

HIGHWAY DRAWINGS (TCS) PKy-02

CLIENT

:



**NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD**

**AUTHORITY
ENGINEER**

:

**M/s Bloom Companies LLC
In Association With
Shri Bhavani Consultancy Services Pvt. Ltd.**

**PROOF
CONSULTANT**

:



Hindia Engineers Pvt. Ltd.
Address: 33/7, H-Block, DLF Phase-1,
Gurgaon-Faridabad Road Haryana, INDIA-122002,
Phone No.-0124-4028681

**SAFETY
CONSULTANT**

:



Antique Buildtech Pvt. Ltd.
Address: 191, Mohan Nagar, Gopalpura Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2760303
Email : info@antiquebuildtech.com

PROJECT

:

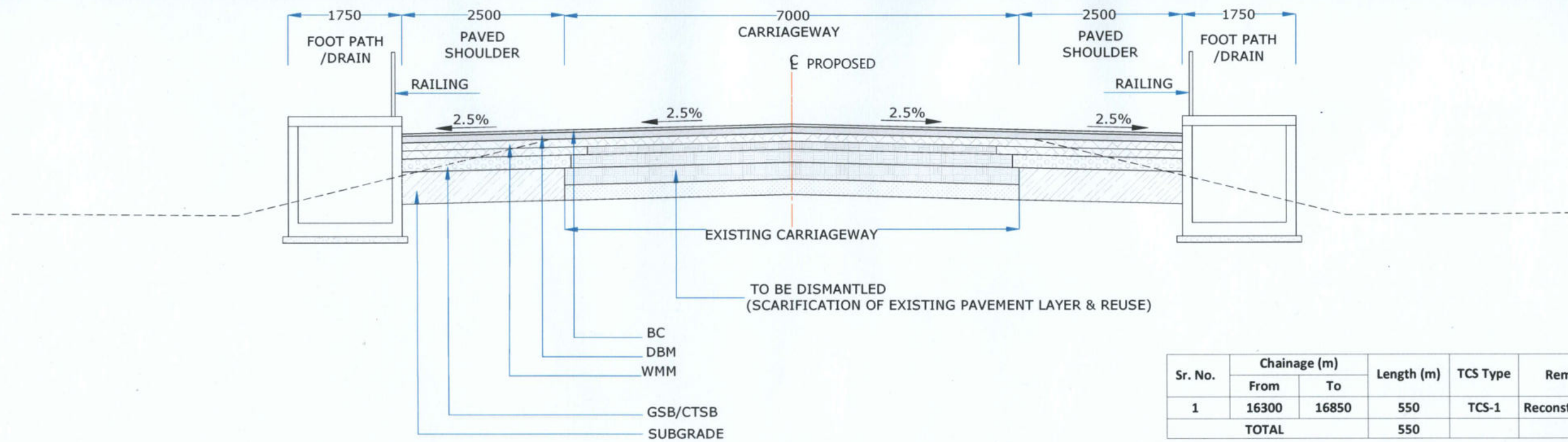
**WIDENING OF TWO LANE WITH PAVESHOULDER OF IMPHAL TO
JIRIBAM SECTION OF NH-37 FROM CHAINAGE 15+940 TO
CHAINAGE 33+120 TOTAL LENGTH 17+180 PACKAGE-II IN THE STATE
OF MANIPUR UNDER EPC MODE.**



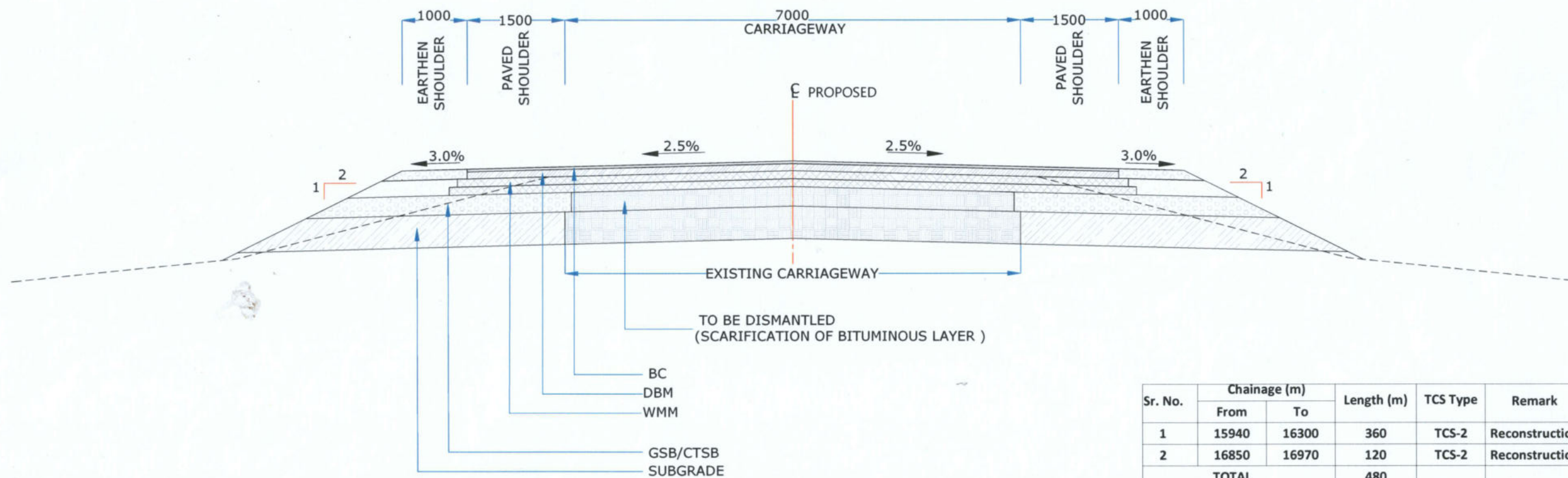
TABLE OF CONTENTS

Sr.No.	Title of Drawings	Drawing No	No. of sheets
GENERAL DRAWINGS			
1	TABLE OF CONTENTS		01
TYPICAL CROSS SECTIONS			
2	CROSS SECTION - SCHEDULE		05
HORIZONTAL ALIGNMENT REPORT			
3	HORIZONTAL ALIGNMENT REPORT		03
4	VERTICAL ALIGNMENT REPORT		01
ALIGNMENT PLAN			
5	PLAN & PROFILE		68

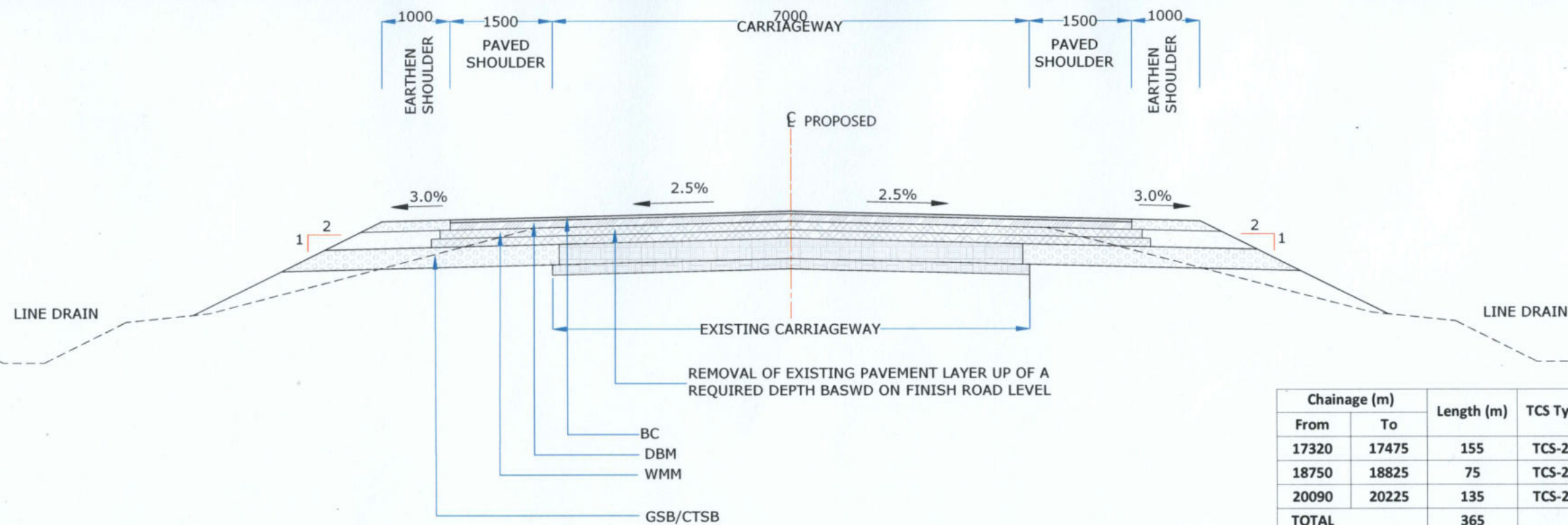
TYPICAL CROSS SECTION



TCS- 1
TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH PAVED SHOULDER IN BUILT UP AREA WITH BOTH SIDE COVERED DRAIN CUM FOOTPATH IN PLAN TERRAIN

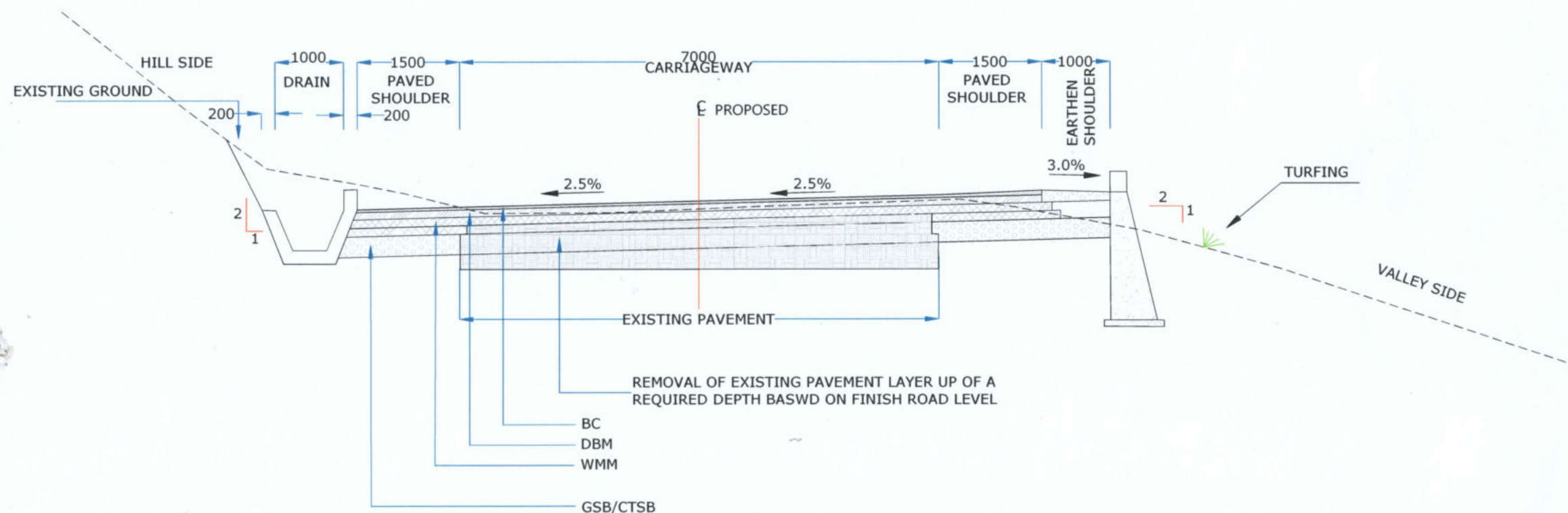


TCS- 2
TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH PAVED SHOULDER RURAL AREA IN PLAN TERRAIN (RECONSTRUCTION)

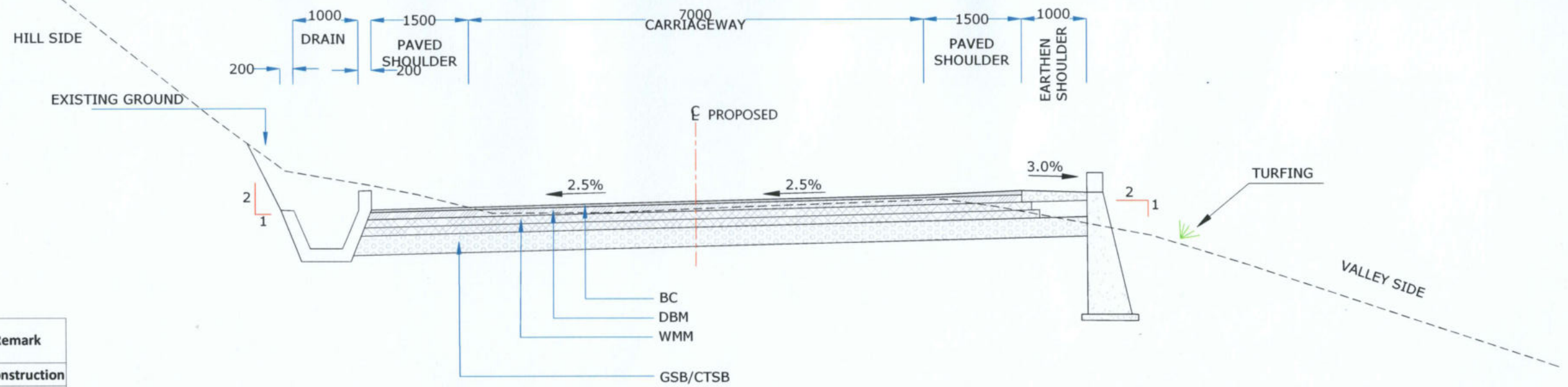


TCS- 2A
TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH PAVED SHOULDER IN RURAL AREA IN HILLY TERRAIN
(RECONSTRUCTION)

Sr. No.	Chainage (m)		Length (m)	TCS Type	Remark
	From	To			
1	17525	18225	700	TCS-3	Reconstruction
2	18410	18590	180	TCS-3	Reconstruction
3	18670	18750	80	TCS-3	Reconstruction
4	18825	19385	560	TCS-3	Reconstruction
5	19435	19625	190	TCS-3	Reconstruction
6	19675	20030	355	TCS-3	Reconstruction
7	20225	20300	75	TCS-3	Reconstruction
8	23100	23850	750	TCS-3	Reconstruction
9	24000	25750	1750	TCS-3	Reconstruction
10	25850	25960	110	TCS-3	Reconstruction
11	26010	26850	840	TCS-3	Reconstruction
12	27050	28370	1320	TCS-3	Reconstruction
13	28850	29310	460	TCS-3	Reconstruction
14	29360	29425	65	TCS-3	Reconstruction
15	29510	30075	565	TCS-3	Reconstruction
16	30215	30850	635	TCS-3	Reconstruction
17	31050	31800	750	TCS-3	Reconstruction
18	31925	31975	50	TCS-3	Reconstruction
19	32060	32350	290	TCS-3	Reconstruction
20	32415	32530	115	TCS-3	Reconstruction
21	32580	32775	195	TCS-3	Reconstruction
22	32835	33120	285	TCS-3	Reconstruction
TOTAL			10320		



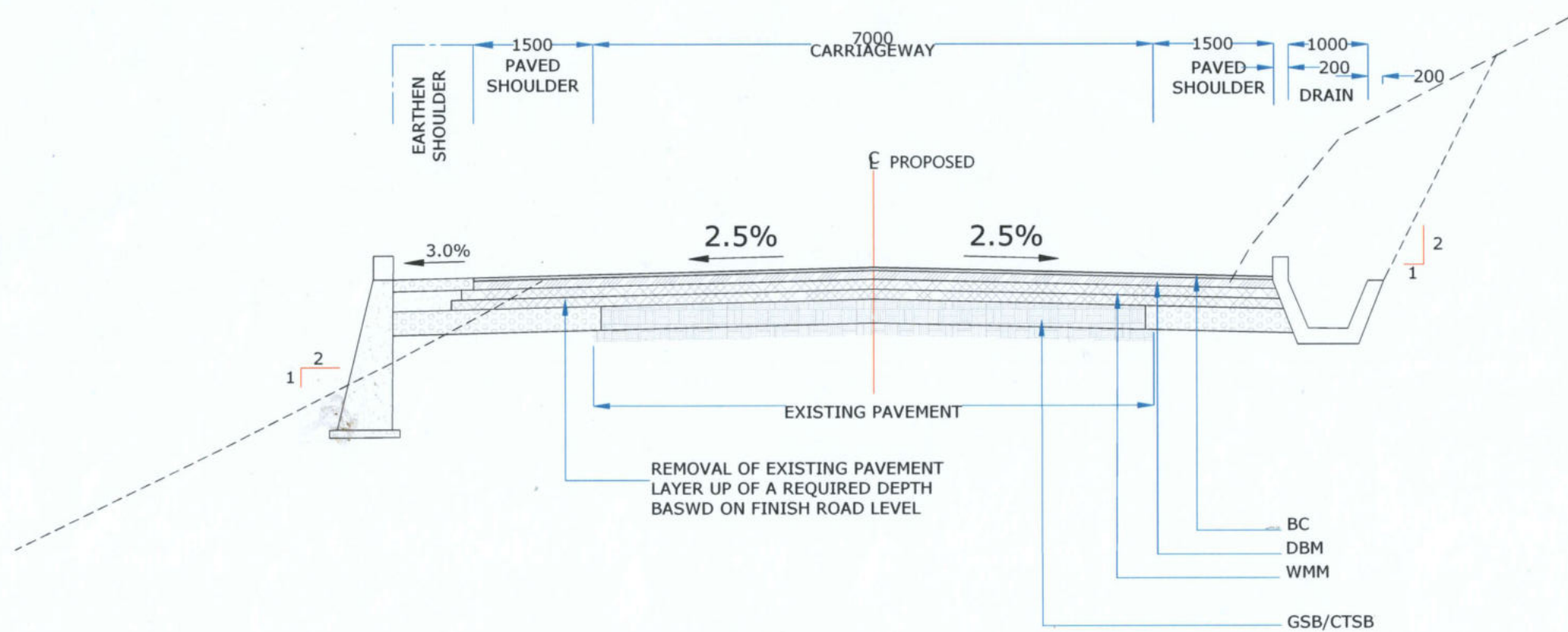
TCS- 3
TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH PAVED SHOULDER IN RURAL AREA WITH TRAPEZOIDAL OPEN
DRAIN ON HILL SIDE AND EARTHEN SHOULDER ON VALLEY SIDE (RECONSTRUCTION)



Chainage (m)		Length (m)	TCS Type	Remark
From	To			
20030	20090	60	TCS-3A	Reconstruction
26850	27050	200	TCS-3A	Reconstruction
TOTAL		260		

TCS- 3A

TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH PAVED SHOULDER IN RURAL AREA WITH TRAPEZOIDAL OPEN DRAIN ON HILL SIDE AND EARTHEN SHOULDER ON VALLEY SIDE (RECONSTRUCTION)



TCS- 4

TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY IN RURAL AREA WITH RETAINING WALL ON VALLY SIDE AND TRAPEZOIDAL OPEN DRAIN ON HILL SAID (RECONSTRUCTION)

Sr. No.	Chainage (m)		Length (m)	TCS Type	Remark
	From	To			
1	17475	17525	50	TCS-4	Reconstruction
2	18225	18275	50	TCS-4	Reconstruction
3	18350	18410	60	TCS-4	Reconstruction
4	18590	18670	80	TCS-4	Reconstruction
5	19385	19435	50	TCS-4	Reconstruction
6	19625	19675	50	TCS-4	Reconstruction
7	25960	26010	50	TCS-4	Reconstruction
8	29310	29360	50	TCS-4	Reconstruction
9	29425	29510	85	TCS-4	Reconstruction
10	30075	30215	140	TCS-4	Reconstruction
11	31800	31925	125	TCS-4	Reconstruction
12	31975	32060	85	TCS-4	Reconstruction
13	32350	32415	65	TCS-4	Reconstruction
14	32530	32580	50	TCS-4	Reconstruction
15	32775	32835	60	TCS-4	Reconstruction
TOTAL			1050		

CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR:



M/S. CMM INFRA PROJECTS LTD.

DESIGN DIRECTOR:



PROOF CONSULTANT:



Hindia Engineers Pvt. Ltd.
Address: 337, HUDA, DLF Phase I,
Gurgaon-Faridabad Road, Gurgaon, Haryana-122002,
Phone No.-0124-4028681

SAFETY CONSULTANT:



Antique Buildtech Pvt. Ltd.
Address: 191, Mohan Nagar, Jaipur-302018 (Rajasthan) Phone No. 0142-260303
Email : info@antiquebuildtech.com

AUTHORITY ENGINEER :



DRAWING SCALE:

HOR: 1 : 2000

DRAWING TITLE:

TYPICAL CROSS SECTION

DRG. NO.

DD/IMP-JIR/TCS/03

SHEET:

REV.

R0

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.940 km sa 33.120 Km (Total length-17.180 Km)
(PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC)
mode.

DATE - JUL-2021

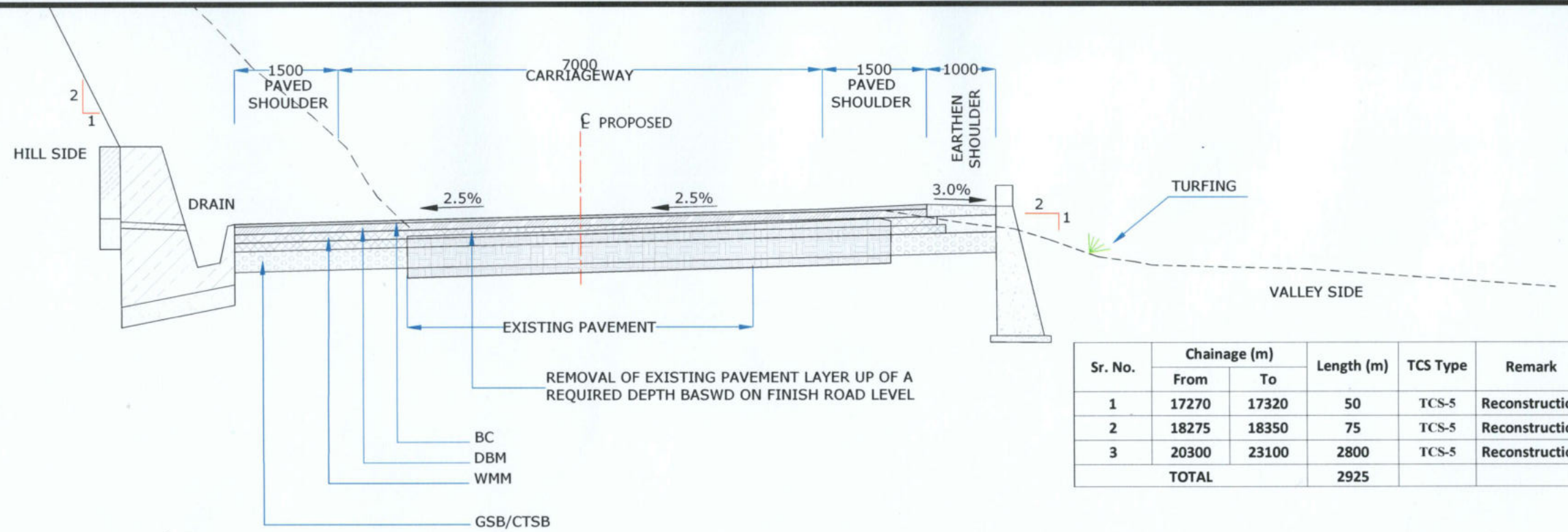
DRAWN - Highway Draftsman

DESIGNED

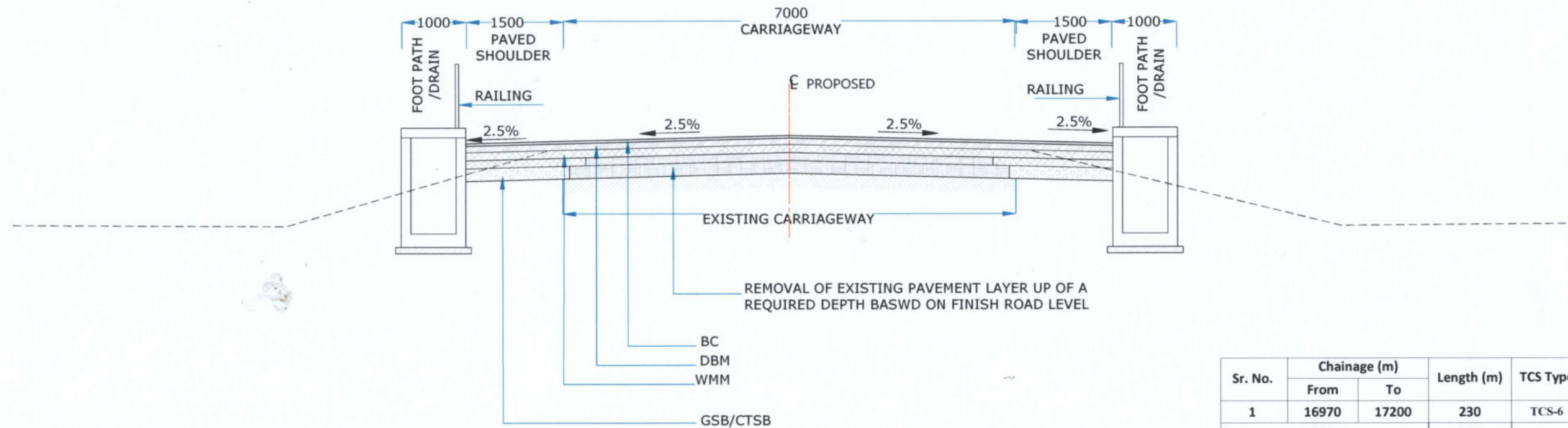
CHECKED

APPROVED

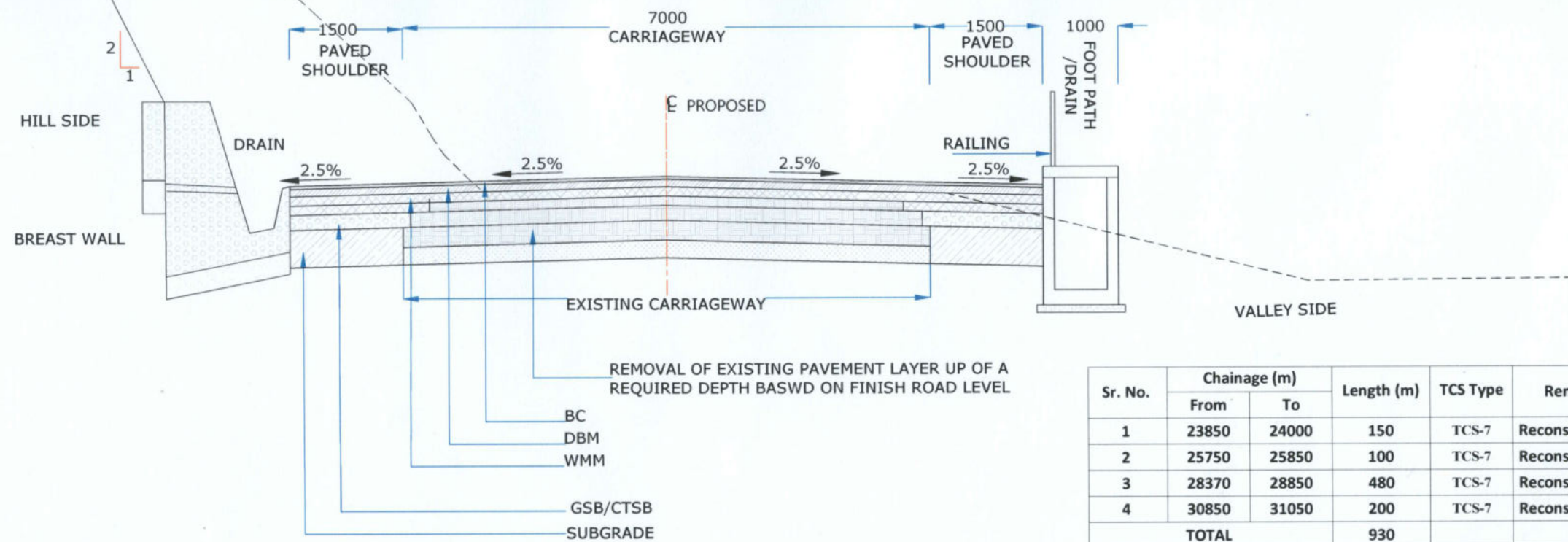
Highway Engineering



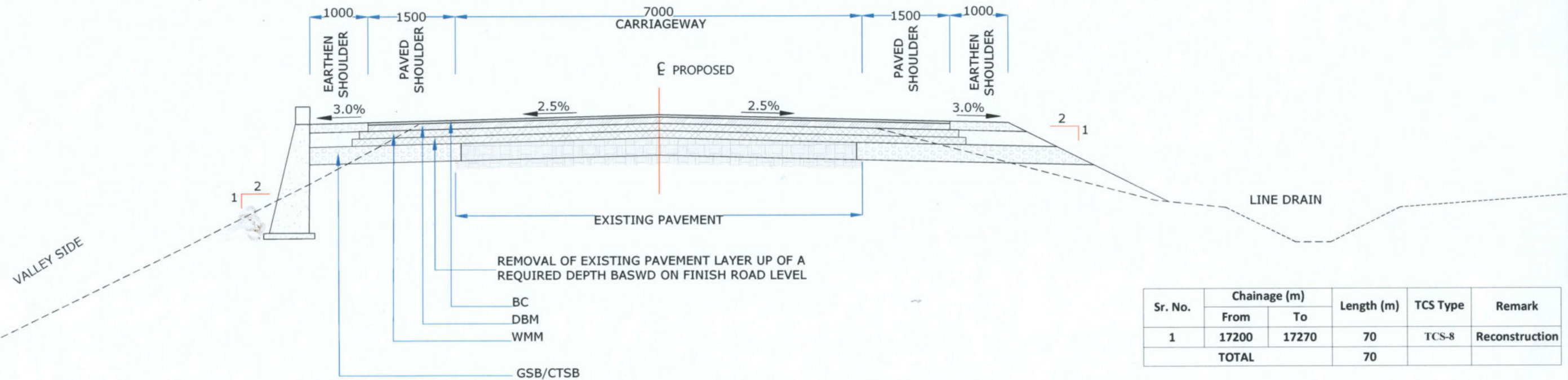
TCS- 5
TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY IN RURAL AREA WITH BREAST WALL ON HILL SIDE AND EARTHEN SHOULDER ON VALLEY AIDE (RECONSTRUCTION)



TCS- 6
TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY IN BUILT UP AREA WITH BOTH SIDE FOOTPATH CUM RCC RECTANGULAR COVERED DRAIN IN HILLY TERRAIN (RECONSTRUCTION)



TCS- 7
TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY IN BUILT UP AREA WITH BREAST WALL ON HILL SIDE AND FOOTPATH CUM RCC RECTANGULAR COVERED DRAIN ON VALLEY SIDE (RECONSTRUCTION)



TCS- 8
TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY IN BUILT UP AREA WITH RETAINING WALL ON ONE SIDE AND EARTHEN SHOULDER ON OTHER SIDE (RECONSTRUCTION)

HORIZONTAL ALIGNMENT REPORT

HORIZONTAL ALIGNMENT REPORT

HIP No.	HIP Easting	HIP Northing	Radius	Transition Length	TS	SC/TC	CS/CT	ST	HIP Chainage	SPEED (V) in KMPH	D	Lc	Dc	SHIFT (S)	Ts(Deg)	EXTERNAL DISTANCE (Es)	K	Ts(m)	Super elevation e (%)	Extra Widening
0	580818.7406	2739788.919	0	0																
1	580419.0374	2739901.838	700	35	16256.265	16291.265	16418.681	16453.681	16354.973	50	0.2320	127.42	0.1820	0.07	0.0250	4.808	17.49964	99.08	4.06	0.000
2	580062.3076	2739917.298	250	90	16612.635	16702.635	16718.594	16808.594	16710.615	50	0.4238	15.96	0.0638	1.35	0.1800	7.102	44.95144	99.03	7.00	0.600
3	579907.2883	2739995.487	60	35	16844.792	16879.792	16884.572	16919.572	16882.182	30	0.6630	4.78	0.0797	0.85	0.2917	4.354	17.45049	38.40	7.00	1.200
4	579852.7414	2740111.161	20	20	16971.274	16991.274	17008.44	17028.44	16999.857	20	1.8583	17.17	0.8583	0.83	0.5000	14.803	9.917245	37.80	7.00	1.500
5	579970.8337	2740129.387	50	40	17030.987	17070.987	17116.687	17156.687	17093.837	30	1.7140	45.70	0.9140	1.33	0.4000	28.401	19.89381	79.16	7.00	1.200
6	579923.4449	2740284.598	35	30	17175.133	17205.133	17241.2	17271.2	17223.167	30	1.8876	36.07	1.0305	1.07	0.4286	26.479	14.90863	64.69	7.00	1.500
7	580415.2589	2740274.514	20	20	17336.451	17356.451	17396.919	17416.919	17376.685	20	3.0234	40.47	2.0234	0.83	0.5000	332.681	9.917245	361.98	7.00	1.500
8	580006.6446	2740331.543	75	30	17427.159	17457.159	17475.795	17505.795	17466.477	30	0.6485	18.64	0.2485	0.50	0.2000	4.650	14.98002	40.36	7.00	0.900
9	579916.0995	2740422.406	60	35	17552.185	17587.185	17597.403	17632.403	17592.294	30	0.7536	10.22	0.1703	0.85	0.2917	5.441	17.45049	41.53	7.00	1.200
10	579900.1903	2740952.207	45	25	17648.32	17673.32	17780.806	17805.806	17727.063	30	2.9441	107.49	2.3886	0.58	0.2778	417.416	12.46792	472.63	7.00	1.200
11	579803.2416	2740378.636	30	30	17868.496	17898.496	17915.915	17945.915	17907.206	30	1.5806	17.42	0.5806	1.25	0.5000	14.413	14.87587	46.43	7.00	1.500
12	579662.1376	2740403.919	30	30	18003.387	18033.387	18043.386	18073.386	18038.387	30	1.3333	10.00	0.3333	1.25	0.5000	9.763	14.87587	39.46	7.00	1.500
13	579652.3187	2740566.915	200	25	18167.583	18192.583	18201.758	18226.758	18197.171	40	0.1709	9.18	0.0459	0.13	0.0625	0.863	12.49837	29.64	5.56	0.600
14	579622.0634	2740695.528	130	35	18281.752	18316.752	18340.552	18375.552	18328.652	40	0.4523	23.80	0.1831	0.39	0.1346	3.797	17.48943	47.49	7.00	0.600
15	579550.9006	2740782.93	40	25	18387.637	18412.637	18450.492	18475.492	18431.565	30	1.5714	37.85	0.9464	0.65	0.3125	17.504	12.45942	53.13	7.00	1.500
16	579479.7124	2740724.9	100	25	18481.543	18506.543	18521.244	18546.244	18513.894	40	0.3970	14.70	0.1470	0.26	0.1250	2.268	12.49349	32.66	7.00	0.900
17	579446.7826	2740663.142	100	25	18553.805	18578.805	18587.924	18612.924	18583.365	30	0.3412	9.12	0.0912	0.26	0.1250	1.737	12.49349	29.77	7.00	0.900
18	579321.2648	2740548.592	20	20	18719.846	18739.846	18753.525	18773.525	18746.686	20	1.6840	13.68	0.6840	0.83	0.5000	11.277	9.917245	33.25	7.00	1.500
19	579252.906	2740643.024	80.000	15	18791.044	18806.044	18891.717	18906.717	18848.881	30.000	1.258	85.673	1.071	0.120	0.094	19.098	7.498	65.817	5.000	0.900
20	579160.799	2740613.093	40.000	25	18906.731	18931.731	18940.996	18965.996	18936.364	30.000	0.857	9.265	0.232	0.650	0.313	4.687	12.459	31.019	7.000	1.500
21	579034.820	2740315.099	20.000	20	18968.985	18988.985	19028.843	19048.843	19008.914	20.000	2.993	39.858	1.993	0.830	0.500	260.434	9.917	289.576	7.000	1.500
22	579132.246	2740694.631	65.000	35	19076.183	19111.183	19169.585	19204.585	19140.384	30.000	1.437	58.402	0.898	0.790	0.269	22.393	17.458	74.983	7.000	0.900
23	578982.762	2740755.226	70.000	30	19229.333	19259.333	19311.065	19341.065	19285.199	30.000	1.168	51.732	0.739	0.540	0.214	14.542	14.977	61.577	7.000	0.900
24	578910.623	2740683.507	60.000	15	19351.217	19366.217	19394.171	19409.171	19380.194	30.000	0.716	27.954	0.466	0.160	0.125	4.231	7.496	30.000	6.667	1.200
25	578904.421	2740598.027	60.000	15	19424.648	19439.648	19484.447	19499.447	19462.048	30.000	0.997	44.799	0.747	0.160	0.125	8.489	7.496	40.231	6.667	1.200
26	578838.014	2740561.600	70.000	15	19508.876	19523.876	19545.146	19560.146	19534.511	30.000	0.518	21.270	0.304	0.130	0.107	2.551	7.497	26.084	5.714	0.900
27	578685.759	2740313.782	20.000	20	19570.123	19590.123	19629.561	19649.561	19609.842	20.000	2.972	39.438	1.972	0.830	0.500	225.797	9.917	254.831	7.000	1.500
28	578814.061	2740633.855	30.000	30	19652.897	19682.897	19722.530	19752.530	19702.714	30.000	2.321	39.633	1.321	1.250	0.500	48.353	14.876	86.727	7.000	1.500
29	578626.715	2740561.389	40.000	25	19808.431	19833.431	19876.032	19901.032	19854.732	30.000	1.690	42.601	1.065	0.650	0.313	21.246	12.459	58.270	7.000	1.500
30	578591.308	2740700.133	50.000	20	19957.343	19977.343	19992.784	20012.784	19985.064	30.000	0.709	15.441	0.309	0.330	0.200	3.665	9.987	28.611	7.000	1.200
31	578645.895	2740810.598	45.000	25	20079.764	20104.764	20108.659	20133.659	20106.712	30.000	0.642	3.895	0.087	0.580	0.278	3.034	12.468	27.626	7.000	1.200
32	578715.670	2740846.017	35.000	15	20134.733	20149.733	20195.847	20210.847	20172.790	20.000	1.746	46.114	1.318	0.270	0.214	19.896	7.489	49.555	5.079	1.500
33	578667.398	2740910.176	30.000	15	20217.449	20232.449	20247.590	20262.590	20240.020	20.000	1.005	15.141	0.505	0.310	0.250	4.583	7.484	24.135	5.926	1.500
34	578765.613	2741171.380	80.000	15	20268.020	20283.020	20468.193	20483.193	20375.607	30.000	2.502	185.173	2.315	0.120	0.094	174.919	7.498	249.499	5.000	0.900
35	578440.247	2740962.041	40.000	15	20574.089	20589.089	20635.688	20650.688	20612.389	20.000	1.540	46.599	1.165	0.230	0.188	16.037	7.491	46.500	4.444	1.500
36	578267.637	2741212.983	20.000	20	20808.322	20828.322	20862.109	20882.109	20845.216	20.000	2.689	33.787	1.689	0.830	0.500	72.908	9.917	100.461	7.000	1.500
37	578423.149	2741124.767	50.000	20	20914.907	20934.907	20976.426	20996.426	20955.667	30.000	1.230	41.519	0.830	0.330	0.200	11.629	9.987	45.553	7.000	1.200
38	578493.850	2741186.077	200.000	20	20999.064	21019.064	21069.087	21089.087	21044.076	40.000	0.350	50.023	0.250	0.080	0.050	3.185	9.999	45.387	5.556	0.600
39	578590.791	2741223.039	80.000	25	21106.461	21131.461	21161.009	21186.009	21146.235	30.000	0.682	29.548	0.369	0.330	0.156	5.236	12.490	40.989	7.000	0.900
40	578644.554	2741315.929	30.000	15	21231.139	21246.139	21256.649	21271.649	21251.394	20.000	0.850	10.510	0.350	0.310	0.250	3.272	7.484	21.208	5.926	1.500
41	578711.404	2741329.185	30.000	15	21273.260	21288.260	21326.990	21341.990	21307.625	20.000	1.791	38.730	1.291	0.310	0.250	18.486	7.484	45.329	5.926	1.500
42	578617.462	2741541.848	30.000	15	21484.013	21499.013	21537.590	21552.590	21518.302	20.000	1.786	38.577	1.286	0.310	0.250	18.332	7.484	45.132	5.926	1.500
43	578724.530	2741563.647	25.000	20	21583.419	21603.419	21620.336	21640.336	21611.878	20.000	1.477	16.917	0.677	0.670	0.400	9.709	9.947	33.308	7.000	1.500
44	578716.811	2741635.700	30.000	15	21650.724	21665.724	21687.465	21702.465	21676.595	20.000	1.225	21.741	0.725	0.310	0.250	7.040	7.484	28.775	5.926	1.500
45	579202.050	2741871.796	20.000	20	21749.829	21769.829	21810.825	21830.825	21790.327	20.000	3.050	40.996	2.050	0.830	0.500	434.008	9.917	463.447	7.000	1.500
46	578649.195	2741663.025	20.000	20	21920.180	21940.180	21957.568	21977.568	21948.874	20.000	1.869	17.388	0.869	0.830	0.500	15.064	9.917	38.123	7.000	1.500
47	578643.123	2741760.094	60.000	15	22019.656	22034.656	22038.564	22053.564	22036.610	30.000	0.315	3.908	0.065	0.160	0.125	0.915	7.496	17.055	6.667	1.200
48	578661.193	2741830.081	50.000	20	22066.498	22086.498	22123.562	22143.562	22105.030	30.000	1.141	37.064	0.741	0.330	0.200	9.806	9.987	42.292	7.000	1.200
49	578583.356	2741893.305	30.000	30	22163.063	22193.063	22201.891	22231.891	22197.477	30.000	1.294	8.828	0.294	1.250	0.500	9.169	14.876	38.491	7.000	1.500
50	578491.719	2741828.968	30.000	30	22232.541	22262.541	22297.128	22327.128	22279.835											

