	1305.804
TBM-37	605222.408	2815134.225	1330.746
TBM-J2	605745.424	2815785.965	1307.781
TBM-J1	605747.996	2815774.578	1307.764
TBM-36	605211.567	2814602.551	1407.891
TBM-J3	603624.685	2813506.142	1500.954
TBM-49	604114.518	2814110.311	1441.543
TBM-41	604666.743	2814691.068	1389.697
TBM-38	605218.822	2815241.553	1321.106
TBM-35	604983.581	2813213.084	1458.657
TBM-31	605297.785	2812612.933	1436.475
TBM-32	605299.542	2812603.158	1436.408
TBM-30	605549.619	2812711.827	1443.462
TBM-29	605551.970	2812702.091	1443.463
TBM-28	606483.558	2813463.691	1440.489
TBM-26	606772.758	2813568.189	1436.243
TBM-27	606782.008	2813565.643	1436.113
TBM-25	607258.296	2813406.436	1428.615
TBM-24	607254.630	2813412.410	1428.572
TBM-23	607636.230	2813602.968	1393.672
TBM-21	607751.151	2813519.753	1385.154
TBM-22	607758.738	2813513.624	1385.053
TBM-20	607387.102	2812861.080	1427.885
TBM-19	607395.528	2812856.527	1427.723
TBM-12	608797.656	2811598.722	1525.191
TBM-11	608797.132	2811608.317	1525.346
TBM-10	608882.160	2811622.332	1525.302
TBM-16	608389.306	2811899.315	1504.505
TBM-15	608379.766	2811897.494	1504.141
TBM-14	608314.569	2811573.233	1513.772
TBM-13	608324.245	2811572.658	1513.843
TBM-18	607431.006	2812362.930	1457.972
TBM-17	607508.589	2812296.563	1463.187
TBM-9	609167.636	2811395.819	1524.680
TBM-8	609089.644	2811328.078	1525.026
TBM-7	608933.533	2811107.533	1515.595
TBM-6	609170.610	2810920.149	1496.649
TBM-5	609166.480	2810928.721	1496.299
TBM-4	609829.985	2811015.279	1463.922
TBM-3	609818.888	2811020.100	1464.219
TBM-1	610252.994	2811251.245	1427.661
TBM-2	610243.323	2811251.736	1427.832
TBM-97	598639.598	2821018.959	1446.731
TBM-98	598577.137	2821126.040	1449.474
TBM-105	598593.460	2822080.196	1461.874
TBM-100	598369.638	2821377.157	1465.963
TBM-99	598416.654	2821271.731	1461.702
TBM-J41	598710.456	2820939.494	1445.093
TBM-J40	598894.080	2820726.959	1430.722

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	LIST OF CONTROL PILLAR	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO:-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PILLAR						
										REVISION MKD. - R0		SHEET NO. - 11 OF 15				
										DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY			
MKD.					DATE	DESCRIPTION	CHKD.	APPRD.	DATE:	U. MALIK				B.DAS	S.SADHU	B.KONER
FEB, 2020					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)				SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT							
REVISIONS																

TBM

TBM No.	Easting (m)	Northing (m)	R.L. (m)
TBM-J39	599038.440	2820776.576	1424.349
TBM-J37	599205.247	2820721.222	1419.941
TBM-J38	599210.967	2820729.233	1422.573
TBM-95	599678.014	2820541.854	1410.686
TBM-96	599709.339	2820553.067	1411.739
TBM-104	598525.408	2821936.265	1463.521
TBM-103	598485.427	2821806.292	1467.985
TBM-102	598380.760	2821708.330	1472.734
TBM-101	598230.272	2821549.073	1476.021
TBM-J43	599065.802	2822304.751	1468.289
TBM-J42	599509.339	2822595.510	1465.458
TBM-94	600635.354	2820721.709	1460.543
TBM-J26	599630.988	2819513.214	1569.423
TBM-J27	599741.117	2819492.176	1566.570
TBM-J28	600169.440	2819392.967	1551.944
TBM-J28	600402.988	2819294.423	1541.731
TBM-J31	600376.702	2819282.336	1542.501
TBM-J32	600380.391	2819270.478	1543.185
TBM-J33	600486.950	2819480.131	1543.191
TBM-J34	600412.317	2819762.471	1529.922
TBM-J35	600456.324	2820561.437	1470.519
TBM-91	600070.906	2820698.886	1426.775
TBM-91	600424.024	2820682.157	1448.308
TBM-92	600425.876	2820671.811	1447.079
TBM-93	600613.046	2820735.980	1460.530
TBM-J36	600337.621	2820477.388	1483.187
TBM-J5	598093.565	2817956.381	1735.479
TBM-J7	598230.698	2818731.715	1703.115
TBM-J6	598244.692	2818508.007	1717.175
TBM-J22A	599263.444	2819240.446	1594.773
TBM-J23	599279.330	2819220.770	1597.201
TBM-87	599412.653	2818946.451	1610.035
TBM-88	599409.841	2818967.512	1609.725
TBM-85	599263.853	2818636.444	1621.283
TBM-J24	599202.590	2818829.491	1626.897
TBM-77	598684.819	2819080.833	1666.404
TBM-86	599271.180	2818642.184	1621.240
TBM-78	599078.250	2818792.233	1632.010
TBM-25	599232.964	2818806.969	1627.359

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	LIST OF CONTROL PILLAR	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO:-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PILLAR				
										REVISION MKD. - R0		SHEET NO. - 12 OF 15		
										DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT						
REVISIONS														

BM

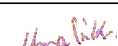
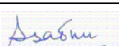
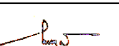
Pt. No.	Easting (m)	Northing (m)	R.L. (m)
BM-1/1	610180.439	2811105.502	1436.673
BM-1/2	609937.036	2811080.581	1455.871
BM-2/1	609417.100	2810956.223	1481.335
BM-2/2	609247.706	2810916.847	1492.501
BM-2/3	609029.115	2810838.480	1501.950
BM-3/1	608938.027	2811129.490	1515.951
BM-3/2	609074.180	2811316.488	1524.888
BM-3/3	609118.850	2811435.327	1523.117
BM-4/1	608911.133	2811613.245	1525.050
BM-4/2	608736.645	2811577.369	1525.075
BM-4/3	608339.359	2811503.431	1515.122
BM-5/1	608376.340	2811882.594	1504.866
BM-5/2	608319.876	2811998.321	1496.512
BM-5/3	607956.108	2811979.048	1482.238
BM-6/1	607447.623	2812301.853	1459.376
BM-6/2	607333.370	2812544.254	1443.246
BM-7/1	607387.537	2812901.210	1424.727
BM-7/2	607482.983	2813059.616	1408.651
BM-7/3	607578.149	2813267.902	1398.313
BM-8/1	607666.943	2813563.026	1391.604
BM-8/2	607470.717	2813455.890	1414.055
BM-8/3	607212.258	2813384.506	1429.991
BM-9/1	606773.057	2813434.056	1434.038
BM-9/2	606724.358	2813582.847	1434.566
BM-9/3	606588.930	2813441.504	1439.241
BM-10/1	606253.749	2813269.622	1446.836
BM-10/2	606026.605	2812966.713	1449.829
BM-11/1	605618.536	2812711.108	1446.369
BM-11/2	605341.634	2812617.898	1435.849
BM-11/3	605105.587	2812644.001	1443.425
BM-12/1	604849.585	2812957.185	1457.496
BM-12/2	604982.131	2813208.137	1458.240
BM-12/3	605139.737	2813565.378	1453.863
BM-13/1	605267.301	2813882.668	1447.914
BM-13/2	605183.883	2814110.485	1438.027
BM-13/3	605284.396	2814496.875	1412.767
BM-14/1	605338.312	2814667.016	1397.401
BM-14/2	605360.152	2814780.787	1388.822
BM-14/3	605543.160	2814960.618	1371.225
BM-15/1	605424.196	2815236.835	1350.718
BM-15/2	605532.410	2815551.375	1327.457
BM-15/3	605700.938	2815608.687	1316.399
BM-16/1	605479.607	2815652.050	1309.672
BM-16/2	605374.240	2815537.452	1305.620
BM-17/1	605193.122	2815098.096	1332.318
BM-17/2	605024.523	2815013.215	1345.594
BM-17/3	604801.121	2814949.484	1367.093
BM-18/1	604754.463	2814518.477	1394.899
BM-18/2	604572.359	2814353.903	1414.422
BM-18/3	604380.436	2814243.694	1426.165
BM-19/1	603815.713	2814099.300	1463.209
BM-19/2	603764.113	2813879.114	1473.785

BM

Pt. No.	Easting (m)	Northing (m)	R.L. (m)
BM-20/1	603546.003	2813756.713	1527.926
BM-20/2	603444.900	2814068.012	1545.557
BM-20/3	603396.059	2814232.511	1555.665
BM-21/1	603556.722	2814723.384	1603.580
BM-21/2	603366.066	2814928.341	1615.955
BM-22/1	603157.706	2814955.086	1619.956
BM-22/2	603081.654	2815213.272	1607.857
BM-22/3	603292.944	2815431.304	1597.401
BM-23/1	603158.589	2815664.273	1595.931
BM-23/2	602864.334	2815669.894	1581.924
BM-23/3	602848.064	2815875.030	1572.250
BM-24/1	602683.360	2816202.308	1548.120
BM-24/2	602522.648	2816176.771	1543.635
BM-24/3	602516.646	2815909.520	1539.011
BM-25/1	602456.037	2815385.409	1537.168
BM-25/2	602234.210	2815324.626	1526.189
BM-25/3	602049.551	2815358.865	1525.428
BM-26/1	602106.436	2814906.954	1555.309
BM-26/2	602075.173	2814703.509	1569.711
BM-27/1	602179.968	2814503.813	1595.690
BM-27/2	602014.525	2814374.626	1611.166
BM-27/3	601726.689	2814349.860	1632.272
BM-28/1	601400.389	2814211.273	1661.513
BM-28/2	601232.744	2814495.387	1665.189
BM-28/3	600991.301	2814754.379	1669.958
BM-29/1	600754.486	2815024.027	1697.088
BM-29/2	600670.492	2815224.503	1720.299
BM-29/3	600533.549	2815478.912	1743.582
BM-30/1	600368.392	2815660.400	1748.511
BM-30/2	600181.518	2815611.627	1750.874
BM-30/3	600105.424	2815363.278	1759.833
BM-31/1	599616.236	2814990.936	1757.929
BM-32/1	599166.967	2814556.923	1769.209
BM-32/2	598892.758	2814451.566	1766.763
BM-32/3	598658.704	2814632.621	1764.041
BM-33/1	598535.824	2814994.470	1749.281
BM-33/2	598640.643	2815264.291	1734.753
BM-33/3	598658.359	2815620.788	1720.807
BM-34/1	598730.902	2815800.150	1696.970
BM-34/2	598734.997	2816076.994	1688.262
BM-34/3	598923.142	2816245.735	1671.224
BM-35/1	599077.942	2816483.313	1654.282
BM-35/2	599227.697	2816661.276	1644.049
BM-35/3	599073.258	2816762.615	1659.126
BM-31/1	598608.475	2816954.138	1692.275
BM-36/2	598245.966	2817171.450	1723.811
BM-37/1	597886.644	2817513.562	1736.536
BM-37/2	598099.931	2817776.174	1736.484
BM-37/3	598153.543	2817960.336	1735.740
BM-38/1	598320.478	2818205.540	1733.276
BM-38/2	598258.174	2818420.840	1724.851
BM-38/3	598276.579	2818658.408	1705.894

BM

Pt. No.	Easting (m)	Northing (m)	R.L. (m)
BM-38/3	598276.579	2818658.408	1705.894
BM-39/1	598223.539	2818951.172	1691.618
BM-39/2	598308.062	2819098.476	1684.296
BM-39/3	598569.104	2819127.919	1676.617
BM-40/1	598712.998	2818934.093	1656.037
BM-40/2	598971.120	2818916.601	1641.441
BM-40/3	599022.295	2818831.251	1634.250
BM-41/1	599339.722	2818756.93	1617.283
BM-41/2	599407.957	2818987.302	1609.452
BM-42/1	599323.629	2819457.342	1581.643
BM-42/2	599483.805	2819528.386	1573.615
BM-42/3	599655.974	2819558.658	1568.723
BM-43/1	600138.431	2819396.174	1553.319
BM-43/2	600340.899	2819325.152	1542.396
BM-43/3	600419.139	2819402.609	1541.209
BM-44/1	600245.012	2819987.287	1509.564
BM-44/2	600176.88	2820234.446	1499.411
BM-44/3	600235.777	2820390.556	1490.82
BM-45/1	600531.68	2820712.653	1457.146
BM-45/2	600350.075	2820662.941	1446.533
BM-45/3	600152.377	2820665.854	1435.447
BM-46/1	599474.879	2820478.818	1413.699
BM-46/2	599321.886	2820672.731	1413.948
BM-47/1	599052.399	2820736.714	1423.277
BM-47/2	598782.630	2820704.258	1438.290
BM-47/3	598720.874	2820895.217	1444.111
BM-48/1	598527.591	2821205.446	1456.869
BM-48/2	598378.173	2821340.285	1463.301
BM-48/3	598246.981	2821525.176	1473.988
BM-48/4	598156.560	2821683.584	1486.362
BM-49/1	598427.916	2821748.225	1469.917
BM-49/2	598523.356	2821931.786	1463.300
BM-50/1	598869.732	2822251.375	1470.281
BM-50/2	599112.015	2822365.753	1470.973
BM-50/3	599311.230	2822438.344	1470.649
BM-51/1	599156.272	2822595.735	1455.908
BM-51/2	598877.888	2822661.761	1474.398
BM-51/3	598745.611	2822718.601	1482.745
BM-52/1	598693.297	2822993.042	1484.811
BM-52/2	598705.256	2823370.170	1466.039
BM-52/3	598735.418	2823530.126	1464.301
BM-53/1	598681.234	2823762.442	1476.324
BM-53/2	598540.866	2823610.537	1485.952
BM-53/3	598347.952	2823406.958	1515.578
BM-54/1	598109.697	2823283.568	1528.064
BM-54/2	598183.154	2823051.860	1550.737
BM-54/3	597987.534	2822916.996	1572.669
BM-55/1	597752.338	2822611.916	1609.525
BM-55/2	597543.486	2822698.618	1633.645
BM-55/3	597289.037	2822925.199	1657.187
BM-56/1	596905.997	2823063.375	1690.615
BM-56/2	596848.937	2822844.245	1696.874

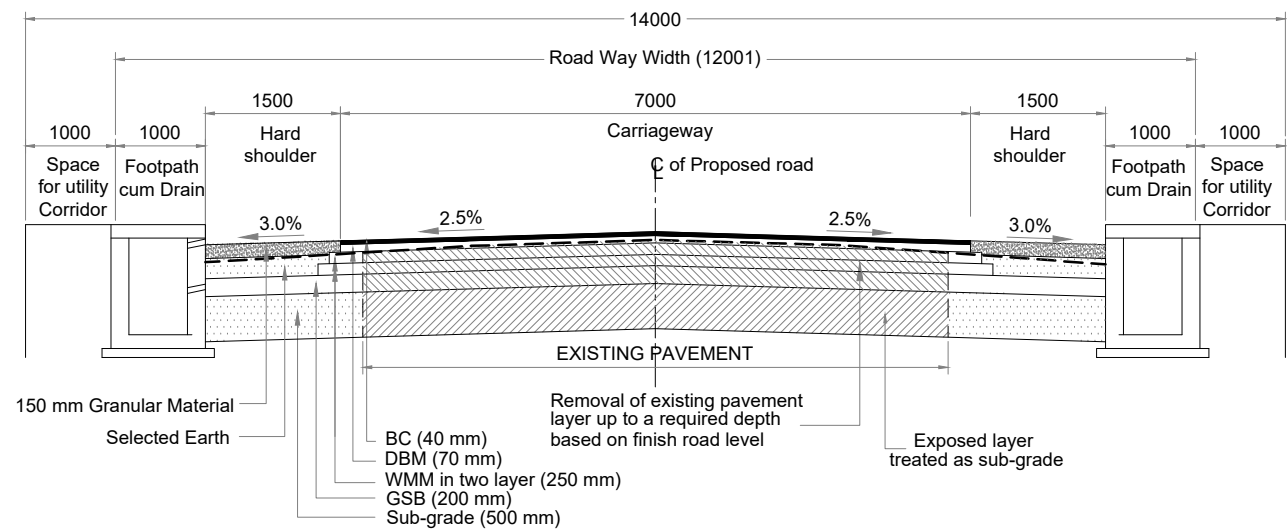
					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	LIST OF CONTROL PILLAR	CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700 092. 	DWG NO:-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PILLAR				
										REVISION MKD. - R0		SHEET NO. - 13 OF 15		
								SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	 CETEST Engineering Consultants An ISO 9001, 14001 & OHSAS18001 Certified Company	DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DFR/SN-DMP-PC/MANIPUR/2016)				 U. MALIK	 B.DAS	 S.SADHU	 B.KONER	
REVISIONS														

BM					BM					BM				
Pt. No.	Easting (m)	Northing (m)	R.L. (m)		Pt. No.	Easting (m)	Northing (m)	R.L. (m)		Pt. No.	Easting (m)	Northing (m)	R.L. (m)	
BM-56/3	596618.524	2822654.635	1687.229		BM75/1	588845.981	2821305.531	1705.554		BM-93/2	583502.608	2821477.464	1276.240	
BM-57/1	596435.221	2822594.796	1696.504		BM75/2	588625.379	2821237.578	1675.684		BM-93/3	583473.581	2821689.885	1279.429	
BM-57/2	596176.999	2822439.571	1714.802		BM75/3	588461.842	2821261.368	1656.397		BM-94/1	583724.901	2822078.871	1273.490	
BM-57/3	596072.612	2822303.327	1714.090		BM76/1	588264.950	2821323.276	1630.740		BM-94/2	583718.045	2822315.217	1265.935	
BM-58/1	595883.502	2822472.897	1707.878		BM76/2	588090.475	2821465.121	1616.669		BM-94/3	583654.031	2822526.781	1265.386	
BM-58/2	595786.935	2822584.629	1716.310		BM76/3	588292.675	2821606.333	1628.040		BM-95/1	583456.585	2822990.027	1267.728	
BM-58/3	595728.000	2822882.601	1711.224		BM77/1	588324.179	2821939.959	1642.770		BM-95/2	583093.274	2823032.404	1250.972	
BM-59/1	595829.450	2823187.347	1711.836		BM77/2	588282.100	2822103.028	1644.003		BM-95/3	582925.737	2823012.139	1246.854	
BM-59/2	595858.844	2823384.068	1712.036		BM77/3	588061.290	2822131.298	1626.323		BM-96/1	582365.860	2822962.004	1230.106	
BM-59/3	595771.888	2823627.312	1707.319		BM78/1	587842.023	2822180.578	1594.517		BM-96/2	582241.408	2823192.697	1224.423	
BM60/1	595573.041	2824036.750	1721.724		BM78/2	587902.465	2822474.953	1595.720		BM-97/1	581809.451	2823107.943	1215.693	
BM60/2	595562.719	2824194.016	1730.873		BM78/3	588031.602	2822654.128	1618.448		BM-97/2	581569.969	2823119.174	1215.212	
BM60/3	595482.056	2824436.109	1729.078		BM79/1	587991.459	2823068.640	1628.534		BM-97/3	581261.698	2823025.137	1209.090	
BM-61/1	594911.044	2824866.509	1714.693		BM79/2	587769.053	2823089.392	1620.260		BM-98/1	580957.081	2822953.254	1207.216	
BM-61/2	594611.259	2824814.075	1688.092		BM79/3	587658.125	2823252.886	1620.381		BM-98/2	580751.350	2822802.874	1201.303	
BM-62/1	594323.277	2824887.592	1689.543		BM80/1	587585.750	2823701.300	1603.497		BM-98/3	580572.642	2822658.649	1191.189	
BM-62/2	594079.387	2824899.390	1687.960		BM80/2	587434.002	2823800.795	1598.778		BM-98/4	580604.971	2822527.811	1186.280	
BM-62/3	593823.312	2824926.865	1690.499		BM80/3	587254.647	2823969.521	1586.946		BM-99/1	580358.459	2822179.05	1163.849	
BM63/1	593595.510	2824649.592	1701.535		BM-81/1	586864.402	2824454.489	1573.262		BM-99/2	580220.533	2822037.081	1146.294	
BM63/2	593465.624	2824562.628	1715.250		BM-81/2	586633.757	2824518.251	1555.769		BM-100/1	580064.101	2822467.295	1143.935	
BM-64/1	593305.223	2823936.592	1769.348		BM-81/3	586395.808	2824547.624	1543.813		BM-100/2	580017.655	2822672.729	1130.372	
BM-64/2	593226.094	2823773.618	1785.509		BM-82/1	586061.268	2824474.363	1519.660		BM-100/3	579960.997	2822910.975	1118.387	
BM-64/3	593026.282	2823613.807	1806.879		BM-82/2	585978.445	2824297.344	1504.666		BM-101/1	579433.090	2822634.036	1074.228	
BM-64/4	592978.487	2823471.028	1823.567		BM-83/1	585851.145	2823895.640	1466.476		BM-101/2	579242.402	2822500.603	1054.404	
BM65/1	592739.085	2823451.085	1846.615		BM-83/2	585614.396	2823820.676	1441.221		BM-102/1	578850.909	2822349.304	1016.897	
BM65/2	592661.474	2823330.010	1856.718		BM-83/3	585701.676	2823694.497	1434.969		BM-102/2	578672.520	2822125.284	986.391	
BM65/3	592577.480	2823082.662	1873.775		BM-84/1	585607.827	2823297.977	1426.382		BM-102/3	578492.425	2822044.199	977.651	
BM-66/1	592637.970	2822253.434	1890.107		BM-84/2	585316.191	2823238.166	1404.640		BM-103/1	578121.958	2821719.507	953.832	
BM-66/2	592425.492	2822369.571	1886.768		BM-84/3	585182.679	2823172.622	1394.457		BM-103/2	577891.572	2821729.240	943.703	
BM-67/1	592039.695	2822411.535	1906.281		BM-85	584916.300	2822223.002	1359.791		BM-103/3	577704.248	2821620.347	928.865	
BM-67/2	591823.604	2822374.102	1917.403		BM-85/1	585123.351	2822864.236	1384.789		BM-104/1	577330.443	2821405.170	903.181	
BM-68/1	591510.333	2822588.313	1928.600		BM-85/2	585139.367	2822562.211	1370.570		BM-104/2	577219.060	2821271.016	884.691	
BM-68/2	591303.653	2822667.961	1927.916		BM-85/3	585059.891	2822324.760	1359.065		BM-104/3	577454.107	2821307.975	863.749	
BM-68/3	591119.758	2822660.879	1932.062		BM-86/1	584709.692	2822011.830	1363.168		BM-105/1	577629.635	2821231.400	836.883	
BM-68/4	590863.117	2822802.035	1953.536		BM-86/2	584646.499	2821756.042	1357.533		BM-105/2	577499.103	2821061.876	815.090	
BM-69/1	590689.619	2822945.373	1977.738		BM-87/1	584439.028	2821424.604	1336.366		BM-105/3	577313.806	2820943.618	792.162	
BM-69/2	590498.929	2822929.932	1995.371		BM-87/2	584307.983	2821453.335	1329.548		BM-106/1	576855.167	2820401.575	742.472	
BM-69/3	590411.438	2823054.947	2008.402		BM-87/3	584361.977	2821213.116	1309.008		BM-106/2	576777.503	2820260.650	737.522	
BM-70/1	590032.370	2823127.030	2031.511		BM-88/1	584181.501	2820829.879	1278.519		BM-106/3	576958.987	2820415.653	716.587	
BM-70/2	589878.948	2823104.707	2045.031		BM-88/2	584066.705	2820491.007	1261.784		BM-107/1	576904.972	2820236.034	692.302	
BM-70/3	589704.750	2823035.947	2048.248		BM-88/3	584113.774	2820298.434	1248.257		BM-107/2	576671.889	2820131.754	671.619	
BM-71/1	589567.907	2822689.977	2007.950		BM-89/1	584035.107	2820160.850	1231.153		BM-111/1	576875.488	2823847.958	706.679	
BM-71/2	589665.184	2822451.200	1990.407		BM-89/2	583814.991	2819993.029	1225.491		BM-111/2	576789.834	2824027.572	722.125	
BM-71/3	589686.803	2822251.111	1974.543		BM-89/3	583614.983	2819871.240	1215.943		BM-112/1	576755.154	2823842.326	742.616	
BM-72/1	589612.551	2821788.101	1930.360		BM-90/1	583323.394	2819487.175	1215.309		BM-112/2	576643.905	2823815.968	772.883	
BM-72/2	589581.795	2822101.782	1912.940		BM-90/2	583184.080	2819303.630	1214.064		BM-112/3	576559.601	2823902.443	793.547	
BM-72/3	589563.783	2822232.619	1903.483		BM-90/3	583029.128	2819173.094	1221.232		BM-113/1	576438.758	2823972.095	832.278	
BM-73/1	589467.040	2821744.255	1860.495		BM-91/1	583107.404	2819745.790	1237.539		BM-113/2	576364.403	2824161.98	855.885	
BM-73/2	589363.067	2821545.747	1838.171		BM-91/2	583252.245	2819866.302	1245.833		BM-113/3	576245.721	2824183.938	882.85	
BM-73/3	589349.319	2821421.107	1826.204		BM-92/1	583295.199	2820524.547	1257.483		BM-114/1	575998.651	2824365.215	923.022	
BM-74/1	589197.859	2821407.865	1797.953		BM-92/2	583220.822	2820677.247	1						

DGPS					DGPS					DGPS				
GPS NO	Easting (m)	Northing (m)	R.L. (m)		GPS NO	Easting (m)	Northing (m)	R.L. (m)		GPS NO	Easting (m)	Northing (m)	R.L. (m)	
GPS-0	610393.288	2811226.188	1417.686		GPS-49	598780.230	2822252.060	1467.004		GPS-99	580151.584	2822242.498	1148.685	
GPS-0A	610288.311	2811265.613	1421.836		GPS-50	599522.934	2822610.773	1463.964		GPS-100	579690.708	2822903.790	1102.025	
GPS-1	609774.402	2811004.596	1465.156		GPS-50A	599293.429	2822599.252	1455.144		GPS-100A	579606.591	2822814.254	1095.216	
GPS-2	608865.048	2810947.918	1509.275		GPS-51	598711.185	2822778.738	1484.680		GPS-101	579010.112	2822466.789	1030.860	
GPS-3	609091.054	2811617.981	1526.814		GPS-52	598754.310	2823608.064	1464.396		GPS-102	578264.070	2821813.467	956.838	
GPS-4	608340.274	2811693.103	1510.013		GPS-53	598302.192	2823330.846	1520.222		GPS-103	577443.774	2821491.140	913.933	
GPS-5	607706.344	2812055.863	1479.192		GPS-54	597787.737	2822781.719	1590.773		GPS-104	577670.184	2821345.792	848.274	
GPS-5A	607590.579	2812121.360	1474.372		GPS-55	597212.444	2823000.310	1665.761		GPS-105	577171.022	2820688.426	764.442	
GPS-6	607337.434	2812674.223	1437.344		GPS-55A	597104.950	2823026.721	1674.059		GPS-105A	577035.503	2820584.893	751.335	
GPS-7	607721.406	2813492.679	1385.470		GPS-56	596606.505	2822566.101	1681.888		GPS-106	577049.552	2820508.140	710.102	
GPS-8	607088.216	2813439.043	1430.734		GPS-57	595982.316	2822210.904	1713.422		GPS-107	576474.859	2820268.422	659.829	
GPS-9	606410.899	2813401.885	1442.932		GPS-58	595798.634	2823001.847	1711.893		GPS-108	576256.354	2821071.469	659.865	
GPS-10	605876.319	2812898.378	1454.338		GPS-59	595694.321	2823811.486	1705.864		GPS-109	576945.313	2822869.639	724.269	
GPS-10A	605785.379	2812832.364	1454.781		GPS-60	595411.753	2824622.601	1732.535		GPS-110	576923.577	2823686.047	719.044	
GPS-11	604992.876	2812829.187	1449.834		GPS-60A	595316.779	2824728.188	1730.348		GPS-110A	576991.276	2823786.583	715.550	
GPS-12	605126.625	2813716.824	1451.176		GPS-61	594509.378	2824732.223	1683.254		GPS-111	576709.077	2823955.801	729.270	
GPS-13	605205.244	2814604.254	1407.390		GPS-62	593675.577	2824776.453	1691.335		GPS-112	576524.875	2823788.024	810.187	
GPS-14	605572.969	2815134.826	1359.240		GPS-63	593256.523	2824240.477	1741.956		GPS-113	576120.431	2824246.828	907.392	
GPS-15	605755.074	2815753.363	1308.142		GPS-64	592907.498	2823490.841	1833.039		GPS-114	576108.167	2823958.950	963.118	
GPS-15A	605641.820	2815658.434	1305.876		GPS-65	592612.512	2822782.983	1885.780						
GPS-16	605222.953	2815244.877	1319.993		GPS-65A	592594.546	2822588.628	1891.088						
GPS-17	604666.272	2814693.990	1389.034		GPS-66	592223.385	2822370.052	1895.212						
GPS-18	604125.826	2814104.274	1440.179		GPS-67	591548.755	2822487.947	1931.695						
GPS-19	603611.701	2813507.234	1502.392		GPS-68	590861.108	2822964.527	1965.383						
GPS-20	603293.317	2814386.300	1574.140		GPS-69	590137.222	2823025.281	2019.942						
GPS-20A	603369.830	2814407.252	1575.122		GPS-70	589454.568	2822920.733	2023.653						
GPS-21	603261.362	2814915.071	1619.450		GPS-70A	589510.477	2822819.007	2017.471						
GPS-22	603340.404	2815532.948	1595.455		GPS-71	589669.590	2822014.434	1954.029						
GPS-23	602751.501	2816022.141	1561.136		GPS-72	589557.231	2822166.582	1897.691						
GPS-24	602502.420	2815655.883	1534.047		GPS-73	589323.580	2821483.239	1819.343						
GPS-25	601984.422	2815328.635	1531.190		GPS-74	588955.902	2821580.169	1730.150						
GPS-25A	602024.022	2815160.109	1539.724		GPS-75	588508.284	2821424.179	1651.669						
GPS-26	602258.312	2814586.914	1588.892		GPS-75A	588496.320	2821476.840	1650.797						
GPS-27	601556.285	2814232.410	1656.649		GPS-76	588351.875	2821708.805	1633.211						
GPS-28	600953.704	2814854.937	1679.522		GPS-77	587926.788	2822018.665	1615.941						
GPS-29	600454.013	2815515.484	1747.189		GPS-78	588033.845	2822730.947	1623.033						
GPS-30	599871.957	2815033.583	1756.779		GPS-79	587713.351	2823549.093	1607.704						
GPS-30A	599768.652	2815059.140	1757.135		GPS-80	587091.123	2824182.049	1577.595						
GPS-31	599238.235	2814563.403	1769.130		GPS-80A	587006.958	2824207.151	1575.164						
GPS-32	598579.142	2814843.603	1756.851		GPS-81	586204.766	2824424.269	1528.668						
GPS-33	598563.043	2815681.884	1713.159		GPS-82	585904.883	2824110.037	1485.022						
GPS-34	599024.553	2816439.657	1660.779		GPS-83	585713.526	2823468.285	1432.639						
GPS-35	599026.438	2816754.657	1663.123		GPS-84	585208.102	2822937.093	1386.357						
GPS-35A	598892.950	2816804.742	1668.570		GPS-85	584916.300	2822223.002	1359.791						
GPS-36	597911.989	2817348.270	1747.890		GPS-85A	584771.493	2822227.654	1361.824						
GPS-37	598246.664	2817953.915	1736.797		GPS-86	584537.694	2821694.695	1349.116						
GPS-38	598227.680	2818703.171	1704.394		GPS-87	584272.395	2820966.041	1293.008						
GPS-39	598687.644	2819092.031	1666.539		GPS-88	584209.063	2820159.656	1234.437						
GPS-40	599130.224	2818832.785	1629.770		GPS-89	583473.322	2819678.766	1211.687						
GPS-40A	599197.348	2818831.292	1627.491		GPS-90	583045.540	2819449.396	1223.025						
GPS-41	599241.691	2819333.786	1587.455		GPS-90A	583011.322	2819627.060	1228.407						
GPS-42	599966.016	2819468.257	1558.493		GPS-91	583271.048	2820269.182	1247.967						
GPS-43	600409.832	2819765.777	1529.005		GPS-92	583418.644	2821163.352	1272.550						
GPS-44	600491.664	2820591.178	1466.510		GPS-93	583649.407	2821857.757	1277.343						
GPS-45	600035.366	2820652.786	1424.700		GPS-94	583528.743	2822910.795	1270.686						
GPS-45A	599940.527	2820608.656	1422.411		GPS-95	582713.115	2823006.643	1245.043						
GPS-46	599194.096	2820726.467	1422.241		GPS-95A	582612.477	2822978.190	1242.272						
GPS-47	598627.229	2821056.309	1446.947		GPS-97	581141.272	2823056.297	1207.731						
GPS-48	598232.352	2821688.268	1482.488		GPS-98	580586.815	2822370.543	1176.498						

					Scale :- N.T.S										CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001					LIST OF CONTROL PILLAR					CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 & OHSAS18001 Certified Company 124-A, N.S.C. Bose Road, Kolkata - 700092					DWG NO:-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PILLAR					REVISION MKD. - R0					SHEET NO. - 15 OF 15					DRAWN BY		
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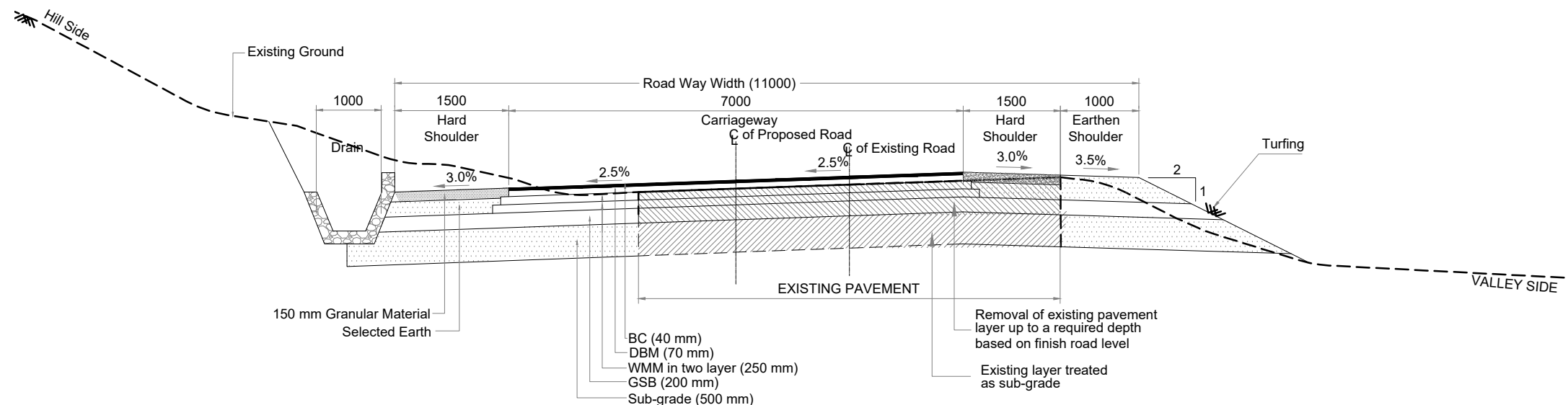
TYPICAL CROSS SECTION



TCS-1 :- TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY
IN BUILT UP AREA WITH BOTH SIDE FOOTPATH CUM RCC RECTENGULAR DRAIN
(RECONSTRUCTION OF EXISTING PAVEMENT)

TCS - 1		
CHAINAGE		LENGTH (m)
FROM	TO	
58775	60075	1300
TOTAL LENGTH =		1300

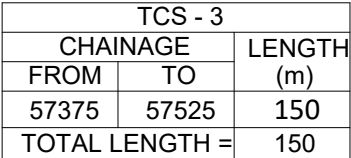
					Scale :- N.T.S  CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION		CONSULTANT :  CETEST Engineering Consultants An ISO 9001, 9001 & OHSAS 18001 Certified Company CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092 		DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS			
										REVISION MKD. - R0		SHEET NO. - 01	
					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR.(PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT				DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.									
REVISIONS					DATE: FEB, 2020					 S.MANDAL	 B.DAS	 S.SADHU	 B.KONER



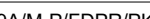
TCS-2 : TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY
IN RURAL AREA WITH RR MASONRY TRAPEZOIDAL DRAIN HILL SIDE AND EARTHEN SHOULDER ON VALLEY SIDE
(RECONSTRUCTION OF EXISTING PAVEMENT)

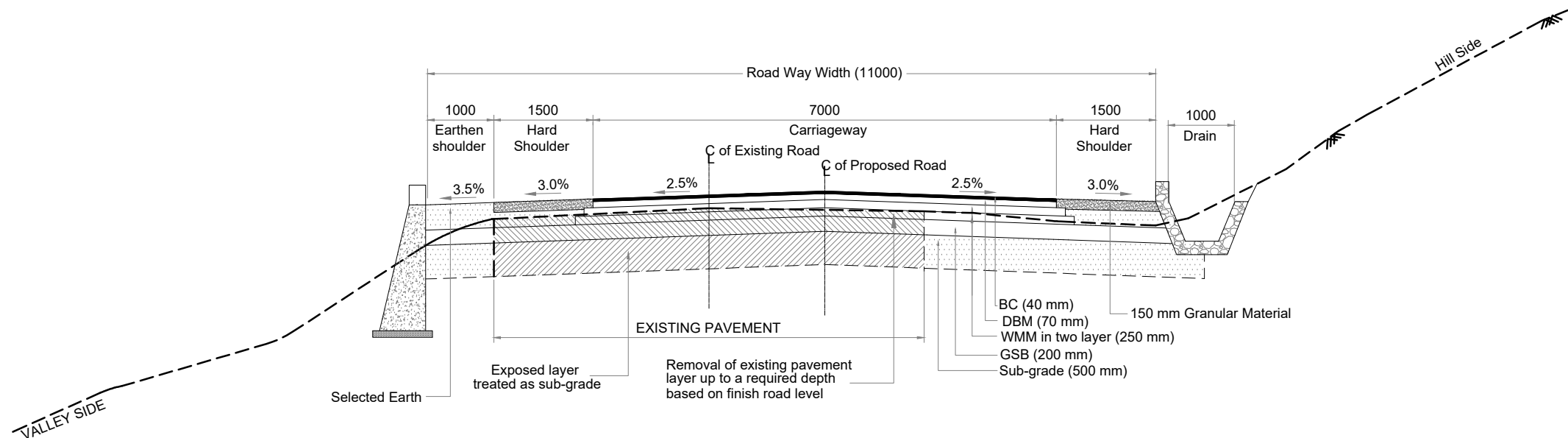
TCS - 2		
CHAINAGE		LENGTH (m)
FROM	TO	
57225	57375	150
57575	57675	100
57725	57925	200
57975	58175	200
58225	58275	50
58525	58775	250
60075	60225	150
60675	60775	100
62275	62675	400
63325	63525	200
63625	63675	50
63875	64875	1000
65175	65275	100
65525	65925	400
66075	66225	150
66275	66525	250
68425	68525	100
73175	73525	350
73575	74725	1150
TOTAL LENGTH =		5350

						CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092 	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS			
Scale :- N.T.S.									REVISION MKD. - R0		SHEET NO. - 02	
DATE: FEB, 2020					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR.(PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	PACKAGE - IIB		DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
REVISIONS									 S.MANDAL	 B.DAS	 S.SADHU	 B.KONER



TCS-3 :- TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY
IN RURAL AREA WITH BREAST WALL ON HILL SIDE AND EARTHEN SHOULDER ON VALLEY SIDE
(RECONSTRUCTION OF EXISTING PAVEMENT)

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION			CONSULTANT :  CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company 124-A, N.S.C. Bose Road, Kolkata - 700092			DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS REVISION MKD. - R0 SHEET NO. - 03			
						PROJECT:	CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH-129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR.(PACKAGE-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT						DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
MKD.					DATE	DESCRIPTION	CHKD.	APPRD.	DATE:	FEB, 2020							
REVISIONS											PACKAGE - IIB			S.MANDAL	B.DAS	S.SADHU	B.KONER

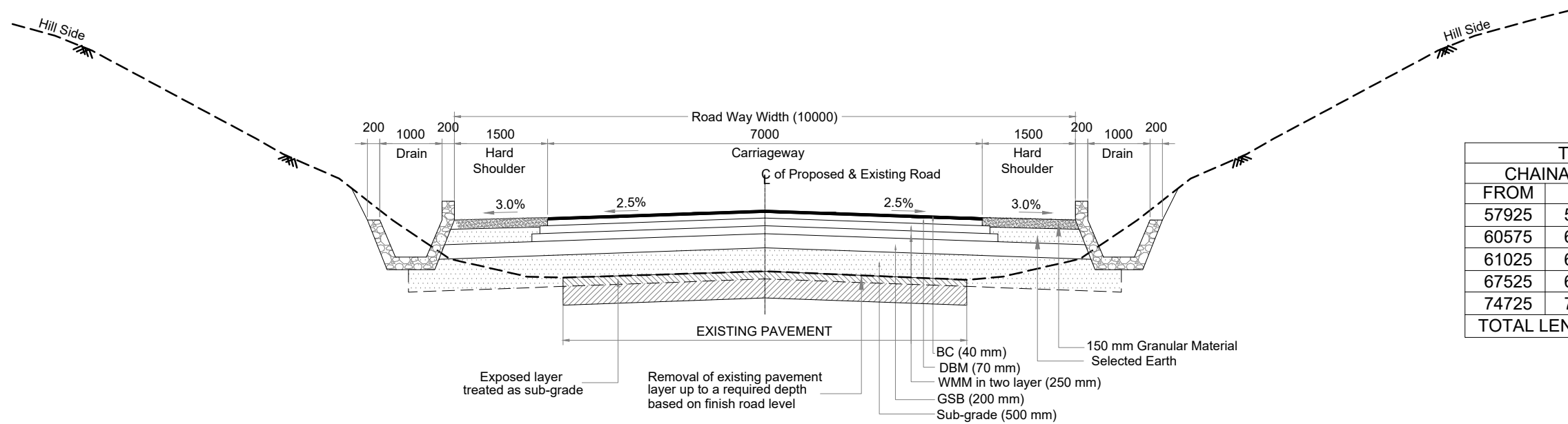


TCS-4 :-TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY AT RECONSTRUCTION STRETCH
IN RURAL AREA WITH ONE SIDE RETAINING WALL AND OTHER SIDE RR MASONRY TRAPEZOIDAL DRAIN

(RECONSTRUCTION OF EXISTING PAVEMENT)

TCS - 4		
CHAINAGE		LENGTH (m)
FROM	TO	
56840	57225	385
57525	57575	50
57675	57725	50
58175	58225	50
58275	58525	250
60225	60325	100
60775	61025	250
62675	63325	650
63525	63625	100
63675	63875	200
64925	65175	250
65275	65525	250
65925	66075	150
68375	68425	50
73025	73175	150
73525	73575	50
TOTAL LENGTH =		2985

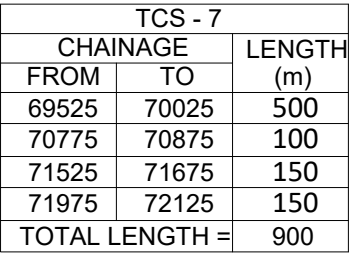
					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS				
					DATE: FEB, 2020		PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR.(PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		REVISION MKD. - R0	SHEET NO. - 04			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.										
REVISIONS														



TCS-6 :-TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY DUE TO PRESENCE OF HILL IN RURAL AREA WITH BOTH SIDE RR MASONRY TRAPEZOIDAL DRAIN
(RECONSTRUCTION OF EXISTING PAVEMENT)

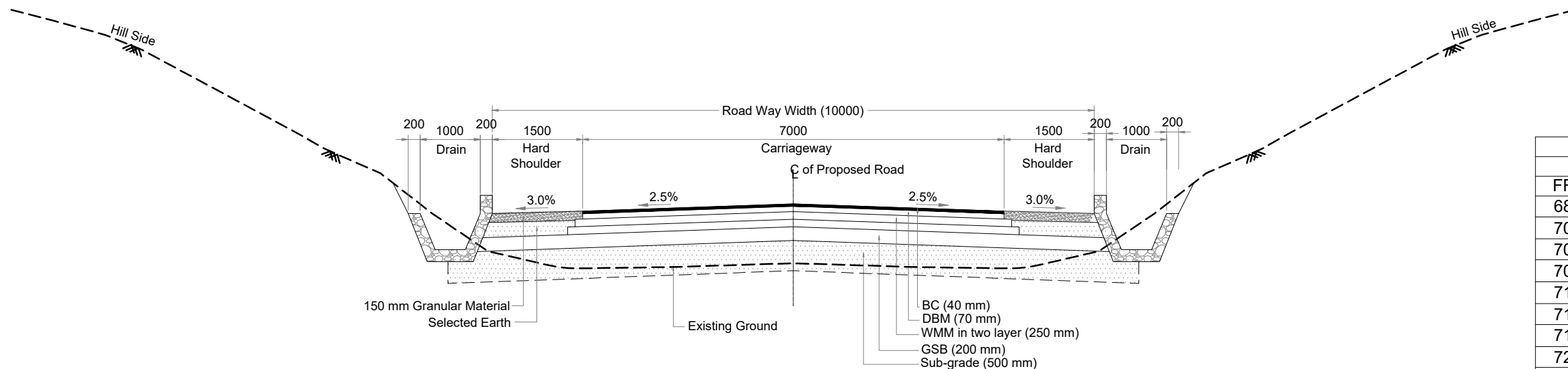
TCS - 6		
CHAINAGE		LENGTH (m)
FROM	TO	
57925	57975	50
60575	60675	100
61025	62275	1250
67525	67975	450
74725	74850	125
TOTAL LENGTH =		1975

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS				
					DATE: FEB, 2020		PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR.(PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		REVISION MKD. - R0	SHEET NO. - 06			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.										
REVISIONS														



TCS-7 : TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY IN RURAL AREA WITH
ONE SIDE RR MASONRY TRAPEZOIDAL DRAIN AND EARTHEN SHOULDER ON VALLEY SIDE
(NEW CONSTRUCTION)

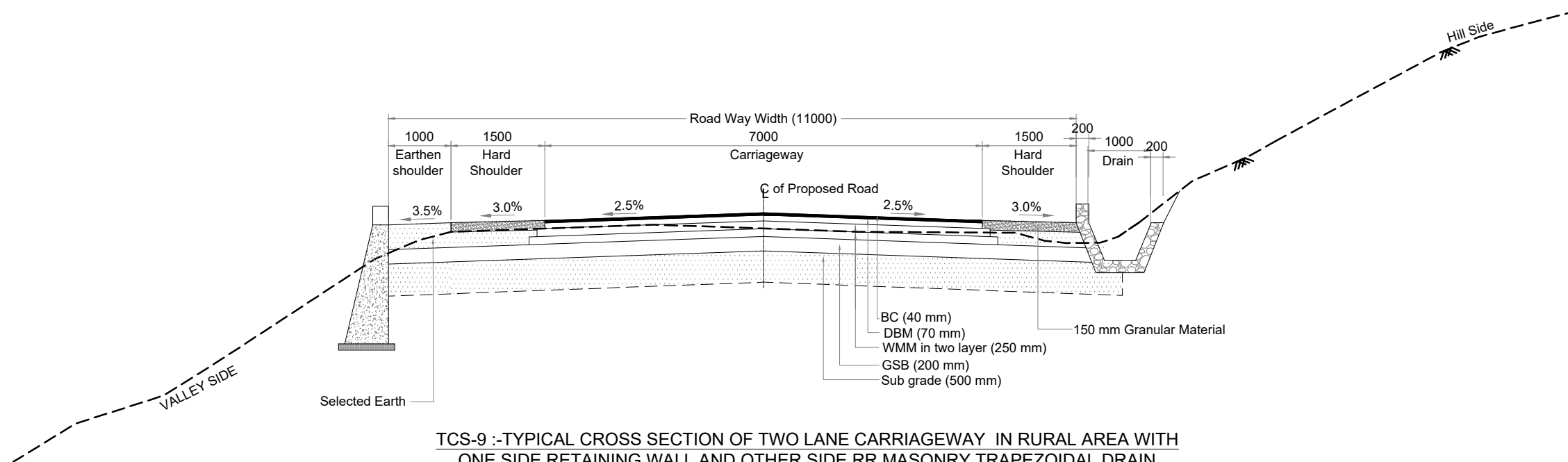
					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS				
										REVISION MKD. - R0		SHEET NO. - 07		
						PROJECT:		SUBMISSION TYPE :		DRAWN BY		DESIGNED BY	CHECKED BY	ISSUED BY
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MADE IN THE STATE OF MANIPUR.(PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	FINAL DETAILED PROJECT REPORT			S.MANDAL		B.DAS	S.SADHU	B.KONER
REVISIONS							PACKAGE - IIB							



TCS-8 :-TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY AT REALIGNMENT STRETCH
DUE TO PRESENCE OF HILL IN RURAL AREA WITH BOTH SIDE RR MASONRY TRAPEZOIDAL DRAIN
(NEW CONSTRUCTION)

TCS - 8		
CHAINAGE		LENGTH (m)
FROM	TO	
68525	69525	1000
70075	70175	100
70225	70575	350
70725	70775	50
71025	71525	500
71775	71825	50
71925	71975	50
72125	73025	900
TOTAL LENGTH =		3000

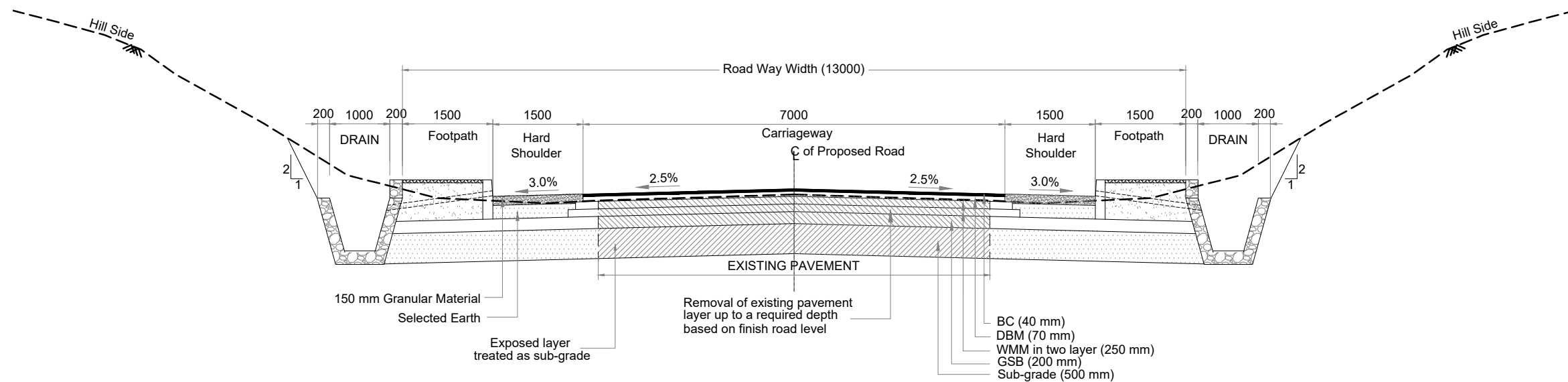
					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS			
										REVISION MKD. - R0		SHEET NO. - 08	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR.(PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	PACKAGE - IIB					
REVISIONS										S.MANDAL	B.DAS	S.SADHU	B.KONER



TCS-9 :-TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY IN RURAL AREA WITH ONE SIDE RETAINING WALL AND OTHER SIDE RR MASONRY TRAPEZOIDAL DRAIN (NEW CONSTRUCTION)

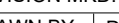
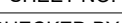
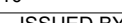
TCS - 9		
CHAINAGE		LENGTH (m)
FROM	TO	
70025	70075	50
70175	70225	50
70575	70725	150
70875	71025	150
71675	71775	100
71825	71925	100
TOTAL LENGTH =		600

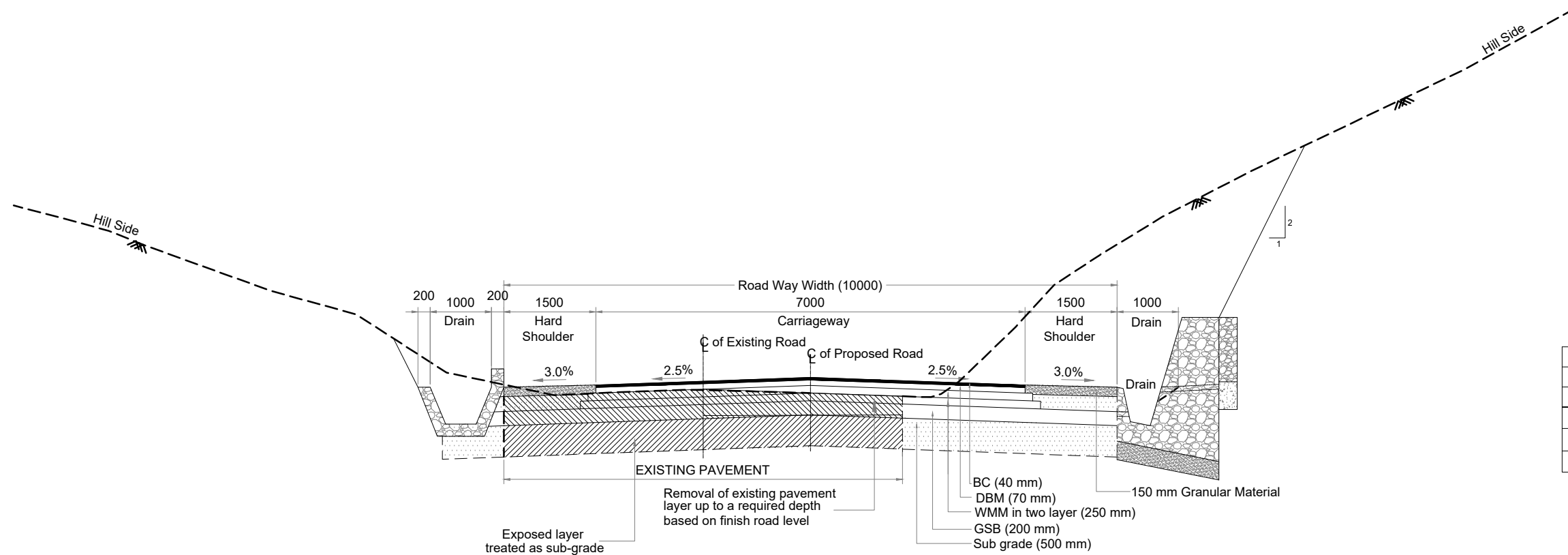
						CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS				
									REVISION MKD. - R0		SHEET NO. - 09		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR.(PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	PACKAGE - IIB			DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
REVISIONS										 S.MANDAL	 B.DAS	 S.SADHU	 B.KONER



TCS - 10		
CHAINAGE		LENGTH (m)
FROM	TO	
74850	75000	150
TOTAL LENGTH =		150

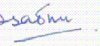
TCS-10 :-TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY
IN BUILT UP AREA WITH BOTH SIDE FOOTPATH AND OPEN RR MASONRY TRAPEZOIDAL DRAIN
(RECONSTRUCTION OF EXISTING PAVEMENT)

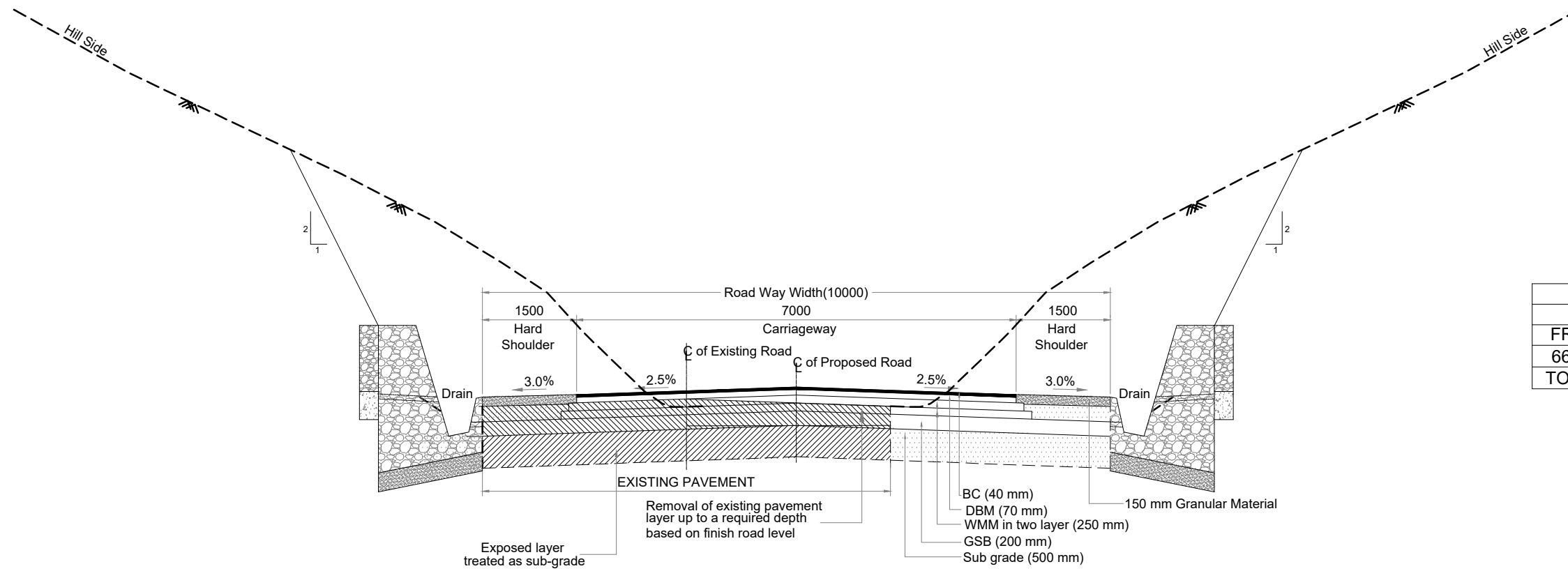
						CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092. 	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS			
Scale :- N.T.S									REVISION MKD. - R0		SHEET NO. - 10	
DATE: FEB, 2020					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR.(PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	PACKAGE - IIB		DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
REVISIONS									 S.MANDAL	 B.DAS	 S.SADHU	 B.KONER



TCS - 11		
CHAINAGE		LENGTH (m)
FROM	TO	
66525	66675	150
66775	67525	750
TOTAL LENGTH =		900

TCS-11 :-TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY
IN RURAL AREA WITH ONE SIDE BREAST WALL AND OTHER SIDE RR MASONRY TRAPEZOIDAL DRAIN
(RECONSTRUCTION OF EXISTING PAVEMENT)

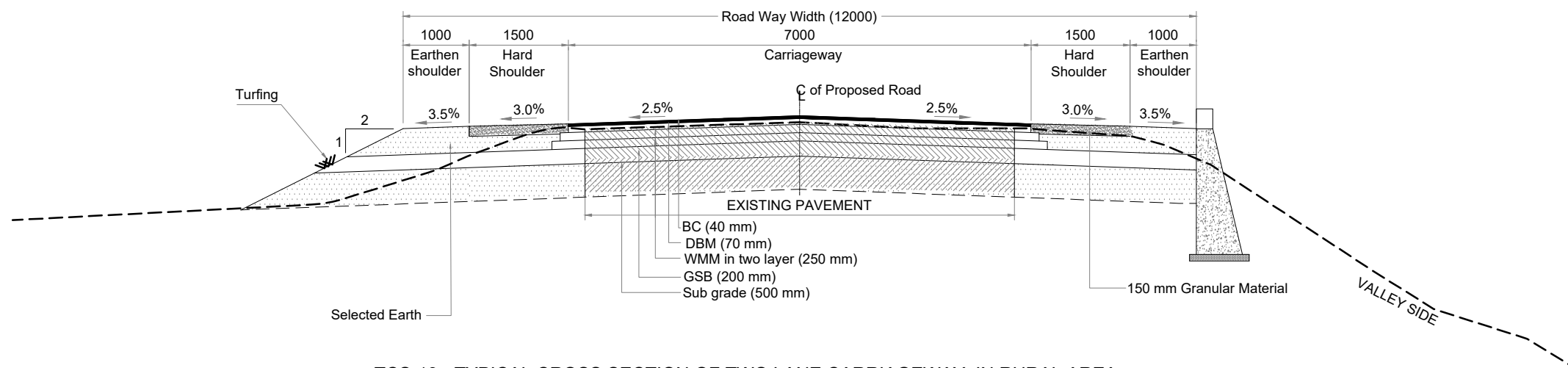
						CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS			
Scale :- N.T.S									REVISION MKD. - R0		SHEET NO. - 11	
DATE: FEB, 2020					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR.(PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	PACKAGE - IIB		DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
REVISIONS									 S.MANDAL	 B.DAS	 S.SADHU	 B.KONER



TCS - 12		
CHAINAGE		LENGTH
FROM	TO	(m)
66675	66775	100
TOTAL LENGTH =		100

TCS-12 :-TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY
IN RURAL AREA WITH BOTH SIDE BREAST WALL
(RECONSTRUCTION OF EXISTING PAVEMENT)

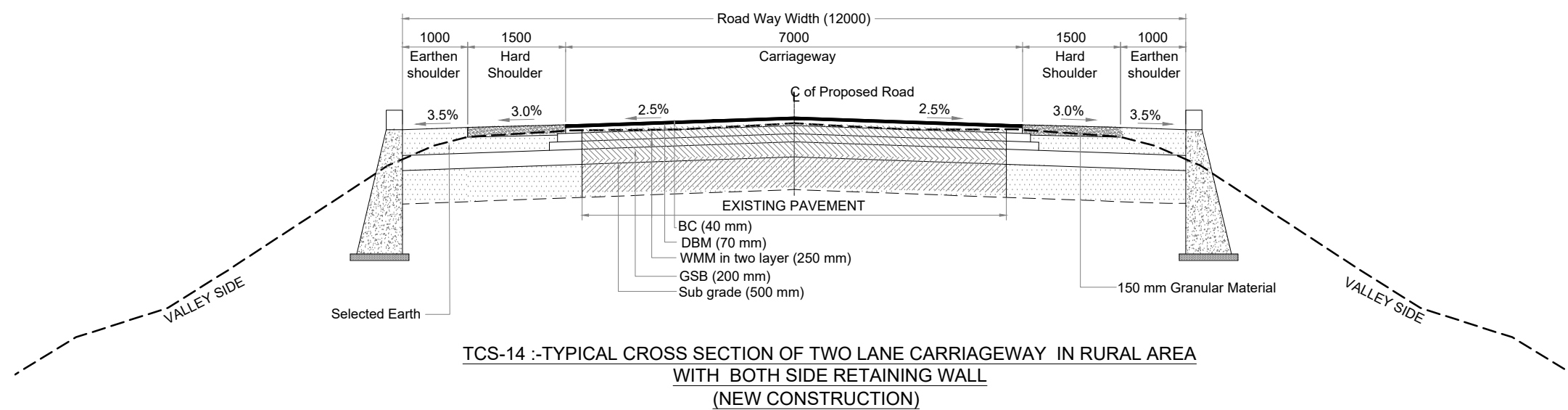
					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS				
					DATE: FEB, 2020		PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR.(PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		REVISION MKD. - R0	SHEET NO. - 12			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.										
REVISIONS														



TCS-13 :-TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY IN RURAL AREA
WITH ONE SIDE RETAINING WALL
(NEW CONSTRUCTION)

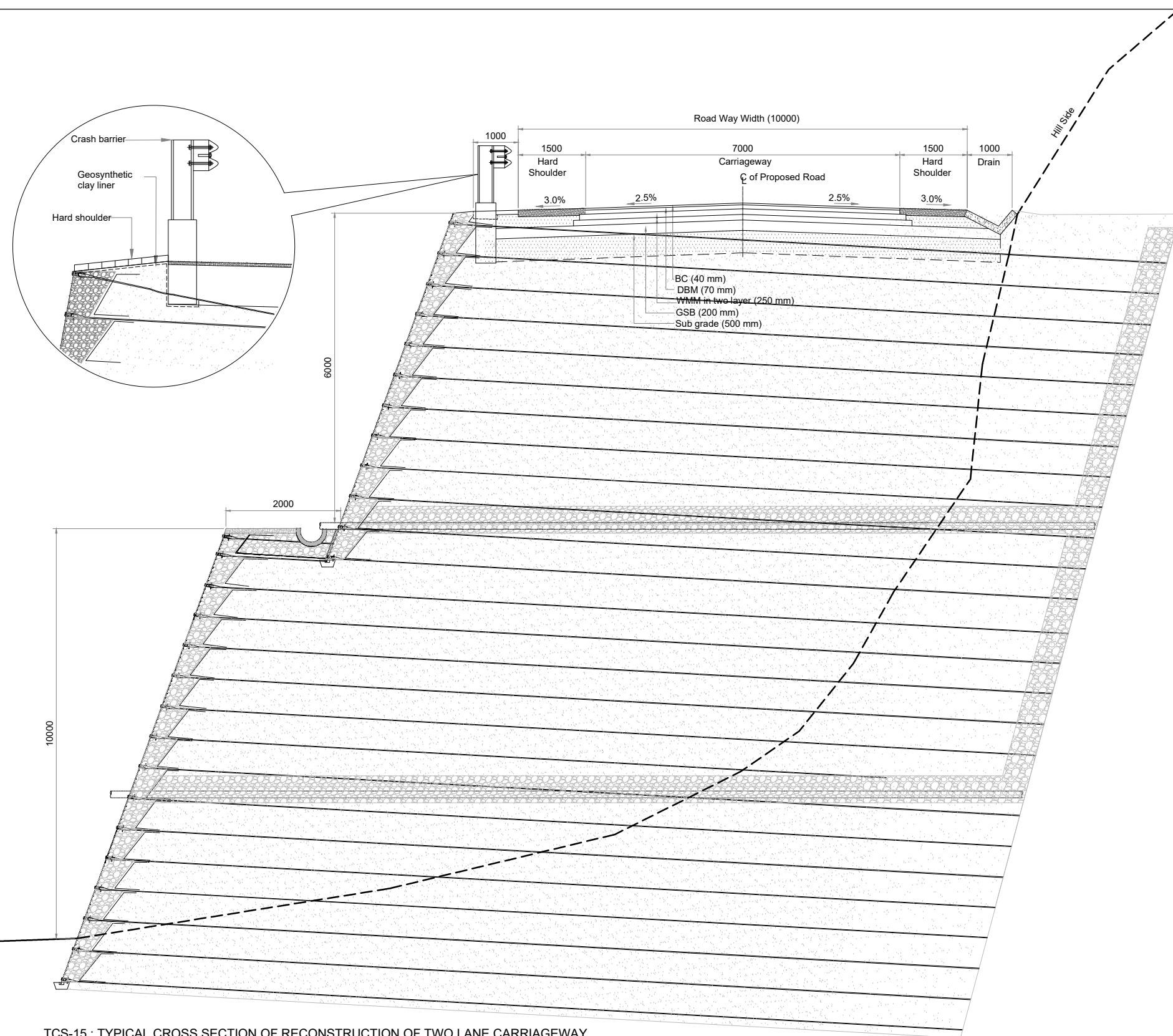
TCS - 13		
CHAINAGE		LENGTH (m)
FROM	TO	
67975	68175	200
TOTAL LENGTH =		200

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS				
										REVISION MKD. - R0		SHEET NO. - 13		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR.(PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)					SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
REVISIONS											DATE: FEB, 2020			
								PACKAGE - IIB						



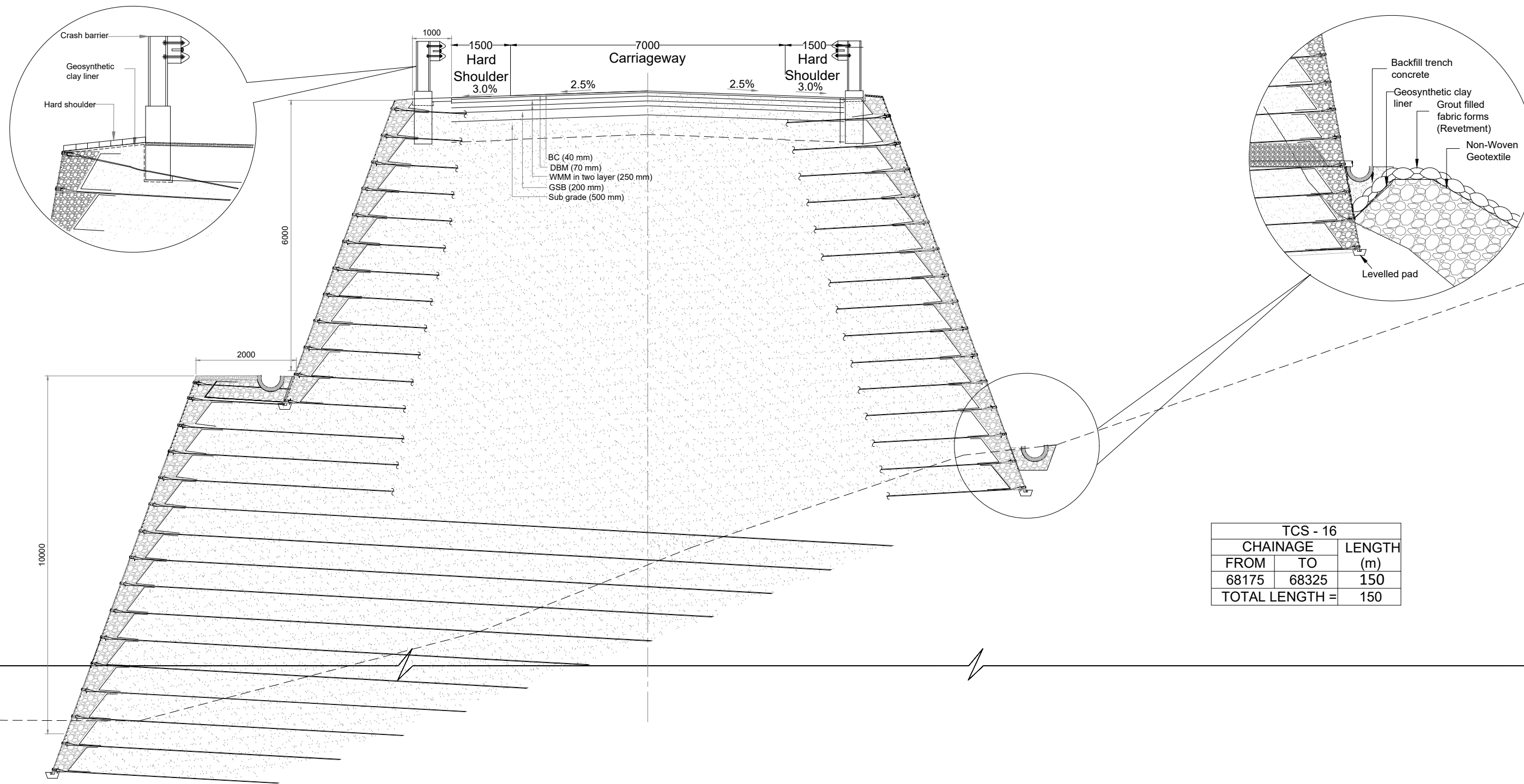
TCS - 14		
CHAINAGE		LENGTH (m)
FROM	TO	
60325	60575	250
TOTAL LENGTH =		250

					Scale :- N.T.S	 CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION		CONSULTANT : CETEST Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092. 	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS					
							SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			REVISION MKD. - R0		SHEET NO. - 14			
PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR.(PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)					FEB, 2020	PACKAGE - IIB		DRAWN BY  S.MANDAL		DESIGNED BY  B.DAS		CHECKED BY  S.SADHU		ISSUED BY  B.KONER	
REVISIONS															
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.											



TCS - 15		
CHAINAGE		LENGTH
FROM	TO	(m)
64875	64925	50
66225	66275	50
68325	68375	50
TOTAL LENGTH =		150

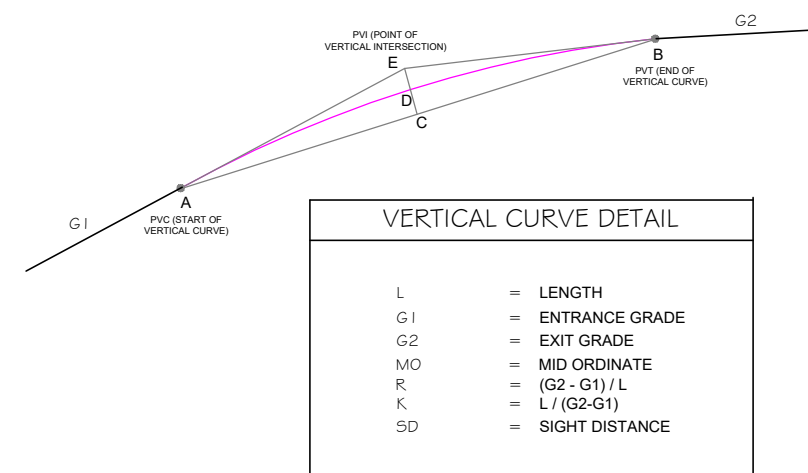
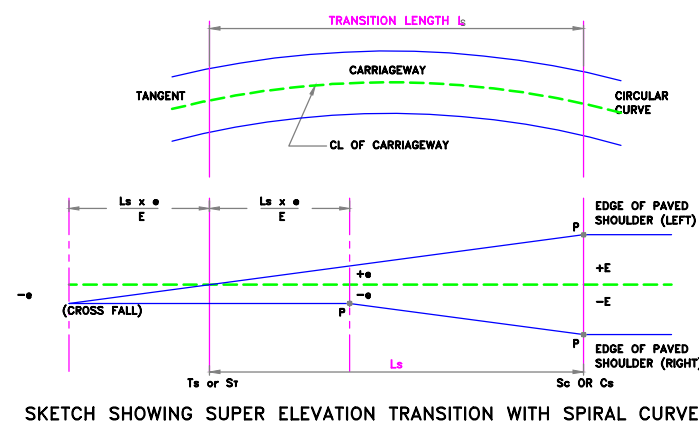
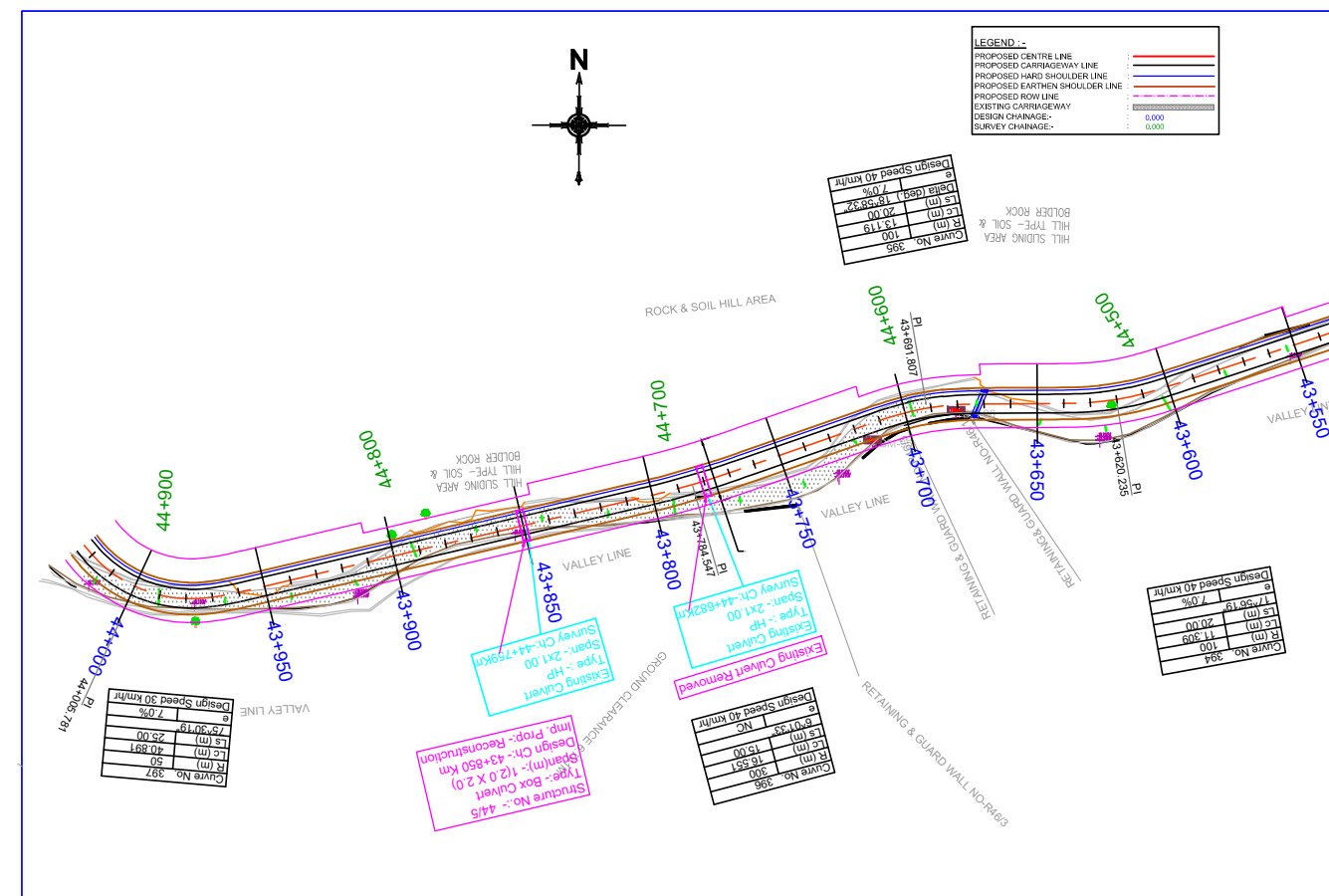
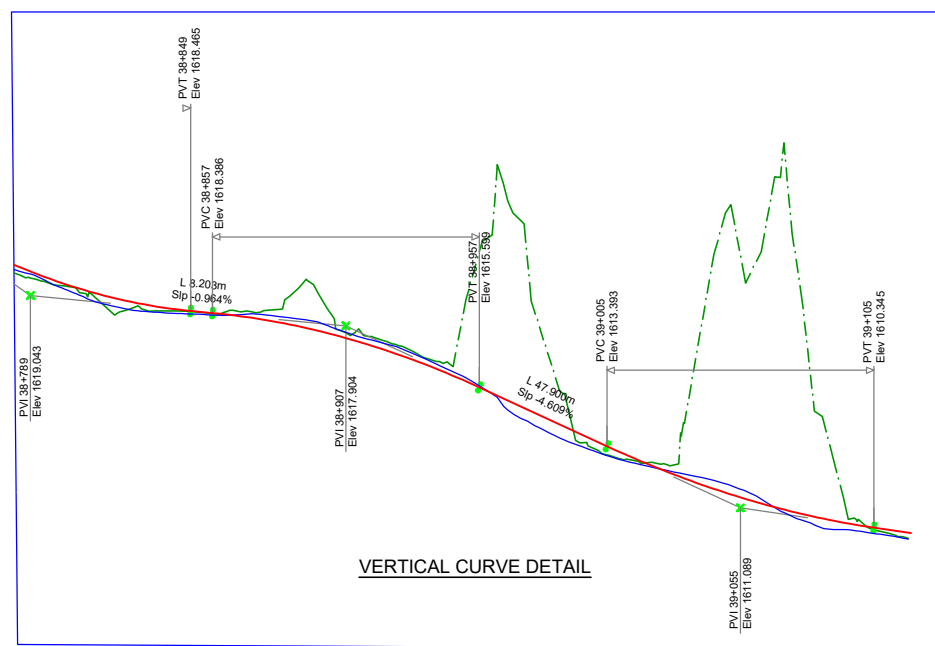
					Scale :- N.T.S	 CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION		CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092		DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS							
											REVISION MKD. - R0		SHEET NO. - 15					
					DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR.(PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT				DRAWN BY		DESIGNED BY		CHECKED BY		ISSUED BY	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.														
REVISIONS							PACKAGE - IIB				S.MANDAL		B.DAS		S.SADHU		B.KONER	



TCS - 16		
CHAINAGE		LENGTH (m)
FROM	TO	
68175	68325	150
TOTAL LENGTH =		150

<table><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td>MKD.</td><td>DATE</td><td>DESCRIPTION</td><td>CHKD.</td><td>APPRD.</td></tr><tr><td colspan="5">REVISIONS</td></tr></table>										MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	REVISIONS					Scale :- N.T.S.	 PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR.(PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	PACKAGE - IIB	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	 DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/TCS REVISION MKD. - R0 SHEET NO. - 16	DRAWN BY  S.MANDAL	DESIGNED BY  B.DAS	CHECKED BY  S.SADHU	ISSUED BY  B.KONER
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.																											
REVISIONS																															

LEGEND



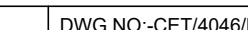
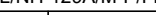
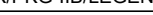
SPIRAL CURVE DETAIL		CIRCULAR CURVE DETAIL	
R_b	= BEGINING CURVATURE (AT A & J)	R	= RADIUS
R_e	= END RADIUS (AT B & D)	L_c	= LENGTH OF CIRCLE
L_s	= LENGTH OF SPIRAL (AB & DJ)	T	= TANGENT LENGTH (EB)
θ_{sc}	= SPIRAL ANGLE $= \frac{\pi BHC}{L_s}$	Δ	= ANGLE OF CIRCULAR ARC (c) Δ
A	= CONSTANT = $\sqrt{L_s \times R_e}$	DC	= DEGREE OF CURVATURE
S	= SHIFT	C	= CHORD LENGTH
X_G	= AK (ABSCISSA)	O	= MIDDLE ORDINATE (FG)
X_S	= AC	E	= EXTERNAL ORDINATE (EF)
Y_S	= BC		
L_t	= LONG TANGENT (AH)		
S_t	= SHORT TANGENT (HB)		
T_s	= TANGENT DISTANCE (1A)		
	$= L_s/2 + (R+S)\tan \frac{\Delta}{2}$		
TOTAL DEVIATION ANGLE = $\Delta_c = \Delta_c + 2\theta_{sc}$			
E_s	= (1F) = APEX DISTANCE		
	= $(R+S)\sec \frac{\Delta_c}{2}$		

LEGEND :	
Ts or St	– Point of change from transition to tangent (spiral to tangent)
Sc or Cs	– Point of change from transition to circular curve (spiral to circular)
Ls	– Length of transition curve
e	– Normal cross fall rate (2.5%) for flexible pavement.
	– Normal cross fall rate (2.0%) for rigid pavement.
E	– Rate of super elevation

NOTE : SHORT VERTICAL CURVES (AT LEAST 15M LONG) TO BE INSERTED AT POINT "P" IF NECESSARY. LEFT AND RIGHT ARRANGEMENT WILL BE REVERSED IN SIGN FOR CURVE IN REVERSE DIRECTION.

GENERAL NOTES

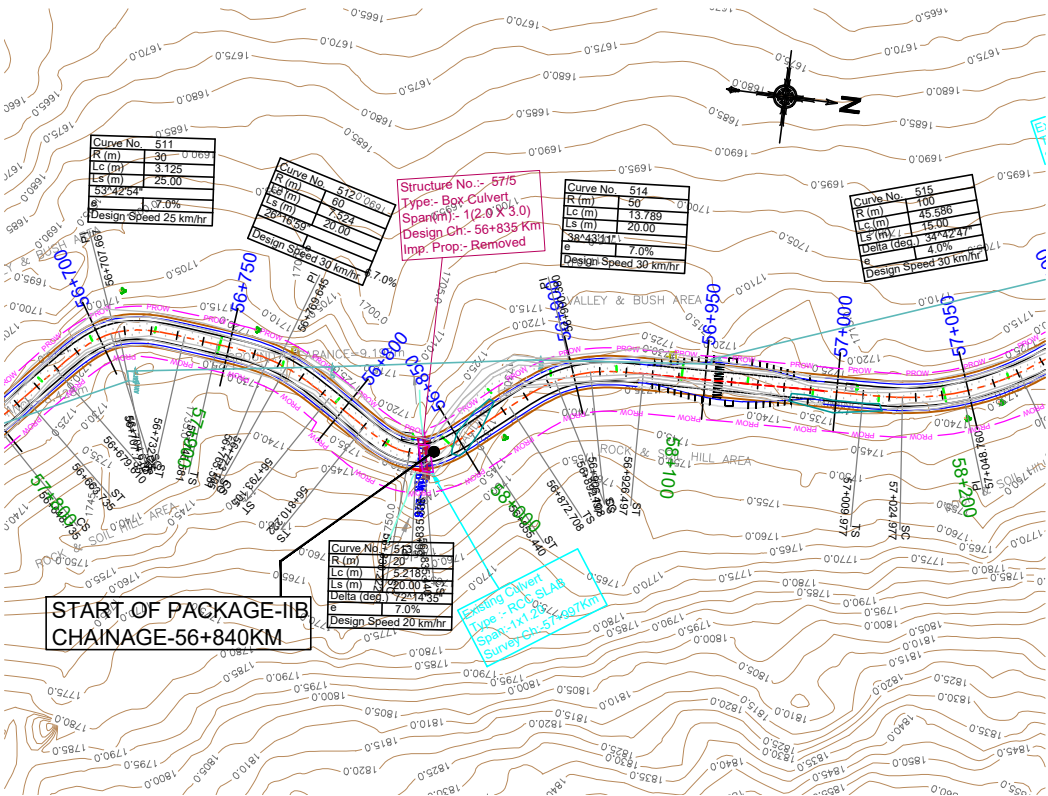
01. ALL DIMENSIONS ARE IN METERS, UNLESS OTHERWISE SPECIFIED.

Scale :- N.T.S						CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001		LEGEND		CONSULTANT :  CE TESTING COMPANY Engineering Consultants 124-A, N.S.C. Bose Road, Kolkata - 700001 		DWG NO.:-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/LEGEND				
												REVISION MKD. - R0		SHEET NO. - 01		
MKD.					DATE	DESCRIPTION	CHKD.	APPRD.	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT				DRAWN BY 	DESIGNED BY 	CHECKED BY 	ISSUED BY
REVISIONS					DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		PACKAGE - IIB				P. GHOSH	B. DAS	S.SADHU	B. KONER	

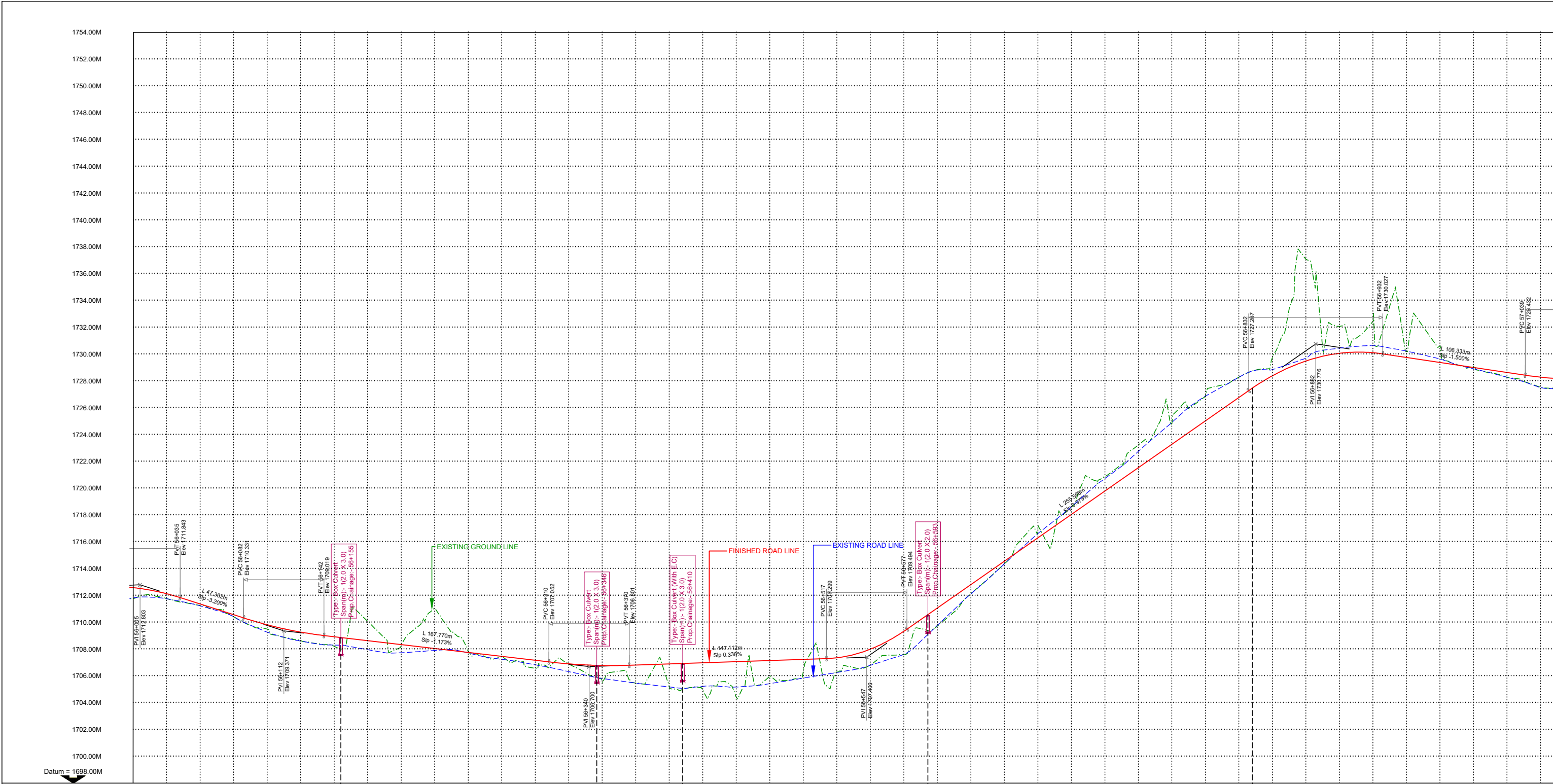
PLAN & PROFILE

LEGEND :-

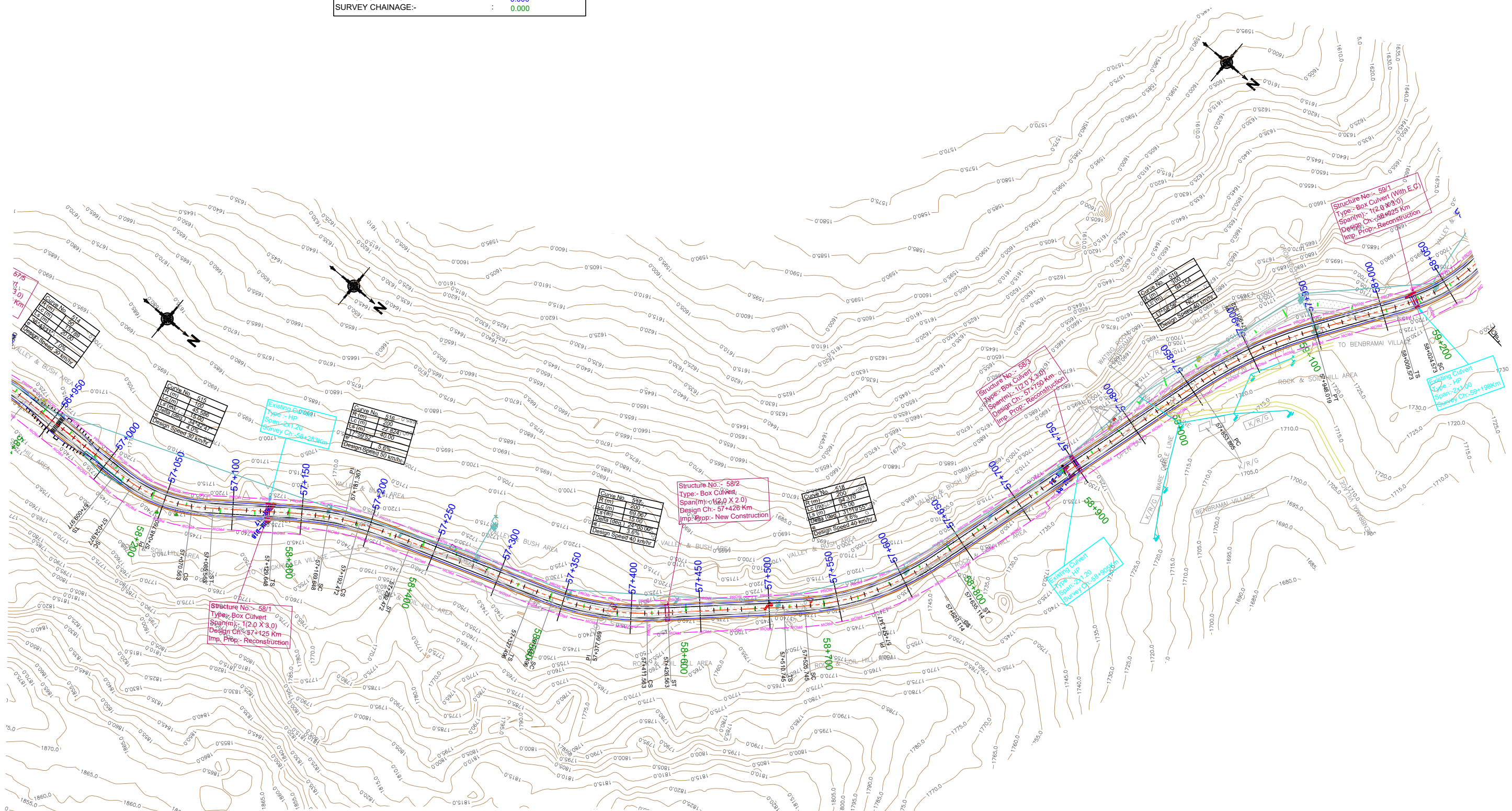
PROPOSED CENTRE LINE	:	---
PROPOSED CARRIAGEWAY LINE	:	---
PROPOSED HARD SHOULDER LINE	:	---
PROPOSED EARTHEN SHOULDER LINE	:	---
PROPOSED FOOTPATH CUM DRAIN	:	---
PROPOSED ROW LINE	:	---
EXISTING CARRIAGEWAY	:	---
DESIGN CHAINAGE:-	:	0.000
SURVEY CHAINAGE:-	:	0.000

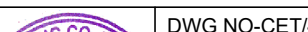


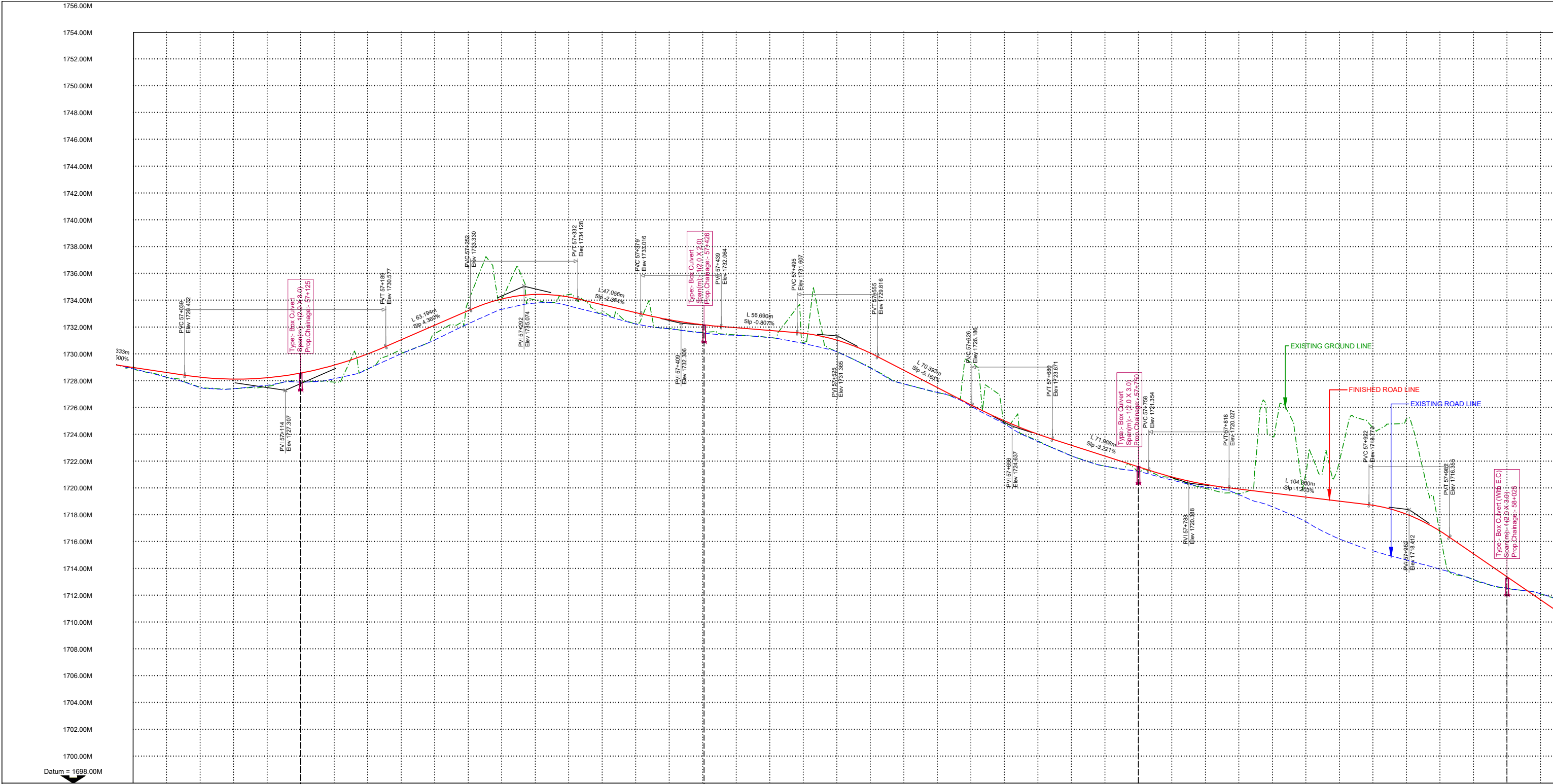
					Scale :- 1:2000		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PLAN Km 56+840 to Km 57+000		CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092. 	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN					
								SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			REVISION MKD. - R0		SHEET NO. - 01			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		PACKAGE-IIB			DRAWN BY		DESIGNED BY	CHECKED BY	ISSUED BY	
REVISIONS											 U. MALIK	 B.DAS	 S.SADHU	 B.KONER		



FINISHED ROAD LEVEL ALONG THE PROPOSED CL.	1712.560	1712.138	1711.370	1710.570	1709.822	1709.276	1708.931	1708.638	1708.344	1708.051	1707.758	1707.465	1707.172	1706.888	1706.606	1706.328	1706.052	1705.787	1705.527	1705.270	1705.017	1704.768	1704.525	1704.286	1704.052	1703.823	1703.599	1703.380	1703.166	1702.957	1702.753	1702.554	1702.360	1702.171	1701.987	1701.808	1701.634	1701.465	1701.301	1701.142	1700.988	1700.839	1700.695	1700.556	1700.422	1700.293	1700.169	1700.050	1699.936	1699.827	1699.723	1699.624	1699.530	1699.441	1699.357	1699.278	1699.204	1699.135	1699.071	1699.012	1698.958	1698.909	1698.865	1698.826	1698.792	1698.763	1698.739	1698.719	1698.703	1698.691	1698.683	1698.679	1698.679	1698.683	1698.691	1698.703	1698.719	1698.739	1698.763	1698.792	1698.826	1698.865	1698.909	1698.958	1699.012	1699.071	1699.135	1699.204	1699.278	1699.357	1699.441	1699.530	1699.624	1699.723	1699.827	1699.936	1700.050	1700.169	1700.293	1700.422	1700.556	1700.695	1700.839	1700.988	1701.142	1701.301	1701.465	1701.634	1701.808	1701.987	1702.171	1702.360	1702.554	1702.753	1702.957	1703.166	1703.380	1703.599	1703.823	1704.052	1704.286	1704.525	1704.768	1705.017	1705.270	1705.527	1705.787	1706.052	1706.328	1706.606	1706.888	1707.172	1707.465	1707.758	1708.051	1708.344	1708.638	1708.931	1709.276	1709.822	1710.570	1711.370	1712.138	1712.560																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
EXISTING GROUND LEVEL ALONG THE PROPOSED CL.	1711.782	1711.776	1711.246	1710.422	1709.506	1708.628	1707.931	1707.078	1706.289	1705.024	1703.878	1702.436	1701.571	1700.898	1700.528	1700.469	1700.527	1700.946	1701.425	1701.978	1702.511	1703.025	1703.517	1703.986	1704.433	1704.858	1705.261	1705.643	1706.004	1706.344	1706.663	1706.961	1707.238	1707.494	1707.730	1707.946	1708.133	1708.291	1708.420	1708.521	1708.594	1708.639	1708.658	1708.651	1708.618	1708.561	1708.480	1708.375	1708.247	1708.096	1707.924	1707.732	1707.521	1707.291	1707.043	1706.778	1706.507	1706.231	1705.950	1705.664	1705.373	1705.077	1704.776	1704.470	1704.159	1703.843	1703.522	1703.197	1702.867	1702.532	1702.192	1701.847	1701.497	1701.142	1700.782	1700.417	1700.047	1699.672	1699.292	1698.907	1698.517	1698.122	1697.723	1697.320	1696.913	1696.502	1696.087	1695.668	1695.245	1694.818	1694.387	1693.952	1693.513	1693.070	1692.623	1692.172	1691.717	1691.258	1690.795	1690.328	1689.857	1689.382	1688.903	1688.420	1687.933	1687.442	1686.947	1686.448	1685.945	1685.438	1684.927	1684.412	1683.893	1683.370	1682.843	1682.312	1681.777	1681.238	1680.695	1680.148	1679.597	1679.042	1678.483	1677.920	1677.353	1676.782	1676.207	1675.628	1675.045	1674.458	1673.867	1673.272	1672.673	1672.070	1671.463	1670.852	1670.237	1669.618	1668.995	1668.368	1667.737	1667.102	1666.463	1665.820	1665.173	1664.522	1663.867	1663.208	1662.545	1661.878	1661.207	1660.532	1659.853	1659.170	1658.483	1657.792	1657.097	1656.398	1655.695	1654.988	1654.277	1653.562	1652.843	1652.120	1651.393	1650.662	1649.927	1649.188	1648.445	1647.698	1646.947	1646.192	1645.433	1644.670	1643.903	1643.132	1642.357	1641.578	1640.795	1640.008	1639.217	1638.422	1637.623	1636.820	1636.013	1635.202	1634.387	1633.568	1632.745	1631.918	1631.087	1630.252	1629.413	1628.570	1627.723	1626.872	1626.017	1625.158	1624.295	1623.428	1622.557	1621.682	1620.803	1619.920	1619.033	1618.142	1617.247	1616.348	1615.445	1614.538	1613.627	1612.712	1611.793	1610.870	1609.943	1609.012	1608.077	1607.138	1606.195	1605.248	1604.297	1603.342	1602.383	1601.420	1600.453	1599.482	1598.507	1597.528	1596.545	1595.558	1594.567	1593.572	1592.573	1591.570	1590.563	1589.552	1588.537	1587.518	1586.495	1585.468	1584.437	1583.402	1582.363	1581.320	1580.273	1579.222	1578.167	1577.108	1576.045	1574.978	1573.907	1572.832	1571.753	1570.670	1569.583	1568.492	1567.397	1566.298	1565.195	1564.088	1562.977	1561.862	1560.743	1559.620	1558.493	1557.362	1556.227	1555.088	1553.945	1552.798	1551.647	1550.492	1549.333	1548.170	1547.003	1545.832	1544.657	1543.478	1542.295	1541.108	1539.917	1538.722	1537.523	1536.320	1535.113	1533.902	1532.687	1531.468	1530.245	1529.018	1527.787	1526.552	1525.313	1524.070	1522.823	1521.572	1520.317	1519.058	1517.795	1516.528	1515.257	1513.982	1512.703	1511.420	1510.133	1508.842	1507.547	1506.248	1504.945	1503.638	1502.327	1501.012	1500.000	1499.000	1498.000	1497.000	1496.000	1495.000	1494.000	1493.000	1492.000	1491.000	1490.000	1489.000	1488.000	1487.000	1486.000	1485.000	1484.000	1483.000	1482.000	1481.000	1480.000	1479.000	1478.000	1477.000	1476.000	1475.000	1474.000	1473.000	1472.000	1471.000	1470.000	1469.000	1468.000	1467.000	1466.000	1465.000	1464.000	1463.000	1462.000	1461.000	1460.000	1459.000	1458.000	1457.000	1456.000	1455.000	1454.000	1453.000	1452.000	1451.000	1450.000	1449.000	1448.000	1447.000	1446.000	1445.000	1444.000	1443.000	1442.000	1441.000	1440.000	1439.000	1438.000	1437.000	1436.000	1435.000	1434.000	1433.000	1432.000	1431.000	1430.000	1429.000	1428.000	1427.000	1426.000	1425.000	1424.000	1423.000	1422.000	1421.000	1420.000	1419.000	1418.000	1417.000	1416.000	1415.000	1414.000	1413.000	1412.000	1411.000	1410.000	1409.000	1408.000	1407.000	1406.000	1405.000	1404.000	1403.000	1402.000	1401.000	1400.000	1399.000	1398.000	1397.000	1396.000	1395.000	1394.000	1393.000	1392.000	1391.000	1390.000	1389.000	1388.000	1387.000	1386.000	1385.000	1384.000	1383.000	1382.000	1381.000	1380.000	1379.000	1378.000	1377.000	1376.000	1375.000	1374.000	1373.000	1372.000	1371.000	1370.000	1369.000	1368.000	1367.000	1366.000	1365.000	1364.000	1363.000	1362.000	1361.000	1360.000	1359.000	1358.000	1357.000	1356.000	1355.000	1354.000	1353.000	1352.000	1351.000	1350.000	1349.000	1348.000	1347.000	1346.000	1345.000	1344.000	1343.000	1342.000	1341.000	1340.000	1339.000	1338.000	1337.000	1336.000	1335.000	1334.000	1333.000	1332.000	1331.000	1330.000	1329.000	1328.000	1327.000	1326.000	1325.000	1324.000	1323.000	1322.000	1321.000	1320.000	1319.000	1318.000	1317.000	1316.000	1315.000	1314.000	1313.000	1312.000	1311.000	1310.000	1309.000	1308.000	1307.000	1306.000	1305.000	1304.000	1303.000	1302.000	1301.000	1300.000	1299.000	1298.000	1297.000	1296.000	1295.000	1294.000	1293.000	1292.000	1291.000	1290.000	1289.000	1288.000	1287.000	1286.000	1285.000	1284.000	1283.000	1282.000	1281.000	1280.000	1279.000	1278.000	1277.000	1276.000	1275.000	1274.000	1273.000	1272.000	1271.000	1270.000	1269.000	1268.000	1267.000	1266.000	1265.000	1264.000	1263.000	1262.000	1261.000	1260.000	1259.000	1258.000	1257.000	1256.000	1255.000	1254.000	1253.000	1252.000	1251.000	1250.000	1249.000	1248.000	1247.000	1246.000	1245.000	1244.000	1243.000	1242.000	1241.000	1240.000	1239.000	1238.000	1237.000	1236.000	1235.000	1234.000	1233.000	1232.000	1231.000	1230.000	1229.000	1228.000	1227.000	1226.000	1225.000	1224.000	1223.000	1222.000	1221.000	1220.000	1219.000	1218.000	1217.000	1216.000	1215.000	1214.000	1213.000	1212.000	1211.000	1210.000	1209.000	1208.000	1207.000	1206.000	1205.000	1204.000	1203.000	1202.000	1201.000	1200.000	1199.000	1198.000	1197.000	1196.000	1195.000	1194.000	1193.000	1192.000	1191.000	1190.000	1189.000	1188.000	1187.000	1186.000	1185.000	1184.000	1183.000	1182.000	1181.000	1180.000	1179.000	1178.000	1177.000	1176.000	1175.000	1174.000	1173.000	1172.000	1171.000	1170.000	1169.000	1168.000	1167.000	1166.000	1165.000	1164.000	1163.000	1162.000	1161.000	1160.000	1159.000	1158.000	1157.000	1156.000	1155.000	1154.000	1153.000	1152.000	1151.000	1150.000	1149.000	1148.000	1147.000	1146.000	1145.000	1144.000	1143.000	1142.000	1141.000	1140.000	1139.000	1138.000	1137.000	1136.000	1135.000	1134.000	1133.000	1132.000	1131.000	1130.000	1129.000	1128.000	1127.000	1126.000	1125.000	1124.000	1123.000	1122.000	1121.000	1120.000	1119.000	1118.000	1117.000	1116.000	1115.000	1114.000	1113.000	1112.000	1111.000	1110.000	1109.000	1108.000	1107.000	1106.000	1105.000	1104.000	1103.000	1102.000	1101.000	1100.000	1099.000	1098.000	1097.000	1096.000	1095.000	1094.000	1093.000	1092.000	1091.000	1090.000	1089.000	1088.000	1087.000	1086.000	1085.000	1084.000	1083.000	1082.000	1081.000	1080.000	1079.000	1078.000	1077.000	1076.000	1075.000	1074.000	1073.000	1072.000	1071.000	1070.000	1069.000	1068.000	1067.000	1066.000	1065.000	1064.000	1063.000	1062.000	1061.000	1060.000	1059.000	1058.000	1057.000	1056.000	1055.000	1054.000	1053.000	1052.000	1051.000	1050.000	1049.000	1048.000	1047.000	1046.000	1045.000	1044.000	1043.000	1042.000	1041.000	1040.000	1039.000	1038.000	1037.000	1036.000	1035.000	1034.000	1033.000	1032.000	1031.000	1030.000	1029.000	1028.000	1027.000	1026.000	1025.000	1024.000	1023.000	1022.000	1021.000	1020



					Scale :- 1:2000		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PLAN Km 57+000 to Km 58+000	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092 	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN			
											REVISION MKD. - R0	SHEET NO. - 02	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	PACKAGE-IIB		 U. MALIK	 B.DAS	 S.SADHU	 B.KONER
REVISIONS													



FINISHED ROAD LEVEL ALONG THE PROPOSED CL.	1729.011	1728.636	1728.287	1728.145	1728.247	1728.594	1729.188	1730.020	1731.073	1732.163	1733.253	1734.116	1734.455	1734.268	1733.696	1733.105	1732.573	1732.200	1731.974	1731.772	1731.563	1731.052	1730.088	1728.608	1727.517	1726.227	1725.031	1724.037	1723.213	1722.408	1721.602	1720.848	1720.293	1719.938	1719.639	1719.338	1719.037	1718.733	1718.067	1716.812	1715.121	1713.406	1711.692	
EXISTING GROUND LEVEL ALONG THE PROPOSED CL.	1729.067	1728.280	1727.536	1727.425	1727.602	1727.918	1727.926	1728.892	1730.232	1731.524	1733.904	1734.117	1734.046	1734.447	1733.117	1732.267	1731.906	1731.639	1731.436	1731.245	1730.875	1730.194	1729.000	1727.783	1727.133	1729.417	1724.848	1723.534	1722.429	1721.654	1721.312	1720.760	1719.994	1719.589	1723.866	1721.152	1719.338	1722.028	1724.504	1725.171	1716.632	1713.188	1712.536	1712.123
HORIZONTAL ALIGNMENT	L 15.00 A 38.73		L 45.59 R 100.00		L 15.00 A 38.73		L 40.00 A 89.44		L 22.82 R 200.00		L 40.00 A 89.44		L 15.00 A 54.77		L 69.07 R 200.00		L 15.00 A 54.77		L 15.00 A 54.77		L 94.37 R 200.00		L 15.00 A 54.77		L 94.37 R 200.00		L 15.00 A 54.77		L 94.15 R 300.00		L 15.00 A 43.30													
VERTICAL ALIGNMENT					L150.000 L1 75.000 L2 75.000				L63.134 Sip-3.360%		L80.000 L1 40.000 L2 40.000				L47.043 Sip-2.364%		L60.000 L1 30.000 L2 30.000				L56.688 Sip-0.807%		L60.000 L1 30.000 L2 30.000				L70.300 Sip-3.183%		L60.000 L1 30.000 L2 30.000				L71.930 Sip-3.221%		L60.000 L1 30.000 L2 30.000				L104.293 Sip-1.203%		L60.000 L1 30.000 L2 30.000			
SUPERELEVATION (e %)	5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%		5%+0.05 e 2.000%			
CHAINAGE (KM)	57+000	57+025	57+050	57+075	57+100	57+125	57+150	57+175	57+200	57+225	57+250	57+275	57+300	57+325	57+350	57+375	57+400	57+425	57+450	57+475	57+500	57+525	57+550	57+575	57+600	57+625	57+650	57+675	57+700	57+725	57+750	57+775	57+800	57+825	57+850	57+875	57+900	57+925	57+950	57+975	58+000	58+025	58+050	

MKD.

DATE

DESCRIPTION

CHKD.

APPRD.

REVISIONS

Scale :-
HOR- 1:2000
VER- 1:200



PROJECT:
CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF **MARAM-PEREN SECTION** ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)

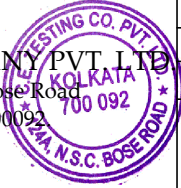
CLIENT:
NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001

PROFILE
Km 57+000 to Km 58+000

SUBMISSION TYPE :
FINAL DETAILED PROJECT REPORT

PACKAGE-IIB

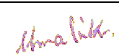
CONSULTANT :
**CE TESTING COMPANY PVT. LTD.**
124-A, N.S.C. Bose Road
Kolkata - 700092



DWG NO- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PROFILE

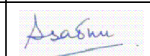
REVISION MKD. - R0

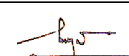
SHEET NO. 02A

DRAWN BY

U. MALIK

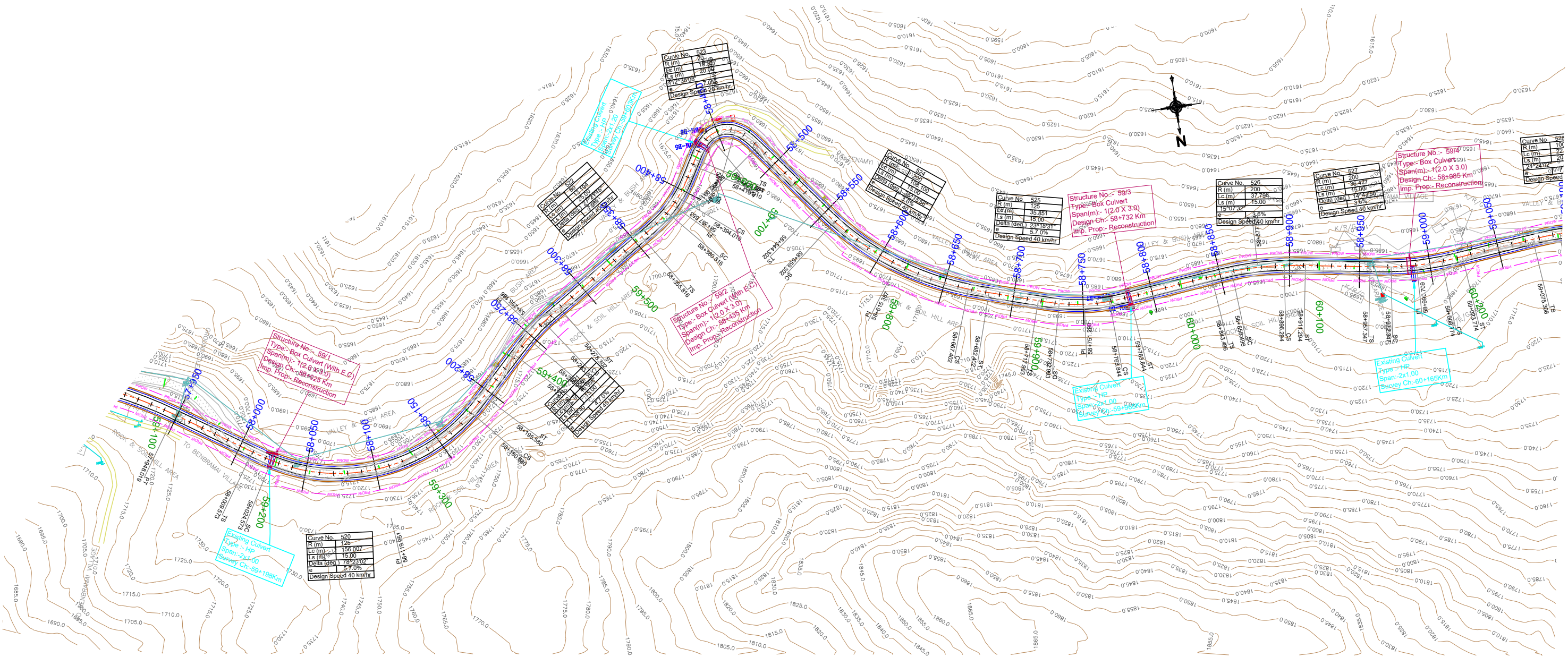
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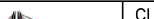
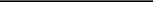
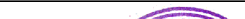
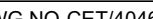
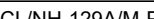
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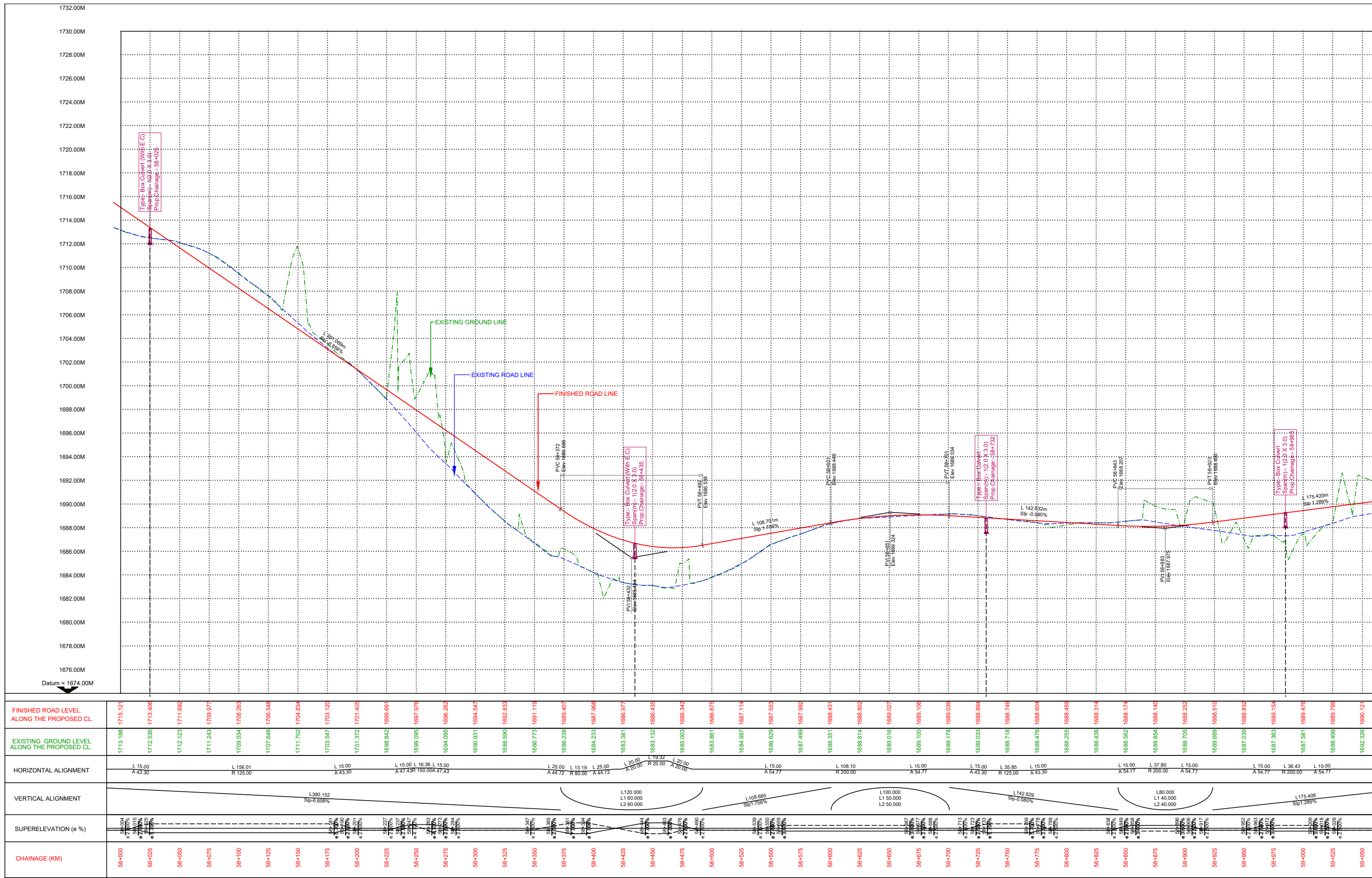
CHECKED BY

S.SADHU

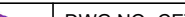
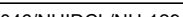
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B.KONER

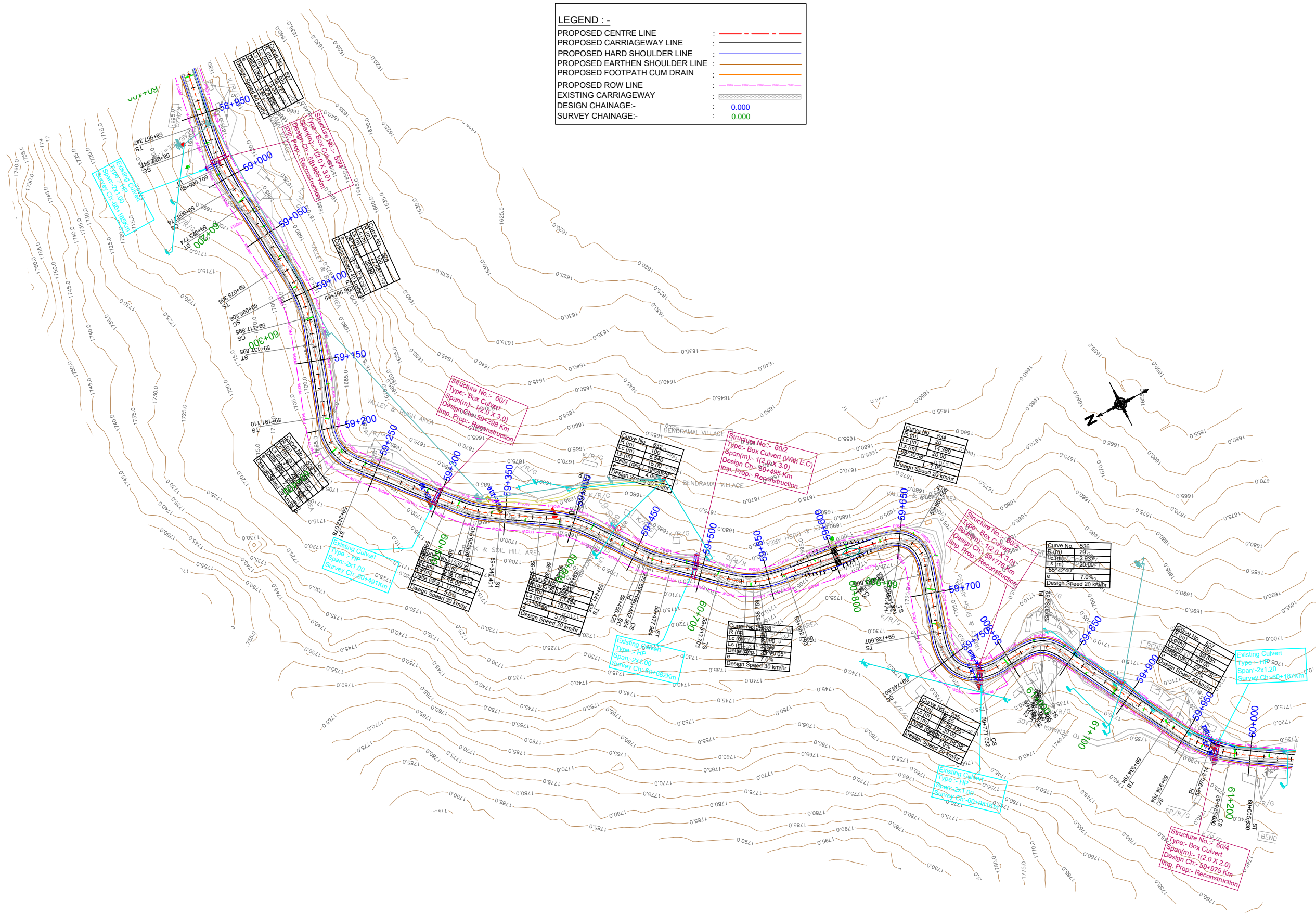
LEGEND :-	
PROPOSED CENTRE LINE	---
PROPOSED CARRIAGEWAY LINE	---
PROPOSED HARD SHOULDER LINE	---
PROPOSED EARTHEN SHOULDER LINE	---
PROPOSED FOOTPATH CUM DRAIN	---
PROPOSED ROW LINE	---
EXISTING CARRIAGEWAY	---
DESIGN CHAINAGE:-	0.000
SURVEY CHAINAGE:-	0.000



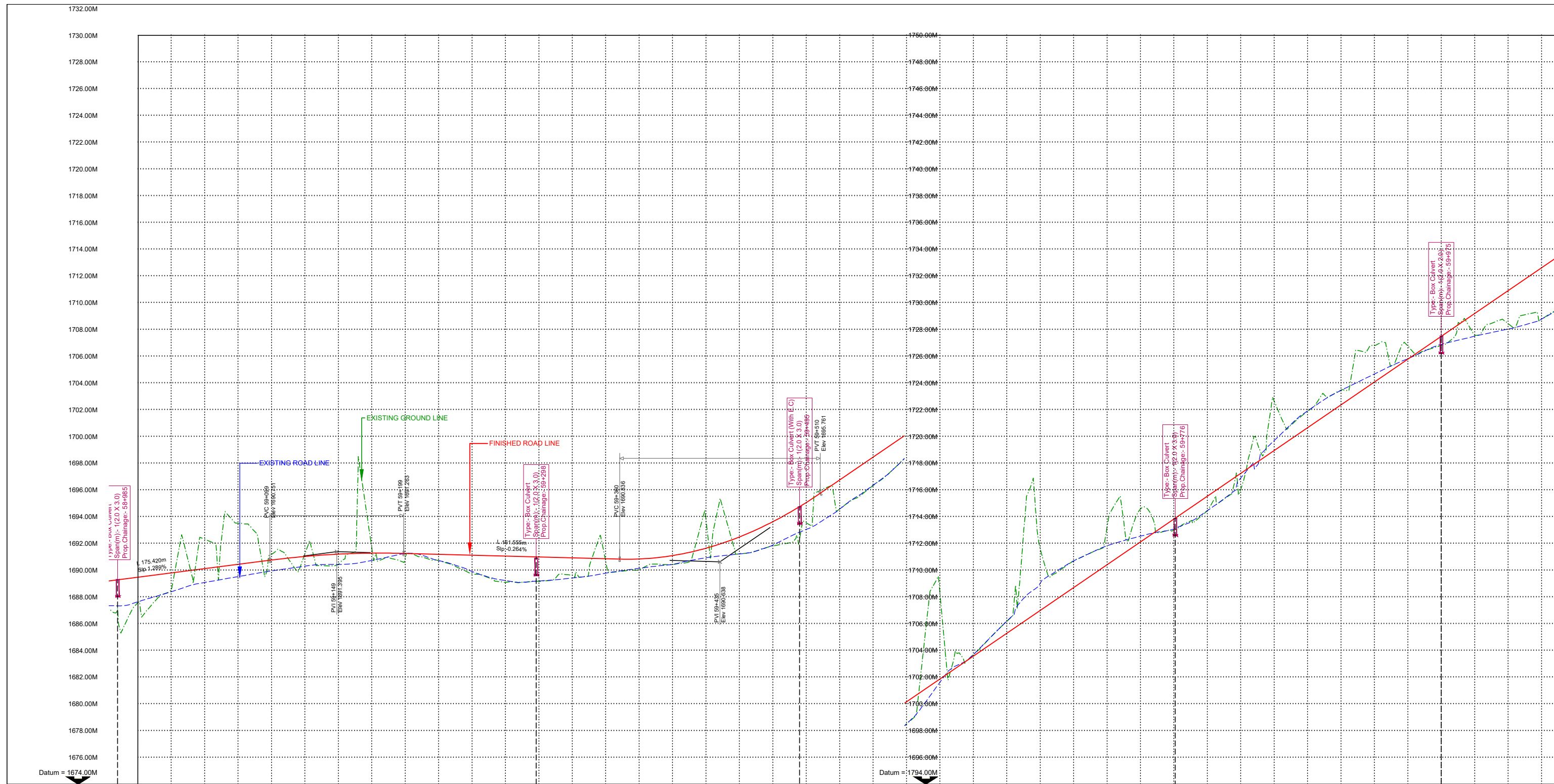
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									REVISION MKD. - R0		SHEET NO. - 03			
					DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		 U. MALIK	 B.DAS	 S.SADHU	 B.KONER	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.				PACKAGE-IIB						
REVISIONS														



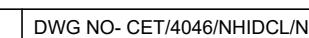
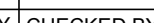
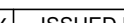
					Scale :- HOR- 1:2000 VER- 1:200		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PROFILE Km 58+000 to Km 59+000	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PROFILE			
											REVISION MKD. - R0	SHEET NO. 03A	
										DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			 U. MALIK	 B.DAS	 S.SADHU	 B.KONER
REVISIONS								PACKAGE-IIB					

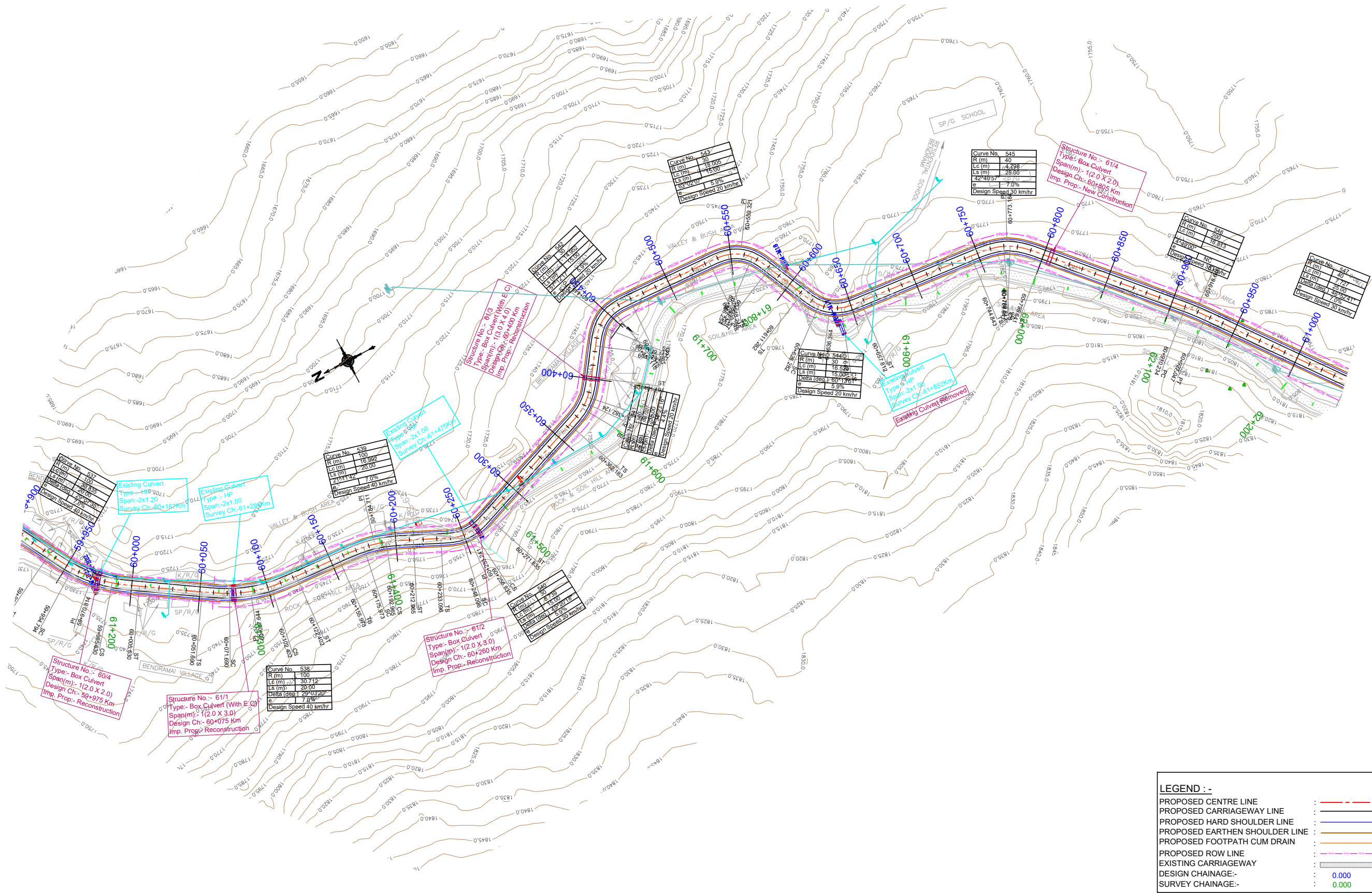


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									SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		REVISION MKD. - R0		SHEET NO. - 04		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020			PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)			DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY	
REVISIONS											PACKAGE-IIB		 U. MALIK	 B.DAS	 S.SADHU



FINISHED ROAD LEVEL, ALONG THE PROPOSED CL.																																																												
EXISTING GROUND LEVEL ALONG THE PROPOSED CL.																																																												
HORIZONTAL ALIGNMENT																																																												
VERTICAL ALIGNMENT																																																												
SUPERELEVATION (e %)																																																												
CHAINAGE (KM)																																																												

					Scale :- HOR- 1:2000 VER- 1:200		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PROFILE Km 59+000 to Km 60+000		CONSULTANT :  An ISO 9001, 14001 & OHSAS 18001 Certified Company	 CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PROFILE REVISION MKD. - R0		SHEET NO. - 04A		
					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE: NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)			SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	DRAWN BY			DESIGNED BY	CHECKED BY	ISSUED BY		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020			PACKAGE-IIB				 U. MALIK	 B.DAS	 S.SADHU	 B.KONER	
REVISIONS																



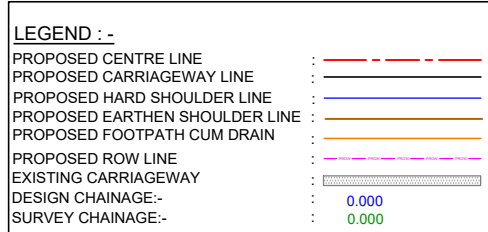
LEGEND :-	
PROPOSED CENTRE LINE	---
PROPOSED CARRIAGEWAY LINE	---
PROPOSED HARD SHOULDER LINE	---
PROPOSED EARTHEN SHOULDER LINE	---
PROPOSED FOOTPATH CUM DRAIN	---
PROPOSED ROW LINE	---
EXISTING CARRIAGEWAY	---
DESIGN CHAINAGE:-	0.000
SURVEY CHAINAGE:-	0.000

Scale :- 1:2000					CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001		PLAN Km 60+000 to Km 61+000		CONSULTANT : CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092		DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN			
PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)					SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		PACKAGE-IIB		REVISION MKD. - R0		SHEET NO. - 05			
DATE: FEB, 2020					DRAWN BY U. MALIK		DESIGNED BY B.DAS		CHECKED BY S.SADHU		ISSUED BY B.KONER			
REVISIONS														
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.										

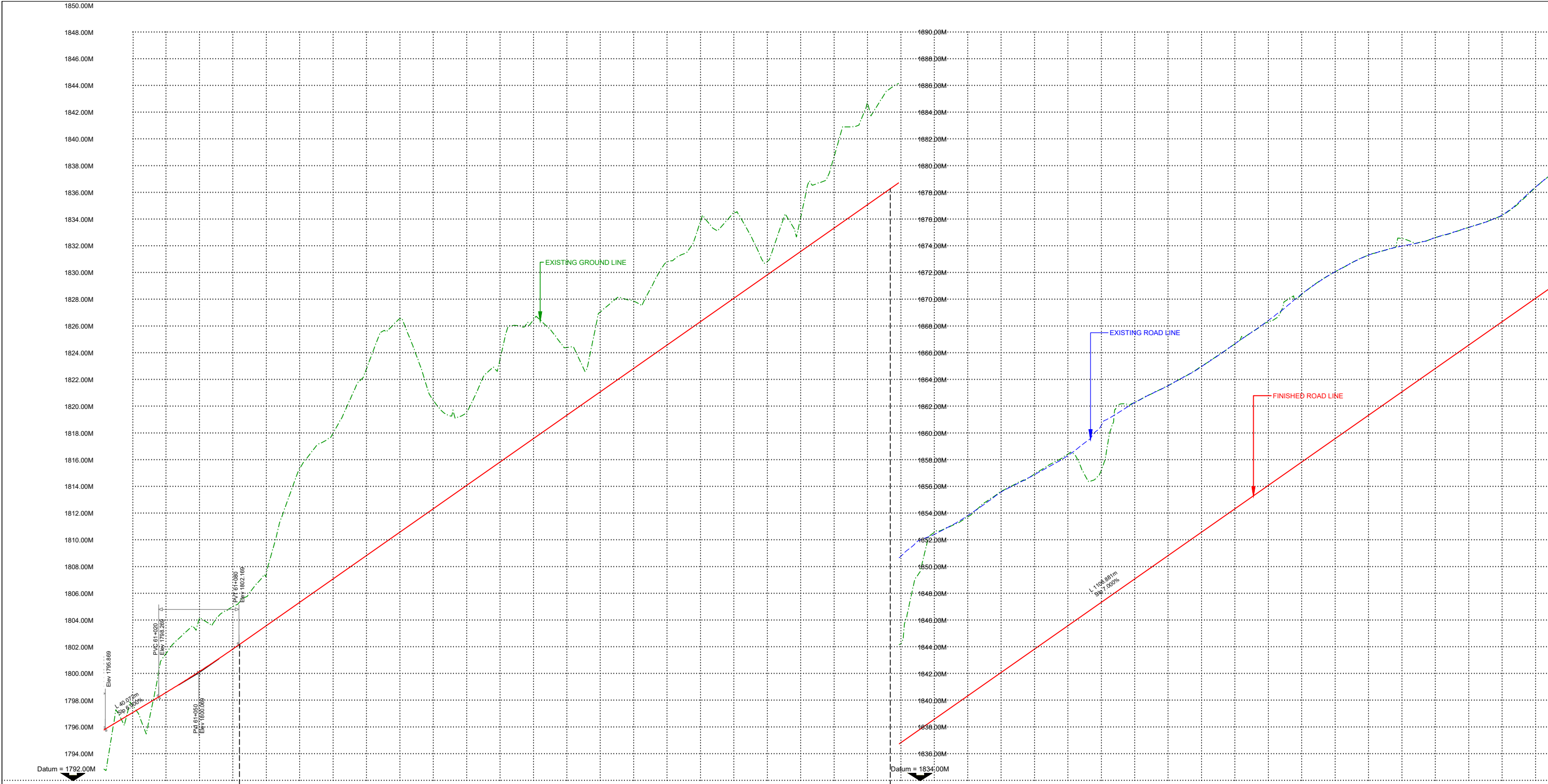


FINISHED ROAD LEVEL. ALONG THE PROPOSED CL.	1729.203	1730.911	1732.618	1734.326	1736.034	1737.742	1739.448	1741.157	1742.865	1744.573	1746.286	1747.988	1749.696	1751.404	1753.111	1754.819	1756.527	1758.235	1759.942	1761.650	1763.358	1765.065	1766.773	1768.481	1770.188	1771.896	1773.604	1775.312	1777.026	1778.727	1780.435	1782.143	1783.851	1785.556	1787.266	1788.974	1790.682	1792.387	1794.033	1795.592	1797.094	1798.596	1800.171
EXISTING GROUND LEVEL ALONG THE PROPOSED CL.	1727.583	1728.443	1728.776	1730.743	1732.995	1736.096	1737.043	1738.448	1740.435	1744.098	1744.888	1746.948	1749.073	1748.940	1747.911	1748.506	1750.064	1751.628	1751.709	1752.023	1757.944	1757.808	1761.362	1769.552	1770.902	1772.108	1775.282	1776.428	1777.803	1781.124	1782.387	1782.272	1782.621	1785.276	1787.911	1788.674	1788.074	1791.692	1793.959	1792.614	1797.633	1801.505	1804.161
HORIZONTAL ALIGNMENT																																											

					Scale :- HOR- 1:2000 VER- 1:200		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PROFILE Km 60+000 to Km 61+000			CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092 				DWG NO- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PROFILE				
								SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT							REVISION MKD. - R0		SHEET NO. - 05A		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/16)									DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY	
REVISIONS									PACKAGE-IIB							 U. MALIK	 B.DAS	 S.SADHU	 B.KONER



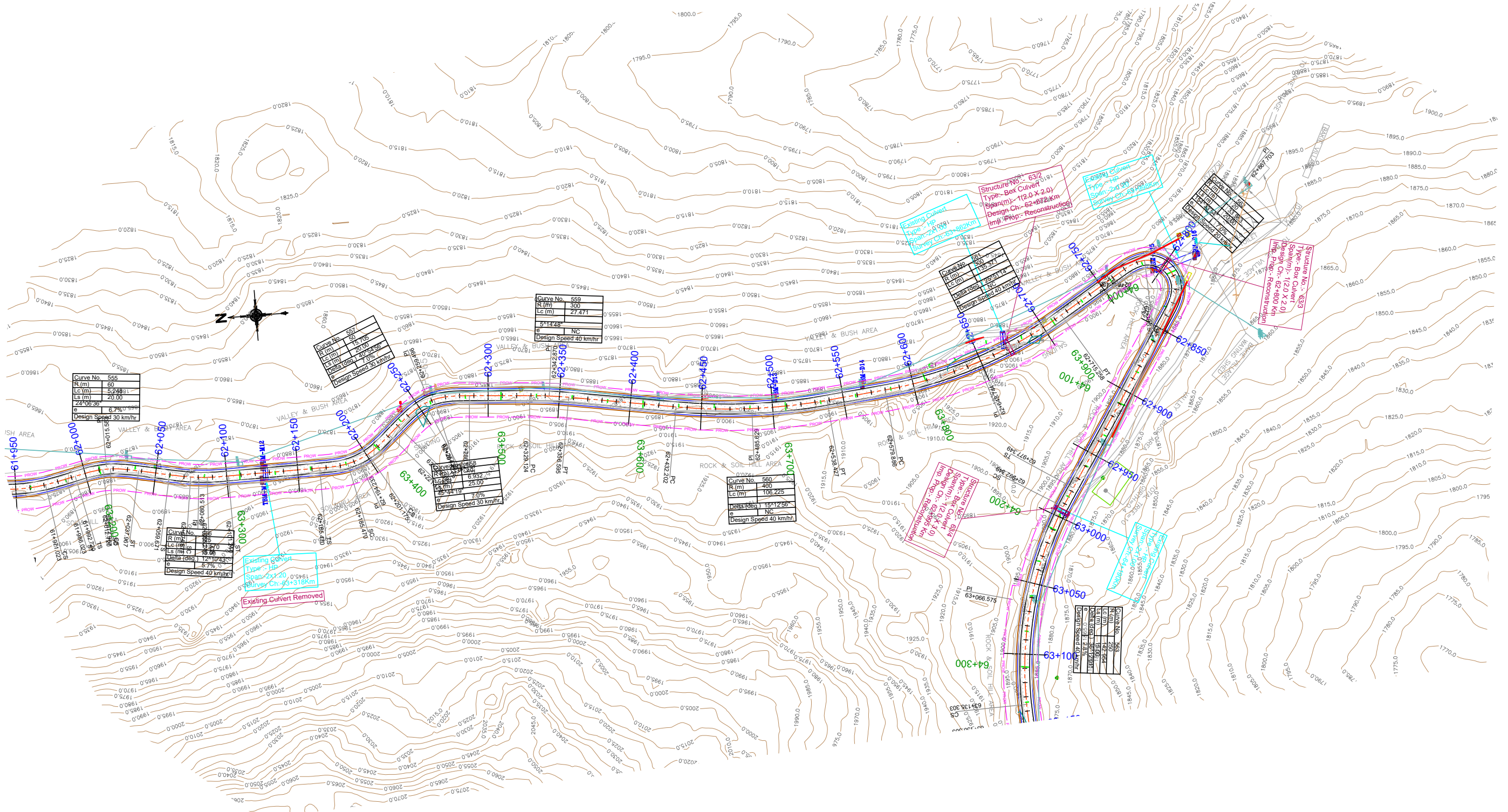
					Scale :- 1:2000	 NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PLAN Km 61+000 to Km 62+000		CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092 		DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN			
							SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT				REVISION MKD. - R0		SHEET NO. - 06	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)					DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY	
REVISIONS					DATE: FEB, 2020					 U. MALIK	 B.DAS	 S.SADHU	 B.KONER	