HORIZONTAL ALIGNMENT REPORT

HIP No.	HIP Easting	HIP Northing	Radius	Transition Length	TS	SC/TC	CS/CT	ST	HIP Chainage	SPEED (V) in KMPH	D	Lc	Dc	SHIFT (S)	Ts(Deg)	EXTERNAL DISTANCE (Es)	K	Ts(m)	Super elevation e (%)	Extra Widening
51	578486.212	2742012.246	45.000	25	22371.933	22396.933	22449.596	22474.596	22423.265	30.000	1.726	52.663	1.170	0.580	0.278	25.099	12.468	65.726	7.000	1.200
52	578391.890	2741994.587	50.000	15	22480.952	22495.952	22512.515	22527.515	22504.234	30.000	0.631	16.563	0.331	0.190	0.150	2.798	7.494	23.884	7.000	1.200
53	578285.636	2742045.413	50.000	20	22529.982	22549.982	22631.709	22651.709	22590.846	30.000	2.035	81.727	1.635	0.330	0.200	45.741	9.987	91.431	7.000	1.200
54	578288.332	2741891.867	125.000	15	22658.740	22673.740	22749.661	22764.661	22711.701	40.000	0.727	75.921	0.607	0.080	0.060	8.834	7.499	55.106	5.689	0.600
55	578176.411	2741761.607	40.000	25	22846.958	22871.958	22886.456	22911.456	22879.207	30.000	0.987	14.498	0.362	0.650	0.313	6.163	12.459	34.337	7.000	1.500
56	578083.542	2741773.417	300.000	0		22945.328	22996.027		22970.678	40.000	0.169	50.699	0.169	0.000	0.000	1.074	0.000	25.410	2.500	0.600
57	577959.570	2741768.144	300.000	0		23041.438	23146.863		23094.151	40.000	0.351	105.425	0.351	0.000	0.000	4.691	0.000	53.262	2.500	0.600
58	577832.255	2741715.226	20.000	20	23159.175	23179.175	23209.119	23229.119	23194.147	20.000	2.497	29.944	1.497	0.830	0.500	45.782	9.917	72.315	7.000	1.500
59	577907.186	2741842.390	65.000	15	23233.117	23248.117	23333.866	23348.866	23290.992	30.000	1.550	85.749	1.319	0.140	0.115	26.178	7.497	71.295	6.154	0.900
60	577789.361	2741915.163	20.000	20	23360.071	23380.071	23405.919	23425.919	23392.995	20.000	2.292	25.848	1.292	0.830	0.500	30.564	9.917	55.991	7.000	1.500
61	577920.687	2741955.199	180.000	0		23451.959	23559.211		23505.585	30.000	0.596	107.252	0.596	0.000	0.000	8.295	0.000	55.271	2.500	0.600
62	578017.868	2742075.611	70.000	15	23579.786	23594.786	23690.987	23705.987	23642.887	30.000	1.589	96.201	1.374	0.130	0.107	30.073	7.497	78.886	5.714	0.900
63	577931.278	2742142.988	80.000	15	23719.895	23734.895	23738.621	23753.621	23736.758	30.000	0.234	3.726	0.047	0.120	0.094	0.672	7.498	16.918	5.000	0.900
64	577879.146	2742208.056	80.000	20	23785.308	23805.308	23833.246	23853.246	23819.277	40.000	0.599	27.938	0.349	0.210	0.125	3.950	9.995	34.773	7.000	0.900
65	577873.672	2742279.719	100.000	20	23864.188	23884.188	23896.180	23916.180	23890.184	40.000	0.320	11.992	0.120	0.170	0.100	1.465	9.997	26.158	7.000	0.900
66	577764.373	2742541.029	70.000	30	24105.562	24135.562	24195.436	24225.436	24165.499	40.000	1.284	59.874	0.855	0.540	0.214	18.073	14.977	67.712	7.000	0.900
67	577593.485	2742522.280	50.000	20	24301.837	24321.837	24335.859	24355.859	24328.848	40.000	0.680	14.022	0.280	0.330	0.200	3.390	9.987	27.803	7.000	1.200
68	577476.020	2742597.766	60.000	35	24424.077	24459.077	24472.796	24507.796	24465.937	40.000	0.812	13.719	0.229	0.850	0.292	6.234	17.450	43.608	7.000	1.200
69	577460.703	2742678.435	70.000	30	24512.266	24542.266	24549.207	24579.207	24545.737	40.000	0.528	6.941	0.099	0.540	0.214	3.069	14.977	34.034	7.000	0.900
70	577388.922	2742761.047	100.000	20	24592.671	24612.671	24688.355	24708.355	24650.513	40.000	0.957	75.684	0.757	0.170	0.100	12.839	9.997	61.945	7.000	0.900
71	577414.693	2742865.688	180.000	15	24729.546	24744.546	24763.700	24778.700	24754.123	40.000	0.190	19.154	0.106	0.050	0.042	0.863	7.500	24.633	3.951	0.600
72	577422.577	2743017.963	70.000	30	24850.729	24880.729	24924.207	24954.207	24902.468	40.000	1.050	43.478	0.621	0.540	0.214	11.511	14.977	55.820	7.000	0.900
73	577298.136	2743098.224	40.000	25	25017.770	25042.770	25048.174	25073.174	25045.472	30.000	0.760	5.404	0.135	0.650	0.313	3.773	12.459	28.698	7.000	1.500
74	577187.878	2743077.331	300.000	0		25081.715	25228.669		25155.192	40.000	0.490	146.954	0.490	0.000	0.000	9.229	0.000	74.982	2.500	0.600
75	577077.327	2743111.841	50.000	20	25236.991	25256.991	25279.064	25299.064	25268.028	30.000	0.841	22.073	0.441	0.330	0.200	5.139	9.987	32.507	7.000	1.200
76	576953.417	2743037.755	20.000	20	25312.805	25332.805	25366.362	25386.362	25349.584	20.000	2.678	33.557	1.678	0.830	0.500	70.644	9.917	98.136	7.000	1.500
77	577070.587	2743221.291	40.000	25	25457.781	25482.781	25515.491	25540.491	25499.136	30.000	1.443	32.710	0.818	0.650	0.313	14.135	12.459	48.211	7.000	1.500
78	576930.678	2743338.233	50.000	20	25642.467	25662.467	25683.962	25703.962	25673.215	30.000	0.830	21.495	0.430	0.330	0.200	4.997	9.987	32.159	7.000	1.200
79	576924.076	2743485.936	70.000	30	25782.142	25812.142	25825.432	25855.432	25818.787	40.000	0.618	13.290	0.190	0.540	0.214	4.052	14.977	37.512	7.000	0.900
80	576966.173	2743551.072	80.000	25	25864.385	25889.385	25900.797	25925.797	25895.091	30.000	0.455	11.412	0.143	0.330	0.156	2.456	12.490	31.093	7.000	0.900
81	577081.650	2743620.590	20.000	20	25983.258	26003.258	26025.263	26045.263	26014.261	20.000	2.100	22.005	1.100	0.830	0.500	21.872	9.917	46.241	7.000	1.500
82	577015.886	2743656.469	20.000	20	26045.454	26065.454	26074.584	26094.584	26070.019	20.000	1.456	9.130	0.456	0.830	0.500	7.910	9.917	28.493	7.000	1.500
83	577046.548	2743732.101	40.000	25	26099.075	26124.075	26157.250	26182.250	26140.663	30.000	1.454	33.175	0.829	0.650	0.313	14.414	12.459	48.632	7.000	1.500
84	576968.268	2743775.028	60.000	15	26204.382	26219.382	26226.120	26241.120	26222.751	30.000	0.362	6.738	0.112	0.160	0.125	1.161	7.496	18.515	6.667	1.200
85	576933.564	2743815.657	50.000	20	26247.291	26267.291	26282.970	26302.970	26275.131	20.000	0.714	15.679	0.314	0.330	0.200	3.713	9.987	28.747	3.556	1.200
86	576782.615	2743838.518	60.000	35	26343.273	26378.273	26442.545	26477.545	26410.409	30.000	1.655	64.272	1.071	0.850	0.292	29.896	17.450	83.622	7.000	1.200
87	576807.494	2743942.866	80.000	0		26488.788	26513.412		26501.100	20.000	0.308	24.624	0.308	0.000	0.000	0.957	0.000	12.410	2.500	0.900
88	576801.722	2744020.992	25.000	20	26516.756	26536.756	26572.614	26592.614	26554.685	20.000	2.234	35.858	1.434	0.670	0.400	33.576	9.947	62.598	7.000	1.500
89	576703.082	2743931.417	20.000	20	26622.831	26642.831	26661.714	26681.714	26652.273	20.000	1.944	18.883	0.944	0.830	0.500	16.960	9.917	40.448	7.000	1.500
90	576678.111	2743996.982	80.000	0		26684.010	26736.843		26710.427	20.000	0.660	52.833	0.660	0.000	0.000	4.569	0.000	27.420	2.500	0.900
91	576619.765	2744032.473	40.000	25	26750.179	26775.179	26778.593	26803.593	26776.886	30.000	0.710	3.414	0.085	0.650	0.313	3.356	12.459	27.537	7.000	1.500
92	576557.926	2744022.247	40.000	25	26805.554	26830.554	26843.268	26868.268	26836.911	30.000	0.943	12.714	0.318	0.650	0.313	5.627	12.459	33.181	7.000	1.500
93	576505.744	2744073.766	180.000	0		26880.840	26935.569		26908.205	30.000	0.304	54.729	0.304	0.000	0.000	2.100	0.000	27.577	2.500	0.600
94	576458.203	2744163.381	40.000	25	26961.615	26986.615	27018.891	27043.891	27002.753	30.000	1.432	32.276	0.807	0.650	0.313	13.879	12.459	47.822	7.000	1.500
95	576312.415	2744110.352	40.000	25	27054.072	27079.072	27143.929	27168.929	27111.501	30.000	2.246	64.857	1.621	0.650	0.313	53.926	12.459	97.133	7.000	1.500
96	576355.135	2744236.402	20.000	20	27171.518	27191.518	27205.307	27225.307	27198.413	20.000	1.689	13.789	0.689	0.830	0.500	11.373	9.917	33.378	7.000	1.500
97	576276.402	2744253.029	50.000	20	27246.929	27266.929	27276.779	27296.779	27271.854	30.000	0.597	9.850	0.197	0.330	0.200	2.659	9.987	25.473	7.000	1.200
98	576170.928	2744362.748	50.000	20	27389.584	27409.584	27433.962	27453.962	27421.773	30.000	0.888	24.378	0.488	0.330	0.200	5.728	9.987	33.914	7.000	1.200
99	576052.443	2744352.959	30.000	30	27458.236	27488.236	27525.897	27555.897	27507.067	30.000	2.255	37.661	1.255	1.250	0.500	42.886	14.876	80.722	7.000	1.500
100	576125.171	2744458.776	50.000	20	27555.934	27575.934	27620.192	27640.192	27598.063	30.000	1.285	44.258	0.885	0.330	0.200	12.869	9.987	47.662	7.000	1.200

CLIENT :

HORIZONTAL ALIGNMENT REPORT

HIP No.	HIP Easting	HIP Northing	Radius	Transition Length	TS	SC/TC	CS/CT	ST	HIP Chainage	SPEED (V) in KMPH	D	Lc	Dc	SHIFT (S)	Ts(Deg)	EXTERNAL DISTANCE (Es)	K	Ts(m)	Super elevation e (%)	Extra Widening
101	576067.209	2744530.017	40.000	25	27640.848	27665.848	27693.049	27718.049	27679.449	30.000	1.305	27.201	0.680	0.650	0.313	11.160	12.459	43.523	7.000	1.500
102	576150.447	2744646.111	40.000	25	27763.802	27788.802	27827.091	27852.091	27807.947	30.000	1.582	38.289	0.957	0.650	0.313	17.819	12.459	53.577	7.000	1.500
103	575985.788	2744761.340	500.000	0		27964.700	28034.165		27999.433	30.000	0.139	69.465	0.139	0.000	0.000	1.209	0.000	34.788	2.500	0.000
104	575872.792	2744866.506	30.000	15	28134.173	28149.173	28156.931	28171.931	28153.052	20.000	0.759	7.758	0.259	0.310	0.250	2.629	7.484	19.566	5.926	1.500
105	575869.279	2744922.484	30.000	15	28173.744	28188.744	28217.651	28232.651	28203.198	20.000	1.464	28.907	0.964	0.310	0.250	10.740	7.484	34.707	5.926	1.500
106	575717.236	2744929.261	100.000	0		28277.934	28403.005		28340.470	20.000	1.251	125.071	1.251	0.000	0.000	23.342	0.000	72.202	2.500	0.900
107	575686.602	2745037.608	20.000	20	28412.728	28432.728	28444.072	28464.072	28438.400	20.000	1.567	11.344	0.567	0.830	0.500	9.405	9.917	30.672	7.000	1.500
108	575607.839	2745015.643	60.000	15	28484.630	28499.630	28528.534	28543.534	28514.082	30.000	0.732	28.904	0.482	0.160	0.125	4.424	7.496	30.544	6.667	1.200
109	575576.859	2744967.001	60.000	15	28550.816	28565.816	28575.113	28590.113	28570.465	30.000	0.405	9.297	0.155	0.160	0.125	1.415	7.496	19.846	6.667	1.200
110	575513.751	2744923.943	70.000	30	28616.072	28646.072	28646.574	28676.574	28646.323	40.000	0.436	0.502	0.007	0.540	0.214	2.248	14.977	30.594	7.000	0.900
111	575433.036	2744910.669	125.000	15	28700.820	28715.820	28739.412	28754.412	28727.616	40.000	0.309	23.592	0.189	0.080	0.060	1.585	7.499	26.962	5.689	0.600
112	575355.857	2744871.295	50.000	20	28790.663	28810.663	28816.761	28836.761	28813.712	30.000	0.522	6.098	0.122	0.330	0.200	2.094	9.987	23.428	7.000	1.200
113	575316.724	2744811.188	30.000	30	28838.465	28868.465	28886.042	28916.042	28877.254	30.000	1.586	17.577	0.586	1.250	0.500	14.532	14.876	46.601	7.000	1.500
114	575176.196	2744905.731	125.000	15	28967.581	28982.581	29085.414	29100.414	29033.998	30.000	0.943	102.833	0.823	0.080	0.060	15.387	7.499	71.245	5.689	0.600
115	575051.110	2744860.008	80.000	25	29127.379	29152.379	29171.046	29196.046	29161.713	30.000	0.546	18.667	0.233	0.330	0.156	3.417	12.490	34.974	5.000	0.900
116	574941.363	2744881.729	50.000	40	29229.198	29269.198	29272.709	29312.709	29270.954	40.000	0.870	3.511	0.070	1.330	0.400	6.604	19.894	43.753	7.000	1.200
117	574825.866	2744789.316	150.000	15	29375.194	29390.194	29442.383	29457.383	29416.289	40.000	0.448	52.189	0.348	0.060	0.050	3.904	7.499	41.681	4.741	0.600
118	574791.820	2744718.481	50.000	20	29463.189	29483.189	29502.916	29522.916	29493.053	30.000	0.795	19.727	0.395	0.330	0.200	4.581	9.987	31.104	7.000	1.200
119	574715.069	2744692.345	100.000	20	29549.614	29569.614	29575.973	29595.973	29572.794	40.000	0.264	6.359	0.064	0.170	0.100	1.046	9.997	23.276	7.000	0.900
120	574645.075	2744687.816	80.000	25	29613.458	29638.458	29646.619	29671.619	29642.539	40.000	0.415	8.161	0.102	0.330	0.156	2.087	12.490	29.381	7.000	0.900
121	574553.605	2744640.298	500.000	0		29710.078	29780.436		29745.257	50.000	0.141	70.358	0.141	0.000	0.000	1.240	0.000	35.237	2.500	0.000
122	574479.624	2744587.500	135.000	35	29797.754	29832.754	29839.001	29874.001	29835.878	50.000	0.306	6.247	0.046	0.380	0.130	1.975	17.490	38.334	7.000	0.600
123	574413.091	2744565.870	500.000	0		29885.062	29926.171		29905.617	50.000	0.082	41.109	0.082	0.000	0.000	0.423	0.000	20.566	2.500	0.000
124	574289.887	2744514.283	100.000	15	29997.954	30012.954	30062.944	30077.944	30037.949	30.000	0.650	49.990	0.500	0.090	0.075	5.617	7.499	41.218	4.000	0.900
125	574214.229	2744533.873	40.000	25	30082.349	30107.349	30119.038	30144.038	30113.194	30.000	0.917	11.689	0.292	0.650	0.313	5.335	12.459	32.529	7.000	1.500
126	574133.371	2744470.617	150.000	15	30190.701	30205.701	30222.507	30237.507	30214.104	30.000	0.212	16.806	0.112	0.060	0.050	0.907	7.499	23.469	4.741	0.600
127	574101.750	2744432.684	60.000	15	30238.746	30253.746	30272.130	30287.130	30262.938	30.000	0.556	18.384	0.306	0.160	0.125	2.566	7.496	24.678	6.667	1.200
128	574061.050	2744419.219	180.000	0		30290.161	30320.413		30305.287	30.000	0.168	30.252	0.168	0.000	0.000	0.637	0.000	15.162	2.500	0.600
129	573940.576	2744355.336	100.000	15	30419.702	30434.702	30448.306	30463.306	30441.504	30.000	0.286	13.604	0.136	0.090	0.075	1.122	7.499	21.912	4.000	0.900
130	573818.577	2744330.413	20.000	20	30468.288	30488.288	30521.795	30541.795	30505.042	20.000	2.675	33.507	1.675	0.830	0.500	70.167	9.917	97.645	7.000	1.500
131	574168.022	2744235.675	90.000	25	30746.992	30771.992	30832.985	30857.985	30802.489	30.000	0.955	60.993	0.678	0.290	0.139	11.674	12.492	59.239	7.000	0.900
132	574209.988	2744120.911	55.000	40	30864.506	30904.506	30927.895	30967.895	30916.201	30.000	1.153	23.389	0.425	1.210	0.364	12.036	19.912	56.440	7.000	1.200
133	574421.291	2744106.584	25.000	20	31065.968	31085.968	31119.666	31139.666	31102.817	20.000	2.148	33.698	1.348	0.670	0.400	28.855	9.947	57.291	7.000	1.500
134	574345.735	2744006.120	50.000	20	31174.982	31194.982	31218.048	31238.048	31206.515	30.000	0.861	23.066	0.461	0.330	0.200	5.387	9.987	33.109	7.000	1.200
135	574361.754	2743933.286	50.000	20	31239.777	31259.777	31293.158	31313.158	31276.468	30.000	1.068	33.381	0.668	0.330	0.200	8.464	9.987	39.734	7.000	1.200
136	574282.397	2743863.733	70.000	30	31322.615	31352.615	31396.854	31426.854	31374.735	30.000	1.061	44.239	0.632	0.540	0.214	11.770	14.977	56.334	7.000	0.900
137	574320.324	2743685.278	100.000	20	31526.577	31546.577	31559.013	31579.013	31552.795	30.000	0.324	12.436	0.124	0.170	0.100	1.502	9.997	26.386	7.000	0.900
138	574377.446	2743588.623	25.000	20	31608.551	31628.551	31661.832	31681.832	31645.192	20.000	2.131	33.281	1.331	0.670	0.400	28.041	9.947	56.363	7.000	1.500
139	574273.949	2743591.382	80.000	25	31695.035	31720.035	31736.866	31761.866	31728.451	40.000	0.523	16.831	0.210	0.330	0.156	3.156	12.490	33.984	7.000	0.900
140	574214.984	2743559.457	150.000	15	31773.417	31788.417	31801.364	31816.364	31794.891	30.000	0.186	12.947	0.086	0.060	0.050	0.713	7.499	21.519	4.741	0.600
141	574167.873	2743544.370	125.000	15	31818.480	31833.480	31854.866	31869.866	31844.173	30.000	0.291	21.386	0.171	0.080	0.060	1.417	7.499	25.833	5.689	0.600
142	574075.072	2743480.744	60.000	35	31915.546	31950.546	31959.867	31994.867	31955.207	40.000	0.739	9.321	0.155	0.850	0.292	5.250	17.450	41.006	7.000	1.200
143	574061.133	2743421.507	80.000	15	31995.611	32010.611	32018.634	32033.634	32014.623	30.000	0.288	8.023	0.100	0.120	0.094	0.957	7.498	19.107	5.000	0.900
144	574064.884	2743355.393	80.000	25	32044.965	32069.965	32090.123	32115.123	32080.044	40.000	0.564	20.158	0.252	0.330	0.156	3.639	12.490	35.784	7.000	0.900
145	574008.470	2743254.018	60.000	35	32141.931	32176.931	32206.003	32241.003	32191.467	40.000	1.068	29.072	0.485	0.850	0.292	10.689	17.450	53.426	7.000	1.200
146	574053.218	2743182.654	300.000	0		32246.467	32297.035		32271.751	40.000	0.169	50.568	0.169	0.000	0.000	1.069	0.000	25.344	2.500	0.600
147	574111.820	2743116.990	125.000	15	32336.125	32351.125	32368.087	32383.087	32359.606	40.000	0.256	16.962	0.136	0.080	0.060	1.109	7.499	23.578	5.689	0.600
148	574170.091	2743078.272	80.000	25	32400.032	32425.032	32433.304	32458.304	32429.168	40.000	0.416	8.272	0.103	0.330	0.156	2.099	12.490	29.439	7.000	0.900
149	574234.614	2742977.260	50.000	40	32503.530	32543.530	32549.332	32589.332	32546.431	40.000	0.916	5.802	0.116	1.330	0.400	7.229	19.894	45.199	7.000	1.200
150	574360.092	2742966.402	60.000	35	32590.322	32625.322	32685.994	32720.994	32655.658	40.000	1.595	60.672	1.011	0.850	0.292	27.095	17.450	79.762	7.000</	

VERTICAL ALIGNMENT REPORT

VERTICAL ALIGNMENT REPORT												
S.NO	VIP CHAINAGE	VIP LEVEL	CURVE START CHAINAGE	CURVE END CHAINAGE	CURVE LENGTH	IN GRADE(%)	OUT GRADE (%)	CURVE TYPE	K Value	GRADE START CHAINAGE	GRADE END CHAINAGE	GRADE LENGTH
1	16072.349	795.218	16032.349	16112.349	80	2.450	1.894	Hog	143.946	16112.349	16032.349	92.349
2	16311.284	799.743	16171.284	16451.284	280	1.894	3.755	Sag	150.426	16451.284	16171.284	58.935
3	16745.082	816.033	16665.082	16825.082	160	3.755	5.226	Sag	108.764	16825.082	16665.082	213.798
4	17006.824	829.712	16946.824	17066.824	120	5.226	4.647	Hog	207.192	17066.824	16946.824	121.742
5	17597.118	857.144	17557.118	17637.118	80	4.647	4.115	Hog	150.475	17637.118	17557.118	490.294
6	17966.433	872.343	17906.433	18026.433	120	4.115	3.100	Hog	118.196	18026.433	17906.433	269.315
7	18180.000	878.964	18120.008	18239.992	120	3.100	4.389	Sag	93.071	18239.992	18120.008	93.575
8	18420.285	889.511	18380.285	18460.285	80	4.389	5.036	Sag	123.778	18460.285	18380.285	140.293
9	18648.496	901.003	18608.496	18688.496	80	5.036	4.309	Hog	110.057	18688.496	18608.496	148.211
10	18819.936	908.390	18779.936	18859.936	80	4.309	3.933	Hog	213.063	18859.936	18779.936	91.440
11	19204.039	923.498	19144.039	19264.039	120	3.933	5.413	Sag	81.076	19264.039	19144.039	284.103
12	19518.712	940.533	19418.712	19618.712	200	5.413	4.885	Hog	378.142	19618.712	19418.712	154.673
13	19844.994	956.470	19754.994	19934.994	180	4.885	5.331	Sag	403.572	19934.994	19754.994	136.281
14	20558.193	994.487	20398.193	20718.193	320	5.331	0.951	Hog	73.067	20718.193	20398.193	463.199
15	20926.647	997.991	20853.743	20999.551	146	0.951	4.874	Sag	37.170	20999.551	20853.743	135.550
16	21868.783	1043.908	21778.783	21958.783	180	4.874	5.683	Sag	222.464	21958.783	21778.783	779.232
17	22209.863	1063.291	22119.863	22299.863	180	5.683	3.760	Hog	93.594	22299.863	22119.863	161.080
18	22753.063	1083.713	22673.063	22833.063	160	3.760	1.930	Hog	87.427	22833.063	22673.063	373.200
19	23010.775	1088.686	22950.775	23070.775	120	1.930	2.894	Sag	124.374	23070.775	22950.775	117.712
20	23370.232	1099.090	23310.232	23430.232	120	2.894	1.953	Hog	127.412	23430.232	23310.232	239.457
21	23576.478	1103.117	23492.457	23660.500	168	1.953	3.268	Sag	127.745	23660.500	23492.457	62.225
22	24104.876	1120.385	24064.876	24144.876	80	3.268	4.260	Sag	80.651	24144.876	24064.876	404.376
23	24317.791	1129.455	24277.791	24357.791	80	4.260	3.742	Hog	154.537	24357.791	24277.791	132.915
24	24642.062	1141.590	24567.062	24717.062	150	3.742	0.800	Hog	50.985	24717.062	24567.062	209.271
25	24931.496	1143.906	24856.496	25006.496	150	0.800	-2.146	Hog	50.909	25006.496	24856.496	139.434
26	25130.259	1139.640	25070.259	25190.259	120	-2.146	2.345	Sag	26.720	25190.259	25070.259	63.763
27	25341.204	1144.586	25289.391	25393.017	104	2.345	-1.428	Hog	27.464	25393.017	25289.391	99.132
28	25457.914	1142.919	25400.312	25515.516	115	-1.428	5.090	Sag	17.674	25515.516	25400.312	7.296
29	25682.149	1154.332	25622.149	25742.149	120	5.090	4.916	Hog	691.897	25742.149	25622.149	106.633
30	25935.120	1166.769	25875.120	25995.120	120	4.916	4.083	Hog	143.966	25995.120	25875.120	132.971

CLIENT :	EPC CONTRACTOR :	DESIGN DIRECTOR :	PROOF CONSULTANT :	SAFETY CONSULTANT :	AUTHORITY ENGINEER :	DRAWING SCALE :	DRAWING TITLE :	DRG. NO. :	SHEET :	REV. :
 NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD	 "CMM" M/S. CMM INFRA PROJECTS LTD.		 Hindia Engineers Pvt. Ltd. Address: 33/7, 4th Block, D.J. Phase-1, Gurgaon-Faridabad Road, Faridkot, INDIA-122002, Phone No.-0124-4028681	 Antique Buildtech Pvt. Ltd. Address: 191, Mohan Nagar, Dopekhara Byepass, Jaipur-302018 (Rajasthan) Phone No. 0141-2780303 Email : info@antiquebuildtech.com	 BLOOM LCC & BSCPSL 37 PKG 1,2,3 & 4	HOR : 1 : 2000	VERTICAL ALIGNMENT REPORT	DD/IMP-JIR/VER/-01		R1
PROJECT NAME:- Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of NH-37 from Design Chainage 13,940 km sa 33,120 Km (Total length-17,180 Km) (PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC) mode.						DATE DEC.-2021	DRAWN - Highway Draftsman	DESIGNED Highway Engineering	CHECKED ---	APPROVED ---

VERTICAL ALIGNMENT REPORT												
S.NO	VIP CHAINAGE	VIP LEVEL	CURVE START CHAINAGE	CURVE END CHAINAGE	CURVE LENGTH	IN GRADE(%)	OUT GRADE (%)	CURVE TYPE	K Value	GRADE START CHAINAGE	GRADE END CHAINAGE	GRADE LENGTH
31	26260.310	1180.046	26200.310	26320.310	120	4.083	4.194	Sag	1080.489	26320.310	26200.310	205.190
32	26461.316	1188.476	26421.316	26501.316	80	4.194	5.594	Sag	57.141	26501.316	26421.316	101.006
33	26640.313	1198.489	26580.313	26700.313	120	5.594	3.745	Hog	64.895	26700.313	26580.313	78.997
34	26927.377	1209.239	26857.377	26997.377	140	3.745	5.064	Sag	106.086	26997.377	26857.377	157.064
35	27296.042	1227.910	27206.042	27386.042	180	5.064	3.794	Hog	141.687	27386.042	27206.042	208.665
36	27545.931	1237.391	27505.931	27585.931	80	3.794	4.741	Sag	84.441	27585.931	27505.931	119.889
37	27795.114	1249.206	27725.114	27865.114	140	4.741	4.960	Sag	641.751	27865.114	27725.114	139.183
38	28048.015	1261.749	28008.015	28088.015	80	4.960	5.478	Sag	154.205	28088.015	28008.015	142.901
39	28250.372	1272.835	28200.372	28300.372	100	5.478	3.883	Hog	62.670	28300.372	28200.372	112.357
40	28449.147	1280.553	28371.647	28526.647	155	3.883	-2.315	Hog	25.009	28526.647	28371.647	71.275
41	28789.023	1272.685	28729.023	28849.023	120	-2.315	-0.871	Sag	83.100	28849.023	28729.023	202.376
42	28931.862	1271.441	28891.862	28971.862	80	-0.871	-2.907	Hog	39.293	28971.862	28891.862	42.839
43	29414.401	1257.414	29331.201	29497.601	166	-2.907	-2.121	Sag	211.700	29497.601	29331.201	359.339
44	29560.000	1254.326	29520.000	29600.000	80	-2.121	-1.009	Sag	71.980	29600.000	29520.000	22.399
45	29788.137	1252.023	29698.137	29878.137	180	-1.009	-3.925	Hog	61.732	29878.137	29698.137	98.137
46	29977.803	1244.578	29927.803	30027.803	100	-3.925	0.644	Sag	21.887	30027.803	29927.803	49.666
47	30102.241	1245.379	30052.241	30152.241	100	0.644	-3.050	Hog	27.074	30152.241	30052.241	24.438
48	30291.072	1239.620	30241.068	30341.076	100	-3.05	-4.869	Hog	54.965	30341.076	30241.068	88.827
49	30414.543	1233.608	30364.543	30464.543	100	-4.869	-1.726	Sag	31.814	30464.543	30364.543	23.467
50	30540.820	1231.428	30470.820	30610.820	140	-1.726	-3.866	Hog	65.429	30610.820	30470.820	6.277
51	30756.930	1223.074	30716.930	30796.930	80	-3.866	-4.948	Hog	73.906	30796.930	30716.930	106.110
52	30900.780	1215.956	30840.778	30960.782	120	-4.948	-1.201	Sag	32.028	30960.782	30840.778	43.848
53	31138.250	1213.103	31073.250	31203.250	130	-1.201	-4.117	Hog	44.588	31203.250	31073.250	112.468
54	31416.538	1201.646	31356.538	31476.538	120	-4.117	-0.901	Sag	37.311	31476.538	31356.538	153.288
55	31681.207	1199.262	31591.207	31771.207	180	-0.901	-3.985	Hog	58.352	31771.207	31591.207	114.669
56	31940.785	1188.917	31890.784	31990.785	100	-3.985	-2.355	Sag	61.339	31990.785	31890.784	119.577
57	32080.742	1185.620	32040.742	32120.742	80	-2.355	-3.802	Hog	55.311	32120.742	32040.742	49.957
58	32517.942	1169.000	32477.942	32557.942	80	-3.802	-2.341	Sag	54.791	32557.942	32477.942	357.200
59	32671.966	1165.394	32631.966	32711.966	80	-2.341	-3.914	Hog	50.881	32711.966	32631.966	74.024
60	33014.518	1151.987	32964.518	33064.518	100	-3.914	0	Sag	25.551	33064.518	32964.518	252.552

CLIENT :



EPC CONTRACTOR:



DESIGN DIRECTOR:



PROOF CONSULTANT:



SAFETY CONSULTANT:



AUTHORITY ENGINEER :



DRAWING SCALE:

HOR : 1 : 2000

DRAWING TITLE:

VERTICAL ALIGNMENT REPORT

DRG. NO.

DD/IMP-JIR/VER-02

SHEET:

REV.
R1

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.940 km to 33.120 Km (Total length-17.180 Km)
(PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC)
mode,

DATE DEC.-2021

DRAWN - Highway Draftsman

DESIGNED
Highway
EngineeringCHECKED
---APPROVED

PLAN & PROFILE

← TO IMPHAL

TO JIRIBAM →



Proposed Earthen Shoulder
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline

Proposed Footpath
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline

15+940

16+000

16+100

16+200

16+300

16+400

16+500

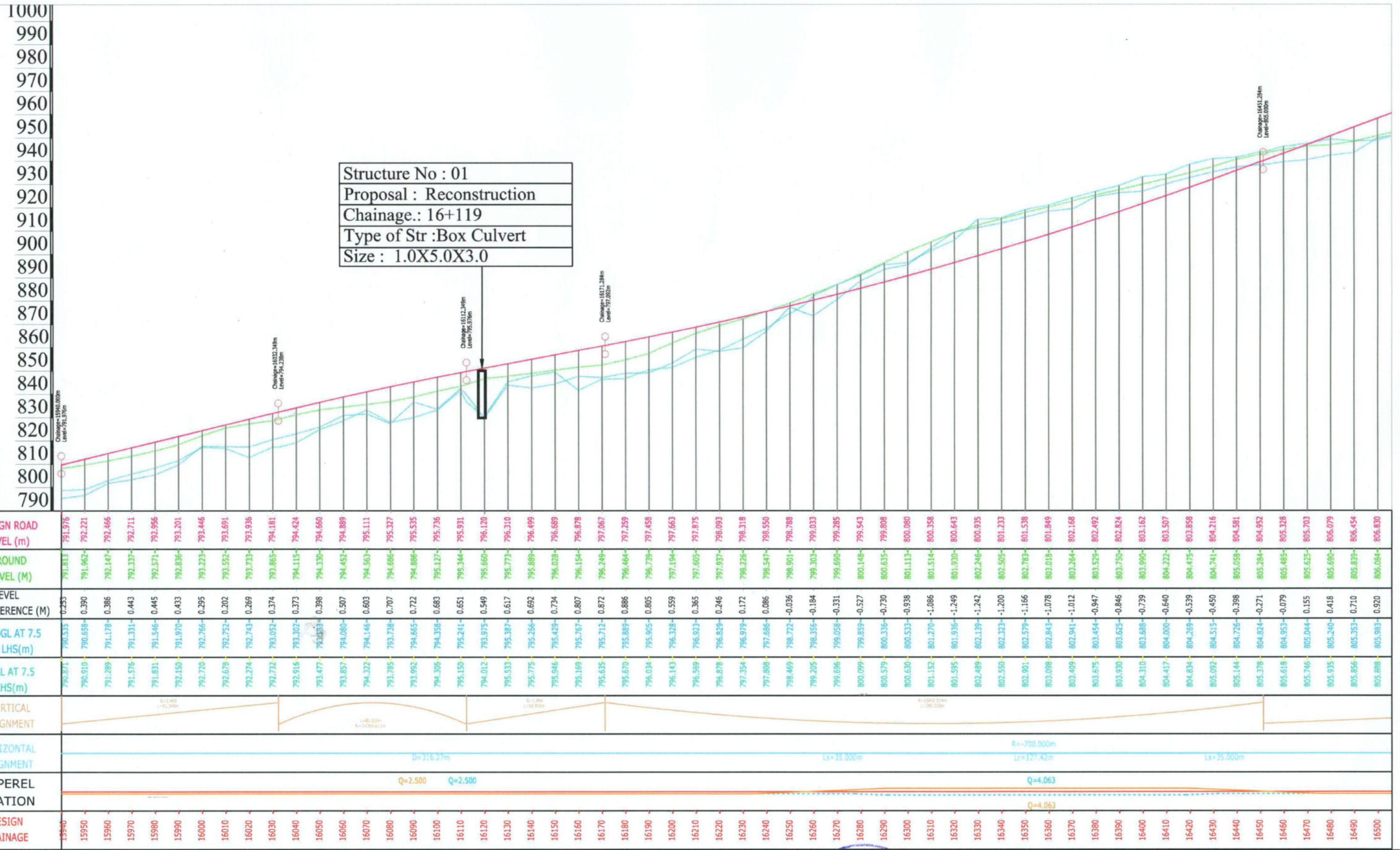
Structure No : 01
Proposal : Reconstruction
Chainage.: 16+119
Type of Str :Box Culvert
Size : 1.0X5.0X3.0

HIP NO. 1 AT CH. 16354.973			
X = 580419.037	Y = 2739901.838		
R (m)	700	Ls (m)	35
Dc(deg)	10.4291	S(m)	0.07
Lc(m)	127.42	Ts(deg)	1.4324
Ts(m)	99.08	Δ(deg)	13.2939
Es(m)	4.808	e(%)	2.5
Design Speed (V) : 50 km/hr			

CLIENT : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD	EPC CONTRACTOR: "CMM" M/S. CMM INFRAPROJECTS LTD.	DESIGN DIRECTOR: 	PROOF CONSULTANT: Hindia Engineers Pvt. Ltd. Address: 34/4 H-Block, DCF Phase-1, Gurgaon-Faridabad Road Haryana, INDIA-122002, Phone No. 0124-4028681	SAFETY CONSULTANT: Antique Buildtech Pvt. Ltd. Address: 191, Mohan Nagar, Gurgaon, Haryana, Jaipur-302018 (Rajasthan) Phone No: 0141-2760303 Email: info@antiquebuildtech.com	AUTHORITY'S ENGINEER: 	DRAWING SCALE: HOR: 1 : 2000	DRAWING TITLE: PLAN 15+900 to 16+500	DRG. NO. DD/IMP-JIR/-01	SHEET: R1	REV.
PROJECT NAME:- Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of NH-37 from Design Chainage 13,940 km sa 33.120 Km (Total length-17.180 Km) (PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC) mode,						DATE DEC.-2021	DRAWN - Highway Draftsman	DESIGNED Highway Engineering	CHECKED ---	APPROVED ---

← TO IMPHAL

TO JIRIBAM →



← TO IMPHAL

TO JIRIBAM →



HIP NO. 3 AT CH. 16882.182			
X = 579907.288		Y = 2739995.487	
R (m)	60	Ls (m)	35
Dc(deg)	4.5646	S(m)	0.85
Lc(m)	4.78	Ts(deg)	16.7113
Ts(m)	38.4	Δ(deg)	37.9871
Es(m)	4.354	e(%)	6.67
Design Speed (V) : 30 km/hr			

HIP NO. 4 AT CH. 16999.857			
X = 579852.741		Y = 2740111.161	
R (m)	20	Ls (m)	20
Dc(deg)	49.177	S(m)	0.83
Lc(m)	17.17	Ts(deg)	28.6479
Ts(m)	37.8	Δ(deg)	106.4727
Es(m)	14.803	e(%)	7
Design Speed (V) : 20 km/hr			

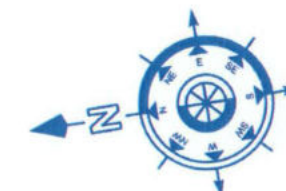
HIP NO. 2 AT CH. 16710.615			
X = 580062.308		Y = 2739917.298	
R (m)	250	Ls (m)	90
Dc(deg)	3.6575	S(m)	1.35
Lc(m)	15.96	Ts(deg)	10.3132
Ts(m)	99.03	Δ(deg)	24.284
Es(m)	7.102	e(%)	4.44
Design Speed (V) : 50 km/hr			

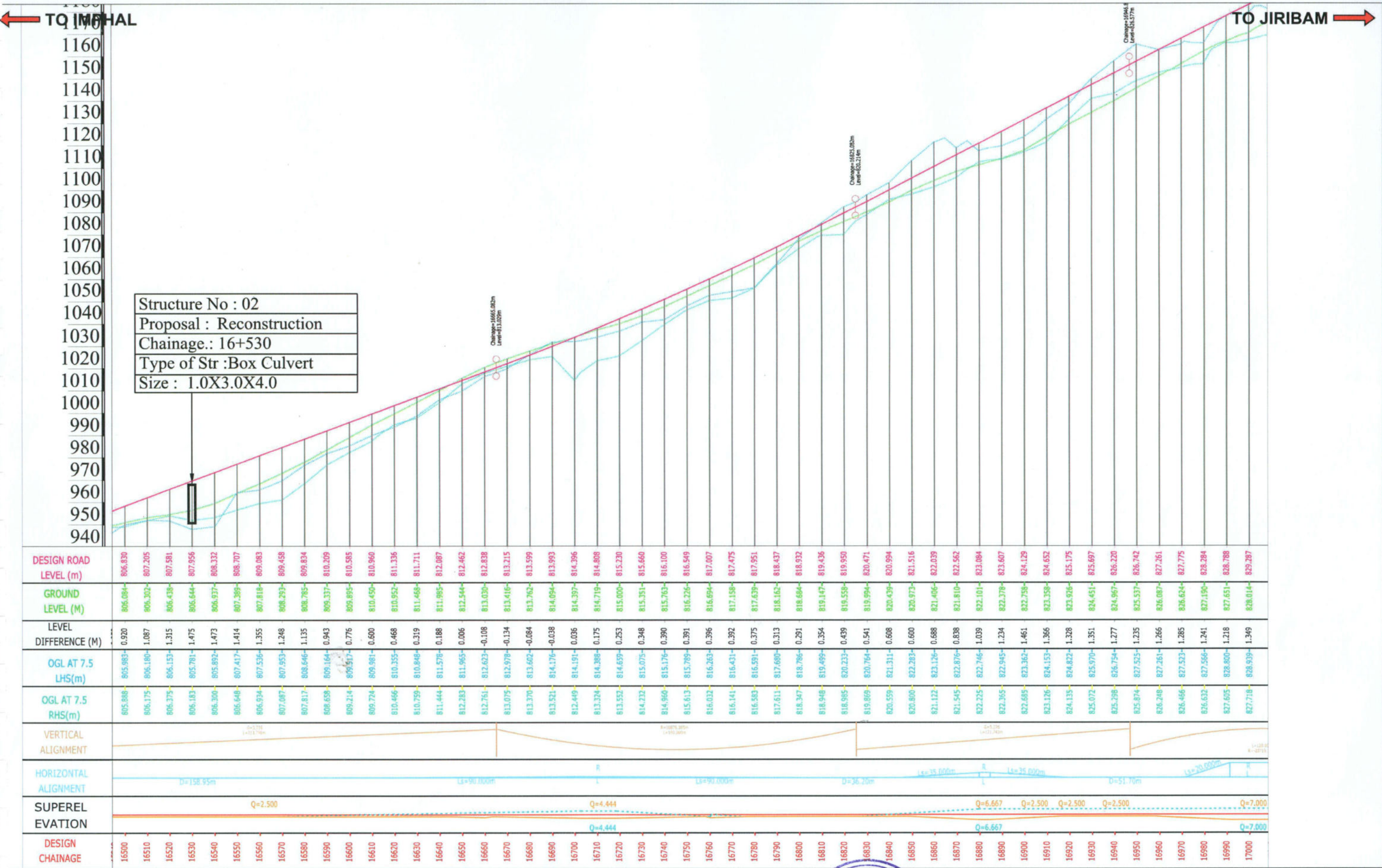
HIP NO. 5 AT CH. 17093.837			
X = 579970.834		Y = 2740129.387	
R (m)	50	Ls (m)	40
Dc(deg)	52.3683	S(m)	1.33
Lc(m)	45.7	Ts(deg)	22.9183
Ts(m)	79.16	Δ(deg)	98.205
Es(m)	28.401	e(%)	
Design Speed (V) : 30 km/hr			

Structure No : 02
 Proposal : Reconstruction
 Chainage.: 16+530
 Type of Str : Box Culvert
 Size : 1.0X3.0X4.0

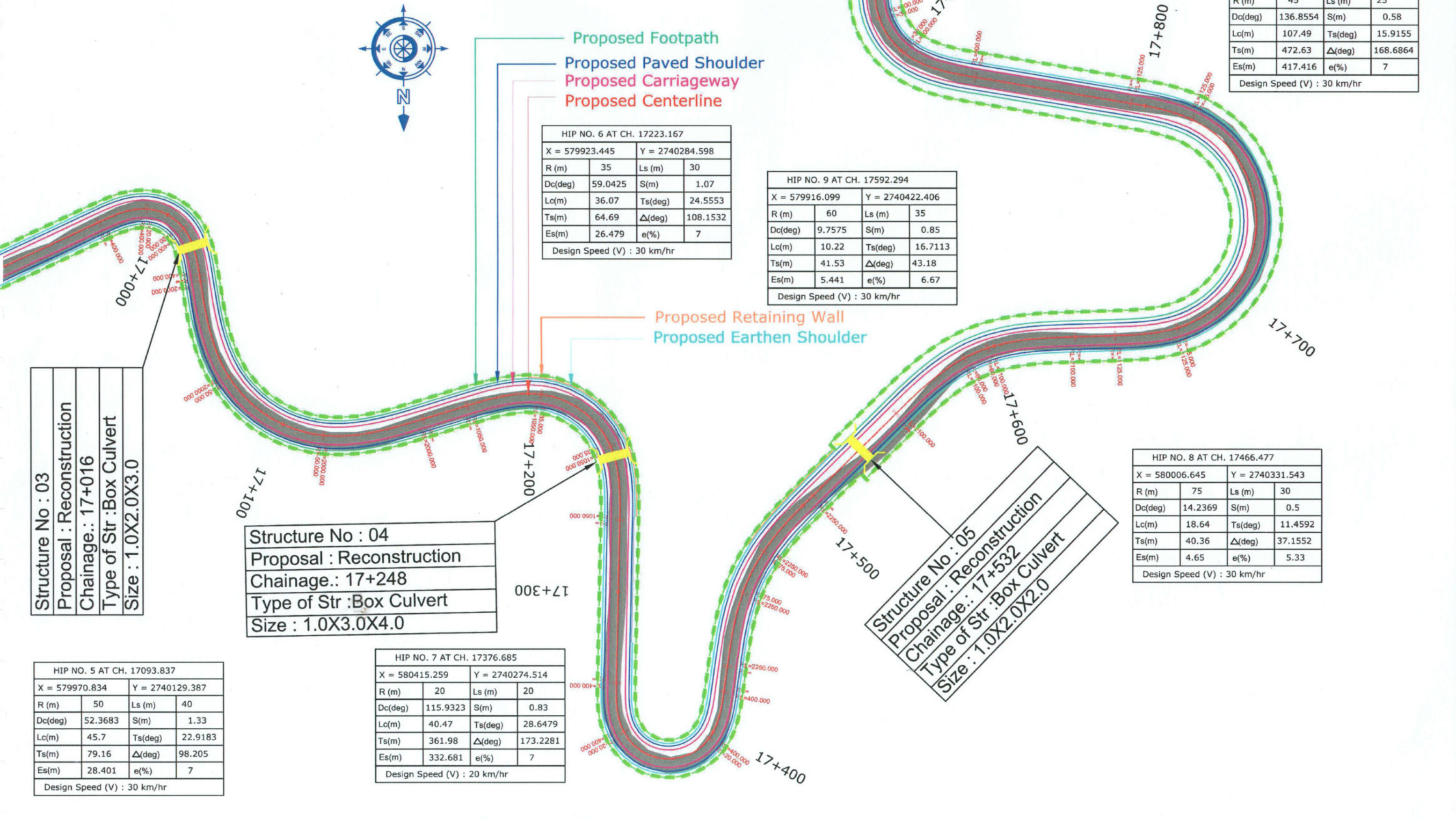
Structure No : 03
 Proposal : Reconstruction
 Chainage.: 17+016
 Type of Str : Box Culvert
 Size : 1.0X2.0X3.0

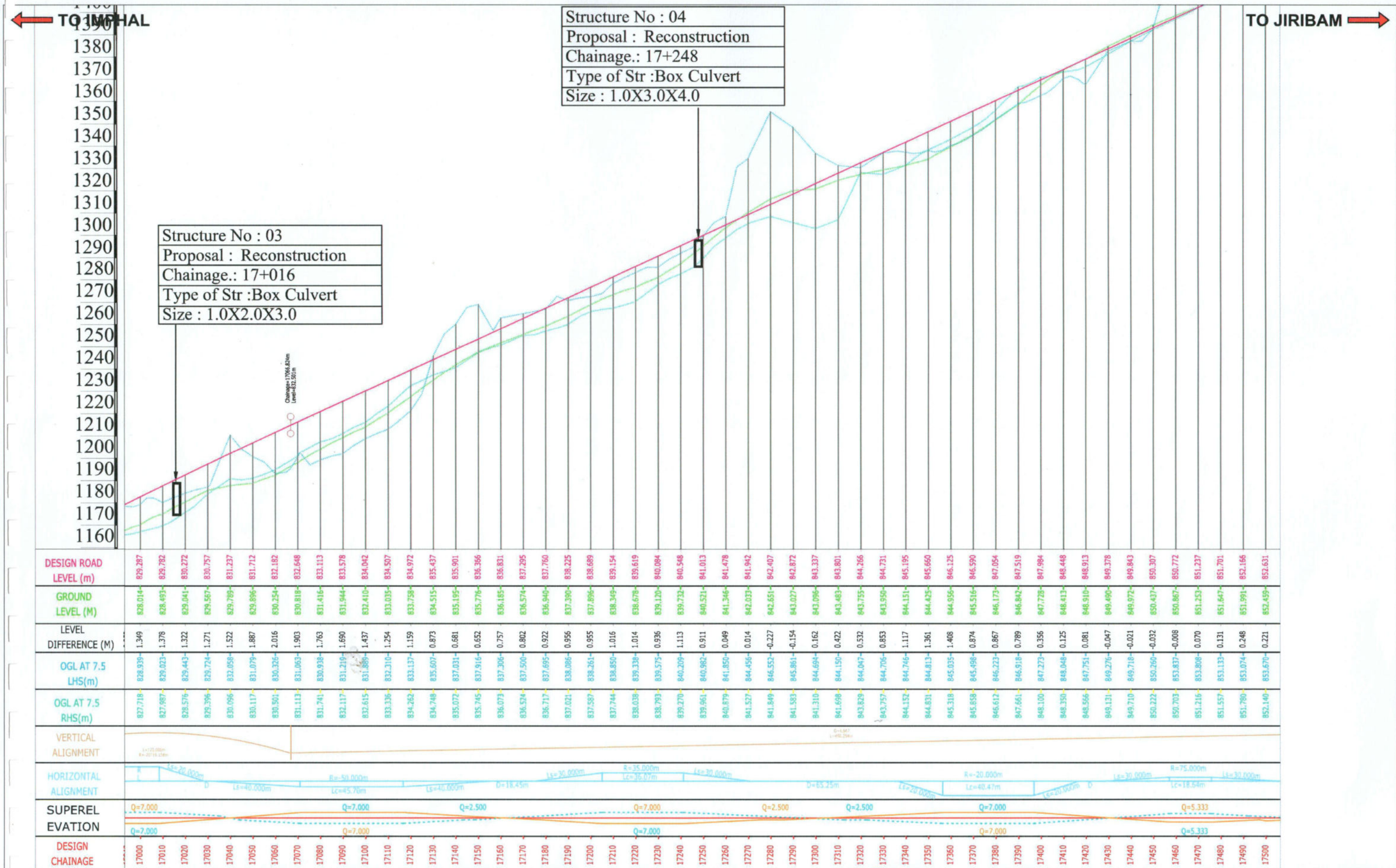
Structure No : 04
 Proposal : Recons
 Chainage.: 17+24
 Type of Str : Box
 Size : 1.0X3.0X4





Structure No : 02
Proposal : Reconstruction
Chainage.: 16+530
Type of Str :Box Culvert
Size : 1.0X3.0X4.0





TO IMPHAL

TO JIRIBAM

HIP NO. 11 AT CH. 17907.206			
X = 579803.242		Y = 2740378.636	
R (m)	30	Ls (m)	30
Dc(deg)	33.2678	S(m)	1.25
Lc(m)	17.42	Ts(deg)	28.6479
Ts(m)	46.43	Δ(deg)	90.5636
Es(m)	14.413	e(%)	7
Design Speed (V) : 30 km/hr			

Structure No : 06
Proposal : Reconstruction
Chainage.: 18+029
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