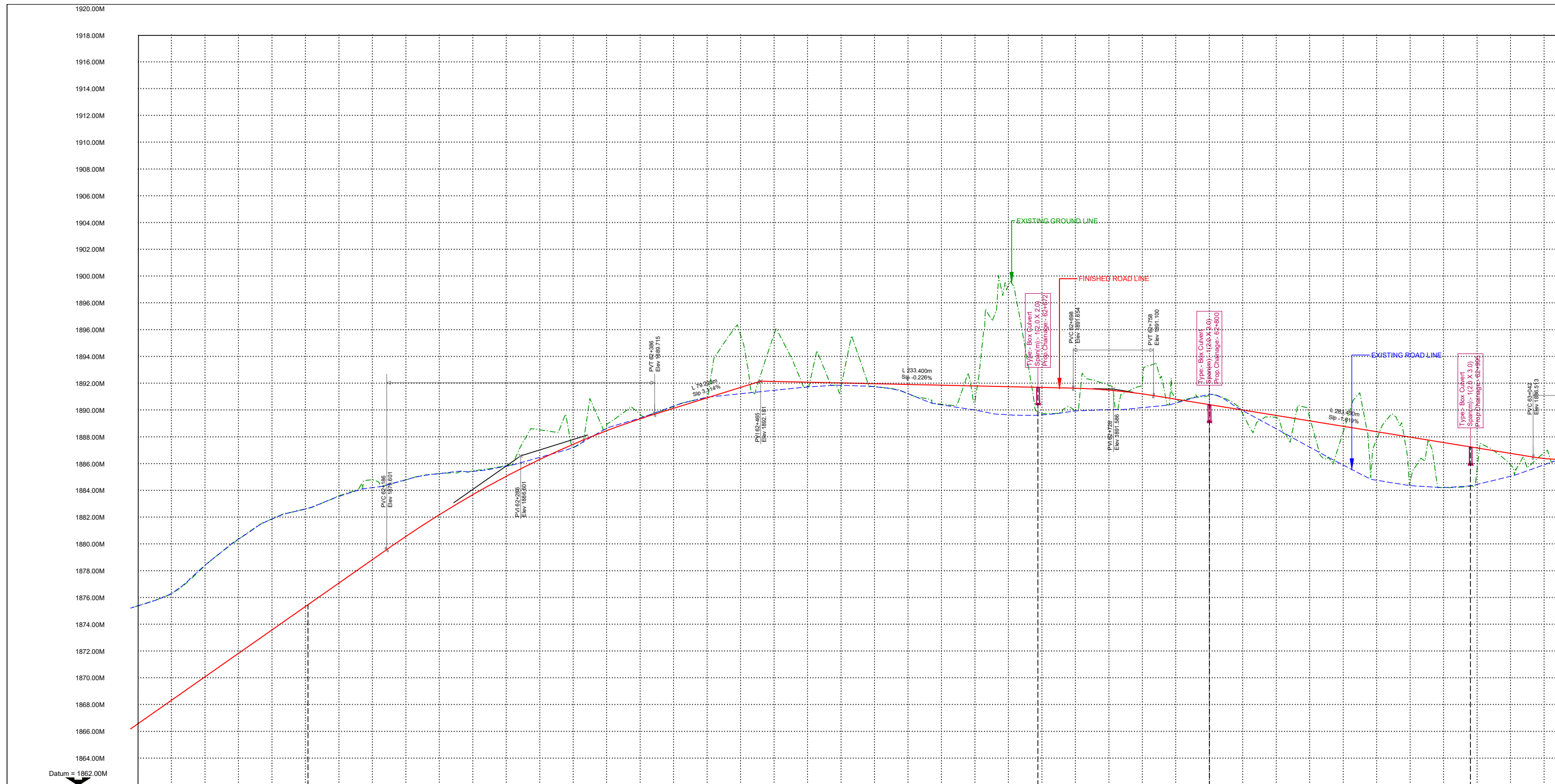
FINISHED ROAD LEVEL ALONG THE PROPOSED CL.	1797.094	1798.596	1800.171	1801.849	1803.598	1805.348	1807.098	1808.848	1810.598	1812.348	1814.098	1815.848	1817.598	1819.348	1821.098	1822.848	1824.598	1826.348	1828.098	1829.848	1831.598	1833.348	1835.098	1836.848	1838.598	1840.348	1842.098	1843.848	1845.598	1847.348	1849.098	1850.848	1852.598	1854.348	1856.098	1857.848	1859.598	1861.348	1863.098	1864.848	1866.598	1868.348	1870.098
EXISTING GROUND LEVEL ALONG THE PROPOSED CL.	1797.633	1801.505	1804.161	1805.008	1807.412	1815.338	1817.996	1822.809	1826.554	1820.462	1819.551	1823.542	1826.500	1824.415	1827.076	1827.879	1830.806	1833.866	1834.528	1830.855	1834.169	1838.722	1842.721	1844.239	1852.569	1853.739	1855.649	1856.937	1858.442	1857.208	1862.297	1863.555	1865.016	1866.694	1868.326	1870.387	1872.078	1873.344	1874.566	1874.635	1875.404	1876.286	1878.406
HORIZONTAL ALIGNMENT	L 25.00 L 7.73 L 25.00 A 31.62 R 40.00 A 31.62 L 20.00 L 26.58 L 20.00 A 20.00 R 20.00 A 20.00 L 15.00 L 21.38 L 15.00 A 21.21 R 30.00 A 21.21 L 15.00 L 9.74 L 15.00 A 34.68 R 70.00 A 32.40 L 15.00 L 10.38 L 15.00 A 21.21 R 30.00 A 21.21 L 20.00 L 13.99 L 20.00 A 31.62 R 50.00 A 31.62 L 15.00 A 42.43 L 65.59 R 120.00 L 15.00 A 42.43 L 20.00 L 5.25 L 20.00 A 34.68 R 60.00 A 34.68																																										
VERTICAL ALIGNMENT	L 60.00 L1 30.00 L2 30.00 L 1106.174 Sip 7.000%																																										
SUPERELEVATION (e %)	61+032 e 2.00%	61+050 e 2.00%	61+065 e 2.00%	61+075 e 2.00%	61+107 e 2.00%	61+200 e 2.00%	61+224 e 2.00%	61+236 e 2.00%	61+253 e 2.00%	61+276 e 2.00%	61+290 e 2.00%	61+358 e 2.00%	61+369 e 2.00%	61+379 e 2.00%	61+400 e 2.00%	61+420 e 2.00%	61+447 e 2.00%	61+457 e 2.00%	61+475 e 2.00%	61+482 e 2.00%	61+502 e 2.00%	61+552 e 2.00%	61+562 e 2.00%	61+572 e 2.00%	61+582 e 2.00%	61+602 e 2.00%	61+716 e 2.00%	61+727 e 2.00%	61+738 e 2.00%	61+745 e 2.00%	61+761 e 2.00%	61+805 e 2.00%	61+819 e 2.00%	61+832 e 2.00%	61+885 e 2.00%	61+896 e 2.00%	61+905 e 2.00%	61+971 e 2.00%	62+113 e 2.00%	62+123 e 2.00%	62+131 e 2.00%	62+145 e 2.00%	
CHAINAGE (KM)	61+000	61+025	61+050	61+075	61+100	61+125	61+150	61+175	61+200	61+225	61+250	61+275	61+300	61+325	61+350	61+375	61+400	61+425	61+450	61+475	61+500	61+525	61+550	61+575	61+600	61+625	61+650	61+675	61+700	61+725	61+750	61+775	61+800	61+825	61+850	61+875	61+900	61+925	61+950	61+975	62+000	62+025	62+050

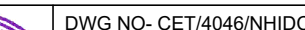
Scale :- HOR- 1:2000 VER- 1:200					CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001					PROFILE Km 61+000 to Km 62+000					CONSULTANT : CETEST Engineering Consultants 124-A, N.S.C. Bose Road Kolkata - 700092					DWG NO- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PROFILE REVISION MKD. - R0 DRAWN BY DESIGNED BY CHECKED BY ISSUED BY				
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)					SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT					PACKAGE-IIB					U. MALIK B.DAS S.SADHU B.KONER				
REVISIONS					DATE: FEB, 2020																			

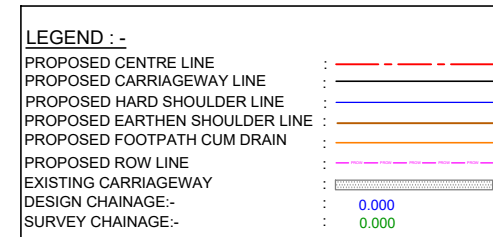
LEGEND :-	
PROPOSED CENTRE LINE	---
PROPOSED CARRIAGEWAY LINE	---
PROPOSED HARD SHOULDER LINE	---
PROPOSED EARTHEN SHOULDER LINE	---
PROPOSED FOOTPATH CUM DRAIN	---
PROPOSED ROW LINE	---
EXISTING CARRIAGEWAY	---
DESIGN CHAINAGE:-	0.000
SURVEY CHAINAGE:-	0.000

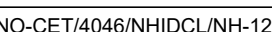


					Scale :- 1:2000		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001		PLAN Km 62+000 to Km 63+000		CONSULTANT : CETEST CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092		DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN			
							PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANEING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT				REVISION MKD. - R0		SHEET NO. - 07	
					DATE: FEB, 2020				PACKAGE-IIB				DRAWN BY		DESIGNED BY	
													CHECKED BY		ISSUED BY	
REVISIONS													U. MALIK		B.DAS	
													S.SADHU		B.KONER	

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					Scale :- HOR- 1:2000 VER- 1:200		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PROFILE Km 62+000 to Km 63+000		CONSULTANT :  CETEST Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company	 CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PROFILE			
								SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT				REVISION MKD. - R0		SHEET NO. - 07A	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		PACKAGE-IIB			 U. MALIK	 B.DAS	 S.SADHU	 B.KONER	
REVISIONS															



					Scale :- 1:2000		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PLAN Km 63+000 to Km 64+000		CONSULTANT :  CETEST Engineering Consultants An ISO 9001, 14001 & CHSAS-18001 Certified Company		DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN			
								SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092		REVISION MKD. - R0		SHEET NO. - 08	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)					 U. MALIK	 B.DAS	 S.SADHU	 B.KONER	
REVISIONS															
							PACKAGE-IIB								



FINISHED ROAD LEVEL ALONG THE PROPOSED CL.	1887.188	1886.784	1886.403	1886.357	1886.744	1887.562	1888.790	1890.114	1891.438	1892.762	1894.086	1895.410	1896.735	1898.059	1899.383	1900.707	1902.031	1903.355	1904.680	1906.004	1907.328	1908.652	1909.976	1911.300	1912.624	1913.948	1915.272	1916.596	1917.920	1919.244	1920.568	1921.892	1923.216	1924.540	1925.864	1927.188	1928.512	1929.836	1931.160	1932.484	1933.808			
EXISTING GROUND LEVEL ALONG THE PROPOSED CL.	1885.667	1885.923	1886.836	1888.474	1888.565	1888.853	1889.118	1887.388	1890.518	1891.511	1893.624	1896.440	1898.255	1900.820	1903.185	1902.366	1904.867	1904.365	1906.160	1908.020	1906.118	1908.682	1910.183	1909.376	1912.179	1914.304	1916.527	1917.106	1917.769	1918.051	1918.122	1918.085	1918.432	1919.132	1917.796	1921.577	1920.643	1922.826	1926.458	1929.385	1931.534	1931.322	1931.751	1932.933
HORIZONTAL ALIGNMENT																																												
VERTICAL ALIGNMENT																																												
SUPERELEVATION (e %)	0.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%			
CHAINAGE (KM)	63+000	63+025	63+050	63+075	63+100	63+125	63+150	63+175	63+200	63+225	63+250	63+275	63+300	63+325	63+350	63+375	63+400	63+425	63+450	63+475	63+500	63+525	63+550	63+575	63+600	63+625	63+650	63+675	63+700	63+725	63+750	63+775	63+800	63+825	63+850	63+875	63+900	63+925	63+950	63+975	64+000	64+025	64+050	

Scale :-
HOR- 1:2000
VER- 1:200



PROJECT:
CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF **MARAM-PEREN SECTION** ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)

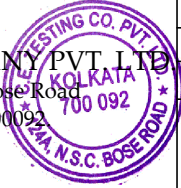
DATE:
FEB,
2020

CLIENT:
NATIONAL HIGHWAYS AND INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD.
PTI Building, 3rd Floor, 4, Parliament Street,
New Delhi - 110001

SUBMISSION TYPE :
FINAL DETAILED PROJECT REPORT

PACKAGE-IIB

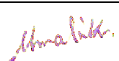
CONSULTANT :
**CE TESTING COMPANY PVT. LTD.**
124-A, N.S.C. Bose Road
Kolkata - 700092



DWG NO- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PROFILE

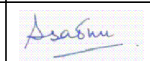
REVISION MKD. - R0

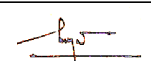
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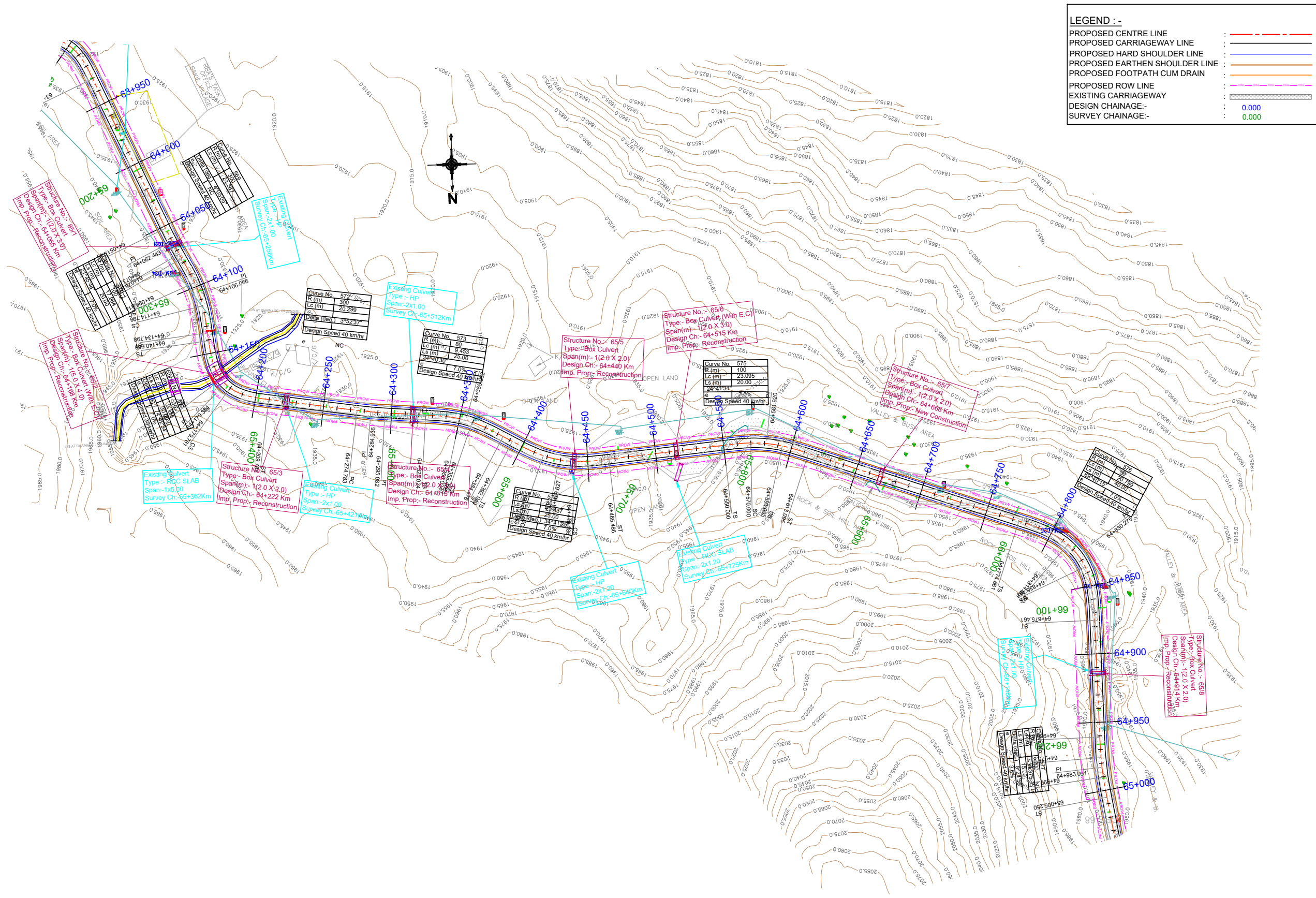
DRAWN BY

U. MALIK

DESIGNED BY

B.DAS

CHECKED BY

S.SADHU

ISSUED BY

B.KONER



MKD.	DATE	DESCRIPTION	CHKD.	APPRD.
REVISIONS				

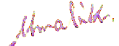
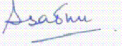
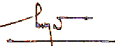
Scale :- 1:2000
DATE: FEB, 2020

	CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001
PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	

PLAN Km 64+000 to Km 65+000
SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT
PACKAGE-IIB

CONSULTANT :
 **CETEST** CE TESTING COMPANY PVT. LTD.
124-A, N.S.C. Bose Road
Kolkata - 700092

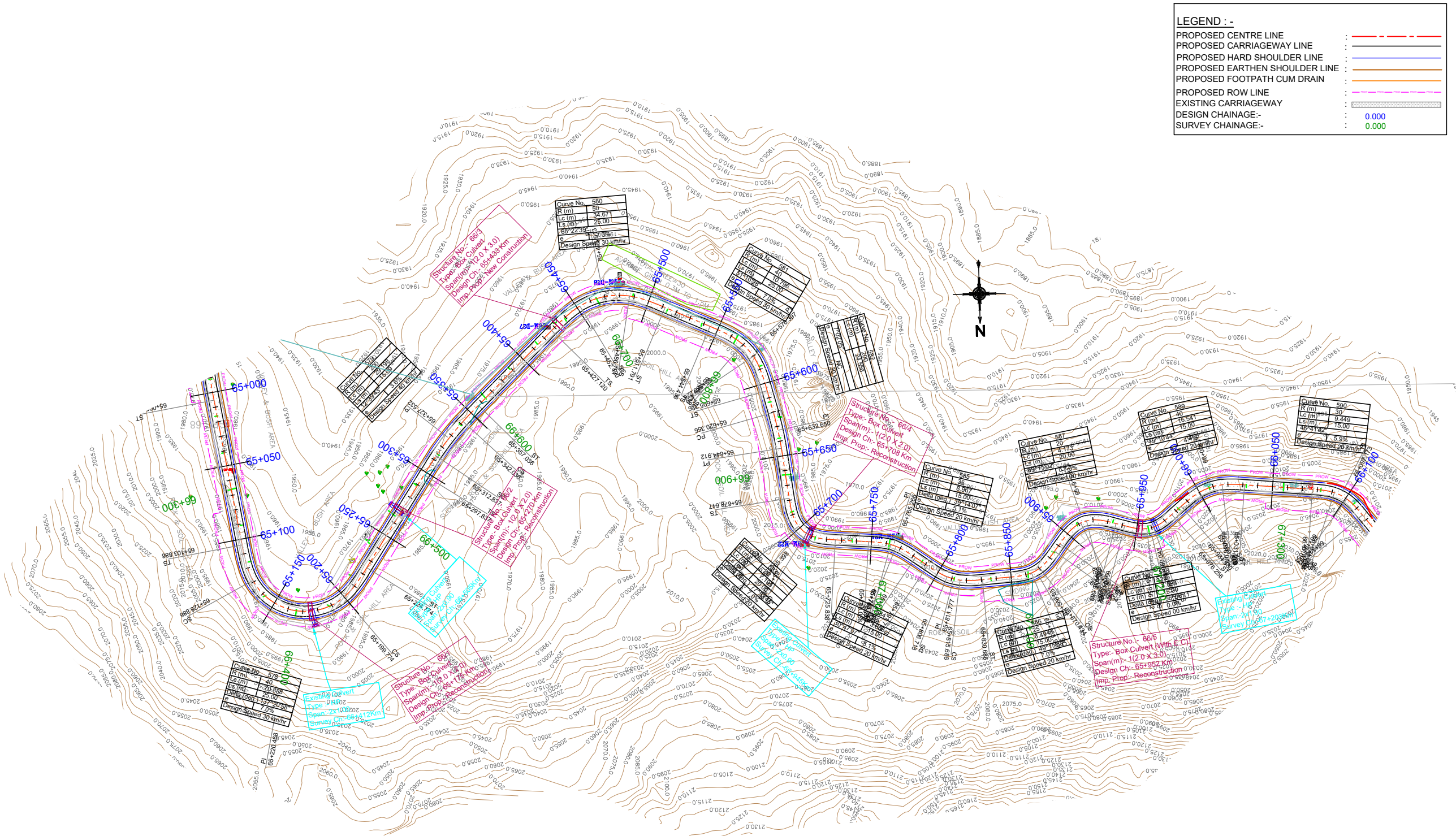


DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN			
REVISION MKD. - R0		SHEET NO. - 09	
DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
 U. MALIK	 B.DAS	 S.SADHU	 B.KONER

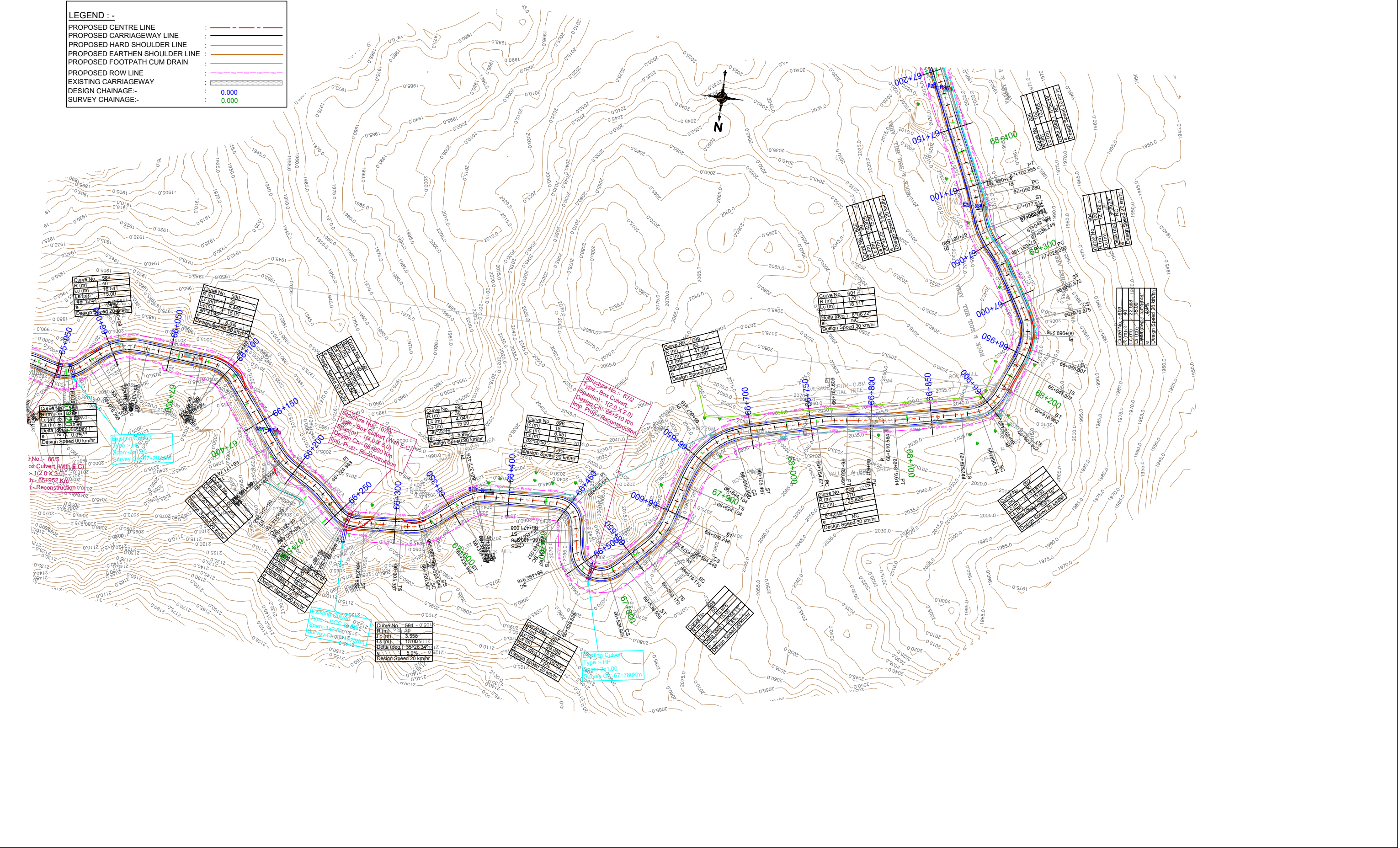


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EXISTING GROUND LEVEL ALONG THE PROPOSED CL.	1931.322	1931.751	1932.933	1931.290	1930.086	1928.789	1926.901	1925.860	1925.635	1925.364	1932.168	1925.136	1924.863	1925.280	1926.542	1927.737	1928.266	1928.907	1929.287	1934.315	1928.679	1927.229	1930.287	1939.589	1937.754	1942.916	1939.127	1941.232	1943.351	1945.848	1948.815	1949.845	1950.086	1952.958	1952.131	1955.023	1951.688	1960.731	1964.226	1963.919	1966.155	1966.595	1965.860
HORIZONTAL ALIGNMENT	L 21.39 R 300.00 L 20.00 A 44.72 L 17.98 R 100.00 L 20.00 A 44.72 L 30.00 A 30.00 L 9.12 R 30.00 L 30.00 A 30.00 L 20.30 R 300.00 L 25.00 A 44.72 L 9.45 R 80.00 L 25.00 A 44.72 L 25.00 A 44.72 L 23.44 R 80.00 L 25.00 A 44.72 L 20.00 A 44.72 L 23.10 R 100.00 L 20.00 A 44.72 L 40.00 A 44.72 L 20.80 R 50.00 L 40.00 A 44.72 L 15.00 A 54.77 L 14.38 R 200.00 L 15.00 A 54.77																																										
VERTICAL ALIGNMENT	L100.000 L1 50.000 L2 50.000 L34.894 Sip-1.640% L80.000 L1 40.000 L2 40.000 L57.460 Sip-1.400% L80.000 L1 40.000 L2 40.000 L144.263 Sip3.162% L100.000 L1 50.000 L2 50.000 L488.018 Sip6.988%																																										
SUPERELEVATION (e %)	0.4+325 2.700% 0.4+352 2.700% 0.4+378 2.700% 0.4+404 2.700% 0.4+430 2.700% 0.4+456 2.700% 0.4+482 2.700% 0.4+508 2.700% 0.4+534 2.700% 0.4+560 2.700% 0.4+586 2.700% 0.4+612 2.700% 0.4+638 2.700% 0.4+664 2.700% 0.4+690 2.700% 0.4+716 2.700% 0.4+742 2.700% 0.4+768 2.700% 0.4+794 2.700% 0.4+820 2.700% 0.4+846 2.700% 0.4+872 2.700% 0.4+898 2.700% 0.4+924 2.700% 0.4+950 2.700% 0.4+976 2.700% 0.4+1002 2.700% 0.4+1028 2.700% 0.4+1054 2.700% 0.4+1080 2.700% 0.4+1106 2.700%																																										
CHAINAGE (KM)	64+000	64+025	64+050	64+075	64+100	64+125	64+150	64+175	64+200	64+225	64+250	64+275	64+300	64+325	64+350	64+375	64+400	64+425	64+450	64+475	64+500	64+525	64+550	64+575	64+600	64+625	64+650	64+675	64+700	64+725	64+750	64+775	64+800	64+825	64+850	64+875	64+900	64+925	64+950	64+975	65+000	65+025	65+050

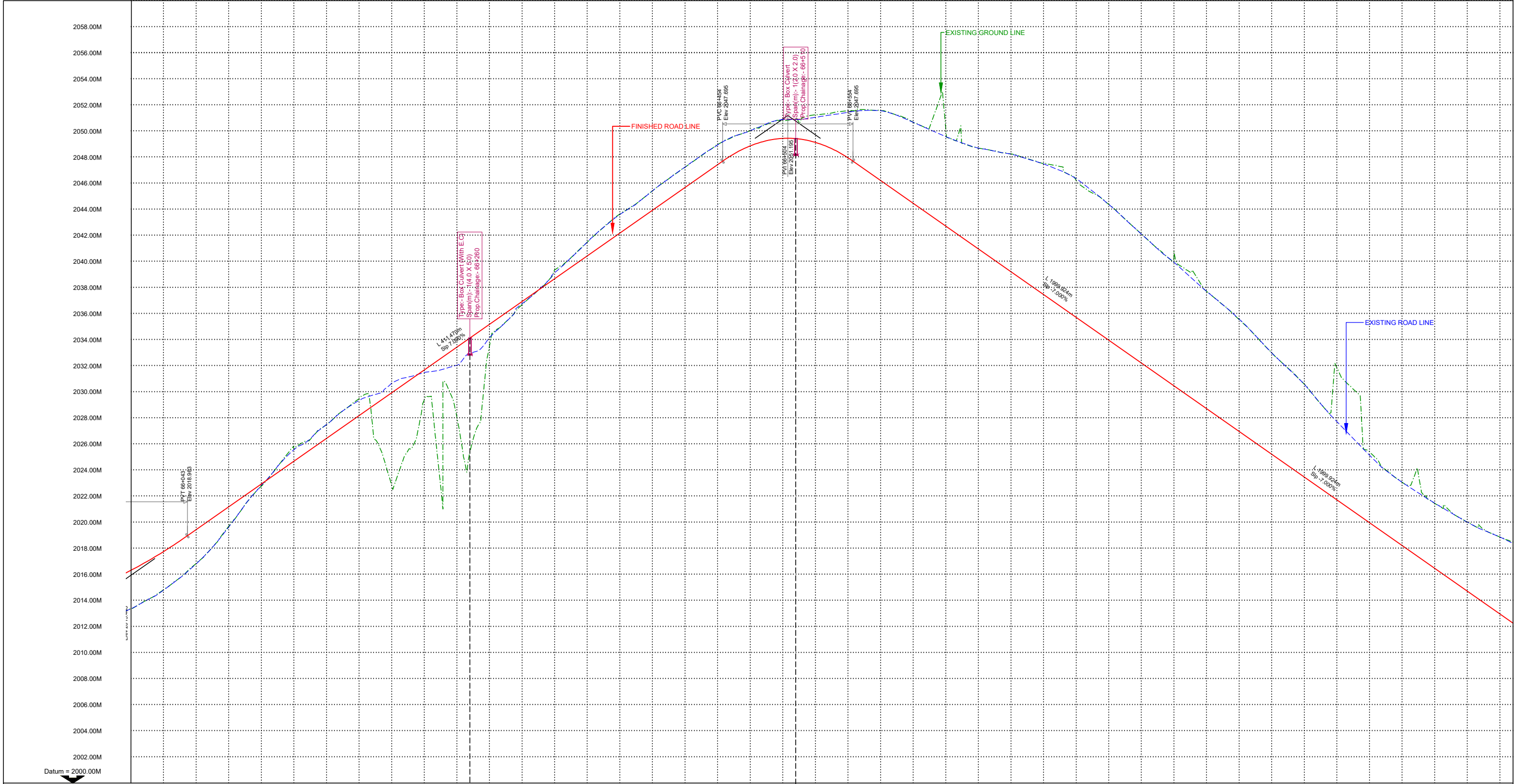
Scale :- HOR- 1:2000 VER- 1:200					CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001					PROFILE Km 64+000 to Km 65+000					CONSULTANT : CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092					DWG NO- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PROFILE			
MKT.					DATE: FEB, 2020					SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT					DRAWN BY U. MALIK					REVISION MKD. - R0			
REVISIONS					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)					PACKAGE-IIB					DESIGNED BY B.DAS					SHEET NO. - 09A			
															CHECKED BY S.SADHU					ISSUED BY B.KONER			



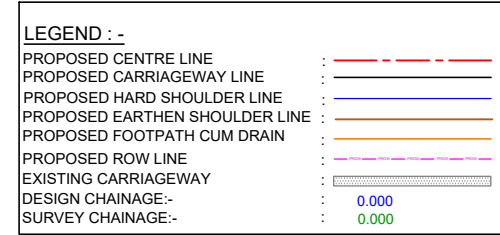
					Scale :- 1:2000		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PLAN Km 65+000 to Km 66+000		CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092 	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN			
								SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			REVISION MKD. - R0		SHEET NO. - 10	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020		PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE-:NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	PACKAGE-IIB		 CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092 	DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
REVISIONS											U. MALIK	B.DAS	S.SADHU	B.KONER



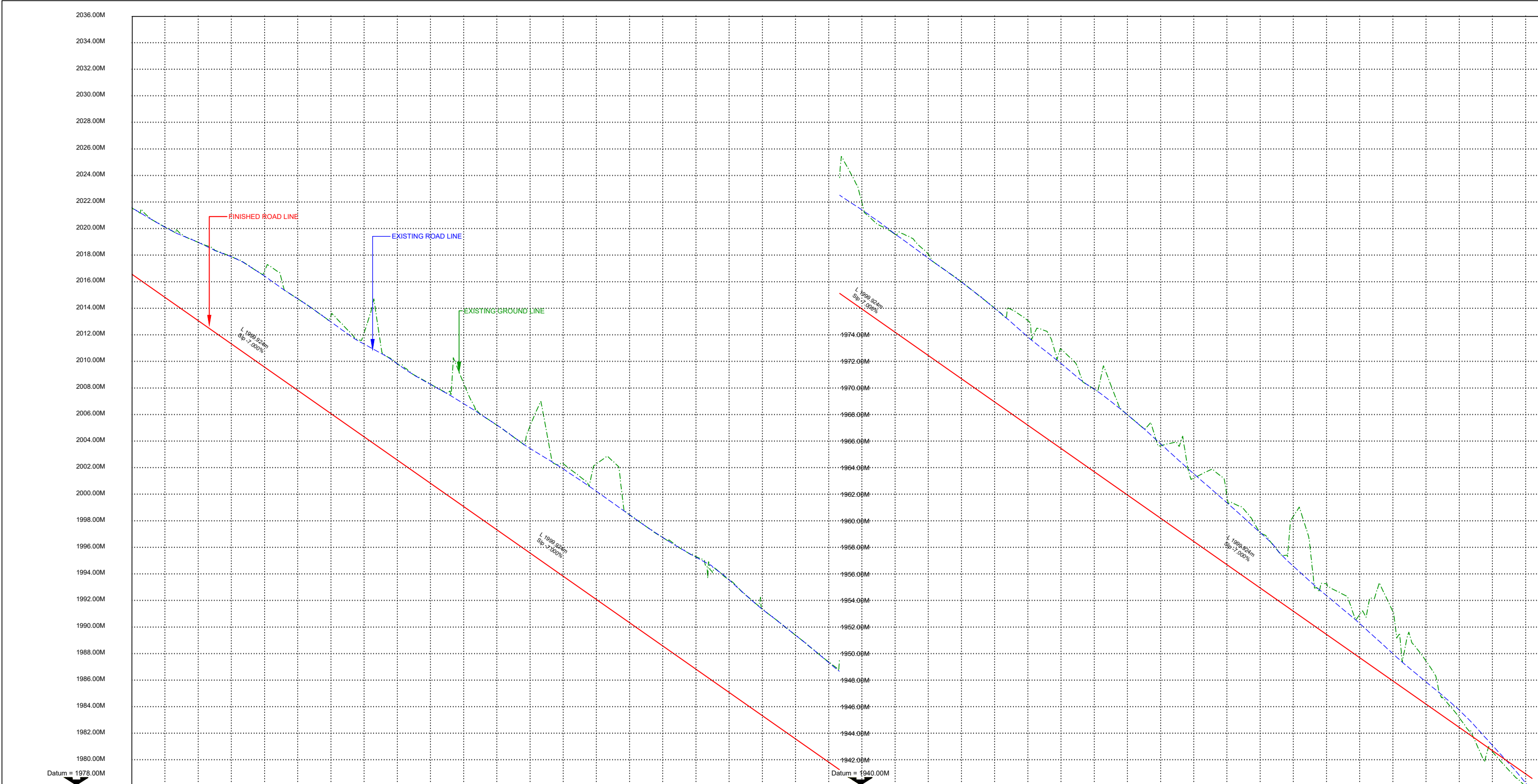
Scale :- 1:2000					CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001		PLAN Km 66+000 to Km 67+000		CONSULTANT : CETEST CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092		DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN			
DATE: FEB, 2020					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		REVISION MKD. - R0		SHEET NO. - 11			
REVISIONS					PACKAGE-IIB		DRAWN BY U. MALIK		DESIGNED BY B.DAS		CHECKED BY S.SADHU		ISSUED BY B.KONER	



FINISHED ROAD LEVEL ALONG THE PROPOSED CL.	2016.306	2017.742	2020.424	2021.174	2022.924	2024.674	2026.424	2028.174	2029.924	2031.674	2033.424	2035.174	2036.924	2038.674	2040.424	2042.174	2043.924	2045.674	2047.424	2048.864	2049.436	2049.133	2047.956	2046.217	2044.467	2042.717	2040.967	2039.217	2037.467	2035.717	2033.967	2032.217	2030.467	2028.717	2026.967	2025.217	2023.467	2021.717	2020.967	2018.217	2016.467	2014.717	2012.967
EXISTING GROUND LEVEL ALONG THE PROPOSED CL.	2013.346	2014.806	2016.628	2020.684	2022.758	2025.678	2027.478	2029.470	2022.846	2029.367	2028.112	2033.465	2036.672	2038.345	2041.477	2043.634	2045.406	2047.225	2046.971	2050.043	2050.745	2051.239	2051.554	2051.572	2050.676	2050.232	2048.685	2048.248	2047.515	2046.225	2044.381	2042.110	2040.491	2037.713	2035.550	2032.985	2030.591	2031.851	2025.993	2023.070	2021.450	2020.008	2018.868
HORIZONTAL ALIGNMENT																																											
VERTICAL ALIGNMENT																																											
CHAINAGE (KM)	66+000	66+025	66+050	66+075	66+100	66+125	66+150	66+175	66+200	66+225	66+250	66+275	66+300	66+325	66+350	66+375	66+400	66+425	66+450	66+475	66+500	66+525	66+550	66+575	66+600	66+625	66+650	66+675	66+700	66+725	66+750	66+775	66+800	66+825	66+850	66+875	66+900	66+925	66+950	66+975	67+000	67+025	67+050

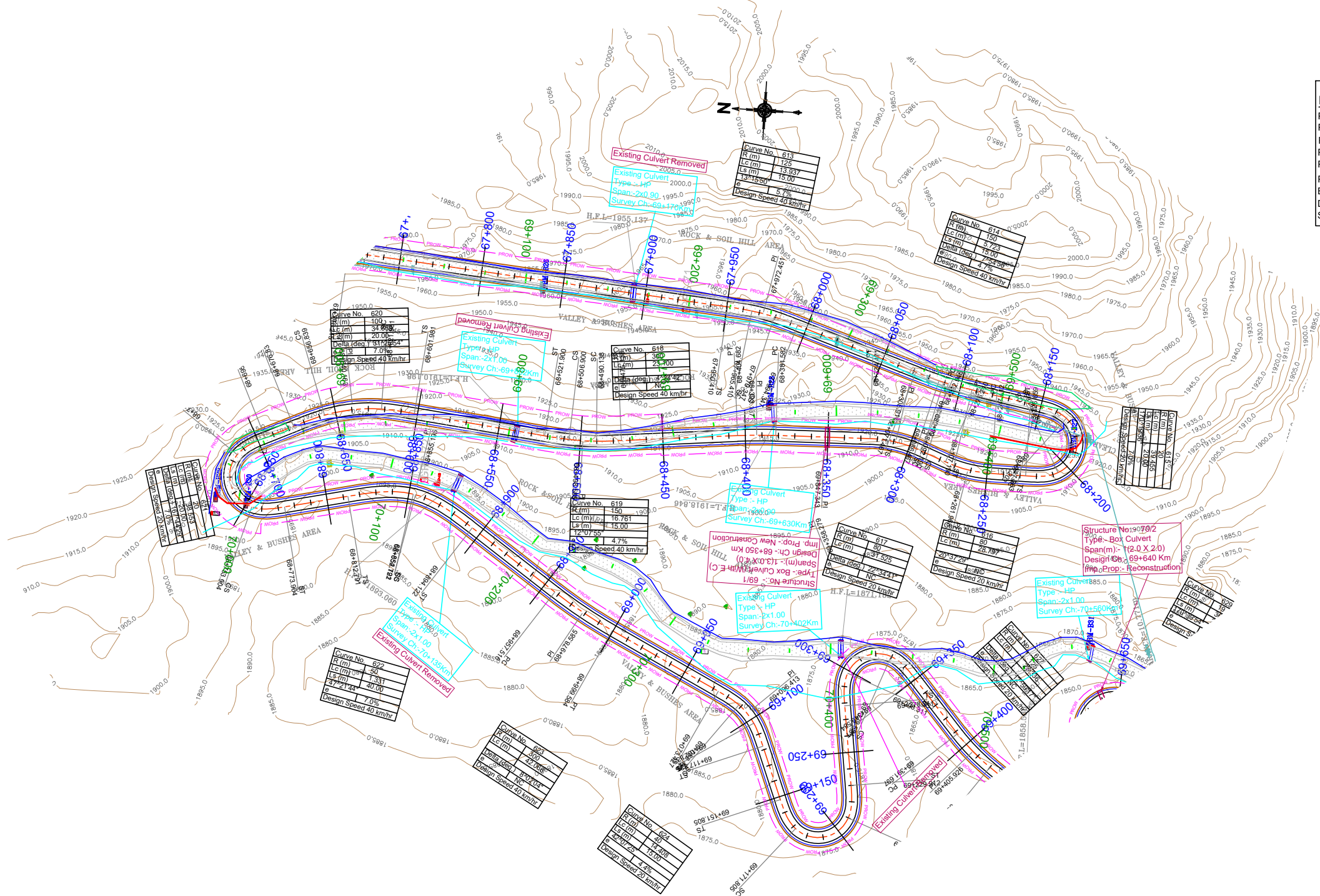


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										REVISION MKD. - R0		SHEET NO. - 12	
					DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH. 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		DRAWN BY  U. MALIK	DESIGNED BY  B.DAS	CHECKED BY  S.SADHU	ISSUED BY B.KONER	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.				PACKAGE-IIB					
REVISIONS													



FINISHED ROAD LEVEL ALONG THE PROPOSED CL.	2016.467	2014.717	2012.967	2011.217	2009.467	2007.717	2005.967	2004.217	2002.467	2000.717	1998.967	1997.217	1995.467	1993.717	1991.967	1990.217	1988.467	1986.717	1984.967	1983.217	1981.467	1979.717	1977.967	1976.217	1974.467	1972.717	1970.967	1969.217	1967.467	1965.717	1963.967	1962.217	1960.467	1958.717	1956.967	1955.217	1953.467	1951.717	1949.967	1948.217	1946.467	1944.717	1942.967			
EXISTING GROUND LEVEL ALONG THE PROPOSED CL.	2021.450	2020.008	2018.668	2017.779	2016.701	2014.609	2013.326	2012.050	2009.725	2008.184	2008.232	2005.093	2005.039	2002.193	2002.175	1998.339	1996.616	1995.188	1993.441	1991.232	1989.270	1987.249	1985.985	1983.598	1982.107	1980.016	1978.035	1977.104	1974.942	1971.928	1970.002	1967.680	1965.242	1963.875	1961.106	1962.354	1957.293	1954.960	1955.165	1951.456	1947.192	1944.615	1942.007			
HORIZONTAL ALIGNMENT	3.10 249 L 14.15 R 100.00 A 27.33 15.00 27.39 L 10.20 R 100.00 L 13.53 R 100.00 L 29.37 R 100.00 L 28.52 R 80.00 L 15.00 A 27.33 15.00 27.39 L 61.25 R 300.00 L 60.56 R 500.00 L 15.00 A 43.38 13.94 15.00 125.00 43.30																																													
VERTICAL ALIGNMENT	L 1995.042 Sp: 7.000%																																													
SUPERELEVATION (e %)	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%	0.750%			
CHAINAGE (KM)	67+000	67+025	67+050	67+075	67+100	67+125	67+150	67+175	67+200	67+225	67+250	67+275	67+300	67+325	67+350	67+375	67+400	67+425	67+450	67+475	67+500	67+525	67+550	67+575	67+600	67+625	67+650	67+675	67+700	67+725	67+750	67+775	67+800	67+825	67+850	67+875	67+900	67+925	67+950	67+975	68+000	68+025	68+050			

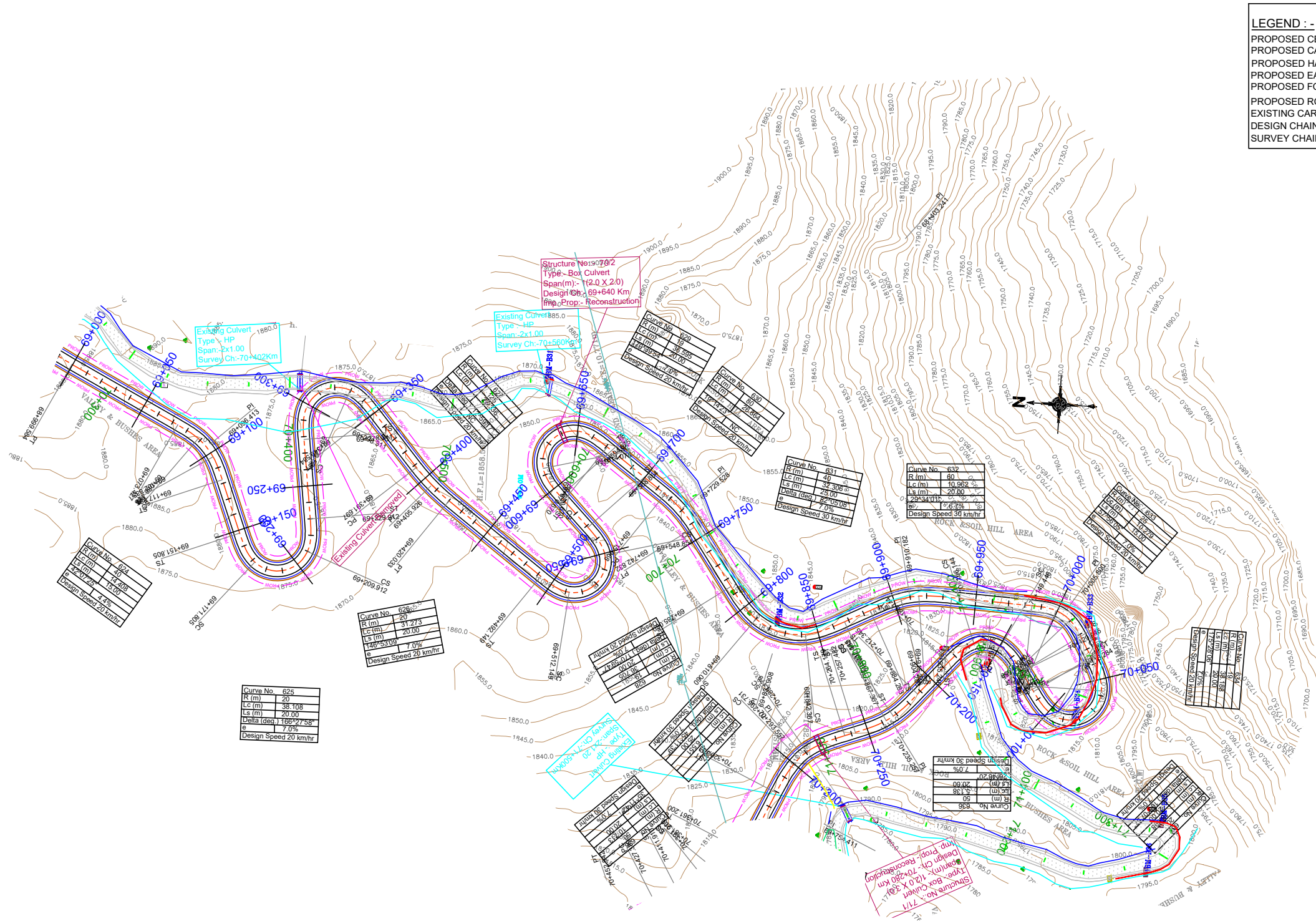
Scale :- HOR- 1:2000 VER- 1:200					CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001					PROFILE Km 67+000 to Km 68+000					CONSULTANT : CE TEST COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092					DWG NO- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PROFILE				
																				REVISION MKD. - R0				
																				SHEET NO. - 12A				
																				DRAWN BY				
																				DESIGNED BY				
																				CHECKED BY				
																				ISSUED BY				
																				U. MALIK				
																				B.DAS				
																				S.SADHU				
																				B.KONER				



LEGEND :-

PROPOSED CENTRE LINE	---
PROPOSED CARRIAGEWAY LINE	---
PROPOSED HARD SHOULDER LINE	---
PROPOSED EARTHEN SHOULDER LINE	---
PROPOSED FOOTPATH CUM DRAIN	---
PROPOSED ROW LINE	---
EXISTING CARRIAGEWAY	---
DESIGN CHAINAGE:-	0.000
SURVEY CHAINAGE:-	0.000

					Scale :- 1:2000		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PLAN Km 68+000 to Km 69+000		CONSULTANT :  CETEST Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092 	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN			
								SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			REVISION MKD. - R0		SHEET NO. - 13	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020			PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	PACKAGE-IIB		 U. MALIK	 B.DAS	 S.SADHU	 B.KONER
REVISIONS														



LEGEND :-	
PROPOSED CENTRE LINE	---
PROPOSED CARRIAGEWAY LINE	---
PROPOSED HARD SHOULDER LINE	---
PROPOSED EARTHEN SHOULDER LINE	---
PROPOSED FOOTPATH CUM DRAIN	---
PROPOSED ROW LINE	---
EXISTING CARRIAGEWAY	---
DESIGN CHAINAGE:-	0.000
SURVEY CHAINAGE:-	0.000

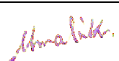
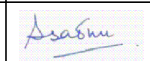
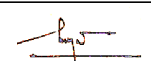
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.
REVISIONS				

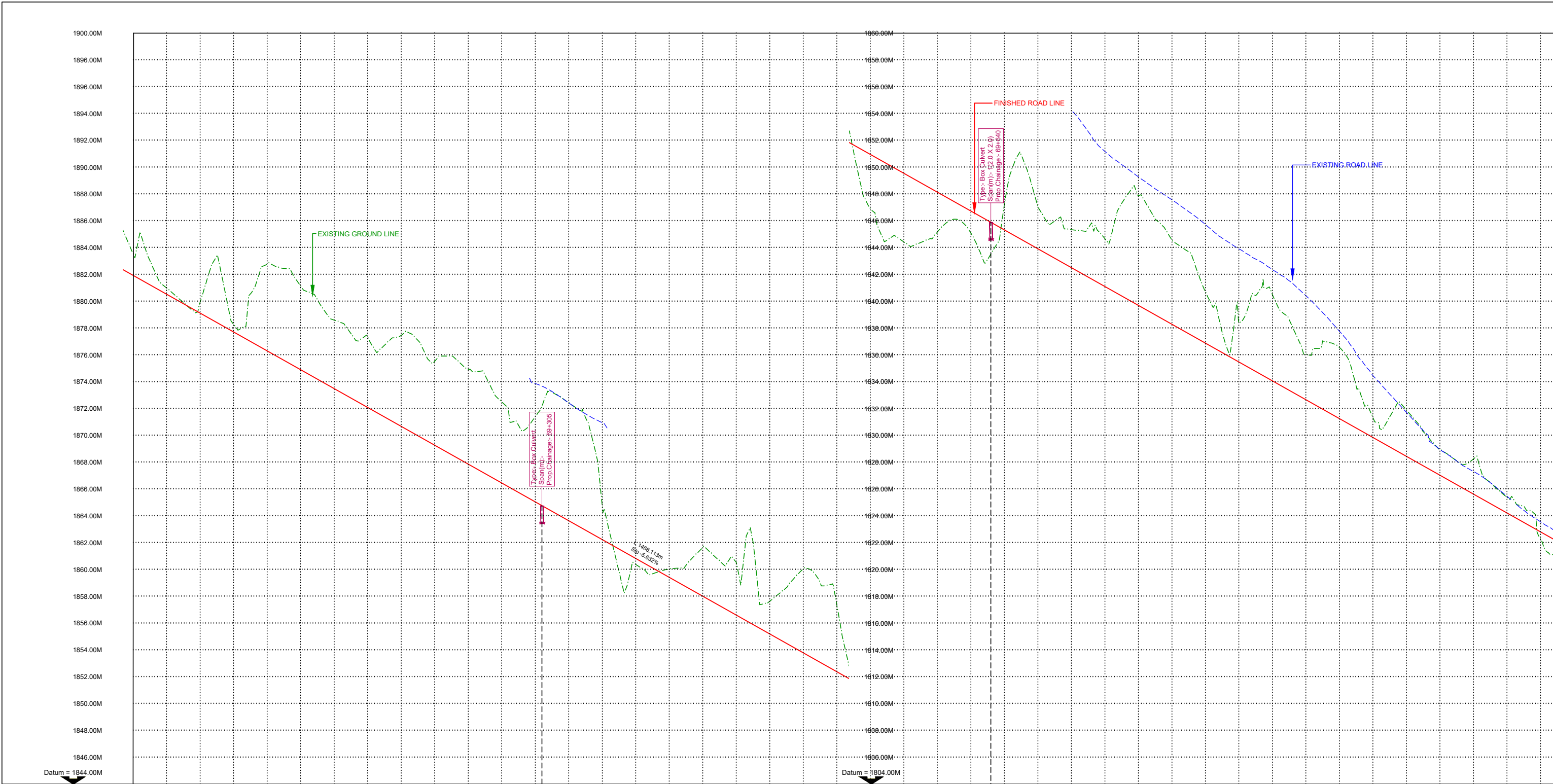
Scale :- 1:2000
DATE: FEB, 2020

	CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001
PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	

PLAN Km 69+000 to Km 70+000
SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT
PACKAGE-IIB

CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092


DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN			
REVISION MKD. - R0		SHEET NO. - 14	
DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
 U. MALIK	 B.DAS	 S.SADHU	 B.KONER



FINISHED ROAD LEVEL ALONG THE PROPOSED CL.	1881.953	1880.545	1879.137	1877.729	1876.321	1874.913	1873.505	1872.097	1870.689	1869.281	1867.873	1866.465	1865.057	1863.648	1862.241	1860.833	1859.425	1858.016	1856.608	1855.200	1853.792	1852.384	1850.976	1849.568	1848.160	1846.752	1845.344	1843.936	1842.528	1841.120	1839.712	1838.304	1836.896	1835.488	1834.080	1832.672	1831.264	1829.856	1828.448	1827.040	1825.632	1824.224	1822.816							
EXISTING GROUND LEVEL ALONG THE PROPOSED CL.	1883.567	1881.007	1879.935	1878.298	1882.784	1881.153	1878.610	1877.322	1877.469	1875.540	1874.936	1872.505	1871.402	1872.434	1864.774	1860.380	1860.045	1861.641	1860.536	1857.639	1855.200	1857.336	1846.917	1844.445	1845.172	1845.117	1847.184	1847.086	1845.355	1844.690	1847.890	1844.591	1840.714	1838.696	1838.404	1840.510	1836.041	1832.672	1836.578	1831.264	1831.339	1829.856	1828.448	1828.947	1828.249	1825.632	1825.391	1824.224	1822.244	1822.816
HORIZONTAL ALIGNMENT	L 15.00 L 14.41 L 15.00 A 24.49R 40.00A 24.49																																																	
VERTICAL ALIGNMENT	L 20.00 L 20.0																																																	

Scale :-
HOR- 1:2000
VER- 1:200

CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001

PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)

PROFILE
Km 69+000 to Km 70+000

SUBMISSION TYPE :
FINAL DETAILED PROJECT REPORT

PACKAGE-IIB

CONSULTANT :
CE TESTING COMPANY PVT. LTD.
Engineering Consultants
An ISO 9001, 14001 & OHSAS 18001 Certified Company

124-A, N.S.C. Bose Road, Kolkata - 700092

DWG NO- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PROFILE

REVISION MKD. - R0

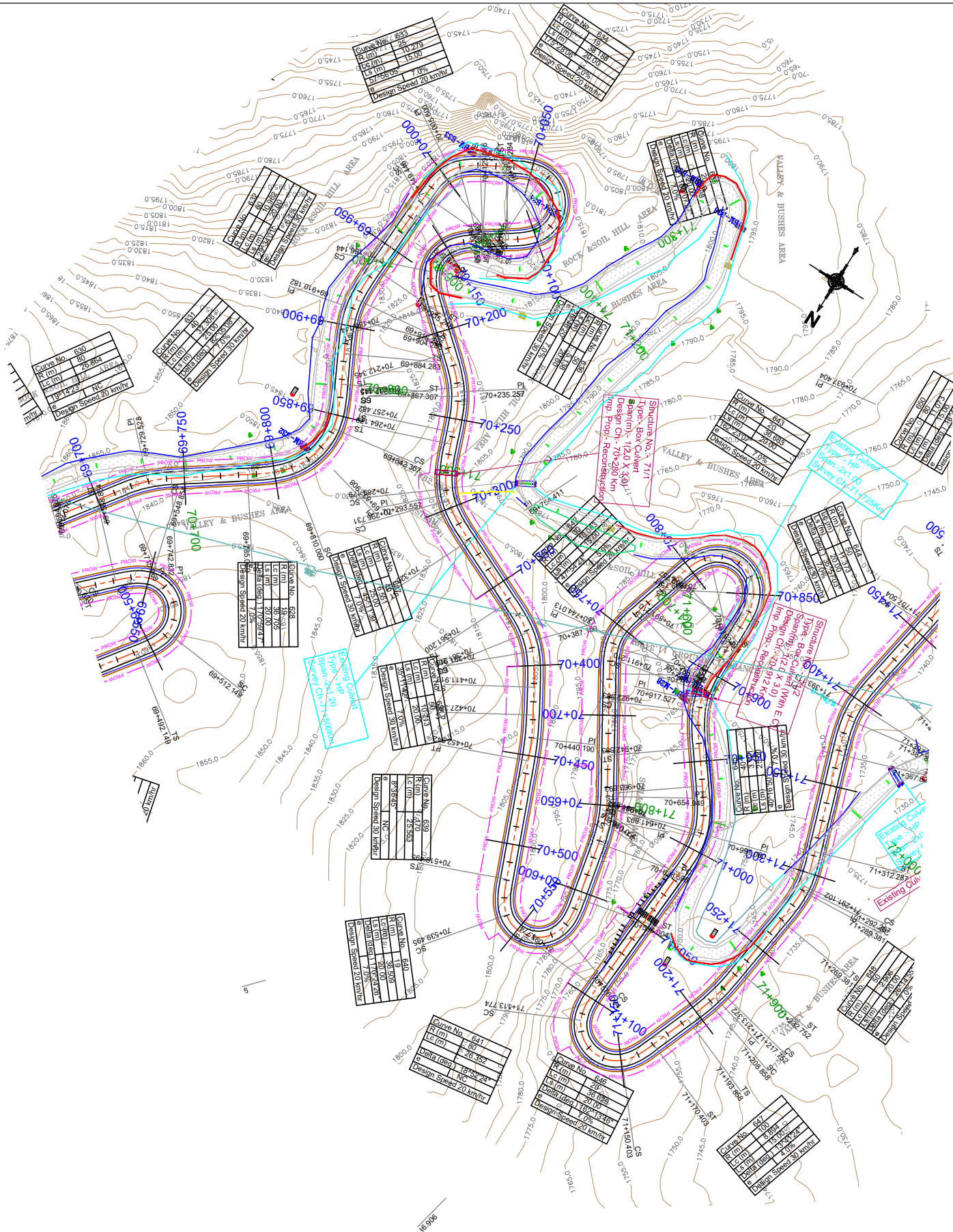
SHEET NO. - 14A

DRAWN BY
U. MALIK

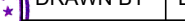
DESIGNED BY
B.DAS

CHECKED BY
S.SADHU

ISSUED BY
B.KONER



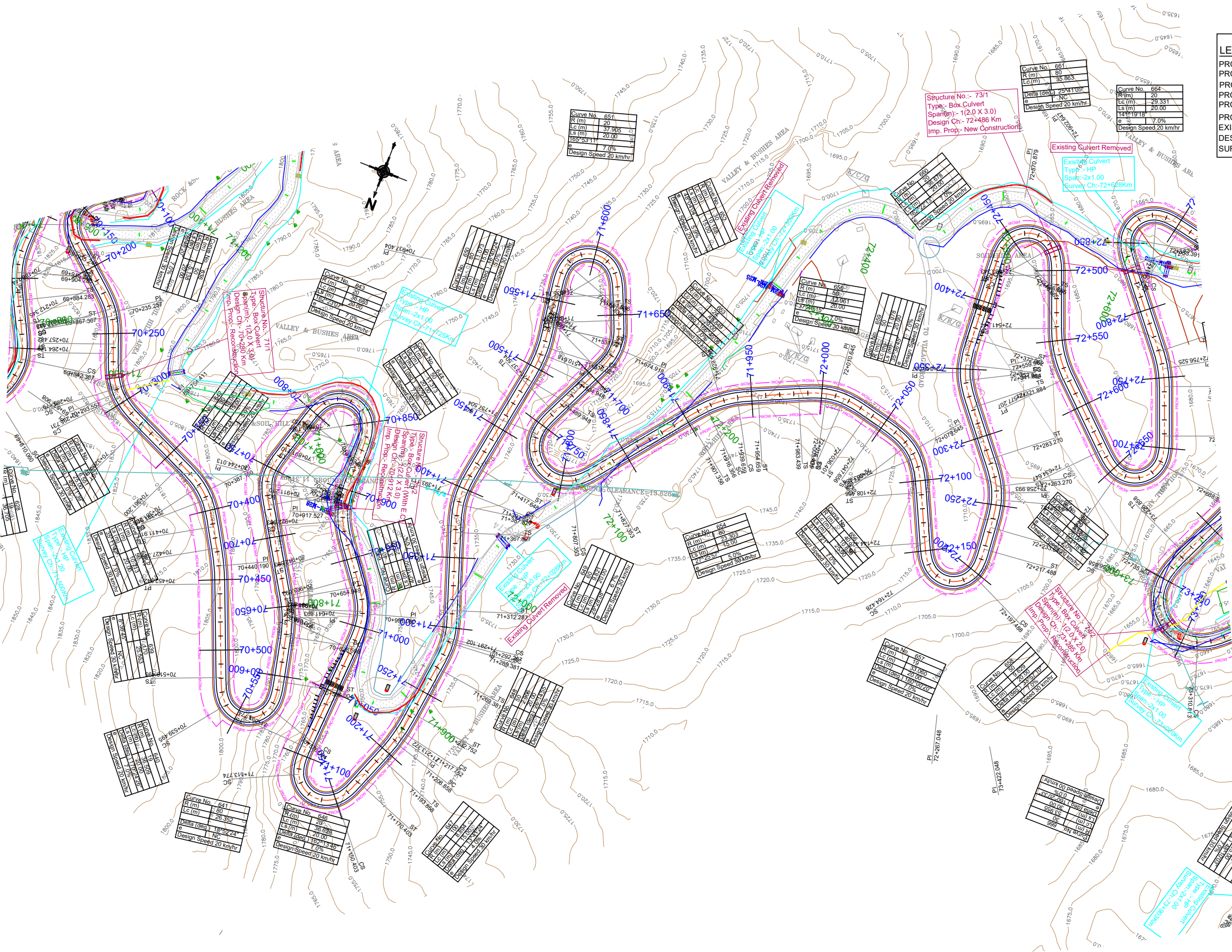
LEGEND :-	
PROPOSED CENTRE LINE	---
PROPOSED CARRIAGEWAY LINE	---
PROPOSED HARD SHOULDER LINE	---
PROPOSED EARTHEN SHOULDER LINE	---
PROPOSED FOOTPATH CUM DRAIN	---
PROPOSED ROW LINE	---
EXISTING CARRIAGEWAY	---
DESIGN CHAINAGE:-	0.000
SURVEY CHAINAGE:-	0.000

					Scale :- 1:2000		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PLAN Km 70+000 to Km 71+000	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN			
										REVISION MKD. - R0	SHEET NO. - 15		
					DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		DRAWN BY  U. MALIK	DESIGNED BY  B.DAS	CHECKED BY  S.SADHU	ISSUED BY  B.KONER
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.									
REVISIONS													



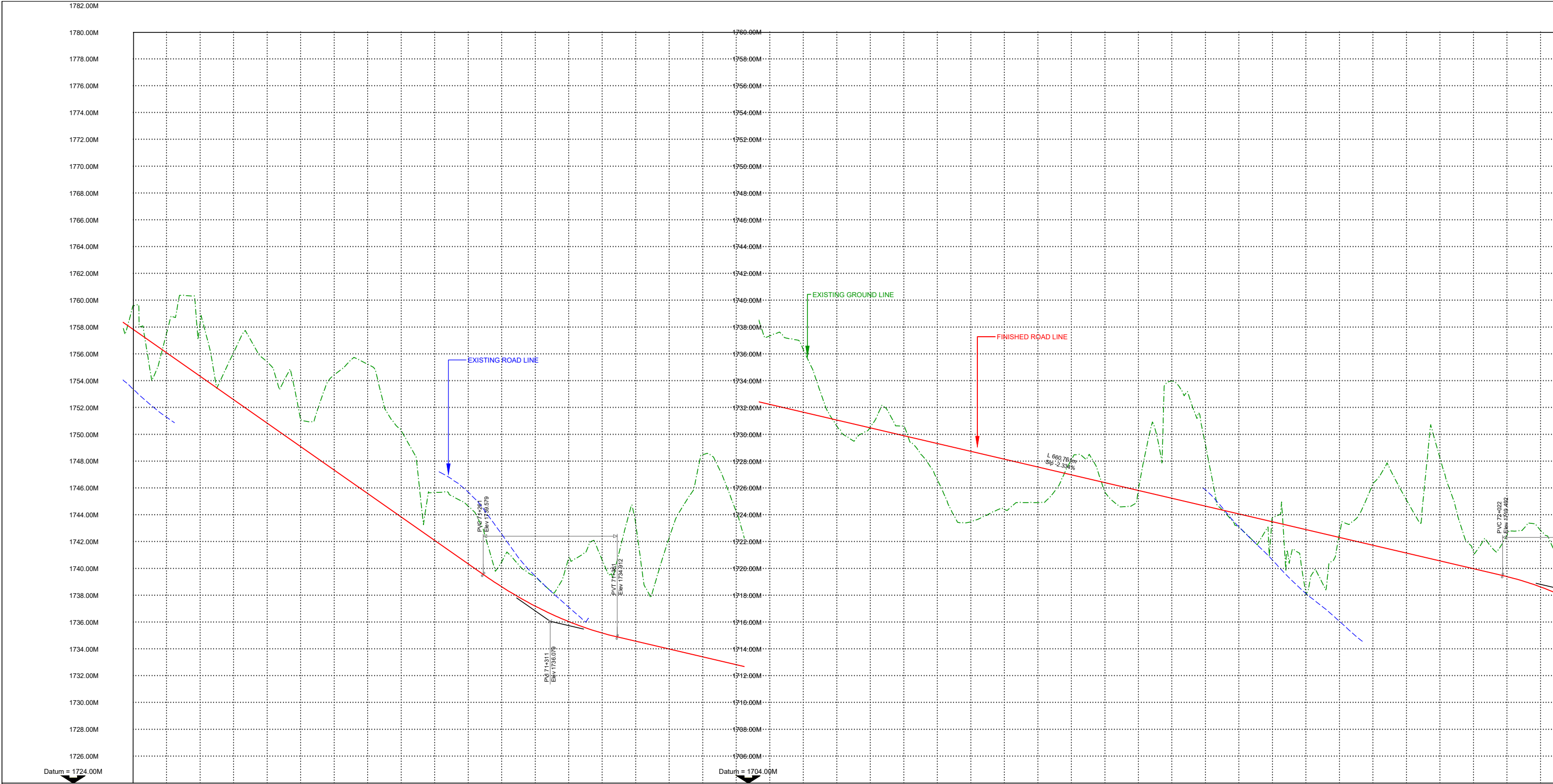
FINISHED ROAD LEVEL. ALONG THE PROPOSED CL.	1825.632	1824.224	1822.916	1821.408	1820.000	1818.581	1817.088	1815.510	1813.946	1812.107	1810.357	1808.607	1806.857	1805.107	1803.357	1801.607	1799.857	1798.107	1796.357	1794.607	1792.857	1791.107	1789.357	1787.607	1785.857	1784.107	1782.357	1780.607	1778.857	1777.107	1775.357	1773.607	1771.857	1770.107	1768.357	1766.607	1764.857	1763.107	1761.357	1759.607	1757.857	1756.107	1754.357	
EXISTING GROUND LEVEL ALONG THE PROPOSED CL.	1828.249	1825.391	1822.244	1821.433	1821.384	1825.832	1820.160	1820.088	1810.977	1816.131	1815.848	1810.824	1808.630	1811.549	1809.263	1807.748	1804.549	1804.997	1804.844	1802.662	1802.238	1801.178	1796.985	1796.873	1795.213	1792.925	1792.206	1793.007	1783.123	1785.749	1777.711	1775.357	1776.213	1778.188	1769.188	1765.893	1763.109	1761.039	1759.498	1761.274	1761.339	1759.615	1757.554	1758.289
HORIZONTAL ALIGNMENT	5.00L 10.28L 15.00 19.36 25.00 19.36 L 20.00 A 19.49 R 19.00 L 20.00 A 19.49 R 20.00 L 16.70 A 20.00 L 20.00 A 20.00 L 20.00L 5.14L 20.00 A 31.82 R 50.00A 31.82 L 25.00 L 6.55 L 25.00 A 31.82 R 40.00A 31.82 L 20.00 L 10.71 L 20.00 A 31.82 R 50.00A 31.82 L 25.55 R 170.00 L 20.00 A 19.49 R 19.00 L 36.51 A 19.49 L 20.00 A 19.49 L 26.35 R 80.00 L 15.00L 10.08L 15.00 A 21.28 R 30.00A 21.21 L 20.00 A 20.00 L 36.88 R 20.00 L 20.00 A 20.00 L 20.00 A 20.00 L 20.00 L 11.37 L 20.00 A 31.82 R 50.00A 31.82 L 25.00 L 3.12 L 25.00 A 31.82 R 40.00A 31.82																																											
VERTICAL ALIGNMENT	L 100.000 L 150.000 L 250.000 L 1048.398 SIP-7.0000%																																											
SUPERELEVATION (e %)	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%	
CHAINAGE (KM)	70+000	70+025	70+050	70+075	70+100	70+125	70+150	70+175	70+200	70+225	70+250	70+275	70+300	70+325	70+350	70+375	70+400	70+425	70+450	70+475	70+500	70+525	70+550	70+575	70+600	70+625	70+650	70+675	70+700	70+725	70+750	70+775	70+800	70+825	70+850	70+875	70+900	70+925	70+950	70+975	71+000	71+025	71+050	

Scale :- HOR- 1:2000 VER- 1:200					CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001					PROFILE Km 70+000 to Km 71+000					CONSULTANT : CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092					DWG NO- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PROFILE				
PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)					SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT					PACKAGE-IIB					REVISION MKD. - R0					SHEET NO. - 15A				
DATE: FEB, 2020					DRAWN BY U. MALIK					DESIGNED BY B.DAS					CHECKED BY S.SADHU					ISSUED BY B.KONER				
REVISIONS																								



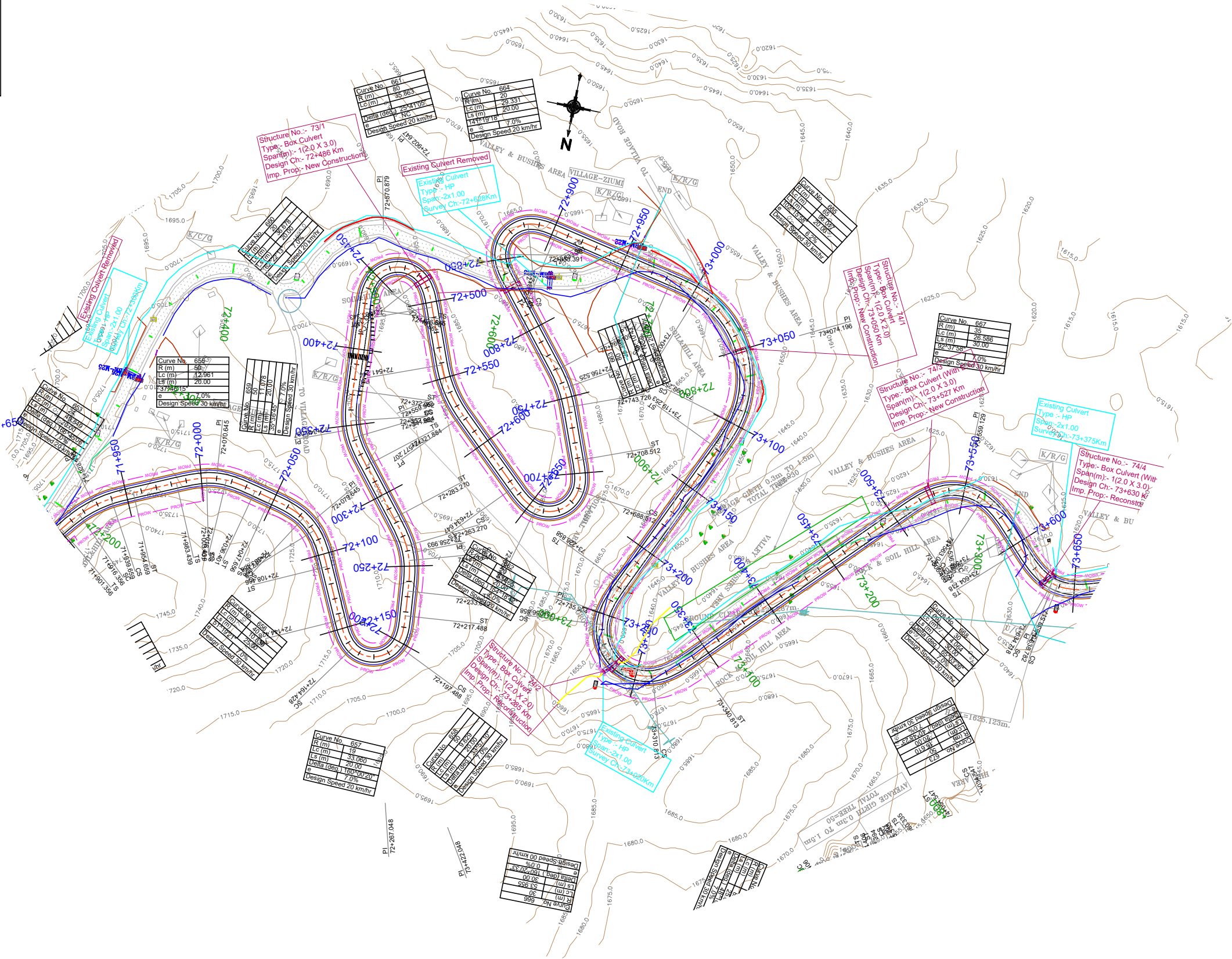
LEGEND :-	
PROPOSED CENTRE LINE	---
PROPOSED CARRIAGEWAY LINE	---
PROPOSED HARD SHOULDER LINE	---
PROPOSED EARTHEN SHOULDER LINE	---
PROPOSED FOOTPATH CUM DRAIN	---
PROPOSED ROW LINE	---
EXISTING CARRIAGEWAY	---
DESIGN CHAINAGE:-	0.000
SURVEY CHAINAGE:-	0.000

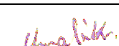
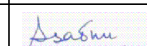
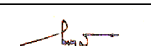
					Scale :- 1:2000		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PLAN Km 71+000 to Km 72+000	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN				
													REVISION MKD. - R0	
						PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092	DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.										
REVISIONS					DATE: FEB, 2020			PACKAGE-IIB			U. MALIK	B.DAS	S.SADHU	B.KONER



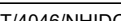
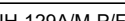
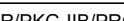
FINISHED ROAD LEVEL, ALONG THE PROPOSED CL.	1757.857	1756.107	1754.357	1752.607	1750.857	1749.107	1747.357	1745.607	1743.857	1742.107	1740.357	1738.607	1736.857	1735.107	1733.357	1731.607	1729.857	1728.107	1726.357	1724.607	1722.857	1721.107	1719.357	1717.607	1715.857	1714.107	1712.357	1710.607	1708.857	1707.107	1705.357	1703.607	1701.857	1700.107	1698.357	1696.607	1694.857	1693.107	1691.357	1689.607	1687.857	1686.107	1684.357	1682.607	1680.857	1679.107	1677.357	1675.607	1673.857	1672.107	1670.357	1668.607	1666.857	1665.107	1663.357	1661.607	1659.857	1658.107	1656.357	1654.607	1652.857	1651.107	1649.357	1647.607	1645.857	1644.107	1642.357	1640.607	1638.857	1637.107	1635.357	1633.607	1631.857	1630.107	1628.357	1626.607	1624.857	1623.107	1621.357	1619.607	1617.857	1616.107	1614.357	1612.607	1610.857	1609.107	1607.357	1605.607	1603.857	1602.107	1600.357	1598.607	1596.857	1595.107	1593.357	1591.607	1589.857	1588.107	1586.357	1584.607	1582.857	1581.107	1579.357	1577.607	1575.857	1574.107	1572.357	1570.607	1568.857	1567.107	1565.357	1563.607	1561.857	1560.107	1558.357	1556.607	1554.857	1553.107	1551.357	1549.607	1547.857	1546.107	1544.357	1542.607	1540.857	1539.107	1537.357	1535.607	1533.857	1532.107	1530.357	1528.607	1526.857	1525.107	1523.357	1521.607	1519.857	1518.107	1516.357	1514.607	1512.857	1511.107	1509.357	1507.607	1505.857	1504.107	1502.357	1500.607	1498.857	1497.107	1495.357	1493.607	1491.857	1490.107	1488.357	1486.607	1484.857	1483.107	1481.357	1479.607	1477.857	1476.107	1474.357	1472.607	1470.857	1469.107	1467.357	1465.607	1463.857	1462.107	1460.357	1458.607	1456.857	1455.107	1453.357	1451.607	1449.857	1448.107	1446.357	1444.607	1442.857	1441.107	1439.357	1437.607	1435.857	1434.107	1432.357	1430.607	1428.857	1427.107	1425.357	1423.607	1421.857	1420.107	1418.357	1416.607	1414.857	1413.107	1411.357	1409.607	1407.857	1406.107	1404.357	1402.607	1400.857	1399.107	1397.357	1395.607	1393.857	1392.107	1390.357	1388.607	1386.857	1385.107	1383.357	1381.607	1379.857	1378.107	1376.357	1374.607	1372.857	1371.107	1369.357	1367.607	1365.857	1364.107	1362.357	1360.607	1358.857	1357.107	1355.357	1353.607	1351.857	1350.107	1348.357	1346.607	1344.857	1343.107	1341.357	1339.607	1337.857	1336.107	1334.357	1332.607	1330.857	1329.107	1327.357	1325.607	1323.857	1322.107	1320.357	1318.607	1316.857	1315.107	1313.357	1311.607	1309.857	1308.107	1306.357	1304.607	1302.857	1301.107	1299.357	1297.607	1295.857	1294.107	1292.357	1290.607	1288.857	1287.107	1285.357	1283.607	1281.857	1280.107	1278.357	1276.607	1274.857	1273.107	1271.357	1269.607	1267.857	1266.107	1264.357	1262.607	1260.857	1259.107	1257.357	1255.607	1253.857	1252.107	1250.357	1248.607	1246.857	1245.107	1243.357	1241.607	1239.857	1238.107	1236.357	1234.607	1232.857	1231.107	1229.357	1227.607	1225.857	1224.107	1222.357	1220.607	1218.857	1217.107	1215.357	1213.607	1211.857	1210.107	1208.357	1206.607	1204.857	1203.107	1201.357	1199.607	1197.857	1196.107	1194.357	1192.607	1190.857	1189.107	1187.357	1185.607	1183.857	1182.107	1180.357	1178.607	1176.857	1175.107	1173.357	1171.607	1169.857	1168.107	1166.357	1164.607	1162.857	1161.107	1159.357	1157.607	1155.857	1154.107	1152.357	1150.607	1148.857	1147.107	1145.357	1143.607	1141.857	1140.107	1138.357	1136.607	1134.857	1133.107	1131.357	1129.607	1127.857	1126.107	1124.357	1122.607	1120.857	1119.107	1117.357	1115.607	1113.857	1112.107	1110.357	1108.607	1106.857	1105.107	1103.357	1101.607	1099.857	1098.107	1096.357	1094.607	1092.857	1091.107	1089.357	1087.607	1085.857	1084.107	1082.357	1080.607	1078.857	1077.107	1075.357	1073.607	1071.857	1070.107	1068.357	1066.607	1064.857	1063.107	1061.357	1059.607	1057.857	1056.107	1054.357	1052.607	1050.857	1049.107	1047.357	1045.607	1043.857	1042.107	1040.357	1038.607	1036.857	1035.107	1033.357	1031.607	1029.857	1028.107	1026.357	1024.607	1022.857	1021.107	1019.357	1017.607	1015.857	1014.107	1012.357	1010.607	1008.857	1007.107	1005.357	1003.607	1001.857	999.107	997.357	995.607	993.857	992.107	990.357	988.607	986.857	985.107	983.357	981.607	979.857	978.107	976.357	974.607	972.857	971.107	969.357	967.607	965.857	964.107	962.357	960.607	958.857	957.107	955.357	953.607	951.857	950.107	948.357	946.607	944.857	943.107	941.357	939.607	937.857	936.107	934.357	932.607	930.857	929.107	927.357	925.607	923.857	922.107	920.357	918.607	916.857	915.107	913.357	911.607	909.857	908.107	906.357	904.607	902.857	901.107	899.357	897.607	895.857	894.107	892.357	890.607	888.857	887.107	885.357	883.607	881.857	880.107	878.357	876.607	874.857	873.107	871.357	869.607	867.857	866.107	864.357	862.607	860.857	859.107	857.357	855.607	853.857	852.107	850.357	848.607	846.857	845.107	843.357	841.607	839.857	838.107	836.357	834.607	832.857	831.107	829.357	827.607	825.857	824.107	822.357	820.607	818.857	817.107	815.357	813.607	811.857	810.107	808.357	806.607	804.857	803.107	801.357	799.607	797.857	796.107	794.357	792.607	790.857	789.107	787.357	785.607	783.857	782.107	780.357	778.607	776.857	775.107	773.357	771.607	769.857	768.107	766.357	764.607	762.857	761.107	759.357	757.607	755.857	754.107	752.357	750.607	748.857	747.107	745.357	743.607	741.857	740.107	738.357	736.607	734.857	733.107	731.357	729.607	727.857	726.107	724.357	722.607	720.857	719.107	717.357	715.607	713.857	712.107	710.357	708.607	706.857	705.107	703.357	701.607	699.857	698.107	696.357	694.607	692.857	691.107	689.357	687.607	685.857	684.107	682.357	680.607	678.857	677.107	675.357	673.607	671.857	670.107	668.357	666.607	664.857	663.107	661.357	659.607	657.857	656.107	654.357	652.607	650.857	649.107	647.357	645.607	643.857	642.107	640.357	638.607	636.857	635.107	633.357	631.607	629.857	628.107	626.357	624.607	622.857	621.107	619.357	617.607	615.857	614.107	612.357	610.607	608.857	607.107	605.357	603.607	601.857	599.107	597.357	595.607	593.857	592.107	590.357	588.607	586.857	585.107	583.357	581.607	579.857	578.107	576.357	574.607	572.857	571.107	569.357	567.607	565.857	564.107	562.357	560.607	558.857	557.107	555.357	553.607	551.857	550.107	548.357	546.607	544.857	543.107	541.357	539.607	537.857	536.107	534.357	532.607	530.857	529.107	527.357	525.607	523.857	522.107	520.357	518.607	516.857	515.107	513.357	511.607	509.857	508.107	506.357	504.607	502.857	501.107	499.357	497.607	495.857	494.107	492.357	490.607	488.857	487.107	485.357	483.607	481.857	480.107	478.357	476.607	474.857	473.107	471.357	469.607	467.857	466.107	464.357	462.607	460.857	459.107	457.357	455.607	453.857	452.107	450.357	448.607	446.857	445.107	443.357	441.607	439.857	438.107	436.357	434.607	432.857	431.107	429.357	427.607	425.857	424.107	422.357	420.607	418.857	417.107	415.357	413.607	411.857	410.107	408.357	406.607	404.857	403.107	401.357	399.607	397.857	396.107	394.357	392.607	390.857	389.107	387.357	385.607	383.857	382.107	380.357	378.607	376.857	375.107	373.357	371.607	369.857	368.107	366.357	364.607	362.857	361.107	359.357	357.607	355.857	354.107	352.357	350.607	348.857	347.107	345.357	343.607	341.857	340.107	338.357	336.607	334.857	333.107	331.357	329.607	327.857	326.107	324.357	322.607	320.857	319.107	317.357	315.607	313.857	312.107	310.357	308.607	306.857	305.107	303.357	301.607	299.857	298.107	296.357	294.607	292.857	291.107	289.357	287.607	285.857	284.107	282.357	280.607	278.857	277.107	275.357	273.607	271.857	270.107	268.357	266.607	264.857	263.107	261.357	259.607	257.857	256.107	254.357	252.607	250.857	249.107	247.357	245.607	243.857	242.107	240.357	238.607	236.857	235.107	233.357	231.607	229.857	228.107	226.357	224.607	222.857	221.107	219.357	217.607	215.857	214.107	212.357	210.607	208.857	207.107	205.357	203.607	201.857	199.107	197.357	195.607	193.857	192.107	190.357	188.607	186.857	185.107	183.357	181.607	179.857	178.107	176.357	174.607	172.857	171.107	169.357	167.607	165.857	164.107	162.357	160.607	158.857	157.107	155.357	153.607	151.857	150.107	148.357	146.607	144.857	143.107	141.357	139.607	137.857	136.107	134.357	132.607	130.857	129.107	127.357	125.607	123.857	122.107	120.357	118.607	116.857	115.107	113.357	111.607	109.857	108.107	106.357	104.607	102.857	101.107	99.357	97.607	95.857	94.107	92.357	90.607	88.857	87.107	85.357	83.607	81.857	80.107	78.357	76.607	74.857	73.107	71.357	69.607	67.857	66.107	64.357	62.607	60.857	59.107	57.357	55.607	53.857	52.107	50.357	48.607	46.857	45.107	
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LEGEND :-	
PROPOSED CENTRE LINE	---
PROPOSED CARRIAGEWAY LINE	---
PROPOSED HARD SHOULDER LINE	---
PROPOSED EARTHEN SHOULDER LINE	---
PROPOSED FOOTPATH CUM DRAIN	---
PROPOSED ROW LINE	---
EXISTING CARRIAGEWAY	---
DESIGN CHAINAGE:-	0.000
SURVEY CHAINAGE:-	0.000



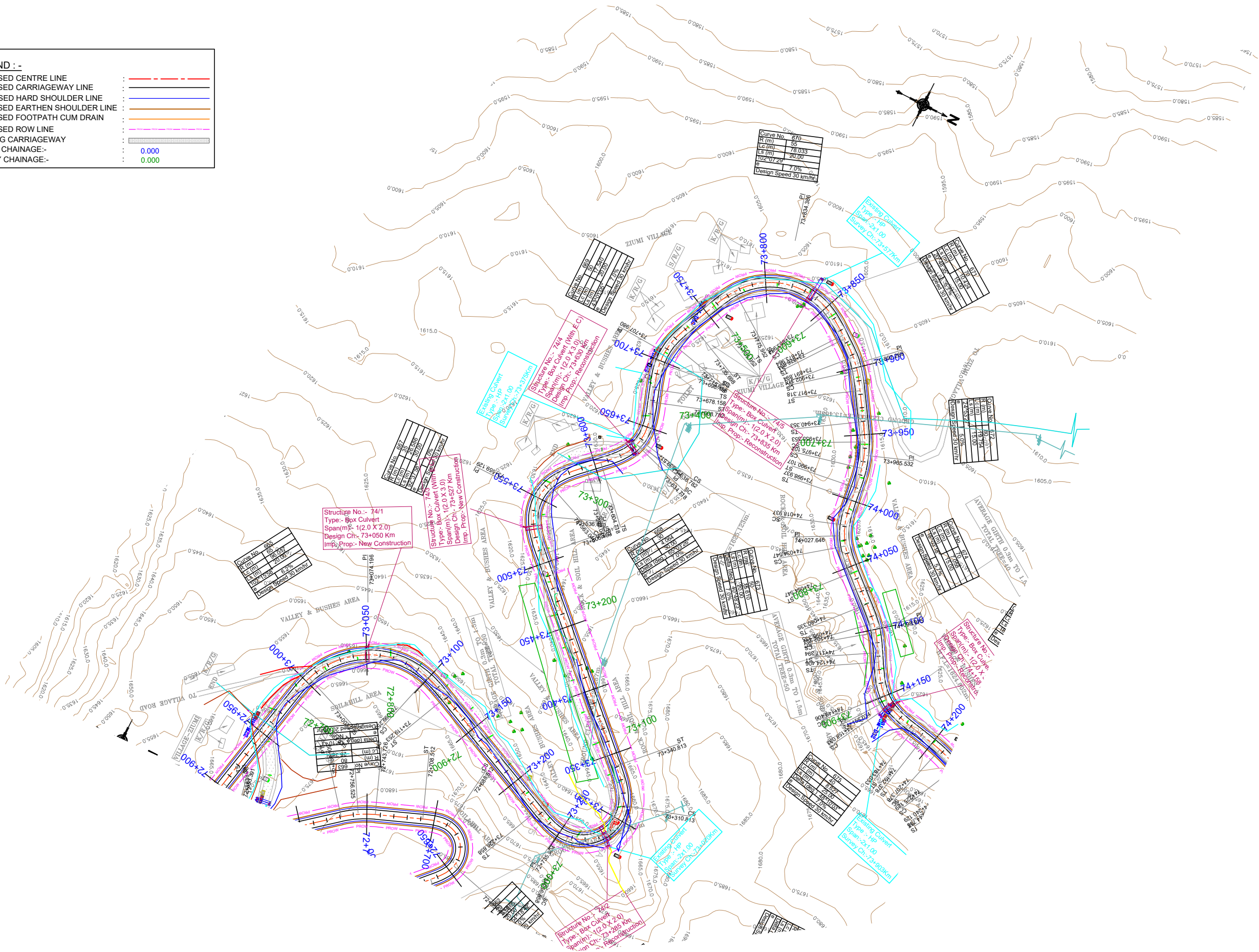
					Scale :- 1:2000		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PLAN Km 72+000 to Km 73+000		CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN					
					DATE: FEB. 2020			SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			REVISION MKD. - R0	SHEET NO. - 17				
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	REVISIONS	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		PACKAGE-IIB			DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY		
																
											U. MALIK	B.DAS	S.SADHU	B.KONER		

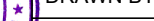
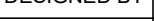
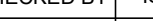
[illegible]

					Scale :- HOR- 1:2000 VER- 1:200		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PROFILE Km 72+000 to Km 73+000	CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants 124-A, N.S.C. Bose Road Kolkata - 700092 	DWG NO- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PROFILE			
										REVISION MKD. - R0	SHEET NO. - 17A		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
REVISIONS								PACKAGE-IIB		 U. MALIK	 B.DAS	 S.SADHU	 B.KONER

LEGEND :-

PROPOSED CENTRE LINE	---
PROPOSED CARRIAGEWAY LINE	---
PROPOSED HARD SHOULDER LINE	---
PROPOSED EARTHEN SHOULDER LINE	---
PROPOSED FOOTPATH CUM DRAIN	---
PROPOSED ROW LINE	---
EXISTING CARRIAGEWAY	---
DESIGN CHAINAGE:-	0.000
SURVEY CHAINAGE:-	0.000



					Scale :- 1:2000		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PLAN Km 73+000 to Km 74+000		CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092 	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN						
								SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			REVISION MKD. - R0		SHEET NO. - 18				
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DRAWN BY						DESIGNED BY	CHECKED BY	ISSUED BY				
REVISIONS																	
					DATE: FEB, 2020						PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)				PACKAGE-IIB		



FINISHED ROAD LEVEL, ALONG THE PROPOSED CL.	1661.068	1659.776	1658.488	1657.200	1655.917	1654.784	1653.853	1653.125	1652.592	1652.114	1651.635	1651.157	1650.584	1649.700	1648.498	1646.980	1645.238	1643.488	1641.738	1639.988	1638.238	1636.488	1634.738	1632.988	1631.238	1629.488	1627.738	1625.988	1624.238	1622.488	1620.738	1618.994	1617.556	1616.607	1616.138	1616.152	1616.648	1617.623	1618.771	1619.918	1621.066	1622.213	1623.361			
EXISTING GROUND LEVEL ALONG THE PROPOSED CL.	1661.572	1659.101	1656.852	1654.771	1654.726	1657.502	1655.790	1652.226	1652.178	1651.701	1652.073	1650.904	1650.643	1653.975	1655.235	1655.683	1655.136	1645.958	1644.374	1638.441	1636.253	1631.631	1633.222	1633.767	1632.888	1628.889	1627.846	1627.880	1624.896	1622.852	1622.488	1621.031	1620.738	1619.496	1617.223	1615.874	1616.991	1618.238	1617.841	1618.093	1618.667	1618.953	1620.617	1622.989	1624.169	
HORIZONTAL ALIGNMENT																																														
VERTICAL ALIGNMENT																																														
SUPERELEVATION (e %)																																														
CHAINAGE (KM)	73+000	73+025	73+050	73+075	73+100	73+125	73+150	73+175	73+200	73+225	73+250	73+275	73+300	73+325	73+350	73+375	73+400	73+425	73+450	73+475	73+500	73+525	73+550	73+575	73+600	73+625	73+650	73+675	73+700	73+725	73+750	73+775	73+800	73+825	73+850	73+875	73+900	73+925	73+950	73+975	74+000	74+025	74+050			

Scale :- HOR- 1:2000 VER- 1:200					CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001					PROFILE Km 73+000 to Km 74+000					CONSULTANT : CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092					DWG NO- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PROFILE				REVISION MKD. - R0		SHEET NO. - 18A	
PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)					SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT					PACKAGE-IIB					DRAWN BY DESIGNED BY CHECKED BY ISSUED BY					U. MALIK		B.DAS		S.SADHU		B.KONER	
DATE: FEB, 2020																											
REVISIONS																											

LEGEND :-

PROPOSED CENTRE LINE

PROPOSED CARRIAGEWAY LINE

PROPOSED HARD SHOULDER LINE

PROPOSED EARTHEN SHOULDER LINE

PROPOSED FOOTPATH CUM DRAIN

PROPOSED ROW LINE

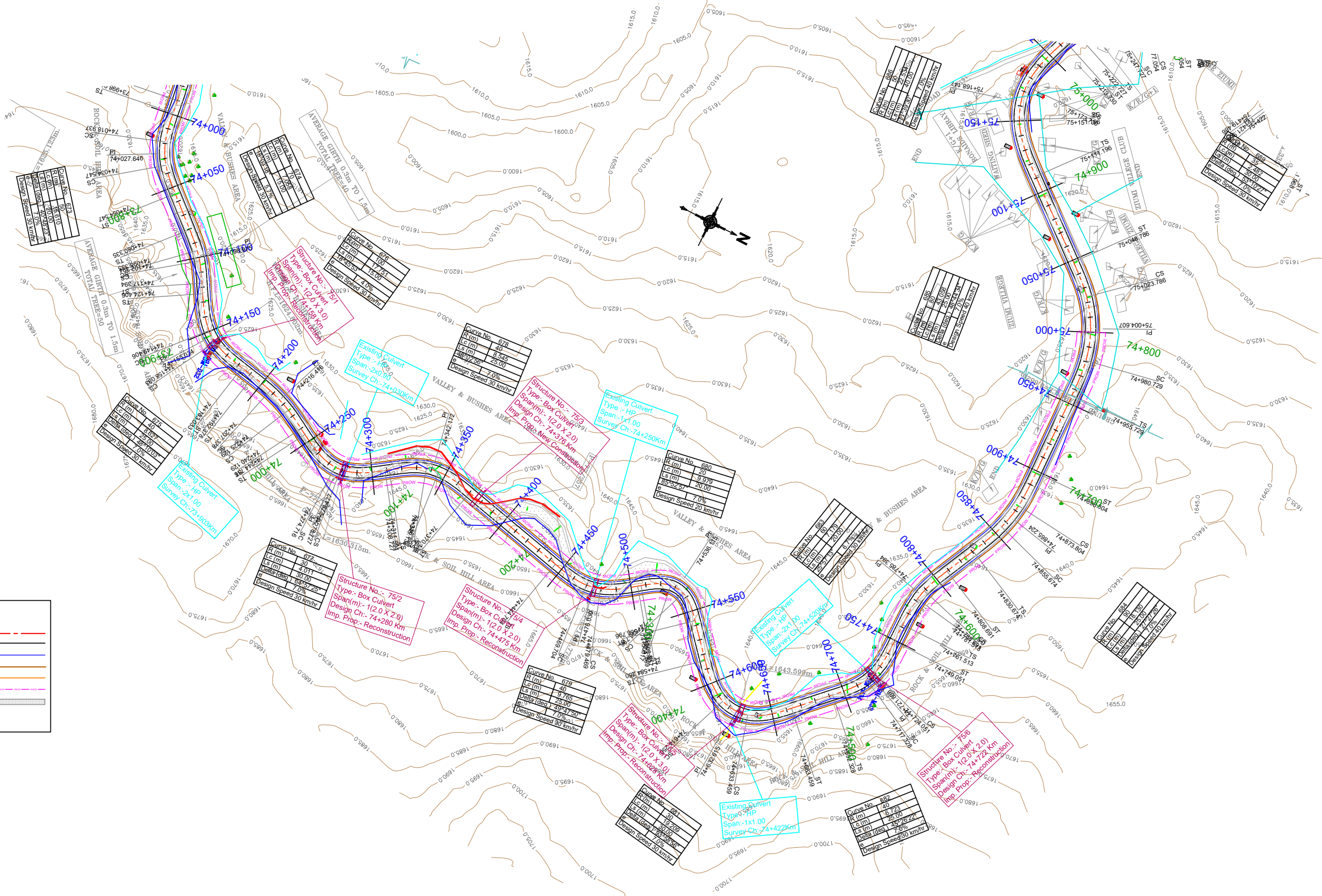
EXISTING CARRIAGEWAY

DESIGN CHAINAGE:-

SURVEY CHAINAGE:-

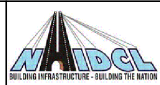
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0.000



MKD.	DATE	DESCRIPTION	CHKD.	APPRD.
		REVISIONS		

Scale :- 1:2000
DATE: FEB, 2020



CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001
PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)

PLAN Km 74+000 to Km 75+000
SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT
PACKAGE-IIB

CONSULTANT :
CETEST CE TESTING COMPANY PVT. LTD.
Engineering Consultants
An ISO 9001, 14001 & OHSAS 18001
Certified Company
124-A, N.S.C. Bose Road
Kolkata - 700092

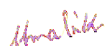
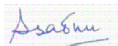
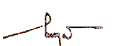
DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/PLAN			
REVISION MKD. - R0		SHEET NO. - 19	
DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
 U. MALIK	 B.DAS	 S.SADHU	 B.KONER



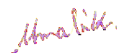
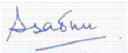
FINISHED ROAD LEVEL. ALONG THE PROPOSED CL.	1621.065	1622.213	1623.361	1624.508	1625.655	1626.804	1627.951	1629.099	1630.246	1631.394	1632.541	1633.688	1634.835	1635.984	1637.131	1638.278	1639.426	1640.574	1641.722	1642.869	1644.017	1645.164	1646.311	1647.458	1648.605	1649.752	1650.899	1652.046	1653.193	1654.340	1655.487	1656.634	1657.781	1658.928	1660.075	1661.222	1662.369	1663.516	1664.663	1665.810	1666.957	1668.104	1669.251	1670.398	1671.545	1672.692	1673.839	1674.986	1676.133	1677.280	1678.427	1679.574	1680.721	1681.868	1683.015	1684.162	1685.309	1686.456	1687.603	1688.750	1689.897	1691.044	1692.191	1693.338	1694.485	1695.632	1696.779	1697.926	1699.073	1700.220	1701.367	1702.514	1703.661	1704.808	1705.955	1707.102	1708.249	1709.396	1710.543	1711.690	1712.837	1713.984	1715.131	1716.278	1717.425	1718.572	1719.719	1720.866	1722.013	1723.160	1724.307	1725.454	1726.601	1727.748	1728.895	1730.042	1731.189	1732.336	1733.483	1734.630	1735.777	1736.924	1738.071	1739.218	1740.365	1741.512	1742.659	1743.806	1744.953	1746.100	1747.247	1748.394	1749.541	1750.688	1751.835	1752.982	1754.129	1755.276	1756.423	1757.570	1758.717	1759.864	1761.011	1762.158	1763.305	1764.452	1765.599	1766.746	1767.893	1769.040	1770.187	1771.334	1772.481	1773.628	1774.775	1775.922	1777.069	1778.216	1779.363	1780.510	1781.657	1782.804	1783.951	1785.098	1786.245	1787.392	1788.539	1789.686	1790.833	1791.980	1793.127	1794.274	1795.421	1796.568	1797.715	1798.862	1799.009	1800.156	1801.303	1802.450	1803.597	1804.744	1805.891	1807.038	1808.185	1809.332	1810.479	1811.626	1812.773	1813.920	1815.067	1816.214	1817.361	1818.508	1819.655	1820.802	1821.949	1823.096	1824.243	1825.390	1826.537	1827.684	1828.831	1829.978	1831.125	1832.272	1833.419	1834.566	1835.713	1836.860	1838.007	1839.154	1840.301	1841.448	1842.595	1843.742	1844.889	1846.036	1847.183	1848.330	1849.477	1850.624	1851.771	1852.918	1854.065	1855.212	1856.359	1857.506	1858.653	1859.800	1860.947	1862.094	1863.241	1864.388	1865.535	1866.682	1867.829	1868.976	1870.123	1871.270	1872.417	1873.564	1874.711	1875.858	1877.005	1878.152	1879.299	1880.446	1881.593	1882.740	1883.887	1885.034	1886.181	1887.328	1888.475	1889.622	1890.769	1891.916	1893.063	1894.210	1895.357	1896.504	1897.651	1898.798	1899.945	1901.092	1902.239	1903.386	1904.533	1905.680	1906.827	1907.974	1909.121	1910.268	1911.415	1912.562	1913.709	1914.856	1916.003	1917.150	1918.297	1919.444	1920.591	1921.738	1922.885	1924.032	1925.179	1926.326	1927.473	1928.620	1929.767	1930.914	1932.061	1933.208	1934.355	1935.502	1936.649	1937.796	1938.943	1940.090	1941.237	1942.384	1943.531	1944.678	1945.825	1946.972	1948.119	1949.266	1950.413	1951.560	1952.707	1953.854	1955.001	1956.148	1957.295	1958.442	1959.589	1960.736	1961.883	1963.030	1964.177	1965.324	1966.471	1967.618	1968.765	1969.912	1971.059	1972.206	1973.353	1974.500	1975.647	1976.794	1977.941	1979.088	1980.235	1981.382	1982.529	1983.676	1984.823	1985.970	1987.117	1988.264	1989.411	1990.558	1991.705	1992.852	1993.999	1995.146	1996.293	1997.440	1998.587	1999.734	2000.881	2002.028	2003.175	2004.322	2005.469	2006.616	2007.763	2008.910	2010.057	2011.204	2012.351	2013.498	2014.645	2015.792	2016.939	2018.086	2019.233	2020.380	2021.527	2022.674	2023.821	2024.968	2026.115	2027.262	2028.409	2029.556	2030.703	2031.850	2032.997	2034.144	2035.291	2036.438	2037.585	2038.732	2039.879	2041.026	2042.173	2043.320	2044.467	2045.614	2046.761	2047.908	2049.055	2050.202	2051.349	2052.496	2053.643	2054.790	2055.937	2057.084	2058.231	2059.378	2060.525	2061.672	2062.819	2063.966	2065.113	2066.260	2067.407	2068.554	2069.701	2070.848	2071.995	2073.142	2074.289	2075.436	2076.583	2077.730	2078.877	2080.024	2081.171	2082.318	2083.465	2084.612	2085.759	2086.906	2088.053	2089.200	2090.347	2091.494	2092.641	2093.788	2094.935	2096.082	2097.229	2098.376	2099.523	2100.670	2101.817	2102.964	2104.111	2105.258	2106.405	2107.552	2108.699	2109.846	2110.993	2112.140	2113.287	2114.434	2115.581	2116.728	2117.875	2119.022	2120.169	2121.316	2122.463	2123.610	2124.757	2125.904	2127.051	2128.198	2129.345	2130.492	2131.639	2132.786	2133.933	2135.080	2136.227	2137.374	2138.521	2139.668	2140.815	2141.962	2143.109	2144.256	2145.403	2146.550	2147.697	2148.844	2149.991	2151.138	2152.285	2153.432	2154.579	2155.726	2156.873	2158.020	2159.167	2160.314	2161.461	2162.608	2163.755	2164.902	2166.049	2167.196	2168.343	2169.490	2170.637	2171.784	2172.931	2174.078	2175.225	2176.372	2177.519	2178.666	2179.813	2180.960	2182.107	2183.254	2184.401	2185.548	2186.695	2187.842	2188.989	2190.136	2191.283	2192.430	2193.577	2194.724	2195.871	2197.018	2198.165	2199.312	2200.459	2201.606	2202.753	2203.900	2205.047	2206.194	2207.341	2208.488	2209.635	2210.782	2211.929	2213.076	2214.223	2215.370	2216.517	2217.664	2218.811	2219.958	2221.105	2222.252	2223.399	2224.546	2225.693	2226.840	2227.987	2229.134	2230.281	2231.428	2232.575	2233.722	2234.869	2236.016	2237.163	2238.310	2239.457	2240.604	2241.751	2242.898	2244.045	2245.192	2246.339	2247.486	2248.633	2249.780	2250.927	2252.074	2253.221	2254.368	2255.515	2256.662	2257.809	2258.956	2260.103	2261.250	2262.397	2263.544	2264.691	2265.838	2266.985	2268.132	2269.279	2270.426	2271.573	2272.720	2273.867	2275.014	2276.161	2277.308	2278.455	2279.602	2280.749	2281.896	2283.043	2284.190	2285.337	2286.484	2287.631	2288.778	2289.925	2291.072	2292.219	2293.366	2294.513	2295.660	2296.807	2297.954	2299.101	2300.248	2301.395	2302.542	2303.689	2304.836	2305.983	2307.130	2308.277	2309.424	2310.571	2311.718	2312.865	2314.012	2315.159	2316.306	2317.453	2318.600	2319.747	2320.894	2322.041	2323.188	2324.335	2325.482	2326.629	2327.776	2328.923	2330.070	2331.217	2332.364	2333.511	2334.658	2335.805	2336.952	2338.099	2339.246	2340.393	2341.540	2342.687	2343.834	2344.981	2346.128	2347.275	2348.422	2349.569	2350.716	2351.863	2353.010	2354.157	2355.304	2356.451	2357.598	2358.745	2359.892	2361.039	2362.186	2363.333	2364.480	2365.627	2366.774	2367.921	2369.068	2370.215	2371.362	2372.509	2373.656	2374.803	2375.950	2377.097	2378.244	2379.391	2380.538	2381.685	2382.832	2383.979	2385.126	2386.273	2387.420	2388.567	2389.714	2390.861	2392.008	2393.155	2394.302	2395.449	2396.596	2397.743	2398.890	2400.037	2401.184	2402.331	2403.478	2404.625	2405.772	2406.919	2408.066	2409.213	2410.360	2411.507	2412.654	2413.801	2414.948	2416.095	2417.242	2418.389	2419.536	2420.683	2421.830	2422.977	2424.124	2425.271	2426.418	2427.565	2428.712	2429.859	2431.006	2432.153	2433.300	2434.447	2435.594	2436.741	2437.888	2439.035	2440.182	2441.329	2442.476	2443.623	2444.770	2445.917	2447.064	2448.211	2449.358	2450.505	2451.652	2452.799	2453.946	2455.093	2456.240	2457.387	2458.534	2459.681	2460.828	2461.975	2463.122	2464.269	2465.416	2466.563	2467.710	2468.857	2470.004	2471.151	2472.298	2473.445	2474.592	2475.739	2476.886	2478.033	2479.180	2480.327	2481.474	2482.621	2483.768	2484.915	2486.062	2487.209	2488.356	2489.503	2490.650	2491.797	2492.944	2494.091	2495.238	2496.385	2497.532	2498.679	2499.826	2500.973	2502.120	2503.267	2504.414	2505.561	2506.708	2507.855	2509.002	2510.149	2511.296	2512.443	2513.590	2514.737	2515.884	2517.031	2518.178	2519.325	2520.472	2521.619	2522.766	2523.913	2525.060	2526.207	2527.354	2528.501	2529.648	2530.795	2531.942	2533.089	2534.236	2535.383	2536.530	2537.677	2538.824	2539.971	2541.118	2542.265	2543.412	2544.559	2545.706	2546.853	2547.999	2549.146	2550.293	2551.440	2552.587	2553.734	2554.881	2556.028	2557.175	2558.322	2559.469	2560.616	2561.763	2562.910	2564.057	2565.204	2566.351	2567.498	2568.645	2569.792	2570.939	2572.086	2573.233	2574.380	2575.527	2576.674	2577.821	2578.968	2580.115	2581.262	2582.409	2583.556	2584.703	2585.850	2586.997	2588.144	2589.291	2590.438	2591.585	2592.732	2593.879	2595.026	2596.173	2597.320	2598.467	2599.614	2600.761	2601.908	2603.055	2604.202	2605.349	2606.496	2607.643	2608.790	2609.937	2611.084	2612.231	2613.378	2614.525	2615.672	2616.819	2617.966	2619.113	2620.260	2621.407	2622.554	2623.701	2624.848	2625.995	2627.142	2628.289	2629.436	2630.583	2631.730	2632.877	2634.024	2635.171	2636.318	2637.465	2638.612	2639.759	2640.906	2642.053	2643.200	2644.347	2645.494	2646.641	2647.788	2648.935	2650.082	2651.229	2652.376	2653.523	2654.670	2655.817	2656.964	2658.111	2659.258	2660.405	2661.552	2662.699	2663.846	2664.993	2666.140	2667.287	2668.434	2669.581	2670.728	2671.875	2673.022	2674.169	2675.316	2676.463	2677.610	2678.757	2679.904	2681.051	2682.198	2683.345	2684.492	2685.639	2686.786	2687.933	2689.080	2690.227	2691.374	2692.
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HORIZONTAL ALIGNMENT REPORT

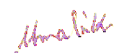
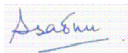
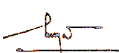
HORIZONTAL ALIGNMENT REPORT																				
HIP/CURVE NO.	HIP		DEFLECTION ANGLE			ELEMENT	START			END			LENGTH (m)	CHORD LENGTH (m)	BEARING (dd mm ss)	RADIUS (m)	HAND OF ARC	SUPERELEVATION (%)	DESIGN SPEED (km/h)	EXTRA WIDENING (m)
	EASTING	NORTHING	DEG	MIN	SEC		CHAINAGE (m)	EASTING	NORTHING	CHAINAGE (m)	EASTING	NORTHING								
						Transition	56810.222	595603.330	2824101.382	56830.222	595610.808	2824119.693		20						
513	595610.95	2824122.313	14	56	50.46	Arc	56830.222	595610.808	2824119.693	56835.440	595610.411	2824124.880		5.218		20	Left	7	20	1.5
						Transition	56835.440	595610.411	2824124.880	56855.440	595600.234	2824141.840		20						
						Straight	56855.440	595600.234	2824141.840	56872.708	595589.020	2824154.971	17.268		N 40°29'51.15" W					
						Transition	56872.708	595589.020	2824154.971	56892.708	595577.094	2824170.982		20						
514	595573.726	2824177.049	15	48	4.73	Arc	56892.708	595577.094	2824170.982	56906.497	595572.137	2824183.803		13.789		50	Right	7	30	1.2
						Transition	56906.497	595572.137	2824183.803	56926.497	595570.190	2824203.672		20						
						Straight	56926.497	595570.190	2824203.672	57009.977	595567.600	2824287.112	83.480		N 1°46'40.49" W					
						Transition	57009.977	595567.600	2824287.112	57024.977	595566.761	2824302.084		15						
515	595564.306	2825.15	26	7	6.95	Arc	57024.977	595566.761	2824302.084	57070.563	595551.947	2824344.779		45.586		100	Left	4	30	0.9
						Transition	57070.563	595551.947	2824344.779	57085.563	595543.333	2824357.055		15						
						Straight	57085.563	595543.333	2824357.055	57129.648	595517.116	2824392.497	44.085		N 36°29'27.17" W					
						Transition	57129.648	595517.116	2824392.497	57169.648	595494.423	2824425.416		40						
516	595488.58	2824435.233	6	32	19.15	Arc	57169.648	595494.423	2824425.416	57192.472	595483.893	2824445.651		22.824		200	Right	5.6	50	0.6
						Transition	57192.472	595483.893	2824445.651	57232.472	595469.954	2824483.125		40						
						Straight	57232.472	595469.954	2824483.125	57327.496	595439.814	2824573.242	95.024		N 18°29'35.05" W					
						Transition	57327.496	595439.814	2824573.242	57342.496	595434.879	2824587.406		15						
517	595422.583	2824620.048	19	47	10.27	Arc	57342.496	595434.879	2824587.406	57411.563	595399.963	2824646.600		69.067		200	Left	3.6	40	0.6
						Transition	57411.563	595399.963	2824646.600	57426.563	595389.954	2824657.771		15						
						Straight	57426.563	595389.954	2824657.771	57510.745	595332.998	2824719.760	84.182		N 42°34'35.19" W					
						Transition	57510.745	595332.998	2824719.760	57525.745	595322.713	2824730.678		15						
518	595288.879	2824764.838	27	2	5.6	Arc	57525.745	595322.713	2824730.678	57620.114	595243.215	2824779.887		94.37		200	Left	3.6	40	0.6
						Transition	57620.114	595243.215	2824779.887	57635.114	595228.856	2824784.224		15						
						Straight	57635.114	595228.856	2824784.224	57853.865	595018.676	2824844.856	218.751		N 73°54'30.64" W					
519	594973.068	2824858.012	17	58	55.5	Arc	57853.865	595018.676	2824844.856	57948.019	594933.750	2824884.606		94.154		300	Right	Normal Camber	40	0.6
						Straight	57948.019	594933.750	2824884.606	58009.573	594882.764	2824919.092	61.554		N 55°55'35.14" W					
						Transition	58009.573	594882.764	2824919.092	58024.573	594870.176	2824927.245		15						
520	594792.737	2824973.107	71	30	30.29	Arc	58024.573	594870.176	2824927.245	58180.580	594724.681	2824914.212		156.007		125	Left	5.7	40	0.6
						Transition	58180.580	594724.681	2824914.212	58195.580	594713.742	2824903.953		15						
						Straight	58195.580	594713.742	2824903.953	58231.944	594687.721	2824878.551	36.364		S 45°41'22.79" W					
						Transition	58231.944	594687.721	2824878.551	58246.944	594676.816	2824868.254		15						

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	HORIZONTAL ALIGNMENT REPORT		CONSULTANT :  CE TESTING COMPANY Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company 124-A, N.S.C. Bose Kolkata - 700029 	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/HAR					
								SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			REVISION MKD. - R0		SHEET NO. - 01			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DFR/SN-DMP-PC/MANIPUR/2016)		PACKAGE-IIB								
REVISIONS											U. MALIK	B.DAS	S.SADHU	B.KONER		

HORIZONTAL ALIGNMENT REPORT																				
HIP/CURVE NO.	HIP		DEFLECTION ANGLE			ELEMENT	START			END			LENGTH (m)	CHORD LENGTH (m)	BEARING (dd mm ss)	RADIUS (m)	HAND OF ARC	SUPERELEVATION (%)	DESIGN SPEED (km/h)	EXTRA WIDENING (m)
	EASTING	NORTHING	DEG	MIN	SEC		CHAINAGE (m)	EASTING	NORTHING	CHAINAGE (m)	EASTING	NORTHING								
521	594670.679	2824862.835	6	14	53.8	Arc	58246.944	594676.816	2824868.254	58263.302	594663.988	2824858.116		16.358		150	Right	4.7	40	0.6
						Transition	58263.302	594663.988	2824858.116	58278.302	594651.451	2824849.884		15						
						Straight	58278.302	594651.451	2824849.884	58355.816	594585.954	2824808.427	77.514		S 57°40'03.07" W					
						Transition	58355.816	594585.954	2824808.427	58380.816	594565.577	2824793.991		25						
522	594560.609	2824789.628	9	26	57.56	Arc	58380.816	594565.577	2824793.991	58394.010	594556.424	2824784.509		13.194		80	Left	7	40	0.9
						Transition	58394.010	594556.424	2824784.509	58419.010	594542.714	2824763.636		25						
						Straight	58419.010	594542.714	2824763.636	58423.674	594540.360	2824759.610	4.664		S 30°18'47.76" W					
						Transition	58423.674	594540.360	2824759.610	58443.674	594527.689	2824744.423		20						
523	594518.703	2824739.016	55	20	23.2	Arc	58443.674	594527.689	2824744.423	58462.991	594509.146	2824743.332		19.317		20	Right	7	20	1.5
						Transition	58462.991	594509.146	2824743.332	58482.991	594494.780	2824756.926		20						
						Straight	58482.991	594494.780	2824756.926	58544.302	594457.838	2824805.859	61.311		N 37°03'04.24" W					
						Transition	58544.302	594457.838	2824805.859	58559.302	594448.652	2824817.716		15						
524	594413.634	2824860.652	30	58	5.75	Arc	58559.302	594448.652	2824817.716	58667.402	594361.515	2824879.449		108.1		200	Left	3.6	40	0.6
						Transition	58667.402	594361.515	2824879.449	58682.402	594347.283	2824884.183		15						
						Straight	58682.402	594347.283	2824884.183	58.993	594313.373	2824894.994	35.591		N 72°18'59.85" W					
						Transition	58.993	594313.373	2824894.994	58732.993	594298.996	2824899.263		15						
525	594281.502	2824903.705	16	25	58.8	Arc	58732.993	594298.996	2824899.263	58768.844	594263.465	2824903.016		35.851		125	Left	5.7	40	0.6
						Transition	58768.844	594263.465	2824903.016	58783.844	594248.513	2824901.844		15						
						Straight	58783.844	594248.513	2824901.844	58843.496	594189.149	2824895.997	59.651		S 84°22'29.57" W					
						Transition	58843.496	594189.149	2824895.997	58858.496	594174.205	2824894.714		15						
526	594155.285	2824893.564	10	49	42.03	Arc	58858.496	594174.205	2824894.714	58896.294	594136.485	2824895.990		37.798		200	Right	3.6	40	0.6
						Transition	58896.294	594136.485	2824895.990	58911.294	594121.662	2824898.281		15						
						Straight	58911.294	594121.662	2824898.281	58957.347	594076.241	2824905.882	46.053		N 80°29'58.54" W					
						Transition	58957.347	594076.241	2824905.882	58972.347	594061.418	2824908.172		15						
527	594043.304	2824910.509	10	26	8.34	Arc	58972.347	594061.418	2824908.172	59008.774	594025.066	2824909.527		36.427		200	Left	3.6	40	0.6
						Transition	59008.774	594025.066	2824909.527	59023.774	594010.113	2824908.346		15						
						Straight	59023.774	594010.113	2824908.346	59075.308	593958.794	2824903.646	51.534		S 84°46'03.26" W					
						Transition	59075.308	593958.794	2824903.646	59095.308	593938.837	2824902.487		20						
528	593927.495	2824902.586	12	56	28.54	Arc	59095.308	593938.837	2824902.487	59117.895	593916.464	2824905.222		22.587		100	Right	7	40	0.9
						Transition	59117.895	593916.464	2824905.222	59137.895	593897.373	2824911.153		20						
						Straight	59137.895	593897.373	2824911.153	59191.110	593847.108	2824928.625	53.215		N 70°49'55.24" W					
						Transition	59191.110	593847.108	2824928.625	59211.110	593827.702	2824933.037		20						
529	593822.156	2824933.044	20	56	51.81	Arc	59211.110	593827.702	2824933.037	59222.078	593816.974	2824931.067		10.968		30	Left	7	25	1.5
						Transition	59222.078	593816.974	2824931.067	59242.078	593800.401	2824920.049		20						
						Straight	59242.078	593800.401	2824920.049	59307.263	593750.450	2824878.169	65.185		S 50°01'23.08" W					
						Transition	59307.263	593750.450	2824878.169	59322.263	593739.266	2824868.182		15						
530	593736.052	2824864.928	6	32	40.77	Arc	59322.263	593739.266	2824868.182	59331.401	593733.229	2824861.329		9.138		80	Left	5	30	0.9
						Transition	59331.401	593733.229	2824861.329	59346.401	593724.731	2824848.975		15						
						Straight	59346.401	593724.731	2824848.975	59375.523	593708.982	2824824.479	29.122		S 32°44'07.66" W					
						Transition	59375.523	593708.982	2824824.479	59390.523	593700.484	2824812.125		15						
531	593695.691	2824806.015	11	5	21.73	Arc	59390.523	593700.484	2824812.125	59406.007	593689.813	2824800.940		15.484		80	Right	5	30	0.9
						Transition	59406.007	593689.813	2824800.940	59421.007	593677.873	2824791.870		15						
						Straight	59421.007	593677.873	2824791.870	59441.425	593661.236	2824780.032	20.418		S 54°34'04.04" W					
						Transition	59441.425	593661.236	2824780.032	59456.425	593649.239	2824771.036		15						
532	593646.723	2824768.945	3	44	48.94	Arc	59456.425	593649.239	2824771.036	59462.964	593644.349	2824766.694		6.54		100	Left	4	30	0.9
						Transition	59462.964	593644.349	2824766.694	59477.964	593633.996	2824755.845		15						
						Straight	59477.964	593633.996	2824755.845	59513.703	593609.978	2824729.381	35.738		S 42°13'35.38" W					
						Transition	59513.703	593609.978	2824729.381	59533.703	593597.575	2824713.737		20						
533	593595.244	2824709.821	10	24	59.12	Arc	59533.703	593597.575	2824713.737	59542.793	593593.659	2824705.548		9.09		50	Left	7	30	1.2
						Transition	59542.793	593593.659	2824705.548	59562.793	593589.266	2824686.073		20						
						Straight	59562.793	593589.266	2824686.073	59631.471	593578.651	2824618.219	68.679		S 8°53'30.34" W					
						Transition	59631.471	593578.651	2824618.219	59651.471	593572.401	2824599.454		20						
534	593567.818	2824593.49	41	13	13.46	Arc	59651.471	593572.401	2824599.454	59665.860	593560.440	2824592.024		14.389		20	Right	7	20	1.5
						Transition	59665.860	593560.440	2824592.024	59685.860	593540.848	2824594.735		20						
						Straight	59685.860	593540.848	2824594.735	59728.607	593500.060	2824607.524	42.747		N 72°35'31.40" W					
						Transition	59728.607	593500.060	2824607.524</											

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	HORIZONTAL ALIGNMENT REPORT	CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants 124-A, N.S.C. Bose Road, Kolkata - 700092 An ISO 9001, 14001 & OHSAS 18001 Certified Company	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/HAR
								SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		REVISION MKD. - R0
								PACKAGE-IIB		SHEET NO. - 02
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)				DRAWN BY  U. MALIK
REVISIONS										DESIGNED BY  B.DAS
										CHECKED BY  S.SADHU
										ISSUED BY  B.KONER

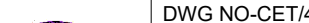
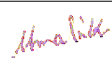
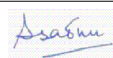
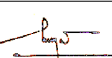
HORIZONTAL ALIGNMENT REPORT																				
HIP/CURVE NO.	HIP		DEFLECTION ANGLE			ELEMENT	START			END			LENGTH (m)	CHORD LENGTH (m)	BEARING (dd mm ss)	RADIUS (m)	HAND OF ARC	SUPERELEVATION (%)	DESIGN SPEED (km/h)	EXTRA WIDENING (m)
	EASTING	NORTHING	DEG	MIN	SEC		CHAINAGE (m)	EASTING	NORTHING	CHAINAGE (m)	EASTING	NORTHING								
536	593455.743	2824545.143	8	24	55.12	Arc	59825.385	593456.367	2824546.476	59828.322	593454.932	2824543.916		2.937		20	Right	7	20	1.5
						Transition	59828.322	593454.932	2824543.916	59848.322	593439.218	2824531.905		20						
						Straight	59848.322	593439.218	2824531.905	59934.794	593362.771	2824491.491	86.472		S 62°08'10.33" W					
						Transition	59934.794	593362.771	2824491.491	59954.794	593345.419	2824481.563		20						
537	593332.474	2824472.965	17	40	2.07	Arc	59954.794	593345.419	2824481.563	59985.630	593322.748	2824460.843		30.835		100	Left	7	40	0.9
						Transition	59985.630	593322.748	2824460.843	60005.630	593311.305	2824444.451		20						
						Straight	60005.630	593311.305	2824444.451	60051.690	593286.212	2824405.826	46.061		S 33°00'35.30" W					
						Transition	60051.690	593286.212	2824405.826	60071.690	593275.886	2824388.708		20						
538	593268.792	2824374.952	17	35	47.21	Arc	60071.690	593275.886	2824388.708	60102.402	593266.188	2824359.695		30.712		100	Left	7	40	0.9
						Transition	60102.402	593266.188	2824359.695	60122.402	593264.146	2824339.808		20						
						Straight	60122.402	593264.146	2824339.808	60155.973	593261.831	2824306.317	33.571		S 3°57'15.13" W					
						Transition	60155.973	593261.831	2824306.317	60175.973	593259.788	2824286.430		20						
539	593258.356	2824278.035	9	44	8.83	Arc	60175.973	593259.788	2824286.430	60192.965	593255.524	2824270.003		16.992		100	Right	7	40	0.9
						Transition	60192.965	593255.524	2824270.003	60212.965	593247.636	2824251.634		20						
						Straight	60212.965	593247.636	2824251.634	60233.096	593239.081	2824233.411	20.131		S 25°08'56.92" W					
						Transition	60233.096	593239.081	2824233.411	60248.096	593233.873	2824219.389		15						
540	593233.046	2824215.066	16	41	25.84	Arc	60248.096	593233.873	2824219.389	60256.835	593233.496	2824210.689		8.739		30	Left	5.9	20	1.5
						Transition	60256.835	593233.496	2824210.689	60271.835	593237.472	2824196.269		15						
						Straight	60271.835	593237.472	2824196.269	60362.183	593268.654	2824111.472	90.348		S 20°11'21.32" E					
						Transition	60362.183	593268.654	2824111.472	60377.183	593274.690	2824097.766		15						
541	593277.015	2824093.886	12	54	7.11	Arc	60377.183	593274.690	2824097.766	60386.191	593280.147	2824090.624		9.007		40	Left	4.4	20	1.5
						Transition	60386.191	593280.147	2824090.624	60401.191	593291.786	2824081.198		15						
						Straight	60401.191	593291.786	2824081.198	60424.157	593310.501	2824067.886	22.967		S 54°34'37.73" E					
						Transition	60424.157	593310.501	2824067.886	60439.157	593321.927	2824058.232		15						
542	593326.86	2824052.405	28	33	24.55	Arc	60439.157	593321.927	2824058.232	60454.110	593328.408	2824044.929		14.952		30	Right	5.9	20	1.5
						Transition	60454.110	593328.408	2824044.929	60469.110	593328.968	2824029.981		15						
						Straight	60469.110	593328.968	2824029.981	60533.248	593326.028	2823965.910	64.139		S 2°37'39.21" W					
						Transition	60533.248	593326.028	2823965.910	60548.248	593324.101	2823951.076		15						
543	593321.395	2823942.196	34	23	15.04	Arc	60548.248	593324.101	2823951.076	60566.254	593314.146	2823936.397		18.005		30	Right	5.9	20	1.5
						Transition	60566.254	593314.146	2823936.397	60581.254	593301.077	2823929.120		15						
						Straight	60581.254	593301.077	2823929.120	60611.282	593273.000	2823916.746	30.028		S 65°39'46.66" W					
						Transition	60611.282	593273.000	2823916.746	60626.282	593260.648	2823909.469		15						
544	593254.026	2823904.171	31	34	8.41	Arc	60626.282	593260.648	2823909.469	60642.812	593251.158	2823896.190		16.529		30	Left	5.9	20	1.5
						Transition	60642.812	593251.158	2823896.190	60657.812	593248.504	2823881.469		15						
						Straight	60657.812	593248.504	2823881.469	60744.843	593240.244	2823794.831	87.031		S 5°26'45.84" W					
						Transition	60744.843	593240.244	2823794.831	60769.843	593235.320	2823770.431		25						
545	593234.368	2823768.226	6	52	21.73	Arc	60769.843	593235.320	2823770.431	60774.641	593233.159	2823766.150		4.798		40	Right	7	30	1.5
						Transition	60774.641	593233.159	2823766.150	60799.641	593216.450	2823747.700		25						
						Straight	60799.641	593216.450	2823747.700	60910.234	593134.097	2823673.884	110.593		S 48°07'43.08" W					
546	593127.833	2823668.269	4	48	59.69	Arc	60910.234	593134.097	2823673.884	60927.047	593121.121	2823663.201		16.813		200	Right	Normal Camber	30	0.6
						Straight	60927.047	593121.121	2823663.201	61040.836	593030.310	2823594.634	113.789		S 52°56'42.76" W					
						Transition	61040.836	593030.310	2823594.634	61065.836	593012.111	2823577.652		25						
547	593009.886	2823574.479	11	4	5.23	Arc	61065.836	593012.111	2823577.652	61073.563	593008.311	2823570.938		7.727		40	Left	7	30	1.5
						Transition	61073.563	593008.311	2823570.938	61098.563	593003.123	2823546.593		25						
						Straight	61098.563	593003.123	2823546.593	61216.391	592990.669	2823429.425	117.827		S 6°04'02.03" W					
						Transition	61216.391	592990.669	2823429.425	61236.391	592985.351	2823410.375		20						
548	592976.429	2823397.496	76	8	56.82	Arc	61236.391	592985.351	2823410.375	61262.972	592961.788	2823403.076		26.581		20	Right	7	20	1.5
						Transition	61262.972	592961.788	2823403.076	61282.972	592946.633	2823415.785		20						
						Straight	61282.972	592946.633	2823415.785	61363.720	592894.204	2823477.198	80.748		N 40°29'16.35" W					
						Transition	61363.720	592894.204	2823477.198	61378.720	592883.579	2823487.727		15						
549	592874.456	2823494.16	40	49	23.75	Arc	61378.720	592883.579	2823487.727	61400.095	592863.346	2823493.064		21.375		30	Left	5.9	20	1.5
						Transition	61400.095	592863.346	2823493.064	61415.095	592848.910	2823489.145		15						
						Straight	61415.095	592848.910	2823489.145	61452.063	592814.162	2823476.526	36.968		S 70°02'27.50" W					
						Transition	61452.063	592814.162	2823476.526	61467.063	592800.235	2823470.970		15						
550	592798.023	2823469.923	3	30	17.27	Arc	61467.063	592800.235	2823470.970	61471.957	592795.879	2823468.743		4.894		80	Left	5	30	0.9
						Transition	61471.957	592795.879	2823468.743	61486.957	592783.221	2823460.705		15						
						Straight	61486.957	592783.221	2823460.705	61556.937	592725.346	2823421.363	69.981		S 55°47'35.58" W					
						Transition	61556.937	592725.346	2823421.363	61571.937	592713.253									

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	HORIZONTAL ALIGNMENT REPORT		CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bore Road, Kolkata - 700092	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/HAR				
								SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			REVISION MKD. - R0		SHEET NO. - 03		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		PACKAGE-IIB			DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY	
REVISIONS															

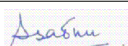
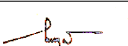
HORIZONTAL ALIGNMENT REPORT																				
HIPI/CURVE NO.	HIP		DEFLECTION ANGLE			ELEMENT	START			END			LENGTH (m)	CHORD LENGTH (m)	BEARING (dd mm ss)	RADIUS (m)	HAND OF ARC	SUPEREL-EVATION (%)	DESIGN SPEED (km/h)	EXTRA WIDENING (m)
	EASTING	NORTHING	DEG	MIN	SEC		CHAINAGE (m)	EASTING	NORTHING	CHAINAGE (m)	EASTING	NORTHING								
551	592709.54	2823409.341	7	58	9.41	Arc	61571.937	592713.256	2823412.497	61581.674	592706.297	2823405.699		9.736		70	Left	5.7	30	1.2
						Transition	61581.674	592706.297	2823405.699	61596.674	592697.152	2823393.820		15						
						Straight	61596.674	592697.152	2823393.820	61721.168	592624.776	2823292.526	124.494		S 35°32'46.57" W					
						Transition	61721.168	592624.776	2823292.526	61736.168	592617.122	2823279.674		15						
552	592615.239	2823274.825	19	40	17.76	Arc	61736.168	592617.122	2823279.674	61746.468	592615.099	2823269.626		10.3		30	Left	5.9	20	1.5
						Transition	61746.468	592615.099	2823269.626	61761.468	592617.181	2823254.813		15						
						Straight	61761.468	592617.181	2823254.813	61770.850	592619.255	2823245.663	9.382		S 12°46'23.59" E					
						Transition	61770.850	592619.255	2823245.663	61790.850	592622.363	2823225.942		20						
553	592622.524	2823218.901	16	2	6.94	Arc	61790.850	592622.363	2823225.942	61804.843	592620.734	2823212.090		13.993		50	Right	7	30	1.2
						Transition	61804.843	592620.734	2823212.090	61824.843	592613.139	2823193.626		20						
						Straight	61824.843	592613.139	2823193.626	61890.438	592584.199	2823134.761	65.595		S 26°10'49.27" W					
						Transition	61890.438	592584.199	2823134.761	61905.438	592577.863	2823121.167		15						
554	592564.938	2823090.116	31	18	52.37	Arc	61905.438	592577.863	2823121.167	61971.023	592570.035	2823056.870		65.585		120	Left	5.9	40	0.6
						Transition	61971.023	592570.035	2823056.870	61986.023	592572.923	2823042.154		15						
						Straight	61986.023	592572.923	2823042.154	61992.720	592574.349	2823035.611	6.696		S 12°17'46.20" E					
						Transition	61992.720	592574.349	2823035.611	62012.720	592577.513	2823015.888		20						
555	592577.639	2823013.265	5	0	40.61	Arc	62012.720	592577.513	2823015.888	62017.967	592577.535	2823010.642		5.248		60	Right	6.7	30	1.2
						Transition	62017.967	592577.535	2823010.642	62037.967	592574.537	2822990.892		20						
						Straight	62037.967	592574.537	2822990.892	62059.671	592570.094	2822969.649	21.703		S 11°48'49.34" W					
						Transition	62059.671	592570.094	2822969.649	62074.671	592567.318	2822954.910		15						
556	592566.474	2822949.183	5	18	11.16	Arc	62074.671	592567.318	2822954.910	62086.240	592566.164	2822943.403		11.57		125	Left	5.7	40	0.6
						Transition	62086.240	592566.164	2822943.403	62101.240	592565.960	2822928.407		15						
						Straight	62101.240	592565.960	2822928.407	62165.470	592566.369	2822864.178	64.230		S 0°21'53.59" E					
						Transition	62165.470	592566.369	2822864.178	62185.470	592567.825	2822844.267		20						
557	592569.447	2822836.517	17	59	49.59	Arc	62185.470	592567.825	2822844.267	62201.175	592573.385	2822829.647		15.705		50	Left	7	30	1.2
						Transition	62201.175	592573.385	2822829.647	62221.175	592585.528	2822813.800		20						
						Straight	62221.175	592585.528	2822813.800	62229.892	592591.278	2822807.250	8.716		S 41°16'49.10" E					
						Transition	62229.892	592591.278	2822807.250	62254.892	592605.668	2822786.940		25						
558	592607.047	2822783.75	9	55	43.99	Arc	62254.892	592605.668	2822786.940	62261.823	592607.855	2822780.371		6.932		40	Right	7	30	1.5
						Transition	62261.823	592607.855	2822780.371	62286.823	592608.508	2822755.488		25						
						Straight	62286.823	592608.508	2822755.488	62329.124	592605.220	2822713.315	42.301		S 4°27'30.40" W					
559	592604.152	2822699.611	5	14	47.69	Arc	62329.124	592605.220	2822713.315	62356.595	592601.835	2822686.063		27.471		300	Right	Normal Camber	40	0.6
						Straight	62356.595	592601.835	2822686.063	62.202	592589.089	2822611.538	75.607		S 9°42'18.09" W					
560	592580.083	2822558.876	15	12	55.96	Arc	62.202	592589.089	2822611.538	62538.427	592585.213	2822505.696		106.225		400	Left	Normal Camber	40	--NA--
						Straight	62538.427	592585.213	2822505.696	62579.886	592589.194	2822464.428	41.459		S 5°30'37.87" E					
561	592595.807	2822395.889	25	51	14.49	Arc	62579.886	592589.194	2822464.428	62715.258	592631.646	2822337.093		135.371		300	Left	Normal Camber	40	0.6
						Straight	62715.258	592631.646	2822337.093	62765.505	592657.799	2822294.188	50.247		S 31°21'52.36" E					
						Transition	62765.505	592657.799	2822294.188	62785.505	592665.155	2822275.828		20						
562	592666.232	2822253.141	97	16	9.23	Arc	62785.505	592665.155	2822275.828	62819.458	592643.590	2822254.943		33.953		20	Right	7	20	1.5
						Transition	62819.458	592643.590	2822254.943	62839.458	592625.476	2822262.884		20						
						Straight	62839.458	592625.476	2822262.884	62977.349	592510.094	2822338.389	137.891		N 56°47'58.32" W					
						Transition	62977.349	592510.094	2822338.389	62992.349	592497.462	2822346.477		15						
563	592434.788	2822384.855	32	45	45.23	Arc	62992.349	592497.462	2822346.477	63135.303	592361.317	2822383.212		142.954		250	Left	2.8	40	0.6
						Transition	63135.303	592361.317	2822383.212	63150.303	592346.331	2822382.577		15						
						Straight	63150.303	592346.331	2822382.577	63251.735	592245.038	2822377.269	101.000		S 87°00'00.56" W					
						Transition	63251.735	592245.038	2822377.269	63291.735	592205.063	2822376.508		40						
564	592193.747	2822377.048	6	29	0.6	Arc	63291.735	592205.063	2822376.508	63314.367	592182.566	2822378.861		22.632		200	Right	5.6	50	0.6
						Transition	63314.367	592182.566	2822378.861	63354.367	592143.613	2822387.878		40						
						Straight	63354.367	592143.613	2822387.878	63457.759	592043.718	2822414.538	103.392		N 75°03'25.88" W					
						Transition	63457.759	592043.718	2822414.538	63472.759	592029.188	2822418.261		15						
565	591944.926	2822438.061	38	11	39.36	Arc	63472.759	592029.188	2822418.261	63639.413	591866.461	2822401.521		166.654		250	Left	2.8	40	0.6
						Transition	63639.413	591866.461	2822401.521	63654.413	591852.993	2822394.919		15						
						Straight	63654.413	591852.993	2822394.919	63659.904	591848.087	2822392.452	5.491		S 63°18'38.87" W					
						Transition	63659.904	591848.087	2822392.452	63679.904	591829.936	2822384.074		20						
566	591812.048	2822377.221	21	41	17.77	Arc	63679.904	591829.936	2822384.074	63.757	591792.894	2822377.465		37.853		100	Right	7	40	0.9
						Transition	63.757	591792.894	2822377.465	63737.757	591772.965	2822379.050		20						
						Straight	63737.757	591772.965	2822379.050	63761.761	591749.114	2822381.750	24.003		N 83°32'30.40" W					
567	591705.751	2822386.659	16	33	11.45	Arc	63761.761	591749.114	2822381.750	63848.433	591662.787	2822379.009		86.672		300	Left	Normal Camber	40	0.6
						Straight	63848.433	591662.787	2822379.009	63860.577	591650.830	2822376.881	12.144		S 79°54'18.15" W					
						Transition	63860.577	591650.830	2822376.881	63890.577	591621.164	2822376.588		30						

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	HORIZONTAL ALIGNMENT REPORT		CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company 124-A, N.S.C. Bldg, 7th Floor, Kolkata - 700029 	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/HAR					
					DATE: FEB, 2020			SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			REVISION MKD. - R0		SHEET NO. - 04			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.				PACKAGE-IIB			DRAWN BY 	DESIGNED BY 	CHECKED BY 	ISSUED BY 		
REVISIONS						PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)										

HORIZONTAL ALIGNMENT REPORT																				
HIP/CURVE NO.	HIP		DEFLECTION ANGLE			ELEMENT	START			END			LENGTH (m)	CHORD LENGTH (m)	BEARING (dd mm ss)	RADIUS (m)	HAND OF ARC	SUPERELEVATION (%)	DESIGN SPEED (km/h)	EXTRA WIDENING (m)
	EASTING	NORTHING	DEG	MIN	SEC		CHAINAGE (m)	EASTING	NORTHING	CHAINAGE (m)	EASTING	NORTHING								
568	591616.557	2822378.134	18	24	3.76	Arc	63890.577	591621.164	2822376.588	63900.212	591612.674	2822381.055		9.635		30	Right	7	30	1.5
						Transition	63900.212	591612.674	2822381.055	63930.212	591596.115	2822405.672		30						
						Straight	63930.212	591596.115	2822405.672	64051.745	591545.913	2822516.352	121.533		N 24°23'53.28" W					
569	591541.494	2822526.094	4	5	4.64	Arc	64051.745	591545.913	2822516.352	64073.132	591536.392	2822535.497		21.387		300	Left	Normal Camber	40	0.6
						Straight	64073.132	591536.392	2822535.497	64076.814	591534.636	2822538.734	3.682		N 28°28'57.92" W					
						Transition	64076.814	591534.636	2822538.734	64096.814	591525.693	2822556.613		20						
570	591522.206	2822564.928	10	18	14.9	Arc	64096.814	591525.693	2822556.613	64114.798	591520.263	2822573.732	17.984			100	Right	7	40	0.9
						Transition	64114.798	591520.263	2822573.732	64134.798	591517.263	2822593.497		20						
						Straight	64134.798	591517.263	2822593.497	64140.663	591516.577	2822599.322	5.866		N 6°43'10.06" W					
						Transition	64140.663	591516.577	2822599.322	64170.663	591508.276	2822627.805		30						
571	591505.616	2822631.551	17	24	49	Arc	64170.663	591508.276	2822627.805	64179.781	591501.958	2822634.330	9.118			30	Left	7	30	1.5
						Transition	64179.781	591501.958	2822634.330	64209.781	591473.758	2822643.548		30						
						Straight	64209.781	591473.758	2822643.548	64274.783	591409.482	2822653.235	65.002		N 81°25'43.86" W					
572	591399.442	2822654.748	3	52	36.59	Arc	64274.783	591409.482	2822653.235	64295.082	591389.323	2822655.579		20.299		300	Left	Normal Camber	40	0.6
						Straight	64295.082	591389.323	2822655.579	65.024	591359.482	2822658.030	29.942		N 85°18'20.46" W					
						Transition	65.024	591359.482	2822658.030	64350.024	591334.733	2822661.366		25						
573	591330.134	2822662.483	6	46	11.93	Arc	64350.024	591334.733	2822661.366	64359.476	591325.700	2822664.133	9.453			80	Right	7	40	0.9
						Transition	64359.476	591325.700	2822664.133	64384.476	591303.328	2822675.232		25						
						Straight	64384.476	591303.328	2822675.232	64392.049	591296.729	2822678.946	7.573		N 60°37'50.78" W					
						Transition	64392.049	591296.729	2822678.946	64417.049	591274.358	2822690.044		25						
574	591263.296	2822694.161	16	47	6.84	Arc	64417.049	591274.358	2822690.044	64440.486	591251.517	2822694.909	23.437			80	Left	7	40	0.9
						Transition	64440.486	591251.517	2822694.909	64465.486	591226.565	2822693.890		25						
						Straight	64465.486	591226.565	2822693.890	64550.000	591142.415	2822686.053	84.514		S 84°40'44.63" W					
						Transition	64550.000	591142.415	2822686.053	64570.000	591122.460	2822684.864		20						
575	591110.861	2822684.946	13	13	57.58	Arc	64570.000	591122.460	2822684.864	64593.095	591099.588	2822687.682	23.095			100	Right	7	40	0.9
						Transition	64593.095	591099.588	2822687.682	64613.095	591080.519	2822693.680		20						
						Straight	64613.095	591080.519	2822693.680	64774.661	590928.098	2822747.269	161.566		N 70°37'44.83" W					
						Transition	64774.661	590928.098	2822747.269	64814.661	590892.711	2822765.300		40						
576	590884.905	2822772.4	23	50	3.62	Arc	64814.661	590892.711	2822765.300	64835.461	590880.633	2822782.049	20.799			50	Right	7	40	1.2
						Transition	64835.461	590880.633	2822782.049	64875.461	590874.703	2822821.320		40						
						Straight	64875.461	590874.703	2822821.320	64960.874	590873.275	2822906.722	85.413		N 0°57'29.37" W					
						Transition	64960.874	590873.275	2822906.722	64975.874	590872.837	2822921.715		15						
577	590872.447	2822928.895	4	7	5.55	Arc	64975.874	590872.837	2822921.715	64990.250	590871.542	2822936.028	14.375			200	Left	3.6	40	0.6
						Transition	64990.250	590871.542	2822936.028	65005.250	590869.285	2822950.857		15						
						Straight	65005.250	590869.285	2822950.857	65103.886	590853.220	2823048.176	98.636		N 9°22'24.78" W					
						Transition	65103.886	590853.220	2823048.176	65128.886	590846.636	2823072.181		25						
578	590824.182	2823115.725	101	32	22.55	Arc	65128.886	590846.636	2823072.181	65199.774	590786.011	2823085.014	70.888			40	Left	7	30	1.5
						Transition	65199.774	590786.011	2823085.014	65224.774	590770.265	2823065.736		25						
						Straight	65224.774	590770.265	2823065.736	65297.837	590730.176	2823004.653	73.063		S 33°16'37.17" W					
						Transition	65297.837	590730.176	2823004.653	65312.837	590721.790	2822992.217		15						
579	590713.312	2822980.299	8	21	53.05	Arc	65312.837	590721.790	2822992.217	65342.036	590703.191	2822969.742	29.198			200	Right	3.6	40	0.6
						Transition	65342.036	590703.191	2822969.742	65357.036	590692.544	2822959.177		15						
						Straight	65357.036	590692.544	2822959.177	65427.120	590642.182	2822910.439	70.084		S 45°56'20.08" W					
						Transition	65427.120	590642.182	2822910.439	65452.120	590622.887	2822894.652		25						
580	590607.201	2822885.691	39	43	46.38	Arc	65452.120	590622.887	2822894.652	65486.791	590589.410	2822888.826	34.671			50	Right	7	30	1.2
						Transition	65486.791	590589.410	2822888.826	65511.791	590565.915	2822897.166		25						
						Straight	65511.791	590565.915	2822897.166	65544.430	590536.172	2822910.606	32.639		N 65°41'01.14" W					
						Transition	65544.430	590536.172	2822910.606	65569.430	590514.676	2822923.157		25						
581	590510.654	2822926.806	15	27	52.07	Arc	65569.430	590514.676	2822923.157	65580.226	590507.751	2822931.396	10.796			40	Right	7	30	1.5
						Transition	65580.226	590507.751	2822931.396	65605.226	590499.085	2822954.731		25						
						Straight	65605.226	590499.085	2822954.731	65620.356	590495.320	2822969.385	15.130		N 14°24'33.56" W					
582	590492.261	2822981.292	7	2	5.04	Arc	65620.356	590495.320	2822969.385	65644.912	590490.683	2822993.484	24.556			200	Right	Normal Camber	30	0.6
						Straight	65644.912	590490.683	2822993.484	65678.647	590486.353	2823026.940	33.735		N 7°22'28.52" W					
						Transition	65678.647	590486.353	2823026.940	65698.647	590480.602	2823045.864		20						
583	590478.464	2823048.804	20	35	59.87	Arc	65698.647	590480.602	2823045.864	65705.838	590475.429	2823050.803	7.191			20	Left	7	20	1.5
						Transition	65705.838	590475.429	2823050.803	65725.838	590456.260	2823055.675		20						
						Straight	65725.838	590459												

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	HORIZONTAL ALIGNMENT REPORT		CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company 124-A, N.S.C. Bost Road, Kolkata - 700016 Kolkata - 700016 	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/HAR					
								SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			REVISION MKD. - R0		SHEET NO. - 05			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		PACKAGE-IIB								
REVISIONS											U. MALIK	B.DAS	S.SADHU	B.KONER		