HIP NO. 12 AT CH. 18038.387			
X = 579662.138		Y = 2740403.919	
R (m)	30	Ls (m)	30
Dc(deg)	19.0967	S(m)	1.25
Lc(m)	10	Ts(deg)	28.6479
Ts(m)	39.46	Δ(deg)	76.3925
Es(m)	9.763	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 6 AT CH. 17223.167			
X = 579923.445		Y = 2740284.598	
R (m)	35	Ls (m)	30
Dc(deg)	59.0425	S(m)	1.07
Lc(m)	36.07	Ts(deg)	24.5553
Ts(m)	64.69	Δ(deg)	108.1532
Es(m)	26.479	e(%)	7
Design Speed (V) : 30 km/hr			

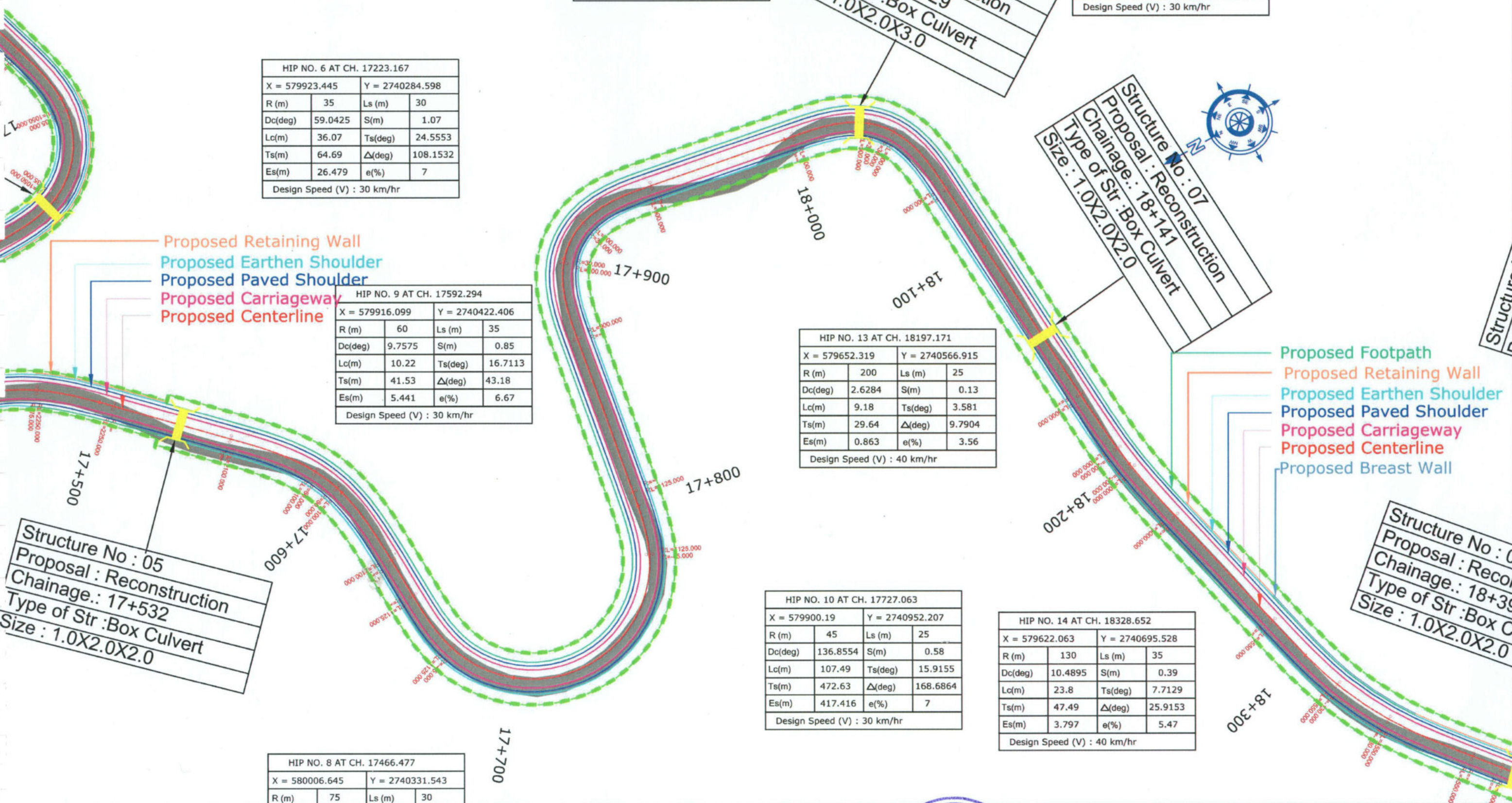
HIP NO. 9 AT CH. 17592.294			
X = 579916.099		Y = 2740422.406	
R (m)	60	Ls (m)	35
Dc(deg)	9.7575	S(m)	0.85
Lc(m)	10.22	Ts(deg)	16.7113
Ts(m)	41.53	Δ(deg)	43.18
Es(m)	5.441	e(%)	6.67
Design Speed (V) : 30 km/hr			

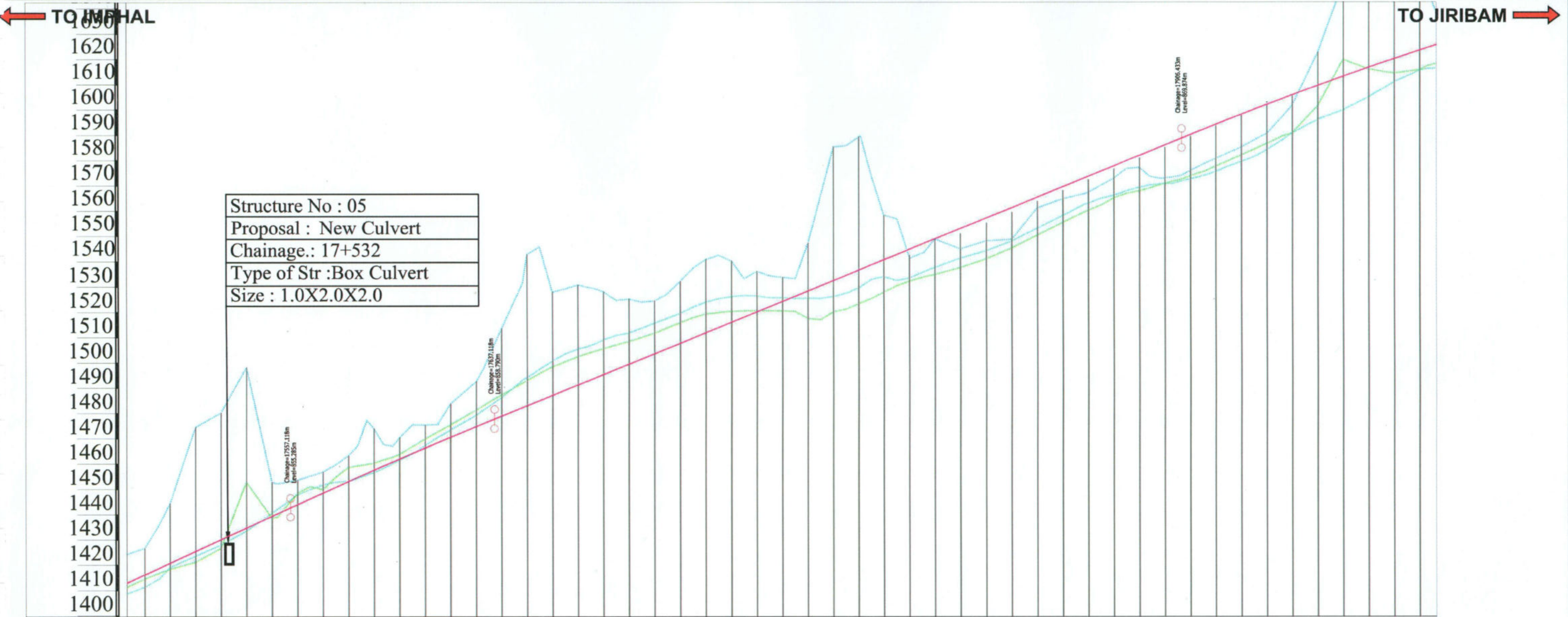
HIP NO. 13 AT CH. 18197.171			
X = 579652.319		Y = 2740566.915	
R (m)	200	Ls (m)	25
Dc(deg)	2.6284	S(m)	0.13
Lc(m)	9.18	Ts(deg)	3.581
Ts(m)	29.64	Δ(deg)	9.7904
Es(m)	0.863	e(%)	3.56
Design Speed (V) : 40 km/hr			

HIP NO. 10 AT CH. 17727.063			
X = 579900.19		Y = 2740952.207	
R (m)	45	Ls (m)	25
Dc(deg)	136.8554	S(m)	0.58
Lc(m)	107.49	Ts(deg)	15.9155
Ts(m)	472.63	Δ(deg)	168.6864
Es(m)	417.416	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 14 AT CH. 18328.652			
X = 579622.063		Y = 2740695.528	
R (m)	130	Ls (m)	35
Dc(deg)	10.4895	S(m)	0.39
Lc(m)	23.8	Ts(deg)	7.7129
Ts(m)	47.49	Δ(deg)	25.9153
Es(m)	3.797	e(%)	5.47
Design Speed (V) : 40 km/hr			

HIP NO. 8 AT CH. 17466.477			
X = 580006.645		Y = 2740331.543	
R (m)	75	Ls (m)	30





Structure No : 05
Proposal : New Culvert
Chainage.: 17+532
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

DESIGN ROAD LEVEL (m)	852.631	853.096	853.560	854.025	854.490	854.954	855.419	855.878	856.331	856.777	857.217	857.650	858.076	858.496	858.909	859.320	859.732	860.143	860.555	860.967	861.378	861.790	862.201	862.613	863.024	863.436	863.847	864.259	864.670	865.082	865.494	865.905	866.317	866.728	867.140	867.551	867.963	868.374	868.786	869.197	869.609	870.020	870.424	870.820	871.207	871.586	871.957	872.319	872.672	873.017	873.354									
GROUND LEVEL (M)	852.459	852.858	853.126	853.675	854.303	854.858	855.860	855.997	856.871	857.042	857.388	857.988	858.556	859.129	859.733	860.307	860.854	861.256	861.569	861.853	862.177	862.589	862.933	863.039	863.069	863.058	862.754	863.847	863.020	863.334	863.800	864.232	864.489	864.762	865.108	865.536	866.038	866.549	867.031	867.524	867.998	868.091	868.389	868.770	869.212	869.666	870.084	871.146	872.584	873.598	874.444	875.581								
LEVEL DIFFERENCE (M)	0.221	0.311	0.488	0.312	0.365	0.218	-0.322	-0.496	-0.233	-0.034	-0.109	-0.301	-0.411	-0.558	-0.744	-0.944	-1.154	-1.145	-1.056	-1.031	-0.767	-0.835	-0.815	-0.515	-0.113	0.264	0.676	1.195	1.399	1.436	1.361	1.505	1.679	1.779	1.796	1.690	1.620	1.507	1.362	1.573	1.830	1.962	2.044	1.948	1.624	1.526	1.526	1.357	1.090	1.018										
OGL AT 7.5 LHS(m)	853.670	855.433	858.454	859.023	860.826	856.285	856.367	856.689	857.333	858.405	858.046	858.544	859.383	860.258	862.350	865.284	863.804	864.083	863.819	863.528	863.451	864.228	865.091	865.027	864.619	864.383	865.732	869.539	869.930	866.853	865.125	865.887	865.497	865.816	865.878	867.124	867.484	867.738	868.298	868.715	868.304	868.597	869.075	869.519	870.065	871.170	873.257	876.012	875.504	877.128	876.532									
OGL AT 7.5 RHS(m)	852.140	852.920	853.363	853.800	854.362	855.055	855.783	856.174	856.324	856.673	857.149	857.731	858.347	858.920	859.621	860.421	861.084	861.551	861.918	862.183	862.576	862.961	863.399	863.624	863.653	863.577	863.557	863.626	863.967	864.406	864.349	864.771	865.131	865.426	865.810	866.317	866.819	867.308	867.621	867.939	868.081	868.266	868.554	868.952	869.416	870.078	870.608	870.986	871.500	872.096	872.555									
VERTICAL ALIGNMENT																																																												
HORIZONTAL ALIGNMENT																																																												
SUPERELEVATION																																																												
DESIGN CHAINAGE	17500	17510	17520	17530	17540	17550	17560	17570	17580	17590	17600	17610	17620	17630	17640	17650	17660	17670	17680	17690	17700	17710	17720	17730	17740	17750	17760	17770	17780	17790	17800	17810	17820	17830	17840	17850	17860	17870	17880	17890	17900	17910	17920	17930	17940	17950	17960	17970	17980	17990	18000									

CLIENT : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR : M/S. CMM INFRAPROJECTS LTD.

DESIGN DIRECTOR

PROOF CONSULTANT : Hindia Engineers Pvt. Ltd.
Address: 207, H Block, DLF Phase-I, Gurgaon-Faridabad Road Haryana, INDIA-122002, Phone No.-0124-4028681

SAFETY CONSULTANT : Antique Buildtech Pvt. Ltd.
Address: 151, Mahanagar, Doodhpora Bypass, Jaipur-302018 (Rajasthan) Phone No. 0141-2760303 Email : info@antiquebuildtech.com

AUTHORITY ENGINEER : BLOOM LCC & SBCSPL

DRAWING SCALE: HOR : 1 : 2000

DRAWING TITLE: PROFILE 17+500 TO 18+000

PROJECT NAME:- Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of NH-37 from Design Chainage 13.940 km to 33.120 Km (Total length-17.180 Km) (PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC) mode.

DRG. NO.	DD/IMP-JIR/-08	SHEET:	REV. R1
DATE	DEC-2021	DRAWN - Highway Draftsman	
DESIGNED Highway Engineering	CHECKED	APPROVED	

TO IMPHAL

Ts(m)	65.00	e(%)	7.00
Es(m)	19.098	e(%)	5
Design Speed (V) : 30 km/hr			

HIP NO. 12 AT CH. 18038.387			
X = 579662.138		Y = 2740403.919	
R (m)	30	Ls (m)	30
Dc(deg)	19.0967	S(m)	1.25
Lc(m)	10	Ts(deg)	28.6479
Ts(m)	39.46	Δ(deg)	76.3925
Es(m)	9.763	e(%)	7
Design Speed (V) : 30 km/hr			

Structure No : 06
Proposal : Reconstruction
Chainage.: 18+029
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

Structure No : 07
Proposal : Reconstruction
Chainage.: 18+141
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

Structure No : 10
Proposal : Reconstruction
Chainage.: 18+650
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

Structure No : 09
Proposal : Reconstruction
Chainage.: 18+564
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

HIP NO. 17 AT CH. 18583.365			
X = 579446.783		Y = 2740663.142	
R (m)	100	Ls (m)	25
Dc(deg)	5.2248	S(m)	0.26
Lc(m)	9.12	Ts(deg)	7.162
Ts(m)	29.77	Δ(deg)	19.5487
Es(m)	1.737	e(%)	4
Design Speed (V) : 30 km/hr			

HIP NO. 13 AT CH. 18197.171			
X = 579652.319		Y = 2740566.915	
R (m)	200	Ls (m)	25
Dc(deg)	2.6284	S(m)	0.13
Lc(m)	9.18	Ts(deg)	3.581
Ts(m)	29.64	Δ(deg)	9.7904
Es(m)	0.863	e(%)	3.56
Design Speed (V) : 40 km/hr			

HIP NO. 14 AT CH. 18328.652			
X = 579622.063		Y = 2740695.528	
R (m)	130	Ls (m)	35
Dc(deg)	10.4895	S(m)	0.39
Lc(m)	23.8	Ts(deg)	7.7129
Ts(m)	47.49	Δ(deg)	25.9153
Es(m)	3.797	e(%)	5.47
Design Speed (V) : 40 km/hr			

HIP NO. 15 AT CH. 18431.565			
X = 579550.901		Y = 2740782.93	
R (m)	40	Ls (m)	25
Dc(deg)	54.2233	S(m)	0.65
Lc(m)	37.85	Ts(deg)	17.9049
Ts(m)	53.13	Δ(deg)	90.0332
Es(m)	17.504	e(%)	7
Design Speed (V) : 30 km/hr			

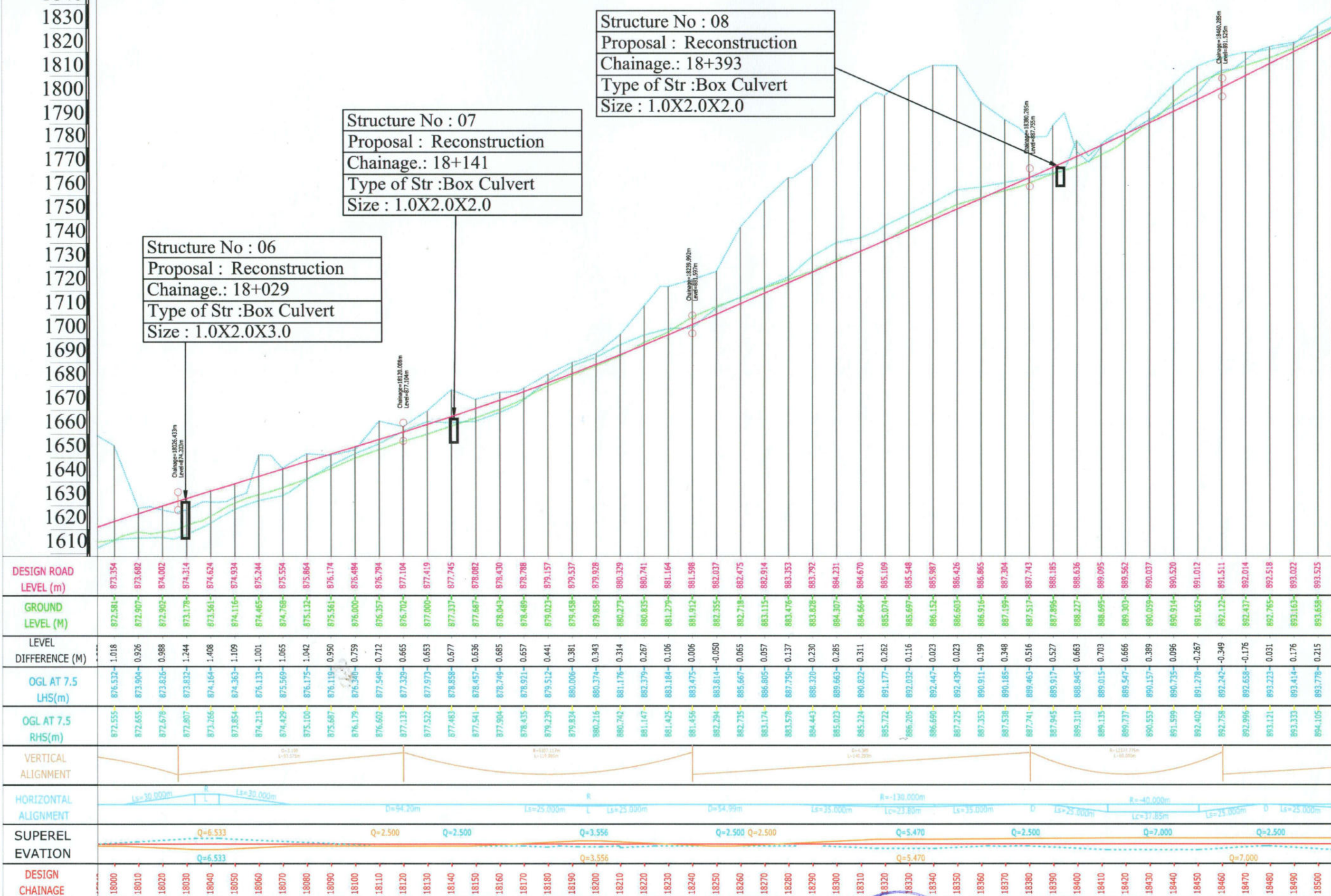
HIP NO. 10 AT CH. 17727.063			
X = 579900.19		Y = 2740952.207	
R (m)	45	Ls (m)	25
Dc(deg)	136.8554	S(m)	0.58
Lc(m)	107.49	Ts(deg)	15.9155
Ts(m)	472.63	Δ(deg)	168.6864
Es(m)	417.416	e(%)	7
Design Speed (V) : 30 km/hr			

Proposed Footpath
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline

Proposed Centerline
Proposed Carriageway
Proposed Paved Shoulder
Proposed Earthen Shoulder
Proposed Retaining Wall

TO IMPHAL

TO JIRIBAM



CLIENT :

NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR:



M/S. CMM INFRAPROJECTS LTD.

DESIGN DIRECTOR:



PROOF CONSULTANT:



Hindia Engineers Pvt. Ltd.

Address: 33/7, G Block, DLF Phase-I,
Gurgaon-Faridabad Road, Faridabad, INDIA-122002,
Phone No.-0124-4028681

SAFETY CONSULTANT:



Antique Engineering Pvt. Ltd.

Address: 191, Moti Nagar, Gurgaon Bypass,
Jaipur-302018 (Rajasthan) Phone No: 0141-2760303
Email: info@antiqueengg.com

AUTHORITY'S ENGINEER



DRAWING SCALE:

HOR: 1 : 2000

DRAWING TITLE:

PROFILE 18+000 TO 18+500

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.946 km to 33.120 Km (Total length-19.174 Km)
(PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC)
mode.

DRG. NO.

DD/IMP-JIR/-10

SHEET: REV.

R1

DATE DEC.-2021 DRAWN - Highway Draftsman

DESIGNED Highway Engineering

CHECKED

APPROVED

← TO IMPHAL

TO JIRIBAM →

HIP NO. 18 AT CH. 18746.686			
X = 579321.265	Y = 2740548.592		
R (m)	20	Ls (m)	20
Dc(deg)	39.1874	S(m)	0.83
Lc(m)	13.68	Ts(deg)	28.6479
Ts(m)	33.25	Δ(deg)	96.4832
Es(m)	11.277	e(%)	7
Design Speed (V) : 20 km/hr			

Structure No : 11
Proposal : Reconstruction
Chainage : 18+762
Type of Str : Box Culvert
Size : 1.0X2.0X3.0

Structure No : 12
Proposal : Reconstruction
Chainage : 19+010
Type of Str : Box Culvert
Size : 1.0X2.0X2.0

HIP NO. 22 AT CH. 19140.384			
X = 579132.246	Y = 2740694.631		
R (m)	65	Ls (m)	35
Dc(deg)	51.4798	S(m)	0.79
Lc(m)	58.4	Ts(deg)	15.4258
Ts(m)	74.98	Δ(deg)	82.3314
Es(m)	22.393	e(%)	6.15
Design Speed (V) : 30 km/hr			

Structure No : 10
Proposal : Reconstruction
Chainage : 18+650
Type of Str : Box Culvert
Size : 1.0X2.0X3.0

Structure No : 09
Proposal : Reconstruction
Chainage : 18+564
Type of Str : Box Culvert
Size : 1.0X3.0X4.0

HIP NO. 19 AT CH. 18848.881			
X = 579252.906	Y = 2740643.024		
R (m)	80	Ls (m)	15
Dc(deg)	61.3588	S(m)	0.12
Lc(m)	85.67	Ts(deg)	5.3715
Ts(m)	65.82	Δ(deg)	72.1017
Es(m)	19.098	e(%)	5
Design Speed (V) : 30 km/hr			

HIP NO. 20 AT CH. 18936.364			
X = 579160.799	Y = 2740613.093		
R (m)	40	Ls (m)	25
Dc(deg)	13.2711	S(m)	0.65
Lc(m)	9.26	Ts(deg)	17.9049
Ts(m)	31.02	Δ(deg)	49.081
Es(m)	4.687	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 17 AT CH. 18583.365			
X = 579446.783	Y = 2740663.142		
R (m)	100	Ls (m)	25
Dc(deg)	5.2248	S(m)	0.26
Lc(m)	9.12	Ts(deg)	7.162
Ts(m)	29.77	Δ(deg)	19.5487
Es(m)	1.737	e(%)	4
Design Speed (V) : 30 km/hr			

Proposed Footpath
Proposed Retaining Wall
Proposed Centerline
Proposed Carriageway
Proposed Paved Shoulder
Proposed Earthen Shoulder

Structure No : 13
Proposal : Reconstruction
Chainage : 19+267
Type of Str : Box Culvert
Size : 1.0X2.0X3.0

TO IMPHAL

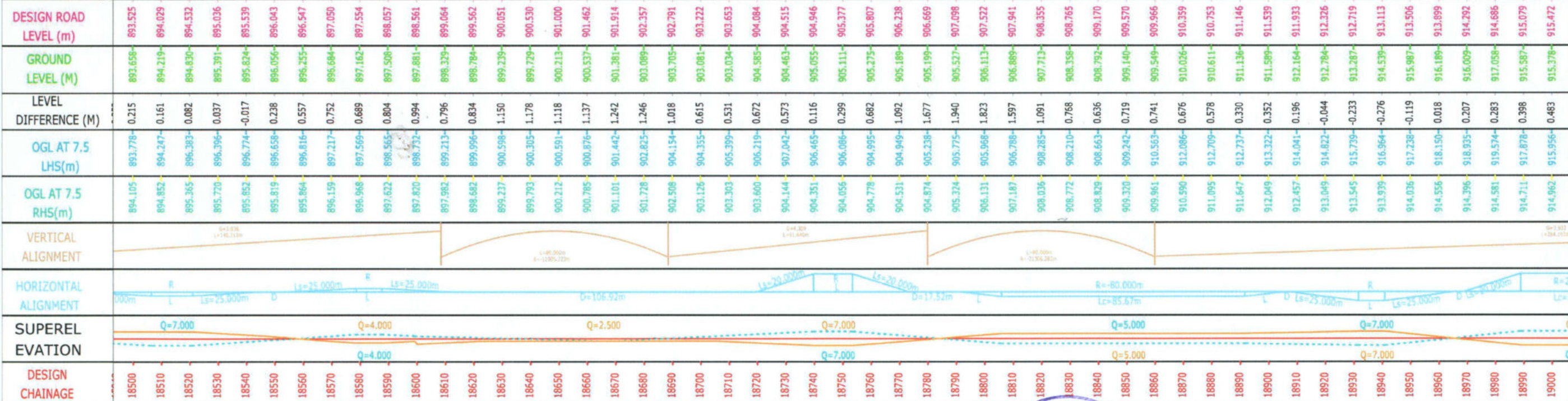
TO JIRIBAM

2030
2020
2010
2000
1990
1980
1970
1960
1950
1940
1930
1920
1910
1900
1890
1880
1870
1860
1850
1840
1830
1820
1810

Structure No : 10
Proposal : Reconstruction
Chainage.: 18+650
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

Structure No : 09
Proposal : Reconstruction
Chainage.: 18+564
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

Structure No : 11
Proposal : Reconstruction
Chainage.: 18+762
Type of Str :Box Culvert
Size : 1.0X2.0X3.0



CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR:



M/S. CMM INFRAPROJECTS LTD.

DESIGN DIRECTOR:

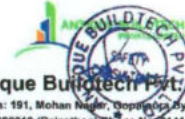


PROOF CONSULTANT:



Hindia Engineers Pvt. Ltd.
Address: 507, 1st Block, DLF Phase-1,
Gurgaon-Faridabad Road Haryana, INDIA-122002,
Phone No.-0124-4028681

SAFETY CONSULTANT:



Antique Buildtech Pvt. Ltd.
Address: 191, Mohan Nagar, Dopepur Bypass,
Jaipur-302018 (Rajasthan) Phone No: 0141-2769303
Email: info@antiquebuildtech.com

AUTHORITY ENGINEER:



DRAWING SCALE:

HOR: 1 : 2000

DRAWING TITLE:

PROFILE 18+500 TO 19+000

DRG. NO.

DD/IMP-JIR/ -12

SHEET: REV.

R1

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.940 km to 33.120 Km (Total length-17.180 Km)
(PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC)
mode.

DATE DEC.-2021

DRAWN - Highway Draftsman

DESIGNED

CHECKED

APPROVED

Highway Engineering

← TO IMPHAL

TO JIRIBAM →



Structure No : 12
Proposal : Reconstruction
Chainage.: 19+010
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

HIP NO. 22 AT CH. 19140.384			
X = 579132.246		Y = 2740694.631	
R (m)	65	Ls (m)	35
Dc(deg)	51.4798	S(m)	0.79
Lc(m)	58.4	Ts(deg)	15.4258
Ts(m)	74.98	Δ(deg)	82.3314
Es(m)	22.393	e(%)	6.15
Design Speed (V) : 30 km/hr			

HIP NO. 26 AT CH. 19534.511			
X = 578838.014		Y = 2740561.6	
R (m)	70	Ls (m)	15
Dc(deg)	17.4097	S(m)	0.13
Lc(m)	21.27	Ts(deg)	6.1388
Ts(m)	26.08	Δ(deg)	29.6874
Es(m)	2.551	e(%)	5.71
Design Speed (V) : 30 km/hr			

Structure No : 15
Proposal : Reconstruction
Chainage.: 19+619
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

HIP NO. 29 AT CH. 19854.732			
X = 578626.715		Y = 2740561.389	
R (m)	40	Ls (m)	25
Dc(deg)	61.0214	S(m)	0.65
Lc(m)	42.6	Ts(deg)	17.9049
Ts(m)	58.27	Δ(deg)	96.8313
Es(m)	21.246	e(%)	7
Design Speed (V) : 30 km/hr			

Structure No : 14
Proposal : Reconstruction
Chainage.: 19+490
Type of Str :Box Culvert
Size : 1.0X4.0X5.0

Structure No : 16
Proposal : Reconstruction
Chainage.: 19+800
Type of Str :Box Culvert
Size : 1.0X4.0X5.0

Proposed Retaining Wall
Proposed Earthen Shoulder
Proposed Footpath
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline

Structure No : 13
Proposal : Reconstruction
Chainage.: 19+267
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

HIP NO. 25 AT CH. 19462.048			
X = 578904.421		Y = 2740598.027	
R (m)	60	Ls (m)	15
Dc(deg)	42.7799	S(m)	0.16
Lc(m)	44.8	Ts(deg)	7.162
Ts(m)	40.23	Δ(deg)	57.1038
Es(m)	8.489	e(%)	6.67
Design Speed (V) : 30 km/hr			

HIP NO. 28 AT CH. 19702.714			
X = 578814.061		Y = 2740633.855	
R (m)	30	Ls (m)	30
Dc(deg)	75.6935	S(m)	1.25
Lc(m)	39.63	Ts(deg)	28.6479
Ts(m)	86.73	Δ(deg)	132.9892
Es(m)	48.353	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 24 AT CH. 19380.194			
X = 578910.623		Y = 2740683.507	
R (m)	60	Ls (m)	15
Dc(deg)	26.6941	S(m)	0.16
Lc(m)	27.95	Ts(deg)	7.162
Ts(m)	30	Δ(deg)	41.018
Es(m)	4.231	e(%)	6.67
Design Speed (V) : 30 km/hr			

HIP NO. 30 AT CH. 19985.064			
X = 578591.308		Y = 2740700.133	
R (m)	50	Ls (m)	20
Dc(deg)	17.6941	S(m)	0.33
Lc(m)	15.44	Ts(deg)	11.4592
Ts(m)	28.61	Δ(deg)	40.6124
Es(m)	3.665	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 23 AT CH. 19285.199			
X = 578982.762		Y = 2740755.226	
R (m)	70	Ls (m)	30
Dc(deg)	42.3432	S(m)	0.54
Lc(m)	51.73	Ts(deg)	12.2777
Ts(m)	61.58	Δ(deg)	66.8986
Es(m)	14.542	e(%)	5.71
Design Speed (V) : 30 km/hr			

18936.364	
Y = 2740613.093	
R (m)	25
S(m)	0.65
Ts(deg)	17.9049
deg	49.081
e(%)	7
30 km/hr	

CLIENT :

NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR:

M/S. CMM INFRAPROJECTS LTD.

DESIGN DIRECTOR:

PROOF CONSULTANT:

Hindia Engineers Pvt. Ltd.
Address: 337, G Block, DCF Phase-1,
Gurgaon-Faridabad Road Haryana, INDIA-122002,
Phone No.-0124-4028681

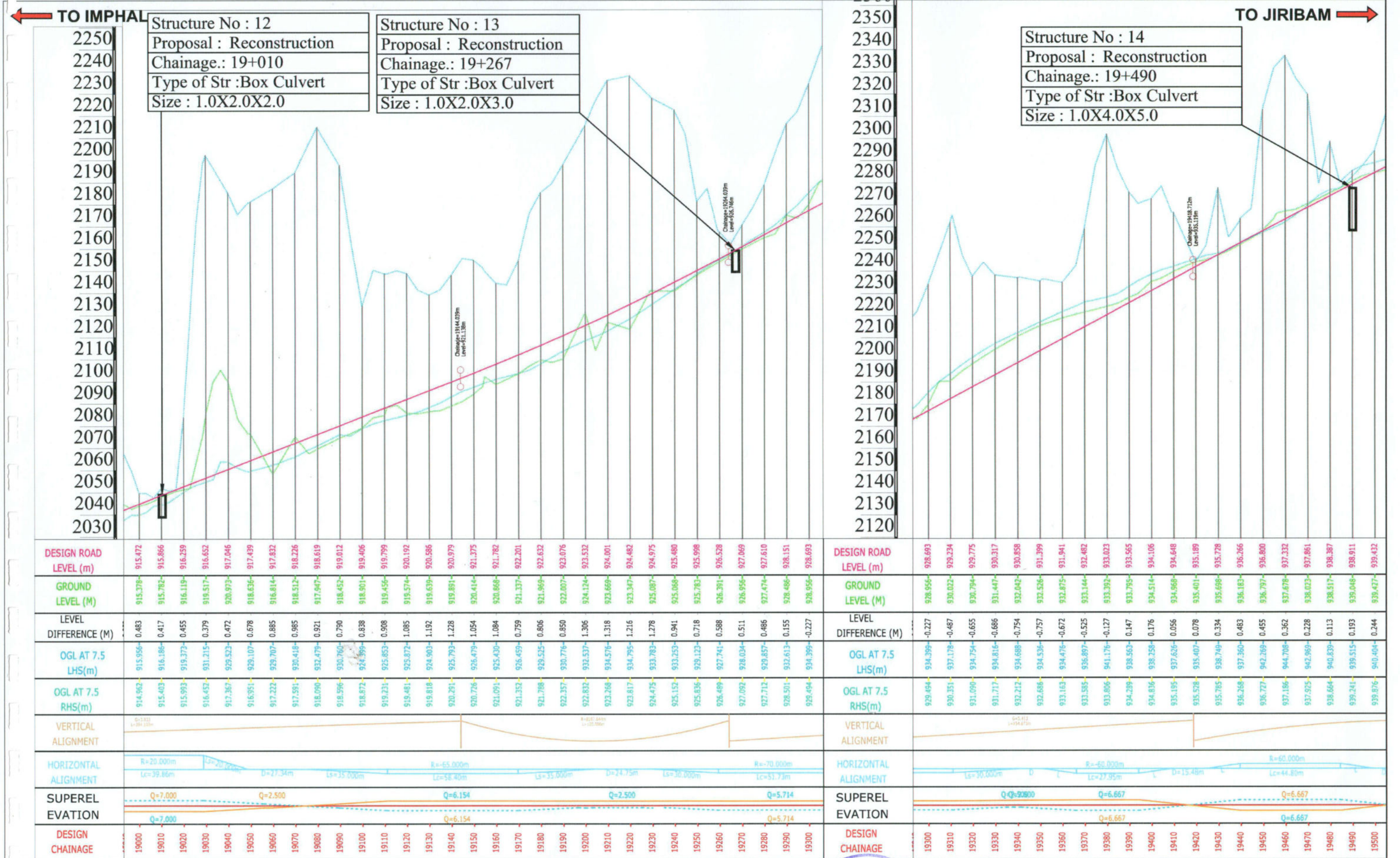
SAFETY CONSULTANT:

Antique Buildtech Pvt. Ltd.
Address: 191, Mohan Nagar, B-Block, B-Block,
Jaipur-302018 (Rajasthan) Phone No.-0141-2595503
Email : Info@antiquebuildtech.com

AUTHORITY ENGINEER:

DRAWING SCALE:
HOR : 1 : 2000
DRAWING TITLE:
PLAN 19+000 TO 19+500
PROJECT NAME:-
Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.940 km to 33.120 Km (Total length-17.180 Km)
(PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC)
mode.

DRG. NO.
DD/IMP-JIR/-13
SHEET: REV.
R1
DATE DEC.-2021
DESIGNED Highway Engineering
CHECKED
APPROVED



← TO IMPHAL

TO JIRIBAM →



Structure No : 15
Proposal : Reconstruction
Chainage.: 19+619
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

HIP NO. 29 AT CH. 19854.732			
X = 578626.715	Y = 2740561.389		
R (m)	40	Ls (m)	25
Dc(deg)	61.0214	S(m)	0.65
Lc(m)	42.6	Ts(deg)	17.9049
Ts(m)	58.27	Δ(deg)	96.8313
Es(m)	21.246	e(%)	7
Design Speed (V) : 30 km/hr			

Structure No : 16
Proposal : Reconstruction
Chainage.: 19+883
Type of Str :Box Culvert
Size : 1.0X4.0X5.0

Structure No : 17
Proposal : Reconstruction
Chainage.: 19+955
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

Structure No : 14
Proposal : Reconstruction
Chainage.: 19+490
Type of Str :Box Culvert
Size : 1.0X4.0X5.0

HIP NO. 28 AT CH. 19702.714			
X = 578814.061	Y = 2740633.855		
R (m)	30	Ls (m)	30
Dc(deg)	75.6935	S(m)	1.25
Lc(m)	39.63	Ts(deg)	28.6479
Ts(m)	86.73	Δ(deg)	132.9892
Es(m)	48.353	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 25 AT CH. 19462.048			
X = 578904.421	Y = 2740598.027		
R (m)	60	Ls (m)	15
Dc(deg)	42.7799	S(m)	0.16
Lc(m)	44.8	Ts(deg)	7.162
Ts(m)	40.23	Δ(deg)	57.1038
Es(m)	8.489	e(%)	6.67
Design Speed (V) : 30 km/hr			

HIP NO. 30 AT CH. 19985.064			
X = 578591.308	Y = 2740700.133		
R (m)	50	Ls (m)	20
Dc(deg)	17.6941	S(m)	0.33
Lc(m)	15.44	Ts(deg)	11.4592
Ts(m)	28.61	Δ(deg)	40.6124
Es(m)	3.665	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 31 AT CH. 20106.712			
X = 578645.895	Y = 2740810.598		
R (m)	45	Ls (m)	25
Dc(deg)	4.9593	S(m)	0.58
Lc(m)	3.9	Ts(deg)	15.9155
Ts(m)	27.63	Δ(deg)	36.7903
Es(m)	3.034	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 24 AT CH. 19380.194			
X = 578910.623	Y = 2740683.507		
R (m)	60	Ls (m)	15
Dc(deg)	26.6941	S(m)	0.16
Lc(m)	27.95	Ts(deg)	7.162
Ts(m)	30	Δ(deg)	41.018
Es(m)	4.231	e(%)	6.67
Design Speed (V) : 30 km/hr			

Structure No : 18
Proposal : Reconstruction
Chainage.: 20+106
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

HIP NO. 32 AT CH. 20172.79			
X = 578715.67	Y = 2740810.598		
R (m)	35	Ls (m)	25

CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR:



M/S. CMM INFRAPROJECTS LTD.

DESIGN DIRECTOR:



PROOF CONSULTANT:



Hindia Engineers Pvt. Ltd.
Address: 33/7, Kirti Nagar, D-1, Phase-1,
Gurgaon-Faridabad Road, Haryana, INDIA-122002,
Phone No.-0124-4028681

SAFETY CONSULTANT:



Antique Buildtech Pvt. Ltd.
Address: 191, Mohan Nagar, Gurgaon Bypass,
Jaipur-302016 (Rajasthan) Phone No. 0141-2760303
Email: info@antiquebuildtech.com

AUTHORITY ENGINEER



DRAWING SCALE:

HOR : 1 : 2000

DRAWING TITLE:

PLAN 19+500 TO 20+000

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.840 km to 33.120 Km (Total length-17.180 Km)
(PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC)
mode.

DRG. NO.

DD/IMP-JIR/-15

SHEET: REV.

R1

DATE DEC.-2021 DRAWN - Highway Draftsman

DESIGNED Highway Engineering	CHECKED ---	APPROVED ---
------------------------------------	----------------	-----------------

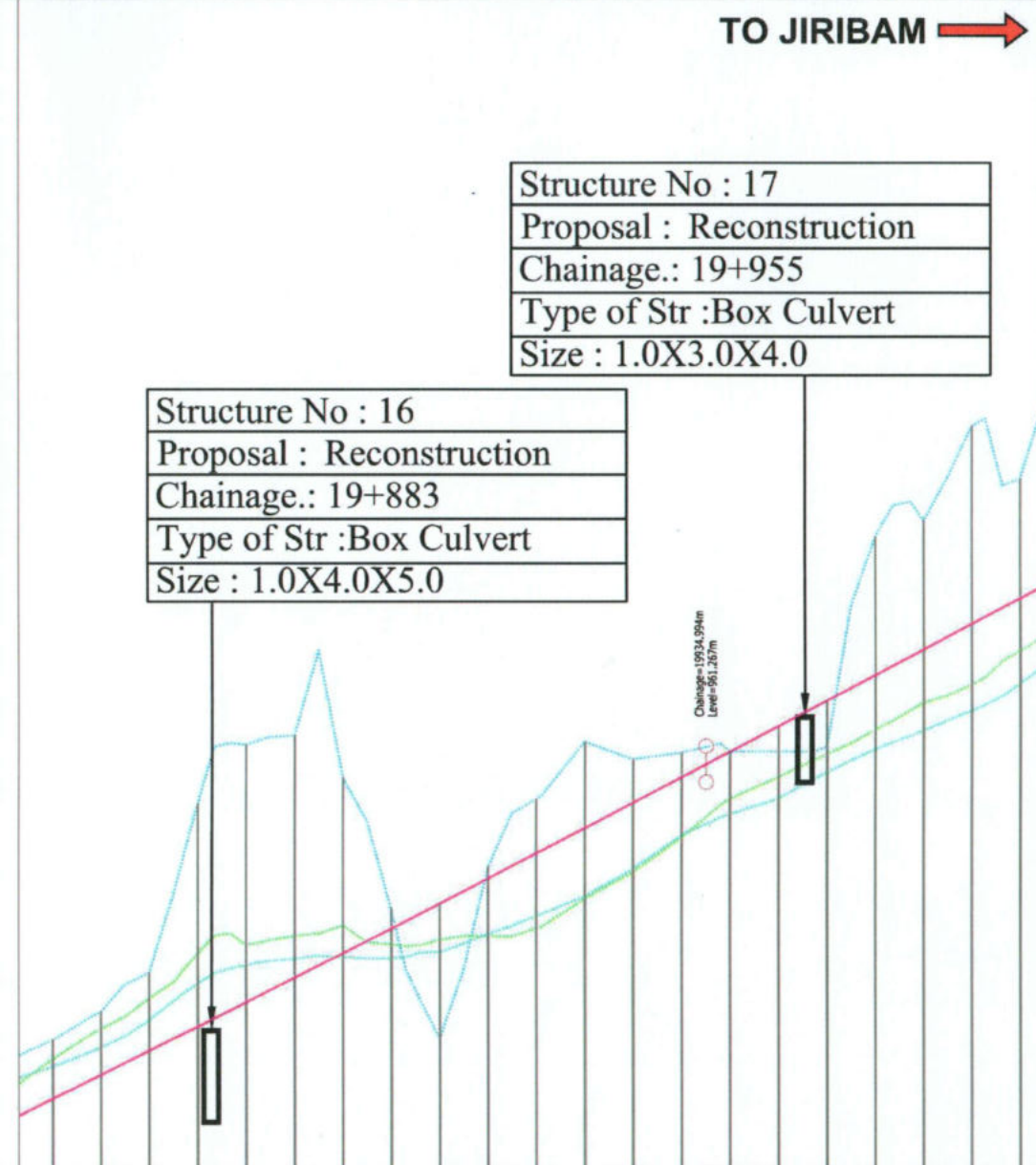
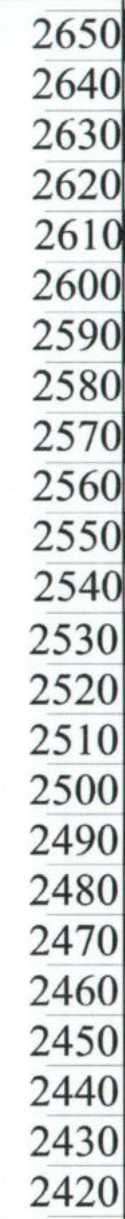
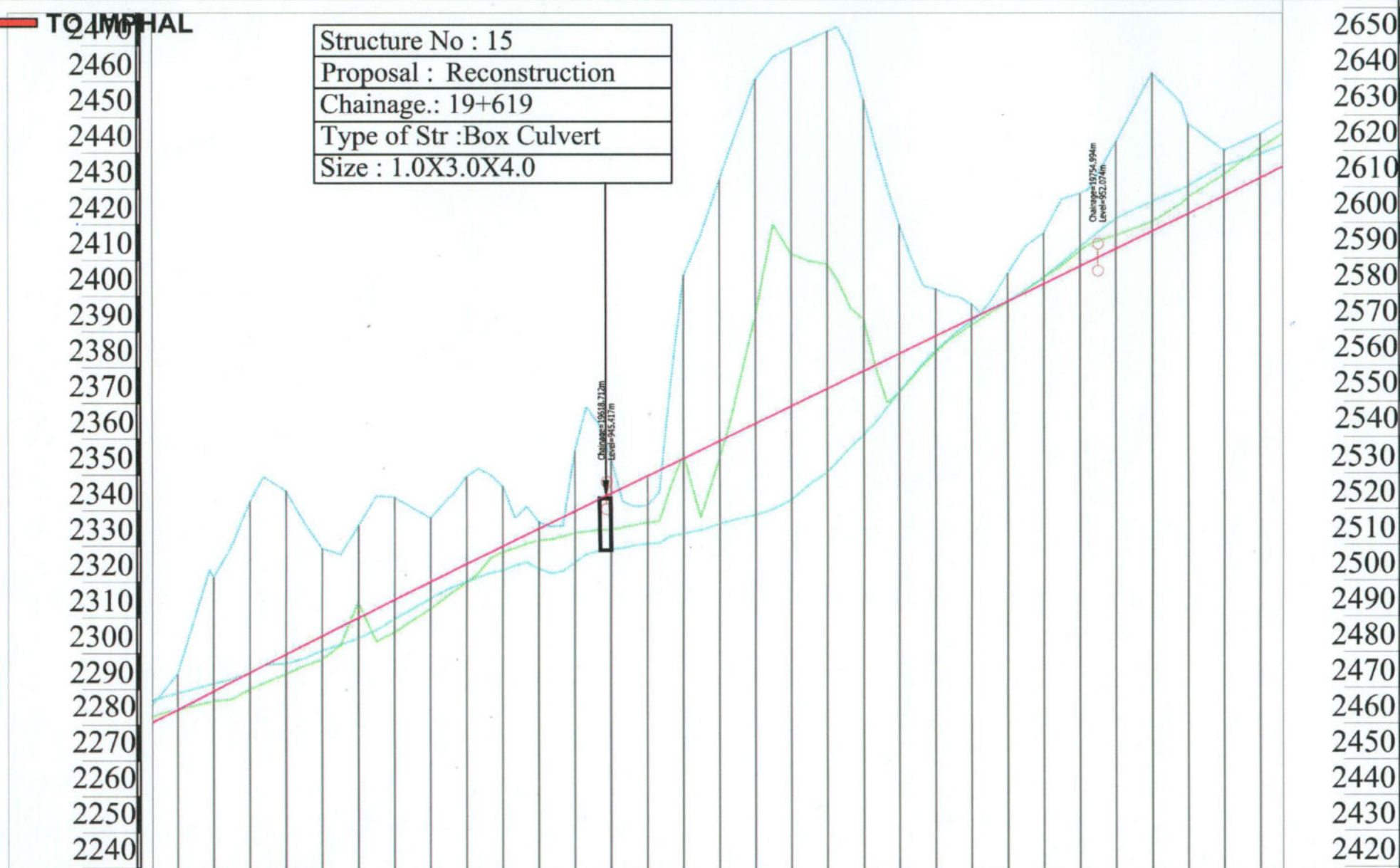
← TO IMPHAL

TO JIRIBAM →

Structure No : 15
Proposal : Reconstruction
Chainage.: 19+619
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

Structure No : 17
Proposal : Reconstruction
Chainage.: 19+955
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

Structure No : 16
Proposal : Reconstruction
Chainage.: 19+883
Type of Str :Box Culvert
Size : 1.0X4.0X5.0



DESIGN ROAD LEVEL (m)	939.432	939.951	940.467	940.980	941.490	941.998	942.504	943.006	943.506	944.004	944.498	944.990	945.480	945.968	946.457	946.945	947.434	947.922	948.411	948.899	949.388	949.876	950.364	950.853	951.341	951.830	952.319	952.809	953.293	953.779	954.267
GROUND LEVEL (M)	939.427	939.661	939.988	940.416	940.817	941.432	941.581	942.245	942.872	943.832	944.160	944.372	944.455	944.661	945.575	946.463	950.437	952.174	951.888	950.346	948.292	949.395	950.181	950.830	951.507	952.251	952.687	953.069	953.760	954.389	955.123
LEVEL DIFFERENCE (M)	0.244	0.501	0.569	0.880	0.806	0.976	0.937	1.025	0.942	0.688	0.767	1.039	1.145	1.859	2.202	2.445	2.664	2.759	2.529	2.220	1.986	0.495	0.341	0.329	0.278	0.000	-0.468	-0.478	-0.526	-0.768	-0.884
OGL AT 7.5 LHS(m)	940.404	943.117	945.233	945.545	943.928	944.553	945.369	944.786	945.950	945.669	944.660	946.650	946.453	945.145	951.558	954.228	957.030	957.935	958.385	956.481	952.884	951.194	950.771	951.625	952.753	953.862	955.294	957.219	955.819	955.064	955.521
OGL AT 7.5 RHS(m)	939.876	940.148	940.461	940.707	941.064	941.409	941.948	942.526	942.997	943.319	943.359	943.638	943.900	944.067	944.348	944.621	944.878	945.296	946.067	947.103	948.309	949.459	950.297	950.858	951.521	952.356	953.165	953.637	954.084	954.645	954.955
VERTICAL ALIGNMENT																															
HORIZONTAL ALIGNMENT																															
SUPERELEVATION																															
DESIGN CHAINAGE	19500	19510	19520	19530	19540	19550	19560	19570	19580	19590	19600	19610	19620	19630	19640	19650	19660	19670	19680	19690	19700	19710	19720	19730	19740	19750	19760	19770	19780	19790	19800

DESIGN ROAD LEVEL (m)	954.297	954.798	955.301	955.807	956.315	956.826	957.339	957.855	958.373	958.894	959.417	959.943	960.471	961.001	961.534	962.067	962.600	963.133	963.666	964.199	964.732
GROUND LEVEL (M)	955.123	955.751	956.390	957.324	957.504	957.694	957.910	957.519	957.615	957.690	957.854	958.464	959.012	959.727	960.544	960.996	961.478	961.986	962.549	963.132	963.632
LEVEL DIFFERENCE (M)	-0.884	-0.568	-0.395	-0.644	-0.843	-0.568	-0.033	0.487	1.007	1.445	1.640	1.768	1.791	1.675	1.503	1.415	1.436	1.494	1.497	1.469	1.693
OGL AT 7.5 LHS(m)	955.521	956.117	956.925	960.438	961.674	961.862	960.988	958.259	955.540	959.120	960.537	961.733	961.369	961.506	961.525	961.527	961.631	966.000	966.336	968.314	967.215
OGL AT 7.5 RHS(m)	954.955	955.361	955.936	956.699	957.080	957.215	957.257	957.224	957.354	957.732	958.105	958.515	959.085	959.779	960.221	960.547	961.094	961.576	961.967	962.388	962.950
VERTICAL ALIGNMENT																					
HORIZONTAL ALIGNMENT																					
SUPERELEVATION																					
DESIGN CHAINAGE	19800	19810	19820	19830	19840	19850	19860	19870	19880	19890	19900	19910	19920	19930	19940	19950	19960	19970	19980	19990	20000

CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR:



M/S. CMM INFRAPROJECTS LTD.