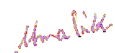
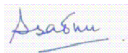
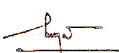
HORIZONTAL ALIGNMENT REPORT																				
HIP/CURVE NO.	HIP		DEFLECTION ANGLE			ELEMENT	START			END			LENGTH (m)	CHORD LENGTH (m)	BEARING (dd mm ss)	RADIUS (m)	HAND OF ARC	SUPEREL-EVATION (%)	DESIGN SPEED (km/h)	EXTRA WIDENING (m)
	EASTING	NORTHING	DEG	MIN	SEC		CHAINAGE (m)	EASTING	NORTHING	CHAINAGE (m)	EASTING	NORTHING								
584	590417.492	2823060.36	6	13	48.06	Arc	65763.068	590419.313	2823059.803	65766.874	590415.742	2823061.112		3.806		35	Right	5.1	20	1.5
						Transition	65766.874	590415.742	2823061.112	65781.874	590402.968	2823068.916		15						
						Straight	65781.874	590402.968	2823068.916	65791.718	590394.955	2823074.635	9.845		N 54°29'05.94" W					
						Transition	65791.718	590394.955	2823074.635	65806.718	590382.181	2823082.440		15						
585	590378.038	2823084.218	14	40	47.42	Arc	65806.718	590382.181	2823082.440	65815.686	590373.580	2823084.889		8.967		35	Left	5.1	20	1.5
						Transition	65815.686	590373.580	2823084.889	65830.686	590358.611	2823084.986		15						
						Straight	65830.686	590358.611	2823084.986	65848.940	590340.395	2823083.802	18.255		S 86°16'47.44" W					
						Transition	65848.940	590340.395	2823083.802	65863.940	590325.657	2823081.350		15						
586	590322.607	2823080.185	14	52	58.83	Arc	65863.940	590325.657	2823081.350	65870.434	590319.958	2823078.275		6.494		25	Left	7	20	1.5
						Transition	65870.434	590319.958	2823078.275	65885.434	590309.818	2823067.303		15						
						Straight	65885.434	590309.818	2823067.303	65891.516	590306.156	2823062.447	6.082		S 37°01'09.72" W					
						Transition	65891.516	590306.156	2823062.447	65911.516	590291.798	2823048.845		20						
587	590289.89	2823047.982	11	57	17.34	Arc	65911.516	590291.798	2823048.845	65915.689	590287.844	2823047.533		4.173		20	Right	7	20	1.5
						Transition	65915.689	590287.844	2823047.533	65935.689	590268.202	2823049.855		20						
						Straight	65935.689	590268.202	2823049.855	65941.672	590262.459	2823051.531	5.983		N 73°43'48.13" W					
						Transition	65941.672	590262.459	2823051.531	65956.672	590247.741	2823053.893		15						
588	590245.448	2823053.684	13	7	52.07	Arc	65956.672	590247.741	2823053.893	65961.256	590243.263	2823052.959		4.584		20	Left	7	20	1.5
						Transition	65961.256	590243.263	2823052.959	65976.256	590230.000	2823044.910		15						
						Straight	65976.256	590230.000	2823044.910	65984.530	590224.363	2823039.611	8.274		S 50°10'01.20" W					
						Transition	65984.530	590224.363	2823039.611	65999.530	590212.286	2823030.754		15						
589	590204.954	2823026.675	23	41	35.18	Arc	65999.530	590212.286	2823030.754	66016.070	590196.601	2823025.886		16.541		40	Right	4.4	20	1.5
						Transition	66016.070	590196.601	2823025.886	66031.070	590181.631	2823026.347		15						
						Straight	66031.070	590181.631	2823026.347	66076.604	590136.295	2823030.590	45.534		N 84°39'14.32" W					
						Transition	66076.604	590136.295	2823030.590	66091.604	590121.570	2823033.218		15						
590	590117.083	2823034.821	18	2	49.51	Arc	66091.604	590121.570	2823033.218	66101.054	590113.315	2823037.736		9.449		30	Right	5.9	20	1.5
						Transition	66101.054	590113.315	2823037.736	66116.054	590103.165	2823048.723		15						
						Straight	66116.054	590103.165	2823048.723	66171.741	590068.912	2823092.630	55.687		N 37°57'32.41" W					
						Transition	66171.741	590068.912	2823092.630	66186.741	590058.980	2823103.840		15						
591	590058.886	2823103.923	0	21	33.13	Arc	66186.741	590058.980	2823103.840	66186.992	590058.791	2823104.005		0.251		40	Left	4.4	20	1.5
						Transition	66186.992	590058.791	2823104.005	66201.992	590046.342	2823112.331		15						
						Straight	66201.992	590046.342	2823112.331	66214.150	590035.834	2823118.446	12.159		N 59°48'14.84" W					
592	590026.488	2823123.885	15	23	41.8	Arc	66214.150	590035.834	2823118.446	66235.646	590018.921	2823131.609		21.495		80	Right	Normal Camber	20	0.9
						Straight	66235.646	590018.921	2823131.609	66242.480	590014.139	2823136.491	6.835		N 44°24'33.04" W					
						Transition	66242.480	590014.139	2823136.491	66257.480	590002.463	2823145.758		15						
593	590001.516	2823146.182	5	56	9.8	Arc	66257.480	590002.463	2823145.758	66259.552	590000.531	2823146.505		2.072		20	Left	7	20	1.5
						Transition	66259.552	590000.531	2823146.505	66274.552	589985.658	2823147.502		15						
						Straight	66274.552	589985.658	2823147.502	66305.387	589954.875	2823145.718	30.835		S 86°40'58.56" W					
						Transition	66305.387	589954.875	2823145.718	66320.387	589940.065	2823143.613		15						
594	589938.368	2823143.073	6	47	41.83	Arc	66320.387	589940.065	2823143.613	66323.945	589936.747	2823142.337		3.558		30	Left	5.9	20	1.5
						Transition	66323.945	589936.747	2823142.337	66338.945	589924.344	2823133.975		15						
						Straight	66338.945	589924.344	2823133.975	66354.987	589911.835	2823123.932	16.042		S 51°14'24.32" W					
						Transition	66354.987	589911.835	2823123.932	66369.987	589899.000	2823115.570		15						
595	589897.588	2823114.732	7	43	22.74	Arc	66369.987	589899.000	2823115.570	66374.030	589895.649	2823114.150		4.044		30	Right	5.9	20	1.5
						Transition	66374.030	589895.649	2823114.150	66389.030	589880.807	2823112.285		15						
						Straight	66389.030	589880.807	2823112.285	66434.057	589835.820	2823110.408	45.027		S 87°36'39.46" W					
						Transition	66434.057	589835.820	2823110.408	66449.057	589821.101	2823112.252		15						
596	589817.927	2823113.818	26	33	5.33	Arc	66449.057	589821.101	2823112.252	66456.008	589815.787	2823116.637		6.951		15	Right	7	20	1.5
						Transition	66456.008	589815.787	2823116.637	66471.008	589811.186	2823130.739		15						
						Straight	66471.008	589811.186	2823130.739	66480.916	589809.714	2823140.537	9.907		N 8°32'30.41" W					
						Transition	66480.916	589809.714	2823140.537	66495.916	589805.682	2823154.887		15						
597	589796.798	2823170.258	83	11	23.9	Arc	66495.916	589805.682	2823154.887	66524.955	589780.482	2823163.259		29.039		20	Left	7	20	1.5
						Transition	66524.955	589780.482	2823163.259	66539.955	589768.664	2823154.175		15						
						Straight	66539.955	589768.664	2823154.175	66559.170	589755.006	2823140.657	19.216		S 45°17'47.09" W					
						Transition	66559.170	589755.006	2823140.657	66574.170	589744.895	2823129.597		15						
598	589741.874	2823125.544	11	32	53.5	Arc	66574.170	589744.895	2823129.597	66584.248	589739.725	2823120.967		10.078		50	Left	3.6	20	1.2
						Transition	66584.248	589739.725	2823120.967	66599.248	589734.741	2823106.835		15						
						Straight	66599.248	589734.741	2823106.835	66624.104	589727.657	2823083.010	24.855		S 16°33'34.15" W					
						Transition	66624.104	589727.657	2823083.010	66644.104	589720.910	2823064.209		20						
599	589711.43	2823044.865	39	29	58.53	Arc	66644.104	589720.910	2823064.209	66685.467	589691.811	2823035.969		41.364		60	Right	6.7	30	1.2
						Transition	66685.467	589691.811	2823035.969	66705.467	589672.816	2823029.788		20						
						Straight	66705.467	589672.816	2823029.788	66754.671	589625.254	2823017.184	49.203		S 75°09'27.62" W					

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	HORIZONTAL ALIGNMENT REPORT	CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants 124-A, N.S.C. Bose Road, Kolkata - 700 092 An ISO 9001, 14001 & OHSAS18001 Certified Company					DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/HAR																			
										REVISION MKD. - R0				SHEET NO. - 06																			
										DRAWN BY				DESIGNED BY				CHECKED BY				ISSUED BY											
MKD.					DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT								 U. MALIK				 B.DAS				 S.SADHU				 B.KONER			
REVISIONS																																	

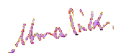
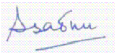
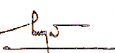
HORIZONTAL ALIGNMENT REPORT																				
HIP/CURVE NO.	HIP		DEFLECTION ANGLE			ELEMENT	START			END			LENGTH (m)	CHORD LENGTH (m)	BEARING (dd mm ss)	RADIUS (m)	HAND OF ARC	SUPERELEVATION (%)	DESIGN SPEED (km/h)	EXTRA WIDENING (m)
	EASTING	NORTHING	DEG	MIN	SEC		CHAINAGE (m)	EASTING	NORTHING	CHAINAGE (m)	EASTING	NORTHING								
600	589612.748	2823013.87	8	42	15.18	Arc	66754.671	589625.254	2823017.184	66780.497	589599.884	2823012.487		25.826		170	Right	Normal Camber	30	0.6
						Straight	66780.497	589599.884	2823012.487	66801.497	589579.004	2823010.241	21.000		S 83°51'42.80" W					
601	589569.989	2823009.272	6	6	21.92	Arc	66801.497	589579.004	2823010.241	66819.614	589561.128	2823007.349		18.117		170	Left	Normal Camber	30	0.6
						Straight	66819.614	589561.128	2823007.349	66875.144	589506.861	2822995.572	55.530		S 77°45'20.87" W					
						Transition	66875.144	589506.861	2822995.572	66890.144	589492.558	2822991.195		15						
602	589486.267	2822988.049	26	23	23.63	Arc	66890.144	589492.558	2822991.195	66903.962	589482.030	2822982.435		13.818		30	Left	5.9	20	1.5
						Transition	66903.962	589482.030	2822982.435	66918.962	589475.125	2822969.165		15						
						Straight	66918.962	589475.125	2822969.165	66941.307	589466.495	2822948.553	22.345		S 22°43'04.84" W					
						Transition	66941.307	589466.495	2822948.553	66956.307	589461.585	2822934.405		15						
603	589459.18	2822923.064	32	19	35.07	Arc	66956.307	589461.585	2822934.405	66978.875	589463.212	2822912.194		22.568		40	Left	4.4	20	1.5
						Transition	66978.875	589463.212	2822912.194	66993.875	589470.131	2822898.912		15						
						Straight	66993.875	589470.131	2822898.912	67024.099	589485.740	2822873.030	30.224		S 31°05'39.53" E					
604	589489.4	2822866.962	8	6	24.43	Arc	67024.099	589485.740	2822873.030	67038.249	589493.879	2822861.470		14.149		100	Left	Normal Camber	20	0.9
						Straight	67038.249	589493.879	2822861.470	67044.992	589498.141	2822856.244	6.744		S 39°12'03.96" E					
						Transition	67044.992	589498.141	2822856.244	67059.992	589507.020	2822844.173		15						
605	589507.765	2822842.914	3	21	5.36	Arc	67059.992	589507.020	2822844.173	67062.917	589508.435	2822841.614		2.925		50	Right	3.6	20	1.2
						Transition	67062.917	589508.435	2822841.614	67077.917	589513.933	2822827.674		15						
						Straight	67077.917	589513.933	2822827.674	67090.680	589518.016	2822815.582	12.763		S 18°39'39.15" E					
606	589519.65	2822810.744	5	50	49.07	Arc	67090.680	589518.016	2822815.582	67100.885	589521.769	2822806.097		10.205		100	Left	Normal Camber	20	0.9
						Straight	67100.885	589521.769	2822806.097	67251.190	589584.118	2822669.334	150.305		S 24°30'28.22" E					
607	589586.928	2822663.169	7	45	5.67	Arc	67251.190	589584.118	2822669.334	67264.719	589590.544	2822657.440		13.529		100	Left	Normal Camber	20	0.9
						Straight	67264.719	589590.544	2822657.440	67282.350	589599.955	2822642.530	17.632		S 32°15'33.89" E					
608	589607.851	2822630.02	16	49	46.28	Arc	67282.350	589599.955	2822642.530	67311.723	589611.787	2822615.760		29.373		100	Right	Normal Camber	20	0.9
						Straight	67311.723	589611.787	2822615.760	67371.833	589627.780	2822557.817	60.110		S 15°25'47.61" E					
609	589631.615	2822543.923	20	25	39.39	Arc	67371.833	589627.780	2822557.817	67400.355	589640.058	2822532.240		28.522		80	Left	Normal Camber	20	0.9
						Straight	67400.355	589640.058	2822532.240	67409.620	589645.485	2822524.732	9.265		S 35°51'26.99" E					
						Transition	67409.620	589645.485	2822524.732	67424.620	589653.645	2822512.163		15						
610	589654.594	2822510.321	4	44	48.35	Arc	67424.620	589653.645	2822512.163	67428.762	589655.388	2822508.407		4.142		50	Right	3.6	20	1.2
						Transition	67428.762	589655.388	2822508.407	67443.762	589659.716	2822494.060		15						
						Straight	67443.762	589659.716	2822494.060	67538.457	589682.499	2822402.148	94.694		S 13°55'19.20" E					
611	589689.894	2822372.317	11	41	54.2	Arc	67538.457	589682.499	2822402.148	67599.709	589691.086	2822341.607		61.253		300	Right	Normal Camber	40	0.6
						Straight	67599.709	589691.086	2822341.607	67657.653	589693.334	2822283.708	57.943		S 2°13'25.00" E					
612	589694.511	2822253.412	6	56	23.91	Arc	67657.653	589693.334	2822283.708	67718.215	589692.018	2822223.196		60.563		500	Right	Normal Camber	40	--NA--
						Straight	67718.215	589692.018	2822223.196	67950.410	589672.926	2821991.788	232.194		S 4°42'58.91" W					
						Transition	67950.410	589672.926	2821991.788	67965.410	589671.394	2821976.869		15						
613	589670.405	2821969.964	6	23	18.27	Arc	67965.410	589671.394	2821976.869	67979.347	589668.653	2821963.211		13.937		125	Right	5.7	40	0.6
						Transition	67979.347	589668.653	2821963.211	67994.347	589664.310	2821948.856		15						
						Straight	67994.347	589664.310	2821948.856	68071.467	589640.503	2821875.502	77.120		S 17°58'48.95" W					
						Transition	68071.467	589640.503	2821875.502	68086.467	589636.112	2821861.161		15						
614	589635.366	2821858.399	2	11	9.21	Arc	68086.467	589636.112	2821861.161	68092.190	589634.726	2821855.610		5.723		150	Left	4.7	40	0.6
						Transition	68092.190	589634.726	2821855.610	68107.190	589631.859	2821840.888		15						
						Straight	68107.190	589631.859	2821840.888	68147.203	589624.866	2821801.490	40.013		S 10°03'53.26" W					
						Transition	68147.203	589624.866	2821801.490	68167.203	589618.233	2821782.857		20						
615	589599.324	2821759.265	113	1	51.23	Arc	68167.203	589618.233	2821782.857	68206.659	589585.011	2821785.897		39.455		20	Right	7	20	1.5
						Transition	68206.659	589585.011	2821785.897	68226.659	589581.870	2821805.424		20						
						Straight	68226.659	589581.870	2821805.424	68247.412	589582.011	2821826.178	20.754		N 0°23'29.30" E					
616	589582.111	2821840.733	20	37	28.72	Arc	68247.412	589582.011	2821826.178	68276.210	589587.331	2821854.321		28.797		80	Right	Normal Camber	20	0.9
						Straight	68276.210	589587.331	2821854.321	68292.946	589593.333	2821869.945	16.737		N 21°00'58.02" E					
617	589599.061	2821884.852	22	34	40.76	Arc	68292.946	589593.333	2821869.945	68324.471	589598.625	2821900.816		31.525		80	Left	Normal Camber	20	0.9

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										SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT						REVISION MKD. -			

HORIZONTAL ALIGNMENT REPORT																				
HIP/CURVE NO.	HIP		DEFLECTION ANGLE			ELEMENT	START			END			LENGTH (m)	CHORD LENGTH (m)	BEARING (dd mm ss)	RADIUS (m)	HAND OF ARC	SUPEREL-EVATION (%)	DESIGN SPEED (km/h)	EXTRA WIDENING (m)
	EASTING	NORTHING	DEG	MIN	SEC		CHAINAGE (m)	EASTING	NORTHING	CHAINAGE (m)	EASTING	NORTHING								
621	589542.21	2822299.703	110	26	44.39	Arc	68715.351	589565.487	2822282.742	68753.904	589534.449	2822271.968		38.553		20	Left	7	20	1.5
						Transition	68753.904	589534.449	2822271.968	68773.904	589535.651	2822252.226		20						
						Straight	68773.904	589535.651	2822252.226	68812.791	589544.409	2822214.338	38.887		S 13°00'53.42" E					
						Transition	68812.791	589544.409	2822214.338	68852.791	589548.137	2822174.797		40						
622	589548.022	2822174.141	1	31	31.97	Arc	68852.791	589548.137	2822174.797	68854.122	589547.890	2822173.489		1.331		50	Right	7	40	1.2
						Transition	68854.122	589547.890	2822173.489	68894.122	589530.034	2822138.013		40						
						Straight	68894.122	589530.034	2822138.013	68957.516	589494.266	2822085.673	63.394		S 34°20'50.39" W					
623	589482.379	2822068.278	8	2	3.98	Arc	68957.516	589494.266	2822085.673	68999.584	589473.040	2822049.392		42.068		300	Left	Normal Camber	40	0.6
						Straight	68999.584	589473.040	2822049.392	69073.427	589440.308	2821983.201	73.843		S 26°18'46.41" W					
						Transition	69073.427	589440.308	2821983.201	69088.427	589.843	2821970.217		15						
624	589428.455	2821964.405	20	38	16.15	Arc	69088.427	589.843	2821970.217	69102.835	589422.299	2821960.512		14.408		40	Right	4.4	20	1.5
						Transition	69102.835	589422.299	2821960.512	69117.835	589408.742	2821954.149		15						
						Straight	69117.835	589408.742	2821954.149	69151.805	589377.150	2821941.664	33.970		S 68°26'11.87" W					
						Transition	69151.805	589377.150	2821941.664	69171.805	589360.213	2821931.450		20						
625	589342.212	2821909.837	109	10	13.67	Arc	69171.805	589360.213	2821931.450	69209.912	589368.538	2821899.932		38.108		20	Left	7	20	1.5
						Transition	69209.912	589368.538	2821899.932	69229.912	589388.310	2821899.414		20						
						Straight	69229.912	589388.310	2821899.414	69278.311	589436.234	2821906.175	48.399		N 81°58'13.40" E					
						Transition	69278.311	589436.234	2821906.175	69298.311	589456.006	2821905.657		20						
626	589474.591	2821898.665	89	35	24.07	Arc	69298.311	589456.006	2821905.657	69329.584	589467.732	2821880.030		31.273		20	Right	7	20	1.5
						Transition	69329.584	589467.732	2821880.030	69349.584	589455.197	2821864.730		20						
						Straight	69349.584	589455.197	2821864.730	69391.697	589423.483	2821837.021	42.114		S 48°51'22.27" W					
627	589412.768	2821827.66	12	59	17.38	Arc	69391.697	589423.483	2821837.021	69420.033	589404.431	2821816.129		28.336		125	Left	Normal Camber	20	0.6
						Straight	69420.033	589404.431	2821816.129	69492.149	589362.176	2821757.688	72.116		S 35°52'04.89" W					
						Transition	69492.149	589362.176	2821757.688	69512.149	589353.566	2821739.909		20						
628	589350.831	2821712.562	110	41	6.21	Arc	69512.149	589353.566	2821739.909	69548.854	589377.381	2821719.662		36.705		19	Left	7	20	1.5
						Transition	69548.854	589377.381	2821719.662	69568.854	589393.543	2821731.022		20						
						Straight	69568.854	589393.543	2821731.022	69594.075	589411.337	2821748.896	25.221		N 44°52'17.83" E					
						Transition	69594.075	589411.337	2821748.896	69614.075	589427.499	2821760.255		20						
629	589453.886	2821767.312	110	21	13.55	Arc	69614.075	589427.499	2821760.255	69650.670	589451.324	2821740.118		36.595		19	Right	7	20	1.5
						Transition	69650.670	589451.324	2821740.118	69670.670	589442.817	2821722.289		20						
						Straight	69670.670	589442.817	2821722.289	69715.968	589416.489	2821685.428	45.298		S 35°32'12.23" W					
630	589408.608	2821674.394	19	14	22.54	Arc	69715.968	589416.489	2821685.428	69742.832	589397.531	2821666.573		26.864		80	Right	Normal Camber	20	0.9
						Straight	69742.832	589397.531	2821666.573	69785.060	589363.034	2821642.217	42.229		S 54°46'34.77" W					
						Transition	69785.060	589363.034	2821642.217	69810.060	589344.301	2821625.825		25						
631	589334.045	2821612.151	46	16	32.07	Arc	69810.060	589344.301	2821625.825	69842.367	589336.838	2821595.289		32.306		40	Left	7	30	1.5
						Transition	69842.367	589336.838	2821595.289	69867.367	589345.899	2821572.104		25						
						Straight	69867.367	589345.899	2821572.104	69884.283	589353.660	2821557.073	16.917		S 27°18'32.80" E					
						Transition	69884.283	589353.660	2821557.073	69904.283	589361.825	2821538.843		20						
632	589363.502	2821533.608	10	28	6.24	Arc	69904.283	589361.825	2821538.843	69915.246	589364.199	2821528.156		10.962		60	Right	6.7	30	1.2
						Transition	69915.246	589364.199	2821528.156	69935.246	589364.522	2821508.183		20						
						Straight	69935.246	589364.522	2821508.183	69984.276	589362.590	2821459.191	49.030		S 2°15'28.37" W					
						Transition	69984.276	589362.590	2821459.191	69999.276	589360.515	2821444.396		15						
633	589358.779	2821439.48	23	33	26.31	Arc	69999.276	589360.515	2821444.396	70009.555	589355.224	2821435.668		10.279		25	Right	7	20	1.5
						Transition	70009.555	589355.224	2821435.668	70024.555	589343.066	2821426.985		15						
						Straight	70024.555	589343.066	2821426.985	70037.097	589332.184	2821420.751	12.542		S 60°11'33.56" W					
						Transition	70037.097	589332.184	2821420.751	70057.097	589313.594	2821414.066		20						
634	589283.68	2821414.248	115	9	25.32	Arc	70057.097	589313.594	2821414.066	70095.284	589296.561	2821441.247		38.188		19	Right	7	20	1.5
						Transition	70095.284	589296.561	2821441.247	70115.284	589310.684	2821455.061		20						
						Straight	70115.284	589310.684	2821455.061	70129.446	589322.377	2821463.049	14.162		N 55°39'39.73" E					
						Transition	70129.446	589322.377	2821463.049	70149.446	589336.636	2821476.755		20						
635	589340.665	2821484.658	47	50	12.22	Arc	70149.446	589336.636	2821476.755	70166.144	589337.512	2821492.949		16.698		20	Left	7	20	1.5
						Transition	70166.144	589337.512	2821492.949	70186.144	589324.813	2821508.113		20						
						Straight	70186.144	589324.813	2821508.113	70212.345	589304.899	2821525.139	26.201		N 49°28'17.29" W					
						Transition	70212.345	589304.899	2821525.139	70232.345	589290.622	2821539.094		20						
636	589289.038	2821541.12	5	53	14.51	Arc	70232.345	589290.622	2821539.094	70237.482	589287.671	2821543.298		5.138		50	Right	7	30	1.2
						Transition	70237.482	589287.671	2821543.298	70257.482	589279.397	2821561.467		20						
						Straight	70257.482	589279.397	2821561.467	70264.179	589277.034	2821567.733	6.697.							

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	HORIZONTAL ALIGNMENT REPORT		CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company 124-A, N.S.C. Bose Road, Kolkata - 700009 	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/HAR			
								REVISION MKD. - R0			SHEET NO. - 08			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
REVISIONS									PACKAGE-IIB		 U. MALIK	 B.DAS	 S.SADHU	 B.KONER

HORIZONTAL ALIGNMENT REPORT																				
HIP/CURVE NO.	HIP		DEFLECTION ANGLE			ELEMENT	START			END			LENGTH (m)	CHORD LENGTH (m)	BEARING (dd mm ss)	RADIUS (m)	HAND OF ARC	SUPEREL-EVATION (%)	DESIGN SPEED (km/h)	EXTRA WIDENING (m)
	EASTING	NORTHING	DEG	MIN	SEC		CHAINAGE (m)	EASTING	NORTHING	CHAINAGE (m)	EASTING	NORTHING								
637	589263.83	2821592.551	9	23	3.28	Arc	70289.179	589265.877	2821589.984	70295.731	589261.392	2821594.750	6.551			40	Left	7	30	1.5
						Transition	70295.731	589261.392	2821594.750	70320.731	589239.857	2821607.234	25							
						Straight	70320.731	589239.857	2821607.234	70361.200	589202.928	2821623.785	40.469		N 65°51'35.64" W					
						Transition	70361.200	589202.928	2821623.785	70381.200	589185.293	2821633.145	20							
638	589180.921	2821636.275	12	16	36.22	Arc	70381.200	589185.293	2821633.145	70391.913	589177.314	2821640.263	10.713			50	Right	7	30	1.2
						Transition	70391.913	589177.314	2821640.263	70411.913	589166.011	2821656.720	20							
						Straight	70411.913	589166.011	2821656.720	70427.389	589158.118	2821670.032	15.476		N 30°39'53.50" W					
639	589151.59	2821681.043	8	36	44.54	Arc	70427.389	589158.118	2821670.032	70452.942	589146.783	2821692.907	25.553			170	Right	Normal Camber	30	0.6
						Straight	70452.942	589146.783	2821692.907	70519.495	589121.796	2821754.590	66.553		N 22°03'08.97" W					
						Transition	70519.495	589121.796	2821754.590	70539.495	589111.304	2821771.329	20							
640	589089.823	2821787.986	110	5	45.1	Arc	70539.495	589111.304	2821771.329	70576.004	589081.560	2821762.089	36.509			19	Left	7	20	1.5
						Transition	70576.004	589081.560	2821762.089	70596.004	589082.398	2821742.352	20							
						Straight	70596.004	589082.398	2821742.352	70628.596	589089.430	2821710.528	32.592		S 12°27'34.91" E					
641	589092.299	2821697.544	18	52	24.28	Arc	70628.596	589089.430	2821710.528	70654.949	589099.213	2821686.187	26.352			80	Left	Normal Camber	20	0.9
						Straight	70654.949	589099.213	2821686.187	70723.062	589134.633	2821628.007	68.114		S 31°19'59.19" E					
						Transition	70723.062	589134.633	2821628.007	70738.062	589141.322	2821614.627	15							
642	589142.811	2821609.76	19	15	28.19	Arc	70738.062	589141.322	2821614.627	70748.146	589142.611	2821604.674	10.083			30	Right	5.9	20	1.5
						Transition	70748.146	589142.611	2821604.674	70763.146	589139.552	2821590.032	15							
						Straight	70763.146	589139.552	2821590.032	70793.074	589131.015	2821561.347	29.928		S 16°34'21.40" W					
						Transition	70793.074	589131.015	2821561.347	70813.074	589122.313	2821543.586	20							
643	589103.782	2821525.197	105	5	22.13	Arc	70813.074	589122.313	2821543.586	70849.757	589090.851	2821547.876	36.683			20	Right	7	20	1.5
						Transition	70849.757	589090.851	2821547.876	70869.757	589087.223	2821567.319	20							
						Straight	70869.757	589087.223	2821567.319	70891.210	589086.833	2821588.768	21.452		N 1°02'31.66" W					
						Transition	70891.210	589086.833	2821588.768	70911.210	589085.141	2821608.660	20							
644	589083.905	2821614.236	13	1	56.58	Arc	70911.210	589085.141	2821608.660	70922.583	589081.443	2821619.389	11.373			50	Left	7	30	1.2
						Transition	70922.583	589081.443	2821619.389	70942.583	589070.519	2821636.100	20							
						Straight	70942.583	589070.519	2821636.100	70963.693	589057.817	2821652.961	21.110		N 36°59'34.17" W					
						Transition	70963.693	589057.817	2821652.961	70988.693	589044.986	2821674.290	25							
645	589044.475	2821675.766	4	28	14.73	Arc	70988.693	589044.986	2821674.290	70991.814	589044.081	2821677.277	3.121			40	Right	7	30	1.5
						Transition	70991.814	589044.081	2821677.277	71016.814	589042.919	2821702.141	25							
						Straight	71016.814	589042.919	2821702.141	71093.774	589047.333	2821778.975	76.960		N 3°17'16.06" E					
						Transition	71093.774	589047.333	2821778.975	71113.774	589045.183	2821798.636	20							
646	589034.032	2821822.161	104	56	0.85	Arc	71113.774	589045.183	2821798.636	71150.403	589014.176	2821805.325	36.629			20	Left	7	20	1.5
						Transition	71150.403	589014.176	2821805.325	71170.403	589004.111	2821788.299	20							
						Straight	71170.403	589004.111	2821788.299	71193.858	588995.683	2821766.409	23.456		S 21°03'30.41" W					
						Transition	71193.858	588995.683	2821766.409	71208.858	588990.646	2821752.284	15							
647	588989.363	2821748.024	5	5	44.18	Arc	71208.858	588990.646	2821752.284	71217.752	588988.463	2821743.666	8.894			100	Left	4	30	0.9
						Transition	71217.752	588988.463	2821743.666	71232.752	588986.169	2821728.846	15							
						Straight	71232.752	588986.169	2821728.846	71269.381	588981.471	2821692.520	36.629		S 7°22'06.51" W					
						Transition	71269.381	588981.471	2821692.520	71289.381	588980.235	2821672.594	20							
648	588980.339	2821671.144	3	19	48.82	Arc	71289.381	588980.235	2821672.594	71292.287	588980.527	2821669.703	2.906			50	Left	7	30	1.2
						Transition	71292.287	588980.527	2821669.703	71312.287	588985.714	2821650.424	20							
						Straight	71312.287	588985.714	2821650.424	71367.827	589003.687	2821597.872	55.540		S 18°52'48.23" E					
						Transition	71367.827	589003.687	2821597.872	71387.827	589009.091	2821578.642	20							
649	589009.889	2821573.785	9	22	42.87	Arc	71387.827	589009.091	2821578.642	71397.648	589009.885	2821568.864	9.821			60	Right	6.7	30	1.2
						Transition	71397.648	589009.885	2821568.864	71417.648	589007.653	2821549.014	20							
						Straight	71417.648	589007.653	2821549.014	71489.948	588995.599	2821477.725	72.300		S 9°35'49.58" W					
						Transition	71489.948	588995.599	2821477.725	71504.948	588993.563	2821462.870	15							
650	588993.154	2821457.34	7	55	49.35	Arc	71504.948	588993.563	2821462.870	71516.021	588993.512	2821451.806	11.073			80	Left	5	30	0.9
						Transition	71516.021	588993.512	2821451.806	71531.021	588995.414	2821436.933	15							
						Straight	71531.021	588995.414	2821436.933	71557.836	588999.644	2821410.454	26.814		S 9°04'34.43" E					
						Transition	71557.836	588999.644	2821410.454	71577.836	588999.488	2821390.676	20							
651	588990.166	2821364.456	108	35	25.86	Arc	71577.836	588999.488	2821390.676	71615.741	588968.285	2821381.651	37.905			20				

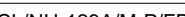
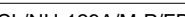
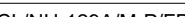
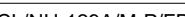
					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	HORIZONTAL ALIGNMENT REPORT	CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/HAR			
										REVISION MKD. - R0	SHEET NO. - 09		
										DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
													
										U. MALIK	B.DAS	S.SADHU	B.KONER

MKD.	DATE	DESCRIPTION	CHKD.
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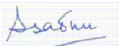
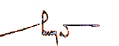
HORIZONTAL ALIGNMENT REPORT																				
HIP/CURVE NO.	HIP		DEFLECTION ANGLE			ELEMENT	START			END			LENGTH (m)	CHORD LENGTH (m)	BEARING (dd mm ss)	RADIUS (m)	HAND OF ARC	SUPERELEVATION (%)	DESIGN SPEED (km/h)	EXTRA WIDENING (m)
	EASTING	NORTHING	DEG	MIN	SEC		CHAINAGE (m)	EASTING	NORTHING	CHAINAGE (m)	EASTING	NORTHING								
653	588975.763	2821552.474	119	0	19.15	Arc	57.504	588975.048	2821511.732	71807.353	588939.784	2821533.344		49.849		24	Left	7	20	1.5
						Transition	71807.353	588939.784	2821533.344	71827.353	588925.491	2821519.575		20						
						Straight	71827.353	588925.491	2821519.575	71901.356	588879.802	2821461.361	74.003		S 38°07'33.46" W					
						Transition	71901.356	588879.802	2821461.361	71916.356	588870.181	2821449.860		15						
654	588862.104	2821441.348	16	41	22.54	Arc	71916.356	588870.181	2821449.860	71939.659	588851.922	2821435.514		23.303		80	Right	5	30	0.9
						Transition	71939.659	588851.922	2821435.514	71954.659	588838.472	2821428.886		15						
						Straight	71954.659	588838.472	2821428.886	71983.439	588812.271	2821416.978	28.781		S 65°33'30.66" W					
						Transition	71983.439	588812.271	2821416.978	72003.439	588793.586	2821409.946		20						
655	588787.235	2821408.482	14	51	9.18	Arc	72003.439	588793.586	2821409.946	72016.401	588780.721	2821408.695		12.961		50	Right	7	30	1.2
						Transition	72016.401	588780.721	2821408.695	72036.401	588761.031	2821411.994		20						
						Straight	72036.401	588761.031	2821411.994	72047.656	588750.079	2821414.589	11.255		N 76°40'14.24" W					
						Transition	72047.656	588750.079	2821414.589	72072.656	588726.585	2821422.813		25						
656	588721.927	2821425.638	15	30	45.57	Arc	72072.656	588726.585	2821422.813	72083.486	588718.194	2821429.606		10.83		40	Right	7	30	1.5
						Transition	72083.486	588718.194	2821429.606	72108.486	588705.258	2821450.872		25						
						Straight	72108.486	588705.258	2821450.872	72144.428	588689.870	2821483.354	35.942		N 25°20'53.17" W					
						Transition	72144.428	588689.870	2821483.354	72164.428	588678.433	2821499.461		20						
657	588659.873	2821512.216	99	41	39.06	Arc	72164.428	588678.433	2821499.461	72197.488	588650.425	2821491.772		33.06		19	Left	7	20	1.5
						Transition	72197.488	588650.425	2821491.772	72217.488	588648.815	2821472.083		20						
						Straight	72217.488	588648.815	2821472.083	72233.640	588650.322	2821456.001	16.153		S 5°21'13.08" E					
						Transition	72233.640	588650.322	2821456.001	72253.640	588653.505	2821436.291		20						
658	588654.902	2821431.668	11	2	4.35	Arc	72253.640	588653.505	2821436.291	72263.270	588657.158	2821427.398		9.629		50	Left	7	30	1.2
						Transition	72263.270	588657.158	2821427.398	72283.270	588668.748	2821411.142		20						
						Straight	72283.270	588668.748	2821411.142	72321.884	588693.209	2821381.264	38.614		S 39°18'23.36" E					
						Transition	72321.884	588693.209	2821381.264	72341.884	588704.799	2821365.008		20						
659	588707.397	2821360.09	12	41	38.67	Arc	72341.884	588704.799	2821365.008	72352.962	588708.850	2821354.722		11.078		50	Right	7	30	1.2
						Transition	72352.962	588708.850	2821354.722	72372.962	588711.461	2821334.929		20						
						Straight	72372.962	588711.461	2821334.929	72426.665	588714.921	2821281.337	53.703		S 3°41'38.77" E					
						Transition	72426.665	588714.921	2821281.337	72446.665	588712.910	2821261.661		20						
660	588701.899	2821237.998	105	4	28.44	Arc	72446.665	588712.910	2821261.661	72483.343	588681.914	2821254.785		36.678		20	Right	7	20	1.5
						Transition	72483.343	588681.914	2821254.785	72503.343	588671.771	2821271.764		20						
						Straight	72503.343	588671.771	2821271.764	72541.344	588657.952	2821307.164	38.001		N 21°19'25.52" W					
661	588651.32	2821324.153	25	41	4.88	Arc	72541.344	588657.952	2821307.164	72577.207	588637.980	2821336.589		35.863		80	Left	Normal Camber	20	0.9
						Straight	72577.207	588637.980	2821336.589	72634.647	588595.965	2821375.757	57.440		N 47°00'30.40" W					
						Transition	72634.647	588595.965	2821375.757	72654.647	588579.465	2821386.663		20						
662	588557.557	2821392.265	97	0	57.09	Arc	72654.647	588579.465	2821386.663	72688.512	588554.673	2821369.838		33.865		20	Left	7	20	1.5
						Transition	72688.512	588554.673	2821369.838	72708.512	588558.715	2821350.476		20						
						Straight	72708.512	588558.715	2821350.476	72743.726	588571.518	2821317.672	35.215		S 21°19'12.29" E					
663	588576.171	2821305.749	18	10	43.35	Arc	72743.726	588571.518	2821317.672	72769.109	588584.312	2821295.873		25.382		80	Left	Normal Camber	20	0.9
						Straight	72769.109	588584.312	2821295.873	72833.391	588625.199	2821246.271	64.282		S 39°29'55.64" E					
						Transition	72833.391	588625.199	2821246.271	72853.391	588635.080	2821229.137		20						
664	588638.471	2821211.442	84	1	33.46	Arc	72853.391	588635.080	2821229.137	72882.721	588621.226	2821206.228		29.331		20	Right	7	20	1.5
						Transition	72882.721	588621.226	2821206.228	72902.721	588601.463	2821207.019		20						
						Straight	72902.721	588601.463	2821207.019	72983.235	588522.657	2821223.516	80.514		N 78°10'37.38" W					
						Transition	72983.235	588522.657	2821223.516	73003.235	588503.338	2821228.606		20						
665	588447.952	2821249.466	84	38	12.02	Arc	73003.235	588503.338	2821228.606	73099.253	588463.544	2821306.558		96.017		65	Right	6.2	30	1.2
						Transition	73099.253	588463.544	2821306.558	73119.253	588470.753	2821325.191		20						
						Straight	73119.253	588470.753	2821325.191	73226.858	588514.673	2821423.426	107.606		N 24°05'20.74" E					
						Transition	73226.858	588514.673	2821423.426	73256.858	588522.131	2821452.141		30						
666	588519.131	2821489.768	103	2	48.03	Arc	73256.858	588522.131	2821452.141	73310.813	588483.152	2821478.351		53.955		30	Left	7	30	1.5
						Transition	73310.813	588483.152	2821478.351	73340.813	588459.373	2821460.611		30						
						Straight	73340.813	588459.373	2821460.611	73506.460	588344.833	2821340.947	165.646		S 43°44'47.90" W					
						Transition	73506.460	588344.833	2821340.947	73536.460	588321.411	2821322.595		30						
667	588308.43	2821317.429	43	31	19.47	Arc	73536.460	588321.411	2821322.595	73563.046	588295.459	2821322.623		26.586		35	Right	7	30	1.5
						Transition	73563.046	588295.459	2821322.623	73593.046	588272.078	2821341.027		30						
						Straight	73593.046	588272.078	2821341.027	73604.718	588264.0									

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	HORIZONTAL ALIGNMENT REPORT		CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700 092 	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/HAR				
											REVISION MKD. - R0		SHEET NO. - 10		
MKD.	DATE	DESCRIPTION		CHKD.	APPRD.						DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY	
					DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT							
								PACKAGE-IIB			U. MALIK	B.DAS	S.SADHU	B.KONER	

HORIZONTAL ALIGNMENT REPORT																				
HIP/CURVE NO.	HIP		DEFLECTION ANGLE			ELEMNT	START			END			LENGTH (m)	CHORD LENGTH (m)	BEARING (dd mm ss)	RADIUS (m)	HAND OF ARC	SUPEREL- EVATION (%)	DESIGN SPEED (km/h)	EXTRA WIDENING (m)
	EASTING	NORTHING	DEG	MIN	SEC		CHAINAGE (m)	EASTING	NORTHING	CHAINAGE (m)	EASTING	NORTHING								
669	588170.082	2821354.288	20	5	59.52	Arc	73698.158	588178.873	2821355.402	73715.698	588161.443	2821356.264		17.54		50	Right	7	30	1.2
						Transition	73715.698	588161.443	2821356.264	73735.698	588142.746	2821363.263		20						
						Straight	73735.698	588142.746	2821363.263	73755.952	588124.293	2821371.610	20.253		N 65°39'34.64" W					
						Transition	73755.952	588124.293	2821371.610	73775.952	588106.629	2821380.928		20						
670	588067.838	2821407.846	81	17	23.67	Arc	73775.952	588106.629	2821380.928	73853.984	588088.571	2821450.266		78.033		55	Right	7	30	1.2
						Transition	73853.984	588088.571	2821450.266	73873.984	588099.446	2821467.016		20						
						Straight	73873.984	588099.446	2821467.016	73876.894	588101.175	2821469.356	2.909		N 36°27'54.42" E					
						Transition	73876.894	588101.175	2821469.356	73891.894	588110.511	2821481.087		15						
671	588114.045	2821484.93	8	31	54.97	Arc	73891.894	588110.511	2821481.087	73902.318	588118.111	2821488.207	10.424			70	Right	5.7	30	1.2
						Transition	73902.318	588118.111	2821488.207	73917.318	588130.426	2821496.757		15						
						Straight	73917.318	588130.426	2821496.757	73940.353	588149.805	2821509.210	23.035		N 57°16'28.98" E					
						Transition	73940.353	588149.805	2821509.210	73955.353	588162.666	2821516.918		15						
672	588171.484	2821521.48	14	8	52.21	Arc	73955.353	588162.666	2821516.918	73975.107	588181.149	2821523.748		19.754		80	Right	5	30	0.9
						Transition	73975.107	588181.149	2821523.748	73990.107	588195.932	2821526.255		15						
						Straight	73990.107	588195.932	2821526.255	73998.937	588204.680	2821527.458	8.830		N 82°09'55.84" E					
						Transition	73998.937	588204.680	2821527.458	74018.937	588224.233	2821531.491		20						
673	588231.66	2821534.091	17	53	17.22	Arc	74018.937	588224.233	2821531.491	74034.547	588237.930	2821538.846		15.61		50	Left	7	30	1.2
						Transition	74034.547	588237.930	2821538.846	74054.547	588252.090	2821552.920		20						
						Straight	74054.547	588252.090	2821552.920	74080.335	588269.130	2821572.275	25.788		N 41°21'32.70" E					
						Transition	74080.335	588269.130	2821572.275	74095.335	588279.000	2821583.167		15						
674	588282.036	2821585.554	5	46	38.81	Arc	74095.335	588279.000	2821583.167	74102.394	588284.867	2821587.666		7.058		70	Right	5.7	30	1.2
						Transition	74102.394	588284.867	2821587.666	74117.394	588297.493	2821595.751		15						
						Straight	74117.394	588297.493	2821595.751	74124.406	588303.530	2821599.319	7.012		N 59°24'51.12" E					
						Transition	74124.406	588303.530	2821599.319	74149.406	588323.526	2821614.142		25						
675	588326.396	2821617.385	12	21	27.54	Arc	74149.406	588323.526	2821614.142	74158.033	588328.506	2821621.167		8.627		40	Left	7	30	1.5
						Transition	74158.033	588328.506	2821621.167	74183.033	588335.871	2821644.944		25						
						Straight	74183.033	588335.871	2821644.944	74192.378	588337.693	2821654.109	9.345		N 11°14'48.08" E					
						Transition	74192.378	588337.693	2821654.109	74207.378	588340.985	2821668.740		15						
676	588343.369	2821677.313	10	10	13.47	Arc	74207.378	588340.985	2821668.740	74225.129	588347.230	2821685.331		17.751		100	Right	4	30	0.9
						Transition	74225.129	588347.230	2821685.331	74240.129	588354.404	2821698.500		15						
						Straight	74240.129	588354.404	2821698.500	74244.716	588356.698	2821702.472	4.587		N 30°00'41.27" E					
						Transition	74244.716	588356.698	2821702.472	74274.716	588367.080	2821730.264		30						
677	588367.128	2821732.272	7	39	40.53	Arc	74274.716	588367.080	2821730.264	74278.727	588366.907	2821734.269		4.011		30	Left	7	30	1.5
						Transition	74278.727	588366.907	2821734.269	74308.727	588354.174	2821761.065		30						
						Straight	74308.727	588354.174	2821761.065	74311.594	588352.532	2821763.415	2.866		N 34°56'44.07" W					
						Transition	74311.594	588352.532	2821763.415	74336.594	588340.471	2821785.189		25						
678	588339.214	2821789.29	12	14	20.8	Arc	74336.594	588340.471	2821785.189	74345.138	588338.856	2821793.563		8.545		40	Right	7	30	1.5
						Transition	74345.138	588338.856	2821793.563	74370.138	588341.949	2821818.262		25						
						Straight	74370.138	588341.949	2821818.262	74444.704	588358.854	2821890.886	74.566		N 13°06'12.23" E					
						Transition	74444.704	588358.854	2821890.886	74469.704	588361.948	2821915.584		25						
679	588361.537	2821920.474	13	59	14.8	Arc	74469.704	588361.948	2821915.584	74479.469	588359.957	2821925.120		9.765		40	Left	7	30	1.5
						Transition	74479.469	588359.957	2821925.120	74504.469	588347.237	2821946.516		25						
						Straight	74504.469	588347.237	2821946.516	74506.817	588345.834	2821948.399	2.348		N 36°41'38.07" W					
						Transition	74506.817	588345.834	2821948.399	74526.817	588336.804	2821965.996		20						
680	588336.091	2821971.041	28	35	12.24	Arc	74526.817	588336.804	2821965.996	74536.796	588337.879	2821975.813		9.979		20	Right	7	20	1.5
						Transition	74536.796	588337.879	2821975.813	74556.796	588350.502	2821991.039		20						
						Straight	74556.796	588350.502	2821991.039	74584.250	588371.281	2822008.983	27.455		N 49°11'18.97" E					
						Transition	74584.250	588371.281	2822008.983	74614.250	588390.216	2822031.823		30						
681	588393.706	2822041.137	36	41	11.03	Arc	74614.250	588390.216	2822031.823	74633.459	588390.940	2822050.691		19.209		30	Left	7	30	1.5
						Transition	74633.459	588390.940	2822050.691	74663.459	588373.811	2822074.915		30						
						Straight	74663.459	588373.811	2822074.915	74692.328	588353.471	2822095.402	28.869		N 44°47'36.86" W					
						Transition	74692.328	588353.471	2822095.402	74.328	588334.194	2822111.149		25						
682	588331.2	2822112.694	9	37	46.5	Arc	74.328	588334.194	2822111.149	74724.051	588327.989	2822113.000		6.723		40	Left	7	30	1.5
						Transition	74724.051	588327.989	2822113.000	74749.051	588303.222	2822116.202		25						
						Straight	74749.051	588303.222	2822116.202	74761.513	588290.761	2822116.152	12.461		S 89°46'01.13" W					
						Transition	74761.513	588290.761	2822116.152	74781.513	588270.812	2822117.180		20						
683	588267.266	2822117.761	6	51	18.14	Arc	74781.513	588270.812	2822117.180	74788.691	588263.814	2822118.762		7.179		60	Right	6.7	30	1.2
						Transition	74788.691	588263.814	2822118.762	74808.691	588245.365	2822126.419		20						
						Straight	74808.691	588245.365	2822126.419	74830.674	588225.560	2822135.959	21.983		N 64°16'45.79" W					
						Transition	74830.674	588225.560	2822135.959	74855.674	588202.578	2822145.746		25						

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	HORIZONTAL ALIGNMENT REPORT		CONSULTANT :  CETEST Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company CE TESTING COMPANY 124-A, N.S.C. Bose Road Kolkata - 700009 	DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/HAR REVISION MKD. - R0 SHEET NO. - 11			
								SUBMISSION TYPE :		DRAWN BY  U. MALIK				
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE: NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	FINAL DETAILED PROJECT REPORT		DESIGNED BY  B.DAS					
REVISIONS							PACKAGE-IIB		CHECKED BY  S.SADHU					
									ISSUED BY  B.KONER					

HORIZONTAL ALIGNMENT REPORT																				
HIP/CURVE NO.	HIP		DEFLECTION ANGLE			ELEMENT	START			END			LENGTH (m)	CHORD LENGTH (m)	BEARING (dd mm ss)	RADIUS (m)	HAND OF ARC	SUPERELEVATION (%)	DESIGN SPEED (km/h)	EXTRA WIDENING (m)
	EASTING	NORTHING	DEG	MIN	SEC		CHAINAGE (m)	EASTING	NORTHING	CHAINAGE (m)	EASTING	NORTHING								
684	588193.916	2822148.521	11	32	30.07	Arc	74855.674	588202.578	2822145.746	74873.804	588184.874	2822149.507		18.13		90	Left	7	40	0.9
						Transition	74873.804	588184.874	2822149.507	74898.804	588159.899	2822149.906		25						
						Straight	74898.804	588159.899	2822149.906	74955.729	588103.000	2822148.181	56.925		S 88°15'48.37" W					
						Transition	74955.729	588103.000	2822148.181	74980.729	588078.112	2822146.126		25						
685	588056.431	2822142.034	30	50	15.99	Arc	74980.729	588078.112	2822146.126	75023.786	588039.913	2822127.406		43.058		80	Left	7	40	0.9
						Transition	75023.786	588039.913	2822127.406	75048.786	588023.040	2822108.995		25						
						Straight	75048.786	588023.040	2822108.995	75111.196	587983.325	2822060.853	62.410		S 39°31'14.63" W					
						Transition	75111.196	587983.325	2822060.853	75151.196	587954.208	2822033.842		40						
686	587944.047	2822028.539	25	49	18.49	Arc	75151.196	587954.208	2822033.842	75173.730	587932.590	2822028.191		22.534		50	Right	7	40	1.2
						Transition	75173.730	587932.590	2822028.191	75213.730	587893.980	2822037.496		40						
						Straight	75213.730	587893.980	2822037.496	75222.727	587885.590	2822040.747	8.997		N 68°49'15.03" W					
						Transition	75222.727	587885.590	2822040.747	75247.727	587862.805	2822050.969		25						

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	HORIZONTAL ALIGNMENT REPORT	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092	DWG NO.-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/HAR			
										REVISION MKD. - R0	SHEET NO. - 12		
										DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
MKD. DATE DESCRIPTION CHKD. APPRD.					DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			 U. MALIK	 B.DAS	 S.SADHU	 B.KONER
REVISIONS													

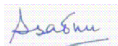
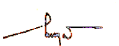
VERTICAL ALIGNMENT REPORT

VERTICAL CURVE REPORT												
CURVE NO.	IP		TYPE OF CURVE	CURVE LENGTH (m)	M VALUE	START		END		GRADIENT		K Value
	CHAINAGE (m)	LEVEL (m)				CHAINAGE (m)	LEVEL (m)	CHAINAGE(m)	LEVEL (m)	IN	OUT	
230	56547.349	1707.400	Sag	60	0.498	56517.349	1707.299	56577.349	1709.494	0.338	6.979	9.03
231	56882.297	1730.776	Hog	100	-1.060	56832.297	1727.287	56932.297	1730.027	6.979	-1.500	11.79
232	57113.618	1727.307	Sag	150	1.099	57038.618	1728.432	57188.618	1730.577	-1.500	4.360	25.60
233	57291.752	1735.074	Hog	80	-0.672	57251.752	1733.330	57331.752	1734.128	4.360	-2.364	11.90
234	57408.795	1732.306	Sag	60	0.117	57378.795	1733.016	57438.795	1732.064	-2.364	-0.807	38.54
235	57525.483	1731.365	Hog	60	-0.327	57495.483	1731.607	57555.483	1729.816	-0.807	-5.163	13.77
236	57655.783	1724.637	Sag	60	0.146	57625.783	1726.186	57685.783	1723.671	-5.163	-3.221	30.90
237	57787.713	1720.388	Sag	60	0.151	57757.713	1721.354	57817.713	1720.027	-3.221	-1.203	29.73
238	57952.006	1718.412	Hog	60	-0.424	57922.006	1718.773	57982.006	1716.355	-1.203	-6.858	10.61
239	58432.158	1685.484	Sag	120	1.292	58372.158	1689.599	58492.158	1686.538	-6.858	1.756	13.93
240	58650.843	1689.324	Hog	100	-0.292	58600.843	1688.446	58700.843	1689.034	1.756	-0.580	42.81
241	58883.472	1687.975	Sag	80	0.187	58843.472	1688.207	58923.472	1688.490	-0.580	1.289	42.80
242	59148.878	1691.395	Hog	100	-0.194	59098.878	1690.751	59198.878	1691.263	1.289	-0.264	64.39
243	59435.432	1690.638	Sag	150	1.330	59360.432	1690.836	59510.432	1695.761	-0.264	6.831	21.14
244	60949.588	1794.069	Hog	60	-0.062	60919.588	1792.020	60979.588	1795.869	6.831	6.000	72.20
245	61049.588	1800.069	Sag	60	0.075	61019.588	1798.269	61079.588	1802.169	6.000	7.000	60.00
246	62285.762	1886.601	Hog	200	-0.971	62185.762	1879.601	62385.762	1889.715	7.000	3.114	51.47
247	62728.346	1891.586	Hog	60	-0.104	62698.346	1891.654	62758.346	1891.100	-0.226	-1.619	43.07
248	63091.739	1885.704	Sag	100	0.864	63041.739	1886.513	63141.739	1888.352	-1.619	5.297	14.46
249	63484.754	1906.520	Sag	100	0.178	63434.754	1903.872	63534.754	1909.881	5.297	6.723	70.13
250	63654.676	1917.943	Hog	100	-0.809	63604.676	1914.582	63704.676	1918.070	6.723	0.254	15.46
251	63792.597	1918.293	Sag	80	0.584	63752.597	1918.192	63832.597	1920.729	0.254	6.091	13.71
252	64033.648	1932.975	Hog	100	-1.342	63983.648	1929.930	64083.648	1930.651	6.091	-4.649	9.31
253	64158.542	1927.169	Sag	80	0.325	64118.542	1929.029	64198.542	1926.609	-4.649	-1.400	24.62
254	64296.002	1925.244	Sag	80	0.456	64256.002	1925.804	64336.002	1926.509	-1.400	3.162	17.54
255	64530.265	1932.651	Sag	100	0.478	64480.265	1931.070	64580.265	1936.144	3.162	6.988	26.14
256	65356.086	1978.925	Sag	100	0.498	65306.086	1977.417	65406.086	1982.425	3.016	7.000	25.10
257	65793.818	2009.566	Hog	100	-0.506	65743.818	2006.066	65843.818	2011.043	7.000	2.954	24.72
258	65993.415	2015.463	Sag	100	0.506	65943.415	2013.986	66043.415	2018.963	2.954	7.000	24.72
259	66503.880	2051.195	Hog	100	-1.750	66453.880	2047.695	66553.880	2047.695	7.000	-7.000	7.14
260	68598.923	1904.542	Sag	100	0.171	68548.923	1908.042	68648.923	1901.726	-7.000	-5.632	73.10
261	70162.716	1816.467	Hog	100	-0.171	70112.716	1819.283	70212.716	1812.967	-5.632	-7.000	73.10
262	71311.113	1736.079	Sag	100	0.583	71261.113	1739.579	71361.113	1734.912	-7.000	-2.334	21.43
263	72071.694	1718.325	Hog	100	-0.583	72021.694	1719.492	72121.694	1714.825	-2.334	-7.000	21.43
264	72580.644	1682.699	Sag	100	0.230	72530.644	1686.199	72630.644	1680.120	-7.000	-5.158	54.29
265	73143.275	1653.678	Sag	100	0.406	73093.275	1656.257	73193.275	1652.721	-5.158	-1.914	30.83
266	73330.658	1650.092	Hog	100	-0.636	73280.658	1651.049	73380.658	1646.592	-1.914	-7.000	19.66
267	73846.181	1614.005	Sag	150	2.173	73771.181	1619.255	73921.181	1617.448	-7.000	4.590	12.94
268	74652.986	1651.039	Hog	250	-3.622	74527.986	1645.301	74777.986	1642.289	4.590	-7.000	21.57
269	75506.686	1591.280	Sag	100	1.750	75456.686	1594.780	75556.686	1594.780	-7.000	7.000	7.14
270	75958.000	1622.872	Hog	60	-0.525	75928.000	1620.772	75988.000	1622.872	7.000	0.000	8.57

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	VERTICAL ALIGNMENT REPORT	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bldg, Kolkata - 700092
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CURVE DETAIL REPORT

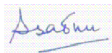
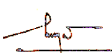
CURVE DETAILS												
HIP NO.	CHAINAGE (m)			HIP COORDINATES		RADIUS (m)	DEFLECTION	Ls (M)	Lc (M)	e (%)	HAND OF ARC	DESIGN SPEED (m)
	PC/SC	HIP/PI	PT/CS	NORTHING	EASTING							
513	56+830.222	56+835.338	56+835.440	2824122.741	595616.544	20	14°56'50.46"	20	5.218	7	Left	20
514	56+892.708	56+900.380	56+906.497	2824176.013	595571.049	50	15°48'04.73"	20	13.789	7	Right	30
515	57+024.977	57+048.760	57+070.563	2824325.876	595566.397	100	26°07'06.95"	15	45.586	4	Left	30
516	57+169.648	57+181.367	57+192.472	2824434.077	595486.359	200	6°32'19.15"	40	22.824	5.6	Right	50
517	57+342.496	57+377.669	57+411.563	2824620.825	595423.899	200	19°47'10.27"	15	69.067	3.6	Left	40
518	57+525.745	57+574.347	57+620.114	2824766.595	595289.967	200	27°02'05.60"	15	94.37	3.6	Left	40
519	57+853.865	57+901.332	57+948.019	2824858.012	594973.068	300	17°58'55.50"	--NA--	94.154	Normal Camber	Right	40
520	58+024.573	58+119.051	58+180.580	2824980.428	594792.081	125	71°30'30.29"	15	156.007	5.7	Left	40
521	58+246.944	58+255.186	58+263.302	2824862.315	594671.09	150	6°14'53.80"	15	16.358	4.7	Right	40
522	58+380.816	58+387.853	58+394.010	2824791.293	594558.884	80	9°26'57.56"	25	13.194	7	Left	40
523	58+443.674	58+464.839	58+462.991	2824724.072	594519.583	20	55°20'23.20"	20	19.317	7	Right	20
524	58+559.302	58+615.387	58+667.402	2824862.591	594415.008	200	30°58'05.75"	15	108.1	3.6	Left	40
525	58+732.993	58+751.290	58+768.844	2824905.108	594281.65	125	16°25'58.80"	15	35.851	5.7	Left	40
526	58+858.496	58+877.555	58+896.294	2824892.659	594155.254	200	10°49'42.03"	15	37.798	3.6	Right	40
527	58+972.347	58+990.709	59+008.774	2824911.388	594043.336	200	10°26'08.34"	15	36.427	3.6	Left	40
528	59+095.308	59+106.962	59+117.895	2824900.759	593927.272	100	12°56'28.54"	20	22.587	7	Right	40
529	59+211.110	59+218.410	59+222.078	2824937.589	593821.321	30	20°56'51.81"	20	10.968	7	Left	25
530	59+322.263	59+326.940	59+331.401	2824865.527	593735.371	80	6°32'40.77"	15	9.138	5	Left	30
531	59+390.523	59+398.472	59+406.007	2824805.174	593696.572	80	11°05'21.73"	15	15.484	5	Right	30
532	59+456.425	59+459.745	59+462.964	2824769.411	593646.309	100	3°44'48.94"	15	6.54	4	Left	30
533	59+533.703	59+538.759	59+542.793	2824710.827	593593.139	50	10°24'59.12"	20	9.09	7	Left	30
534	59+651.471	59+665.565	59+665.860	2824584.535	593573.381	20	41°13'13.46"	20	14.389	7	Right	20
535	59+748.607	59+775.881	59+777.032	2824621.667	593454.95	25	65°08'46.36"	20	28.425	7	Left	20
536	59+825.385	59+828.752	59+828.322	2824542.826	593459.876	20	8°24'55.12"	20	2.937	7	Right	20
537	59+954.794	59+970.814	59+985.630	2824474.656	593330.928	100	17°40'02.07"	20	30.835	7	Left	40
538	60+071.690	60+087.644	60+102.402	2824375.676	593266.625	100	17°35'47.21"	20	30.712	7	Left	40
539	60+175.973	60+184.711	60+192.965	2824277.647	593259.849	100	9°44'08.83"	20	16.992	7	Right	40
540	60+248.096	60+253.241	60+256.835	2824215.176	593230.52	30	16°41'25.84"	15	8.739	5.9	Left	20
541	60+377.183	60+382.124	60+386.191	2824092.756	593275.536	40	12°54'07.11"	15	9.007	4.4	Left	20
542	60+439.157	60+448.170	60+454.110	2824053.968	593330.069	30	28°33'24.55"	15	14.952	5.9	Right	20
543	60+548.248	60+559.321	60+566.254	2823939.865	593324.832	30	34°23'15.04"	15	18.005	5.9	Right	20
544	60+626.282	60+636.344	60+642.812	2823906.418	593250.882	30	31°34'08.41"	15	16.529	5.9	Left	20
545	60+769.843	60+773.184	60+774.641	2823766.617	593237.554	40	6°52'21.73"	25	4.798	7	Right	30
546	60+910.234	60+918.646	60+927.047	2823668.269	593127.833	200	4°48'59.69"	--NA--	16.813	Normal Camber	Right	30
547	61+065.836	61+070.919	61+073.563	2823576.507	593006.302	40	11°04'05.23"	25	7.727	7	Left	30
548	61+236.391	61+274.718	61+262.972	2823371.425	592984.504	20	76°08'56.82"	20	26.581	7	Right	20
549	61+378.720	61+392.221	61+400.095	2823498.874	592875.699	30	40°49'23.75"	15	21.375	5.9	Left	20
550	61+467.063	61+469.574	61+471.957	2823470.549	592797.703	80	3°30'17.27"	15	4.894	5	Left	30
551	61+571.937	61+576.957	61+581.674	2823410.109	592708.79	70	7°58'09.41"	15	9.736	5.7	Left	30
552	61+736.168	61+742.249	61+746.468	2823275.373	592612.52	30	19°40'17.76"	15	10.3	5.9	Left	20
553	61+790.850	61+798.637	61+804.843	2823218.563	592625.399	50	16°02'06.94"	20	13.993	7	Right	30
554	61+905.438	61+939.843	61+971.023	2823090.425	592562.401	120	31°18'52.37"	15	65.585	5.9	Left	40
555	62+012.720	62+015.583	62+017.967	2823013.272	592579.218	60	5°00'40.61"	20	5.248	6.7	Right	30

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	CURVE DETAIL REPORT	CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company 124-A, N.S.C. Bose Road, KOLKATA - 700 092	DWG NO CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/CDR								
					DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	PACKAGE-IIB		REVISION MKD. - R0	SHEET NO. - 01							
										DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY					
REVISIONS										 U. MALIK	 B.DAS	 S.SADHU	 B.KONER					

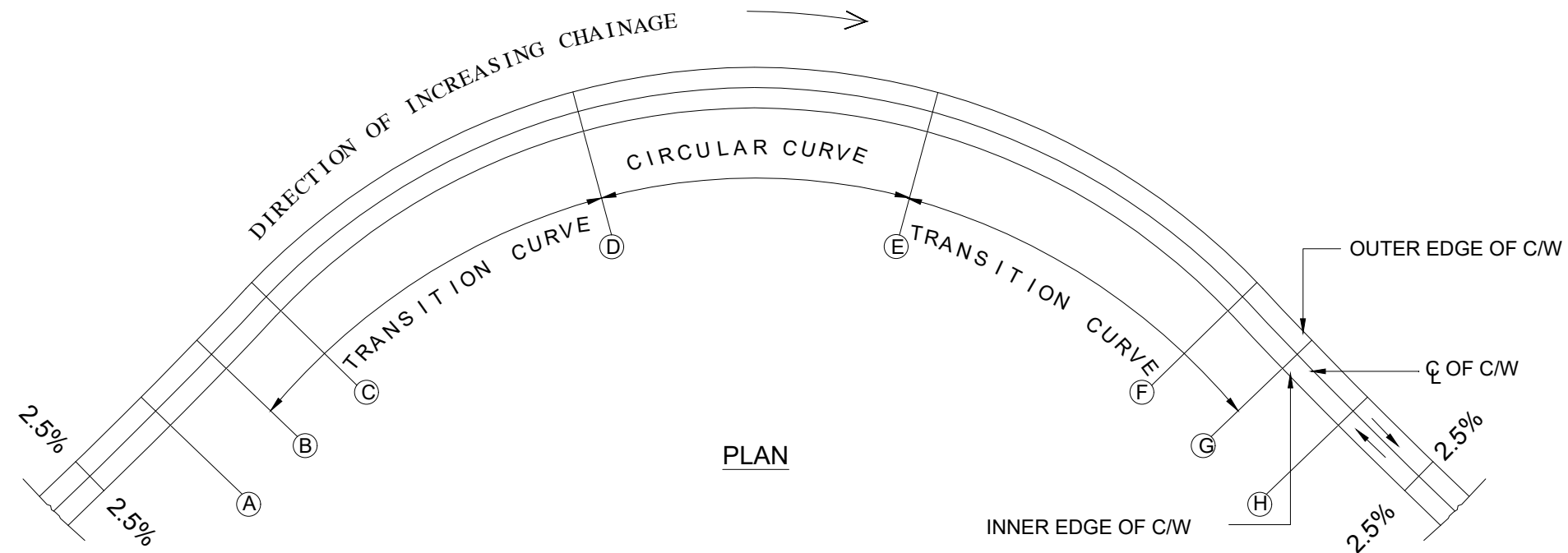
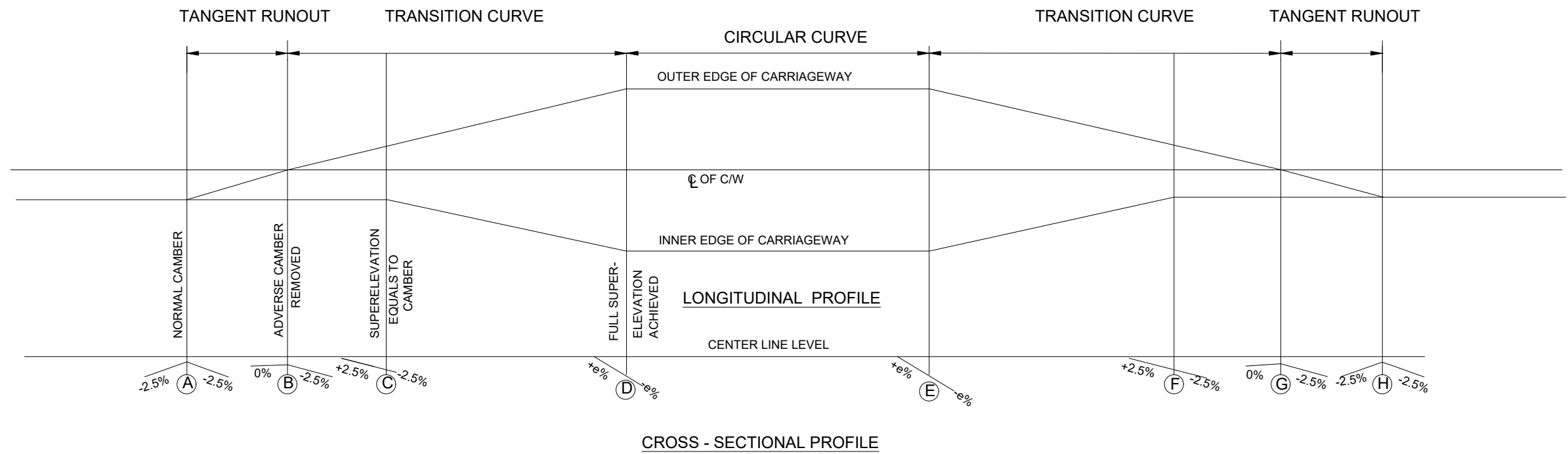
CURVE DETAILS												
HIP NO.	CHAINAGE (m)			HIP COORDINATES		RADIUS (m)	DEFLECTION	Ls (M)	Lc (M)	e (%)	HAND OF ARC	DESIGN SPEED (m)
	PC/SC	HIP/PI	PT/CS	NORTHING	EASTING							
556	62+074.671	62+080.513	62+086.240	2822949.248	592565.827	125	5°18'11.16"	15	11.57	5.7	Left	40
557	62+185.470	62+194.233	62+201.175	2822835.416	592566.552	50	17°59'49.59"	20	15.705	7	Left	30
558	62+254.892	62+259.496	62+261.823	2822785.003	592610.81	40	9°55'43.99"	25	6.932	7	Right	30
559	62+329.124	62+342.870	62+356.595	2822699.611	592604.152	300	5°14'47.69"	--NA--	27.471	Normal Camber	Right	40
560	62+432.202	62+485.629	62+538.427	2822558.876	592580.083	400	15°12'55.96"	--NA--	106.225	Normal Camber	Left	40
561	62+579.886	62+648.744	62+715.258	2822395.889	592595.807	300	25°51'14.49"	--NA--	135.371	Normal Camber	Left	40
562	62+785.505	62+867.703	62+819.458	2822206.924	592710.991	20	97°16'09.23"	20	33.953	7	Right	20
563	62+992.349	63+066.575	63+135.303	2822387.247	592435.434	250	32°45'45.23"	15	142.954	2.8	Left	40
564	63+291.735	63+303.355	63+314.367	2822374.567	592193.488	200	6°29'00.60"	40	22.632	5.6	Right	50
565	63+472.759	63+560.319	63+639.413	2822440.984	591944.626	250	38°11'39.36"	15	166.654	2.8	Left	40
566	63+679.904	63+699.712	63+717.757	2822374.573	591812.52	100	21°41'17.77"	20	37.853	7	Right	40
567	63+761.761	63+805.401	63+848.433	2822386.659	591705.751	300	16°33'11.45"	--NA--	86.672	Normal Camber	Left	40
568	63+890.577	63+899.727	63+900.212	2822370.019	591612.287	30	18°24'03.76"	30	9.635	7	Right	30
569	64+051.745	64+062.443	64+073.132	2822526.094	591541.494	300	4°05'04.64"	--NA--	21.387	Normal Camber	Left	40
570	64+096.814	64+106.066	64+114.798	2822564.445	591520.686	100	10°18'14.90"	20	17.984	7	Right	40
571	64+170.663	64+179.384	64+179.781	2822637.777	591512.046	30	17°24'49.00"	30	9.118	7	Left	30
572	64+274.783	64+284.936	64+295.082	2822654.748	591399.442	300	3°52'36.59"	--NA--	20.299	Normal Camber	Left	40
573	64+350.024	64+355.082	64+359.476	2822660.49	591329.524	80	6°46'11.93"	25	9.453	7	Right	40
574	64+417.049	64+429.627	64+440.486	2822697.375	591263.981	80	16°47'06.84"	25	23.437	7	Left	40
575	64+570.000	64+581.920	64+593.095	2822683.093	591110.632	100	13°13'57.58"	20	23.095	7	Right	40
576	64+814.661	64+830.275	64+835.461	2822765.715	590875.633	50	23°50'03.62"	40	20.799	7	Right	40
577	64+975.874	64+983.091	64+990.250	2822928.936	590872.903	200	4°07'05.55"	15	14.375	3.6	Left	40
578	65+128.886	65+220.468	65+199.774	2823163.202	590834.232	40	101°32'22.55"	25	70.888	7	Left	30
579	65+312.837	65+327.532	65+342.036	2822979.827	590713.883	200	8°21'53.05"	15	29.198	3.6	Right	40
580	65+452.120	65+473.913	65+486.791	2822877.898	590608.557	50	39°43'46.38"	25	34.671	7	Right	30
581	65+569.430	65+576.397	65+580.226	2822923.769	590507.04	40	15°27'52.07"	25	10.796	7	Right	30
582	65+620.356	65+632.650	65+644.912	2822981.292	590492.261	200	7°02'05.04"	--NA--	24.556	Normal Camber	Right	30
583	65+698.647	65+705.398	65+705.838	2823053.469	590482.919	20	20°35'59.87"	20	7.191	7	Left	20
584	65+763.068	65+765.266	65+766.874	2823058.926	590416.966	35	6°13'48.06"	15	3.806	5.1	Right	20
585	65+806.718	65+811.777	65+815.686	2823086.288	590378.628	35	14°40'47.42"	15	8.967	5.1	Left	20
586	65+863.940	65+868.051	65+870.434	2823082.562	590321.324	25	14°52'58.83"	15	6.494	7	Left	20
587	65+911.516	65+915.813	65+915.689	2823043.047	590291.527	20	11°57'17.34"	20	4.173	7	Right	20
588	65+956.672	65+960.043	65+961.256	2823056.678	590244.824	20	13°07'52.07"	15	4.584	7	Left	20
589	65+999.530	66+008.760	66+016.070	2823024.09	590205.756	40	23°41'35.18"	15	16.541	4.4	Right	20
590	66+091.604	66+097.173	66+101.054	2823032.506	590115.816	30	18°02'49.51"	15	9.449	5.9	Right	20
591	66+186.741	66+186.996	66+186.992	2823104.658	590059.528	40	0°21'33.13"	15	0.251	4.4	Left	20
592	66+214.150	66+224.963	66+235.646	2823123.885	590026.488	80	15°23'41.80"	--NA--	21.495	Normal Camber	Right	20
593	66+257.480	66+259.253	66+259.552	2823148.473	590002.402	20	5°56'09.80"	15	2.072	7	Left	20
594	66+320.387	66+322.558	66+323.945	2823144.725	589937.733	30	6°47'41.83"	15	3.558	5.9	Left	20
595	66+369.987	66+372.429	66+374.030	2823113.012	589898.234	30	7°43'22.74"	15	4.044	5.9	Right	20
596	66+449.057	66+455.521	66+456.008	2823109.513	589814.374	15	26°33'05.33"	15	6.951	7	Right	20
597	66+495.916	66+528.689	66+524.955	2823187.78	589802.619	20	83°11'23.90"	15	29.039	7	Left	20
598	66+574.170	66+579.521	66+584.248	2823126.342	589740.541	50	11°32'53.50"	15	10.078	3.6	Left	20
599	66+644.104	66+667.919	66+685.467	2823041.012	589715.169	60	39°29'58.53"	20	41.364	6.7	Right	30
600	66+754.671	66+767.609	66+780.497	2823013.87	589612.748	170	8°42'15.18"	--NA--	25.826	Normal Camber	Right	30
601	66+801.497	66+810.564	66+819.614	2823009.272	589569.989	170	6°06'21.92"	--NA--	18.117	Normal Camber	Left	30
602	66+890.144	66+898.420	66+903.962	2822990.636	589484.114	30	26°23'23.63"	15	13.818	5.9	Left	20
603	66+956.307	66+969.216	66+978.875	2822922.81	589455.717	40	32°19'35.07"	15	22.568	4.4	Left	20
604	67+024.099	67+031.186	67+038.249	2822866.962	589489.4	100	8°06'24.43"	--NA--	14.149	Normal Camber	Left	20
605	67+059.992	67+061.580	67+062.917	2822843.39	589508.625	50	3°21'05.36"	15	2.925	3.6	Right	20
606	67+090.680	67+095.787	67+100.885	2822810.744	589519.65	100	5°50'49.07"	--NA--	10.205	Normal Camber	Left	20
607	67+251.190	67+257.964	67+264.719	2822663.169	589586.928	100	7°45'05.67"	--NA--	13.529	Normal Camber	Left	20
608	67+282.350	67+297.143	67+311.723	2822630.02	589607.851	100	16°49'46.28"	--NA--	29.373	Normal Camber	Right	20
609	67+371.833	67+386.247	67+400.355	2822543.923	589631.615	80	20°25'39.39"	--NA--	28.522	Normal Camber	Left	20
610	67+424.620	67+426.841	67+428.762	2822510.775	589655.572	50	4°44'48.35"	15	4.142	3.6	Right	20
611	67+538.457	67+569.190	67+599.709	2822372.317	589689.894	300	11°41'54.20"	--NA--	61.253	Normal Camber	Right	40
612	67+657.653	67+687.971	67+718.215	2822253.412	589694.511	500	6°56'23.91"	--NA--	60.563	Normal Camber	Right	40
613	67+965.410	67+972.451	67+979.347	2821969.821	589671.114	125	6°23'18.27"	15	13.937	5.7	Right	40
614	68+086.467	68+089.349	68+092.190	2821858.494	589634.984	150	2°11'09.21"	15	5.723	4.7	Left	40
615	68+167.203	68+403.241	68+206.659	2821549.392	589580.12	20	113°01'51.23"	20	39.455	7	Right	20
616	68+247.412	68+261.968	68+276.210	2821840.733	589582.111	80	20°37'28.72"	--NA--	28.797	Normal Camber	Right	20
617	68+292.946	68+308.916	68+324.471	2821884.852	589599.061	80	22°34'40.76"	--NA--	31.525	Normal Camber	Left	20
618	68+381.582	68+393.137	68+404.682	2821969.457	589596.754	300	4°24'42.49"	--NA--	23.1	Normal Camber	Left	40
619	68+490.138	68+498.585	68+506.900	2822074.342	589585.779	150	6°24'08.47"	15	16.761	4.7	Right	40
620	68+621.981	68+640.163	68+656.839	2822215.234	589600.98	100	19°58'20.97"	20	34.859	7	Left	40
621	68+715.351	68+899.204	68+753.904	2822450.842	589489.743	20	110°26'44.39"	20	38.553	7	Left	20
622	68+852.791	68+855.195	68+854.122	2822173.023	589553.958	50	1°31'31.97"	40	1.331	7	Right	40
623	68+957.516	68+978.585	68+999.584	2822068.278	589482.379	300	8°02'03.98"	--NA--	42.068	Normal Camber	Left	40
624	69+088.427	69+096.413	69+102.835	2821962.597	589430.119	40	20°38'16.15"	15	14.408	4.4	Right	20