DESIGN DIRECTOR:



PROOF CONSULTANT:



Hindia Engineers Pvt. Ltd.
Address: 191, Mohan Nagar, Goddofya Bypass,
Jaipur-302016 (Rajasthan) Phone No. 0141-2760303
Email: info@antiquebulldozer.com

SAFETY CONSULTANT:



Antique Bulldozer Pvt. Ltd.
Address: 191, Mohan Nagar, Goddofya Bypass,
Jaipur-302016 (Rajasthan) Phone No. 0141-2760303
Email: info@antiquebulldozer.com

AUTHORITY'S ENGINEER



DRAWING SCALE:

HOR : 1 : 2000

DRAWING TITLE:

PROFILE 19+000 TO 19+500

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.948 km to 33.120 Km (Total length-19.172 Km)
(PKG-2) in the State of Manipal on Engineering, Procurement & Construction (EPC)
mode,

DRG. NO.

DD/IMP-JIR/-16

SHEET: REV.

R1

DATE DEC.-2021 DRAWN - Highway Draftsman

DESIGNED Highway Engineering
CHECKED
APPROVED

TO IMPHAL

TO JIRIBAM

HIP NO. 31 AT CH. 20106.712			
X = 578645.895		Y = 2740810.598	
R (m)	45	Ls (m)	25
Dc(deg)	4.9593	S(m)	0.58
Lc(m)	3.9	Ts(deg)	15.9155
Ts(m)	27.63	Δ(deg)	36.7903
Es(m)	3.034	e(%)	7
Design Speed (V) : 30 km/hr			

Structure No : 20
Proposal : Reconstruction
Chainage.: 20+615
Type of Str :Box Culvert
Size : 1.0X4.0X5.0

HIP NO. 35 AT CH. 20612.389			
X = 578440.247		Y = 2740962.041	
R (m)	40	Ls (m)	15
Dc(deg)	66.7482	S(m)	0.23
Lc(m)	46.6	Ts(deg)	10.743
Ts(m)	46.5	Δ(deg)	88.2341
Es(m)	16.037	e(%)	4.44
Design Speed (V) : 20 km/hr			

Structure No : 18
Proposal : Reconstruction
Chainage.: 20+106
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

HIP NO. 32 AT CH. 20172.79			
X = 578715.67		Y = 2740846.017	
R (m)	35	Ls (m)	15
Dc(deg)	75.4896	S(m)	0.27
Lc(m)	46.11	Ts(deg)	12.2777
Ts(m)	49.56	Δ(deg)	100.045
Es(m)	19.896	e(%)	5.08
Design Speed (V) : 20 km/hr			

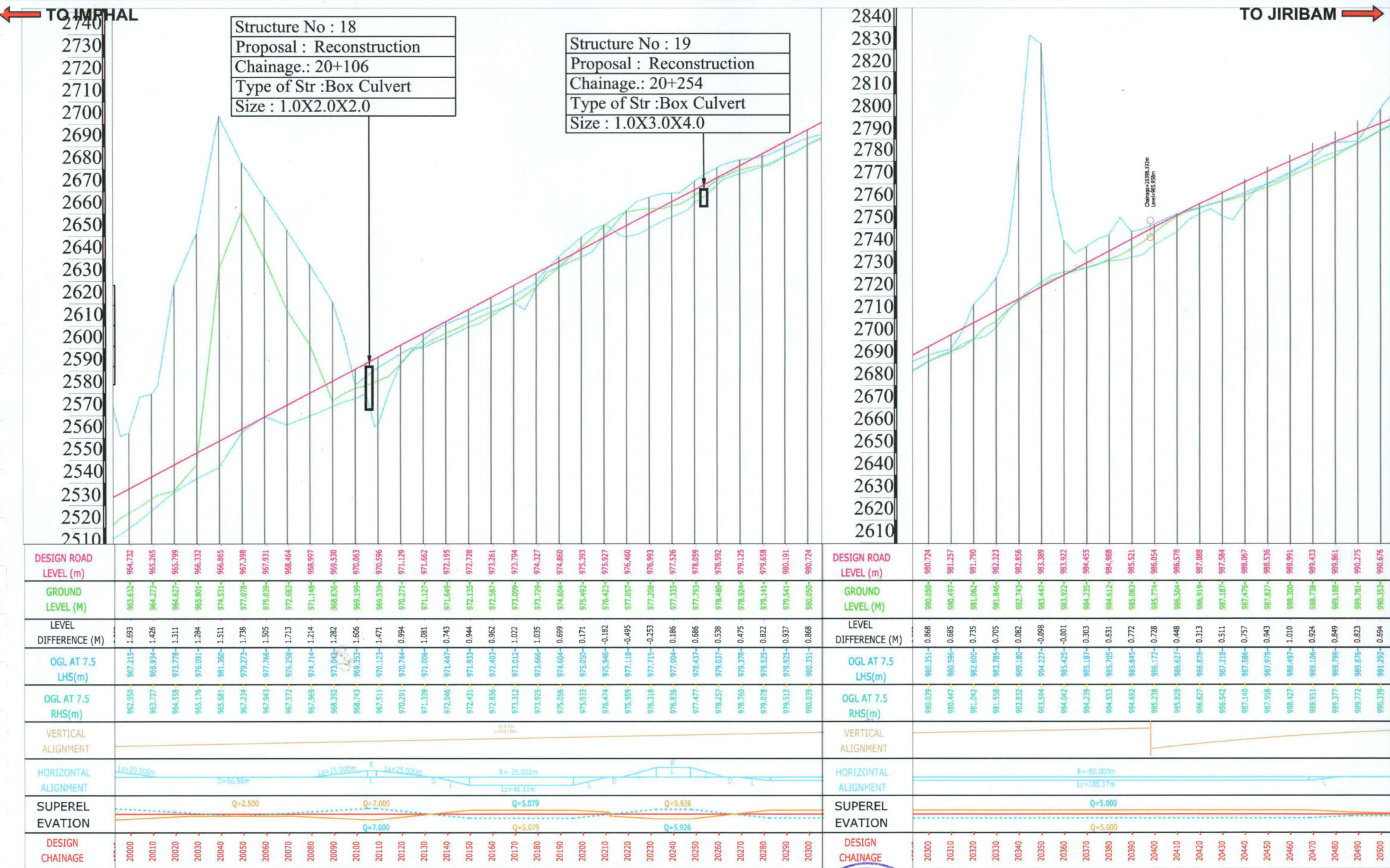
Structure No : 19
Proposal : Reconstruction
Chainage.: 20+254
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

HIP NO. 37 AT CH. 20955.667			
X = 578423.149		Y = 2741124.767	
R (m)	50	Ls (m)	20
Dc(deg)	47.5773	S(m)	0.33
Lc(m)	41.52	Ts(deg)	11.4592
Ts(m)	45.55	Δ(deg)	70.4956
Es(m)	11.629	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 33 AT CH. 20240.02			
X = 578667.398		Y = 2740910.176	
R (m)	30	Ls (m)	15
Dc(deg)	28.9172	S(m)	0.31
Lc(m)	15.14	Ts(deg)	14.3239
Ts(m)	24.14	Δ(deg)	57.5651
Es(m)	4.583	e(%)	5.93
Design Speed (V) : 20 km/hr			

HIP NO. 38 AT CH. 21044.076			
X = 578493.85		Y = 2741186.077	
R (m)	200	Ls (m)	20
Dc(deg)	14.3305	S(m)	0.08
Lc(m)	50.02	Ts(deg)	2.8648
Ts(m)	45.39	Δ(deg)	20.0601
Es(m)	3.185	e(%)	3.56
Design Speed (V) : 40 km/hr			

Proposed Earthen Shoulder
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline



← TO IMPHAL

TO JIRIBAM →

Structure No : 20
Proposal : Reconstruction
Chainage : 20+615
Type of Str : Box Culvert
Size : 1.0X4.0X5.0

HIP NO. 35 AT CH. 20612.389			
X = 578440.247	Y = 2740962.041		
R (m)	40	Ls (m)	15
Dc(deg)	66.7482	S(m)	0.23
Lc(m)	46.6	Ts(deg)	10.743
Ts(m)	46.5	Δ(deg)	88.2341
Es(m)	16.037	e(%)	4.44
Design Speed (V) : 20 km/hr			

Proposed Earthen Shoulder
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline



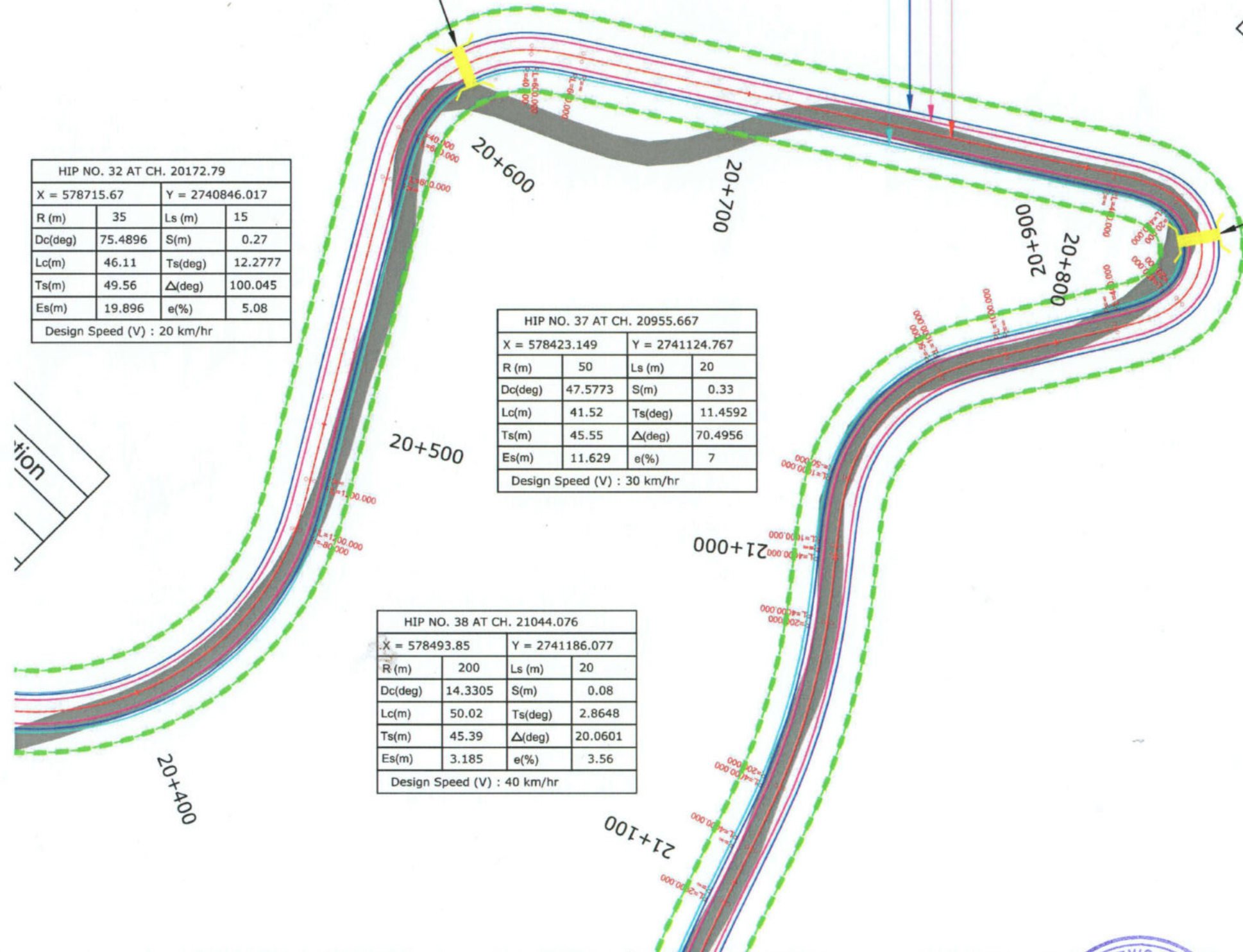
Structure No : 21
Proposal : Reconstruction
Chainage : 20+849
Type of Str : Box Culvert
Size : 1.0X4.0X3.0

HIP NO. 32 AT CH. 20172.79			
X = 578715.67	Y = 2740846.017		
R (m)	35	Ls (m)	15
Dc(deg)	75.4896	S(m)	0.27
Lc(m)	46.11	Ts(deg)	12.2777
Ts(m)	49.56	Δ(deg)	100.045
Es(m)	19.896	e(%)	5.08
Design Speed (V) : 20 km/hr			

HIP NO. 37 AT CH. 20955.667			
X = 578423.149	Y = 2741124.767		
R (m)	50	Ls (m)	20
Dc(deg)	47.5773	S(m)	0.33
Lc(m)	41.52	Ts(deg)	11.4592
Ts(m)	45.55	Δ(deg)	70.4956
Es(m)	11.629	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 36 AT CH. 20845.216			
X = 578267.637	Y = 2741212.983		
R (m)	20	Ls (m)	20
Dc(deg)	96.7926	S(m)	0.83
Lc(m)	33.79	Ts(deg)	28.6479
Ts(m)	100.46	Δ(deg)	154.0884
Es(m)	72.908	e(%)	7
Design Speed (V) : 20 km/hr			

HIP NO. 38 AT CH. 21044.076			
X = 578493.85	Y = 2741186.077		
R (m)	200	Ls (m)	20
Dc(deg)	14.3305	S(m)	0.08
Lc(m)	50.02	Ts(deg)	2.8648
Ts(m)	45.39	Δ(deg)	20.0601
Es(m)	3.185	e(%)	3.56
Design Speed (V) : 40 km/hr			



CLIENT :



EPC CONTRACTOR :



DESIGN DIRECTOR :



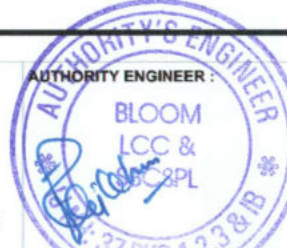
PROOF CONSULTANT :



SAFETY CONSULTANT :



AUTHORITY ENGINEER :



DRAWING SCALE :

HOR : 1 : 2000

DRAWING TITLE :

PLAN 20+500 TO 21+000

DRG. NO.

DD/IMP-JIR/-19

SHEET :

REV.

R1

PROJECT NAME :-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of NH-37 from Design Chainage 13.940 km to 33.120 Km (Total length-17.180 Km) (PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC) mode.

DATE DEC.-2021

DRAWN - Highway Draftsman

DESIGNED Highway Engineering

CHECKED

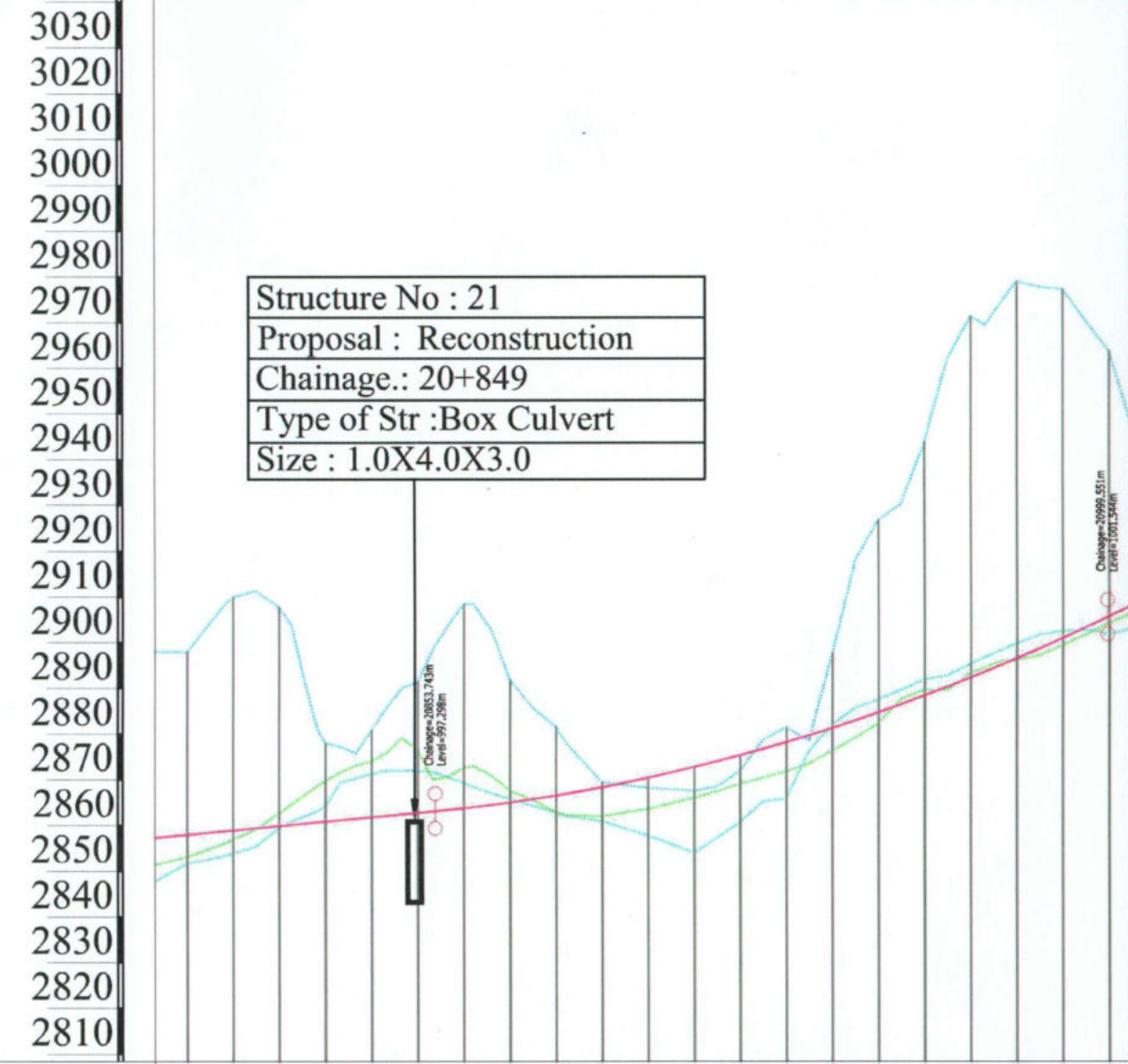
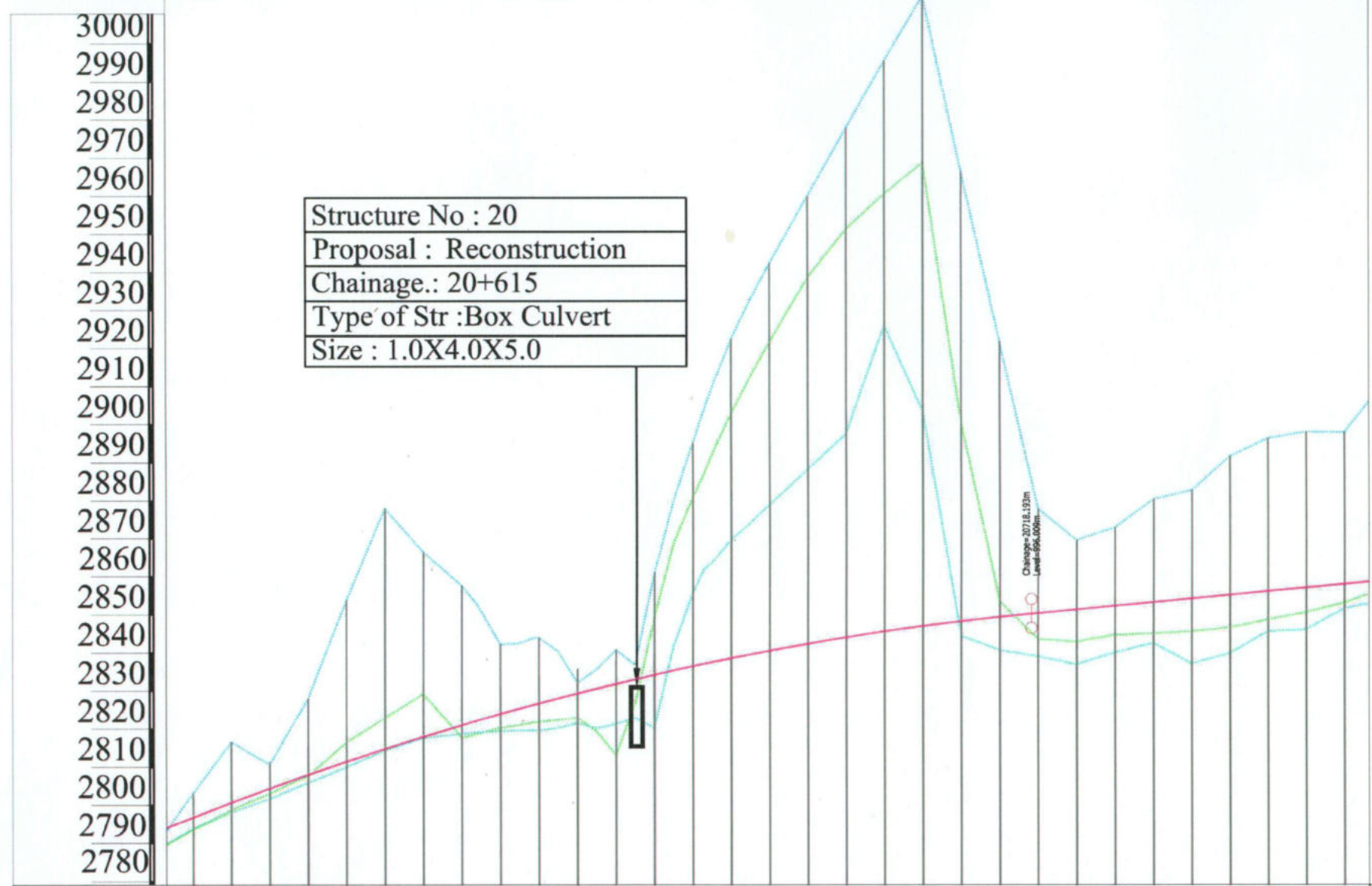
APPROVED

TO IMPHAL

TO JIRIBAM

Structure No : 20
Proposal : Reconstruction
Chainage.: 20+615
Type of Str :Box Culvert
Size : 1.0X4.0X5.0

Structure No : 21
Proposal : Reconstruction
Chainage.: 20+849
Type of Str :Box Culvert
Size : 1.0X4.0X3.0

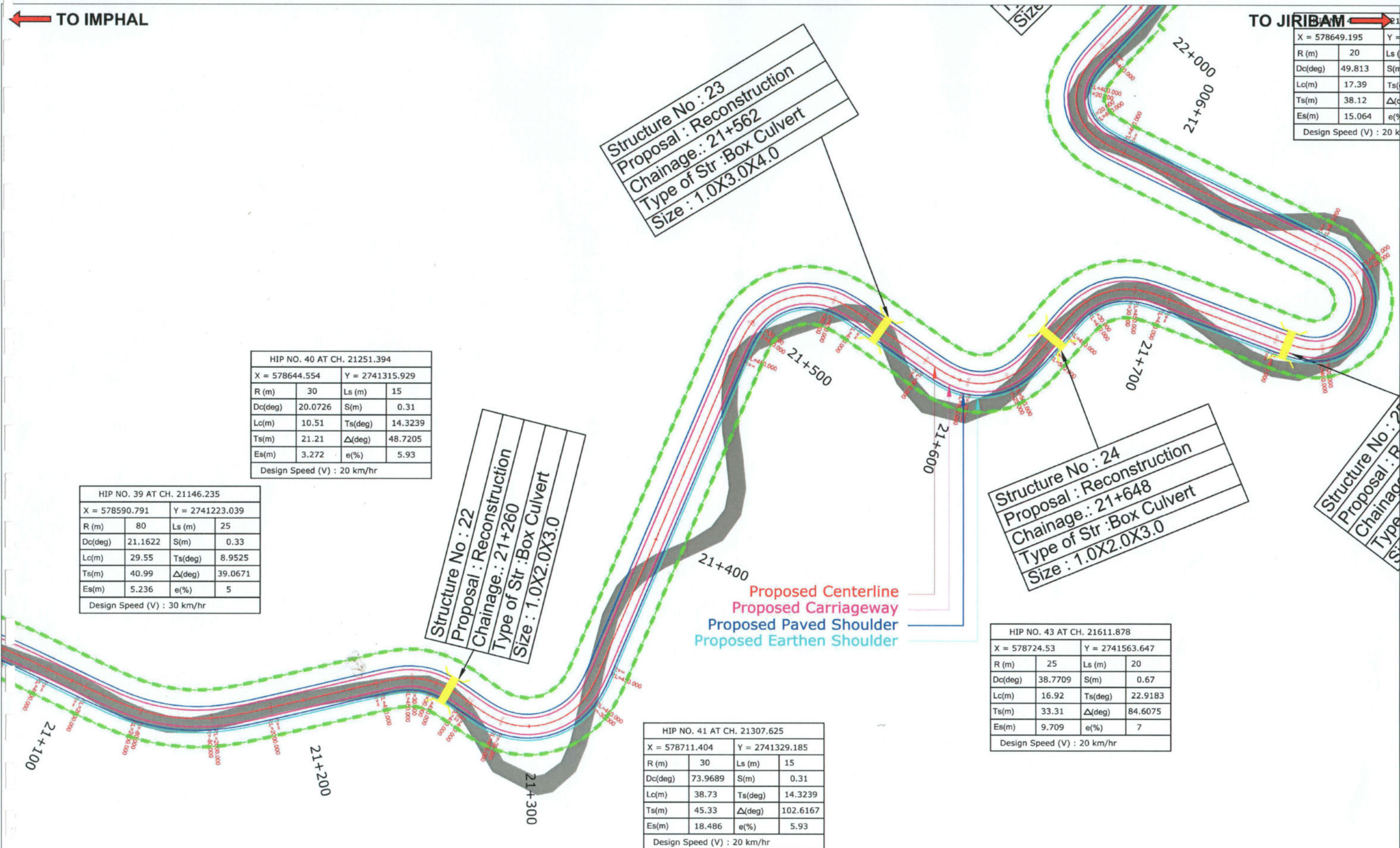


DESIGN ROAD LEVEL (m)	990.676	991.063	991.436	991.795	992.141	992.473	992.792	993.096	993.388	993.665	993.929	994.179	994.415	994.638	994.847	995.042	995.223	995.391	995.546	995.686	995.813	995.926	996.026	996.121	996.216	996.311	996.406	996.501	996.596	996.691	996.787	
GROUND LEVEL (M)	990.353	990.863	991.288	991.758	992.635	993.274	993.912	992.758	993.013	993.171	993.277	992.299	995.895	999.071	1001.259	1003.124	1004.839	1006.106	1007.035	1007.860	1001.034	996.330	995.334	995.447	995.271	995.447	995.485	995.534	995.641	995.845	996.045	996.291
LEVEL DIFFERENCE (M)	0.694	0.435	0.412	0.437	0.318	0.133	0.161	0.333	0.528	0.766	0.754	0.914	1.198	1.487	1.795	1.940	1.937	1.876	1.653	1.163	0.926	0.872	0.955	0.782	0.932	0.866	0.921	0.953	0.860	0.770	0.629	
OGL AT 7.5 LHS(m)	991.292	992.641	992.052	993.777	996.355	998.783	997.628	996.744	995.207	995.383	994.200	995.064	997.068	1000.494	1003.198	1005.199	1006.972	1008.745	1010.510	1012.228	1007.624	1003.139	998.762	997.936	998.276	999.018	999.252	1000.134	1000.612	1000.782	1000.766	
OGL AT 7.5 RHS(m)	990.339	990.795	991.147	991.568	991.988	992.429	992.749	992.864	992.928	992.948	993.138	993.112	993.011	996.537	997.945	998.868	999.797	1000.726	1003.576	1001.329	995.424	995.045	994.884	994.674	994.986	995.234	994.694	994.963	995.535	995.586	996.142	
VERTICAL ALIGNMENT																																
HORIZONTAL ALIGNMENT																																
SUPER ELEVATION																																
DESIGN CHAINAGE	20500	20510	20520	20530	20540	20550	20560	20570	20580	20590	20600	20610	20620	20630	20640	20650	20660	20670	20680	20690	20700	20710	20720	20730	20740	20750	20760	20770	20780	20790	20800	

DESIGN ROAD LEVEL (m)	996.787	996.882	996.977	997.072	997.167	997.262	997.362	997.488	997.640	997.819	998.025	998.258	998.518	998.805	999.119	999.459	999.827	1000.221	1000.643	1001.091	1001.566
GROUND LEVEL (M)	996.291	996.667	997.246	997.948	998.380	998.623	998.237	997.734	997.267	997.183	997.341	997.582	997.885	998.158	998.612	999.211	999.940	1000.318	1000.594	1000.924	1001.403
LEVEL DIFFERENCE (M)	0.629	0.445	0.100	-0.469	-1.058	-1.061	-0.874	-0.378	0.075	0.406	0.669	0.806	0.894	0.847	1.024	0.817	0.450	0.428	0.434	0.517	0.511
OGL AT 7.5 LHS(m)	1000.766	1001.975	1001.754	998.774	999.065	1000.109	1001.820	1000.154	999.134	997.923	997.799	997.736	998.178	999.128	1000.761	1003.660	1005.366	1008.120	1008.883	1008.710	1007.369
OGL AT 7.5 RHS(m)	996.142	996.369	996.931	997.391	998.103	998.178	997.905	997.566	997.265	997.076	996.765	996.381	997.057	997.571	999.188	999.734	1000.167	1000.506	1000.964	1001.236	1001.154
VERTICAL ALIGNMENT																					
HORIZONTAL ALIGNMENT																					
SUPERELEVATION																					
DESIGN CHAINAGE	20800	20810	20820	20830	20840	20850	20860	20870	20880	20890	20900	20910	20920	20930	20940	20950	20960	20970	20980	20990	21000

← TO IMPHAL

TO JIRIBAM →



HIP NO. 40 AT CH. 21251.394			
X = 578644.554		Y = 2741315.929	
R (m)	30	Ls (m)	15
Dc(deg)	20.0726	S(m)	0.31
Lc(m)	10.51	Ts(deg)	14.3239
Ts(m)	21.21	Δ(deg)	48.7205
Es(m)	3.272	e(%)	5.93
Design Speed (V) : 20 km/hr			

HIP NO. 39 AT CH. 21146.235			
X = 578590.791		Y = 2741223.039	
R (m)	80	Ls (m)	25
Dc(deg)	21.1622	S(m)	0.33
Lc(m)	29.55	Ts(deg)	8.9525
Ts(m)	40.99	Δ(deg)	39.0671
Es(m)	5.236	e(%)	5
Design Speed (V) : 30 km/hr			

HIP NO. 41 AT CH. 21307.625			
X = 578711.404		Y = 2741329.185	
R (m)	30	Ls (m)	15
Dc(deg)	73.9689	S(m)	0.31
Lc(m)	38.73	Ts(deg)	14.3239
Ts(m)	45.33	Δ(deg)	102.6167
Es(m)	18.486	e(%)	5.93
Design Speed (V) : 20 km/hr			

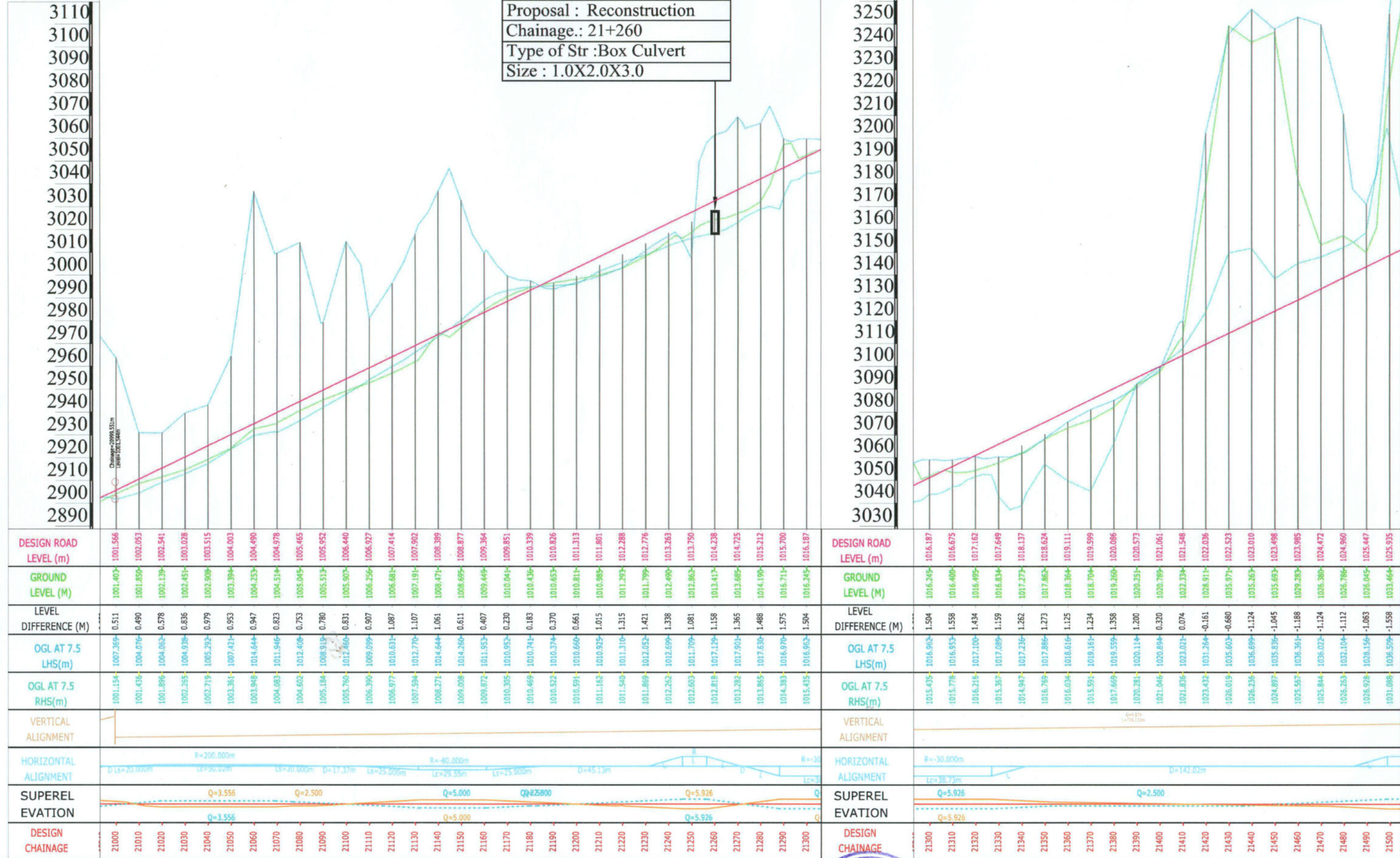
HIP NO. 43 AT CH. 21611.878			
X = 578724.53		Y = 2741563.647	
R (m)	25	Ls (m)	20
Dc(deg)	38.7709	S(m)	0.67
Lc(m)	16.92	Ts(deg)	22.9183
Ts(m)	33.31	Δ (deg)	84.6075
Es(m)	9.709	e(%)	7
Design Speed (V) : 20 km/hr			

X = 578649.195		Y =
R (m)	20	Ls (m)
Dc(deg)	49.813	S(m)
Lc(m)	17.39	Ts(deg)
Ts(m)	38.12	Δ(deg)
Es(m)	15.064	e(%)
Design Speed (V) : 20 km/hr		

TO IMPHAL

TO JIRIBAM

Structure No : 22
Proposal : Reconstruction
Chainage.: 21+260
Type of Str :Box Culvert
Size : 1.0X2.0X3.0



TO IMPHAL

TO JIRIBAM

Structure No : 23
Proposal : Reconstruction
Chainage.: 21+562
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline

Structure No :
Proposal :Rec
Chainage.: 22+
Type of Str :Box
Size : 1.0X3.0X4

Structure No : 26
Proposal : Reconstruction
Chainage.: 22+039
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

HIP NO. 50 AT CH. 22279.835			
X = 578491.719		Y = 2741828.968	
R (m)	30	Ls (m)	30
Dc(deg)	66.0563	S(m)	1.25
Lc(m)	34.59	Ts(deg)	28.6479
Ts(m)	72.86	Δ(deg)	123.3521
Es(m)	35.865	e(%)	5.93
Design Speed (V) : 20 km/hr			

HIP NO. 48 AT CH. 22105.03			
X = 578661.193		Y = 2741830.081	
R (m)	50	Ls (m)	20
Dc(deg)	42.4722	S(m)	0.33
Lc(m)	37.06	Ts(deg)	11.4592
Ts(m)	42.29	Δ(deg)	65.3905
Es(m)	9.806	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 49 AT CH. 22197.477			
X = 578583.356		Y = 2741893.305	
R (m)	30	Ls (m)	30
Dc(deg)	16.8602	S(m)	1.25
Lc(m)	8.83	Ts(deg)	28.6479
Ts(m)	38.49	Δ(deg)	74.156
Es(m)	9.169	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 46 AT CH. 21948.874			
X = 578649.195		Y = 2741663.025	
R (m)	20	Ls (m)	20
Dc(deg)	49.813	S(m)	0.83
Lc(m)	17.39	Ts(deg)	28.6479
Ts(m)	38.12	Δ(deg)	107.1087
Es(m)	15.064	e(%)	7
Design Speed (V) : 20 km/hr			

HIP NO. 42 AT CH. 21518.302			
X = 578617.462		Y = 2741541.848	
R (m)	30	Ls (m)	15
Dc(deg)	73.6766	S(m)	0.31
Lc(m)	38.58	Ts(deg)	14.3239
Ts(m)	45.13	Δ(deg)	102.3245
Es(m)	18.332	e(%)	5.93
Design Speed (V) : 20 km/hr			

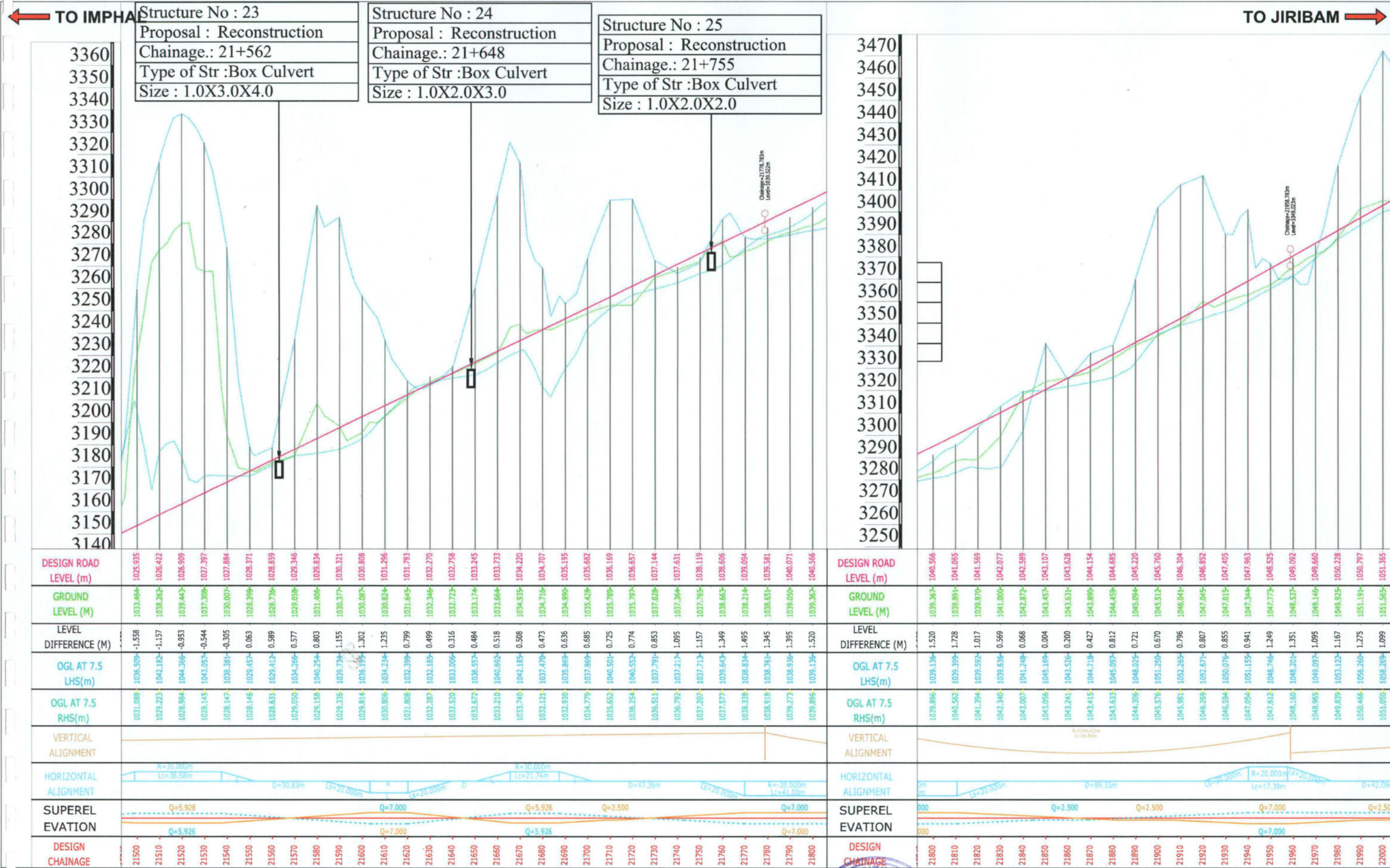
HIP NO. 44 AT CH. 21676.595			
X = 578716.811		Y = 2741635.7	
R (m)	30	Ls (m)	15
Dc(deg)	41.5223	S(m)	0.31
Lc(m)	21.74	Ts(deg)	14.3239
Ts(m)	28.77	Δ(deg)	70.1701
Es(m)	7.04	e(%)	5.93
Design Speed (V) : 20 km/hr			

HIP NO. 47 AT CH. 22036.61			
X = 578643.123		Y = 2741760.094	
R (m)	60	Ls (m)	15
Dc(deg)	3.7319	S(m)	0.16
Lc(m)	3.91	Ts(deg)	7.162
Ts(m)	17.05	Δ(deg)	18.0558
Es(m)	0.915	e(%)	6.67
Design Speed (V) : 30 km/hr			

HIP NO. 43 AT CH. 21611.878			
X = 578724.53		Y = 2741563.647	
R (m)	25	Ls (m)	20
Dc(deg)	38.7709	S(m)	0.67
Lc(m)	16.92	Ts(deg)	22.9183
Ts(m)	33.31	Δ(deg)	84.6075
Es(m)	9.709	e(%)	7
Design Speed (V) : 20 km/hr			

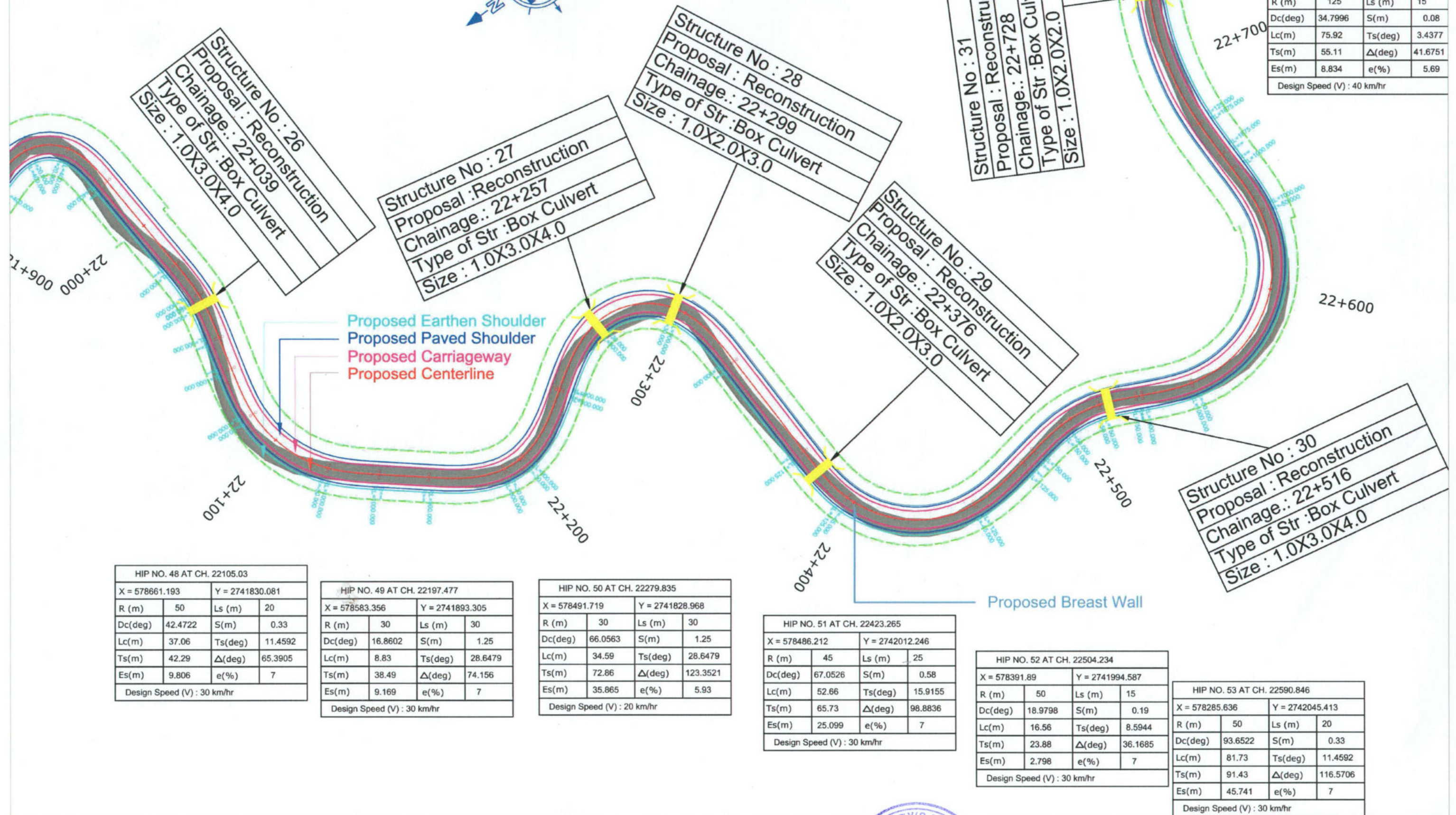
Structure No : 24
Proposal : Reconstruction
Chainage.: 21+648
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

Structure No : 25
Proposal : Reconstruction
Chainage.: 21+755
Type of Str :Box Culvert
Size : 1.0X2.0X2.0



TO IMPHAL

TO JIRIBAM



CLIENT :

NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR :



M/S. CMM INFRAPROJECTS LTD.