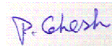
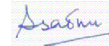
					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	CURVE DETAIL REPORT		CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company 124-A, N.S.C. Borewell Road, Kolkata - 700009 	DWG NO CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/CDR			
								SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			REVISION MKD. - R0		SHEET NO. - 02	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	PACKAGE-IIB		DRAWN BY		DESIGNED BY	CHECKED BY	ISSUED BY	
REVISIONS									 U. MALIK		 B.DAS	 S.SADHU	 B.KONER	

CURVE DETAILS												
HIP NO.	CHAINAGE (m)			HIP COORDINATES		RADIUS (m)	DEFLECTION	Ls (M)	Lc (M)	e (%)	HAND OF ARC	DESIGN SPEED (m)
	PC/SC	HIP/PI	PT/CS	NORTHING	EASTING							
625	69+171.805	69+337.236	69+209.912	2821873.512	589204.696	20	109°10'13.67"	20	38.108	7	Left	20
626	69+298.311	69+358.279	69+329.584	2821917.345	589515.418	20	89°35'24.07"	20	31.273	7	Right	20
627	69+391.697	69+405.926	69+420.033	2821827.66	589412.768	125	12°59'17.38"	--NA--	28.336	Normal Camber	Left	20
628	69+512.149	69+754.411	69+548.854	2821545.16	589208.512	19	110°41'06.21"	20	36.705	7	Left	20
629	69+614.075	69+847.343	69+650.670	2821928.384	589590.022	19	110°21'13.55"	20	36.595	7	Right	20
630	69+715.968	69+729.528	69+742.832	2821674.394	589408.608	80	19°14'22.54"	--NA--	26.864	Normal Camber	Right	20
631	69+810.060	69+832.908	69+842.367	2821614.62	589323.946	40	46°16'32.07"	25	32.306	7	Left	30
632	69+904.283	69+910.182	69+915.246	2821534.061	589365.542	60	10°28'06.24"	20	10.962	6.7	Right	30
633	69+999.276	70+005.800	70+009.555	2821437.684	589361.742	25	23°33'26.31"	15	10.279	7	Right	20
634	70+057.097	70+549.162	70+095.284	2821166.211	588887.864	19	115°09'25.32"	20	38.188	7	Right	20
635	70+149.446	70+166.569	70+166.144	2821483.99	589353.03	20	47°50'12.22"	20	16.698	7	Left	20
636	70+232.345	70+235.257	70+237.482	2821540.028	589287.483	50	5°53'14.51"	20	5.138	7	Right	30
637	70+289.179	70+293.557	70+295.731	2821595.22	589266.666	40	9°23'03.28"	25	6.551	7	Left	30
638	70+381.200	70+387.150	70+391.913	2821634.398	589179.246	50	12°16'36.22"	20	10.713	7	Right	30
639	70+427.389	70+440.190	70+452.942	2821681.043	589151.59	170	8°36'44.54"	--NA--	25.553	Normal Camber	Right	30
640	70+539.495	70+766.190	70+576.004	2821983.238	589029.173	19	110°05'45.10"	20	36.509	7	Left	20
641	70+628.596	70+641.893	70+654.949	2821697.544	589092.299	80	18°52'24.28"	--NA--	26.352	Normal Camber	Left	20
642	70+738.062	70+744.013	70+748.146	2821610.112	589145.527	30	19°15'28.19"	15	10.083	5.9	Right	20
643	70+813.074	70+937.404	70+849.757	2821423.013	589089.848	20	105°05'22.13"	20	36.683	7	Right	20
644	70+911.210	70+917.527	70+922.583	2821615.08	589086.354	50	13°01'56.58"	20	11.373	7	Left	30
645	70+988.693	70+991.060	70+991.814	2821674.819	589041.349	40	4°28'14.73"	25	3.121	7	Right	30
646	71+113.774	71+236.906	71+150.403	2821921.871	589055.542	20	104°56'00.85"	20	36.629	7	Left	20
647	71+208.858	71+213.372	71+217.752	2821748.199	588988.672	100	5°05'44.18"	15	8.894	4	Left	30
648	71+289.381	71+291.102	71+292.287	2821670.978	588978.685	50	3°19'48.82"	20	2.906	7	Left	30
649	71+387.827	71+393.113	71+397.648	2821573.946	589011.869	60	9°22'42.87"	20	9.821	6.7	Right	30
650	71+504.948	71+510.618	71+516.021	2821457.344	588992.153	80	7°55'49.35"	15	11.073	5	Left	30
651	71+577.836	71+735.986	71+615.741	2821234.534	589027.747	20	108°35'25.86"	20	37.905	7	Right	20
652	71+668.917	71+674.918	71+679.085	2821434.303	588942.167	30	19°25'11.31"	15	10.168	5.9	Right	20
653	71+757.504	71+960.054	71+807.353	2821694.645	589062.892	24	119°00'19.15"	20	49.849	7	Left	20
654	71+916.356	71+928.408	71+939.659	2821440.08	588863.1	80	16°41'22.54"	15	23.303	5	Right	30
655	72+003.439	72+010.645	72+016.401	2821405.722	588787.504	50	14°51'09.18"	20	12.961	7	Right	30
656	72+072.656	72+079.645	72+083.486	2821421.963	588718.953	40	15°30'45.57"	25	10.83	7	Right	30
657	72+164.428	72+267.048	72+197.488	2821594.169	588637.375	19	99°41'39.06"	20	33.06	7	Left	20
658	72+253.640	72+258.993	72+263.270	2821430.759	588652.688	50	11°02'04.35"	20	9.629	7	Left	30
659	72+341.884	72+348.037	72+352.962	2821361.027	588709.776	50	12°41'38.67"	20	11.078	7	Right	30
660	72+446.665	72+570.879	72+483.343	2821137.422	588724.212	20	105°04'28.44"	20	36.678	7	Right	20
661	72+541.344	72+559.582	72+577.207	2821324.153	588651.32	80	25°41'04.88"	--NA--	35.863	Normal Camber	Left	20
662	72+654.647	72+735.904	72+688.512	2821444.803	588521.9	20	97°00'57.09"	20	33.865	7	Left	20
663	72+743.726	72+756.525	72+769.109	2821305.749	588576.171	80	18°10'43.35"	--NA--	25.382	Normal Camber	Left	20
664	72+853.391	72+902.647	72+882.721	2821192.829	588669.251	20	84°01'33.46"	20	29.331	7	Right	20
665	73+003.235	73+074.196	73+099.253	2821242.152	588433.626	65	84°38'12.02"	20	96.017	6.2	Right	30
666	73+256.858	73+422.048	73+310.813	2821601.617	588594.341	30	103°02'48.03"	30	53.955	7	Left	30
667	73+536.460	73+559.129	73+563.046	2821302.899	588308.414	35	43°31'19.47"	30	26.586	7	Right	30
668	73+634.718	73+639.517	73+638.782	2821374.669	588240.018	30	7°45'41.05"	30	4.064	7	Left	30
669	73+698.158	73+707.980	73+715.698	2821350.971	588169.918	50	20°05'59.52"	20	17.54	7	Right	30
670	73+775.952	73+834.386	73+853.984	2821403.938	588052.83	55	81°17'23.67"	20	78.033	7	Right	30
671	73+891.894	73+897.269	73+902.318	2821485.742	588113.285	70	8°31'54.97"	15	10.424	5.7	Right	30
672	73+955.353	73+965.532	73+975.107	2821522.822	588170.988	80	14°08'52.21"	15	19.754	5	Right	30
673	74+018.937	74+027.646	74+034.547	2821531.371	588233.12	50	17°53'17.22"	20	15.61	7	Left	30
674	74+095.335	74+098.975	74+102.394	2821586.266	588281.447	70	5°46'38.81"	15	7.058	5.7	Right	30
675	74+149.406	74+155.034	74+158.033	2821614.903	588329.897	40	12°21'27.54"	25	8.627	7	Left	30
676	74+207.378	74+216.416	74+225.129	2821677.685	588342.381	100	10°10'13.47"	15	17.751	4	Right	30
677	74+274.716	74+279.477	74+278.727	2821732.572	588374.085	30	7°39'40.53"	30	4.011	7	Left	30
678	74+336.594	74+342.172	74+345.138	2821788.48	588335.017	40	12°14'20.80"	25	8.545	7	Right	30
679	74+469.704	74+476.030	74+479.469	2821921.397	588365.956	40	13°59'14.80"	25	9.765	7	Left	30
680	74+526.817	74+536.115	74+536.796	2821971.891	588328.327	20	28°35'12.24"	20	9.979	7	Right	20
681	74+614.250	74+632.615	74+633.459	2822040.593	588407.887	30	36°41'11.03"	30	19.209	7	Left	30
682	74+717.328	74+721.808	74+724.051	2822116.322	588332.701	40	9°37'46.50"	25	6.723	7	Left	30
683	74+781.513	74+785.394	74+788.691	2822116.055	588266.88	60	6°51'18.14"	20	7.179	6.7	Right	30
684	74+855.674	74+865.224	74+873.804	2822150.953	588194.433	90	11°32'30.07"	25	18.13	7	Left	40
685	74+980.729	75+004.607	75+023.786	2822146.7	588054.144	80	30°50'15.99"	25	43.058	7	Left	40
686	75+151.196	75+168.147	75+173.730	2822016.921	587947.084	50	25°49'18.49"	40	22.534	7	Right	40
687	75+247.727	75+263.590	75+277.054	2822055.51	587847.488	80	21°00'14.08"	25	29.327	7	Right	40

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	CURVE DETAIL REPORT		CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company 124-A, N.S.C. B-SECTOR, KOLKATA - 700082	DWG NO CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/CDR			
								SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		REVISION MKD. - R0		SHEET NO. - 03		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		PACKAGE-IIB						
REVISIONS										U. MALIK	B.DAS	S.SADHU	B.KONER	

MISCELLANEOUS DRAWINGS



					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	DETAILS OF CURVE COMPONENT	CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants 124-A, N.S.C. Bose Road Kolkata - 700092 	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC -1					
										REVISION MKD. - R0		SHEET NO. - 01			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
REVISIONS												 P. GHOSH	 B. DAS	 S.SADHU	 B. KONER

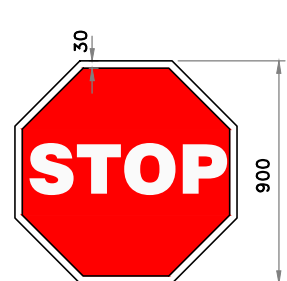


Fig. 14.01
STOP SIGNAL

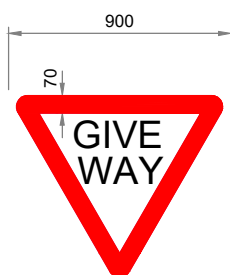


Fig. 14.02
GIVE WAY SIGN

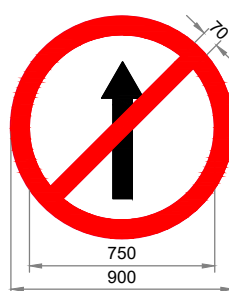


Fig. 14.19
NO ENTRY

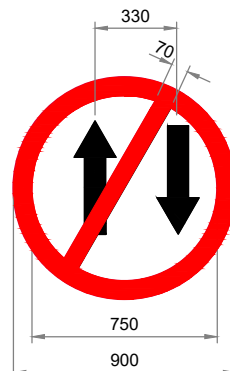


Fig. 14.20
ONE WAY SIGNS



Fig. 14.22
RIGHT TURN PROHIBITED



Fig. 14.21
LEFT TURN PROHIBITED

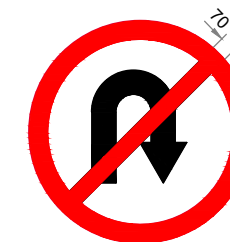


Fig. 14.24
U - TURN PROHIBITED

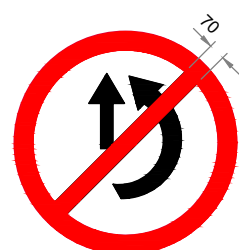


Fig. 14.23
OVERTAKING PROHIBITED



Fig. 14.18
HORN PROHIBITED

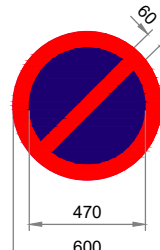


Fig. 14.29
NO PARKING

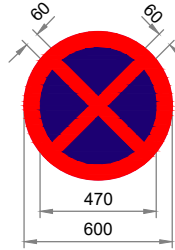


Fig. 14.28
NO STOPPING AND
NO STANDING



Fig. 14.37
SPEED LIMIT

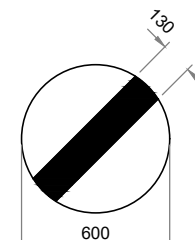


Fig. 14.40
RESTRICTION END



Fig. 14.48
COMPULSORY
KEEP LEFT

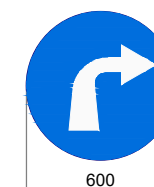


Fig. 14.46
COMPULSORY TURN
RIGHT AHEAD

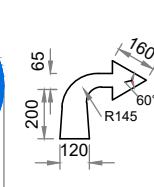


Fig. 14.47
COMPULSORY TURN
LEFT AHEAD

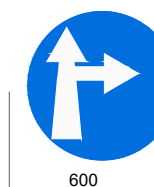


Fig. 14.42
COMPULSORY AHEAD
OR TURN RIGHT



Fig. 14.5
PASS EITHER
SIDE

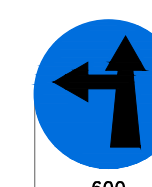


Fig. 14.43
COMPULSORY AHEAD
OR TURN LEFT

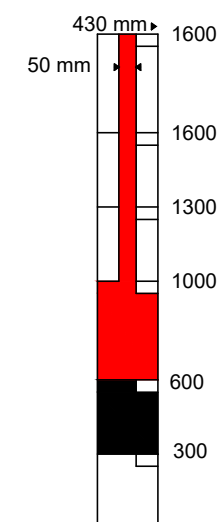


Fig. 18.10
FLOOD GAUGE

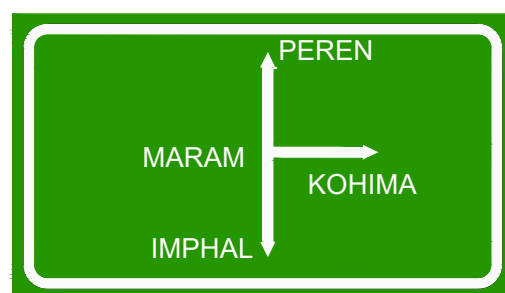


Fig. 16.03
ADVANCE DIRECTION SIGN

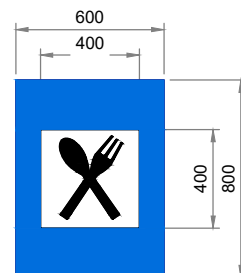


Fig. 17.01
EATING PLACE

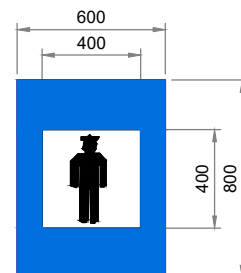


Fig. 17.13
POLICE STATION



Fig. 16.05
REASSURANCE SIGN



Fig. 16.06
PLACE IDENTIFICATION SIGN



Fig. 16.04
PLACE IDENTIFICATION SIGN

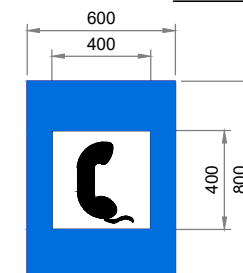


Fig. 17.08
PUBLIC TELEPHONE

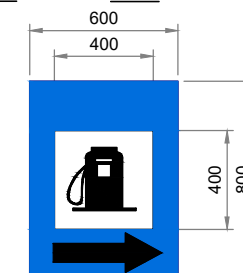


Fig. 17.06
FILLING STATION

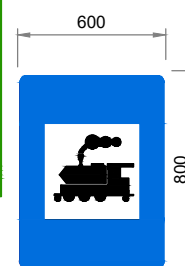


Fig. 17.16
RAILWAY STATION

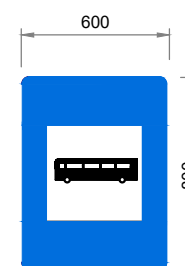


Fig. 17.35
BUS STOP

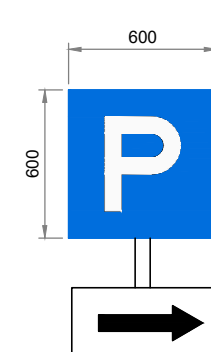


Fig. 18.01
PARKING THIS SIDE

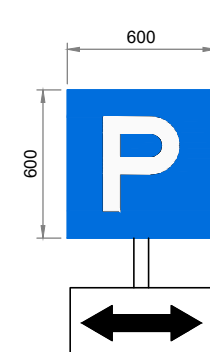


Fig. 14.01
PARKING BOTH SIDE

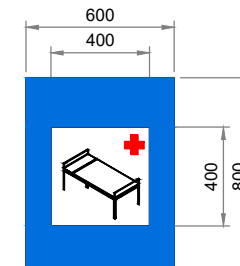


Fig. 17.07
HOSPITAL

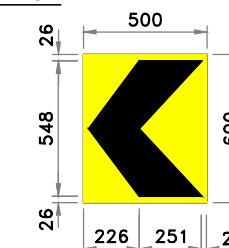


Fig. 15.72
SINGLE CHEVRON (NORMAL)

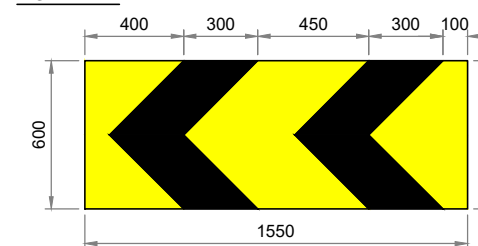
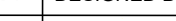


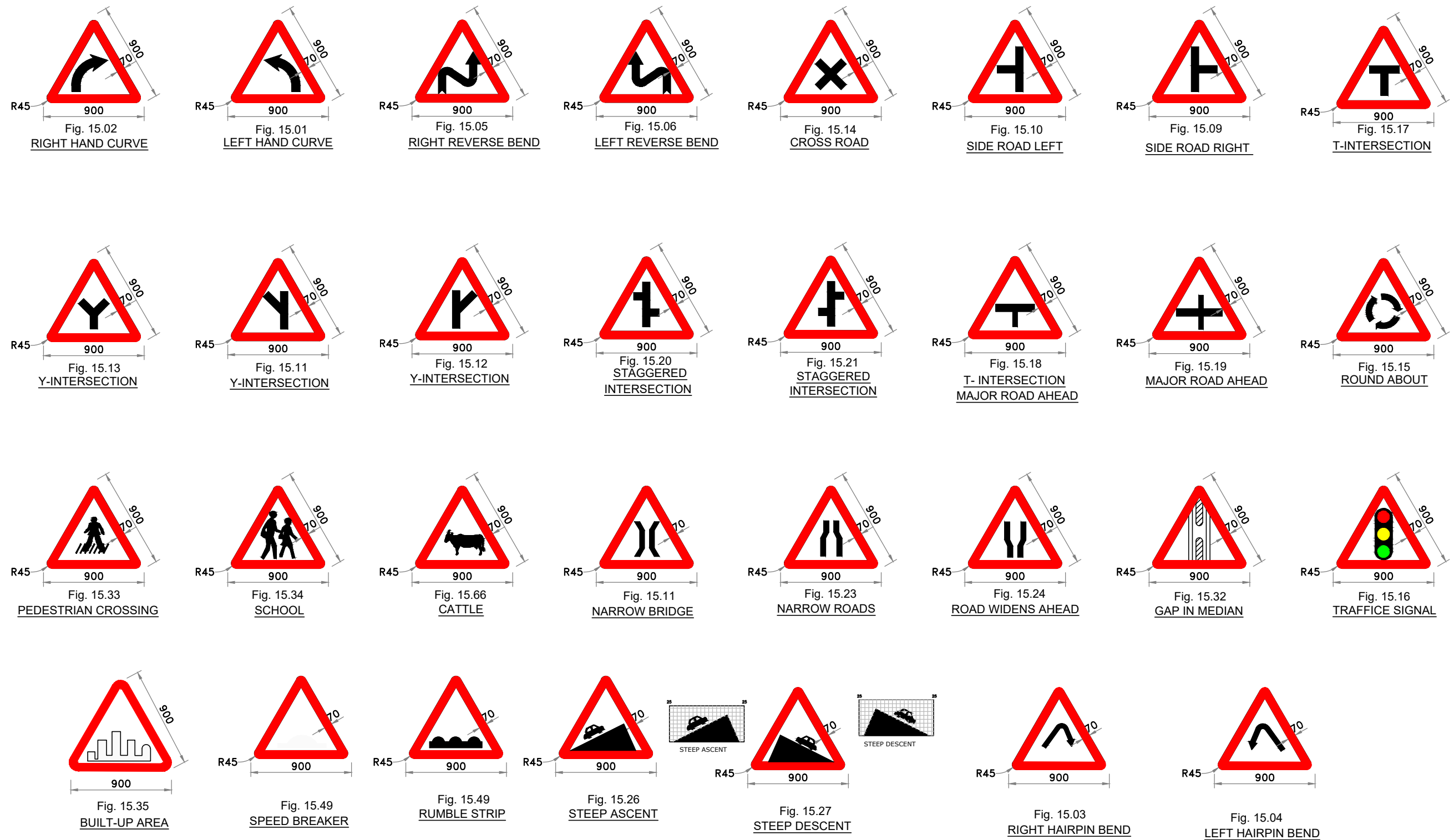
Fig. 15.74
DOUBLE CHEVRON



Fig. 20.02
NATIONAL HIGHWAY
ROUTE MARKER SIGN

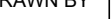
- NOTE:
1. ALL DIMENSIONS ARE IN MM UNLESS AND OTHERWISE SPECIFIED.
 2. FOR DETAILS OF ROAD SIGN REFER IRC: 67-2012.

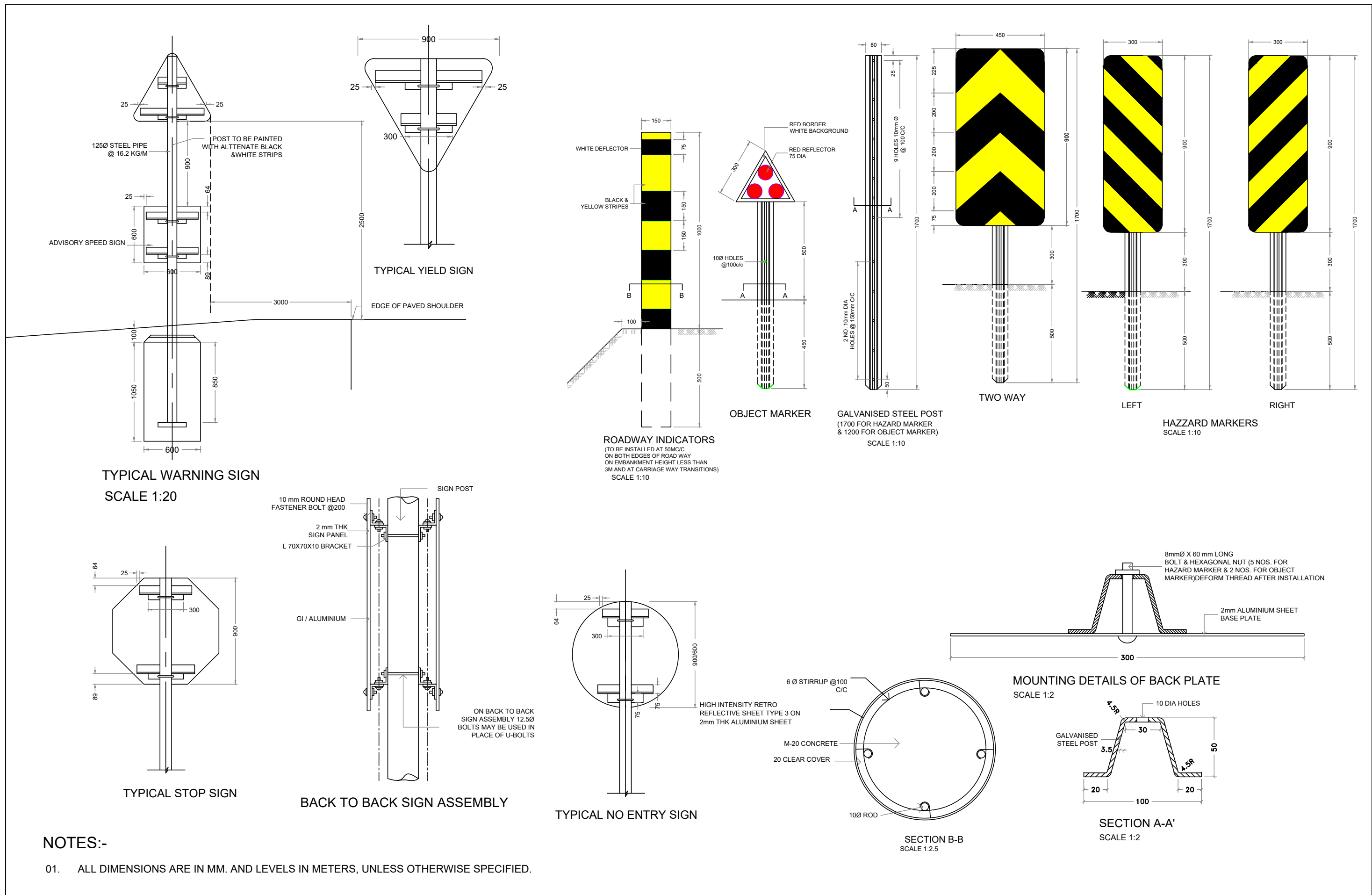
					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TYPICAL DETAILS OF ROAD SIGNS	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC-2			
					DATE: FEB 2020						REVISION MKD. - R0		SHEET NO. - 01 of 03	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MADE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	DRAWN BY					DESIGNED BY	CHECKED BY	ISSUED BY	
REVISIONS														



NOTE:

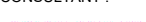
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED
2. FOR DETAILS OF ROAD SIGN REFER IRC-67:2012

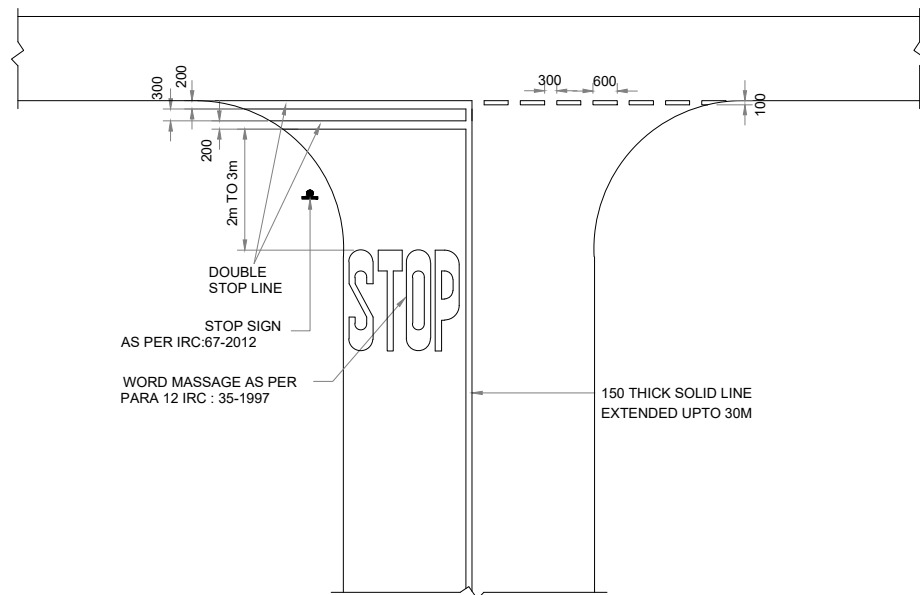
					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TYPICAL DETAILS OF ROAD SIGNS	CONSULTANT :  CE TESTING COMPANY PVT. LTD. Engineering Consultants 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC-2					
										REVISION MKD. - R0		SHEET NO. - 02 of 03			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB 2020					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	DRAWN BY  P. GHOSH	DESIGNED BY  B. DAS	CHECKED BY  S.SADHU	ISSUED BY  B. KONER
REVISIONS															



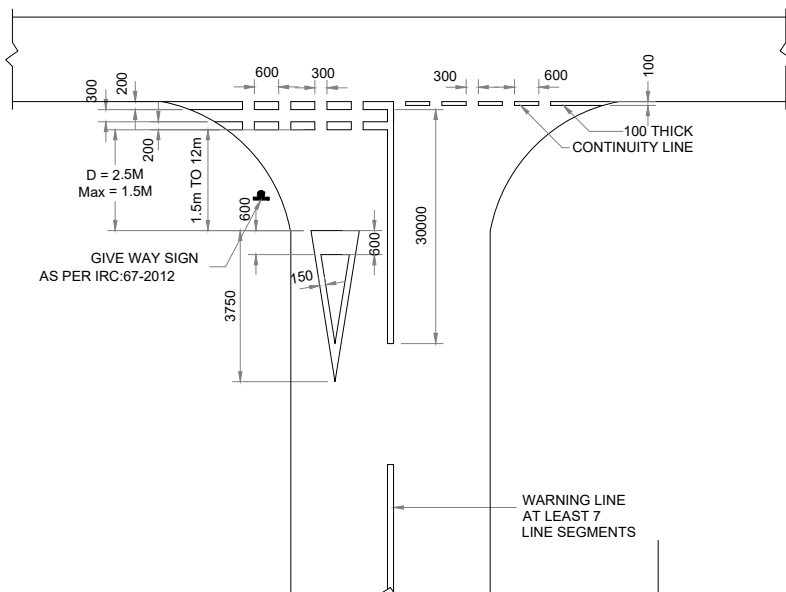
NOTES:-

- ALL DIMENSIONS ARE IN MM. AND LEVELS IN METERS, UNLESS OTHERWISE SPECIFIED.

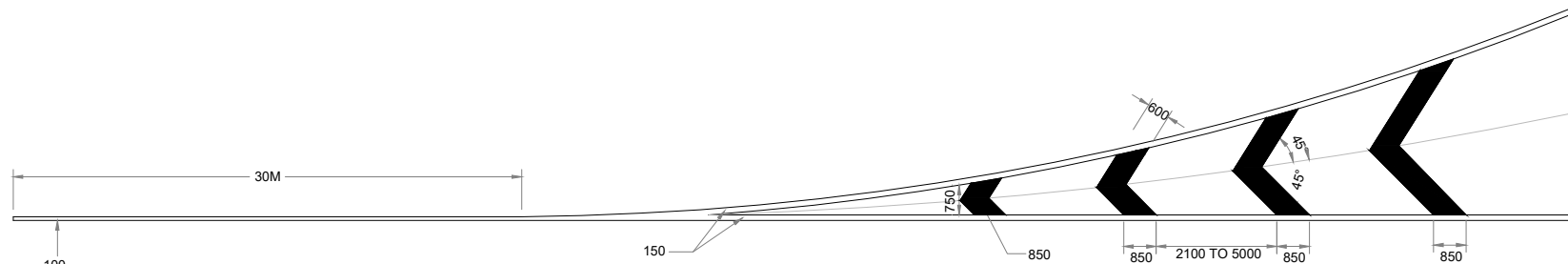
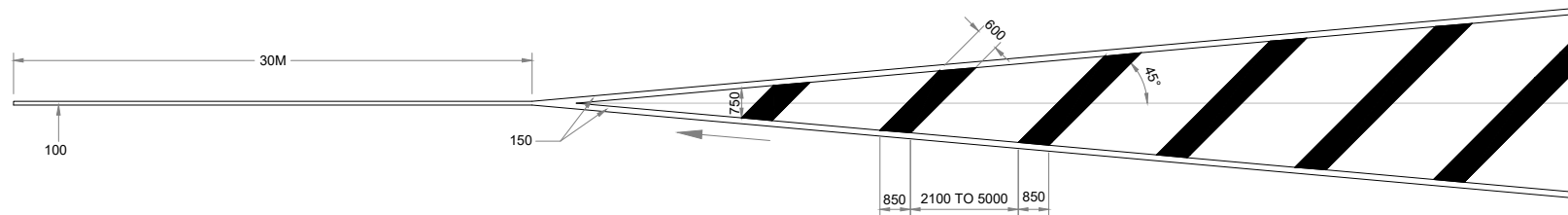
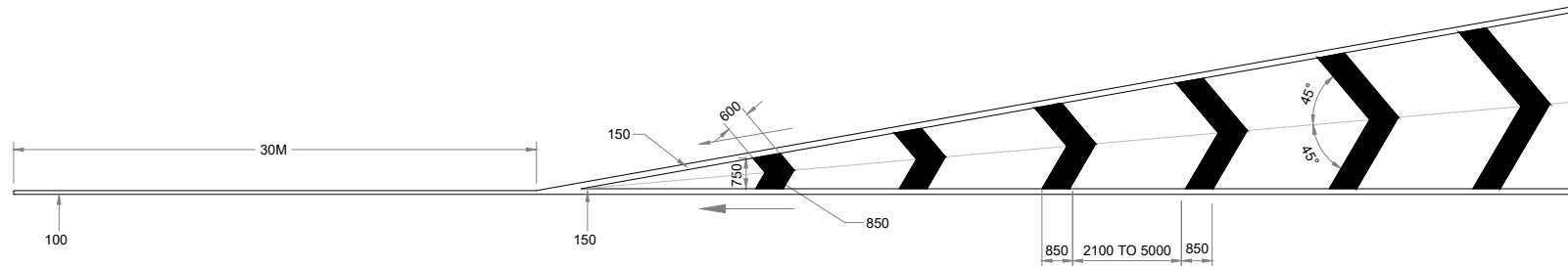
					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TYPICAL DETAILS OF ROAD SIGNS		CONSULTANT :  CETEST Engineering Consultants ANISO 9001, 14003 & OHSAS 18001 Certified company	 CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC-2			
												REVISION MKD. - R0		SHEET NO. - 03	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT							
REVISIONS															



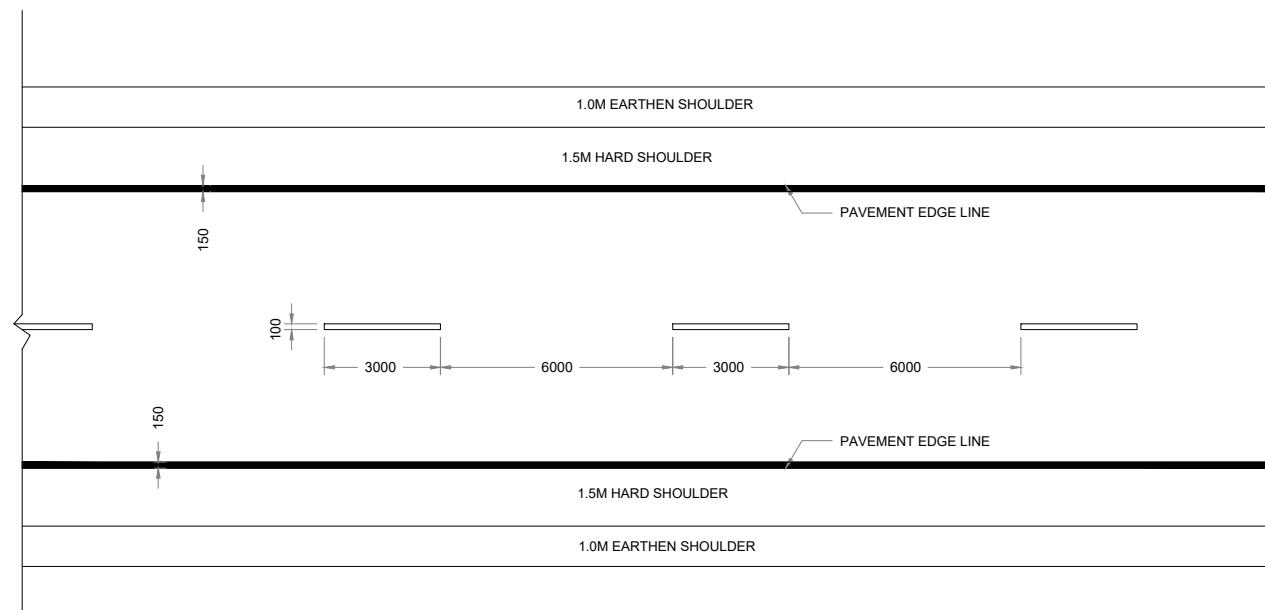
STOP LINES



GIVEWAY MARKING



DETAILS OF DIAGONAL AND CHEVRON MARKINGS

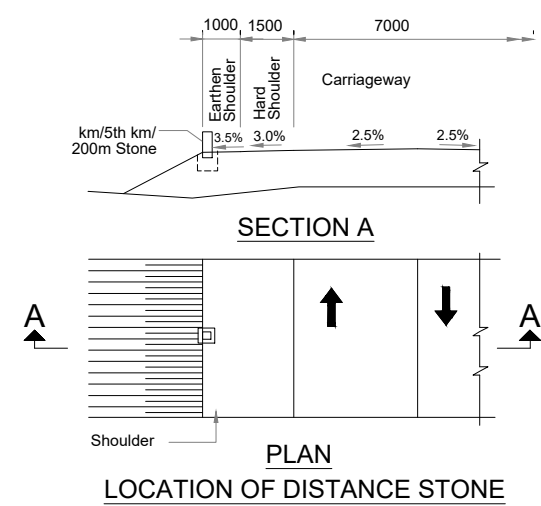
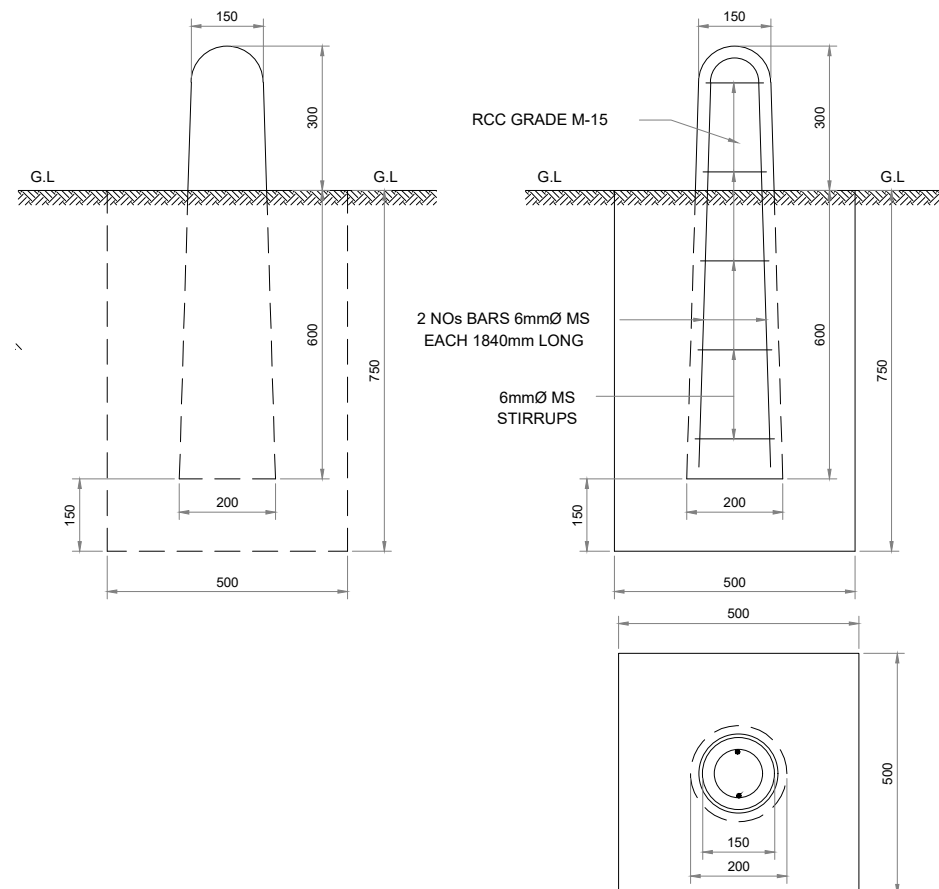
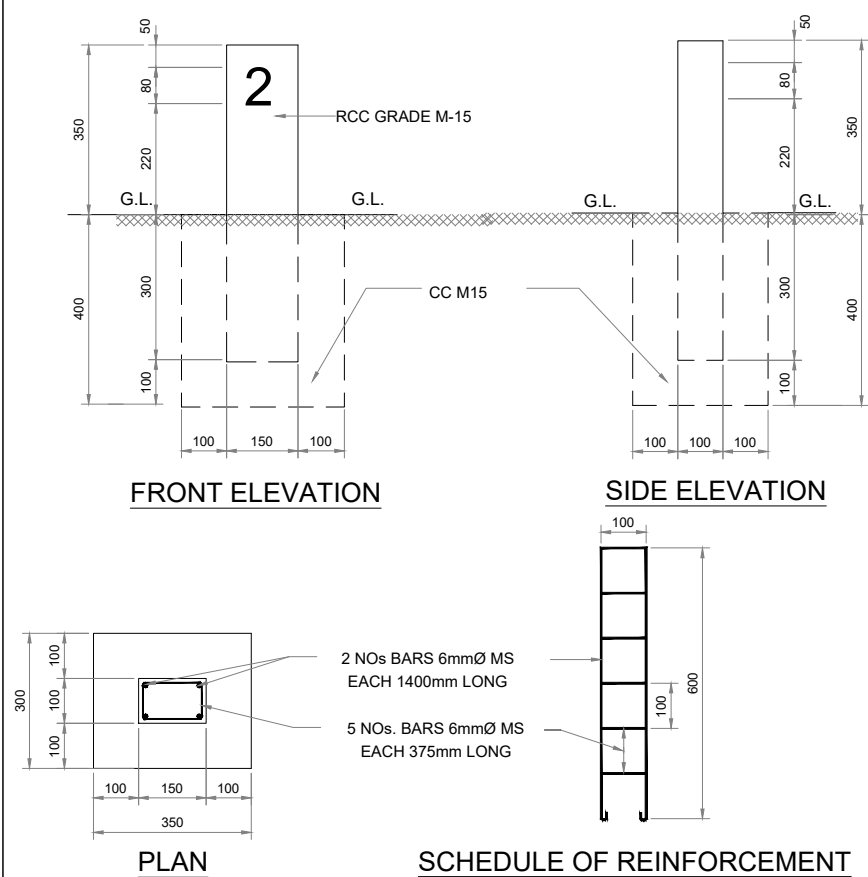
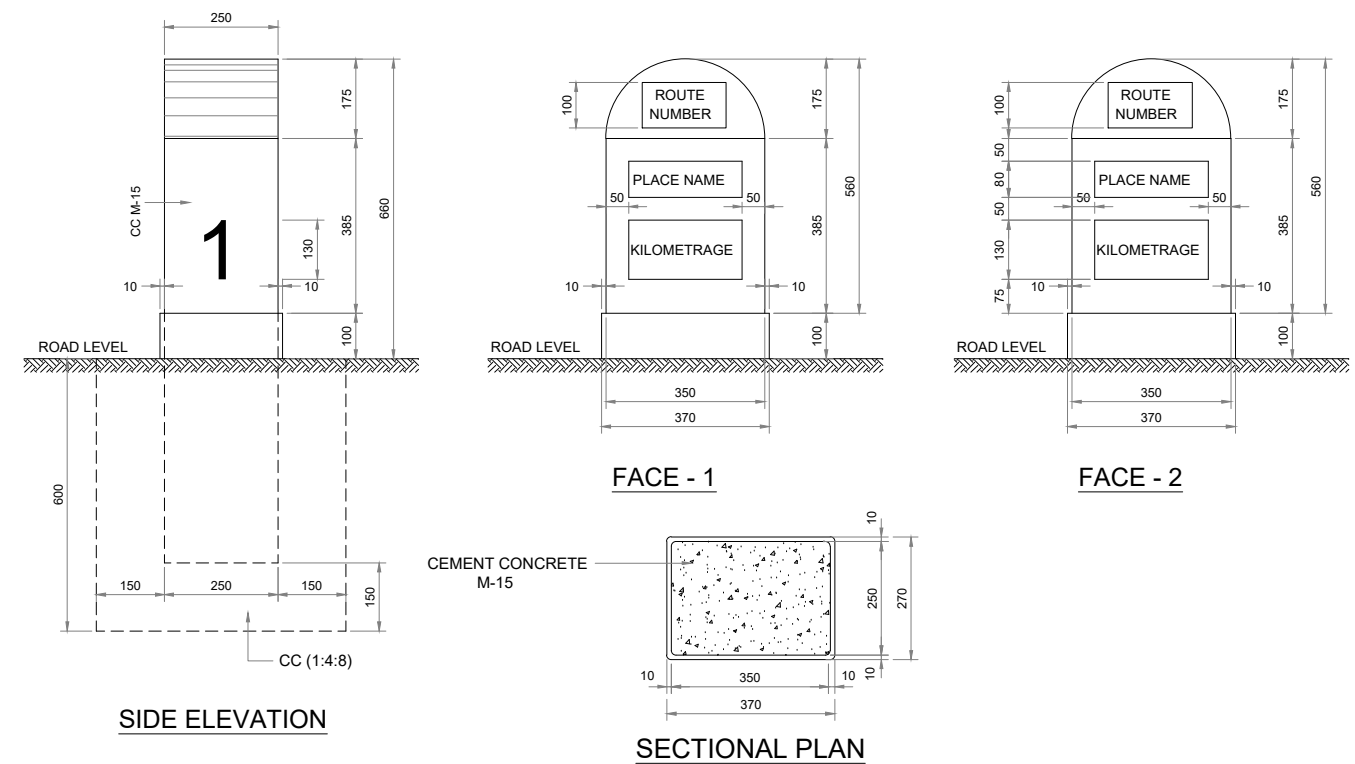
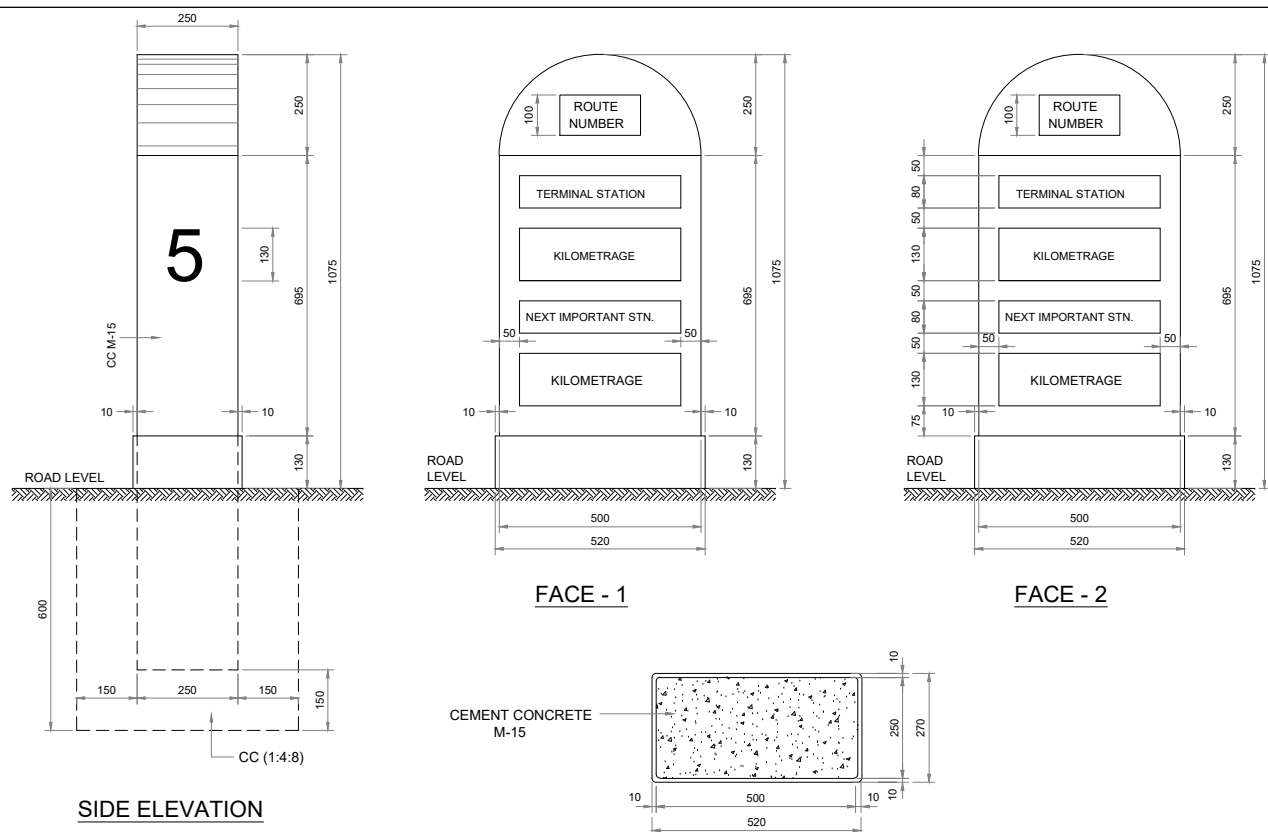


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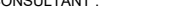
- 1: ALL DIMENSIONS ARE IN MM.
- 2: ALL DIMENSIONS SHOULD FOLLOW RELEVANT IRC CODE NO. IRC :35-1997

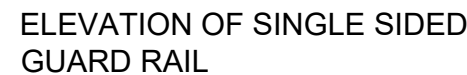
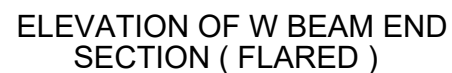
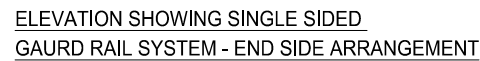
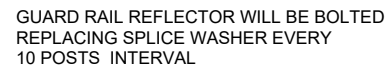
					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PAVEMENT MARKING	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC-3			
										REVISION MKD. - R0	SHEET NO. - 01 of 02		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.						DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
REVISIONS													
					DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)		SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT					

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	PAVEMENT MARKING	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092 	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC-3 REVISION MKD. - R0 SHEET NO. - 02 of 02			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB 2020					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	DRAWN BY  P. GHOSH	DESIGNED BY  B. DAS

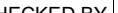


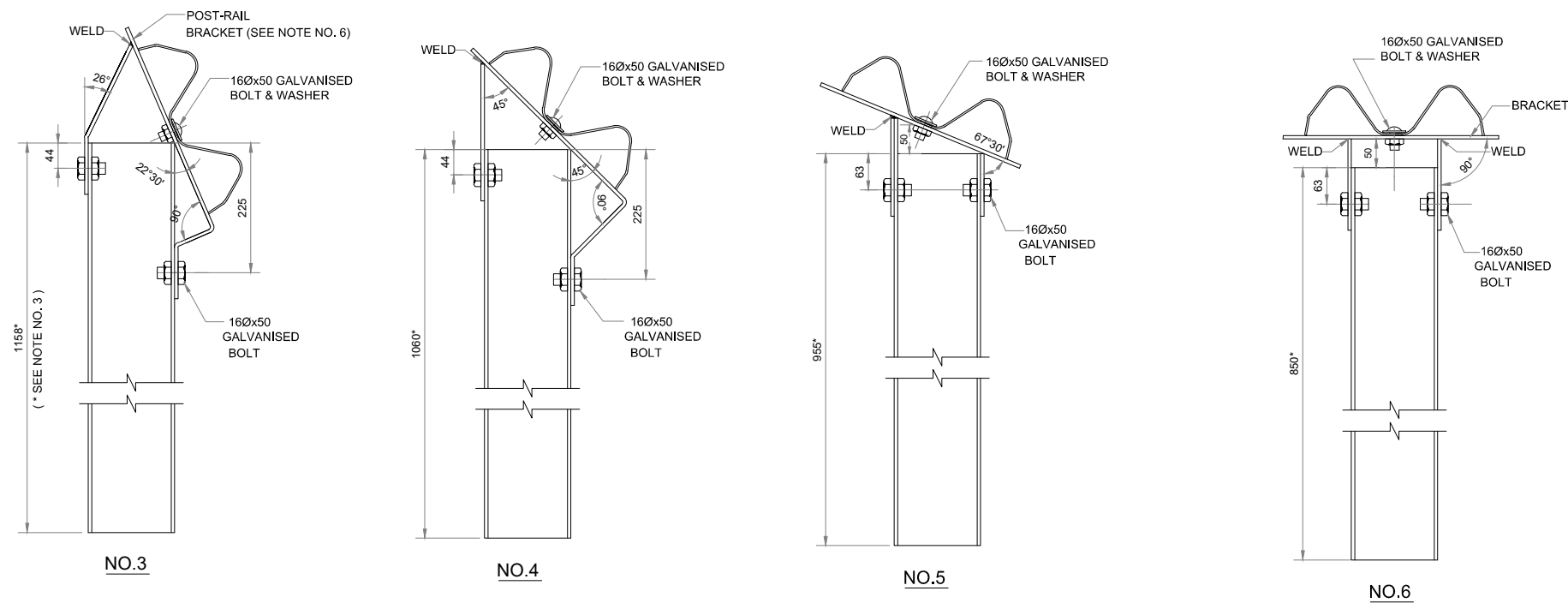
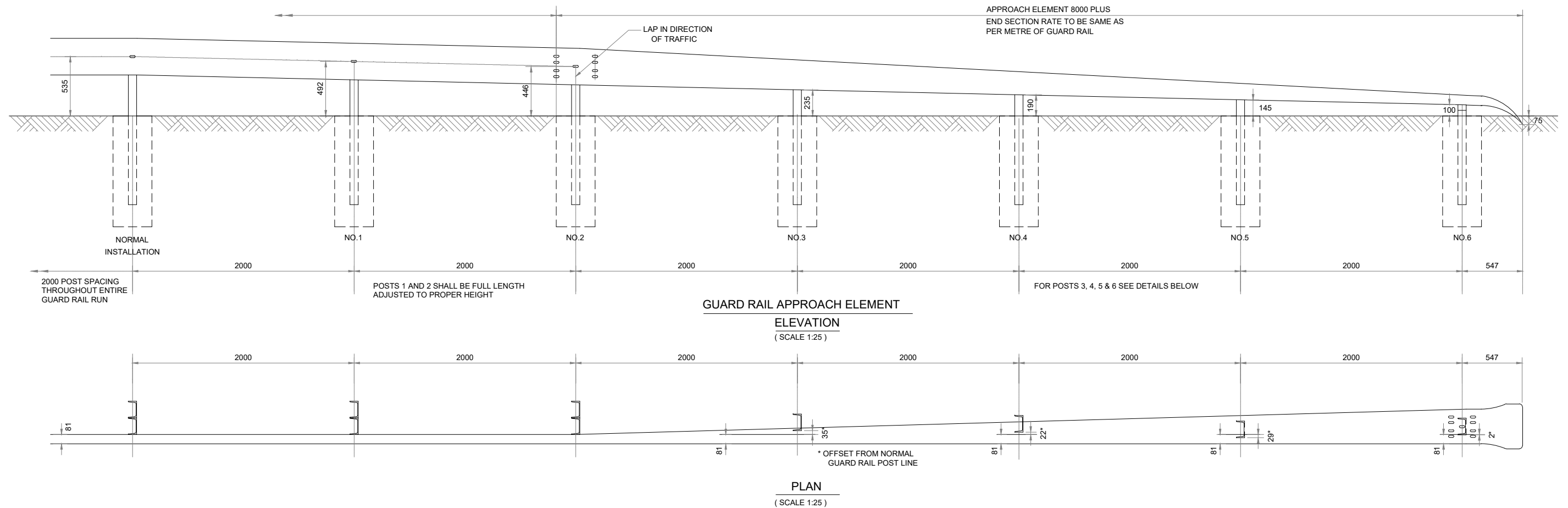
- Notes:
1. Details of kilometre stones and 5th kilometre stones are generally based on IRC:8-1980
 2. Details of 200m stones are generally based on IRC:26-1967.
 3. The distance stones shall be provided on left side of the road as shown independently for each direction of traffic flow.
 4. The letters and numerals on distance stones shall be as per IRC:8-1980.
 5. Details of boundary stones are generally based on IRC:25-1967.
 6. Reinforcement - Mild steel bars conforming to I.S.432/1966 Grade 1 tested steel
 7. CONCRETE MIX -
RCC : GRADE M-15
CC :- 1:4:8
 8. All dimensions are in millimetres unless otherwise mentioned.

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	DETAILS OF KM STONE, 5TH KM STONE, 200 M STONE, BOUNDARY STONE	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC-4			
										SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	REVISION MKD. - R0	SHEET NO. - 01	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB , 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)							
REVISIONS										P. GHOSH	B. DAS	S.SADHU	B. KONER



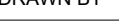
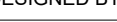
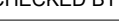
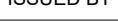
01. ALL DIMENSIONS ARE IN mm UNLESS NOTED OTHERWISE.
02. ALL PUNCHING DIMENSIONS UNLESS OTHERWISE STATED = $\pm 1\text{mm}$.
03. WELDING ELECTRODES SHALL CONFORM TO IS:314.
04. FOR GUARD RAIL BEAMS, POSTS & SPACER MATERIAL SHALL CONFORM TO IS:10748, GRADE-II. IS 808, IS 2062
05. BOLTS,NUTS & WASHERS SHALL BE ELECTRO GALVANISED.
06. GUARD RAIL, POSTS, SPACERS, FOUNDATION BOLTS SHALL BE HOT DIP GALVANISED.
07. THE OVER LAPPING OF THE GAURD RAIL BEAM SHALL BE ACHIEVED USING SUITABLE SIZE WASHERS.
08. GUARD RAILS ARE TO BE PROVIDED WHEREVER:-
 - a) HEIGHT OF THE EMBANKMENT IS MORE THAN 3M
 - b) OUTER SIDE OF SUPERELEVATED SECTION, UNDERPASS,PIER OBSTRUCTION AND BOTH SIDES OF BRIDGE APPROACHES.
09. ALL FITTINGS TO CONFORM TO IS : 1367 AND IS : 1364
10. W-BEAM GUARDRAIL ARE TO BE FABRICATED AND INSTALLED AS PER SECTION 810 OF MORT&H'S SPECIFICATION FOR METAL BEAM CRASH BARRIER.

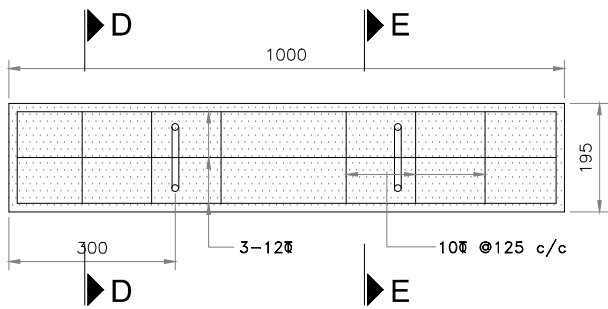
					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	DETAILS OF W-BEAM METAL CRASH BARRIER	CONSULTANT :  Engineering Consultants AN ISO 9001, 14001 & OHSAS 18001 Certified Company	CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092 	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC-5			
											REVISION MKD. - R0		SHEET NO. - 01 of 02	
						PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	DRAWN BY  P. GHOSH	DESIGNED BY  B. DAS	CHECKED BY  S.SADHU	ISSUED BY  B. KONER			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.										
REVISIONS														



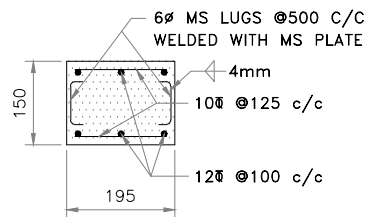
NOTES :

1. THE APPROACH ELEMENT SHALL BE TWISTED TO HORIZONTAL AND SECURED TO THE POSTS, AS SHOWN, WITH THE END SECTION TIP BURIED.
2. PLACE DELINEATOR POST ADJACENT TO THE BEGINNING OF THE APPROACH ELEMENT.
3. THE HEIGHT OF POST NOS. 3,4,5 & 6. IS INDICATIVE ONLY. THIS SHALL BE ADJUSTED TO PRODUCE A STRAIGHT LINE AT THE CENTRE OF RAIL.
4. THE APPROACH END ELEMENT SHALL BE TANGENT TO THE NORMAL GUARD RAIL LINE.
5. FOR POST, RAIL & TRAILING END ELEMENT DETAILS SEE SEPARATE DRAWING.
6. THE POST-RAIL BRACKET SHALL BE 178 MM WIDE AND HAVE A 25 MM OVERHANG ON EACH SIDE OF THE GUARD RAIL.
7. MANUFACTURERS ARE TO VERIFY DIMENSIONS BEFORE INSTALLATION AND MAKE ADJUSTMENTS, IF NECESSARY, WITH APPROVAL OF ENGINEERS.

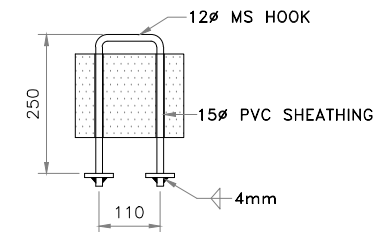
					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	DETAILS OF W-BEAM METAL CRASH BARRIER	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC-5						
										REVISION MKD. - R0	SHEET NO. - 02 of 02					
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		DRAWN BY  P. GHOSH	DESIGNED BY  B. DAS	CHECKED BY  S.SADHU	ISSUED BY  B. KONER
REVISIONS																



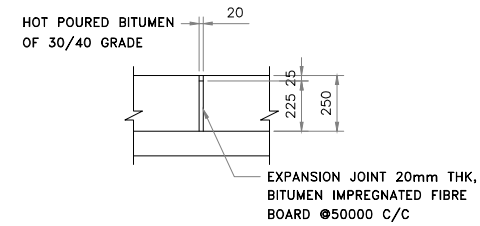
SECTIONAL PLAN OF PRECAST SLAB
Scale 1:10



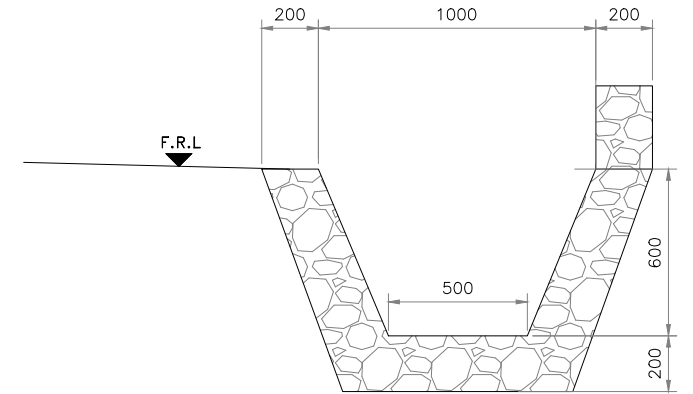
SECTION D-D
Scale 1:10



SECTION E-E
Scale 1:10

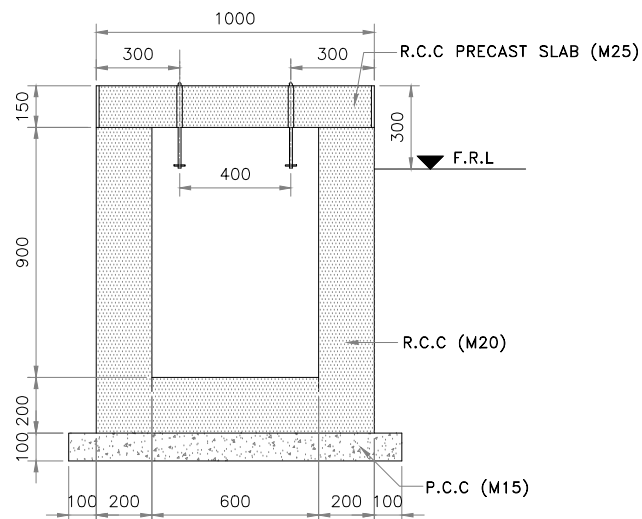


DETAIL OF EXP. JOINT
Scale 1:25

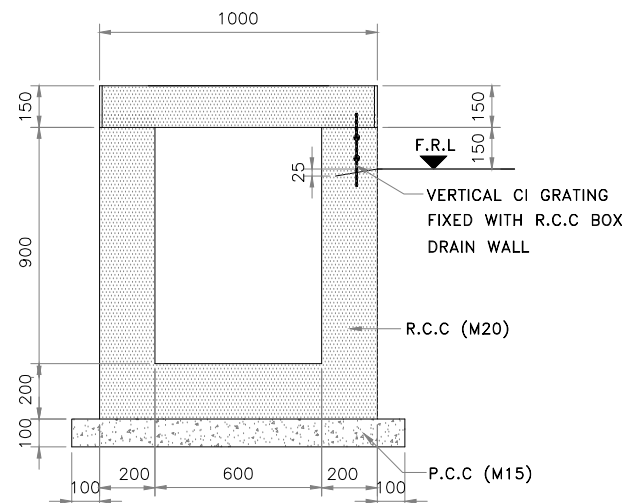


TYPICAL DETAILS OF RR
MASONRY TRAPEZOIDAL DRAIN

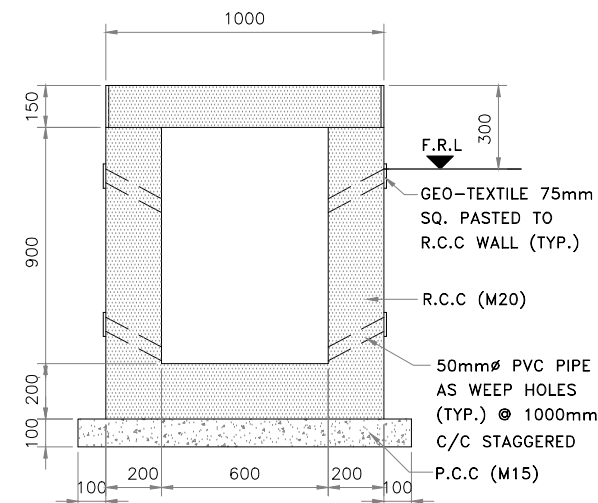
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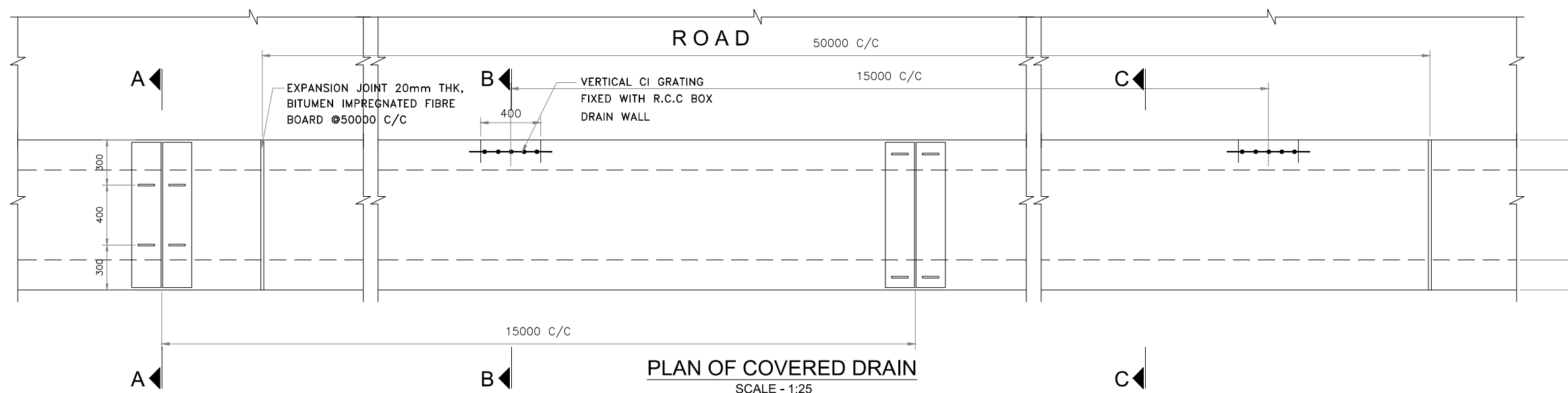
SECTION A-A
Scale 1:20



SECTION B-B
Scale 1:20



SECTION C-C
Scale 1:20



PLAN OF COVERED DRAIN
SCALE - 1:25

Notes:

1. All dimensions are in millimetres unless otherwise mentioned
2. Bearing capacity of soil is assumed as 10T/M²
3. Catch pits have been proposed at suitable location / intervals
4. All fillet welds shall be 4mm.thick.
6. Temporary opening on outer wall of catch pit have been proposed till land is developed in plot areas
7. These openings to be closed after land is developed by Vendors.

Scale :-
N.T.S



CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD.
PTI Building, 3rd Floor, 4, Parliament Street,
New Delhi - 110001

PROJECT:
CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF
DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE
OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION
MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)

TYPICAL DETAILS OF DRAIN

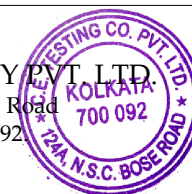
SUBMISSION TYPE :
FINAL DETAILED PROJECT REPORT

PACKAGE - IIB

CONSULTANT :

CETEST
Engineering Consultants
An ISO 9001, 14001 & OHSAS 18001
Certified Company

CE TESTING COMPANY PVT. LTD.
124-A, N.S.C. Bose Road
Kolkata - 700092



DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PK-IIB/MISC-7

REVISION MKD. - R0

SHEET NO. - 01 of 02

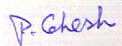
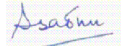
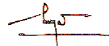
DRAWN BY DESIGNED BY CHECKED BY ISSUED BY

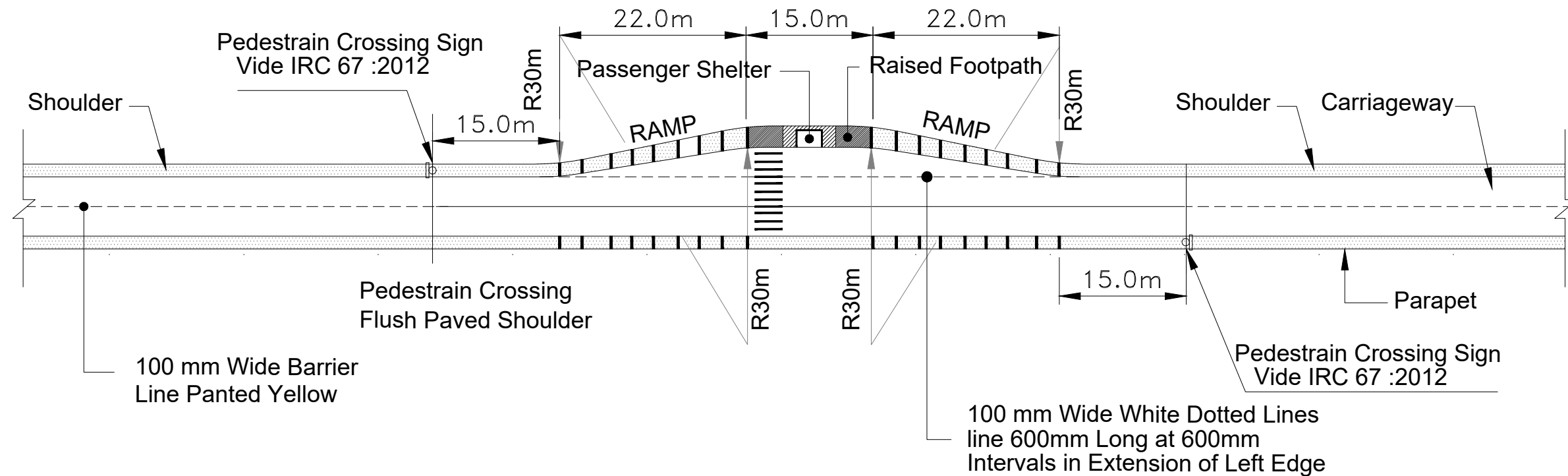
P. GHOSH B. DAS S.SADHU B. KONER

LOCATION OF RR Masonary			
Trapezoidal Drain			
Chainage		Net Length	Side
From	To		
PACKAGE - IIB			
56840	56975	113	Single Side
56975	57225	247	Single Side
57225	57375	150	Single Side
57525	57575	50	Single Side
57575	57675	100	Single Side
57675	57725	50	Single Side
57725	57925	197	Single Side
57925	57975	50	Both Side
57975	58175	197	Single Side
58175	58225	50	Single Side
58225	58275	50	Single Side
58275	58525	247	Single Side
58525	58775	247	Single Side
60075	60225	150	Single Side
60225	60325	97	Single Side
60575	60675	100	Both Side
60675	60775	100	Single Side
60775	61025	247	Single Side
61025	62275	1250	Both Side
62275	62675	397	Single Side
62675	63325	642	Single Side
63325	63525	200	Single Side
63525	63625	100	Single Side
63625	63675	50	Single Side
63675	63875	197	Single Side
63875	64875	978	Single Side
64925	65175	247	Single Side
65175	65275	97	Single Side
65275	65525	247	Single Side
65525	65925	397	Single Side
65925	66075	147	Single Side
66075	66225	150	Single Side
66275	66525	247	Single Side
66525	66675	150	Single Side
66775	67525	750	Single Side
67525	67975	450	Both Side
68375	68425	50	Single Side
68425	68525	100	Single Side
68525	69525	1000	Both Side
70025	70075	50	Single Side
70075	70175	100	Both Side
70175	70225	50	Single Side
70225	70575	347	Both Side
70575	70725	150	Single Side
70725	70775	50	Both Side
70875	71025	147	Single Side
71025	71525	500	Both Side
71675	71775	100	Single Side
71775	71825	50	Both Side
71825	71925	100	Single Side
71925	71975	50	Both Side
72125	73025	897	Both Side
73025	73175	147	Single Side
73175	73525	347	Single Side
73525	73575	47	Single Side
73575	74725	1129	Single Side
74725	74850	125	Both Side
74850	75000	150	Both Side
Total length =		20985	

LOCATION OF RCC RECTANGULAR DRAIN			
PACKAGE - IIB			
Chainage (km)		Side	Net Length (m)
From	To		
58775	60075	Both side	1284
Total length =			1284

LOCATION OF PCC V- SHAPED DRAIN			
PACKAGE - IIB			
Chainage (km)		Side	Net Length (m)
From	To		
64875	64925	Single side	47
66225	66275	Single side	50
68325	68375	Single side	46
Total length =			143

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	LOCATION OF DRAIN		CONSULTANT :  Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company		DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PK-IIB/MISC-7					
												REVISION MKD. - R0		SHEET NO. - 02 of 02			
								PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)				SUBMISSION TYPE :		DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020							FINAL DETAILED PROJECT REPORT		 P. GHOSH	 B. DAS	 S.SADHU	 B. KONER
REVISIONS										PACKAGE - IIB							



TYPICAL LAYOUT OF PICK-UP BUS STOP ON HILLY AREA

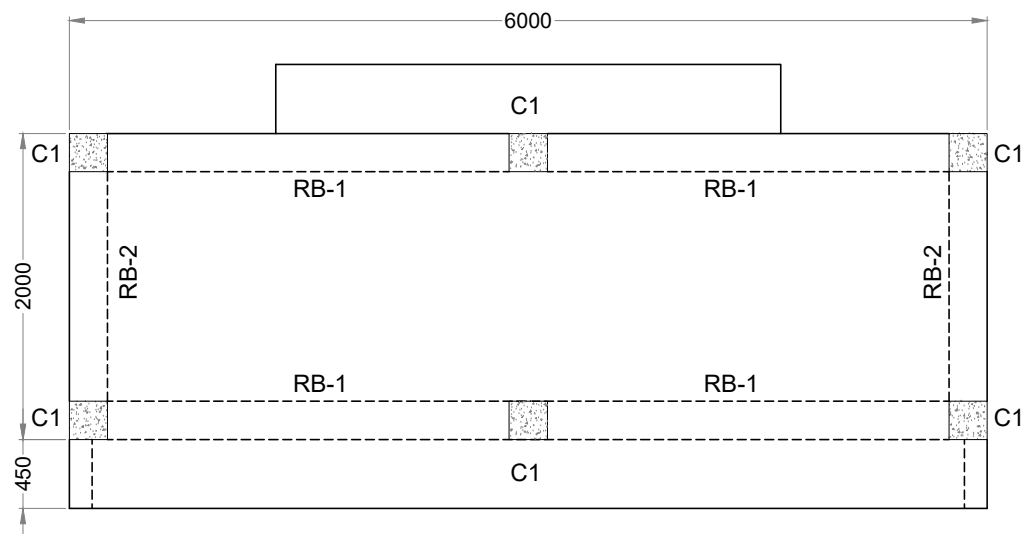
List Of Proposed Pick Up Bus Stop

Sl. No.	Chainage	Side	Name of the Habitation
Package - IIB			
4	56+960	Both	Yangkhullen (Bakie)
5	59+590	Both	Bendramai
6	63+420	Both	Bendramai
7	71+050	Right	Ziumi Center
8	72+400	Right	Ziumi Center

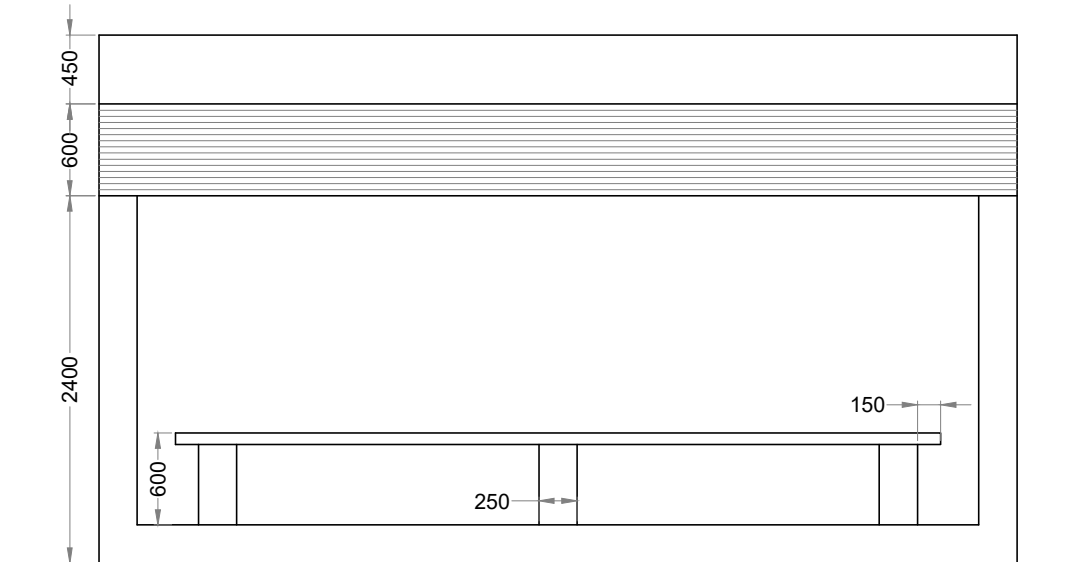
Notes:

1. All dimension are in mm. unless otherwise mentioned.
2. Besides the above, Standards and Specifications mentioned in IRC : SP : 84-2014 shall be followed strictly whenever applicable.

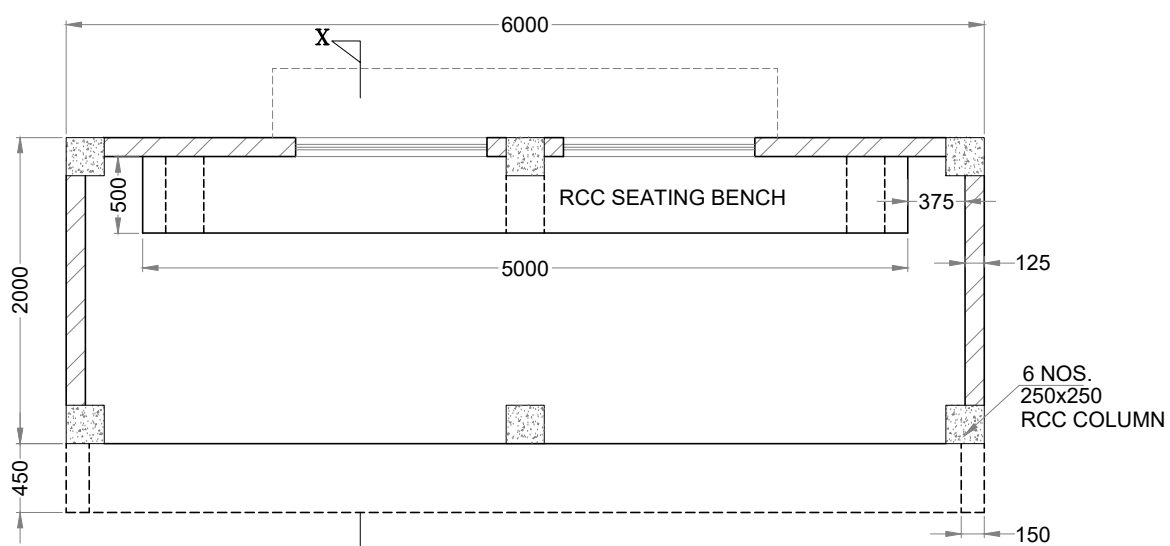
Scale :- N.T.S					CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001					TYPICAL LAYOUT OF PICK-UP BUS STOP					CONSULTANT : CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092					DWG NO-CET/4046/NHIDCL/NH-129A/M-P/FDPR/PK-IIB/MISC-8				
PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)					SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT					PACKAGE - IIB					REVISION MKD. - R0					SHEET NO. - 01				
DATE: FEB, 2020					DRAWN BY: P. GHOSH					DESIGNED BY: B. DAS					CHECKED BY: S. SADHU					ISSUED BY: B. KONER				
REVISIONS																								



STRUCTURAL ARRANGEMENT PLAN

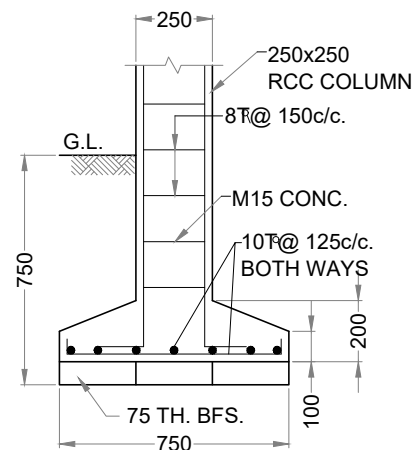


FRONT ELEVATION

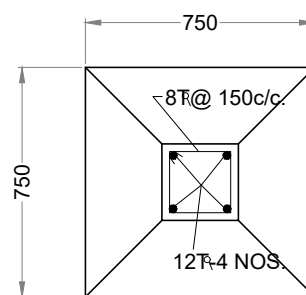


PLAN

PASSENGER SHELTER

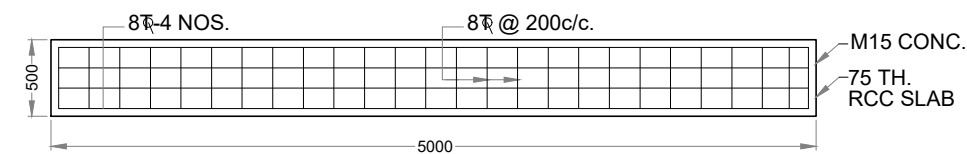


SECTION

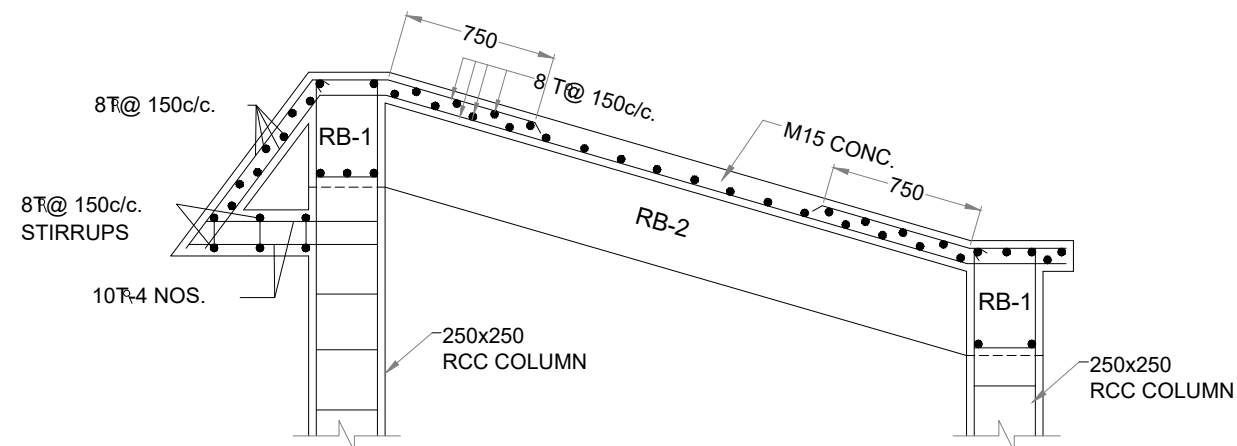


PLAN

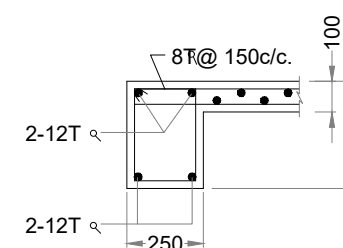
COLUMN FOUNDATION DETAILS



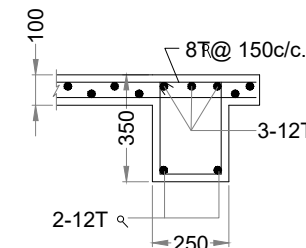
SEATING BENCH REINFORCEMENT DETAIL



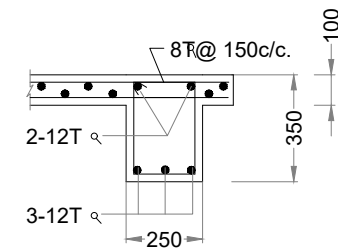
ROOF SLAB REINFORCEMENT DETAIL



2.0M BEAM SECTION
BEAM MKD. RB-2

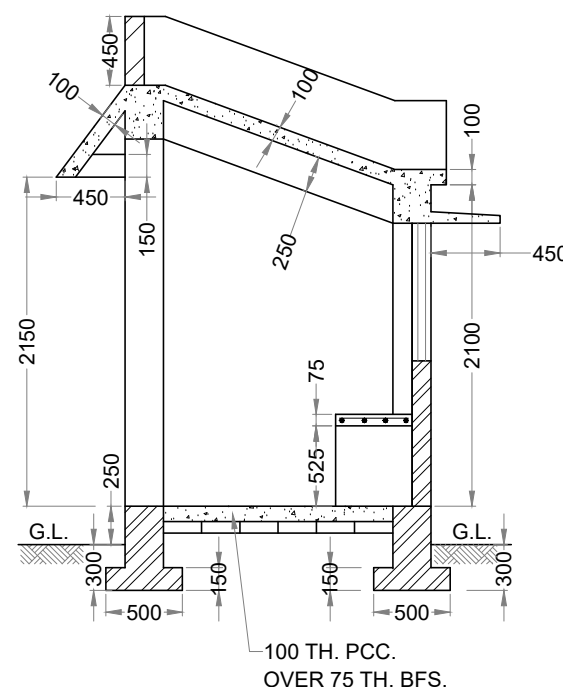


END SECTION



MID SPAN SECTION

3.0M BEAM SECTIONS
BEAM MKD. RB-1



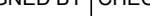
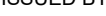
SECTION X-X

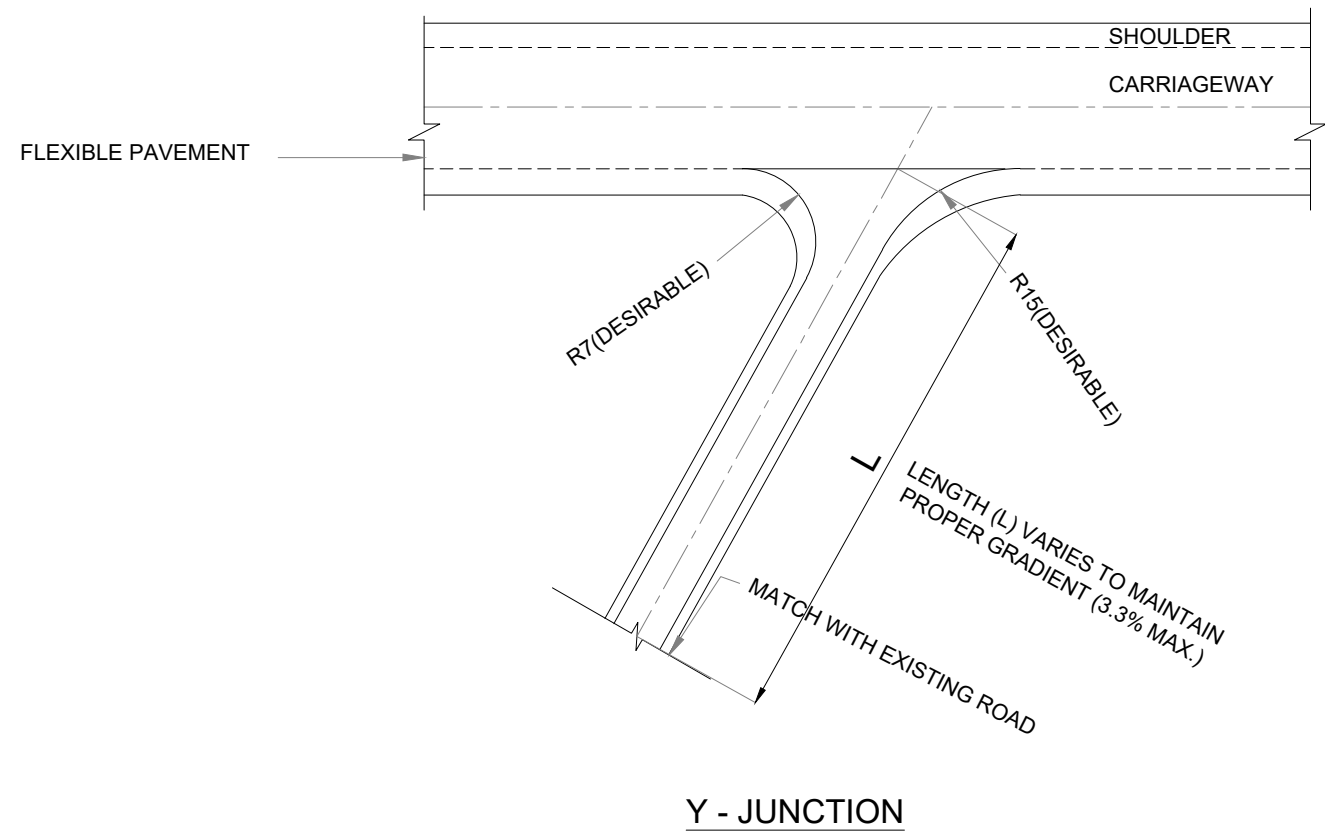
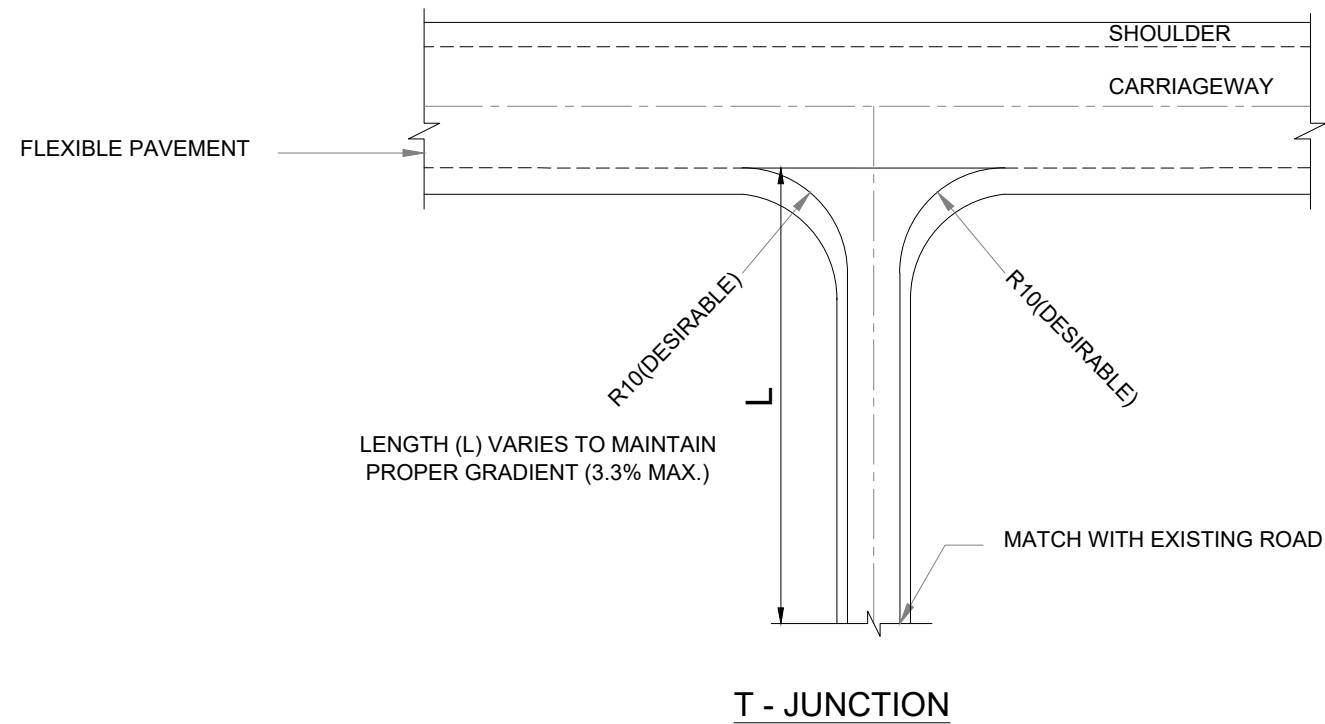
NOTE :

MATERIAL

- CONCRETE : i) M-20 FOR FOUNDATION, COLUMNS, BEAMS & SLABS.
ii) M-15 OR 1:3:6 FOR LEVELING COURSE (P.C.C.)
- STEEL : CONFORMING TO IS:1786
- CONCRETE MORTAR : i) 1:4 (1 CEMENT : 4 SAND) FOR BRICK WORK & CELING PLASTER.
ii) 1:6 (1 CEMENT : 6 SAND) FOR WALL PLASTER.

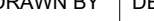
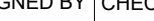
ALL DIMENSIONS ARE IN MILIMETER.

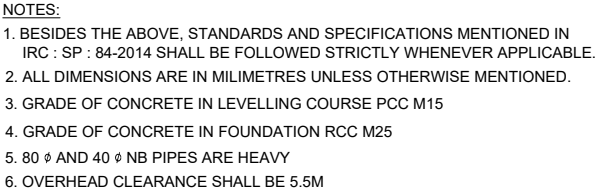
					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	DETAILS OF TYPICAL PASSENGER SHELTER	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	 CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO :- CET/4046/NHIDCL/NH-129A/M -P/FDPR/MISC-9			
											REVISION MKD. - R0	SHEET NO. - 01		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2019		PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			DRAWN BY  P. GHOSH	DESIGNED BY  B. DAS	CHECKED BY  S.SADHU	ISSUED BY  B. KONER
REVISIONS														



NOTES :

1. ALL DIMENSION ARE IN METER UNLESS OTHERWISE MENTIONED
2. THE DESIGN IS SUITABLE FOR AN INTERSECTION OF A TWO LANE STATE HIGHWAY AND A SINGLE LANE OTHER DISTRICT ROAD / VILLAGE ROAD

					Scale :- N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TYPICAL DETAILS OF MINOR INTERSECTION	CONSULTANT :  CETEST Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092 	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC-10					
										REVISION MKD. - R0		SHEET NO. - 01			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: FEB 2020					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	DRAWN BY  P. GHOSH	DESIGNED BY  B. DAS	CHECKED BY  S.SADHU	ISSUED BY  B. KONER
REVISIONS															



			Scale :- N.T.S	 CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TYPICAL DETAILS OF GANTRY GIRDER FOR OVERHEAD SIGNS	CONSULTANT : CETEST Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092 	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/MISC-11			
								REVISION MKD. - R0		SHEET NO. - 01
				PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR. (PACKAGE:-NHIDCL/DPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE :		DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
DESCRIPTION	CHKD.	APPRD.	DATE: FEB, 2020		FINAL DETAILED PROJECT REPORT		 P. GHOSH	 B. DAS	 S.SADHU	 B. KONER
REVISIONS										

PART B : STRUCTURAL WORK

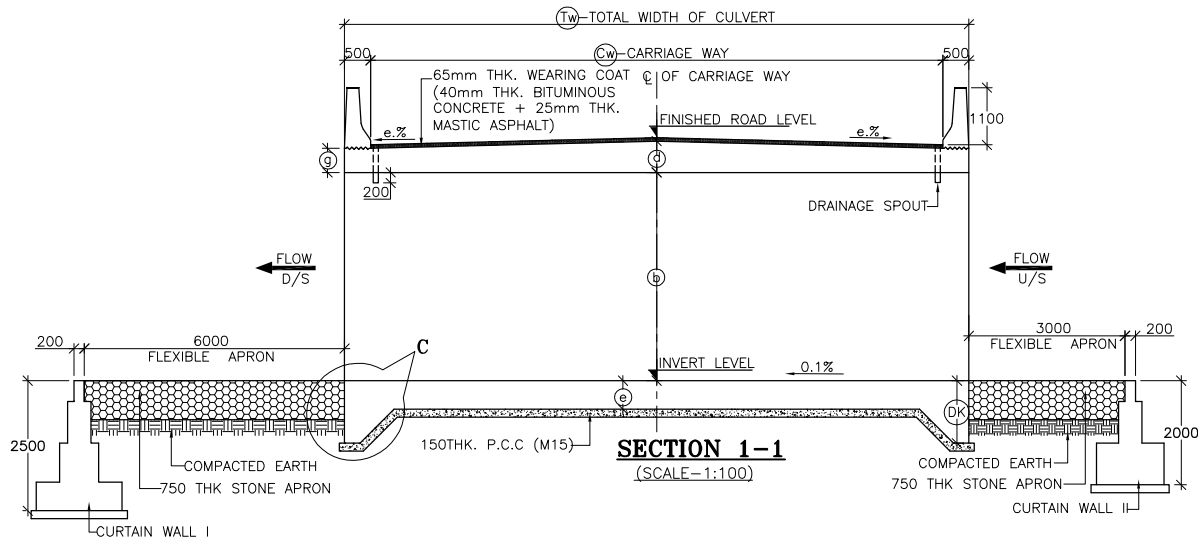
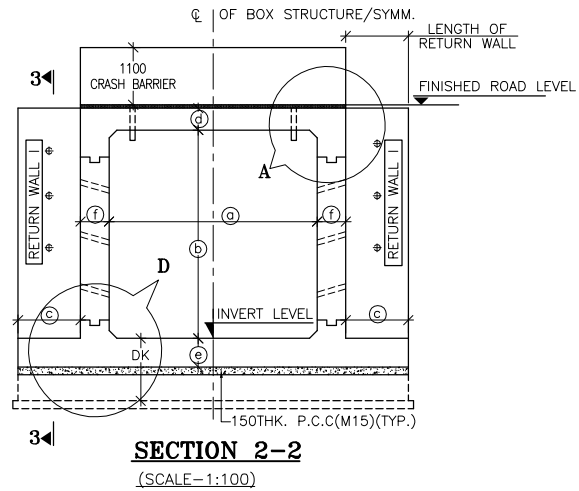
CONTENT
PROPOSED CULVERTS
(PACKAGE-IIB)ROAD
NAME : MARAM TO PEREN

SL. NO.	DESCRIPTION	DRAWING NO.	NO. OF SHEETS
01.	LEVEL DETAILS OF PROPOSED CULVERTS		05
02.	SINGLE CELL R.C.C. BOX CULVERT WITH FLEXIBLE APRON (NORMAL CAMBER) :-		
	GENERAL ARRANGEMENT	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/BC/NC/F/GA	01
03.	SINGLE CELL R.C.C. BOX CULVERT WITH CATCHPIT AND STEPPED PROTECTION (NORMAL CAMBER) :-		
	GENERAL ARRANGEMENT	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/BC/NC/STP/GA	02
04.	SINGLE CELL R.C.C. BOX CULVERT CATCHPIT AND STEPPED PROTECTION ENCASED IN RE WALL(NORMAL CAMBER) :-		
	GENERAL ARRANGEMENT	CET/4046/NHIDCL/NH-129A/M-P/DFPR/PKG-IIB/BC/STP/RE/GA	01
05.	SINGLE CELL R.C.C. BOX CULVERT WITH EARTH CUSHION AND FLEXIBLE APRON (NORMAL CAMBER) :-		
	GENERAL ARRANGEMENT	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/BC/NC/EC/F/GA	01
06.	SINGLE CELL R.C.C. BOX CULVERT WITH EARTH CUSHION,CATCHPIT AND STEPPED PROTECTION (NORMAL CAMBER) :-		
	GENERAL ARRANGEMENT	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/BC/NC/EC/STP/GA	01
07.	SINGLE CELL R.C.C. BOX CULVERT WITH FLEXIBLE APRON (SUPER ELEVATION) :-		
	GENERAL ARRANGEMENT	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/BC/SE/F/GA	01
08.	SINGLE CELL R.C.C. BOX CULVERT WITH CATCHPIT AND STEPPED PROTECTION (SUPER ELEVATION) :-		
	GENERAL ARRANGEMENT	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/BC/SE/STP/GA	02
09.	SINGLE CELL R.C.C. BOX CULVERT WITH EARTH CUSHION,CATCHPIT AND STEPPED PROTECTION (SUPER ELEVATION) :-		
	GENERAL ARRANGEMENT	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/BC/SE/EC/STP/GA	01
10.	MISCELLANEOUS DRAWING FOR CULVERT :-		
	MISCELLANEOUS DETAILS	CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-IIB/BC/MISC	01

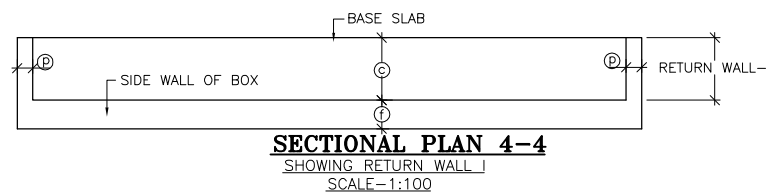
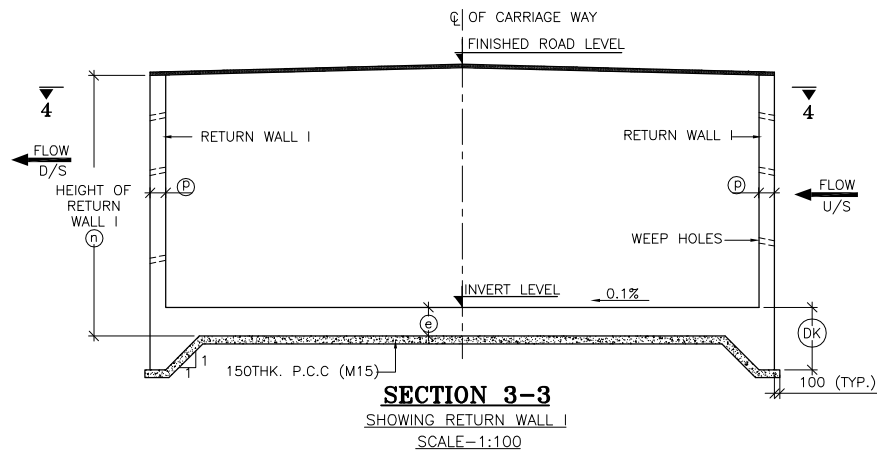
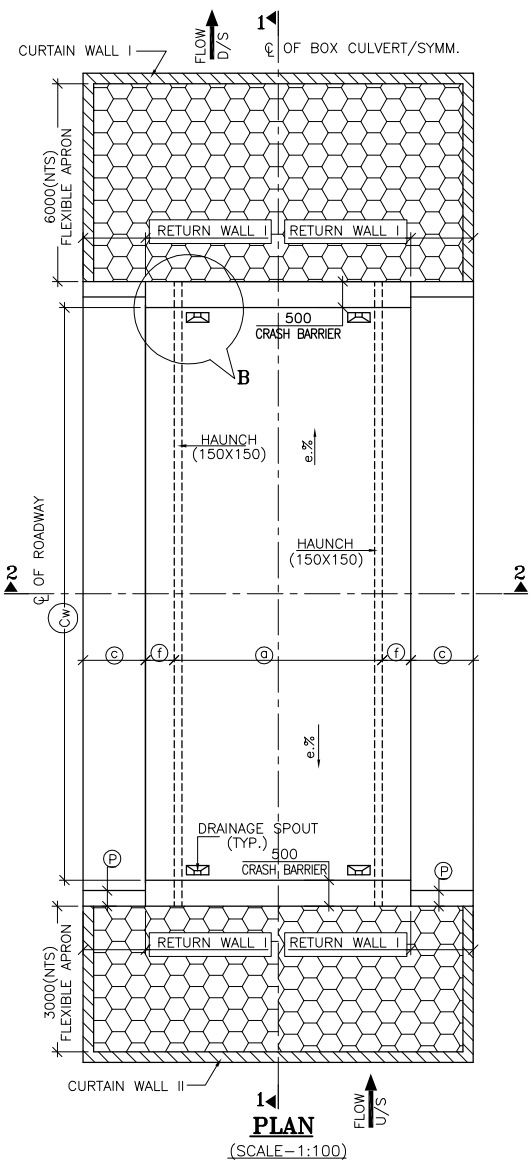
Package No.	SI No.	Design Chainage (KM)	Structure No.	Remarks For Proposal	Type of Structures (Pipe/ Slab/ Box/ Arch)	Span Arrangement (No. x Length x Height) (m)	Finished Road Level (M)	Culvert Type	Size Span x Height (M X M)	Earth Cushion Height (m)	Total Width (TW) (M)	Proposed Carriageway (CW) (M)	Left Carriageway (M)	Right Carriageway (M)	Vent Height of Proposed Box (M)	Top Slab Thickness at Edge (M)	Top Slab Thickness at Centre (M)	Bottom Slab Thickness (M)	Proposed Invert Level (M)	Proposed Founding Level (M)	Protection Type	Cross Fall	Slope Side	Se%
Package-II	51	50.950	51/5	Reconstruction	Pipe culvert	2×1	1528.465	BOX CULVERT (ENCASING IN RE WALL)	3.0 X 4.0	8.0	11.0	9.0	4.5	4.5	4.0	0.591	0.591	0.600	1515.874	1515.274	CATCHPIT WITH STEPPED PROTECTION	NC		
	52	51.075	52/1	Reconstruction	Pipe culvert	2×1	1537.212	BOX CULVERT (ENCASING IN RE WALL)	3.0 X 4.0	8.5	11.0	8.9	4.5	4.5	4.0	0.591	0.591	0.600	1524.121	1523.521	CATCHPIT WITH STEPPED PROTECTION	NC		
	53	51.185	52/2	Reconstruction	Pipe culvert	2×0.9	1544.905	BOX CULVERT (ENCASING IN RE WALL)	3.0 X 4.0	8.5	11.0	8.9	4.5	4.5	4.0	0.591	0.591	0.600	1531.814	1531.214	CATCHPIT WITH STEPPED PROTECTION	NC		
	54	51.505	52/3	Reconstruction	Pipe culvert	2×0.9	1567.298	BOX CULVERT	2.0 X 3.0	1.0	11.0	10.4	5.2	5.2	3.0	0.307	0.307	0.300	1562.991	1562.691	CATCHPIT WITH STEPPED PROTECTION	NC		
	55	51.765	52/4	Reconstruction	Pipe culvert	2×1	1585.493	BOX CULVERT	2.0 X 3.0	1.5	11.0	10.4	5.2	5.2	3.0	0.307	0.307	0.300	1580.686	1580.386	CATCHPIT WITH STEPPED PROTECTION	NC		
	56	53.770	54/1	Reconstruction	Pipe culvert	2×1	1682.516	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1679.976	1679.596	CATCHPIT WITH STEPPED PROTECTION	NC		
	57	54.135	55/1	Reconstruction	Pipe culvert	2×1	1703.820	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.350	0.380	1701.055	1700.675	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	7.0%
	58	54.484	55/2	Balancing			1714.537	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1711.997	1711.617	CATCHPIT WITH STEPPED PROTECTION	NC		
	59	54.607	55/3	Reconstruction	Pipe culvert	2×1.2	1713.904	BOX CULVERT	2.0 X 3.0	1.2	11.0	10.4	5.2	5.2	3.0	0.307	0.307	0.300	1709.397	1709.097	CATCHPIT WITH STEPPED PROTECTION	NC		
	60	54.806	55/4	Balancing			1711.427	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1708.887	1708.507	CATCHPIT WITH STEPPED PROTECTION	NC		
	61	55.179	56/1	Balancing			1716.807	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1714.267	1713.887	CATCHPIT WITH STEPPED PROTECTION	NC		
	62	55.494	56/2	Reconstruction	Pipe culvert	2×1.2	1711.937	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.495	0.420	1708.377	1707.957	CATCHPIT WITH STEPPED PROTECTION	NC		
	63	55.565	56/3	Reconstruction	Pipe culvert	2×1.2	1712.451	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.350	0.380	1709.686	1709.306	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	7.0%
	64	55.705	56/4	Reconstruction	Pipe culvert	2×1.2	1711.254	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.495	0.420	1707.694	1707.274	CATCHPIT WITH STEPPED PROTECTION	NC		
	65	55.874	56/5	Reconstruction	Pipe culvert	2×1.0	1712.175	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1709.635	1709.255	CATCHPIT WITH STEPPED PROTECTION	NC		
	66	55.990	56/6	Reconstruction	Pipe culvert	2×1.2	1712.663	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.495	0.420	1709.103	1708.683	CATCHPIT WITH STEPPED PROTECTION	NC		
	67	56.155	57/1	Reconstruction	Pipe culvert	2X1.0	1708.873	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.495	0.420	1705.313	1704.893	CATCHPIT WITH STEPPED PROTECTION	NC		
	68	56.346	57/2	Reconstruction	Pipe culvert	2×1.0	1706.794	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.495	0.420	1703.234	1702.814	CATCHPIT WITH STEPPED PROTECTION	NC		
	69	56.410	57/3	Reconstruction	Pipe culvert	2×1.2	1706.936	BOX CULVERT	2.0 X 3.0	1.2	11.0	10.4	5.2	5.2	3.0	0.307	0.307	0.300	1702.429	1702.129	CATCHPIT WITH STEPPED PROTECTION	NC		
	70	56.593	57/4	Balancing			1710.582	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.350	0.380	1707.987	1707.607	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	3.6%
	71	57.125	58/1	Reconstruction	Pipe culvert	2×1.2	1728.593	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.495	0.420	1725.033	1724.613	CATCHPIT WITH STEPPED PROTECTION	NC		
	72	57.426	58/2	Balancing			1732.190	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1729.650	1729.270	CATCHPIT WITH STEPPED PROTECTION	NC		
	73	57.750	58/3	Reconstruction	Pipe culvert	2X1.20	1721.605	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.495	0.420	1718.045	1717.625	CATCHPIT WITH STEPPED PROTECTION	NC		
	74	58.025	59/1	Reconstruction	Pipe culvert	2×1.0	1713.411	BOX CULVERT	2.0 X 3.0	2.0	11.0	10.4	5.2	5.2	3.0	0.307	0.307	0.300	1708.104	1707.804	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	5.7%
	75	58.435	59/2	Reconstruction	Pipe culvert	2X1.20	1686.708	BOX CULVERT	2.0 X 3.0	2.0	11.0	10.4	5.2	5.2	3.0	0.307	0.307	0.300	1681.401	1681.101	CATCHPIT WITH STEPPED PROTECTION	NC		

Package No.	SI No.	Design Chainage (KM)	Structure No.	Remarks For Proposal	Type of Structures (Pipe/ Slab/ Box/ Arch)	Span Arrangement (No. x Length x Height) (m)	Finished Road Level (M)	Culvert Type	Size Span x Height (M X M)	Earth Cushion Height (m)	Total Width (TW) (M)	Proposed Carriageway (CW) (M)	Left Carriageway (M)	Right Carriageway (M)	Vent Height of Proposed Box (M)	Top Slab Thickness at Edge (M)	Top Slab Thickness at Centre (M)	Bottom Slab Thickness (M)	Proposed Invert Level (M)	Proposed Founding Level (M)	Protection Type	Cross Fall	Slope Side	Se%
Package-II	76	58.732	59/3	Reconstruction	Pipe culvert	2×1.0	1688.854	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.370	0.420	1685.134	1684.714	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	5.7%
	77	58.985	59/4	Reconstruction	Pipe culvert	2×1.0	1689.282	BOX CULVERT	2.0 X 3.0		12.0	11.0	5.5	5.5	3.0	0.37	0.370	0.420	1685.649	1685.229	FLEXIBLE APRON	SE	R to L	3.6%
	78	59.298	60/1	Reconstruction	Pipe culvert	2×1.0	1691.001	BOX CULVERT	2.0 X 3.0		12.0	11.0	5.5	5.5	3.0	0.37	0.508	0.420	1687.429	1687.009	FLEXIBLE APRON	NC		
	79	59.495	60/2	Reconstruction	Pipe culvert	2×1.0	1694.759	BOX CULVERT	2.0 X 3.0	1.0	12.0	11.4	5.7	5.7	3.0	0.307	0.307	0.300	1690.452	1690.152	FLEXIBLE APRON	NC		
	80	59.776	60/3	Reconstruction	Pipe culvert	2×1.0	1713.897	BOX CULVERT	2.0 X 3.0		12.0	11.0	5.5	5.5	3.0	0.37	0.370	0.420	1710.077	1709.657	FLEXIBLE APRON	SE	R to L	7.0%
	81	59.975	60/4	Reconstruction	Pipe culvert	2×1.2	1727.491	BOX CULVERT	2.0 X 2.0		12.0	11.0	5.5	5.5	2.0	0.35	0.350	0.380	1724.691	1724.311	FLEXIBLE APRON	SE	R to L	7.0%
	82	60.075	61/1	Reconstruction	Pipe culvert	2×1	1734.322	BOX CULVERT	2.0 X 3.0	1.5	11.0	10.0	5.0	5.0	3.0	0.307	0.307	0.300	1729.515	1729.215	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	7.0%
	83	60.260	61/2	Reconstruction	Pipe culvert	2×1	1746.959	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.495	0.420	1743.399	1742.979	CATCHPIT WITH STEPPED PROTECTION	NC		
	84	60.400	61/3	Reconstruction	Pipe culvert	2×1	1756.522	BOX CULVERT	3.0 X 4.0	2.4	11.0	10.4	5.2	5.2	4.0	0.410	0.410	0.470	1749.713	1749.243	CATCHPIT WITH STEPPED PROTECTION	NC		
	85	60.805	61/4	Balancing			1784.188	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1781.648	1781.268	CATCHPIT WITH STEPPED PROTECTION	NC		
	86	62.672	63/1	Reconstruction	Pipe culvert	2×1	1891.713	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1889.173	1888.793	CATCHPIT WITH STEPPED PROTECTION	NC		
	87	62.800	63/2	Reconstruction	Pipe culvert	1×1.2	1890.427	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.350	0.380	1887.662	1887.282	CATCHPIT WITH STEPPED PROTECTION	SE	L to R	7.0%
	88	62.995	63/3	Reconstruction	Pipe culvert	2×1	1887.271	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.370	0.420	1883.696	1883.276	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	2.8%
	89	63.212	64/1	Reconstruction	Pipe culvert	2×1.0	1892.070	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1889.530	1889.150	CATCHPIT WITH STEPPED PROTECTION	NC		
	90	63.815	64/2	Balancing			1919.768	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1917.228	1916.848	CATCHPIT WITH STEPPED PROTECTION	NC		
	91	64.065	65/1	Reconstruction	Pipe culvert	2X1.00	1931.333	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.495	0.420	1927.773	1927.353	CATCHPIT WITH STEPPED PROTECTION	NC		
	92	64.168	65/2	Reconstruction	Pipe culvert	1X5.8	1927.228	BOX CULVERT	5.0 X 4.0	2.0	11.0	10.4	5.2	5.2	4.0	0.611	0.611	0.700	1920.617	1919.917	CATCHPIT WITH STEPPED PROTECTION	NC		
	93	64.222	65/3	Reconstruction	Pipe culvert	2×1.0	1926.281	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1923.741	1923.361	CATCHPIT WITH STEPPED PROTECTION	NC		
	94	64.315	65/4	Reconstruction	Pipe culvert	2×1.0	1925.969	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.495	0.420	1922.409	1921.989	CATCHPIT WITH STEPPED PROTECTION	NC		
	95	64.440	65/5	Reconstruction	Pipe culvert	2×1.2	1929.795	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.350	0.380	1927.030	1926.650	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	7.0%
	96	64.515	65/6	Reconstruction	Slab culvert	2X1.20	1932.396	BOX CULVERT	2.0 X 3.0	1.2	11.0	10.4	5.2	5.2	3.0	0.307	0.307	0.300	1927.889	1927.589	FLEXIBLE APRON	NC		
	97	64.668	65/7	Balancing			1942.271	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1939.731	1939.351	CATCHPIT WITH STEPPED PROTECTION	NC		
	98	64.914	65/8	Reconstruction	Pipe culvert	2×1.0	1959.460	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1956.920	1956.540	CATCHPIT WITH STEPPED PROTECTION	NC		
	99	65.175	66/1	Reconstruction	Pipe culvert	2×1.0	1973.462	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.350	0.380	1970.697	1970.317	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	7.0%
	100	65.270	66/2	Reconstruction	Pipe culvert	2×0.9	1976.327	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1973.787	1973.407	CATCHPIT WITH STEPPED PROTECTION	NC		

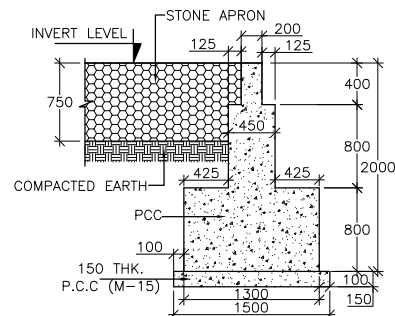
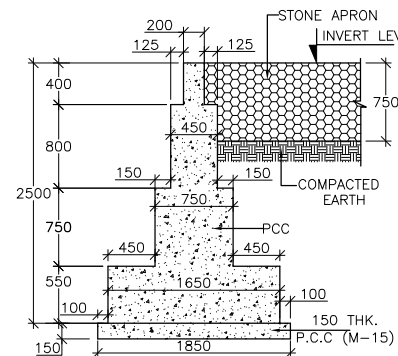
Package No.	SI No.	Design Chainage (KM)	Structure No.	Remarks For Proposal	Type of Structures (Pipe/ Slab/ Box/ Arch)	Span Arrangement (No. x Length x Height) (m)	Finished Road Level (M)	Culvert Type	Size Span x Height (M X M)	Earth Cushion Height (m)	Total Width (TW) (M)	Proposed Carriageway (CW) (M)	Left Carriageway (M)	Right Carriageway (M)	Vent Height of Proposed Box (M)	Top Slab Thickness at Edge (M)	Top Slab Thickness at Centre (M)	Bottom Slab Thickness (M)	Proposed Invert Level (M)	Proposed Founding Level (M)	Protection Type	Cross Fall	Slope Side	Se%
Package-II	101	65.433	66/3	Balancing			1984.305	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.495	0.420	1980.745	1980.325	CATCHPIT WITH STEPPED PROTECTION	NC		
	102	65.708	66/4	Reconstruction	Pipe culvert	2×0.9	2003.555	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	2001.015	2000.635	CATCHPIT WITH STEPPED PROTECTION	NC		
	103	65.952	66/5	Reconstruction	Pipe culvert	2×1.0	2014.252	BOX CULVERT	2.0 X 3.0	2.0	11.0	10.4	5.2	5.2	3.0	0.307	0.307	0.300	2008.945	2008.645	CATCHPIT WITH STEPPED PROTECTION	NC		
	104	66.510	67/1	Reconstruction	Pipe culvert	2×0.9	2049.419	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.350	0.380	2046.654	2046.274	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	7.0%
	105	68.350	69/1	Balancing			1921.967	BOX CULVERT	3.0 X 4.0	1.8	11.0	10.4	5.2	5.2	4.0	0.410	0.535	0.470	1915.632	1915.162	CATCHPIT WITH STEPPED PROTECTION	NC		
	106	69.640	70/1	Reconstruction	Pipe culvert	2×1.0	1845.911	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.350	0.380	1843.146	1842.766	CATCHPIT WITH STEPPED PROTECTION	SE	L to R	7.0%
	107	70.280	71/1	Reconstruction	Pipe culvert	2×1.2	1808.262	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.495	0.420	1804.702	1804.282	CATCHPIT WITH STEPPED PROTECTION	NC		
	108	70.912	71/2	Reconstruction	Pipe culvert	2×1.0	1764.022	BOX CULVERT	2.0 X 3.0	1.5	11.0	10.4	5.2	5.2	3.0	0.307	0.307	0.300	1759.215	1758.915	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	7.0%
	109	72.486	73/1	Balancing			1689.328	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.495	0.420	1685.768	1685.348	CATCHPIT WITH STEPPED PROTECTION	NC		
	110	73.050	74/1	Balancing			1658.489	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.350	0.380	1655.764	1655.384	CATCHPIT WITH STEPPED PROTECTION	SE	L to R	6.2%
	111	73.285	74/2	Reconstruction	Pipe culvert	2×1.0	1650.962	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.350	0.380	1648.197	1647.817	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	7.0%
	112	73.527	74/3	Balancing			1636.352	BOX CULVERT	2.0 X 3.0	2.0	11.0	10.4	5.2	5.2	3.0	0.307	0.307	0.300	1631.045	1630.745	CATCHPIT WITH STEPPED PROTECTION	NC		
	113	73.630	74/4	Reconstruction	Pipe culvert	2×1.0	1629.142	BOX CULVERT	2.0 X 3.0	1.2	11.0	10.4	5.2	5.2	3.0	0.307	0.307	0.300	1624.635	1624.335	CATCHPIT WITH STEPPED PROTECTION	NC		
	114	73.835	74/5	Reconstruction	Pipe culvert	2×1.0	1616.364	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.350	0.380	1613.249	1612.869	CATCHPIT WITH STEPPED PROTECTION	SE	L to R	7.0%
	115	74.158	75/1	Reconstruction	Pipe culvert	2×1.0	1628.315	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.370	0.420	1624.180	1623.760	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	7.0%
	116	74.280	75/2	Reconstruction	Pipe culvert	2×0.9	1633.915	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1631.375	1630.995	CATCHPIT WITH STEPPED PROTECTION	NC		
	117	74.376	75/3	Balancing			1638.322	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.475	0.380	1635.782	1635.402	CATCHPIT WITH STEPPED PROTECTION	NC		
	118	74.475	75/4	Reconstruction	Pipe culvert	1×1.0	1642.866	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.350	0.380	1639.751	1639.371	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	7.0%
	119	74.628	75/5	Reconstruction	Pipe culvert	2×1.0	1647.572	BOX CULVERT	2.0 X 3.0		11.0	10.0	5.0	5.0	3.0	0.37	0.370	0.420	1643.437	1643.017	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	7.0%
	120	74.722	75/6	Reconstruction	Pipe culvert	2×1.0	1645.483	BOX CULVERT	2.0 X 2.0		11.0	10.0	5.0	5.0	2.0	0.35	0.350	0.380	1642.368	1641.988	CATCHPIT WITH STEPPED PROTECTION	SE	R to L	7.0%



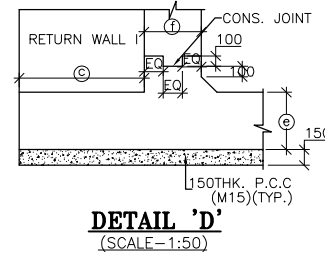
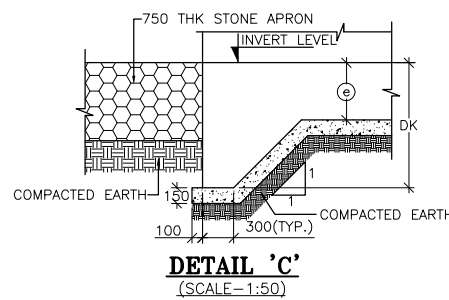
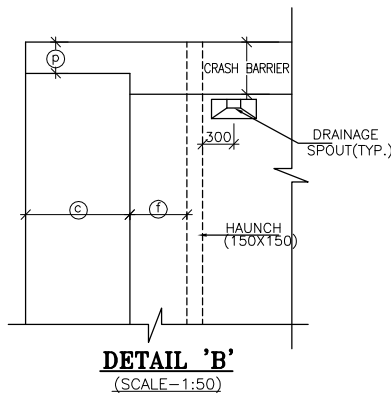
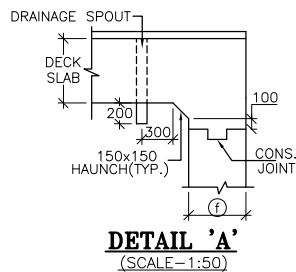
IN BUILT UP AREA		
BOX CELL DESIGNATION No/ab/Ec		1/23/0
TABLE SHOWING SALIENT DIMENSIONS	a	2000
	b	3000
	c	1300
	d	508
	e	420
	f	350
	g	370
	n	3790
	p	300
	Tw	12000
	Cw	11000

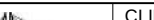


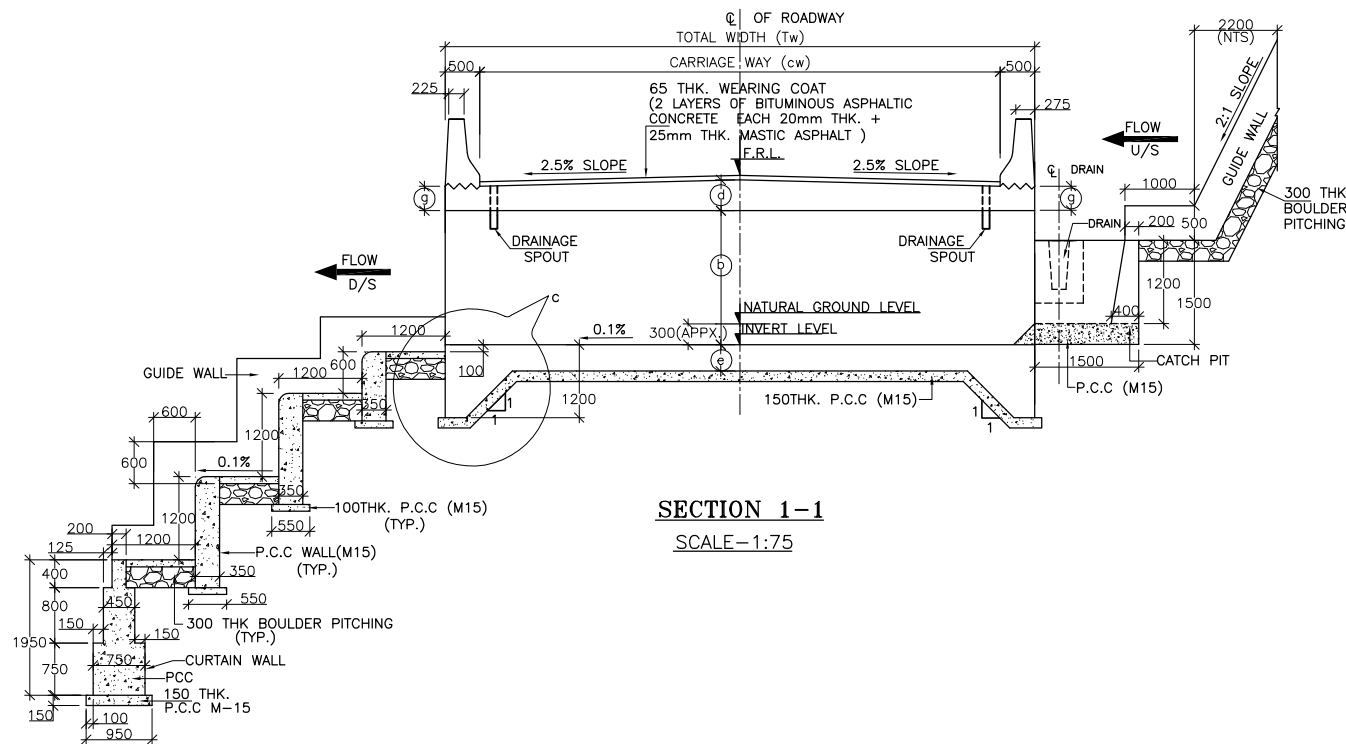
Sl No.	Design Chainage (KM)	Structure No.	Size Span x Height (M X M)	Finished Road Level (M)	Proposed Invert Level (M)	Proposed Founding Level (M)
1	59.298	60/1	2.0 X 3.0	1691.001	1687.429	1687.009



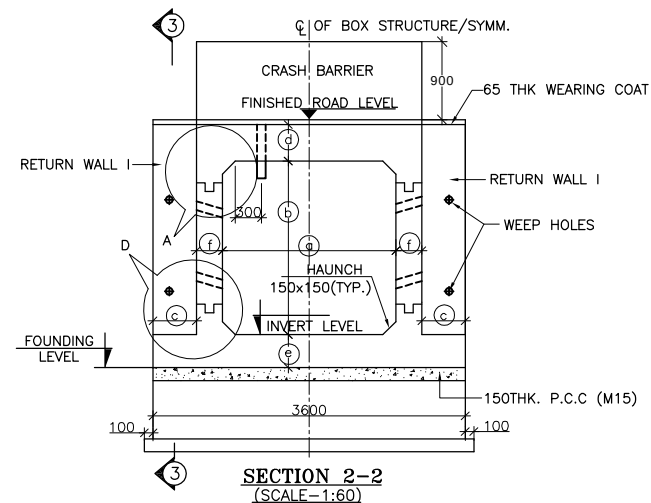
- NOTES :**
- ALL DIMENTIONS ARE IN MM. ALL LEVEL ARE IN M. UNLESS OTHERWISE MENTIONED.
 - GRADE OF CONCRETE :
BOX CELL STRUCTURE = M30
CURTAIN WALL = M20
LEVELING COURSE (P.C.C.)= M15
RETURN WALL I = M30
CRASH BARRIER= M40
 - GRADE OF STEEL Fe 500 AS PER I.S.-1786.
 - CLASS 70R TRACKED PRODUCING WORST EFFECT ARE CONSIDERED FOR DESIGN.
 - PROPERTIES OF BACKFILL SOIL $\gamma = 2.0t/m^3$, $\theta = 30^\circ$.
 - FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MoRTH SPECIFICATINS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE FULL HEIGHT.
 - SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
 - EARTH BELLOW BOX SHALL BE WELL COMPACTED TO ACHIEVE MINIMUM 15t/m² BEARING CAPACITY.
 - THIS DRAWING HAS BEEN PREPARED BASED ON STANDARD DRAWINGS FOR BOX CULVERT PUBLISHED BY MoRTH.
 - 'DK' IS DEPTH OF KEY AT BASE SLAB
FOR BASE SLAB THICKNESS
UPTO 900mm 1200 mm
GREATER THAN 900 mm e+300 mm
e = BASE SLAB THICKNESS
 - THIS DRAWING SHALL BE READ IN CONJUSECTION WITH
CET/4046/NHIDCL/NH-129A/M-P/DDPR/PKG-II/BC/MISC (SHEET NO.-01)



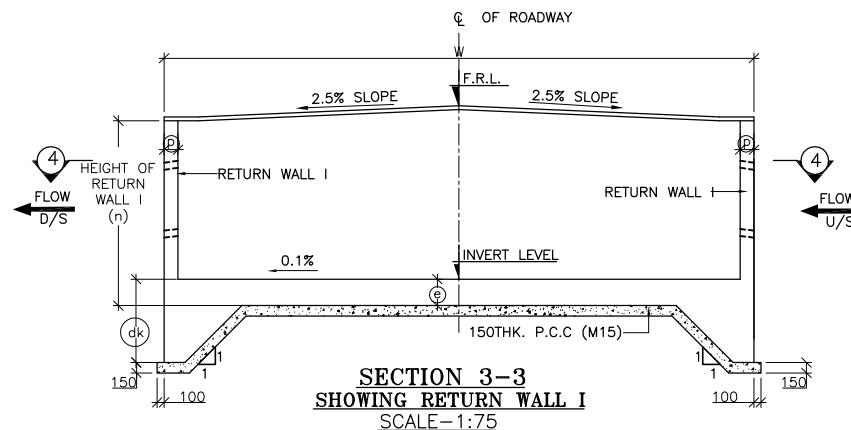
					SCALE: AS SHOWN		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TITLE: GENERAL ARRANGEMENT OF SINGLE CELL R.C.C. BOX CULVERT WITH FLEXIBLE APRON (NORMAL CAMBER)	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092 	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/DDPR/PKG-II/BC/NC/F/GA			
					DATE: FEB, 2020		PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR (PACKAGE:-NHIDCL/DDPR/SN-DMP-PC/MANIPUR/2016)	SUBMISSION TYPE: FINAL DETAILED PROJECT REPORT		REVISION MKD. - R0	SHEET NO. - 01 OF 01		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.						DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
REVISIONS													
										S.SARKAR	S.ALI	S.SADHU	B.KONER



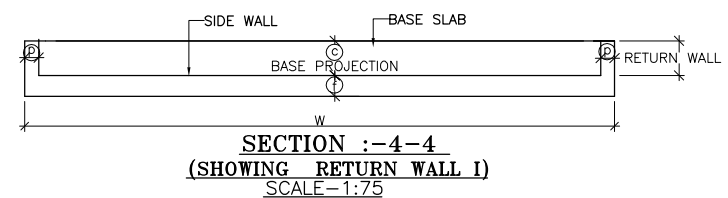
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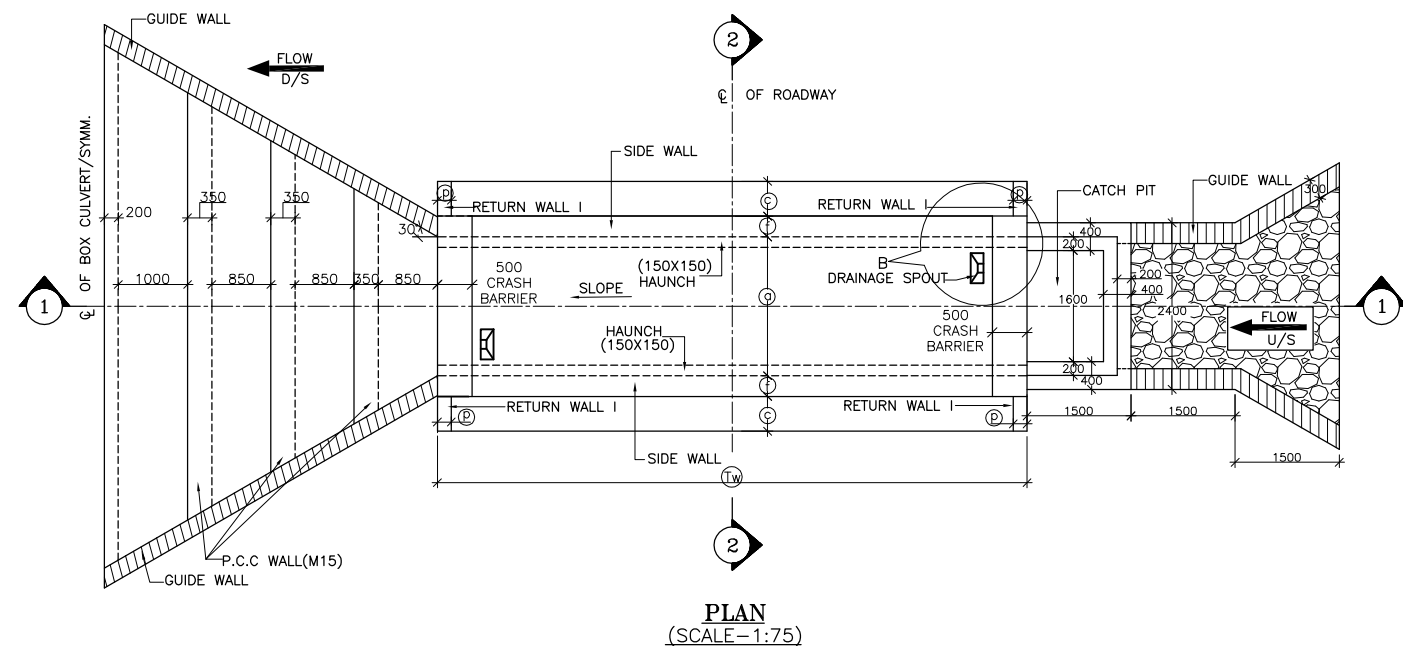
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(SCALE-1:60)



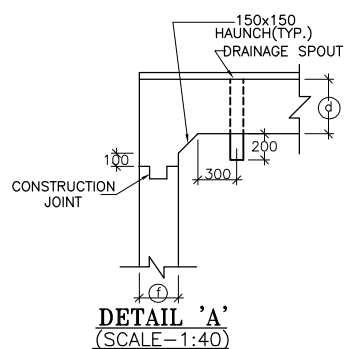
SECTION 3-3
SHOWING RETURN WALL I
(SCALE-1:75)



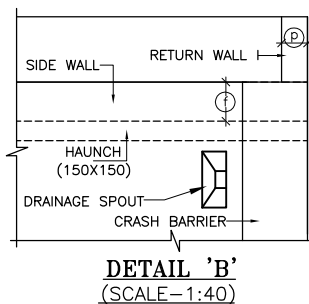
SECTION 4-4
(SHOWING RETURN WALL I)
(SCALE-1:75)



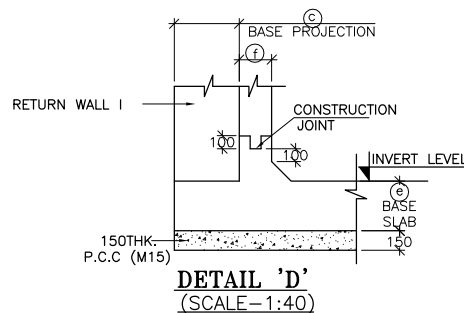
PLAN
(SCALE-1:75)



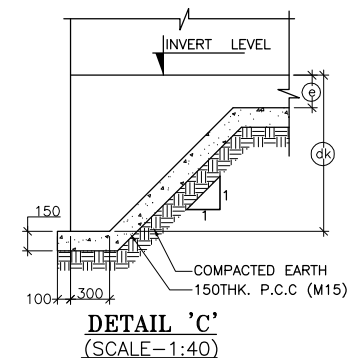
DETAIL 'A'
(SCALE-1:40)



DETAIL 'B'
(SCALE-1:40)



DETAIL 'D'
(SCALE-1:40)



DETAIL 'C'
(SCALE-1:40)

NOTES :

- ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
- GRADE OF CONCRETE :
BOX CELL STRUCTURE = M30
CURTAIN WALL & GUIDE WALL = M20
LEVELLING COURSE (P.C.C.) = M15
RETURN WALL-I = M30
RCC WALL & KERB = M25
- GRADE OF STEEL Fe 500 AS PER I.S.-1786.
- CLASS 70R TRACKED PRODUCING WORST EFFECT ARE CONSIDERED FOR DESIGN.
- PROPERTIES OF BACKFILL SOIL $\gamma = 1.81/m^3$, $\phi = 30^\circ$.
- FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MoRTH SPECIFICATIONS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE FULL HEIGHT.
- SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
- EARTH BELLOW BOX SHALL BE WELL COMPACTED TO ACHIEVE MINIMUM 15 t/m² BEARING CAPACITY.
- SLOPE ON DECK SLAB WILL VARY AS PER ROAD SLOPE IN DIFFERENT CHAINAGES.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH
CET/4046/NHIDCL/NH-129A/M-P/DDPR/PKG-II/NC/STP/BC/GA (SHEET NO.-02)
CET/4046/NHIDCL/NH-129A/M-P/DDPR/PKG-II/BC/MISC (SHEET NO.-01)

MKD.	DATE	DESCRIPTION	CHKD.	APPRD.