DESIGN DIRECTOR :



PROOF CONSULTANT :

Hindia Engineers Pvt. Ltd.
Address: 202, H-Block, B-1 Phase-1,
Gurgaon-Faridabad Road Haryana, INDIA-122002,
Phone No.-0124-4028681

SAFETY CONSULTANT :

Antique Builders Pvt. Ltd.
Address: 191, Mohan Nagar, Gopalpur Bypass,
Jaipur-302018 (Rajasthan), Phone No. 0141-2766303
Email : info@antiquebuilders.com

AUTHORITY ENGINEER :



DRAWING SCALE :

HOR : 1 : 2000

DRAWING TITLE :

PLAN 22+000 TO 22+500

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.940 km to 33.120 Km (Total length-19.180 Km)
(PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC)
mode.

DRG. NO.

DD/IMP-JIR/-25

SHEET: REV.

R1

DATE DEC.-2021 DRAWN - Highway Draftsman

DESIGNED	CHECKED	APPROVED
Highway Engineering	---	---

← TO IMPHAL

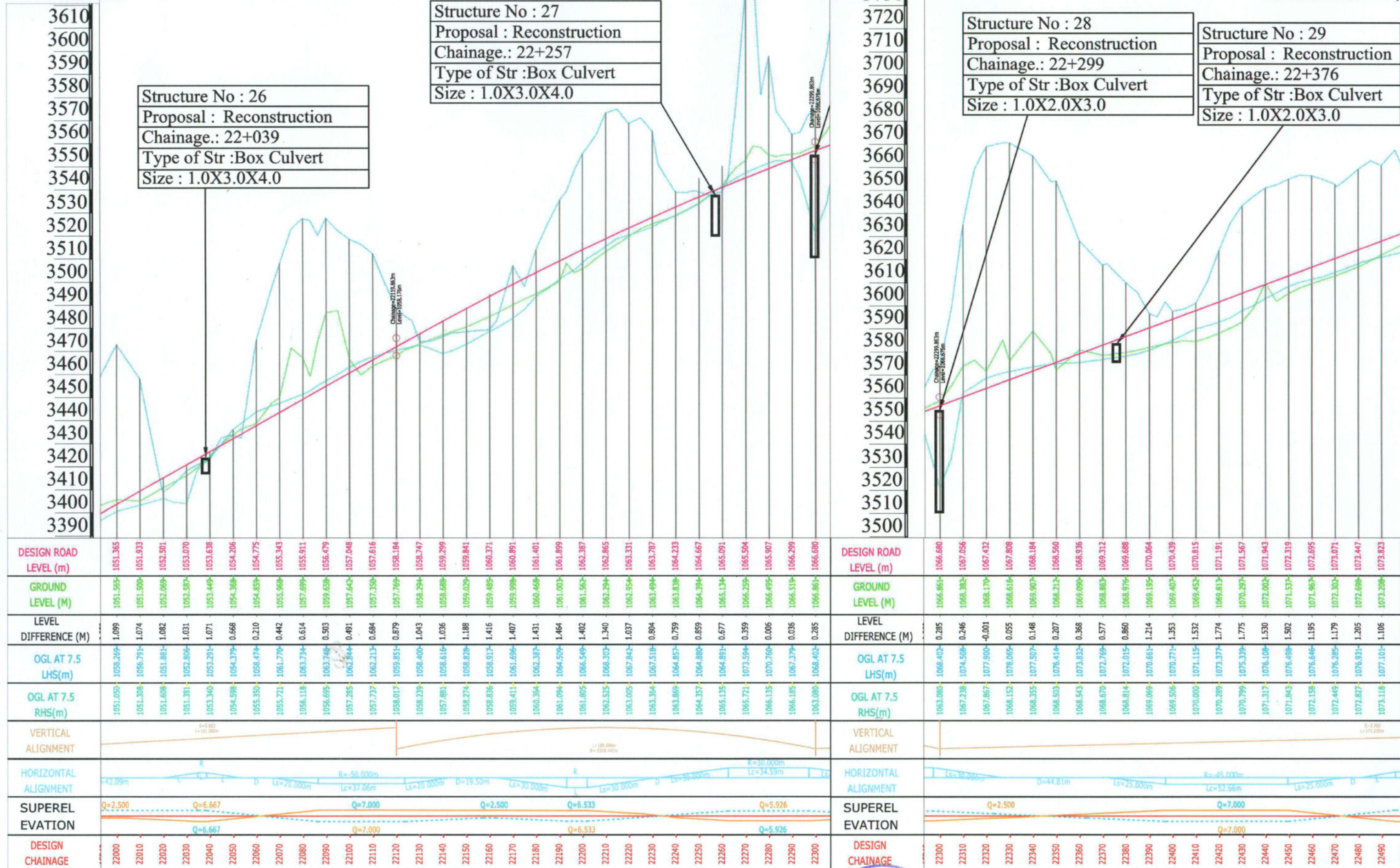
TO JIRIBAM →

Structure No : 26
Proposal : Reconstruction
Chainage.: 22+039
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

Structure No : 27
Proposal : Reconstruction
Chainage.: 22+257
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

Structure No : 28
Proposal : Reconstruction
Chainage.: 22+299
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

Structure No : 29
Proposal : Reconstruction
Chainage.: 22+376
Type of Str :Box Culvert
Size : 1.0X2.0X3.0



TO JIRIBAM →

← TO IMPHAL



HIP NO. 55 AT CH. 22879.207			
X = 578176.411	Y = 2741761.607		
R (m)	40	Ls (m)	25
Dc(deg)	20.7669	S(m)	0.65
Lc(m)	14.5	Ts(deg)	17.9049
Ts(m)	34.34	Δ(deg)	56.5767
Es(m)	6.163	e(%)	7
Design Speed (V) : 30 km/hr			

Structure No : 32
Proposal : Reconstruction
Chainage : 22+874
Type of Str : Box Culvert
Size : 1.0X2.0X2.0

HIP NO. 57 AT CH. 23094.151			
X = 577959.57	Y = 2741768.144		
R (m)	300	Ls (m)	
Dc(deg)	20.1347	S(m)	
Lc(m)	105.43	Ts(deg)	
Ts(m)	53.26	Δ(deg)	20.1347
Es(m)	4.691	e(%)	2.5
Design Speed (V) : 40 km/hr			

HIP NO. 54 AT CH. 22711.701			
X = 578288.332	Y = 2741891.867		
R (m)	125	Ls (m)	15
Dc(deg)	34.7996	S(m)	0.08
Lc(m)	75.92	Ts(deg)	3.4377
Ts(m)	55.11	Δ(deg)	41.6751
Es(m)	8.834	e(%)	5.69
Design Speed (V) : 40 km/hr			

HIP NO. 56 AT CH. 22970.678			
X = 578083.542	Y = 2741773.417		
R (m)	300	Ls (m)	
Dc(deg)	9.6828	S(m)	
Lc(m)	50.7	Ts(deg)	
Ts(m)	25.41	Δ(deg)	9.6828
Es(m)	1.074	e(%)	2.5
Design Speed (V) : 40 km/hr			

HIP NO. 59 AT CH. 23290.992			
X = 577907.186	Y = 2741842.39		
R (m)	65	Ls (m)	15
Dc(deg)	75.5855	S(m)	0.14
Lc(m)	85.75	Ts(deg)	6.6111
Ts(m)	71.29	Δ(deg)	88.8076
Es(m)	26.178	e(%)	6.15
Design Speed (V) : 30 km/hr			

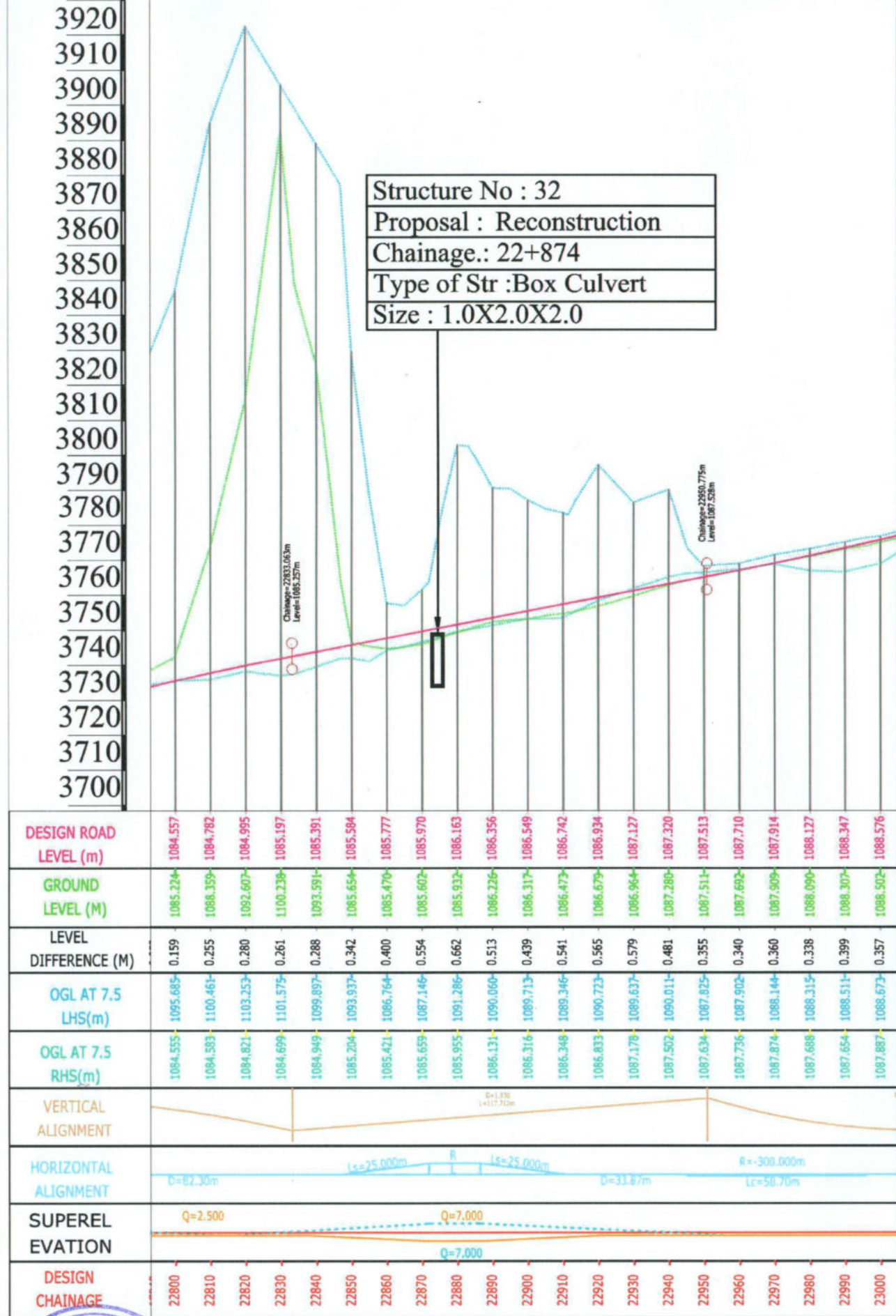
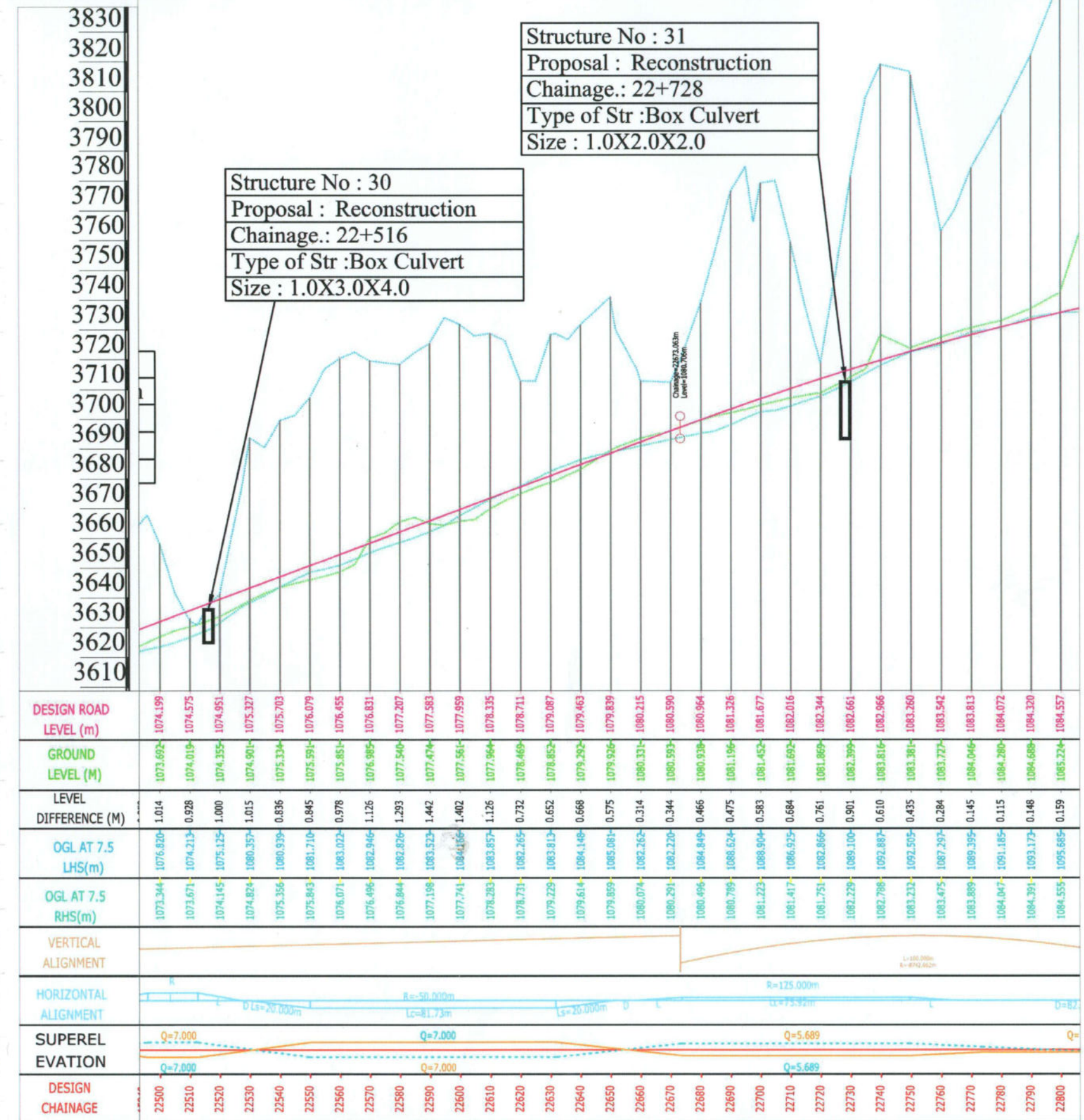
Structure No : 28
Proposal : Reconstruction
Chainage : 22+299
Type of Str : Box Culvert
Size : 1.0X2.0X3.0

Structure No : 31
Proposal : Reconstruction
Chainage : 22+728
Type of Str : Box Culvert
Size : 1.0X2.0X2.0

Structure No : 30
Proposal : Reconstruction
Chainage : 22+516
Type of Str : Box Culvert
Size : 1.0X3.0X4.0

TO IMPHAL

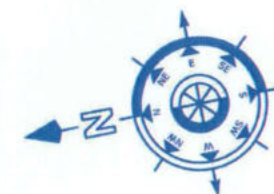
TO JIRIBAM



← TO IMPHAL

TO JIRIBAM →

Structure No : 33
Proposal : Reconstruction
Chainage : 23+195
Type of Str : Box Culvert
Size : 1.0X3.0X4.0



Proposed Breast Wall
Proposed Earthen Shoulder
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline

HIP NO. 58 AT CH. 23194.147			
X = 577832.255		Y = 2741715.226	
R (m)	20	Ls (m)	20
Dc(deg)	85.7832	S(m)	0.83
Lc(m)	29.94	Ts(deg)	28.6479
Ts(m)	72.31	Δ(deg)	143.079
Es(m)	45.782	e(%)	7
Design Speed (V) : 20 km/hr			

HIP NO. 60 AT CH. 23392.995			
X = 577789.361		Y = 2741915.163	
R (m)	20	Ls (m)	20
Dc(deg)	74.0491	S(m)	0.83
Lc(m)	25.85	Ts(deg)	28.6479
Ts(m)	55.99	Δ(deg)	131.3448
Es(m)	30.564	e(%)	7
Design Speed (V) : 20 km/hr			

HIP NO. 59 AT CH. 23290.992			
X = 577907.186		Y = 2741842.39	
R (m)	65	Ls (m)	15
Dc(deg)	75.5855	S(m)	0.14
Lc(m)	85.75	Ts(deg)	6.6111
Ts(m)	71.29	Δ(deg)	88.8076
Es(m)	26.178	e(%)	6.15
Design Speed (V) : 30 km/hr			

HIP NO. 56 AT CH. 22970.678			
X = 578083.542		Y = 2741773.417	
R (m)	300	Ls (m)	
Dc(deg)	9.6828	S(m)	
Lc(m)	50.7	Ts(deg)	
Ts(m)	25.41	Δ(deg)	9.6828
Es(m)	1.074	e(%)	2.5
Design Speed (V) : 40 km/hr			

Structure No : 34
Proposal : Reconstruction
Chainage : 23+411
Type of Str : Box Culvert
Size : 1.0X3.0X4.0

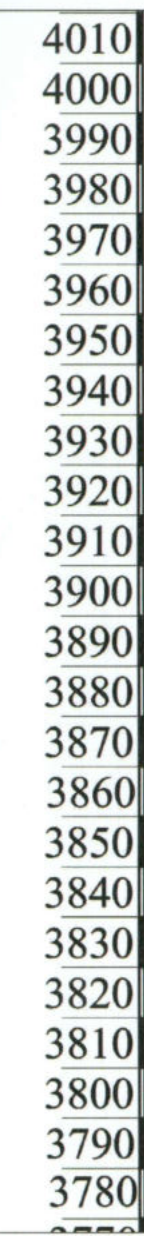
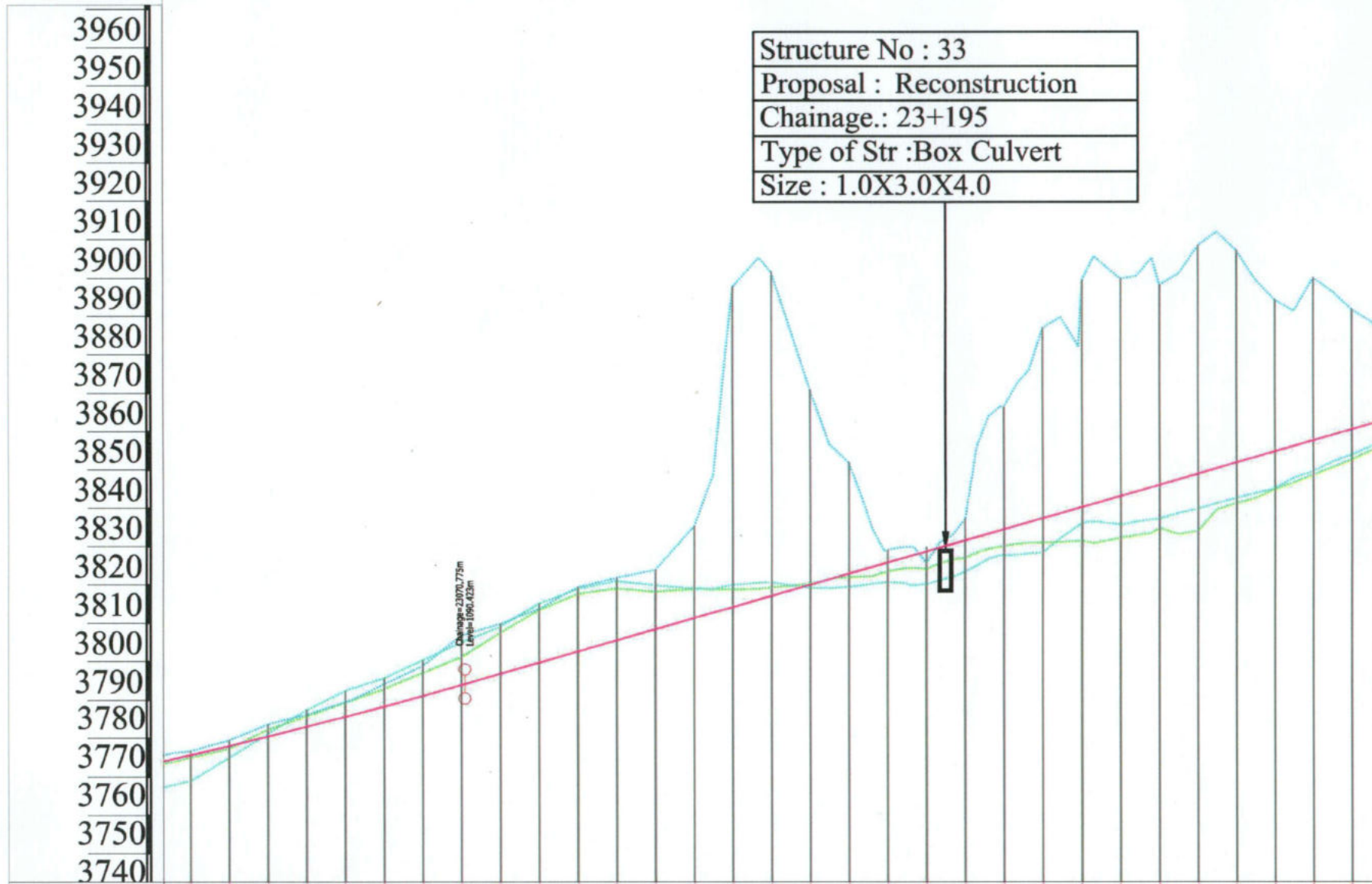
CLIENT : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD	EPC CONTRACTOR: "CMM" M/S. CMM INFRAPROJECTS LTD.	DESIGN DIRECTOR: 	PROOF CONSULTANT: Hindia Engineers Pvt. Ltd. Address: 302, H-Block, GLF Phase-1, Gurgaon-Faridabad Road Haryana, INDIA-122002, Phone No.-0124-4028681	SAFETY CONSULTANT: Antique Building Pvt. Ltd. Address: 191, B-Block, Nagar, Rajpura Bypass, Jaipur-302018 (Rajasthan) Phone No. 0141-2760303 Email: info@antiquebuildingpvt.com	AUTHORITY ENGINEER: BLOOM LCC & SBCS PKG 1,2,3 & 1B	DRAWING SCALE: HOR : 1 : 2000	DRAWING TITLE: PLAN 23+000 TO 23+500	DRG. NO. DD/IMP-JIR/-29	SHEET: REV. R1
PROJECT NAME:- Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of NH-37 from Design Chainage 13.846 km to 33.120 Km (Total length-17.180 Km) (PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC) mode,									DATE DEC.-2021 DESIGNED Highway Engineering CHECKED APPROVED

← TO IMPHAL

TO JIRIBAM →

Structure No : 33
Proposal : Reconstruction
Chainage.: 23+195
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

Structure No : 34
Proposal : Reconstruction
Chainage.: 23+411
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

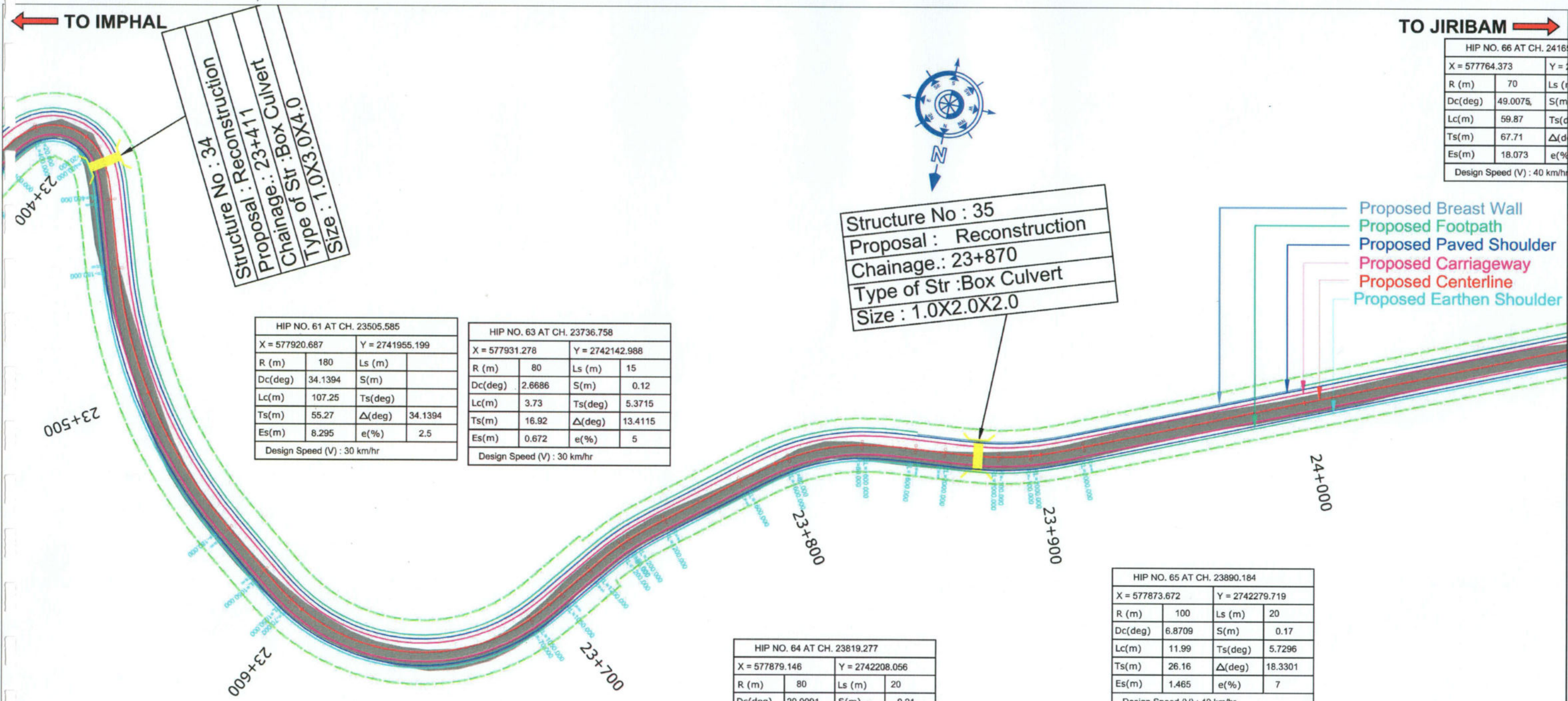


DESIGN ROAD LEVEL (m)	1088.576	1088.812	1089.057	1089.309	1089.570	1089.839	1090.115	1090.400	1090.690	1090.979	1091.268	1091.558	1091.847	1092.137	1092.426	1092.716	1093.005	1093.295	1093.584	1093.873	1094.163	1094.452	1094.742	1095.031	1095.321	1095.610	1095.899	1096.189	1096.478	1096.768	1097.057
GROUND LEVEL (M)	1088.502	1088.736	1089.228	1089.573	1089.936	1090.290	1090.710	1091.119	1091.746	1092.341	1092.762	1092.904	1092.819	1092.889	1092.876	1092.926	1093.032	1093.196	1093.346	1093.412	1093.700	1094.003	1094.094	1094.147	1094.221	1094.480	1094.404	1095.125	1095.491	1095.869	1096.261
LEVEL DIFFERENCE (M)	0.357	0.370	0.416	0.203	0.112	0.040	-0.026	-0.194	-0.310	-0.653	-1.005	-1.106	-0.872	-0.507	-0.253	0.064	0.085	0.256	0.368	0.485	0.669	0.506	0.625	0.906	1.122	1.330	1.414	1.406	1.323	1.213	1.104
OGL AT 7.5 LHS(m)	1088.673	1088.952	1089.362	1089.621	1089.949	1090.417	1090.889	1091.680	1091.982	1092.372	1092.936	1093.180	1093.389	1094.531	1100.762	1101.160	1098.070	1096.181	1093.908	1093.570	1094.713	1097.624	1099.680	1100.925	1100.983	1100.916	1101.843	1101.710	1100.424	1101.002	1100.162
OGL AT 7.5 RHS(m)	1087.887	1088.497	1089.112	1089.737	1090.236	1090.569	1091.038	1091.497	1091.904	1092.507	1092.893	1093.093	1093.981	1092.900	1092.994	1093.060	1092.918	1092.942	1093.061	1093.013	1093.329	1093.763	1093.831	1094.612	1094.571	1094.720	1094.978	1095.261	1095.513	1095.956	1096.390
VERTICAL ALIGNMENT																															
HORIZONTAL ALIGNMENT																															
SUPERELEVATION																															
DESIGN CHAINAGE	23000	23010	23020	23030	23040	23050	23060	23070	23080	23090	23100	23110	23120	23130	23140	23150	23160	23170	23180	23190	23200	23210	23220	23230	23240	23250	23260	23270	23280	23290	23300

DESIGN ROAD LEVEL (m)	1097.057	1097.347	1097.632	1097.910	1098.180	1098.442	1098.697	1098.943	1099.182	1099.412	1099.635	1099.850	1100.058	1100.257	1100.452	1100.647	1100.843	1101.038	1101.233	1101.429	1101.626
GROUND LEVEL (M)	1096.261	1096.726	1097.196	1097.850	1098.383	1098.162	1099.019	1099.403	1099.953	1100.318	1100.505	1100.434	1100.246	1100.113	1100.042	1100.030	1100.317	1100.537	1100.662	1100.821	1101.021
LEVEL DIFFERENCE (M)	1.104	1.022	0.853	0.660	0.261	-0.089	-0.096	-0.136	-0.289	-0.528	-0.694	-0.705	-0.198	0.006	0.310	0.457	0.714	0.685	0.663	0.736	0.773
OGL AT 7.5 LHS(m)	1100.162	1099.320	1101.284	1102.244	1102.627	1104.003	1105.602	1106.847	1105.433	1102.683	1099.759	1103.492	1106.255	1105.351	1106.799	1105.734	1104.107	1103.354	1102.040	1101.895	1102.375
OGL AT 7.5 RHS(m)	1096.390	1096.808	1097.255	1099.323	1099.931	1098.628	1098.906	1099.264	1099.487	1099.782	1100.105	1100.054	1100.151	1100.268	1100.305	1100.364	1100.905	1101.034	1101.223	1101.309	1101.241
VERTICAL ALIGNMENT																					
HORIZONTAL ALIGNMENT																					
SUPERELEVATION																					
DESIGN CHAINAGE	23300	23310	23320	23330	23340	23350	23360	23370	23380	23390	23400	23410	23420	23430	23440	23450	23460	23470	23480	23490	23500

← TO IMPHAL

TO JIRIBAM →



Structure No : 34
Proposal : Reconstruction
Chainage : 23+411
Type of Str : Box Culvert
Size : 1.0X3.0X4.0

Structure No : 35
Proposal : Reconstruction
Chainage : 23+870
Type of Str : Box Culvert
Size : 1.0X2.0X2.0

HIP NO. 61 AT CH. 23505.585				
X = 577920.687		Y = 2741955.199		
R (m)	180	Ls (m)		
Dc(deg)	34.1394	S(m)		
Lc(m)	107.25	Ts(deg)		
Ts(m)	55.27	Δ(deg)	34.1394	
Es(m)	8.295	e(%)	2.5	
Design Speed (V) : 30 km/hr				

HIP NO. 63 AT CH. 23736.758				
X = 577931.278		Y = 2742142.988		
R (m)	80	Ls (m)	15	
Dc(deg)	2.6686	S(m)	0.12	
Lc(m)	3.73	Ts(deg)	5.3715	
Ts(m)	16.92	Δ(deg)	13.4115	
Es(m)	0.672	e(%)	5	
Design Speed (V) : 30 km/hr				

HIP NO. 62 AT CH. 23642.887				
X = 578017.868		Y = 2742075.611		
R (m)	70	Ls (m)	15	
Dc(deg)	78.7416	S(m)	0.13	
Lc(m)	96.2	Ts(deg)	6.1388	
Ts(m)	78.89	Δ(deg)	91.0193	
Es(m)	30.073	e(%)	5.71	
Design Speed (V) : 30 km/hr				

HIP NO. 64 AT CH. 23819.277				
X = 577879.146		Y = 2742208.056		
R (m)	80	Ls (m)	20	
Dc(deg)	20.0091	S(m)	0.21	
Lc(m)	27.94	Ts(deg)	7.162	
Ts(m)	34.77	Δ(deg)	34.3331	
Es(m)	3.95	e(%)	7	
Design Speed (V) : 40 km/hr				

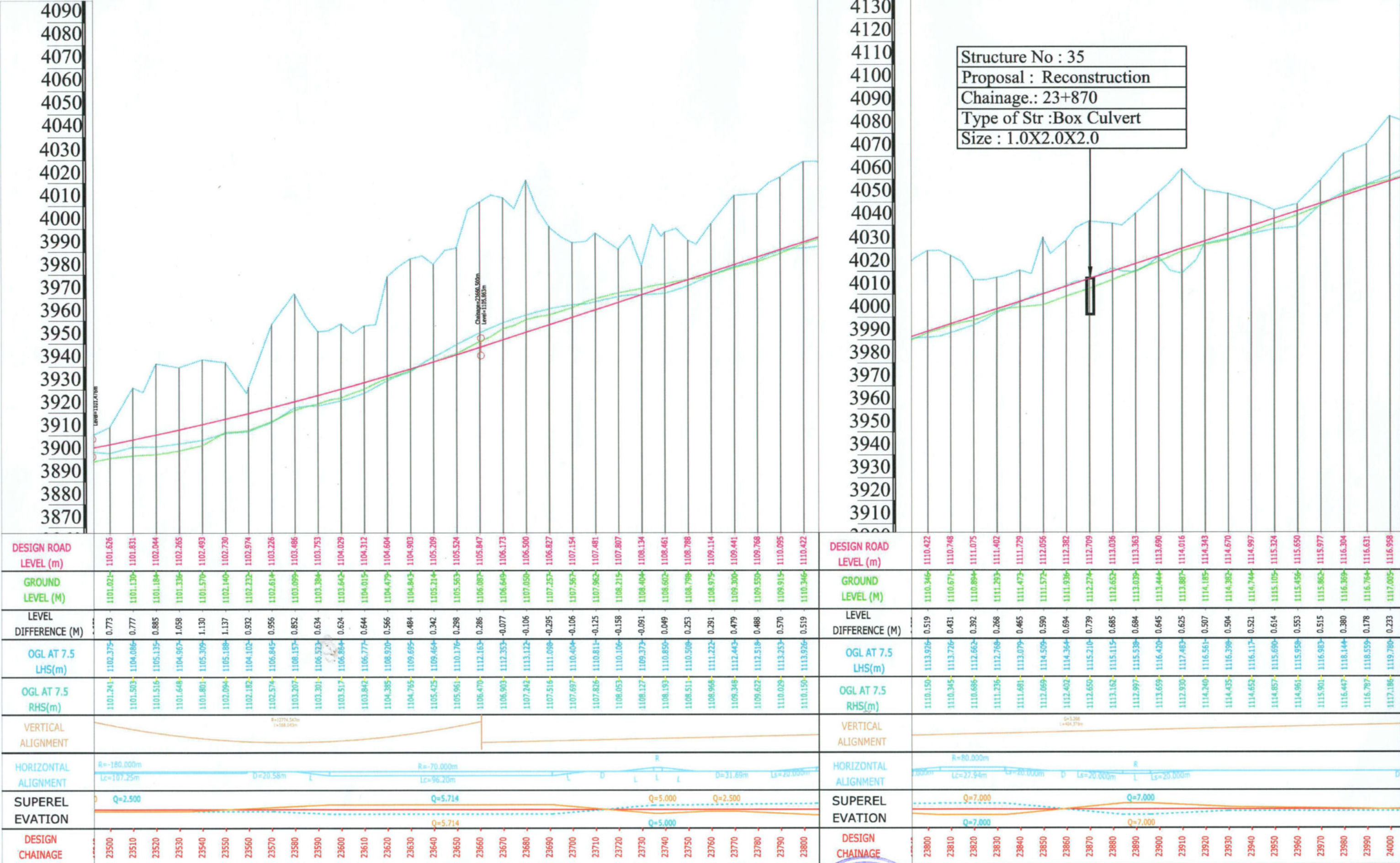
HIP NO. 65 AT CH. 23890.184				
X = 577873.672		Y = 2742279.719		
R (m)	100	Ls (m)	20	
Dc(deg)	6.8709	S(m)	0.17	
Lc(m)	11.99	Ts(deg)	5.7296	
Ts(m)	26.16	Δ(deg)	18.3301	
Es(m)	1.465	e(%)	7	
Design Speed (V) : 40 km/hr				

HIP NO. 66 AT CH. 24164.373				
X = 577764.373		Y = 2742314.373		
R (m)	70	Ls (m)		
Dc(deg)	49.0075	S(m)		
Lc(m)	59.87	Ts(deg)		
Ts(m)	67.71	Δ(deg)		
Es(m)	18.073	e(%)		
Design Speed (V) : 40 km/hr				

- Proposed Breast Wall
- Proposed Footpath
- Proposed Paved Shoulder
- Proposed Carriageway
- Proposed Centerline
- Proposed Earthen Shoulder

TO IMPHAL

TO JIRIBAM



Structure No : 35
Proposal : Reconstruction
Chainage.: 23+870
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

TO IMPHAL

TO JIRIBAM

ction



HIP NO. 68 AT CH. 24465.937			
X = 577476.02		Y = 2742597.766	
R (m)	60	Ls (m)	35
Dc(deg)	13.1007	S(m)	0.85
Lc(m)	13.72	Ts(deg)	16.7113
Ts(m)	43.61	Δ(deg)	46.5232
Es(m)	6.234	e(%)	7
Design Speed (V) : 40 km/hr			

Proposed Footpath
Proposed Earthen Shoulder
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline

HIP NO. 66 AT CH. 24165.499			
X = 577764.373		Y = 2742541.029	
R (m)	70	Ls (m)	30
Dc(deg)	49.0075	S(m)	0.54
Lc(m)	59.87	Ts(deg)	12.2777
Ts(m)	67.71	Δ(deg)	73.5629
Es(m)	18.073	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 67 AT CH. 24328.848			
X = 577593.485		Y = 2742522.28	
R (m)	50	Ls (m)	20
Dc(deg)	16.068	S(m)	0.33
Lc(m)	14.02	Ts(deg)	11.4592
Ts(m)	27.8	Δ(deg)	38.9863
Es(m)	3.39	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 69 AT CH. 24545.737			
X = 577460.703		Y = 274261.766	
R (m)	70	Ls (m)	30
Dc(deg)	5.6813	S(m)	0.85
Lc(m)	6.94	Ts(deg)	16.7113
Ts(m)	34.03	Δ(deg)	46.5232
Es(m)	3.069	e(%)	7
Design Speed (V) : 40 km/hr			

Structure No : 36
Proposal : Reconstruction
Chainage.: 24+164
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

HI
X = 57
R (m)
Dc(de
Lc(m)

CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR:



M/S. CMM INFRAPROJECTS LTD.

DESIGN DIRECTOR:



PROOF CONSULTANT:



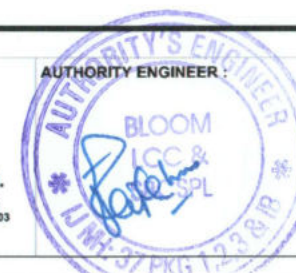
Hindia Engineers Pvt. Ltd.
Address: 191, Mohan Nagar, Gopalpur Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2760303
Email : info@antiquebulldozer.com

SAFETY CONSULTANT:



Antique Bulldozer Pvt. Ltd.
Address: 191, Mohan Nagar, Gopalpur Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2760303
Email : info@antiquebulldozer.com

AUTHORITY ENGINEER:



DRAWING SCALE:

HOR : 1 : 2000

DRAWING TITLE:

PLAN 24+000 TO 24+500

DRG. NO.

DD/IMP-JIR/ -33

SHEET: REV.

R1

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.940 km to 33.120 Km (Total length-17.180 Km)
(PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC)
mode.

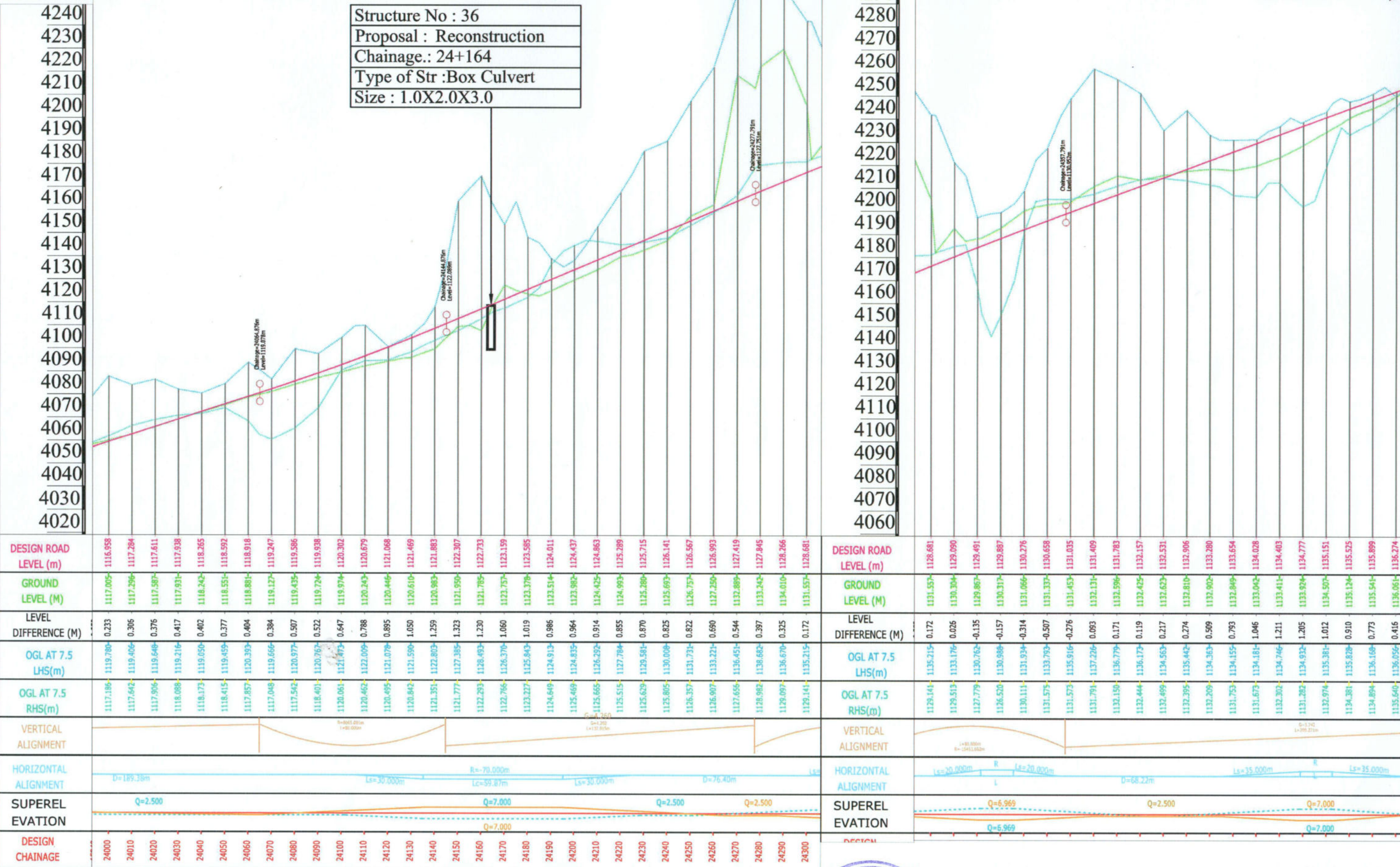
DATE DEC.-2021 DRAWN - Highway Draftsman

DESIGNED	CHECKED	APPROVED
Highway Engineering	---	---

TO IMPHAL

TO JIRIBAM

Structure No : 36
Proposal : Reconstruction
Chainage.: 24+164
Type of Str :Box Culvert
Size : 1.0X2.0X3.0



DESIGN ROAD LEVEL (m)	1116.958	1117.284	1117.611	1117.938	1118.265	1118.592	1118.918	1119.247	1119.586	1119.938	1120.302	1120.679	1121.068	1121.469	1121.883	1122.307	1122.733	1123.159	1123.585	1124.011	1124.437	1124.863	1125.289	1125.715	1126.141	1126.567	1126.993	1127.419	1127.845	1128.266	1128.681	DESIGN ROAD LEVEL (m)	1128.681	1129.090	1129.491	1129.887	1130.276	1130.658	1131.035	1131.409	1131.783	1132.157	1132.531	1132.906	1133.280	1133.654	1134.028	1134.403	1134.777	1135.151	1135.525	1135.899	1136.274												
GROUND LEVEL (M)	1117.005	1117.296	1117.587	1117.931	1118.242	1118.551	1118.881	1119.127	1119.435	1119.724	1119.974	1120.243	1120.446	1120.610	1120.983	1121.950	1121.705	1121.757	1121.378	1121.514	1121.982	1124.425	1124.993	1125.280	1125.693	1126.757	1127.250	1132.899	1133.242	1134.010	1131.557	GROUND LEVEL (M)	1131.557	1130.304	1129.867	1130.317	1131.066	1131.337	1131.453	1132.137	1132.596	1132.425	1132.623	1132.810	1132.902	1132.849	1133.042	1133.411	1133.924	1134.507	1135.124	1135.547	1136.067												
LEVEL DIFFERENCE (M)	0.233	0.306	0.376	0.417	0.402	0.377	0.404	0.384	0.507	0.522	0.647	0.788	0.895	1.050	1.259	1.323	1.230	1.060	1.019	0.986	0.964	0.914	0.855	0.870	0.825	0.822	0.690	0.544	0.397	0.325	0.172	LEVEL DIFFERENCE (M)	0.172	0.026	-0.135	-0.157	-0.314	-0.507	-0.276	0.093	0.171	0.119	0.217	0.274	0.509	0.793	1.046	1.211	1.205	0.910	0.773	0.416													
OGL AT 7.5 LHS(m)	1119.780	1119.406	1119.649	1119.216	1119.050	1119.459	1120.393	1119.666	1120.977	1120.767	1121.473	1122.009	1121.079	1121.590	1122.803	1127.385	1128.493	1126.370	1125.843	1124.913	1124.835	1126.292	1127.784	1129.581	1130.008	1131.731	1133.221	1136.451	1138.682	1136.670	1135.215	OGL AT 7.5 LHS(m)	1135.215	1133.176	1130.762	1130.908	1131.934	1133.793	1135.916	1137.226	1136.779	1136.173	1134.563	1133.442	1134.363	1134.155	1134.181	1134.746	1135.381	1135.828	1136.168	1136.056													
OGL AT 7.5 RHS(m)	1117.186	1117.642	1117.906	1118.088	1118.173	1118.415	1117.857	1117.048	1117.542	1118.401	1120.061	1120.462	1120.495	1120.842	1121.351	1121.777	1122.293	1122.766	1123.227	1124.640	1125.469	1125.665	1125.515	1125.629	1125.805	1126.357	1126.907	1127.656	1128.982	1129.097	1129.141	OGL AT 7.5 RHS(m)	1129.141	1129.513	1127.779	1126.520	1130.111	1131.575	1131.573	1131.791	1132.150	1132.444	1132.699	1132.395	1132.209	1131.753	1131.673	1132.302	1131.282	1132.974	1134.381	1134.894	1135.640												
VERTICAL ALIGNMENT																																	VERTICAL ALIGNMENT																																
HORIZONTAL ALIGNMENT																																	HORIZONTAL ALIGNMENT																																
SUPEREL EVATION																																	SUPEREL EVATION																																
DESIGN CHAINAGE	24000	24010	24020	24030	24040	24050	24060	24070	24080	24090	24100	24110	24120	24130	24140	24150	24160	24170	24180	24190	24200	24210	24220	24230	24240	24250	24260	24270	24280	24290	24300	DESIGN CHAINAGE	24300	24310	24320	24330	24340	24350	24360	24370	24380	24390	24400																						

← TO IMPHAL



HIP NO. 70 AT CH. 24650.513			
X = 577388.922		Y = 2742761.047	
R (m)	100	Ls (m)	20
Dc(deg)	43.3637	S(m)	0.17
Lc(m)	75.68	Ts(deg)	5.7296
Ts(m)	61.95	Δ(deg)	54.8229
Es(m)	12.839	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 73 AT CH. 25045.472			
X = 577298.136		Y = 2743098.224	
R (m)	40	Ls (m)	25
Dc(deg)	7.7407	S(m)	0.65
Lc(m)	5.4	Ts(deg)	17.9049
Ts(m)	28.7	Δ(deg)	43.5505
Es(m)	3.773	e(%)	7
Design Speed (V) : 30 km/hr			

Structure No : 39
Proposal : New Culvert
Chainage.: 25+130
Type of Str : Box Culvert
Size : 1.0X2.0X2.0

R (m)	
Dc(deg)	
Lc(m)	
Ts(m)	
Es(m)	
Design Speed (V)	

25+100

Structure No : 37
Proposal : Reconstruction
Chainage.: 24+510
Type of Str : Box Culvert
Size : 1.0X2.0X2.0

Proposed Footpath
Proposed Earthen Shoulder
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline

Structure No : 38
Proposal : Reconstruction
Chainage.: 24+836
Type of Str : Box Culvert
Size : 1.0X3.0X4.0

HIP NO. 69 AT CH. 24545.737			
X = 577460.703		Y = 2742678.435	
R (m)	70	Ls (m)	30
Dc(deg)	5.6813	S(m)	0.54
Lc(m)	6.94	Ts(deg)	12.2777
Ts(m)	34.03	Δ(deg)	30.2366
Es(m)	3.069	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 71 AT CH. 24754.123			
X = 577414.693		Y = 2742865.688	
R (m)	180	Ls (m)	15
Dc(deg)	6.0969	S(m)	0.05
Lc(m)	19.15	Ts(deg)	2.3873
Ts(m)	24.63	Δ(deg)	10.8716
Es(m)	0.863	e(%)	3.95
Design Speed (V) : 40 km/hr			

HIP NO. 72 AT CH. 24902.468			
X = 577422.577		Y = 2743017.963	
R (m)	70	Ls (m)	30
Dc(deg)	35.5872	S(m)	0.54
Lc(m)	43.48	Ts(deg)	12.2777
Ts(m)	55.82	Δ(deg)	60.1426
Es(m)	11.511	e(%)	7
Design Speed (V) : 40 km/hr			

CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR :



M/S. CMM INFRA PROJECTS LTD.

DESIGN DIRECTOR :



PROOF CONSULTANT :



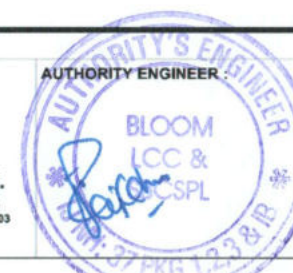
Hindia Engineers Pvt. Ltd.
Address: 33/7, Multi-Storey, Phase-1,
Gurgaon-Faridabad Road Haryana, INDIA-122002,
Phone No.-0124-4028681

SAFETY CONSULTANT :



Antique Builders Pvt. Ltd.
Address: 151, Mohan Nagar, Gopeshpur Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2760303
Email : info@antiquebuilders.com

AUTHORITY ENGINEER :



DRAWING SCALE :

HOR : 1 : 2000

DRAWING TITLE :

PLAN 24+500 TO 25+000

DRG. NO.

DD/IMP-JIR/-35

SHEET: REV.

R1

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.946 km to 33.120 Km (Total length-19.174 Km)
(PKG-2) In the State of Manipur on Engineering, Procurement & Construction (EPC)
mode.

DATE DEC.-2021 DRAWN - Highway Draftsman

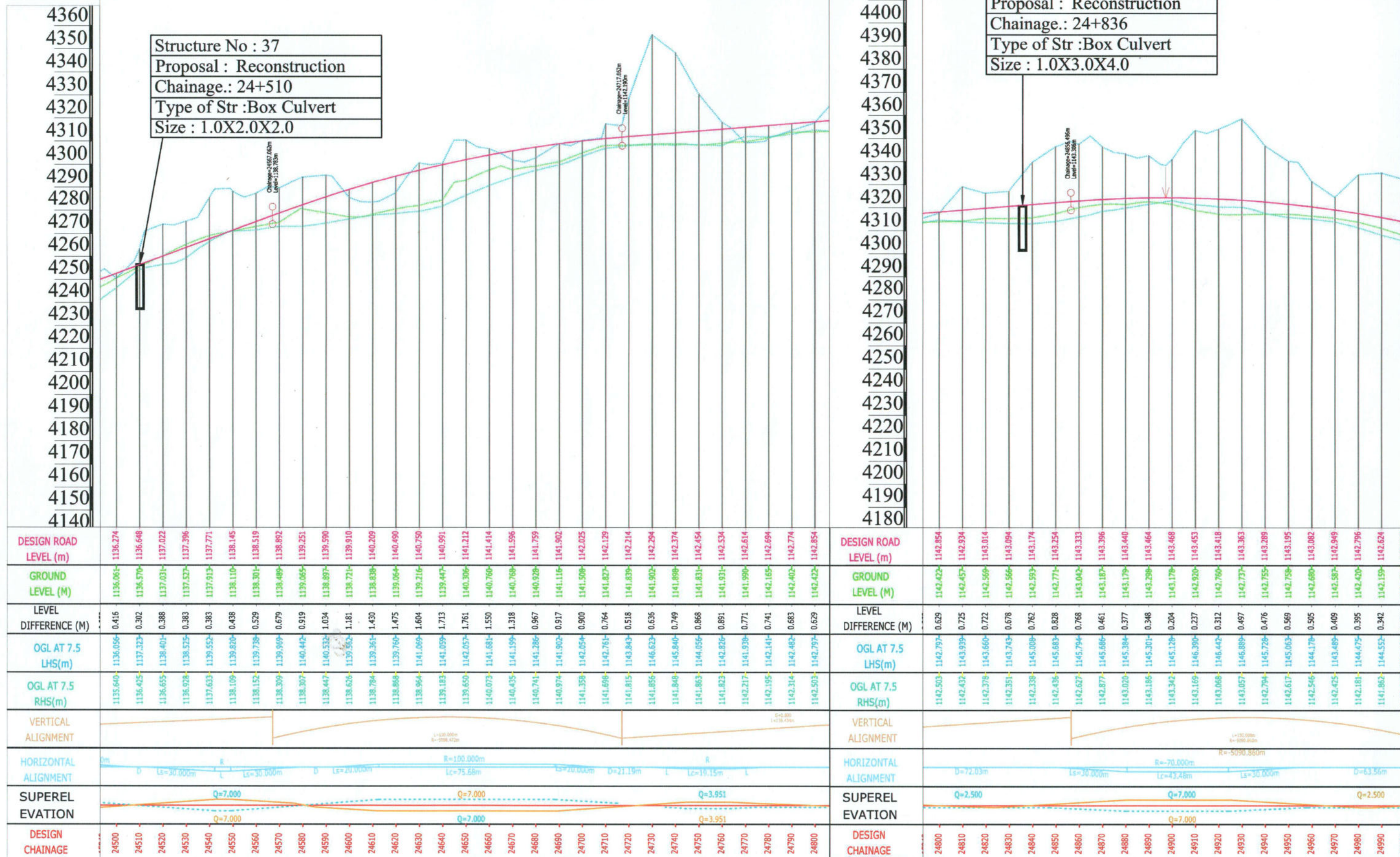
DESIGNED Highway Engineering	CHECKED ---	APPROVED ---
------------------------------------	----------------	-----------------

← TO IMPHAL

TO JIRIBAM →

Structure No : 37
Proposal : Reconstruction
Chainage.: 24+510
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

Structure No : 38
Proposal : Reconstruction
Chainage.: 24+836
Type of Str :Box Culvert
Size : 1.0X3.0X4.0





HIP NO. 73 AT CH. 25045.472			
X = 577298.136		Y = 2743098.224	
R (m)	40	Ls (m)	25
Dc(deg)	7.7407	S(m)	0.65
Lc(m)	5.4	Ts(deg)	17.9049
Ts(m)	28.7	Δ(deg)	43.5505
Es(m)	3.773	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 74 AT CH. 25155.192			
X = 577187.878		Y = 2743077.331	
R (m)	300	Ls (m)	
Dc(deg)	28.0661	S(m)	
Lc(m)	146.95	Ts(deg)	
Ts(m)	74.98	Δ(deg)	28.0661
Es(m)	9.229	e(%)	2.5
Design Speed (V) : 40 km/hr			

HIP NO. 76 AT CH. 25349.584			
X = 576953.417		Y = 2743037.755	
R (m)	20	Ls (m)	20
Dc(deg)	96.1337	S(m)	0.83
Lc(m)	33.56	Ts(deg)	28.6479
Ts(m)	98.14	Δ(deg)	153.4295
Es(m)	70.644	e(%)	7
Design Speed (V) : 20 km/hr			

Structure No : 39
Proposal : New Culvert
Chainage.: 25+130
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

Structure No : 40
Proposal : Re-Construction
Chainage.: 25+348
Type of Str : Minor Bridge
Size : 1.0X10.7 R.C.C Slab

Structure No : 41
Proposal : Reconstruction
Chainage.: 25+381
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

Structure No : 42
Proposal : Reconstruction
Chainage.: 25+643
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

HIP NO. 75 AT CH. 25268.028			
X = 577077.327		Y = 2743111.841	
R (m)	50	Ls (m)	20
Dc(deg)	25.2938	S(m)	0.33
Lc(m)	22.07	Ts(deg)	11.4592
Ts(m)	32.51	Δ(deg)	48.2121
Es(m)	5.139	e(%)	7
Design Speed (V) : 30 km/hr			

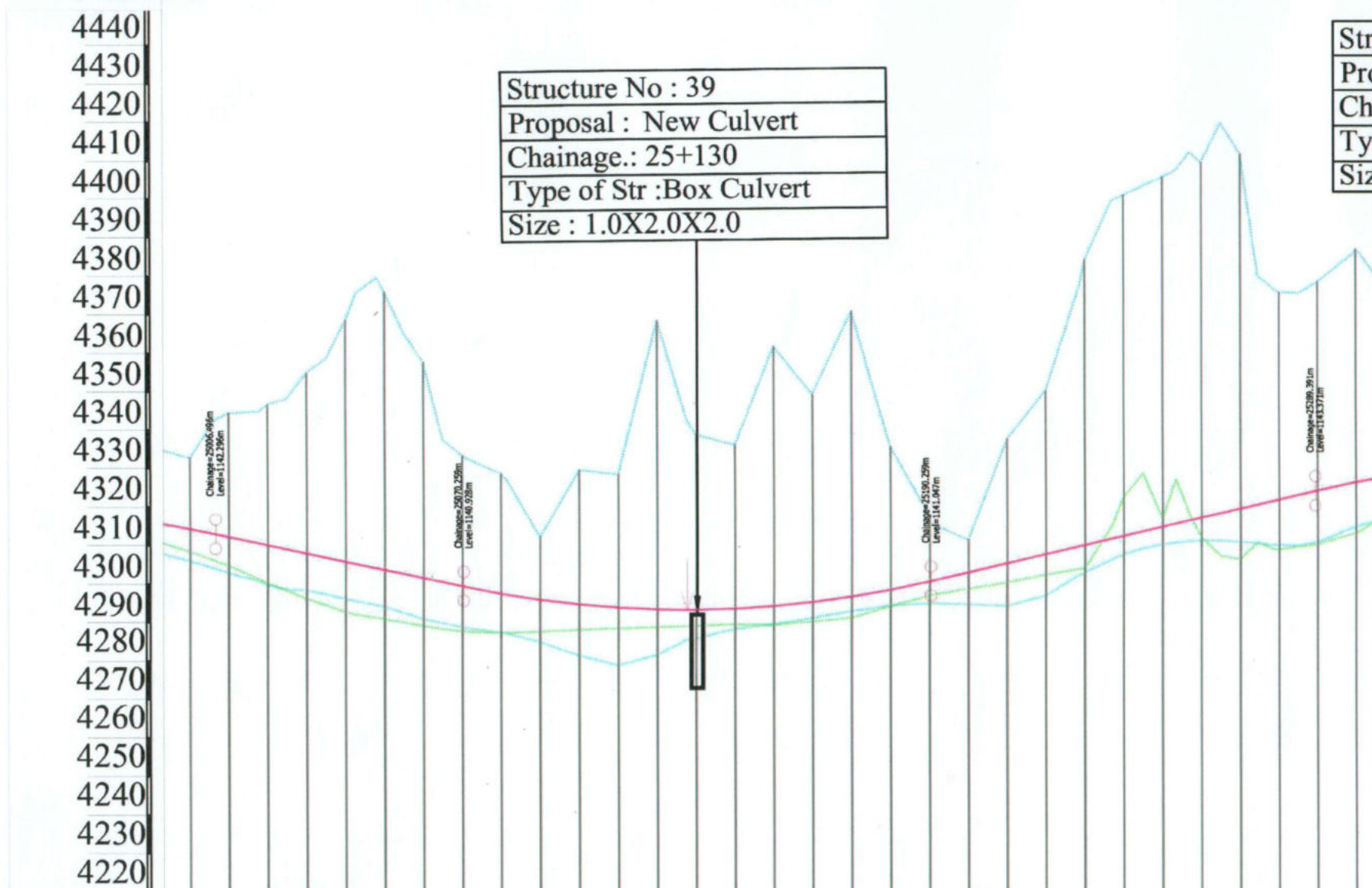
HIP NO. 77 AT CH. 25499.136			
X = 577070.587		Y = 2743221.291	
R (m)	40	Ls (m)	25
Dc(deg)	46.8536	S(m)	0.65
Lc(m)	32.71	Ts(deg)	17.9049
Ts(m)	48.21	Δ(deg)	82.6635
Es(m)	14.135	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 78 AT CH. 25673.215			
X = 576930.678		Y = 2743338.233	
R (m)	50	Ls (m)	20
Dc(deg)	24.6315	S(m)	0.33
Lc(m)	21.49	Ts(deg)	11.4592
Ts(m)	32.16	Δ(deg)	47.5498
Es(m)	4.997	e(%)	7
Design Speed (V) : 30 km/hr			

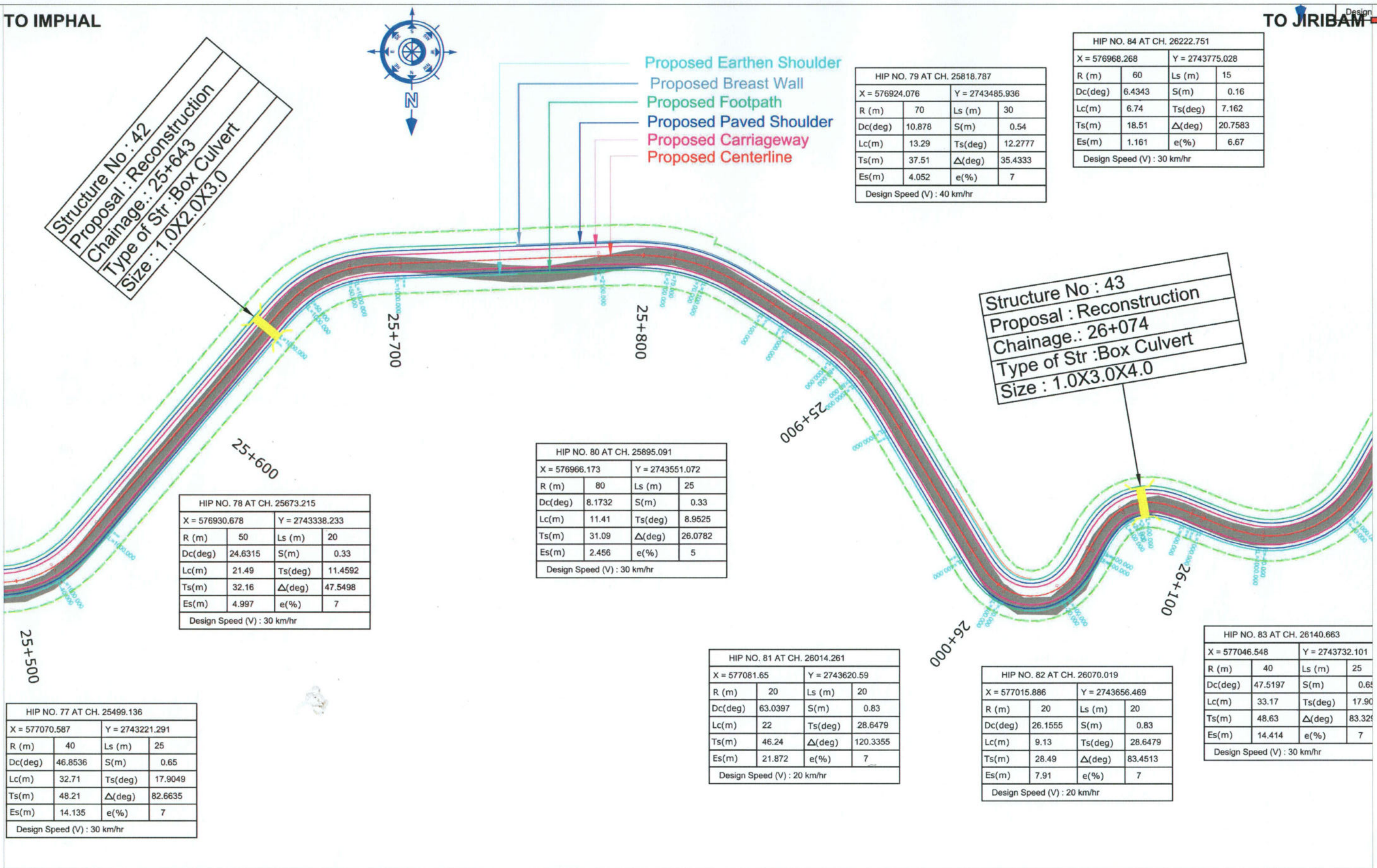
Proposed Footpath
Proposed Earthen Shoulder
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline

TO IMPHAL

TO JIRIBAM



DESIGN ROAD LEVEL (m)	1142.432	1142.221	1142.006	1141.792	1141.577	1141.363	1141.148	1140.933	1140.726	1140.511	1140.296	1140.081	1139.866	1139.651	1139.436	1139.221	1139.006	1138.791	1138.576	1138.361	1138.146	1137.931	1137.716	1137.501	1137.286	1137.071	1136.856	1136.641	1136.426	1136.211	1135.996	1135.781	1135.566	1135.351	1135.136	1134.921	1134.706	1134.491	1134.276	1134.061	1133.846	1133.631	1133.416	1133.201	1132.986	1132.771	1132.556	1132.341	1132.126	1131.911	1131.696	1131.481	1131.266	1131.051	1130.836	1130.621	1130.406	1130.191	1129.976	1129.761	1129.546	1129.331	1129.116	1128.901	1128.686	1128.471	1128.256	1128.041	1127.826	1127.611	1127.396	1127.181	1126.966	1126.751	1126.536	1126.321	1126.106	1125.891	1125.676	1125.461	1125.246	1125.031	1124.816	1124.601	1124.386	1124.171	1123.956	1123.741	1123.526	1123.311	1123.096	1122.881	1122.666	1122.451	1122.236	1122.021	1121.806	1121.591	1121.376	1121.161	1120.946	1120.731	1120.516	1120.301	1120.086	1119.871	1119.656	1119.441	1119.226	1119.011	1118.796	1118.581	1118.366	1118.151	1117.936	1117.721	1117.506	1117.291	1117.076	1116.861	1116.646	1116.431	1116.216	1116.001	1115.786	1115.571	1115.356	1115.141	1114.926	1114.711	1114.496	1114.281	1114.066	1113.851	1113.636	1113.421	1113.206	1112.991	1112.776	1112.561	1112.346	1112.131	1111.916	1111.701	1111.486	1111.271	1111.056	1110.841	1110.626	1110.411	1110.196	1109.981	1109.766	1109.551	1109.336	1109.121	1108.906	1108.691	1108.476	1108.261	1108.046	1107.831	1107.616	1107.401	1107.186	1106.971	1106.756	1106.541	1106.326	1106.111	1105.896	1105.681	1105.466	1105.251	1105.036	1104.821	1104.606	1104.391	1104.176	1103.961	1103.746	1103.531	1103.316	1103.101	1102.886	1102.671	1102.456	1102.241	1102.026	1101.811	1101.596	1101.381	1101.166	1100.951	1100.736	1100.521	1100.306	1100.091	1099.876	1099.661	1099.446	1099.231	1099.016	1098.801	1098.586	1098.371	1098.156	1097.941	1097.726	1097.511	1097.296	1097.081	1096.866	1096.651	1096.436	1096.221	1096.006	1095.791	1095.576	1095.361	1095.146	1094.931	1094.716	1094.501	1094.286	1094.071	1093.856	1093.641	1093.426	1093.211	1092.996	1092.781	1092.566	1092.351	1092.136	1091.921	1091.706	1091.491	1091.276	1091.061	1090.846	1090.631	1090.416	1090.201	1089.986	1089.771	1089.556	1089.341	1089.126	1088.911	1088.696	1088.481	1088.266	1088.051	1087.836	1087.621	1087.406	1087.191	1086.976	1086.761	1086.546	1086.331	1086.116	1085.901	1085.686	1085.471	1085.256	1085.041	1084.826	1084.611	1084.396	1084.181	1083.966	1083.751	1083.536	1083.321	1083.106	1082.891	1082.676	1082.461	1082.246	1082.031	1081.816	1081.601	1081.386	1081.171	1080.956	1080.741	1080.526	1080.311	1080.096	1079.881	1079.666	1079.451	1079.236	1079.021	1078.806	1078.591	1078.376	1078.161	1077.946	1077.731	1077.516	1077.301	1077.086	1076.871	1076.656	1076.441	1076.226	1076.011	1075.796	1075.581	1075.366	1075.151	1074.936	1074.721	1074.506	1074.291	1074.076	1073.861	1073.646	1073.431	1073.216	1073.001	1072.786	1072.571	1072.356	1072.141	1071.926	1071.711	1071.496	1071.281	1071.066	1070.851	1070.636	1070.421	1070.206	1069.991	1069.776	1069.561	1069.346	1069.131	1068.916	1068.701	1068.486	1068.271	1068.056	1067.841	1067.626	1067.411	1067.196	1066.981	1066.766	1066.551	1066.336	1066.121	1065.906	1065.691	1065.476	1065.261	1065.046	1064.831	1064.616	1064.401	1064.186	1063.971	1063.756	1063.541	1063.326	1063.111	1062.896	1062.681	1062.466	1062.251	1062.036	1061.821	1061.606	1061.391	1061.176	1060.961	1060.746	1060.531	1060.316	1060.101	1059.886	1059.671	1059.456	1059.241	1059.026	1058.811	1058.596	1058.381	1058.166	1057.951	1057.736	1057.521	1057.306	1057.091	1056.876	1056.661	1056.446	1056.231	1056.016	1055.801	1055.586	1055.371	1055.156	1054.941	1054.726	1054.511	1054.296	1054.081	1053.866	1053.651	1053.436	1053.221	1053.006	1052.791	1052.576	1052.361	1052.146	1051.931	1051.716	1051.501	1051.286	1051.071	1050.856	1050.641	1050.426	1050.211	1049.996	1049.781	1049.566	1049.351	1049.136	1048.921	1048.706	1048.491	1048.276	1048.061	1047.846	1047.631	1047.416	1047.201	1046.986	1046.771	1046.556	1046.341	1046.126	1045.911	1045.696	1045.481	1045.266	1045.051	1044.836	1044.621	1044.406	1044.191	1043.976	1043.761	1043.546	1043.331	1043.116	1042.901	1042.686	1042.471	1042.256	1042.041	1041.826	1041.611	1041.396	1041.181	1040.966	1040.751	1040.536	1040.321	1040.106	1039.891	1039.676	1039.461	1039.246	1039.031	1038.816	1038.601	1038.386	1038.171	1037.956	1037.741	1037.526	1037.311	1037.096	1036.881	1036.666	1036.451	1036.236	1036.021	1035.806	1035.591	1035.376	1035.161	1034.946	1034.731	1034.516	1034.301	1034.086	1033.871	1033.656	1033.441	1033.226	1033.011	1032.796	1032.581	1032.366	1032.151	1031.936	1031.721	1031.506	1031.291	1031.076	1030.861	1030.646	1030.431	1030.216	1030.001	1029.786	1029.571	1029.356	1029.141	1028.926	1028.711	1028.496	1028.281	1028.066	1027.851	1027.636	1027.421	1027.206	1026.991	1026.776	1026.561	1026.346	1026.131	1025.916	1025.701	1025.486	1025.271	1025.056	1024.841	1024.626	1024.411	1024.196	1023.981	1023.766	1023.551	1023.336	1023.121	1022.906	1022.691	1022.476	1022.261	1022.046	1021.831	1021.616	1021.401	1021.186	1020.971	1020.756	1020.541	1020.326	1020.111	1019.896	1019.681	1019.466	1019.251	1019.036	1018.821	1018.606	1018.391	1018.176	1017.961	1017.746	1017.531	1017.316	1017.101	1016.886	1016.671	1016.456	1016.241	1016.026	1015.811	1015.596	1015.381	1015.166	1014.951	1014.736	1014.521	1014.306	1014.091	1013.876	1013.661	1013.446	1013.231	1013.016	1012.801	1012.586	1012.371	1012.156	1011.941	1011.726	1011.511	1011.296	1011.081	1010.866	1010.651	1010.436	1010.221	1010.006	1009.791	1009.576	1009.361	1009.146	1008.931	1008.716	1008.501	1008.286	1008.071	1007.856	1007.641	1007.426	1007.211	1006.996	1006.781	1006.566	1006.351	1006.136	1005.921	1005.706	1005.491	1005.276	1005.061	1004.846	1004.631	1004.416	1004.201	1003.986	1003.771	1003.556	1003.341	1003.126	1002.911	1002.696	1002.481	1002.266	1002.051	1001.836	1001.621	1001.406	1001.191	1000.976	1000.761	1000.546	1000.331	1000.116	999.901	999.686	999.471	999.256	999.041	998.826	998.611	998.396	998.181	997.966	997.751	997.536	997.321	997.106	996.891	996.676	996.461	996.246	996.031	995.816	995.601	995.386	995.171	994.956	994.741	994.526	994.311	994.096	993.881	993.666	993.451	993.236	993.021	992.806	992.591	992.376	992.161	991.946	991.731	991.516	991.301	991.086	990.871	990.656	990.441	990.226	990.011	989.796	989.581	989.366	989.151	988.936	988.721	988.506	988.291	988.076	987.861	987.646	987.431	987.216	987.001	986.786	986.571	986.356	986.141	985.926	985.711	985.496	985.281	985.066	984.851	984.636	984.421	984.206	983.991	983.776	983.561	983.346	983.131	982.916	982.701	982.486	982.271	982.056	981.841	981.626	981.411	981.196	980.981	980.766	980.551	980.336	980.121	979.906	979.691	979.476	979.261	979.046	978.831	978.616	978.401	978.186	977.971	977.756	977.541	977.326	977.111	976.896	976.681	976.466	976.251	976.036	975.821	975.606	975.391	975.176	974.961	974.746	974.531	974.316	974.101	973.886	973.671	973.456	973.241	973.026	972.811	972.596	972.381	972.166	971.951	971.736	971.521	971.306	971.091	970.876	970.661	970.446	970.231	970.016	969.801	969.586	969.371	969.156	968.941	968.726	968.511	968.296	968.081	967.866	967.651	967.436	967.221	967.006	966.791	966.576	966.361	966.146	965.931	965.716	965.501	965.286	965.071	964.856	964.641	964.426	964.211	963.996	963.781	963.566	963.351	963.136	962.921	962.706	962.491	962.276	962.061	961.846	961.631	961.416	961.201	960.986	960.771	960.556	960.341	960.126	959.911	959.696	959.481	959.266	959.051	958.836	958.621	958.406	958.191	957.976	957.761	957.546	957.331	957.116	956.901	956.686	956.471	956.256	956.041	955.826	955.611	955.396	955.181	954.966	954.751	954.536	954.321	954.106	953.891	953.676	953.461	953.246	953.031	952.816	952.601	952.386	952.171	951.956	951.741	951.526	951.311	951.096	950.881	950.666	950.451	950.236	950.021	949.806	949.591	949.376	949.161	948.946	948.731	948.516	948.301	948.086	947.871	947.656	947.441	947.226	947.011	946.796	946.581	946.366	946.151	945.936	945.721	945.506	945.291	945.076	944.861	944.646	944.431	944.216	944.001	943.786	943.571	943.356	943.141	942.926	942.711	942.496	942.281	942.066	941.851	941.636	941.421	941.206	940.991	940.776	940.561	940.346	940.131	939.916	939.701	939.486	939.271	939.056	938.841	938.626	938.411	938.196	937.981	937.766	937.551	937.336	937.121	936.906
-----------------------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------



HIP NO. 77 AT CH. 25499.136			
X = 577070.587		Y = 2743221.291	
R (m)	40	Ls (m)	25
Dc(deg)	46.8536	S(m)	0.65
Lc(m)	32.71	Ts(deg)	17.9049
Ts(m)	48.21	Δ(deg)	82.6635
Es(m)	14.135	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 78 AT CH. 25673.215			
X = 576930.678		Y = 2743338.233	
R (m)	50	Ls (m)	20
Dc(deg)	24.6315	S(m)	0.33
Lc(m)	21.49	Ts(deg)	11.4592
Ts(m)	32.16	Δ(deg)	47.5498
Es(m)	4.997	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 80 AT CH. 25895.091			
X = 576966.173		Y = 2743551.072	
R (m)	80	Ls (m)	25
Dc(deg)	8.1732	S(m)	0.33
Lc(m)	11.41	Ts(deg)	8.9525
Ts(m)	31.09	Δ(deg)	26.0782
Es(m)	2.456	e(%)	5
Design Speed (V) : 30 km/hr			

HIP NO. 81 AT CH. 26014.261			
X = 577081.65		Y = 2743620.59	
R (m)	20	Ls (m)	20
Dc(deg)	63.0397	S(m)	0.83
Lc(m)	22	Ts(deg)	28.6479
Ts(m)	46.24	Δ(deg)	120.3355
Es(m)	21.872	e(%)	7
Design Speed (V) : 20 km/hr			

HIP NO. 82 AT CH. 26070.019			
X = 577015.886		Y = 2743656.469	
R (m)	20	Ls (m)	20
Dc(deg)	26.1555	S(m)	0.83
Lc(m)	9.13	Ts(deg)	28.6479
Ts(m)	28.49	Δ(deg)	83.4513
Es(m)	7.91	e(%)	7
Design Speed (V) : 20 km/hr			

HIP NO. 83 AT CH. 26140.663			
X = 577046.548		Y = 2743732.101	
R (m)	40	Ls (m)	25
Dc(deg)	47.5197	S(m)	0.65
Lc(m)	33.17	Ts(deg)	17.9049
Ts(m)	48.63	Δ(deg)	83.321
Es(m)	14.414	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 79 AT CH. 25818.787			
X = 576924.076		Y = 2743485.936	
R (m)	70	Ls (m)	30
Dc(deg)	10.878	S(m)	0.54
Lc(m)	13.29	Ts(deg)	12.2777
Ts(m)	37.51	Δ(deg)	35.4333
Es(m)	4.052	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 84 AT CH. 26222.751			
X = 576968.268		Y = 2743775.028	
R (m)	60	Ls (m)	15
Dc(deg)	6.4343	S(m)	0.16
Lc(m)	6.74	Ts(deg)	7.162
Ts(m)	18.51	Δ(deg)	20.7583
Es(m)	1.161	e(%)	6.67
Design Speed (V) : 30 km/hr			

Structure No : 43
Proposal : Reconstruction
Chainage : 26+074
Type of Str : Box Culvert
Size : 1.0X3.0X4.0

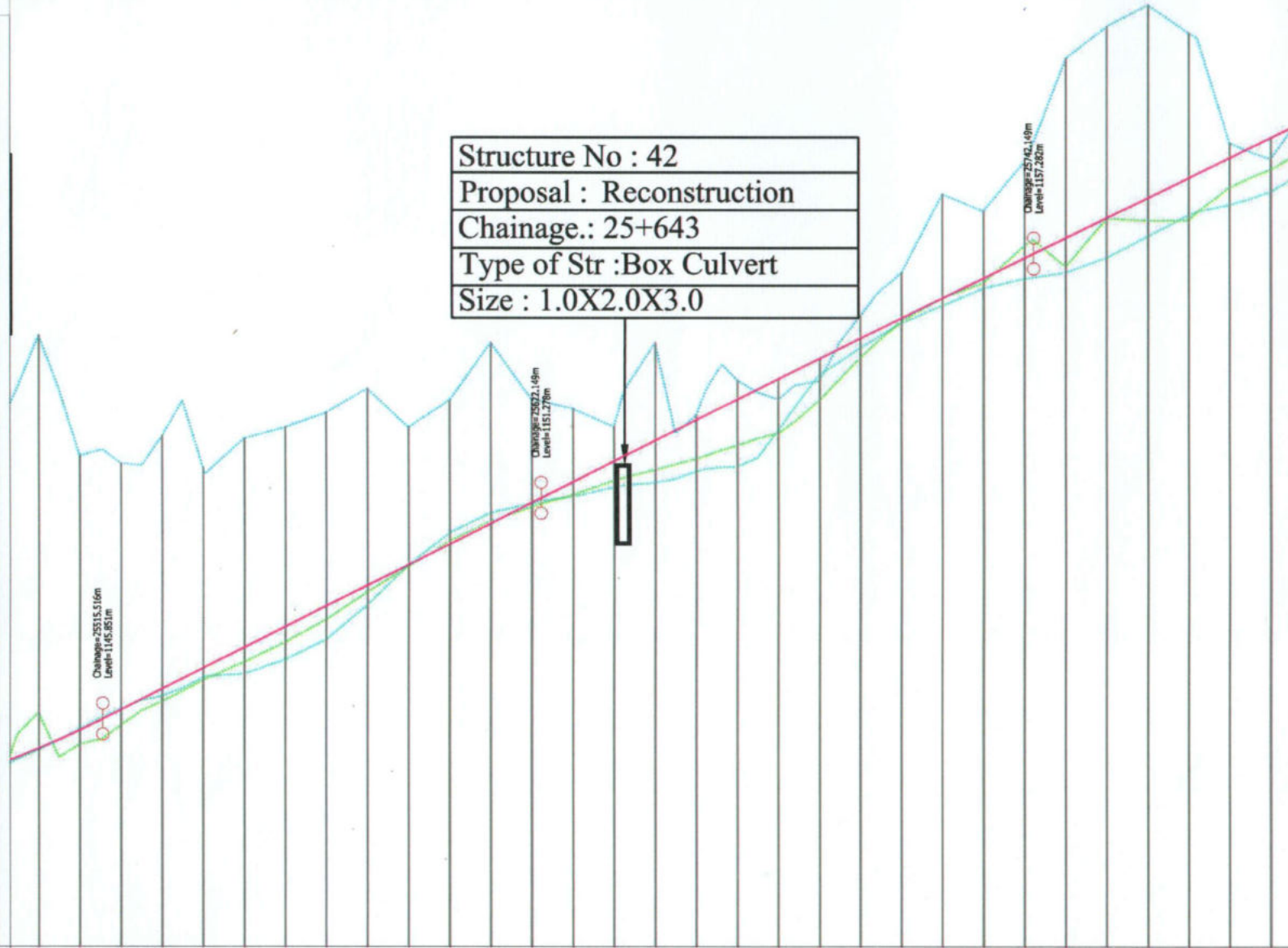
Structure No : 42
Proposal : Reconstruction
Chainage : 25+643
Type of Str : Box Culvert
Size : 1.0X2.0X3.0

← TO IMPHAL

TO JIRIBAM →

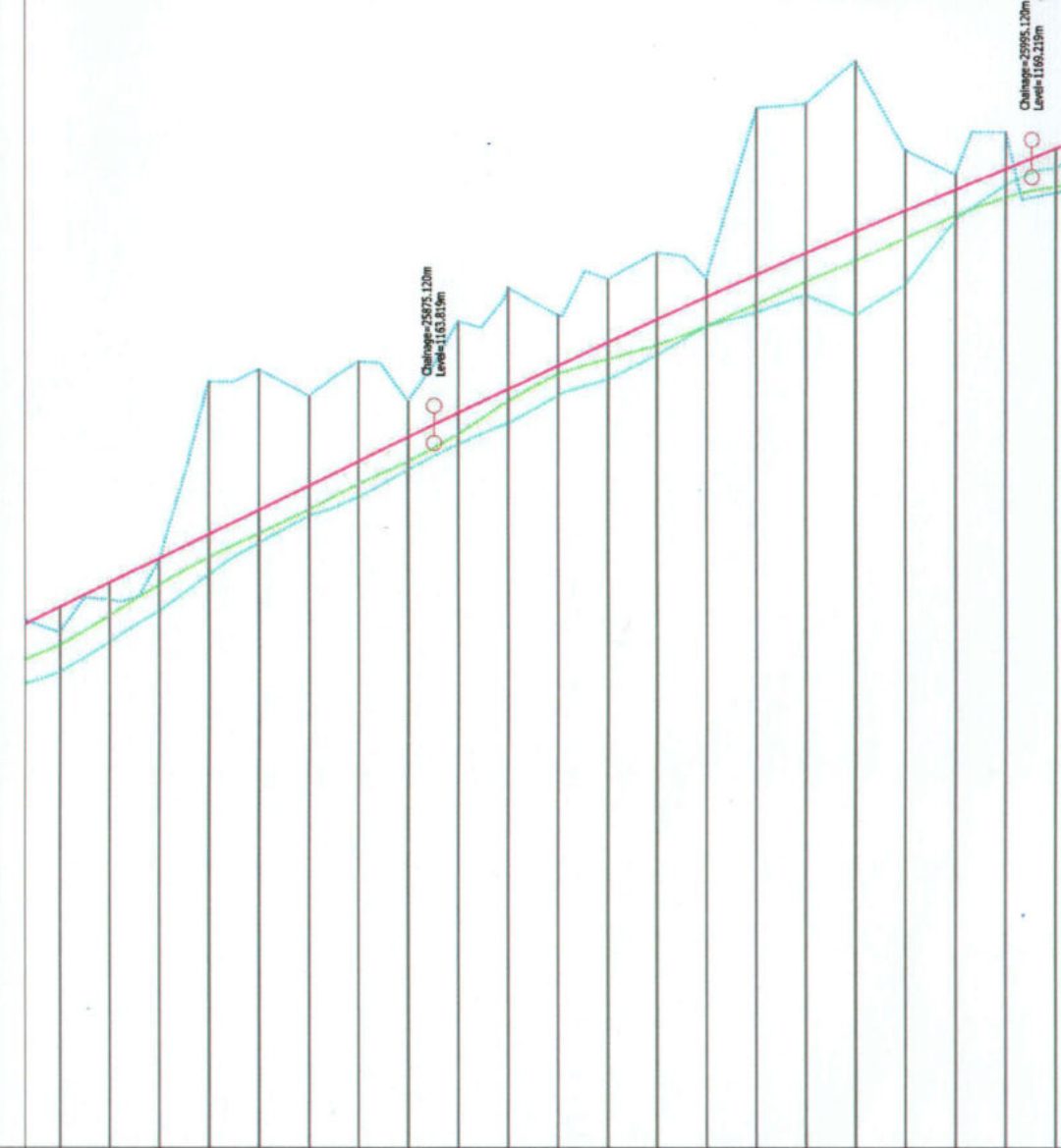
4510
4500
4490
4480
4470
4460
4450
4440
4430
4420
4410
4400
4390
4380
4370
4360
4350
4340
4330
4320
4310
4300
4290

Structure No : 42
Proposal : Reconstruction
Chainage.: 25+643
Type of Str :Box Culvert
Size : 1.0X2.0X3.0



DESIGN ROAD LEVEL (m)	1145.129	1145.579	1146.079	1146.588	1147.097	1147.606	1148.115	1148.624	1149.133	1149.642	1150.151	1150.660	1151.169	1151.677	1152.184	1152.690	1153.194	1153.697	1154.198	1154.698	1155.197	1155.694	1156.189	1156.683	1157.176	1157.668	1158.159	1158.651	1159.143	1159.634	1160.126
GROUND LEVEL (M)	1145.998	1145.225	1145.690	1146.271	1146.790	1147.242	1147.726	1148.285	1148.958	1149.601	1150.221	1150.704	1151.058	1151.355	1151.703	1152.064	1152.323	1152.559	1152.864	1153.173	1153.475	1153.769	1154.054	1154.331	1154.600	1154.861	1155.114	1155.361	1155.601	1155.834	1156.061
LEVEL DIFFERENCE (M)	0.671	0.687	0.684	0.731	0.789	0.823	0.909	0.965	0.907	0.729	0.572	0.262	0.560	0.736	0.963	1.073	1.289	1.482	1.520	1.431	0.483	0.692	0.568	0.539	0.782	1.186	1.528	1.697	1.645	1.508	1.265
OGL AT 7.5 LHS(m)	1155.266	1152.308	1152.120	1152.795	1152.013	1152.734	1153.011	1153.371	1153.960	1153.010	1153.675	1155.081	1153.692	1153.465	1153.023	1155.075	1154.163	1153.691	1155.749	1156.806	1158.735	1159.530	1162.066	1162.852	1163.383	1162.698	1159.994	1159.601			
OGL AT 7.5 RHS(m)	1145.088	1145.609	1146.099	1146.408	1146.863	1146.949	1147.299	1147.792	1148.634	1149.626	1150.423	1150.910	1151.143	1151.305	1151.535	1151.646	1151.923	1152.044	1152.935	1154.298	1154.951	1155.566	1156.002	1156.426	1156.662	1156.815	1157.176	1157.699	1158.221	1158.483	1158.793
VERTICAL ALIGNMENT																															
HORIZONTAL ALIGNMENT																															
SUPER ELEVATION																															
DESIGN CHAINAGE	25500	25510	25520	25530	25540	25550	25560	25570	25580	25590	25600	25610	25620	25630	25640	25650	25660	25670	25680	25690	25700	25710	25720	25730	25740	25750	25760	25770	25780	25790	25800

4610
4600
4590
4580
4570
4560
4550
4540
4530
4520
4510
4500
4490
4480
4470
4460
4450
4440
4430
4420
4410
4400
4390
4380



DESIGN ROAD LEVEL (m)	1160.126	1160.618	1161.109	1161.601	1162.093	1162.584	1163.076	1163.567	1164.058	1164.543	1165.021	1165.492	1165.956	1166.413	1166.863	1167.306	1167.742	1168.171	1168.593	1169.009	1169.418
GROUND LEVEL (M)	1159.346	1159.337	1160.564	1161.126	1161.598	1162.093	1162.606	1163.060	1163.611	1164.288	1164.840	1165.148	1165.432	1165.815	1166.264	1166.716	1167.142	1167.500	1167.863	1168.234	1168.643
LEVEL DIFFERENCE (M)	1.265	1.275	1.225	0.685	0.572	0.539	0.531	0.578	0.505	0.293	0.526	0.426	0.607	0.688	0.676	0.669	0.791	0.659	0.754	0.645	0.892
OGL AT 7.5 LHS(m)	1159.601	1160.273	1161.061	1161.693	1162.330	1162.999	1163.601	1164.293	1165.011	1165.811	1166.642	1167.513	1168.413	1169.386	1170.322	1171.225	1172.097	1172.934	1173.734	1174.507	1175.252
OGL AT 7.5 RHS(m)	1158.793	1159.397	1160.032	1160.772	1161.406	1161.965	1162.346	1162.891	1163.410	1163.835	1164.407	1164.737	1165.230	1165.813	1166.095	1166.454	1166.040	1166.652	1167.970	1168.681	1169.032
VERTICAL ALIGNMENT																					
HORIZONTAL ALIGNMENT																					
SUPER ELEVATION																					
DESIGN CHAINAGE	25800	25810	25820	25830	25840	25850	25860	25870	25880	25890	25900	25910	25920	25930	25940	25950	25960	25970	25980	25990	26000

TO IMPHAL

TO JIRIBAM

HIP NO. 79 AT CH. 25818.787			
X = 576924.076		Y = 2743485.936	
R (m)	70	Ls (m)	30
Dc(deg)	10.878	S(m)	0.54
Lc(m)	13.29	Ts(deg)	12.2777
Ts(m)	37.51	Δ(deg)	35.4333
Es(m)	4.052	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 84 AT CH. 26222.751			
X = 576968.268		Y = 2743775.028	
R (m)	60	Ls (m)	15
Dc(deg)	6.4343	S(m)	0.16
Lc(m)	6.74	Ts(deg)	7.162
Ts(m)	18.51	Δ(deg)	20.7583
Es(m)	1.161	e(%)	6.67
Design Speed (V) : 30 km/hr			

HIP NO. 86 AT CH. 26410.409			
X = 576782.615		Y = 2743838.518	
R (m)	60	Ls (m)	35
Dc(deg)	61.3752	S(m)	0.85
Lc(m)	64.27	Ts(deg)	16.7113
Ts(m)	83.62	Δ(deg)	94.7978
Es(m)	29.896	e(%)	6.67
Design Speed (V) : 30 km/hr			

Structure No : 43
Proposal : Reconstruction
Chainage.: 26+074
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

Structure No : 44
Proposal : Reconstruction
Chainage.: 26+430
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

Proposed Footpath
Proposed Earthen Shoulder
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline

HIP NO. 88 AT CH. 26554.685			
X = 576801.722		Y = 2744020.992	
R (m)	25	Ls (m)	20
Dc(deg)	82.1805	S(m)	0.67
Lc(m)	35.86	Ts(deg)	22.9183
Ts(m)	62.6	Δ(deg)	128.0171
Es(m)	33.576	e(%)	7
Design Speed (V) : 20 km/hr			

HIP NO. 87 AT CH. 26501.1			
X = 576807.494		Y = 2743942.866	
R (m)	80	Ls (m)	
Dc(deg)	17.6356	S(m)	
Lc(m)	24.62	Ts(deg)	
Ts(m)	12.41	Δ(deg)	17.6356
Es(m)	0.957	e(%)	2.5
Design Speed (V) : 20 km/hr			

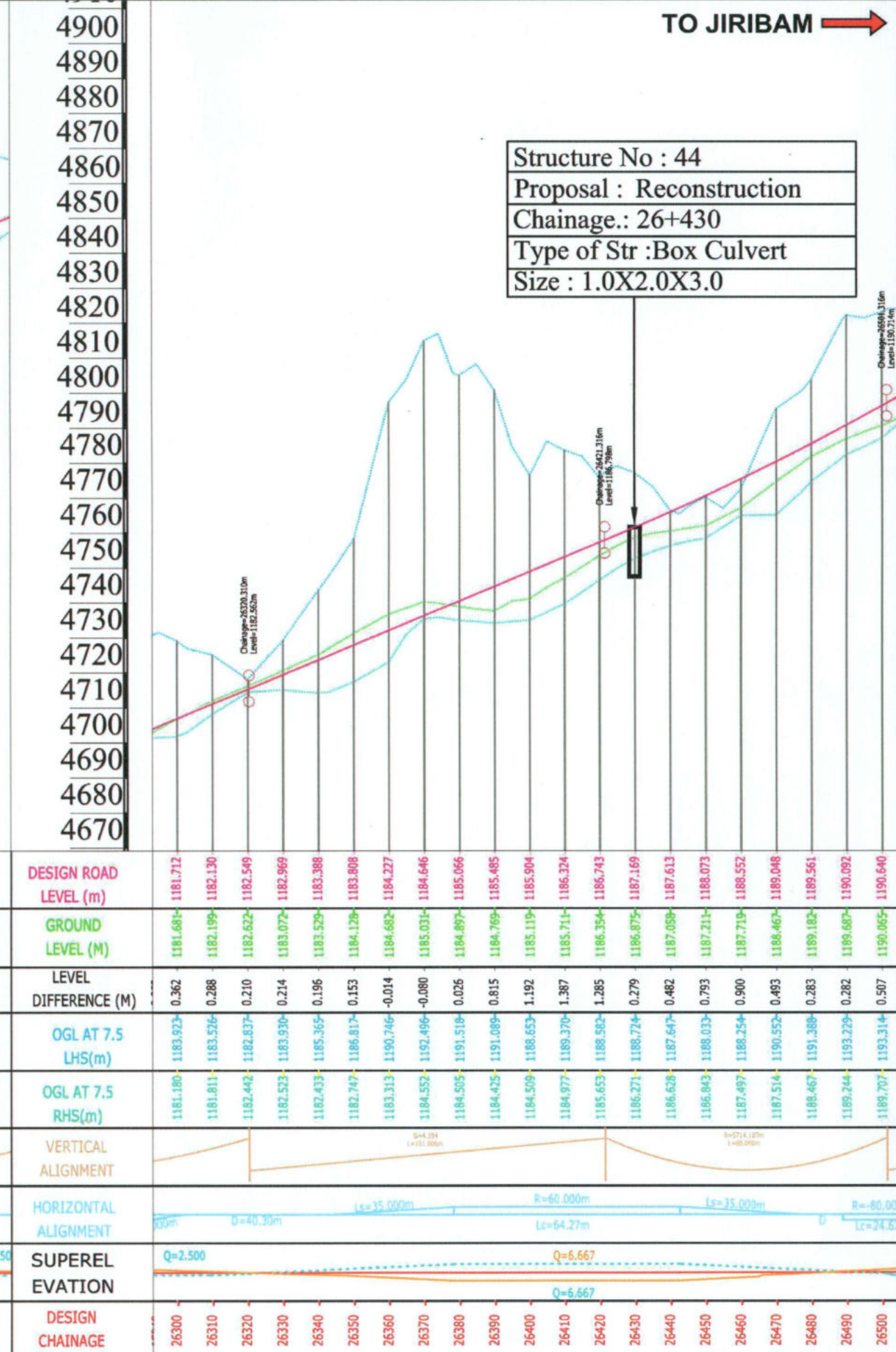
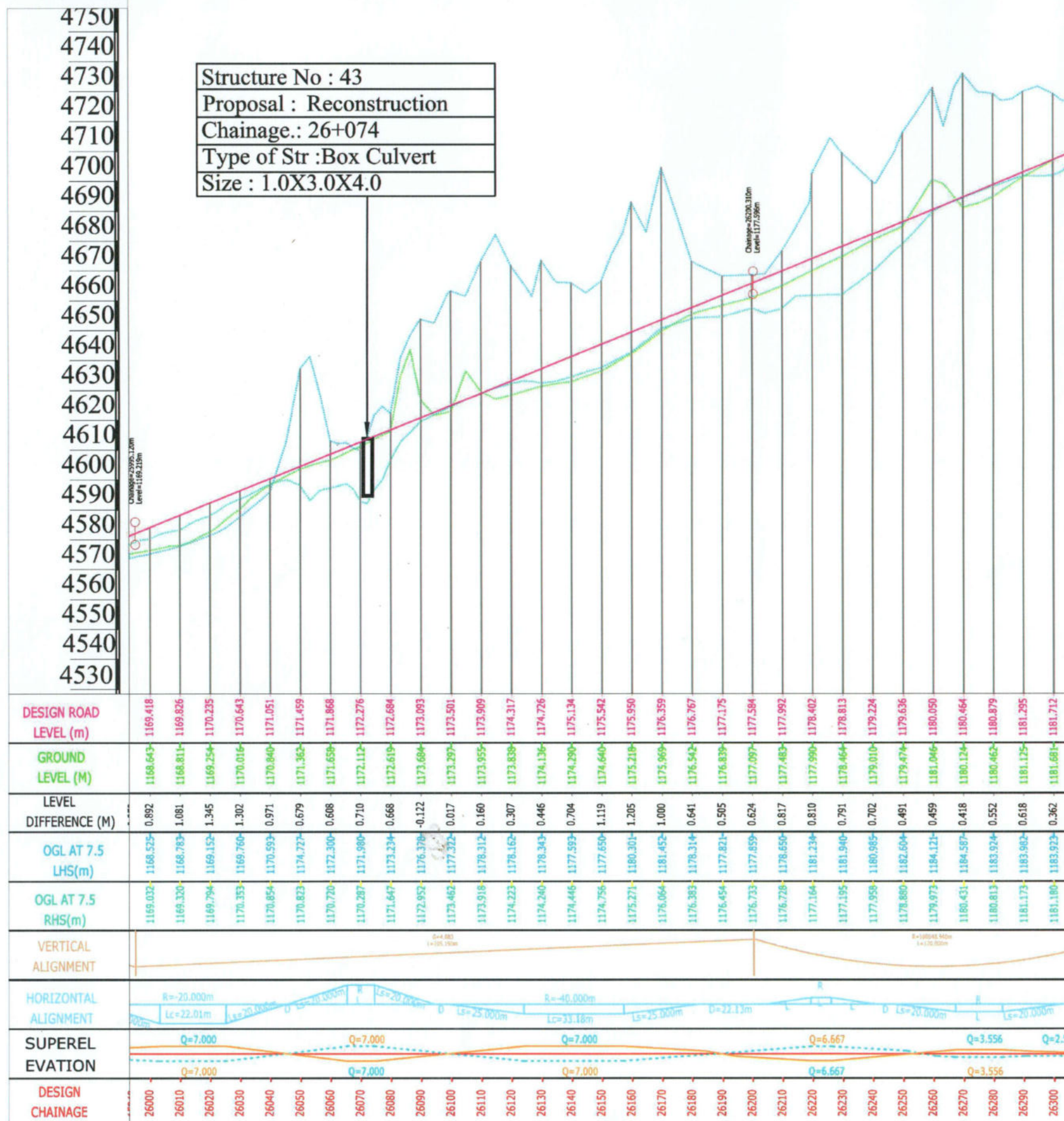
HIP NO. 82 AT CH. 26070.019			
X = 577015.886		Y = 2743656.469	
R (m)	20	Ls (m)	20
Dc(deg)	26.1555	S(m)	0.83
Lc(m)	9.13	Ts(deg)	28.6479
Ts(m)	28.49	Δ(deg)	83.4513
Es(m)	7.91	e(%)	7
Design Speed (V) : 20 km/hr			

HIP NO. 83 AT CH. 26140.663			
X = 577046.548		Y = 2743732.101	
R (m)	40	Ls (m)	25
Dc(deg)	47.5197	S(m)	0.65
Lc(m)	33.17	Ts(deg)	17.9049
Ts(m)	48.63	Δ(deg)	83.3295
Es(m)	14.414	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 85 AT CH. 26275.131			
X = 576933.564		Y = 2743815.657	
R (m)	50	Ls (m)	20
Dc(deg)	17.9668	S(m)	0.33
Lc(m)	15.68	Ts(deg)	11.4592
Ts(m)	28.75	Δ(deg)	40.8851
Es(m)	3.713	e(%)	3.56
Design Speed (V) : 20 km/hr			

 TO IMPHAL

TO JIRIBAM



CLIENT :



**NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD**

EPC CONTRACTOR



DESIGN DIRECTOR:

**PROOF CONSULTANT:**

Hindia Engineers Pvt. Ltd.
Address: 33/7, H-Block, 1st Phase-1,
Gurgaon-Faridabad Road Haryana, INDIA-122002
Phone No. 0124-4028681

SAFETY CONSULTANT:

Antique Buildtech Pvt. Ltd.
Address: 191, Mohan Nagar, Gopabanda Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2769303
Email : info@antiquebuildtech.com

AUTHORITY ENGINEER



DRAWING SCALE:

HOR: 1 : 2000

DRAWING TITLE:

PROFILE 26+000 TO 26+500

DRG. NO.

DD/IMP-JIR/ -42

SHEET:	REV
--------	-----

R1

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of NH-37 from Design Chainage 13.940 km sa 33.120 Km (Total length-17.180 Km) (PKG-2) In the State of Manipur on Engineering, Procurement & Construction (EPC) mode,

DATE	DEC.-2021	DRAWN - Highway Draftsman
------	-----------	---------------------------

DESIGNED Highway Engineering	CHECKED ---	APPROVED ---
---	-----------------------	------------------------

TO IMPHAL

TO JIRIBAM

HIP NO. 86 AT CH. 26410.409			
X = 576782.615		Y = 2743838.518	
R (m)	60	Ls (m)	35
Dc(deg)	61.3752	S(m)	0.85
Lc(m)	64.27	Ts(deg)	16.7113
Ts(m)	83.62	Δ (deg)	94.7978
Es(m)	29.896	e(%)	6.67
Design Speed (V) : 30 km/hr			

Structure No : 44
Proposal : Reconstruction
Chainage : 26+430
Type of Str : Box Culvert
Size : 1.0X2.0X3.0

HIP NO. 91 AT CH. 26776.886			
X = 576619.765		Y = 2744032.473	
R (m)	40	Ls (m)	25
Dc(deg)	4.8902	S(m)	0.65
Lc(m)	3.41	Ts(deg)	17.9049
Ts(m)	27.54	Δ (deg)	40.7001
Es(m)	3.356	e(%)	7
Design Speed (V) : 30 km/hr			

Structure No : 45
Proposal : Reconstruction
Chainage : 26+666
Type of Str : Box Culvert
Size : 1.0X2.0X2.0

HIP NO. 92 AT CH. 26836.911			
X = 576557.926		Y = 2744022.247	
R (m)	40	Ls (m)	25
Dc(deg)	18.2115	S(m)	0.65
Lc(m)	12.71	Ts(deg)	17.9049
Ts(m)	33.18	Δ (deg)	54.0213
Es(m)	5.627	e(%)	7
Design Speed (V) : 30 km/hr			

Structure No : 46
Proposal : Reconstruction
Chainage : 26+840
Type of Str : Box Culvert
Size : 1.0X2.0X3.0

HIP NO. 94 AT CH. 27002.753			
X = 576458.203		Y = 2744163.381	
R (m)	40	Ls (m)	25
Dc(deg)	46.232	S(m)	0.65
Lc(m)	32.28	Ts(deg)	17.9049
Ts(m)	47.82	Δ (deg)	82.0418
Es(m)	13.879	e(%)	7
Design Speed (V) : 30 km/hr			

Structure No : 47
Proposal : Reconstruction
Chainage : 26+916
Type of Str : Box Culvert
Size : 1.0X2.0X2.0

27+000

Structure No : 48
Proposal : Reconstruction
Chainage : 27+096
Type of Str : Box Culvert
Size : 1.0X2.0X2.0

HIP NO. 87 AT CH. 26501.1			
X = 576807.494		Y = 2743942.866	
R (m)	80	Ls (m)	
Dc(deg)	17.6356	S(m)	
Lc(m)	24.62	Ts(deg)	
Ts(m)	12.41	Δ (deg)	17.6356
Es(m)	0.957	e(%)	2.5
Design Speed (V) : 20 km/hr			

HIP NO. 88 AT CH. 26554.685			
X = 576801.722		Y = 2744020.992	
R (m)	25	Ls (m)	20
Dc(deg)	82.1805	S(m)	0.67
Lc(m)	35.86	Ts(deg)	22.9183
Ts(m)	62.6	Δ (deg)	128.0171
Es(m)	33.576	e(%)	7
Design Speed (V) : 20 km/hr			

HIP NO. 89 AT CH. 26652.273			
X = 576703.082		Y = 2743931.417	
R (m)	20	Ls (m)	20
Dc(deg)	54.0958	S(m)	0.83
Lc(m)	18.88	Ts(deg)	28.6479
Ts(m)	40.45	Δ (deg)	111.3916
Es(m)	16.96	e(%)	7
Design Speed (V) : 20 km/hr			

HIP NO. 90 AT CH. 26710.427			
X = 576678.111		Y = 2743996.982	
R (m)	80	Ls (m)	
Dc(deg)	37.8388	S(m)	
Lc(m)	52.83	Ts(deg)	
Ts(m)	27.42	Δ (deg)	37.8388
Es(m)	4.569	e(%)	2.5
Design Speed (V) : 20 km/hr			

HIP NO. 93 AT CH. 26908.205			
X = 576505.744		Y = 2744073.766	
R (m)	180	Ls (m)	
Dc(deg)	17.4208	S(m)	
Lc(m)	54.73	Ts(deg)	
Ts(m)	27.58	Δ (deg)	17.4208
Es(m)	2.1	e(%)	2.5
Design Speed (V) : 30 km/hr			

CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR :



M/S. CMM INFRAPROJECTS LTD.

DESIGN DIRECTOR :



PROOF CONSULTANT :



Hindia Engineers Pvt. Ltd.
Address: 33/7, N. Block, DCS Phase-1,
Gurgaon-Faridabad Road Haryana, INDIA-122002,
Phone No.-0124-4028681

SAFETY CONSULTANT :



Antique Buildtech Pvt. Ltd.
Address: 191, Mollan Nagar, Gopalpura Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2760303
Email : info@antiquebuildtech.com

AUTHORITY ENGINEER :



DRAWING SCALE :

HOR: 1 : 2000

DRAWING TITLE :

PLAN 26+500 TO 27+000

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.940 km to 33.120 Km (Total length-17.180 Km)
(PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC)
mode.

DRG. NO.

DD/IMP-JIR/-43

SHEET: REV.

R1

DATE DEC.-2021 DRAWN - Highway Draftsman

DESIGNED	CHECKED	APPROVED
Highway Engineering	---	---

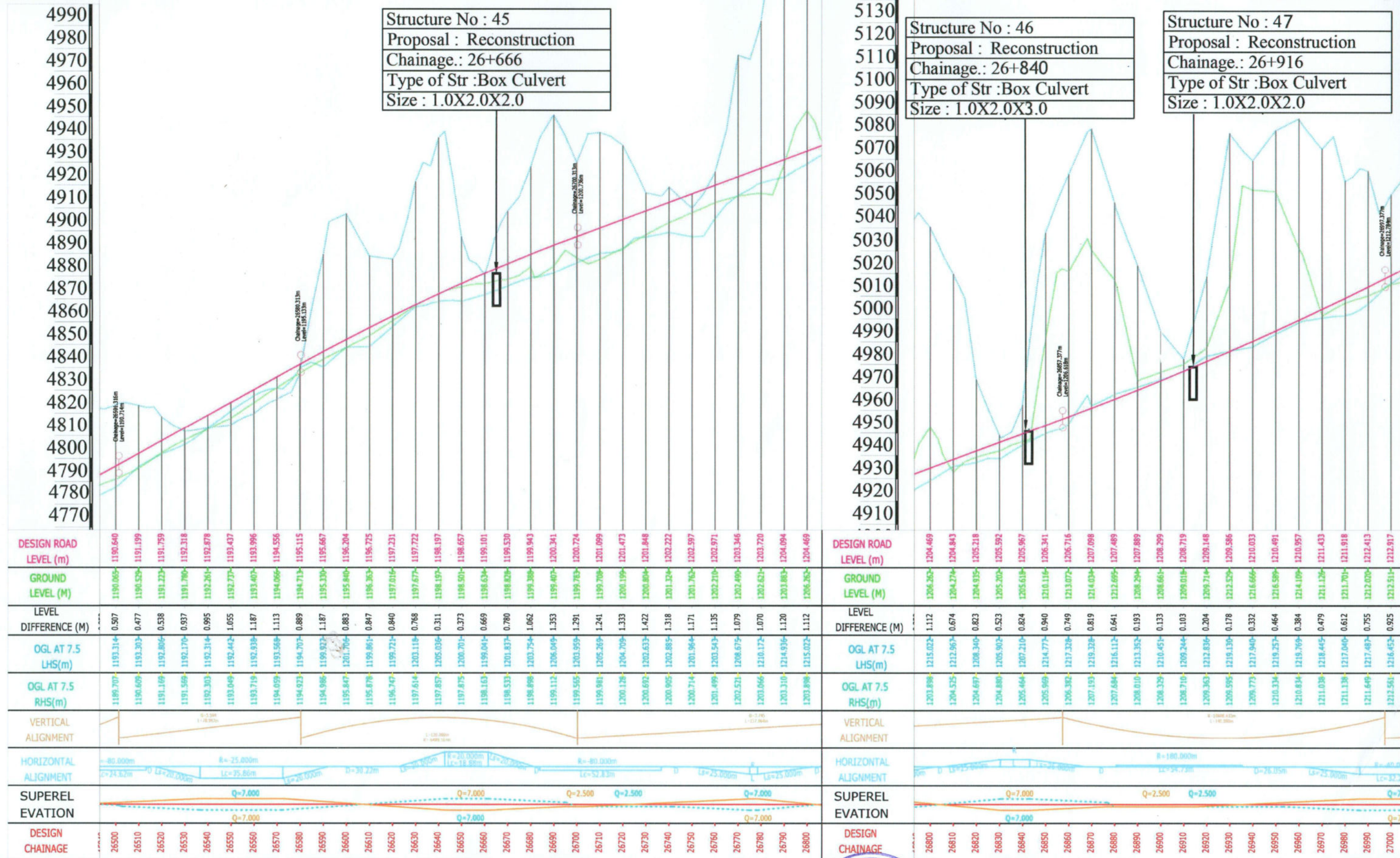
TO IMPHAL

TO JIRIBAM

Structure No : 45
Proposal : Reconstruction
Chainage.: 26+666
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

Structure No : 46
Proposal : Reconstruction
Chainage.: 26+840
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

Structure No : 47
Proposal : Reconstruction
Chainage.: 26+916
Type of Str :Box Culvert
Size : 1.0X2.0X2.0



← TO IMPHAL

TO JIRIBAM →

HIP NO. 95 AT CH. 27111.501			
X = 576312.415		Y = 2744110.352	
R (m)	40	Ls (m)	25
Dc(deg)	92.9008	S(m)	0.65
Lc(m)	64.86	Ts(deg)	17.9049
Ts(m)	97.13	Δ(deg)	128.7107
Es(m)	53.926	e(%)	7
Design Speed (V) : 30 km/hr			



Structure No : 49
Proposal : Reconstruction
Chainage : 27+150
Type of Str : Box Culvert
Size : 1.0X3.0X4.0

Structure No : 51
Proposal : Reconstruction
Chainage : 27+481
Type of Str : Box Culvert
Size : 1.0X2.0X2.0

Structure No : 52
Proposal : Reconstruction
Chainage : 27+529
Type of Str : Box Culvert
Size : 1.0X2.0X3.0

Structure No : 48
Proposal : Reconstruction
Chainage : 27+096
Type of Str : Box Culvert
Size : 1.0X2.0X2.0

Structure No : 50
Proposal : Reconstruction
Chainage : 27+284
Type of Str : Box Culvert
Size : 1.0X2.0X2.0

HIP NO. 98 AT CH. 27421.773			
X = 576170.928		Y = 2744362.748	
R (m)	50	Ls (m)	20
Dc(deg)	27.9351	S(m)	0.33
Lc(m)	24.38	Ts(deg)	11.4592
Ts(m)	33.91	Δ(deg)	50.8534
Es(m)	5.728	e(%)	7
Design Speed (V) : 30 km/hr			

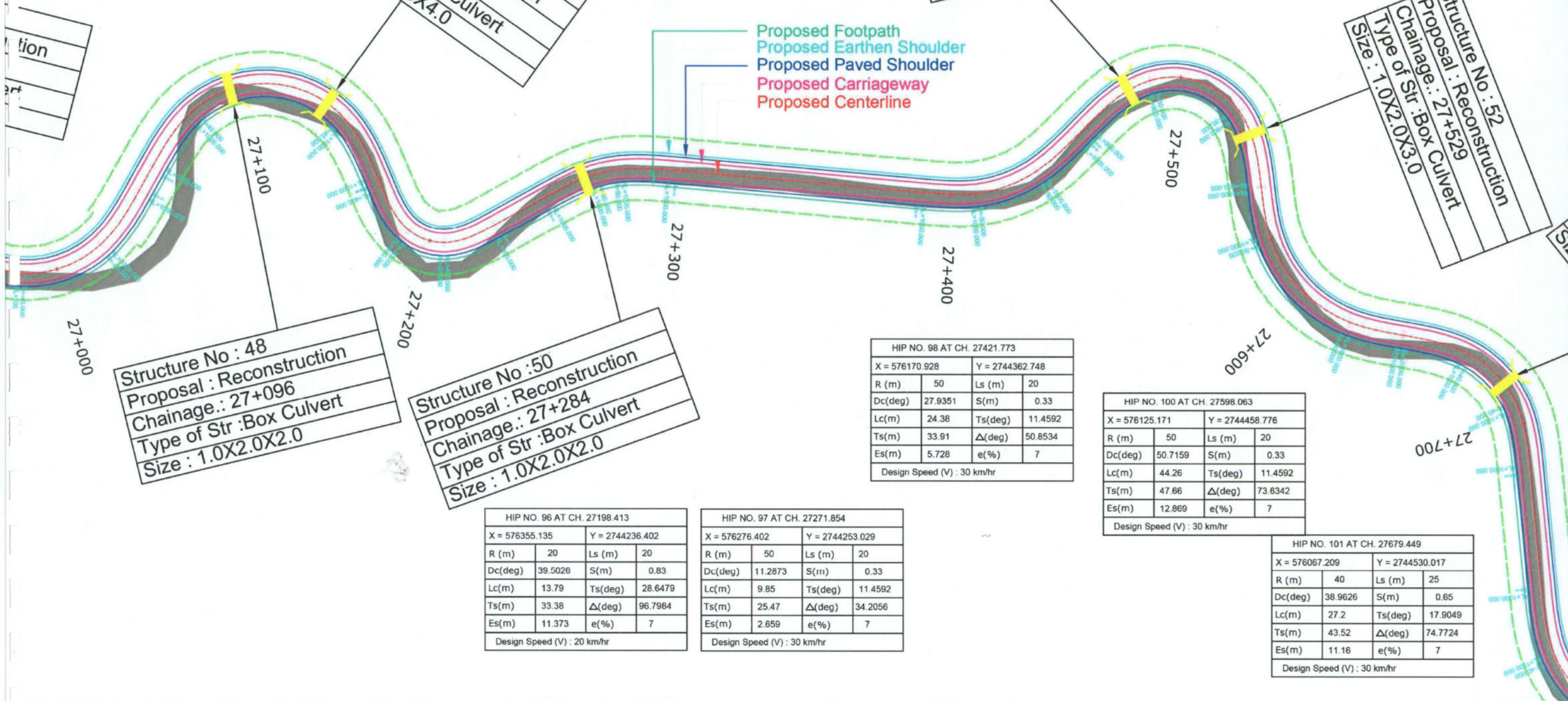
HIP NO. 100 AT CH. 27598.063			
X = 576125.171		Y = 2744458.776	
R (m)	50	Ls (m)	20
Dc(deg)	50.7159	S(m)	0.33
Lc(m)	44.26	Ts(deg)	11.4592
Ts(m)	47.66	Δ(deg)	73.6342
Es(m)	12.869	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 96 AT CH. 27198.413			
X = 576355.135		Y = 2744236.402	
R (m)	20	Ls (m)	20
Dc(deg)	39.5026	S(m)	0.83
Lc(m)	13.79	Ts(deg)	28.6479
Ts(m)	33.38	Δ(deg)	96.7984
Es(m)	11.373	e(%)	7
Design Speed (V) : 20 km/hr			

HIP NO. 97 AT CH. 27271.854			
X = 576276.402		Y = 2744253.029	
R (m)	50	Ls (m)	20
Dc(deg)	11.2873	S(m)	0.33
Lc(m)	9.85	Ts(deg)	11.4592
Ts(m)	25.47	Δ(deg)	34.2056
Es(m)	2.659	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 101 AT CH. 27679.449			
X = 576067.209		Y = 2744530.017	
R (m)	40	Ls (m)	25
Dc(deg)	38.9626	S(m)	0.65
Lc(m)	27.2	Ts(deg)	17.9049
Ts(m)	43.52	Δ(deg)	74.7724
Es(m)	11.16	e(%)	7
Design Speed (V) : 30 km/hr			

tion
art



CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR :



M/S. CMM INFRA PROJECTS LTD.

DESIGN DIRECTOR :



PROOF CONSULTANT :



Hindia Engineers Pvt. Ltd.
Address: 34/4, Block, D, Phase-1,
Gurgaon-Faridabad Road, Gurgaon, INDIA-122002,
Phone No.-0124-4029681

SAFETY CONSULTANT :



Antique Buildtech Pvt. Ltd.
Address: 191, Mohan Road, Gurgaon Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2760303
Email : info@antiquebuildtech.com

AUTHORITY ENGINEER :



DRAWING SCALE :

HOR : 1 : 2000

DRAWING TITLE :

PLAN 27+000 TO 27+500

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.940 km sa 33.120 Km (Total length-17.180 Km)
(PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC)
mode.

DRG. NO.

DD/IMP-JIR/-45

SHEET: REV.

R1

DATE DEC.-2021 DRAWN - Highway Draftsman

DESIGNED CHECKED APPROVED

Highway Engineering

TO IMPHAL

5230
5220
5210
5200
5190
5180
5170
5160
5150
5140
5130
5120
5110
5100
5090
5080
5070
5060
5050
5040
5030
5020
5010

Structure No : 48
Proposal : Reconstruction
Chainage.: 27+096
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

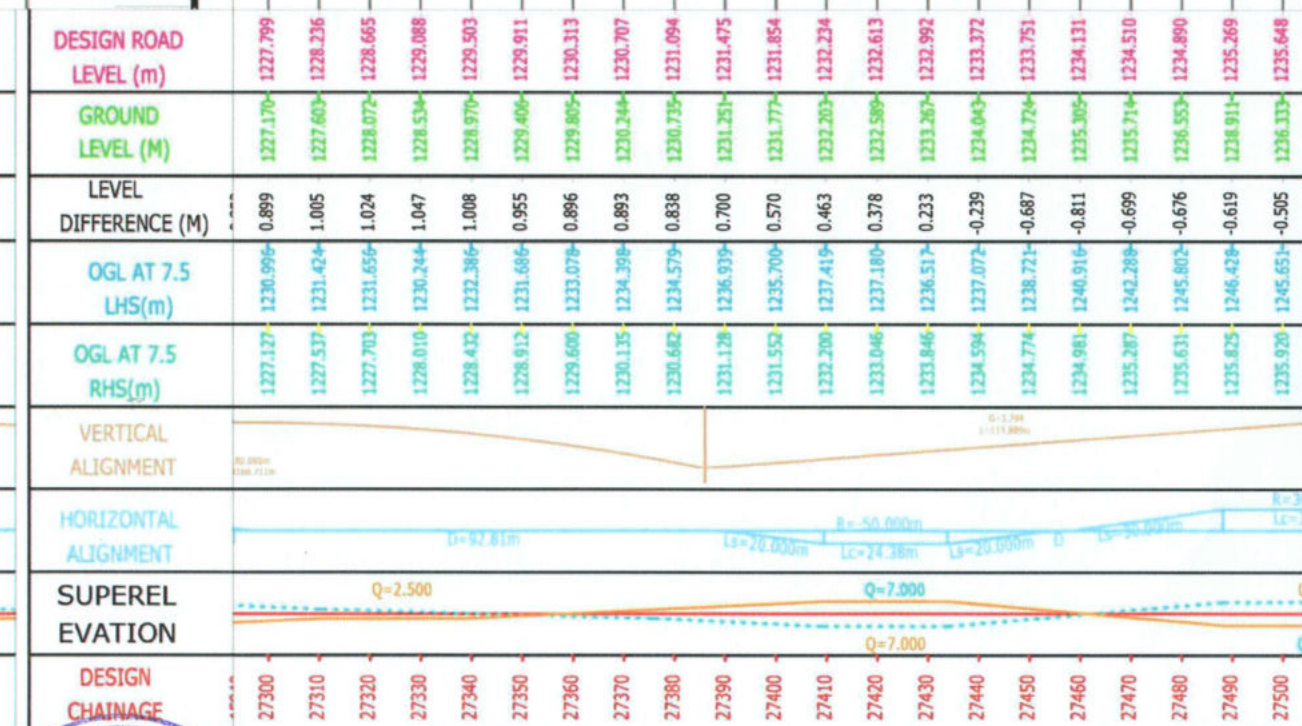
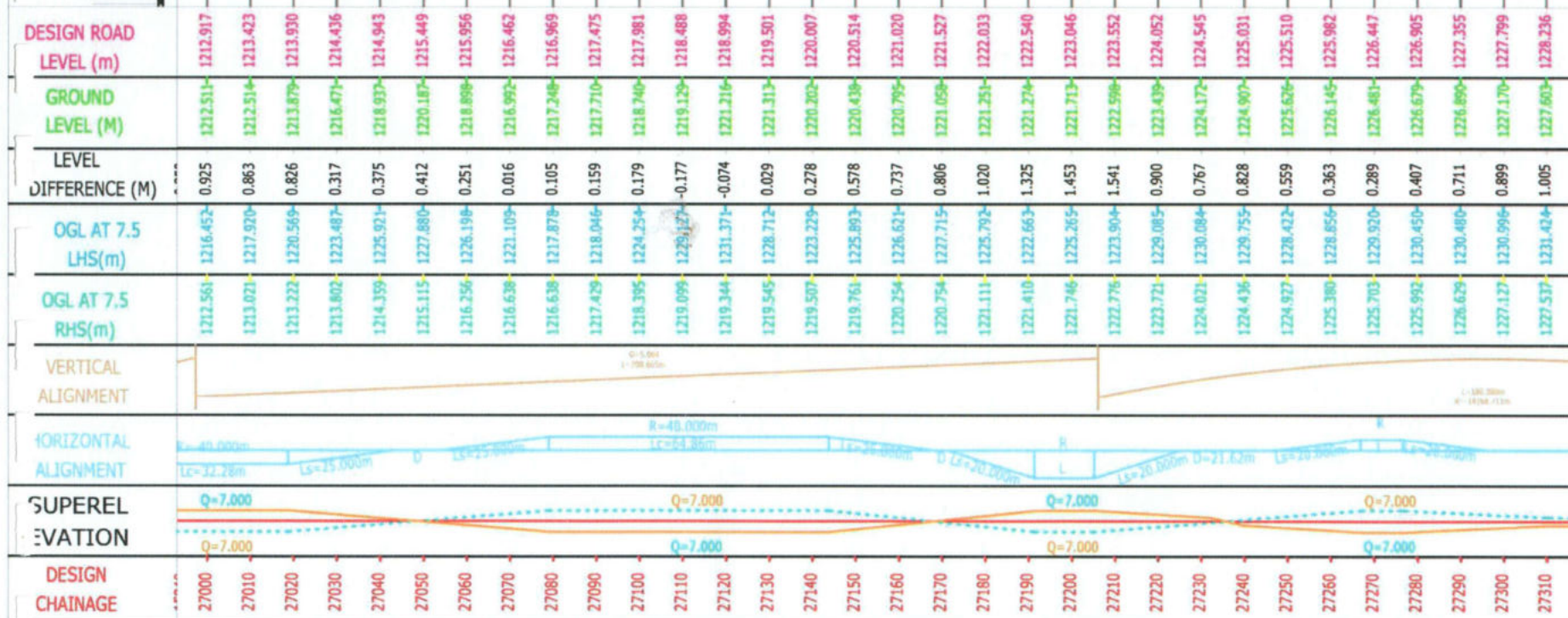
Structure No :49
Proposal : Reconstruction
Chainage.: 27+150
Type of Str :Box Culvert
Size : 1.0X3.0X4.0

Structure No : 50
Proposal : Reconstruction
Chainage.: 27+284
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

5360
5350
5340
5330
5320
5310
5300
5290
5280
5270
5260
5250
5240
5230
5220
5210
5200
5190
5180
5170
5160
5150
5140
5130

Structure No : 51
Proposal : Reconstruction
Chainage.: 27+481
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

TO JIRIBAM



CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR:



M/S. CMM INFRAPROJECTS LTD.

DESIGN DIRECTOR:



PROOF CONSULTANT:



Hindia Engineers Pvt. Ltd.
Address: 101, Mohan Nagar, Wodapara Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2768303
Phone No: 0141-4028681

SAFETY CONSULTANT:



Antique Buildtech Pvt. Ltd.
Address: 101, Mohan Nagar, Wodapara Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2768303
Email : info@antiquebuildtech.com

AUTHORITY ENGINEER



DRAWING SCALE:

HOR : 1 : 2000

DRAWING TITLE:

PROFILE 27+000 TO 27+500

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of NH-37 from Design Chainage 13.940 km sa 33.120 Km (Total length-17.180 Km) (PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC) mode.

DRG. NO.

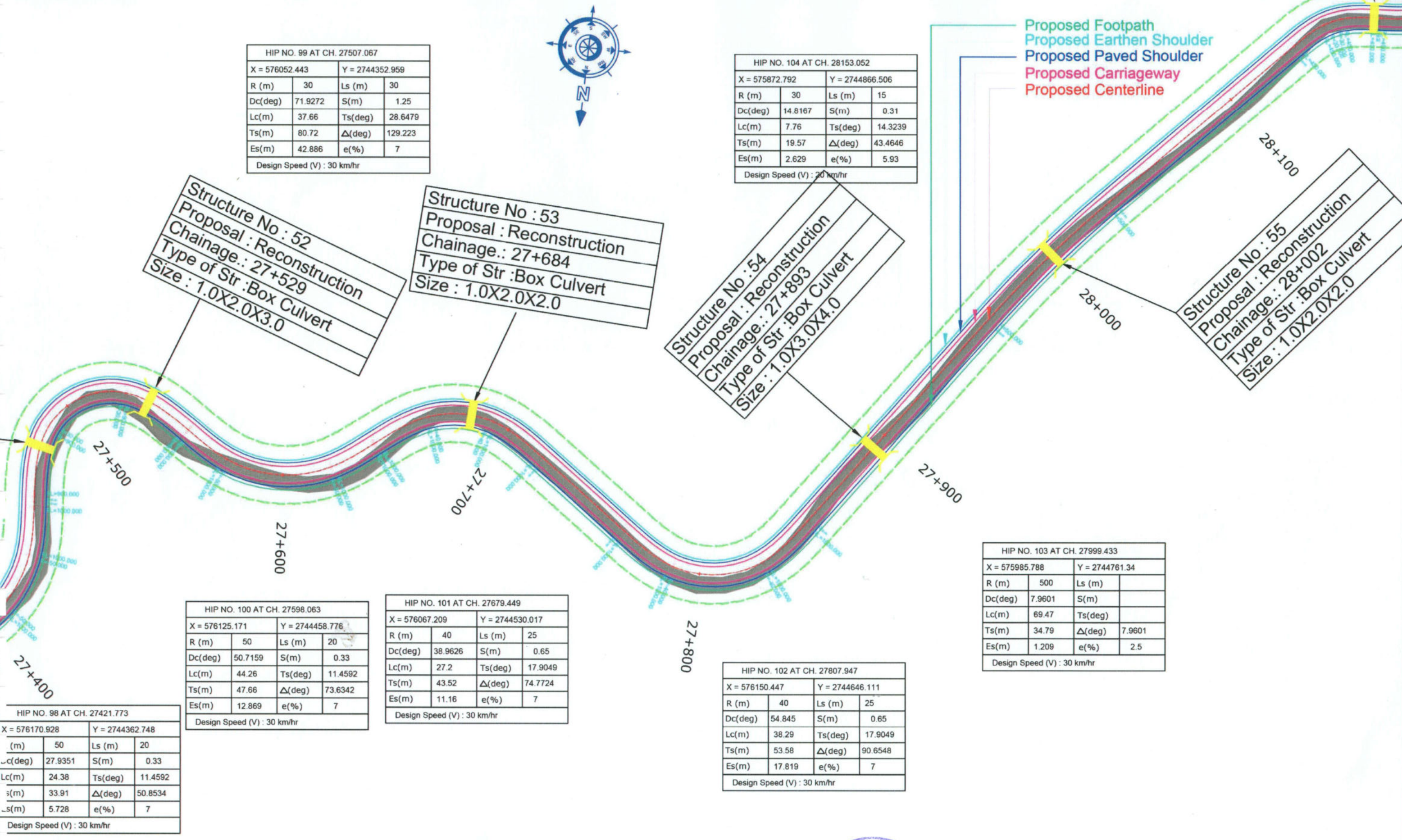
DD/IMP-JIR/ -4G

DATE DEC.-2021 DRAWN - Highway Draftsman

DESIGNED CHECKED APPROVED
Highway Engineering

SHEET: REV.

R1



HIP NO. 99 AT CH. 27507.067			
X = 576052.443		Y = 2744352.959	
R (m)	30	Ls (m)	30
Dc(deg)	71.9272	S(m)	1.25
Lc(m)	37.66	Ts(deg)	28.6479
Ts(m)	80.72	Δ(deg)	129.223
Es(m)	42.886	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 104 AT CH. 28153.052			
X = 575872.792		Y = 2744866.506	
R (m)	30	Ls (m)	15
Dc(deg)	14.8167	S(m)	0.31
Lc(m)	7.76	Ts(deg)	14.3239
Ts(m)	19.57	Δ(deg)	43.4646
Es(m)	2.629	e(%)	5.93
Design Speed (V) : 30 km/hr			

HIP NO. 98 AT CH. 27421.773			
X = 576170.928		Y = 2744362.748	
(m)	50	Ls (m)	20
c(deg)	27.9351	S(m)	0.33
Lc(m)	24.38	Ts(deg)	11.4592
s(m)	33.91	Δ(deg)	50.8534
s(m)	5.728	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 100 AT CH. 27598.063			
X = 576125.171		Y = 2744458.776	
R (m)	50	Ls (m)	20
Dc(deg)	50.7159	S(m)	0.33
Lc(m)	44.26	Ts(deg)	11.4592
Ts(m)	47.66	Δ(deg)	73.6342
Es(m)	12.869	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 101 AT CH. 27679.449			
X = 576067.209		Y = 2744530.017	
R (m)	40	Ls (m)	25
Dc(deg)	38.9626	S(m)	0.65
Lc(m)	27.2	Ts(deg)	17.9049
Ts(m)	43.52	Δ(deg)	74.7724
Es(m)	11.16	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 102 AT CH. 27807.947			
X = 576150.447		Y = 2744646.111	
R (m)	40	Ls (m)	25
Dc(deg)	54.845	S(m)	0.65
Lc(m)	38.29	Ts(deg)	17.9049
Ts(m)	53.58	Δ(deg)	90.6548
Es(m)	17.819	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 103 AT CH. 27999.433			
X = 575985.788		Y = 2744761.34	
R (m)	500	Ls (m)	
Dc(deg)	7.9601	S(m)	
Lc(m)	69.47	Ts(deg)	
Ts(m)	34.79	Δ(deg)	7.9601
Es(m)	1.209	e(%)	2.5
Design Speed (V) : 30 km/hr			

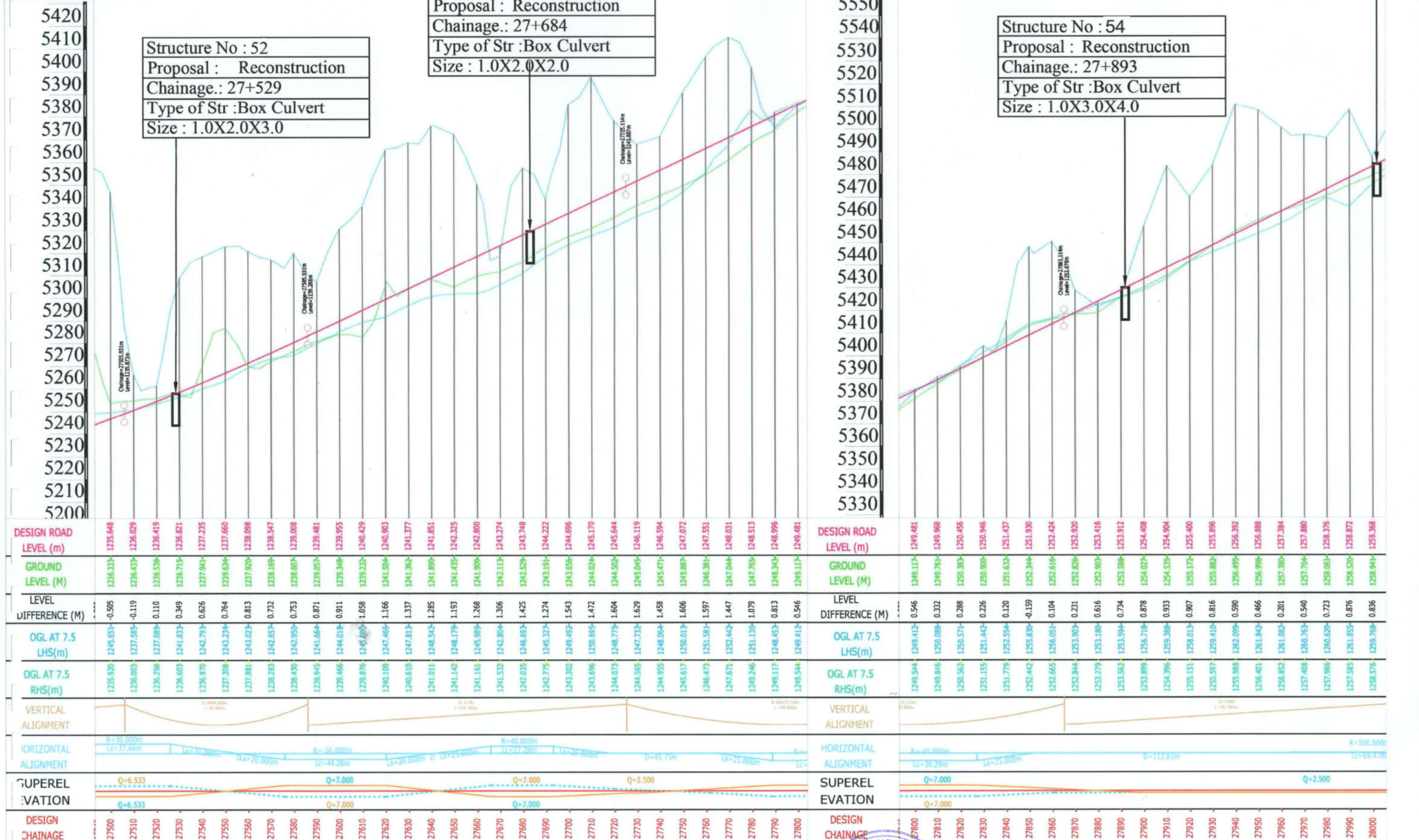
TO IMPHAL

TO JIRIBAM

Structure No : 53
Proposal : Reconstruction
Chainage.: 27+684
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

Structure No : 52
Proposal : Reconstruction
Chainage.: 27+529
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

Structure No : 54
Proposal : Reconstruction
Chainage.: 27+893
Type of Str :Box Culvert
Size : 1.0X3.0X4.0



CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR:



M/S. CMM INFRAPROJECTS LTD.

DESIGN DIRECTOR:



PROOF CONSULTANT:



Hindia Engineers Pvt. Ltd.
Address: 191, Mohan Nagar Gopabandha Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2760303
Email : info@antiquebuildtech.com

SAFETY CONSULTANT:



Antique Buildtech Pvt. Ltd.
Address: 191, Mohan Nagar Gopabandha Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2760303
Email : info@antiquebuildtech.com

AUTHORITY ENGINEER



DRAWING SCALE:

HOR : 1 : 2000

DRAWING TITLE:

PROFILE 27+500 TO 28+000

DRG. NO.

DD/IMP-JIR/ -40

SHEET: REV.

R1

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of NH-37 from Design Chainage 13.940 km to 33.120 Km (Total length-19.180 Km) (PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC) mode.

DATE DEC.-2021 DRAWN - Highway Draftsman

DESIGNED CHECKED APPROVED
Highway Engineering

TO IMPHAL

TO JIRIBAM

HIP NO. 104 AT CH. 28153.052			
X = 575872.792		Y = 2744866.506	
R (m)	30	Ls (m)	15
Dc(deg)	14.8167	S(m)	0.31
Lc(m)	7.76	Ts(deg)	14.3239
Ts(m)	19.57	Δ(deg)	43.4646
Es(m)	2.629	e(%)	5.93
Design Speed (V) : 20 km/hr			

Proposed Footpath
Proposed Earthen Shoulder
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline



Structure No :56
Proposal : Reconstruction
Chainage : 28+167
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

HIP NO. 106 AT CH. 28340.47			
X = 575717.236		Y = 2744929.261	
R (m)	100	Ls (m)	
Dc(deg)	71.6604	S(m)	
Lc(m)	125.07	Ts(deg)	
Ts(m)	72.2	Δ(deg)	71.6604
Es(m)	23.342	e(%)	2.5
Design Speed (V) : 20 km/hr			

Structure No : 57
Proposal : Reconstruction
Chainage : 28+655
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

Structure No :55
Proposal : Reconstruction
Chainage : 28+002
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

HIP NO. 109 AT CH. 28570.465			
X = 575576.859		Y = 2744967.001	
R (m)	60	Ls (m)	15
Dc(deg)	8.878	S(m)	0.16
Lc(m)	9.3	Ts(deg)	7.162
Ts(m)	19.85	Δ(deg)	23.2019
Es(m)	1.415	e(%)	6.67
Design Speed (V) : 30 km/hr			

HIP NO. 105 AT CH. 28203.198			
X = 575869.279		Y = 2744922.484	
R (m)	30	Ls (m)	15
Dc(deg)	55.2083	S(m)	0.31
Lc(m)	28.91	Ts(deg)	14.3239
Ts(m)	34.71	Δ(deg)	83.8562
Es(m)	10.74	e(%)	5.93
Design Speed (V) : 20 km/hr			

HIP NO. 107 AT CH. 28438.4			
X = 575686.602		Y = 2745037.608	
R (m)	20	Ls (m)	20
Dc(deg)	32.4982	S(m)	0.83
Lc(m)	11.34	Ts(deg)	28.6479
Ts(m)	30.67	Δ(deg)	89.7939
Es(m)	9.405	e(%)	7
Design Speed (V) : 20 km/hr			

HIP NO. 108 AT CH. 28514.082			
X = 575607.839		Y = 2745015.643	
R (m)	60	Ls (m)	15
Dc(deg)	27.6013	S(m)	0.16
Lc(m)	28.9	Ts(deg)	7.162
Ts(m)	30.54	Δ(deg)	41.9252
Es(m)	4.424	e(%)	6.67
Design Speed (V) : 30 km/hr			

CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR



M/S. CMM INFRAPROJECTS LTD.

DESIGN DIRECTOR:



PROOF CONSULTANT:



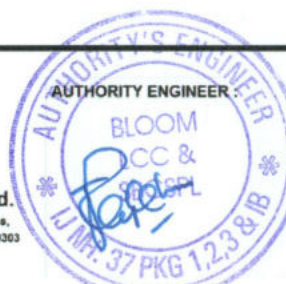
Hindia Engineering Pvt. Ltd.
Address: 33/2A Block, Durgam Chouse-1,
Gurgaon-Faridabad Road Haryana INDIA-122002,
Phone No. 0124-4028681

SAFETY CONSULTANT:



Antique Buildtech Pvt. Ltd.
Address: 191, Mohan Nagar, Gurgaon Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2760303
Email : info@antiquebuildtech.com

AUTHORITY ENGINEER



DRAWING SCALE:

HOR : 1 : 2000

DRAWING TITLE:

PROFILE 28+000 TO 28+500

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.940 km sa 33.120 Km (Total length-17.180 Km)
(PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC)
mode.

DRG. NO.

DD/IMP-JIR/ -49

SHEET: REV.

R1

DATE DEC.-2021 DRAWN - Highway Draftsman

DESIGNED	CHECKED	APPROVED
Highway Engineering	---	---

← TO IMPHAL

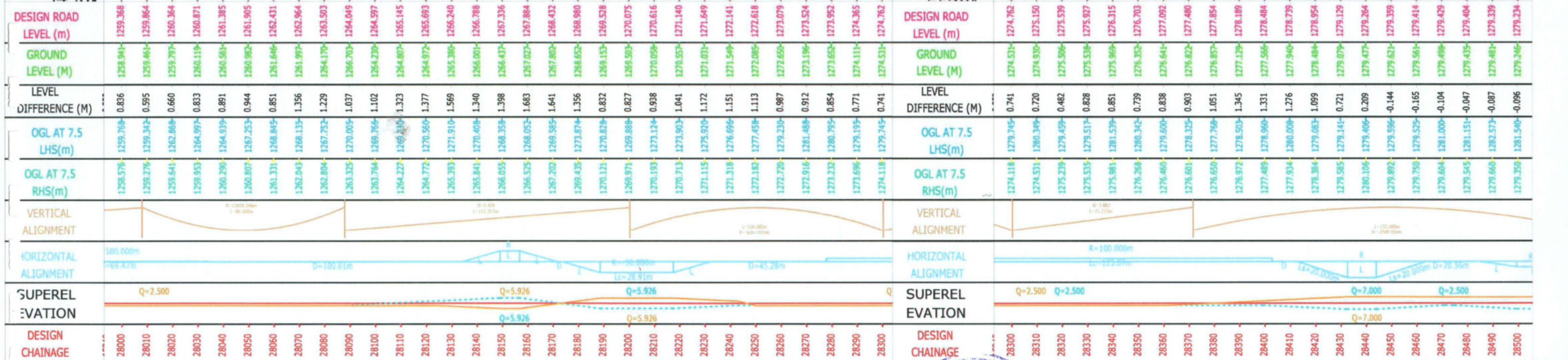
TO JIRIBAM →

5670
5660
5650
5640
5630
5620
5610
5600
5590
5580
5570
5560
5550
5540
5530
5520
5510
5500
5490
5480
5470
5460
5450

5760
5750
5740
5730
5720
5710
5700
5690
5680
5670
5660
5650
5640
5630
5620
5610
5600
5590
5580
5570
5560
5550
5540
5530

Structure No : 56
Proposal : Reconstruction
Chainage.: 28+167
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

Structure No : 55
Proposal : Reconstruction
Chainage.: 28+002
Type of Str :Box Culvert
Size : 1.0X2.0X2.0



CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR



M/S. CMM INFRAPROJECTS LTD.

DESIGN DIRECTOR:



PROOF CONSULTANT:



Hindia Engineers Pvt. Ltd.
Address: 22, H-Gate, Phase-1,
Gurgaon-Faridkot Road, Gurgaon, INDIA-122002,
Phone No: 0122-4028681

SAFETY CONSULTANT:



Antique Buildtech Pvt. Ltd.
Address: 191, Mohan Nagar, Gurgaon Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2760303
Email : info@antiquebuildtech.com

AUTHORITY ENGINEER



DRAWING SCALE:

HOR : 1 : 2000

DRAWING TITLE:

PROFILE 28+000 TO 28+500

DRG. NO.

DD/IMP-JIR/-50

SHEET: REV.

R1

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of NH-37 from Design Chainage 13.940 km to 33.120 Km (Total length-17.180 Km) (PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC) mode.

DATE DEC.-2021 DRAWN - Highway Draftsman

DESIGNED CHECKED APPROVED
Highway Engineering

TO IMPHAL

TO JIRIBAM

Dc(deg)	1.0004	S(m)	
Ts(m)	72.2	Δ(deg)	71.6604
Es(m)	23.342	e(%)	2.5
Design Speed (V) : 20 km/hr			

Proposed Breast Wall
Proposed Footpath
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline

Structure No : 57
Proposal : Reconstruction
Chainage.: 28+655
Type of Str : Box Culvert
Size : 1.0X2.0X2.0

HIP NO. 110 AT CH. 28646.323			
X = 575513.751	Y = 2744923.943		
R (m)	70	Ls (m)	30
Dc(deg)	0.4109	S(m)	0.54
Lc(m)	0.5	Ts(deg)	12.2777
Ts(m)	30.59	Δ(deg)	24.9662
Es(m)	2.248	e(%)	7
Design Speed (V) : 40 km/hr			

Structure No : 58
Proposal : Reconstruction
Chainage.: 28+879
Type of Str : Box Culvert
Size : 1.0X2.0X2.0

HIP NO. 113 AT CH. 28877.254			
X = 575316.724	Y = 2744811.188		
R (m)	30	Ls (m)	30
Dc(deg)	33.5696	S(m)	1.25
Lc(m)	17.58	Ts(deg)	28.6479
Ts(m)	46.6	Δ(deg)	90.8654
Es(m)	14.532	e(%)	7
Design Speed (V) : 30 km/hr			

Structure No : 59
Proposal : Reconstruction
Chainage.: 28+949
Type of Str : Box Culvert
Size : 1.0X3.0X3.0

HIP NO. 109 AT CH. 28570.465			
X = 575576.859	Y = 2744967.001		
R (m)	60	Ls (m)	15
Dc(deg)	8.878	S(m)	0.16
Lc(m)	9.3	Ts(deg)	7.162
Ts(m)	19.85	Δ(deg)	23.2019
Es(m)	1.415	e(%)	6.67
Design Speed (V) : 30 km/hr			

HIP NO. 108 AT CH. 28514.082			
X = 575607.839	Y = 2745015.643		
R (m)	60	Ls (m)	15
Dc(deg)	27.6013	S(m)	0.16
Lc(m)	28.9	Ts(deg)	7.162
Ts(m)	30.54	Δ(deg)	41.9252
Es(m)	4.424	e(%)	6.67
Design Speed (V) : 30 km/hr			

HIP NO. 111 AT CH. 28727.616			
X = 575433.036	Y = 2744910.669		
R (m)	125	Ls (m)	15
Dc(deg)	10.8138	S(m)	0.08
Lc(m)	23.59	Ts(deg)	3.4377
Ts(m)	26.96	Δ(deg)	17.6893
Es(m)	1.585	e(%)	5.69
Design Speed (V) : 40 km/hr			

HIP NO. 112 AT CH. 28813.712			
X = 575355.857	Y = 2744871.295		
R (m)	50	Ls (m)	20
Dc(deg)	6.9878	S(m)	0.33
Lc(m)	6.1	Ts(deg)	11.4592
Ts(m)	23.43	Δ(deg)	29.9061
Es(m)	2.094	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 114 AT CH. 29033.998			
X = 575176.196	Y = 2744905.731		
R (m)	125	Ls (m)	15
Dc(deg)	47.1352	S(m)	0.08
Lc(m)	102.83	Ts(deg)	3.4377
Ts(m)	71.25	Δ(deg)	54.0107
Es(m)	15.387	e(%)	3.2
Design Speed (V) : 30 km/hr			

CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR



M/S. CMM INERAPROJECTS LTD.

DESIGN DIRECTOR:



PROOF CONSULTANT:



Hindia Engineers Pvt. Ltd.
Address: 191, Mohan Nagar, Gopalpura Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2760303
Phone No: 9124-4029681

SAFETY CONSULTANT:



Antique Buildtech Pvt. Ltd.
Address: 191, Mohan Nagar, Gopalpura Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2760303
Email : info@antiquebuildtech.com

AUTHORITY ENGINEER



DRAWING SCALE:

HOR : 1 : 2000

DRAWING TITLE:

PLAN 28+500 TO 29+000

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.940 km sa 33.120 Km (Total length-17.180 Km)
(PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC)
mode.

DRG. NO.

DD/IMP-JIR/

-51

SHEET: REV.

R1

DATE DEC.-2021 DRAWN - Highway Draftsman

DESIGNED

Highway Engineering

CHECKED

APPROVED

TO IMPHAL

TO JIRIBAM

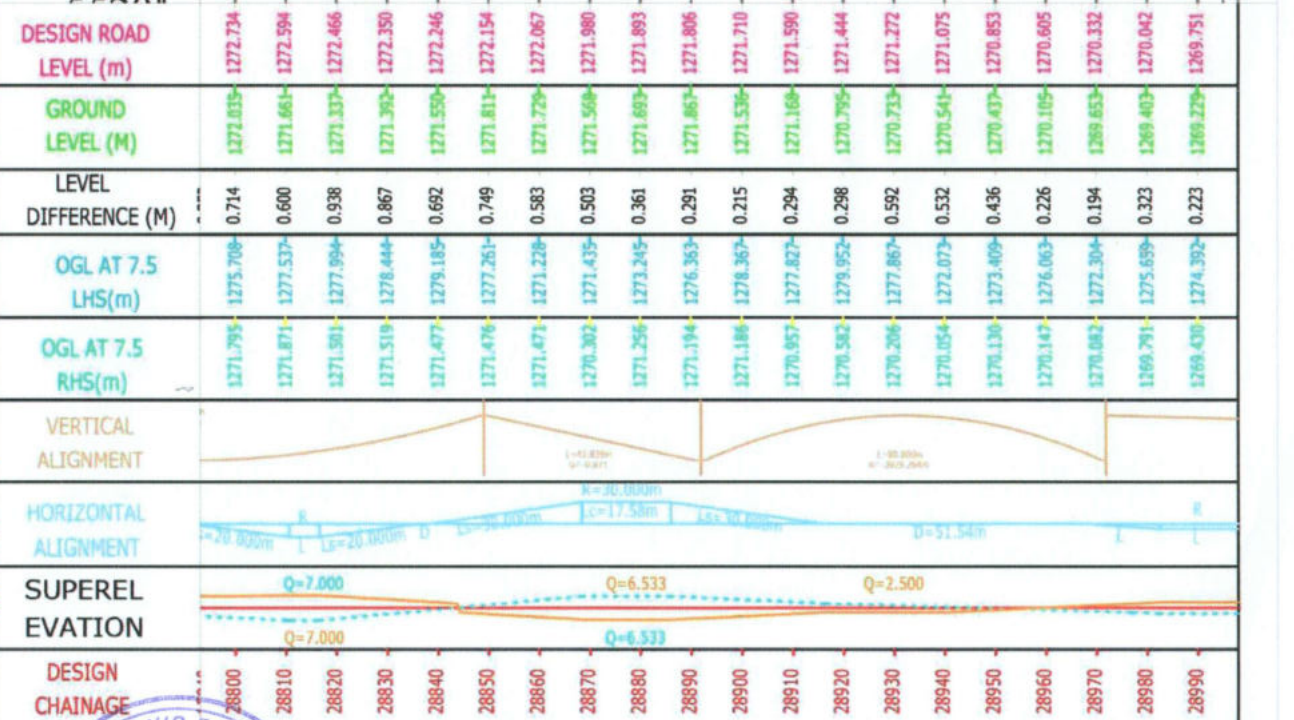
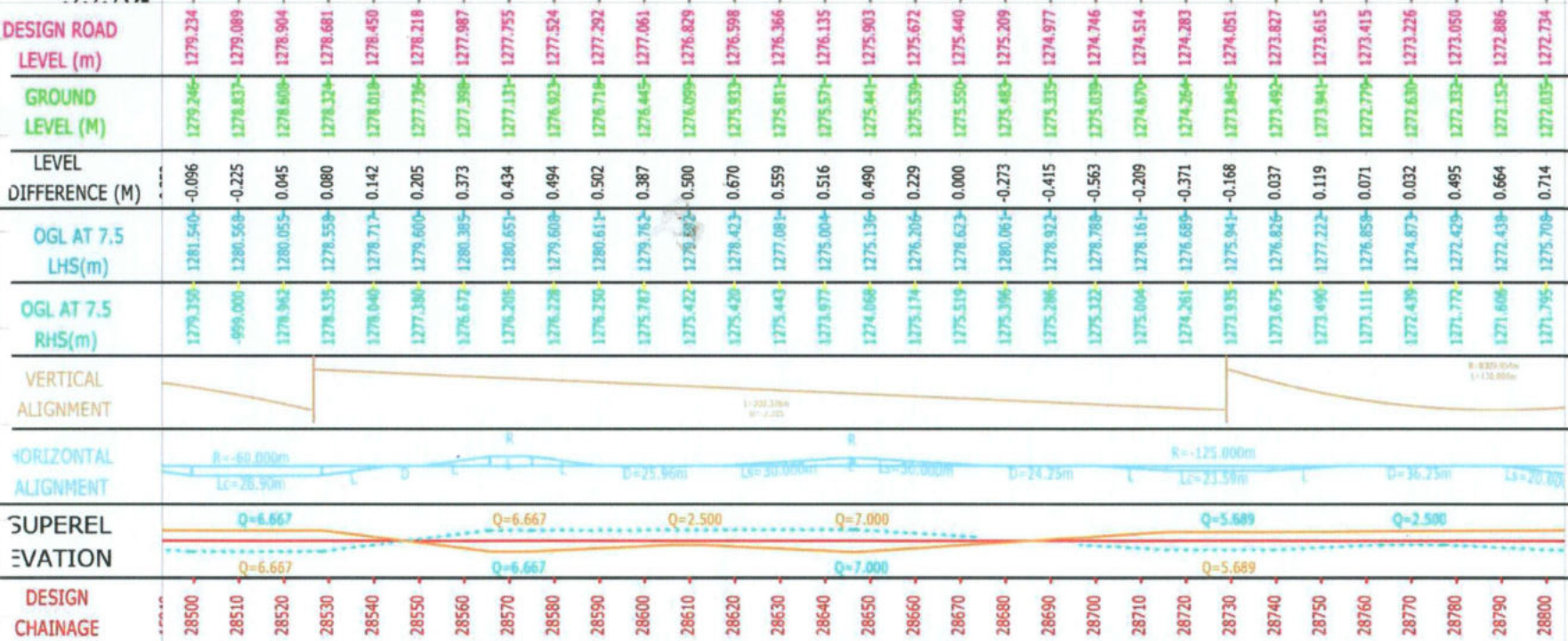
5770
5760
5750
5740
5730
5720
5710
5700
5690
5680
5670
5660
5650
5640
5630
5620
5610
5600
5590
5580
5570
5560
5550

5760
5750
5740
5730
5720
5710
5700
5690
5680
5670
5660
5650
5640
5630
5620
5610
5600
5590
5580
5570
5560
5550
5540
5530

Structure No : 57
Proposal : Reconstruction
Chainage.: 28+655
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

Structure No : 58
Proposal : Reconstruction
Chainage.: 28+879
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

Structure No : 59
Proposal : Reconstruction
Chainage.: 28+949
Type of Str :Box Culvert
Size : 1.0X3.0X3.0



← TO IMPHAL

TO JIRIBAM →



Structure No : 6
Proposal : New
Chainage.: 29+
Type of Str :Box
Size : 1.0X2.0X

HIP NO. 118 AT CH. 29493.053			
X = 574791.82		Y = 2744718.481	
R (m)	50	Ls (m)	20
Dc(deg)	22.6055	S(m)	0.33
Lc(m)	19.73	Ts(deg)	11.4592
Ts(m)	31.1	Δ(deg)	45.5238
Es(m)	4.581	e(%)	7
Design Speed (V) : 30 km/hr			

HIP NO. 117 AT CH. 29416.289			
X = 574825.866		Y = 2744789.316	
R (m)	150	Ls (m)	15
Dc(deg)	19.9347	S(m)	0.06
Lc(m)	52.19	Ts(deg)	2.8648
Ts(m)	41.68	Δ(deg)	25.6643
Es(m)	3.904	e(%)	4.74
Design Speed (V) : 40 km/hr			

HIP NO. 115 AT CH. 29161.713			
X = 575051.11		Y = 2744860.008	
R (m)	80	Ls (m)	25
Dc(deg)	13.3693	S(m)	0.33
Lc(m)	18.67	Ts(deg)	8.9525
Ts(m)	34.97	Δ(deg)	31.2742
Es(m)	3.417	e(%)	5
Design Speed (V) : 30 km/hr			

HIP NO. 114 AT CH. 29033.998			
X = 575176.196		Y = 2744905.731	
R (m)	125	Ls (m)	15
Dc(deg)	47.1352	S(m)	0.08
Lc(m)	102.83	Ts(deg)	3.4377
Ts(m)	71.25	Δ(deg)	54.0107
Es(m)	15.387	e(%)	3.2
Design Speed (V) : 30 km/hr			

HIP NO. 116 AT CH. 29270.954			
X = 574941.363		Y = 2744881.729	
R (m)	50	Ls (m)	40
Dc(deg)	4.0233	S(m)	1.33
Lc(m)	3.51	Ts(deg)	22.9183
Ts(m)	43.75	Δ(deg)	49.8599
Es(m)	6.604	e(%)	7
Design Speed (V) : 40 km/hr			

Proposed Earthen Shoulder
Proposed Footpath
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline

Structure No : 61
Proposal : Reconstruction
Chainage.: 29+501
Type of Str :Box Culvert with EC
Size : 1.0X3.0X4.0

Structure No : 60
Proposal : New Culvert
Chainage.: 29+220
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR



M/S. CMM INFRA PROJECTS LTD.

DESIGN DIRECTOR:



PROOF CONSULTANT:



Hindia Engineers Pvt. Ltd.
Address: 191, Mohan Nagar, Gurgaon Bypass,
Jaipur-302018 (Rajasthan), Phone No. 0141-2760303
Email : info@antiquebulldtech.com

SAFETY CONSULTANT:



Antique Bulldtech Pvt. Ltd.
Address: 191, Mohan Nagar, Gurgaon Bypass,
Jaipur-302018 (Rajasthan), Phone No. 0141-2760303
Email : info@antiquebulldtech.com

AUTHORITY ENGINEER



DRAWING SCALE:

HOR: 1 : 2000

DRAWING TITLE:

PLAN 29+000 TO 29+500

DRG. NO.

DD/IMP-JIR/-53

SHEET: REV.

R1

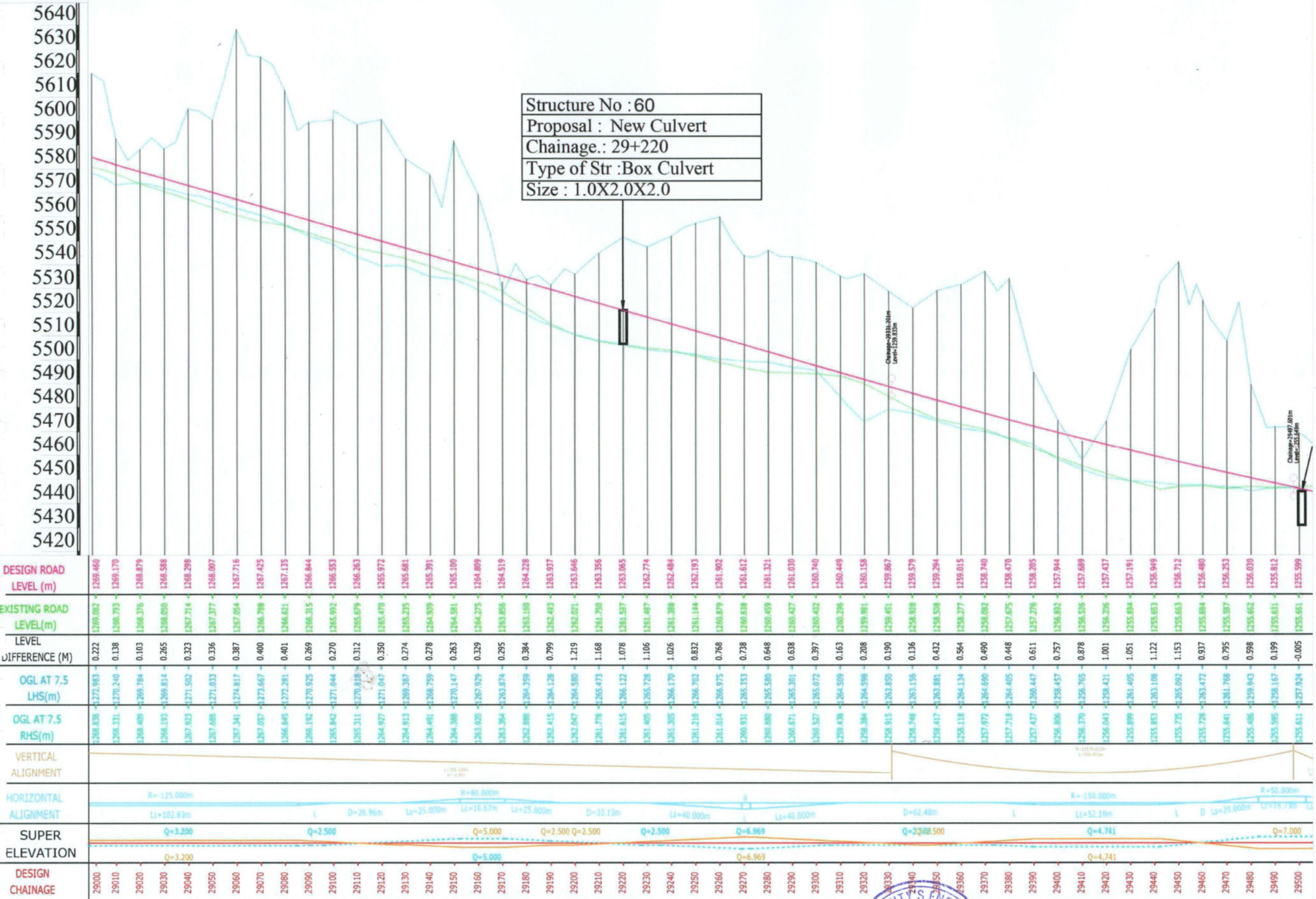
PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.948 km to 33.120 Km (Total length-17.180 Km)
(PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC)
mode.

DATE DEC-2021 DRAWN - Highway Draftsman

DESIGNED CHECKED APPROVED

Highway Engineering



← TO IMPHAL

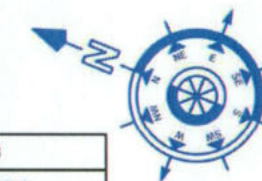
TO JIRIBAM →

Structure No : 62
Proposal : New Culvert
Chainage.: 29+610
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

Structure No : 61
Proposal : Reconstruction
Chainage.: 29+501
Type of Str :Box Culvert with EC
Size : 1.0X3.0X4.0

Proposed Earthen Shoulder
Proposed Footpath
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline

HIP NO. 122 AT CH. 29835.878			
X = 574479.624	Y = 2744587.5		
R (m)	135	Ls (m)	35
Dc(deg)	2.6513	S(m)	0.38
Lc(m)	6.25	Ts(deg)	7.4272
Ts(m)	38.33	Δ(deg)	17.5058
Es(m)	1.975	e(%)	7
Design Speed (V) : 50 km/hr			



Structure No :
Proposal : Reco
Chainage.: 30+0
Type of Str :Box C
Size : 1.0X2.0X2.0

HIP NO. 119 AT CH. 29572.794			
X = 574715.069	Y = 2744892.345		
R (m)	100	Ls (m)	20
Dc(deg)	3.6434	S(m)	0.17
Lc(m)	6.36	Ts(deg)	5.7296
Ts(m)	23.28	Δ(deg)	15.1026
Es(m)	1.046	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 120 AT CH. 29642.539			
X = 574645.075	Y = 2744687.816		
R (m)	80	Ls (m)	25
Dc(deg)	5.8449	S(m)	0.33
Lc(m)	8.16	Ts(deg)	8.9525
Ts(m)	29.38	Δ(deg)	23.7498
Es(m)	2.087	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 121 AT CH. 29745.257			
X = 574553.605	Y = 2744640.298		
R (m)	500	Ls (m)	
Dc(deg)	8.0624	S(m)	
Lc(m)	70.36	Ts(deg)	
Ts(m)	35.24	Δ(deg)	8.0624
Es(m)	1.24	e(%)	2.5
Design Speed (V) : 50 km/hr			

HIP NO. 123 AT CH. 29905.617			
X = 574413.091	Y = 2744565.87		
R (m)	500	Ls (m)	
Dc(deg)	4.7107	S(m)	
Lc(m)	41.11	Ts(deg)	
Ts(m)	20.57	Δ(deg)	4.7107
Es(m)	0.423	e(%)	2.5
Design Speed (V) : 50 km/hr			

HIP NO. 124 AT CH. 30037.949			
X = 574289.887	Y = 2744514.283		
R (m)	100	Ls (m)	15
Dc(deg)	28.6422	S(m)	0.09
Lc(m)	49.99	Ts(deg)	4.2972
Ts(m)	41.22	Δ(deg)	37.2365
Es(m)	5.617	e(%)	4
Design Speed (V) : 30 km/hr			

CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR



DESIGN DIRECTOR:



PROOF CONSULTANT:

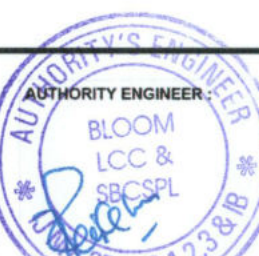


Hindia Engineers Pvt. Ltd.
Address: 207, M. Block, Phase-1,
Gurgaon-Faridkot Road, Faridkot, INDIA-122002,
Phone No.-0124-4028081

SAFETY CONSULTANT:



Antique Buildtech Pvt. Ltd.
Address: 191, Mohan Nagar, Gurgaon Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2760303
Email : info@antiquebuildtech.com



DRAWING SCALE:

HOR: 1 : 2000

DRAWING TITLE:

PLAN 29+500 TO 30+000

PROJECT NAME:-

Widening to 2(Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.949 km sa 33.120 Km (Total length-17.180 Km)
(PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC)
mode,

DRG. NO.

DD/IMP-JIR/-55

SHEET: REV.

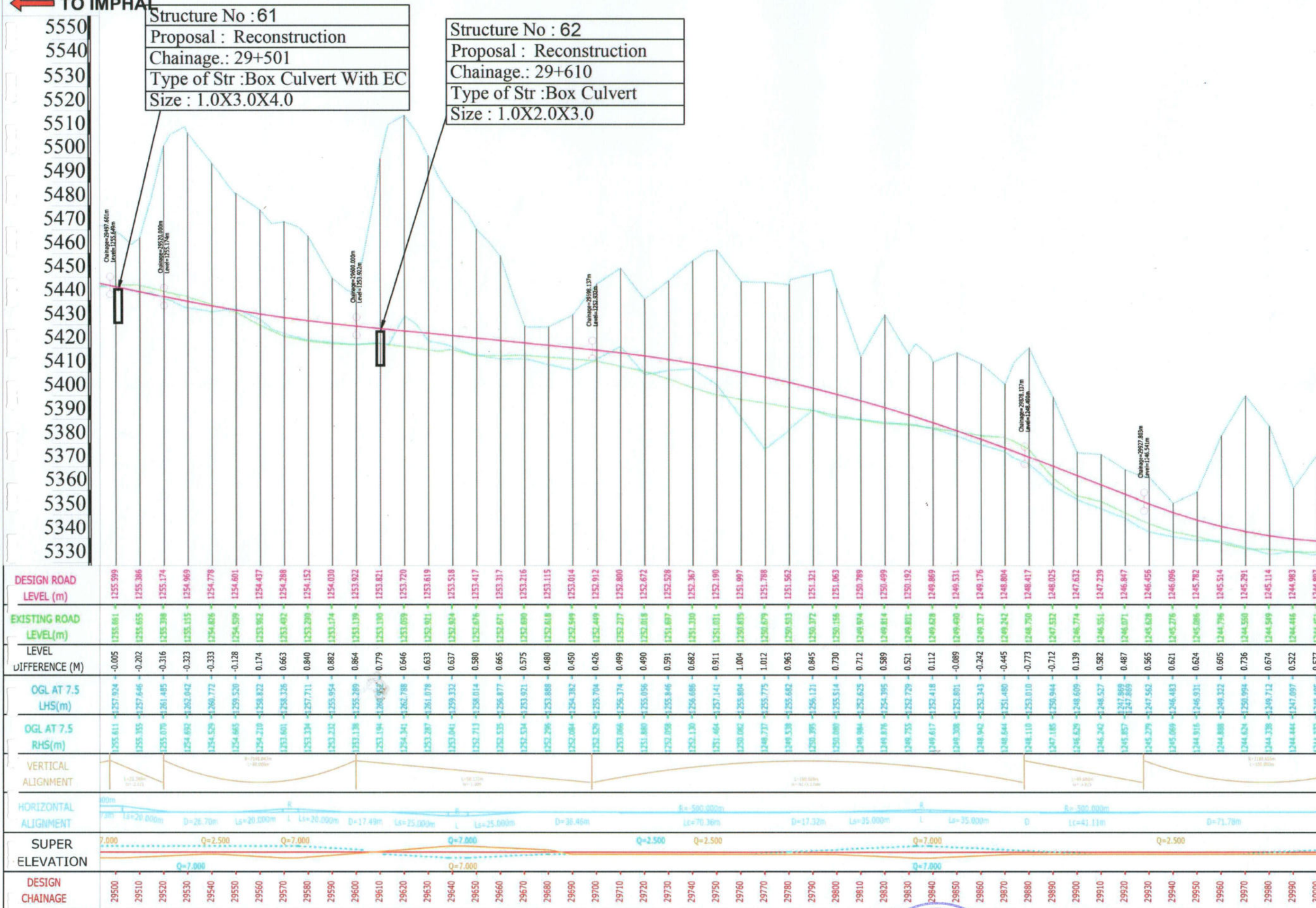
R1

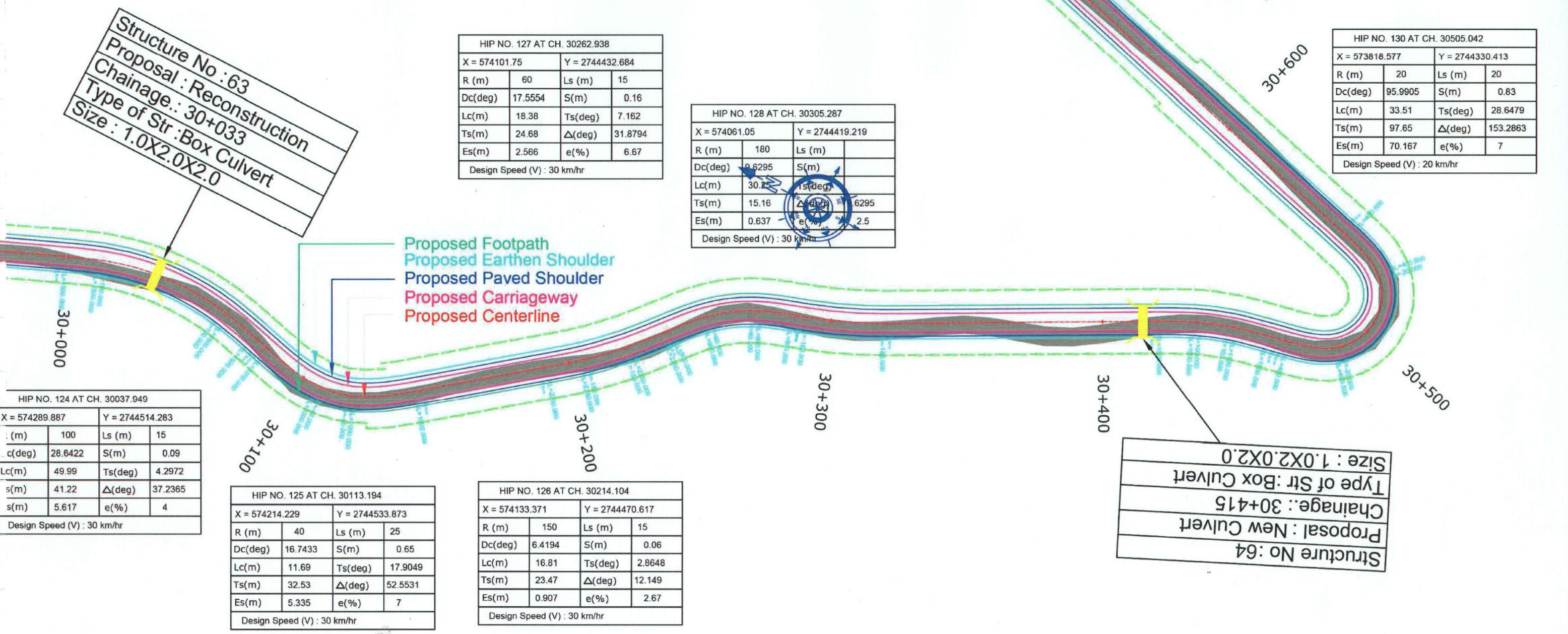
DATE DEC.-2021 DRAWN - Highway Draftsman

DESIGNED	CHECKED	APPROVED
Highway Engineering	---	---

TO IMPHAL

TO JIRIBAM



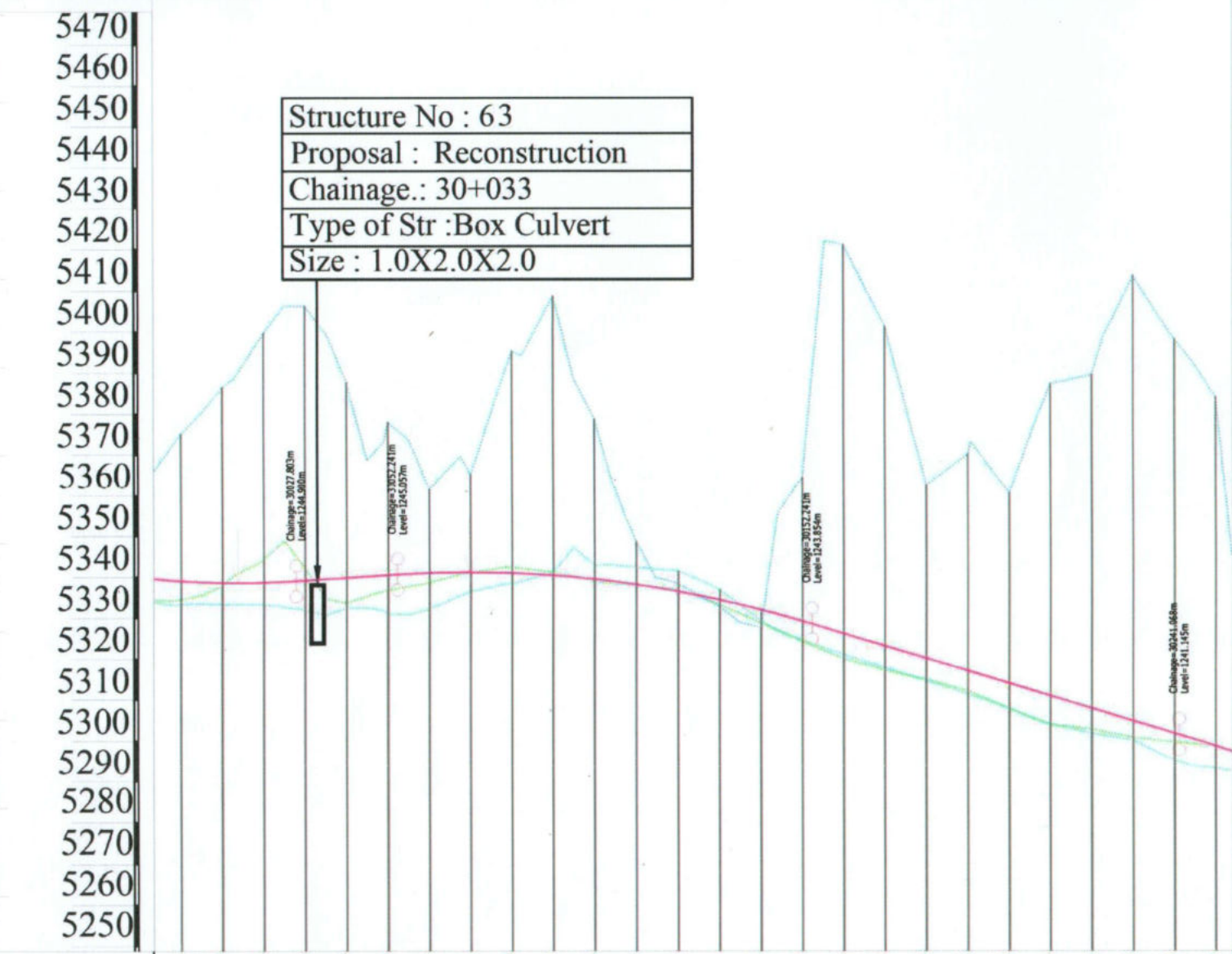


TO IMPHAL

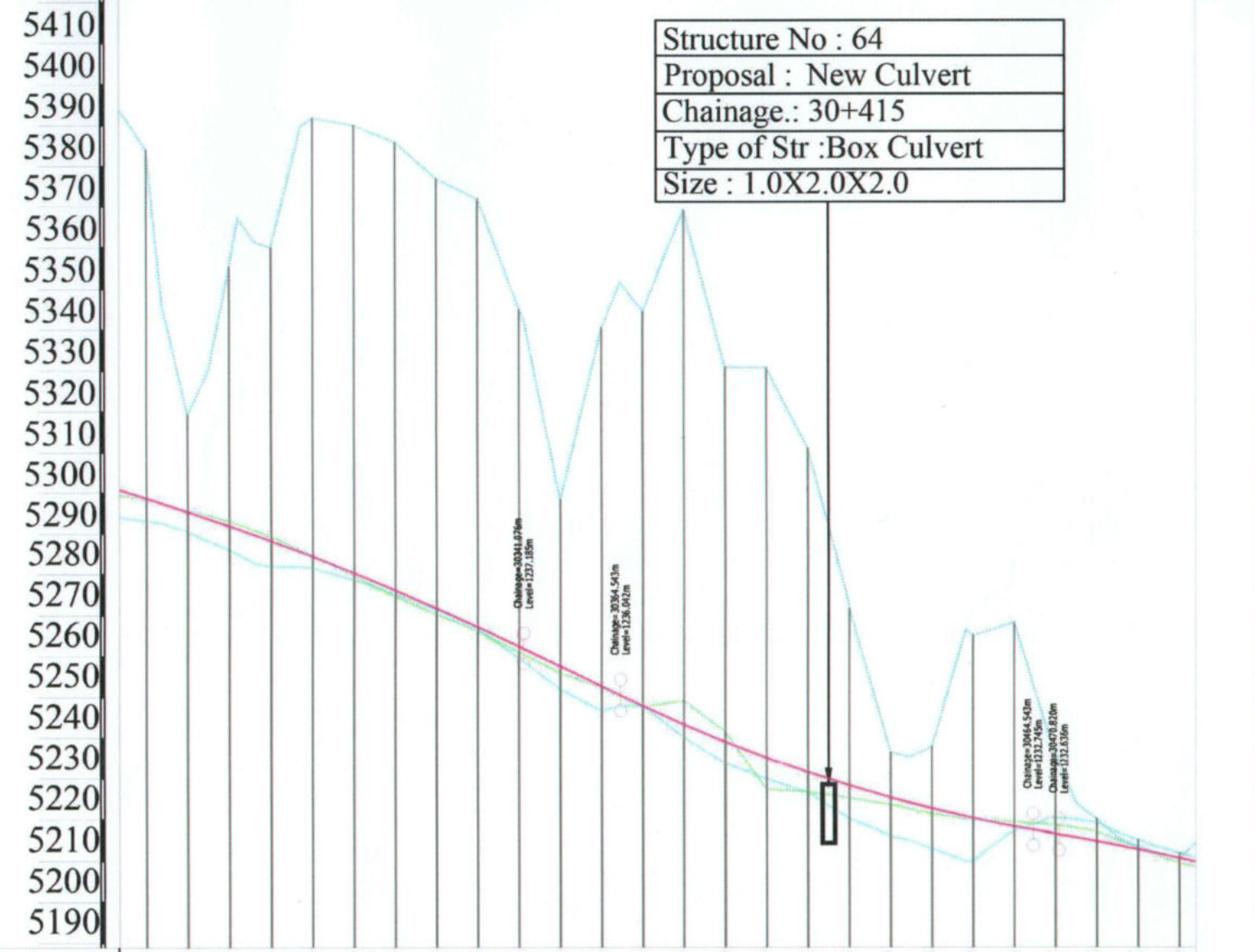
TO JIRIBAM

Structure No : 63
Proposal : Reconstruction
Chainage.: 30+033
Type of Str :Box Culvert
Size : 1.0X2.0X2.0