SCALE: AS SHOWN
DATE: FEB. 2020



CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001

PROJECT:
CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR (PACKAGE:-NHIDCL/DDPR/SN-DMP-PC/MANIPUR/2016)

TITLE: GENERAL ARRANGEMENT OF SINGLE CELL R.C.C BOX CULVERT WITH CATCHPIT & STEPPED PROTECTION (NORMAL CAMBER)

SUBMISSION TYPE: DRAFT DETAILED PROJECT REPORT

CONSULTANT : **CETEST** CE TESTING COMPANY PVT. LTD.
124-A, N.S.C. Bose Road, Kolkata - 700092

Engineering Consultants
An ISO 9001, 14001 & OHSAS 18001 Certified Company

DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/DDPR/PKG-II/BC/NC/STP/GA	REVISION MKD. - R0	SHEET NO. - 01 OF 02
DRAWN BY	DESIGNED BY	CHECKED BY
S.SARKAR	S.ALI	S.SADHU
		B.KONER

SI No.	Design Chainage (KM)	Structure No.	Size Span x Height (M X M)	Finished Road Level (M)	Proposed Invert Level (M)	Proposed Founding Level (M)
1	40.342	41/3	2.0 X 2.0	1560.915	1558.375	1557.995
2	40.440	41/4	2.0 X 3.0	1558.271	1554.711	1554.291
3	41.800	42/3	2.0 X 3.0	1502.433	1498.873	1498.453
4	41.972	42/4	2.0 X 3.0	1498.261	1494.701	1494.281
5	43.082	44/1	2.0 X 2.0	1440.348	1437.808	1437.428
6	43.850	44/4	2.0 X 2.0	1410.557	1408.017	1407.637
7	45.005	46/1	2.0 X 2.0	1441.488	1438.948	1438.568
8	45.168	46/2	2.0 X 3.0	1445.236	1441.676	1441.256
9	45.265	46/3	2.0 X 2.0	1446.772	1444.232	1443.852
10	46.300	47/1	2.0 X 2.0	1481.069	1478.529	1478.149
11	46.594	47/3	2.0 X 3.0	1467.897	1464.337	1463.917
12	46.920	47/5	2.0 X 2.0	1461.593	1459.053	1458.673
13	47.330	48/1	2.0 X 3.0	1469.603	1466.043	1465.623
14	47.618	48/2	2.0 X 2.0	1467.950	1465.410	1465.030
15	48.170	49/1	2.0 X 3.0	1464.341	1460.781	1460.361
16	48.413	49/3	2.0 X 3.0	1455.795	1452.235	1451.815
17	48.585	49/4	2.0 X 2.0	1456.287	1453.747	1453.367
18	48.862	49/6	2.0 X 3.0	1470.640	1467.080	1466.660
19	49.155	50/1	2.0 X 3.0	1485.652	1482.092	1481.672
20	49.582	50/2	2.0 X 3.0	1470.155	1466.595	1466.175
21	49.763	50/3	2.0 X 3.0	1466.195	1462.635	1462.215
22	53.770	54/1	2.0 X 2.0	1682.516	1679.976	1679.596
23	54.484	55/2	2.0 X 2.0	1714.537	1711.997	1711.617
24	54.806	55/4	2.0 X 2.0	1711.427	1708.887	1708.507
25	55.179	56/1	2.0 X 2.0	1716.807	1714.267	1713.887
26	55.494	56/2	2.0 X 3.0	1711.937	1708.377	1707.957

SI No.	Design Chainage (KM)	Structure No.	Size Span x Height (M X M)	Finished Road Level (M)	Proposed Invert Level (M)	Proposed Founding Level (M)
27	55.705	56/4	2.0 X 3.0	1711.254	1707.694	1707.274
28	55.874	56/5	2.0 X 2.0	1712.175	1709.635	1709.255
29	55.990	56/6	2.0 X 3.0	1712.663	1709.103	1708.683
30	56.155	57/1	2.0 X 3.0	1708.873	1705.313	1704.893
31	56.346	57/2	2.0 X 3.0	1706.794	1703.234	1702.814
32	57.125	58/1	2.0 X 3.0	1728.593	1725.033	1724.613
33	57.426	58/2	2.0 X 2.0	1732.190	1729.650	1729.270
34	57.750	58/3	2.0 X 3.0	1721.605	1718.045	1717.625
35	60.260	61/2	2.0 X 3.0	1746.959	1743.399	1742.979
36	60.805	61/4	2.0 X 2.0	1784.188	1781.648	1781.268
37	62.672	63/1	2.0 X 2.0	1891.713	1889.173	1888.793
38	63.212	64/1	2.0 X 2.0	1892.070	1889.530	1889.150
39	63.815	64/2	2.0 X 2.0	1919.768	1917.228	1916.848
40	64.065	65/1	2.0 X 3.0	1931.333	1927.773	1927.353
41	64.222	65/3	2.0 X 2.0	1926.281	1923.741	1923.361
42	64.315	65/4	2.0 X 3.0	1925.969	1922.409	1921.989
43	64.668	65/7	2.0 X 2.0	1942.271	1939.731	1939.351
44	64.914	65/8	2.0 X 2.0	1959.460	1956.920	1956.540
45	65.270	66/2	2.0 X 2.0	1976.327	1973.787	1973.407
46	65.433	66/3	2.0 X 3.0	1984.305	1980.745	1980.325
47	65.708	66/4	2.0 X 2.0	2003.555	2001.015	2000.635
48	70.280	71/1	2.0 X 3.0	1808.262	1804.702	1804.282
49	72.486	73/1	2.0 X 3.0	1689.328	1685.768	1685.348
50	74.280	75/2	2.0 X 2.0	1633.915	1631.375	1630.995
51	74.376	75/3	2.0 X 2.0	1638.322	1635.782	1635.402

NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN M. UNLESS OTHERWISE MENTIONED, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH
CET/4046/NHIDCL/NH-129A/M-P/DDPR/PKG-II/BC/NC/STP/GA (SHEET NO.-01)
CET/4046/NHIDCL/NH-129A/M-P/DDPR/PKG-II/BC/MISC (SHEET NO.-01)

SCALE: AS SHOWN							CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001		TITLE : LIST OF CULVERTS		CONSULTANT : CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company 124-A, N.S.C. Bose Road, Kolkata - 700092		DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/DDPR/PKG-II/BC/NC/STP/GA											
DATE: FEB, 2020					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR (PACKAGE:-NHIDCL/DDPR/SN-DMP-PC/MANIPUR/2016)		SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT				REVISION MKD. - R0 SHEET NO. - 02 OF 02		DRAWN BY		DESIGNED BY		CHECKED BY		ISSUED BY					
MKD.					DATE					DESCRIPTION					CHKD.					APPRD.				
REVISIONS																				 S.SARKAR  S.ALI  S.SADHU  B.KONER				

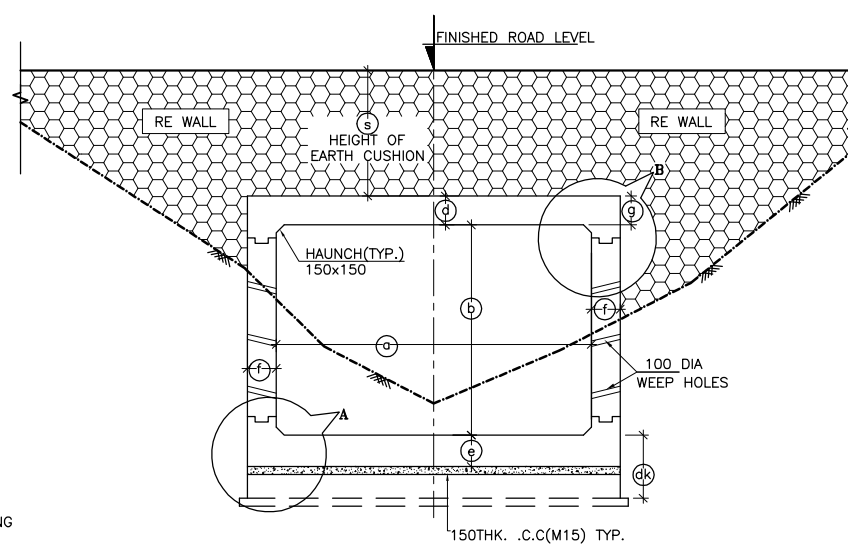
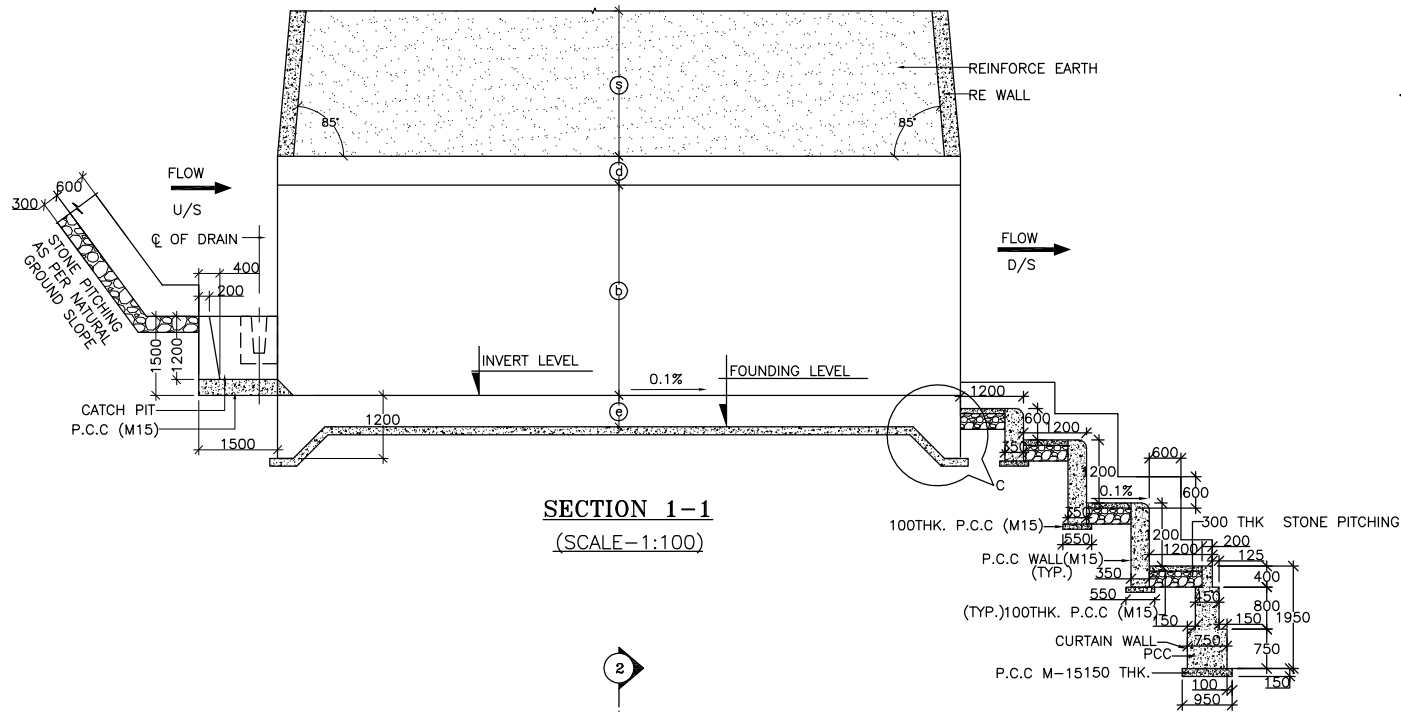
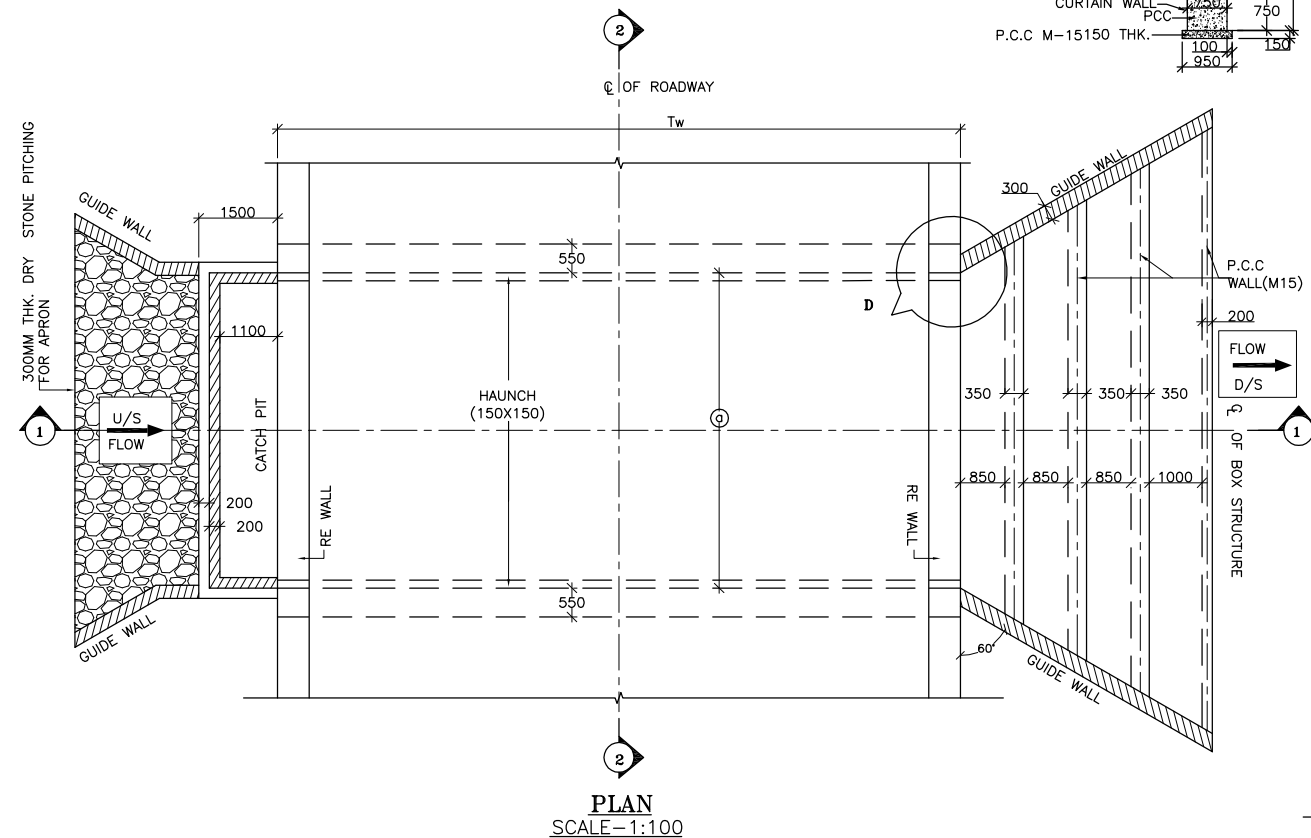


TABLE SHOWING SALENT DIMENSIONS BOX CELL DESIGNATION No/ab/Ec 1/34/4	a	3000
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	d	540
	e	525
	f	500
	g	500
	dk	1200
	Tw	11000

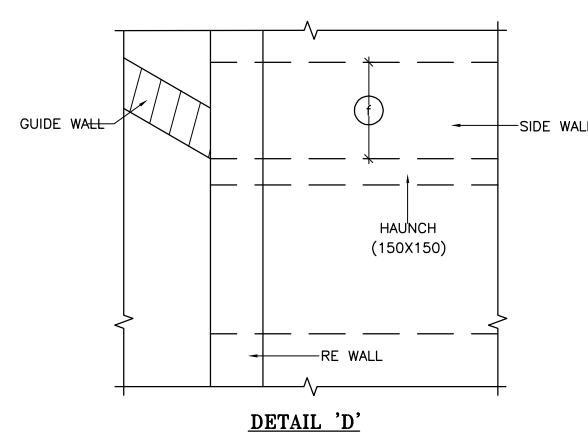
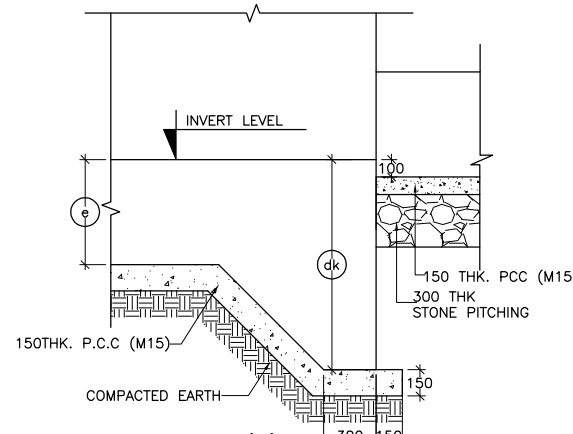
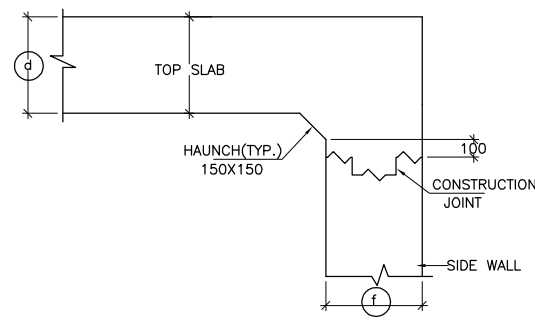
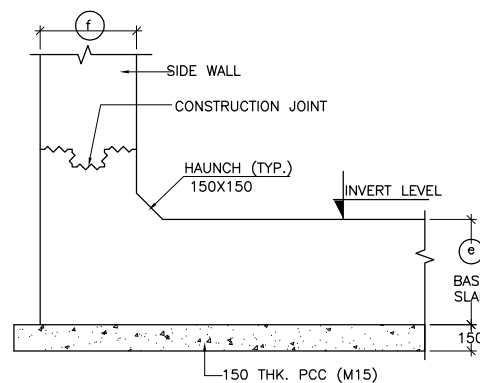
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	e	550
	f	525
	g	525
	dk	1200
	Tw	11000

TABLE SHOWING SALENT DIMENSIONS BOX CELL DESIGNATION No/ab/Ec 1/34/8	a	3000
	b	4000
	d	591
	e	600
	f	550
	g	550
	dk	1200
	Tw	11000

TABLE SHOWING SALENT DIMENSIONS BOX CELL DESIGNATION No/ab/Ec 1/34/8.5	a	3000
	b	4000
	d	591
	e	600
	f	550
	g	550
	dk	1200
	Tw	11000



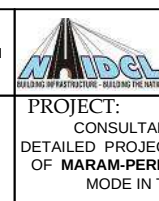
Sl No.	Design Chainage (KM)	Structure No.	Culvert Type	Size Span x Height (M X M)	Earth Cushion Height(S) (M)	Finished Road Level (M)	Proposed Invert Level (M)	Proposed Founding Level (M)
1	50.454	51/3	BOX CULVERT (ENCASING IN RE WALL)	3.0 X 4.0	4.0	1493.751	1484.211	1483.686
2	50.538	51/4	BOX CULVERT (ENCASING IN RE WALL)	3.0 X 4.0	6.5	1499.629	1488.563	1488.013
3	50.950	51/5	BOX CULVERT (ENCASING IN RE WALL)	3.0 X 4.0	8.0	1528.465	1515.874	1515.274
4	51.075	52/1	BOX CULVERT (ENCASING IN RE WALL)	3.0 X 4.0	8.5	1537.212	1524.121	1523.521
5	51.185	52/2	BOX CULVERT (ENCASING IN RE WALL)	3.0 X 4.0	8.5	1544.905	1531.814	1531.214



- NOTES :**
- ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
 - GRADE OF CONCRETE :
BOX CELL STRUCTURE = M30
CURTAIN WALL = M20
LEVELLING COURSE (P.C.C.) = M15
RCC WALL & KERB = M25
 - GRADE OF STEEL Fe 500 AS PER I.S.-1786.
 - CLASS 70R TRACKED PRODUCING WORST EFFECT ARE CONSIDERED FOR DESIGN.
 - PROPERTIES OF BACKFILL SOIL $\gamma = 1.8t/m^3$, $\phi = 30^\circ$.
 - FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MoRTH SPECIFICATIONS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE FULL HEIGHT.
 - SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
 - EARTH BELOW BOX SHALL BE WELL COMPACTED TO ACHIEVE MINIMUM $15 t/m^2$ BEARING CAPACITY.
 - SLOPE ON DECK SLAB WILL VARY AS PER ROAD SLOPE IN DIFFERENT CHAINAGES.
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-II/BC/EC/NC/GA (SHEET NO-01)

MKD.	DATE	DESCRIPTION	CHKD.	APPRD.

SCALE: AS SHOWN



CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001

PROJECT:
CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR (PACKAGE:-NHIDCL/FDPR/SN-DMP-PC/MANIPUR/2020)

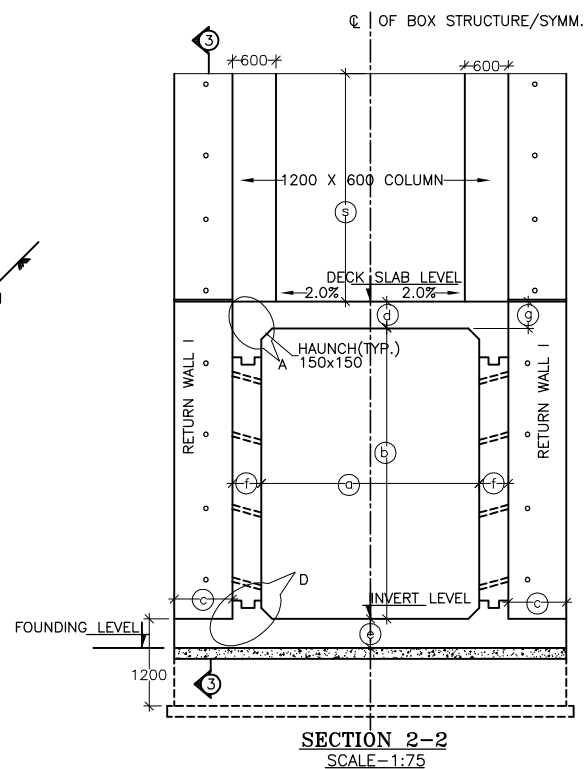
TITLE:
GENERAL ARRANGEMENT OF SINGLE CELL R.C.C BOX CULVERT WITH CATCHPIT & STEPPED PROTECTION (NORMAL CAMBER)

SUBMISSION TYPE :
FINAL DETAILED PROJECT REPORT

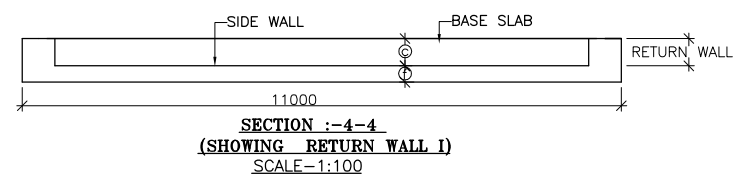
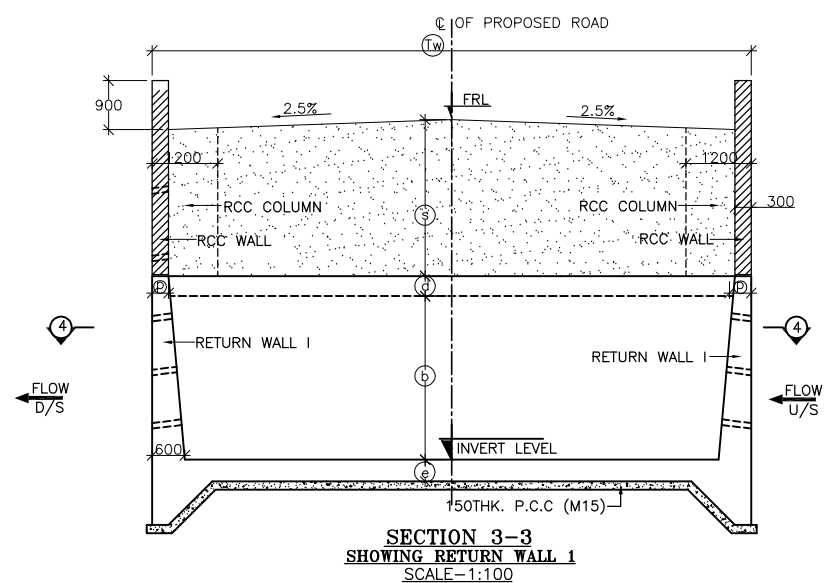
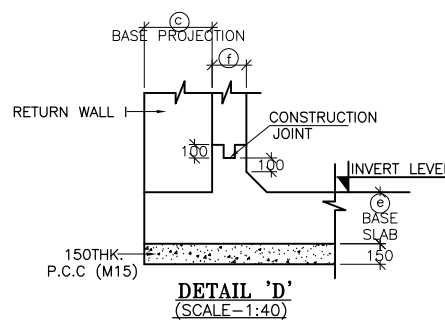
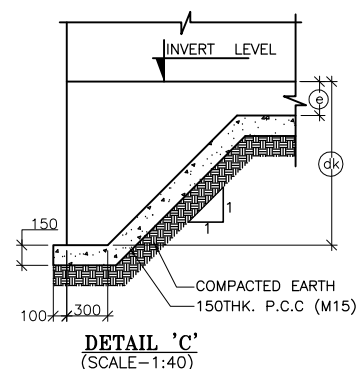
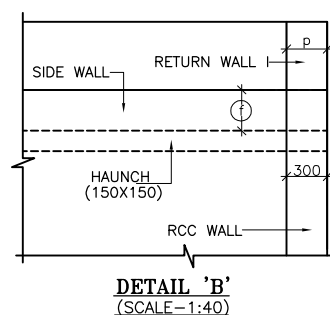
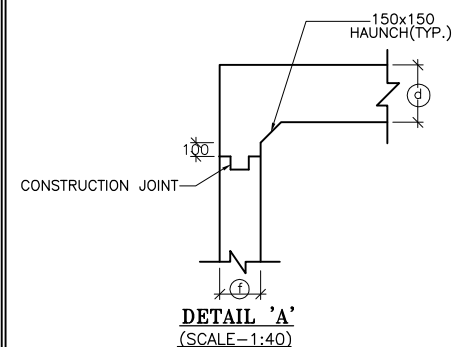
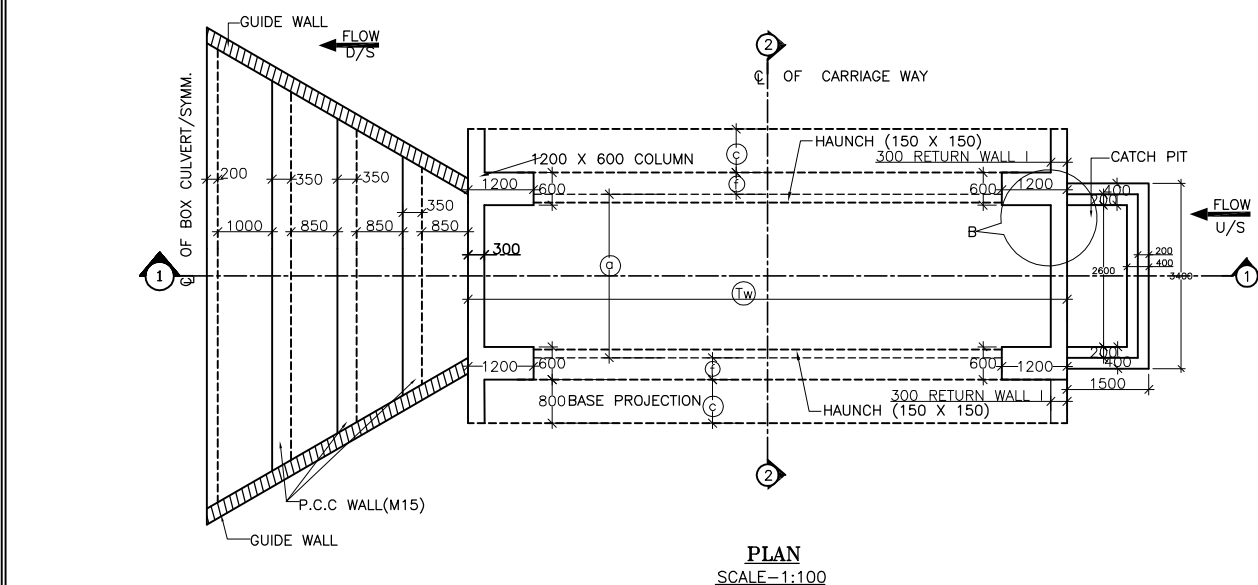
CONSULTANT :
CETEST CE TESTING COMPANY PVT. LTD.
Engineering Consultants
An ISO 9001, 14001 & OHSAS 18001 Certified Company

DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-II/BC/NC/STP/GA	REVISION MKD. - R0	SHEET NO. - 01 OF 02
DRAWN BY S.SARKAR	DESIGNED BY S.SADHU	ISSUED BY B.KONER

DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-II/BC/NC/EC/STP/GA			
REVISION MKD. - R0		SHEET NO. - 01 OF 01	
DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
 S. SARKAR	 S. ALI	 S. SADHU	 B. KONER



SI No.	Design Chainage (KM)	Structure No.	Size Span x Height (M X M)	Earth Cushion Height(S) (M)	Finished Road Level (M)	Proposed Invert Level (M)	Proposed Founding Level (M)
1	40.032	41/1	2.0 X 3.0	1.0	1569.318	1565.011	1564.711
2	40.765	41/5	3.0 X 3.0	1.0	1545.346	1540.938	1540.488
3	40.935	41/7	3.0 X 3.0	1.0	1541.683	1537.275	1536.825
4	41.118	42/1	3.0 X 3.0	1.5	1542.120	1537.212	1536.762
5	44.818	45/5	2.0 X 3.0	2.0	1430.647	1425.340	1425.040
6	45.660	46/5	2.0 X 3.0	1.5	1461.577	1456.770	1456.470
7	46.495	47/2	2.0 X 3.0	1.2	1470.804	1466.297	1465.997
8	46.720	47/4	2.0 X 3.0	1.5	1464.197	1459.390	1459.090
9	48.776	49/5	2.0 X 3.0	1.0	1464.629	1460.322	1460.022
10	50.297	51/2	3.0 X 4.0	1.5	1482.764	1476.854	1476.384
11	51.505	52/3	2.0 X 3.0	1.0	1567.298	1562.991	1562.691
12	51.765	52/4	2.0 X 3.0	1.5	1585.493	1580.686	1580.386
13	54.607	55/3	2.0 X 3.0	1.2	1713.904	1709.397	1709.097
14	56.410	57/3	2.0 X 3.0	1.2	1706.936	1702.429	1702.129
15	58.435	59/2	2.0 X 3.0	2.0	1686.708	1681.401	1681.101
16	60.400	61/3	3.0 X 4.0	2.4	1756.522	1749.713	1749.243
17	64.168	65/2	5.0 X 4.0	2.0	1927.228	1920.617	1919.917
18	65.952	66/5	2.0 X 3.0	2.0	2014.252	2008.945	2008.645
19	68.350	69/1	3.0 X 4.0	1.8	1921.967	1915.632	1915.162
20	73.527	74/3	2.0 X 3.0	2.0	1636.352	1631.045	1630.745
21	73.630	74/4	2.0 X 3.0	1.2	1629.142	1624.635	1624.335



BOX CELL DESIGNATION No/ab/Ec		1/23/EC	1/33/EC	1/34/EC	1/54/EC
TABLE SHOWING SALIENT DIMENSIONS	a	2000	3000	3000	5000
	b	3000	3000	4000	4000
	c	1100	800	1400	800
	d	275	408	410	575
	e	300	450	470	700
	f	350	400	450	530
	g	250	370	370	550
	p	300	300	300	300
	dk	1200	1200	1200	1200
Tw	11000	11000	11000	11000	

NOTES :

1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
2. GRADE OF CONCRETE :
BOX CELL STRUCTURE = M30
CURTAIN WALL = M20
LEVELLING COURSE (P.C.C.)= M15
RETURN WALL-I = M30
RCC WALL & KERB = M25
3. GRADE OF STEEL Fe 500 AS PER I.S.-1786.
4. CLASS 70R TRACKED PRODUCING WORST EFFECT ARE CONSIDERED FOR DESIGN.
5. PROPERTIES OF BACKFILL SOIL $\gamma = 1.8 \text{ t/m}^3$, $\phi = 30^\circ$.
6. FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MoRTH SPECIFICATIONS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE FULL HEIGHT.
7. SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
8. EARTH BELLOW BOX SHALL BE WELL COMPACTED TO ACHIEVE MINIMUM 15 t/m^2 BEARING CAPACITY.
9. SLOPE ON DECK SLAB WILL VARY AS PER ROAD SLOPE IN DIFFERENT CHAINAGES.
10. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CET/4046/NHIDCL/NH-129A/M-P/DDPR/PKG-II/BC/MISC

MKD.	DATE	DESCRIPTION	CHKD.	APPRD.
REVISIONS				

SCALE:
AS SHOWN

DATE:
FEB,
2020



PROJECT:

CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF **MARAM-PEREN** SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR (PACKAGE: NHIDCL/FDPR/SN-DMP-PC/MANIPUR/2020)

CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD.
PTI Building, 3rd Floor, 4, Parliament Street,
New Delhi - 110001

TITLE :	GENERAL ARRANGEMENT OF SINGLE CELL R.C.C BOX CULVERT WITH CATCHPIT & STEPPED PROTECTION WITH EARTH CUSHION (NORMAL CAMBER)
SUBMISSION TYPE :	FINAL DETAILED PROJECT REPORT
	PACKAGE:-II

CONSULTANT :



CE TESTING COMPANY PVT. LTD

124-A, N.S.C. Bose Road,
Kolkata - 700092.



DWG NO. :- CET/A046/NHIDCL/NH-129A/M-P/FDPR/PKG-II/BC/NC/EC/STP/GA			
REVISION MKD. - R0		SHEET NO. - 01 OF 01	
DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
 S.SARKAR	 S.ALI	 S.SADHU	 B.KONER

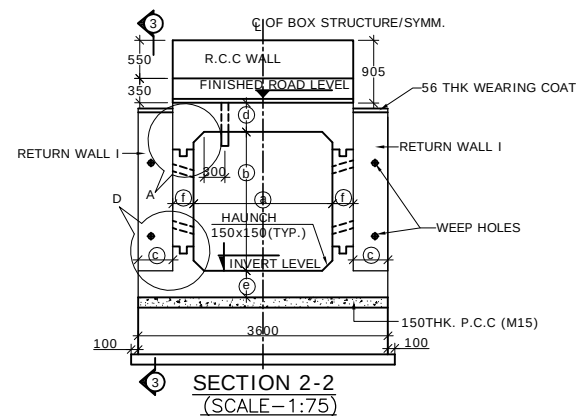
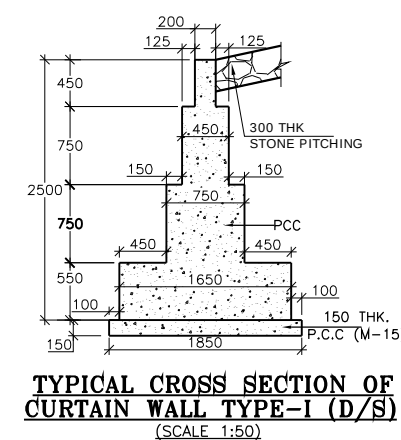
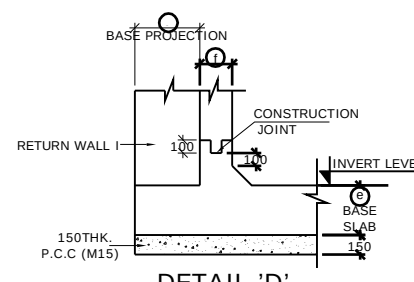
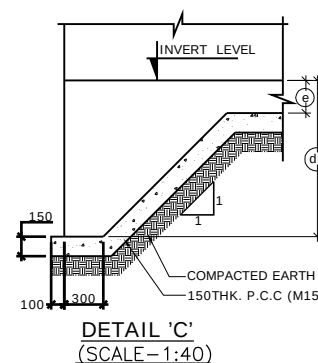
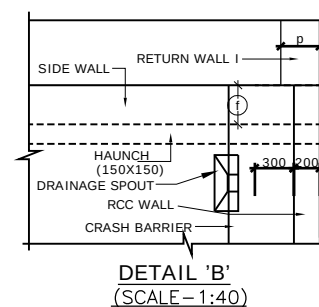
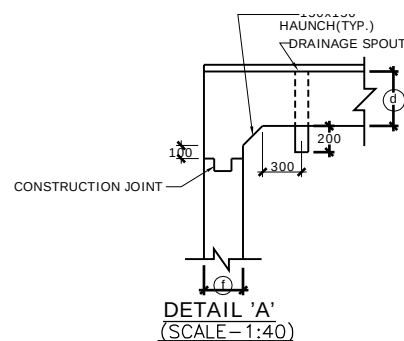
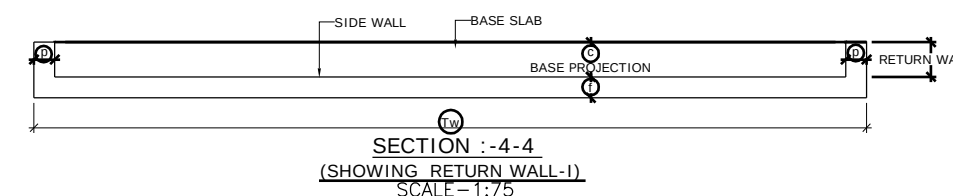
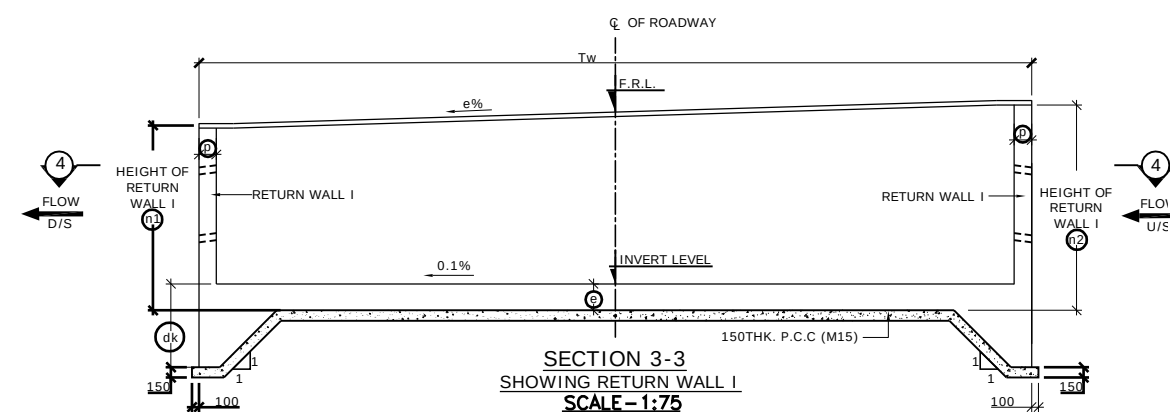
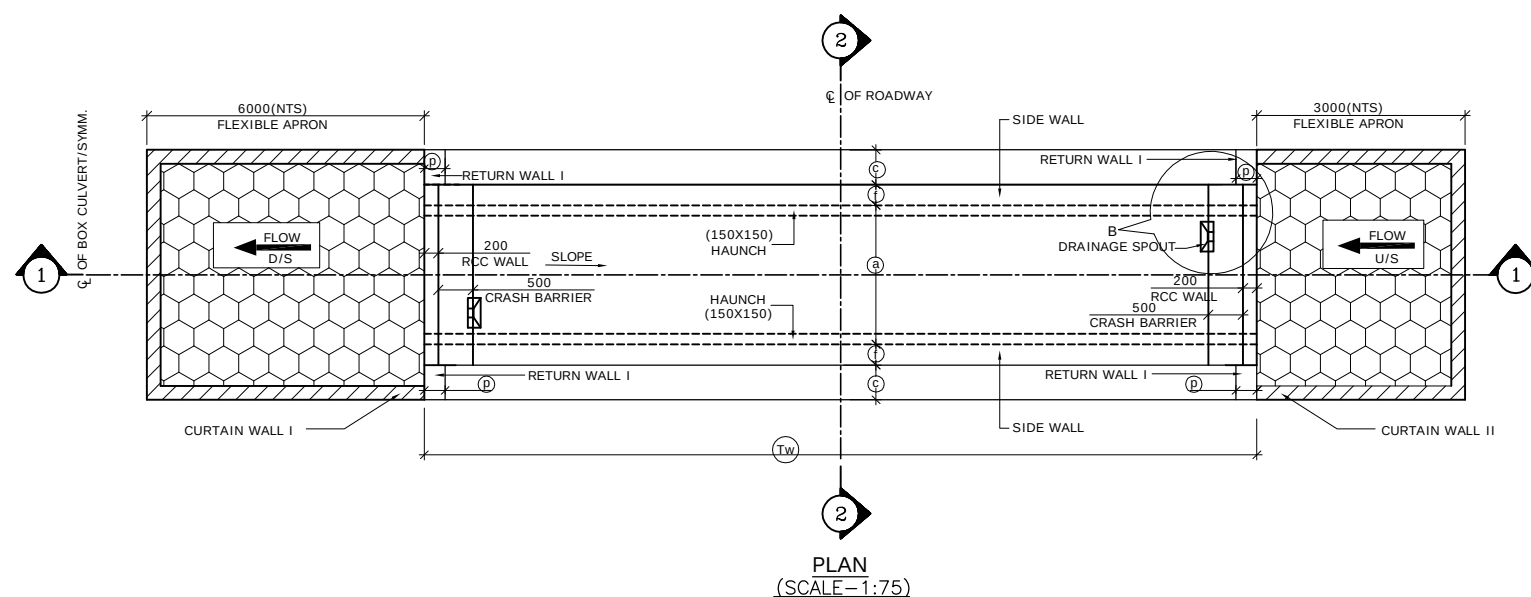


TABLE SHOWING SALIENT DIMENSIONS BOX CELL DESIGNATION No/ab/Ec 1/22/0	BUILT UP AREA	
	a	2000
	b1	2000
	b2	VARRYIN
	c	1300
	d	350
	e	420
	f	420
	p	300
	Cw	11000
Tw	12000	

TABLE SHOWING SALIENT DIMENSIONS	BOX CELL DESIGNATION No/ab/Ec 1/23/0	BUILT UP AREA	
		a	2000
		b1	3000
		b2	VARRYIN
		c	1300
		d	350
		e	420
		f	420
		p	300
		Cw	1100
Tw	1200		

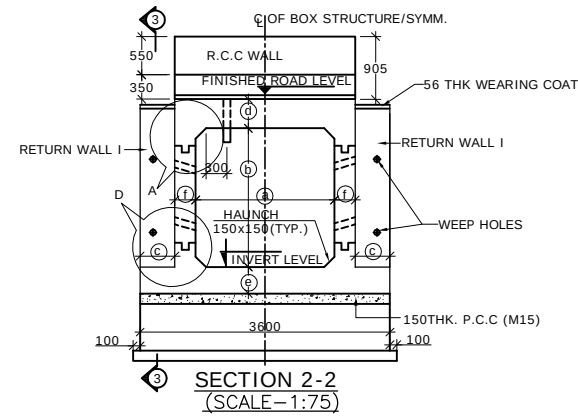
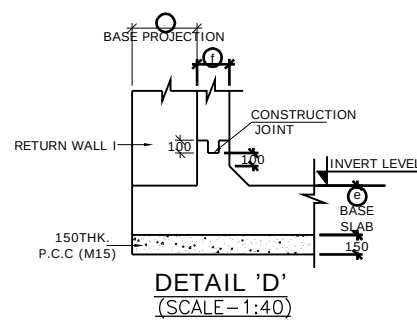
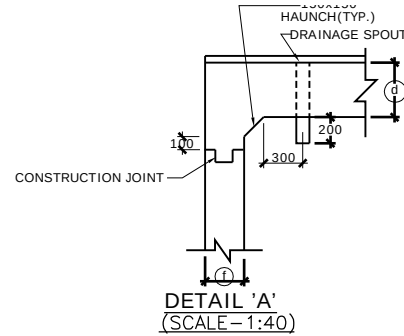
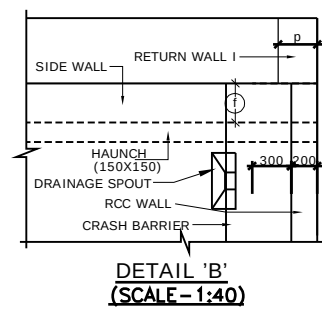
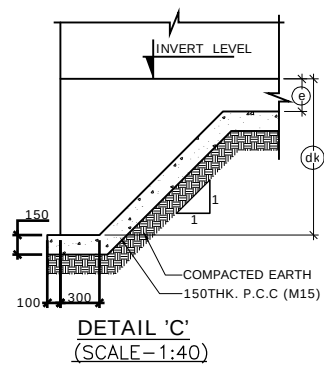
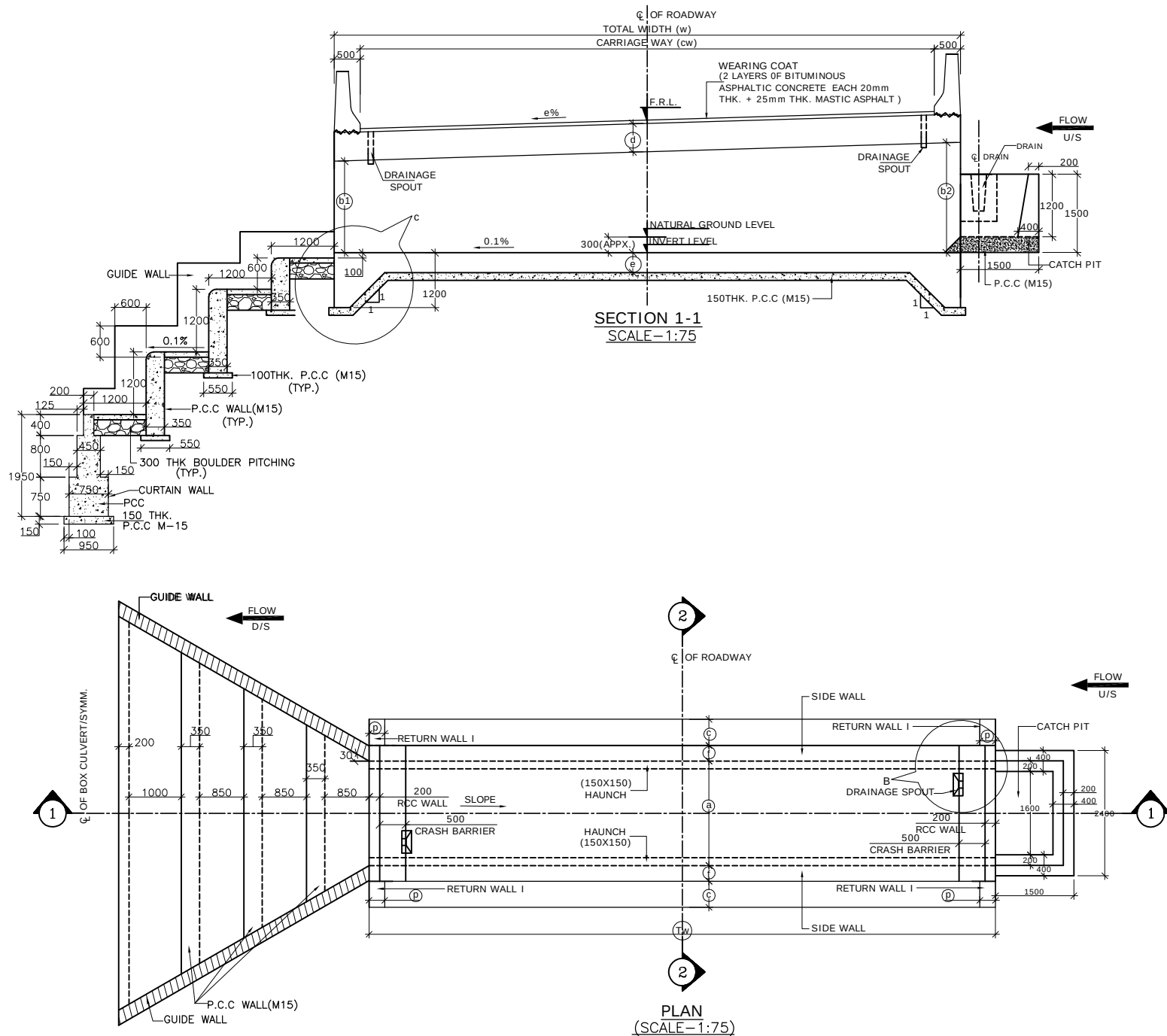
Sl No.	Design Chainage (KM)	Structure No.	Size Span x Height (M X M)	Finished Road Level (M)	Proposed Invert Level (M)	Proposed Founding Level (M)	n1	n2	Se%
1	58.985	59/4	2.0 X 3.0	1689.282	1685.649	1685.229	3.790	3.794	3.6%
2	59.776	60/3	2.0 X 3.0	1713.897	1710.077	1709.657	3.790	3.798	7.0%
3	59.975	60/4	2.0 X 2.0	1727.491	1724.691	1724.311	2.730	2.738	7.0%



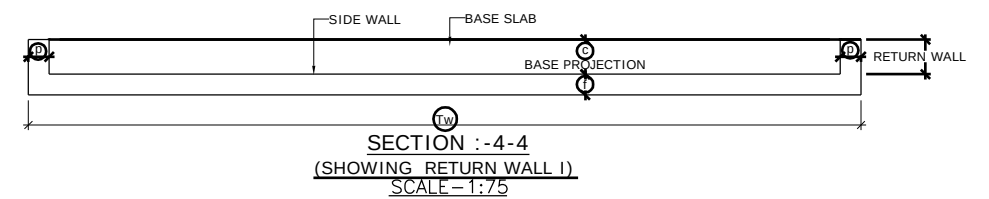
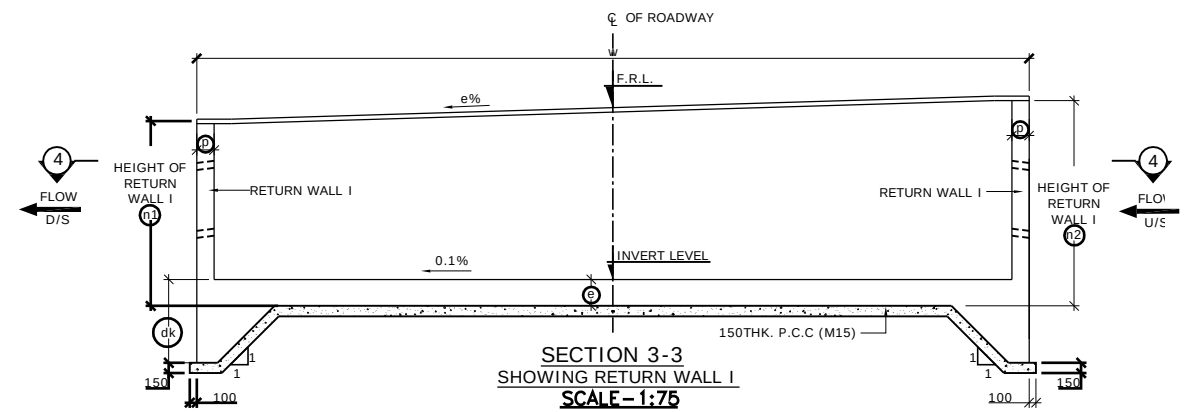
- ## NOTES :
1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
 2. GRADE OF COSERETE :
BOX CELL STRUCTURE = M30
CURTAIN WALL = M20
LEVELLING COURSE (P.C.C.) = M15
RETURN WALL = M30
RCC WALL & KERB = M25
 3. GRADE OF STEEL Fe 500 AS PER I.S.-1786.
 4. CLASS 70 TRACKED PRODUCING WORST EFFECT ARE CONSIDERED FOR DESIGN.
 5. PROPERTIES OF BACKFILL SOIL $\gamma = 1.8t/m^3$, $\phi = 30^\circ$.
 6. FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MORTH SPECIFICATIONS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE FULL HEIGHT.
 7. SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULARULAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
 8. EARTH BELLOW BOX SHALL BE WELL COMPACTED TO ACHIEVE MINIMUM $15 t/m^2$ BEARING CAPACITY.
 9. SLOPE ON DECK SLAB WILL VARY AS PER ROAD SLOPE IN DIFFERENT CHAINAGES.
 10. 'DK' IS DEPTH OF KEY AT BASE SLAB

<u>FOR BASE SLAB THICKNESS</u>	<u>VALUE OF 'DK'</u>
UPTO 900mm	1200 mm
	e + 300 mm
GREATER THAN 900 mm	e = BASE SLAB THICKNESS
 11. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH
CET/4046/NHIDCL-NH-129A/M-P/DDPR/PGK-II/BC/MISC
(SHEET NO.-01)

					SCALE: AS SHOWN		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TITLE : GENERAL ARRANGEMENT OF SINGLE CELL R.C.C. BOX CULVERT WITH FLEXIBLE APRON (SUPER ELEVATION)	CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092 	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-II/BC/SE/F/GA			
										REVISION MKD. - R0	SHEET NO. - 01 OF 01		
					DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR (PACKAGE: NHIDCL/FDPR/SN-DMP-PC/MANIPUR/2020)	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			DRAWN BY  S.SARKAR	DESIGNED BY  S.ALI	CHECKED BY S.SADHU	ISSUED BY B.KONER
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.									
REVISIONS													



BOX CELL DESIGNATION No/ab/Ec	1/22/0	1/23/0	1/53/0
a	2000	2000	5000
b1	2000	3000	3000
b2	VARRYING	VARRYING	VARRYING
c	500	1300	300
d	350	350	500
e	380	420	570
f	300	420	570
p	300	300	300
Cw	10000	10000	10000
Tw	11000	11000	11000

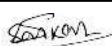


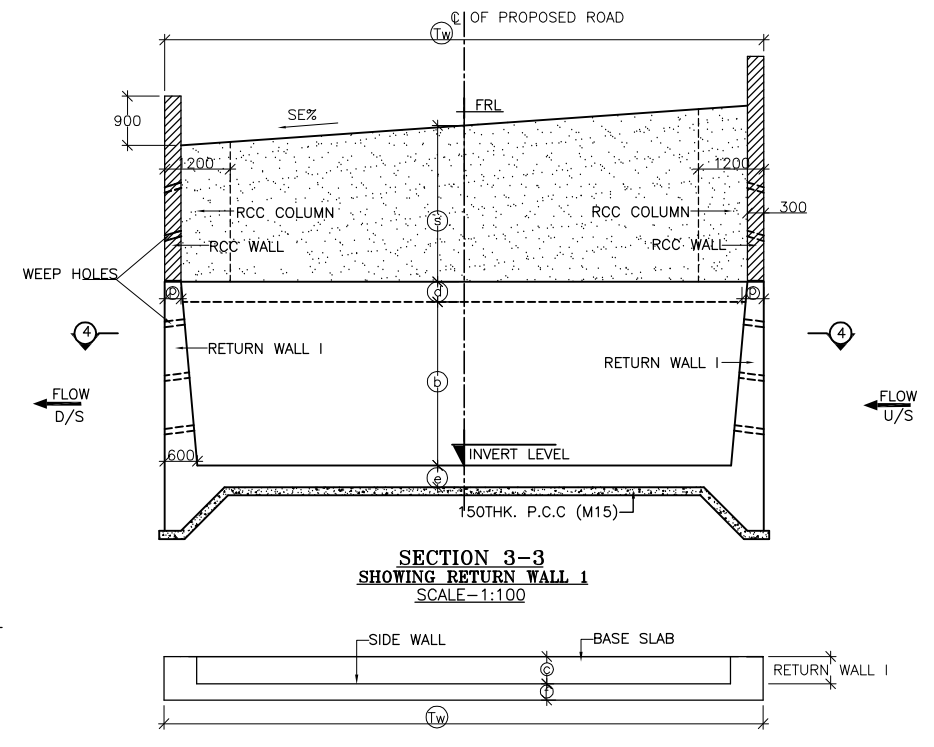
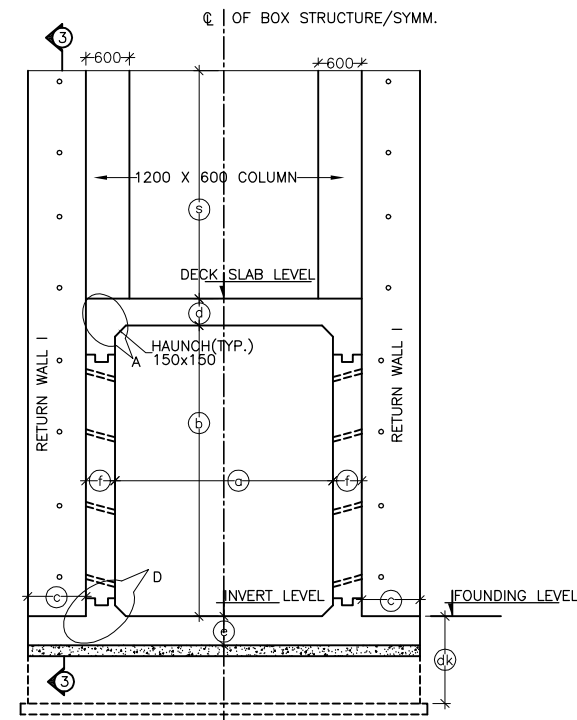
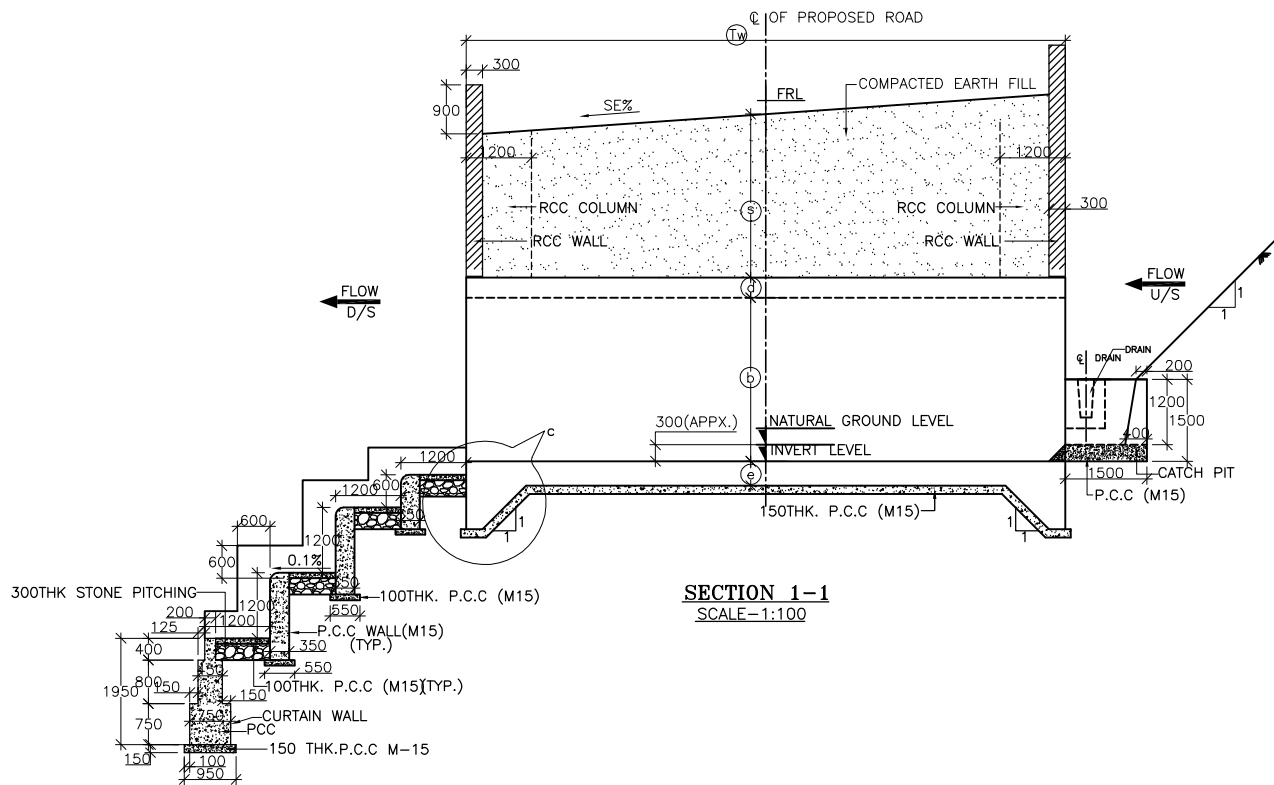
- NOTES :**
- ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
 - GRADE OF CONCRETE :
BOX CELL STRUCTURE = M30
CURTAIN WALL = M20
LEVELLING COURSE (P.C.C.) = M15
RETURN WALL-I = M30
RCC WALL & KERB = M25
 - GRADE OF STEEL Fe 500 AS PER I.S.-1786.
 - CLASS 70R TRACKED PRODUCING WORST EFFECT ARE CONSIDERED FOR DESIGN.
 - PROPERTIES OF BACKFILL SOIL $\gamma = 1.8 \text{ t/m}^3$, $\phi = 30^\circ$.
 - FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MoRTH SPECIFICATIONS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE FULL HEIGHT.
 - SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
 - EARTH BELOW BOX SHALL BE WELL COMPACTED TO ACHIEVE MINIMUM 15 t/m^2 BEARING CAPACITY.
 - SLOPE ON DECK SLAB WILL VARY AS PER ROAD SLOPE IN DIFFERENT CHAINAGES.
 - 'DK' IS DEPTH OF KEY AT BASE SLAB
FOR BASE SLAB THICKNESS
UPTO 900mm 1200 mm
GREATER THAN 900 mm e+300 mm
e = BASE SLAB THICKNESS
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH
CET/4046/NHIDCL/NH-129A/M-P/DDPR/PKG-II/BC/SE/STP/GA (SHEET NO.-02.)
CET/4046/NHIDCL/NH-129A/M-P/DDPR/PKG-II/BC/MISC (SHEET NO.-01)

SCALE: AS SHOWN					CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001					TITLE: GENERAL ARRANGEMENT OF SINGLE CELL R.C.C. BOX CULVERT WITH CATCHPIT & STEPPED PROTECTION (SUPER ELEVATION)					CONSULTANT : CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road, Kolkata - 700092					DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-II/BC/SE/STP/GA				
DATE: FEB. 2020					PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MADE IN THE STATE OF MANIPUR (PACKAGE:-NHIDCL/FDPR/SN-DMP-PC/MANIPUR/2020)					SUBMISSION TYPE: FINAL DETAILED PROJECT REPORT					REVISION MKD. - R0					SHEET NO. - 01 OF 02				
DRAWN BY: S.SARKAR					DESIGNED BY: S.ALI					CHECKED BY: S.SADHU					ISSUED BY: B.KONER									

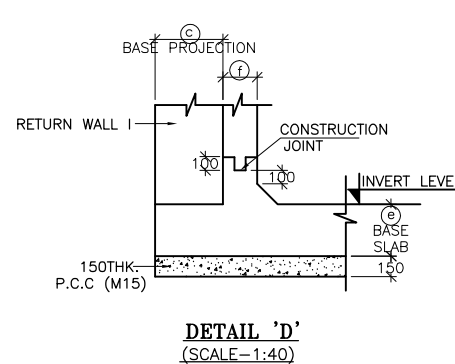
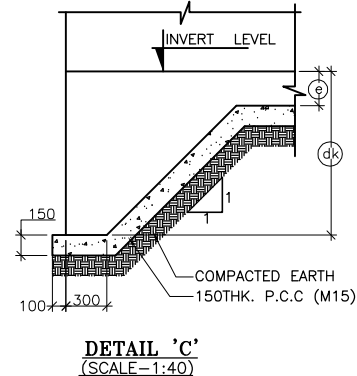
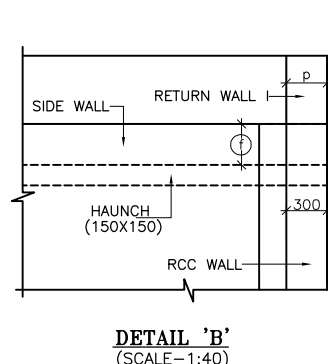
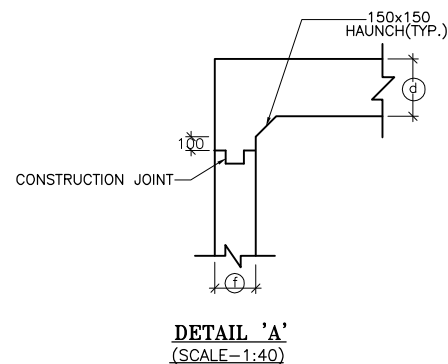
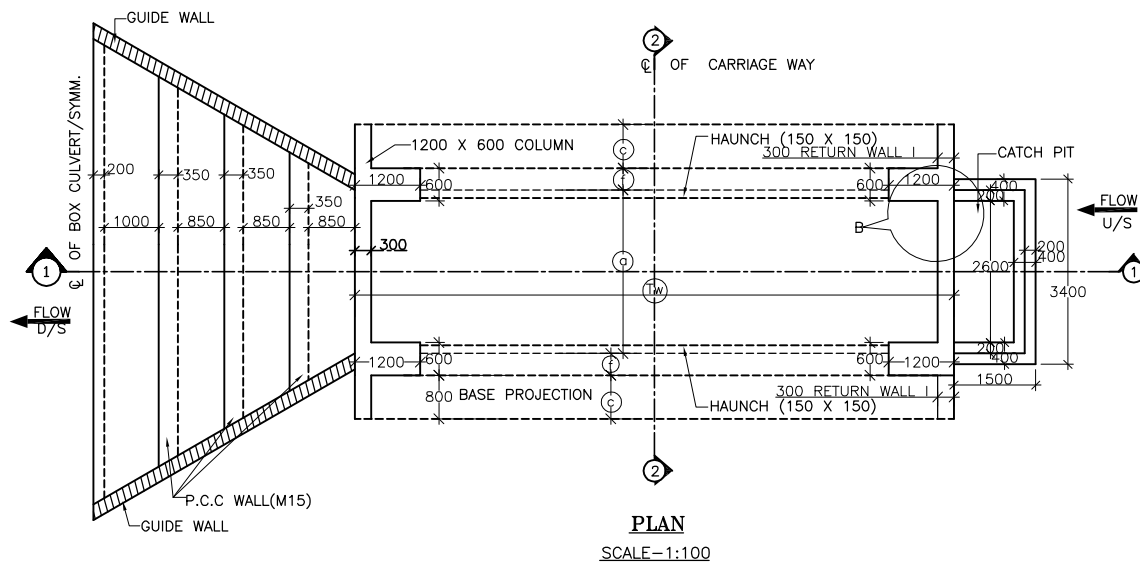
SI No.	Design Chainage (KM)	Structure No.	Size Span x Height (M X M)	Finished Road Level (M)	Proposed Invert Level (M)	Proposed Founding Level (M)	n1	n2	Se%
1	40.178	41/2	2.0 X 3.0	1565.339	1561.554	1561.134	3.790	3.797	7.0%
2	41.392	42/2	2.0 X 3.0	1530.448	1526.778	1526.358	3.790	3.795	4.7%
3	43.455	44/3	2.0 X 2.0	1421.691	1418.926	1418.546	2.730	2.737	7.0%
4	44.210	45/1	2.0 X 2.0	1414.217	1411.452	1411.072	2.730	2.737	7.0%
5	44.390	45/2	2.0 X 2.0	1422.038	1419.273	1418.893	2.730	2.737	7.0%
6	44.495	45/3	2.0 X 3.0	1423.332	1419.547	1419.127	3.790	3.797	7.0%
7	44.659	45/4	2.0 X 2.0	1424.738	1421.973	1421.593	2.730	2.737	7.0%
8	45.470	46/4	2.0 X 2.0	1453.094	1450.329	1449.949	2.730	2.737	7.0%
9	47.930	48/3	2.0 X 3.0	1468.706	1464.921	1464.501	3.790	3.797	7.0%
10	48.225	49/2	5.0 X 3.0	1464.035	1460.120	1459.550	4.070	4.077	7.0%
11	50.155	51/1	5.0 X 3.0	1472.827	1468.912	1468.342	4.070	4.077	7.0%
12	54.135	55/1	2.0 X 2.0	1703.820	1701.055	1700.675	2.730	2.737	7.0%
13	55.565	56/3	2.0 X 2.0	1712.451	1709.686	1709.306	2.730	2.737	7.0%
14	56.593	57/4	2.0 X 2.0	1710.582	1707.987	1707.607	2.730	2.734	3.6%
15	58.732	59/3	2.0 X 3.0	1688.854	1685.134	1684.714	3.790	3.796	5.7%
16	62.800	63/2	2.0 X 2.0	1890.427	1887.662	1887.282	2.730	2.737	7.0%
17	62.995	63/3	2.0 X 3.0	1887.271	1883.696	1883.276	3.790	3.793	2.8%
18	64.440	65/5	2.0 X 2.0	1929.795	1927.030	1926.650	2.730	2.737	7.0%
19	65.175	66/1	2.0 X 2.0	1973.462	1970.697	1970.317	2.730	2.737	7.0%
20	66.510	67/1	2.0 X 2.0	2049.419	2046.654	2046.274	2.730	2.737	7.0%
21	69.640	70/1	2.0 X 2.0	1845.911	1843.146	1842.766	2.730	2.737	7.0%
22	73.050	74/1	2.0 X 2.0	1658.489	1655.764	1655.384	2.730	2.736	6.2%
23	73.285	74/2	2.0 X 2.0	1650.962	1648.197	1647.817	2.730	2.737	7.0%
24	73.835	74/5	2.0 X 2.0	1616.364	1613.249	1612.869	2.730	2.737	7.0%
25	74.158	75/1	2.0 X 3.0	1628.315	1624.180	1623.760	3.790	3.797	7.0%
26	74.475	75/4	2.0 X 2.0	1642.866	1639.751	1639.371	2.730	2.737	7.0%
27	74.628	75/5	2.0 X 3.0	1647.572	1643.437	1643.017	3.790	3.797	7.0%
28	74.722	75/6	2.0 X 2.0	1645.483	1642.368	1641.988	2.730	2.737	7.0%

NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN M. UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH
CET/4046/NHIDCL/NH-129A/M-P/DDPR/PKG-II/BC/SE/STP/GA (SHEET NO.-01)
CET/4046/NHIDCL/NH-129A/M-P/DDPR/PKG-II/BC/MISC (SHEET NO.-01)

					SCALE: AS SHOWN		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TITLE : LIST OF CULVERTS	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-II/BC/SE/STP/GA				
					DATE: FEB, 2020	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR (PACKAGE:-NHIDCL/FDPR/SN-DMP-PC/MANIPUR/2020)			SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		REVISION MKD. - R0		SHEET NO. - 02 OF 02	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.						DRAWN BY  S.SARKAR		DESIGNED BY  S.ALI	CHECKED BY  S.SADHU	ISSUED BY  B.KONER
REVISIONS														



SECTION :-4-4
(SHOWING RETURN WALL 1)
SCALE-1:100



Sl No.	Design Chainage (KM)	Structure No.	Size Span x Height (M X M)	Earth Cushion Height(C) (m)	Finished Road Level (M)	Proposed Invert Level (M)	Proposed Founding Level (M)	Se%
1	40.880	41/6	5.0 X 4.0	2.0	1542.189	1535.578	1534.878	7.0%
2	42.928	43/1	2.0 X 3.0	1.5	1450.332	1445.525	1445.225	3.6%
3	43.287	44/2	2.0 X 3.0	2.0	1430.093	1424.786	1424.486	3.6%
4	45.911	46/6	2.0 X 3.0	1.0	1470.329	1466.022	1465.722	3.6%
5	49.861	50/4	2.0 X 2.0	1.2	1467.006	1463.531	1463.231	3.6%
6	49.973	50/5	3.0 X 4.0	1.6	1467.932	1461.922	1461.452	3.6%
7	58.025	59/1	2.0 X 3.0	2.0	1713.411	1708.104	1707.804	5.7%
8	60.075	61/1	2.0 X 3.0	1.5	1734.322	1729.515	1729.215	7.0%
9	70.912	71/2	2.0 X 3.0	1.5	1764.022	1759.215	1758.915	7.0%

NOTES :

- ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
- GRADE OF CONCRETE :
BOX CELL STRUCTURE = M30
CURTAIN WALL-I = M20
LEVELLING COURSE (P.C.C.) = M15
RETURN WALL = M30
RCC WALL & KERB = M25
- GRADE OF STEEL Fe 500 AS PER I.S.-1786.
- CLASS 70R TRACKED PRODUCING WORST EFFECT ARE CONSIDERED FOR DESIGN.
- PROPERTIES OF BACKFILL SOIL $\gamma = 1.8t/m^3$, $\phi = 30^\circ$.
- FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MoRTH SPECIFICATIONS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE FULL HEIGHT.
- SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
- EARTH BELOW BOX SHALL BE WELL COMPACTED TO ACHIEVE MINIMUM $15 t/m^2$ BEARING CAPACITY.
- SLOPE ON DECK SLAB WILL VARY AS PER ROAD SLOPE IN DIFFERENT CHAINAGES.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CET/4046/NHIDCL/NH-129A/M-P/DDPR/PKG-II/BC/MISC

BOX CELL DESIGNATION No/ab/Ec	1/22/EC	1/23/EC	1/34/EC	1/54/EC
a	2000	2000	3000	5000
b	2000	3000	4000	4000
c	600	1100	1400	800
d	275	307	410	611
e	300	300	470	700
f	250	350	450	530
g	250	280	370	550
p	300	300	300	300
dk	1200	1200	1200	1200
Tw	11000	11000	11000	11000

MKD.	DATE	DESCRIPTION	CHKD.	APPRD.

SCALE: AS SHOWN
DATE: FEB, 2020



CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001

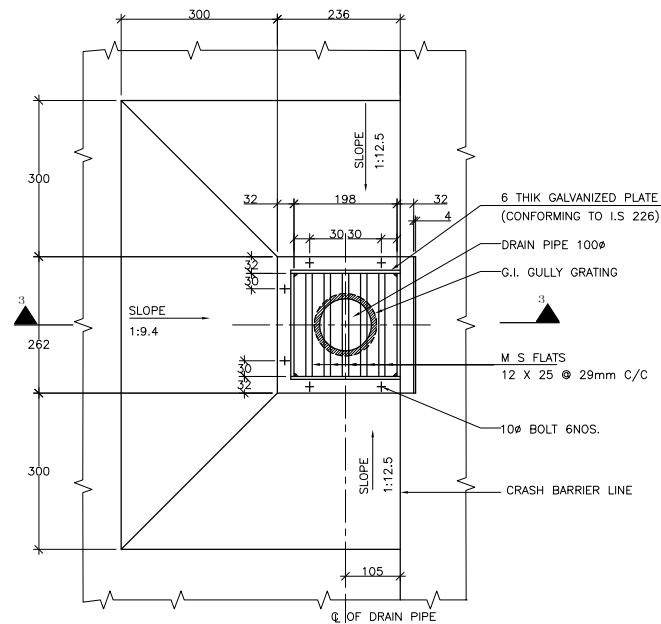
PROJECT:
CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANE OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR (PACKAGE:-NHIDCL/FDPR/SN-DMP-PC/MANIPUR/2020)

TITLE : GENERAL ARRANGEMENT OF SINGLE CELL R.C.C BOX CULVERT WITH CATCHPIT & STEPPED PROTECTION WITH EARTH CUSHION (SUPER ELEVATION)

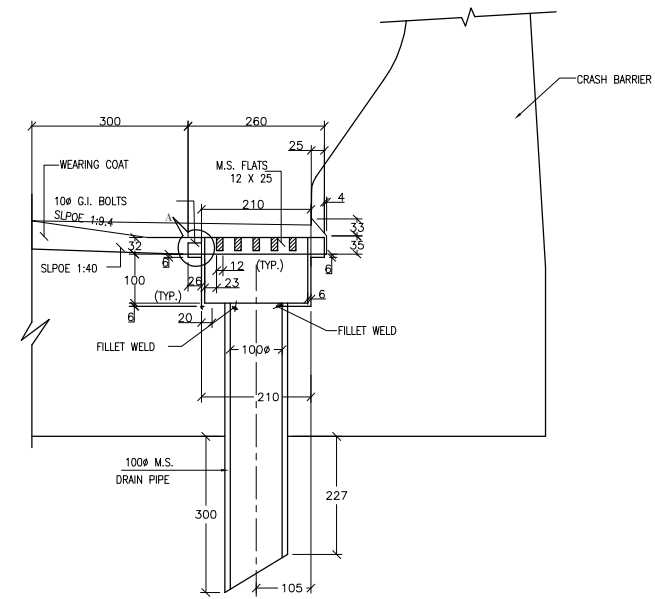
SUBMISSION TYPE :
FINAL DETAILED PROJECT REPORT

CONSULTANT :
CETEST CE TESTING COMPANY PVT. LTD.
Engineering Consultants
124-A, N.S.C. Bose Road
Kolkata - 700092

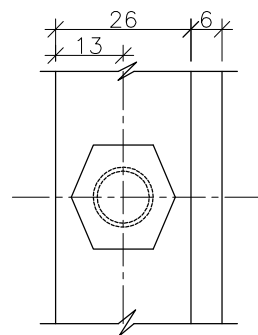
DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-II/BC/NC/EC/STP/GA	REVISION MKD. - R0	SHEET NO. - 01 OF 01
DRAWN BY S.SARKAR	DESIGNED BY S.ALI	CHECKED BY S.SADHU
		ISSUED BY B.KONER



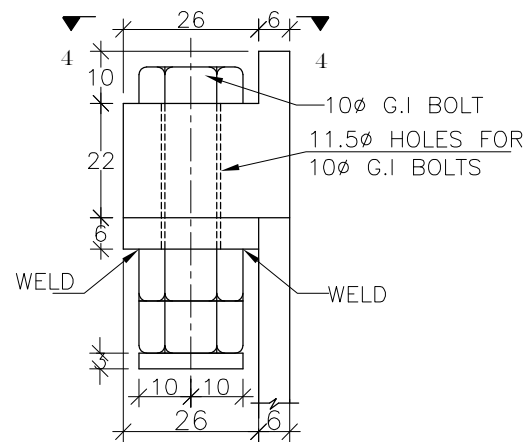
PLAN
DETAIL OF DRAINAGE
SPOUT AND COLLECTION PIT
SCALE- 1:10



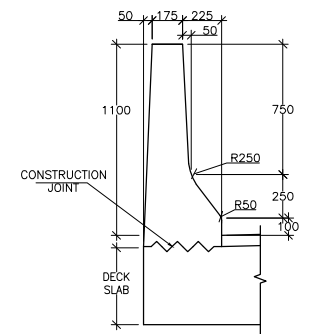
SECTION 3-3
SCALE- 1:10



PLAN AT 4-4
SCALE- 1:2



DETAIL - A
SCALE- 1:2



DETAILS OF CRASH BARRIER
(FOR GENERAL ARRANGEMENT)
SCALE-1:30

NOTES :

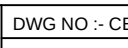
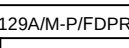
1. ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE NOTED.

NOTES OF DRAINAGE SPOUT

- ONLY FIGURED DIMENSIONS ARE TO BE FOLLOWED.
- ALL STEEL WORK SHALL BE AS PER IS - 2062.
- DRAINAGE SPOUT & COLLECTION PIT ASSEMBLY SHALL BE FABRICATED FROM MILD STEEL & AFTER FABRICATION, THE COMPLETE ASSEMBLY EXCEPT GRATING SHALL BE GIVEN A HOT DIPPED GALVANISED COATING.
- THE REINFORCEMENT OF TOP SLAB OF SHALL BE SUITABLY MODIFIED TO ACCOMMODATE THE DRAINAGE SPOUT.
- THE DRAINAGE SPOUT SHALL BE GALVANIZED AFTER WELDING THE PLATES & FLATS.

REFERENCE DRAWINGS :

1.THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT GA DRAWINGS.

					SCALE: AS SHOWN		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TITLE : DETAILS OF DRAINAGE SPOUT AND CRASH BARRIER	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092 	DWG NO :- CET/4046/NHIDCL/NH-129A/M-P/FDPR/PKG-II/BC/MISC							
					DATE: FEB, 2020					REVISION MKD. - R0		SHEET NO. - 01 OF 01					
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF MARAM-PEREN SECTION ON NH 129A ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATE OF MANIPUR (PACKAGE:-NHIDCL/FDPR/SN-DMP-PC/MANIPUR/2020)					DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY				
REVISIONS																-	
					SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT												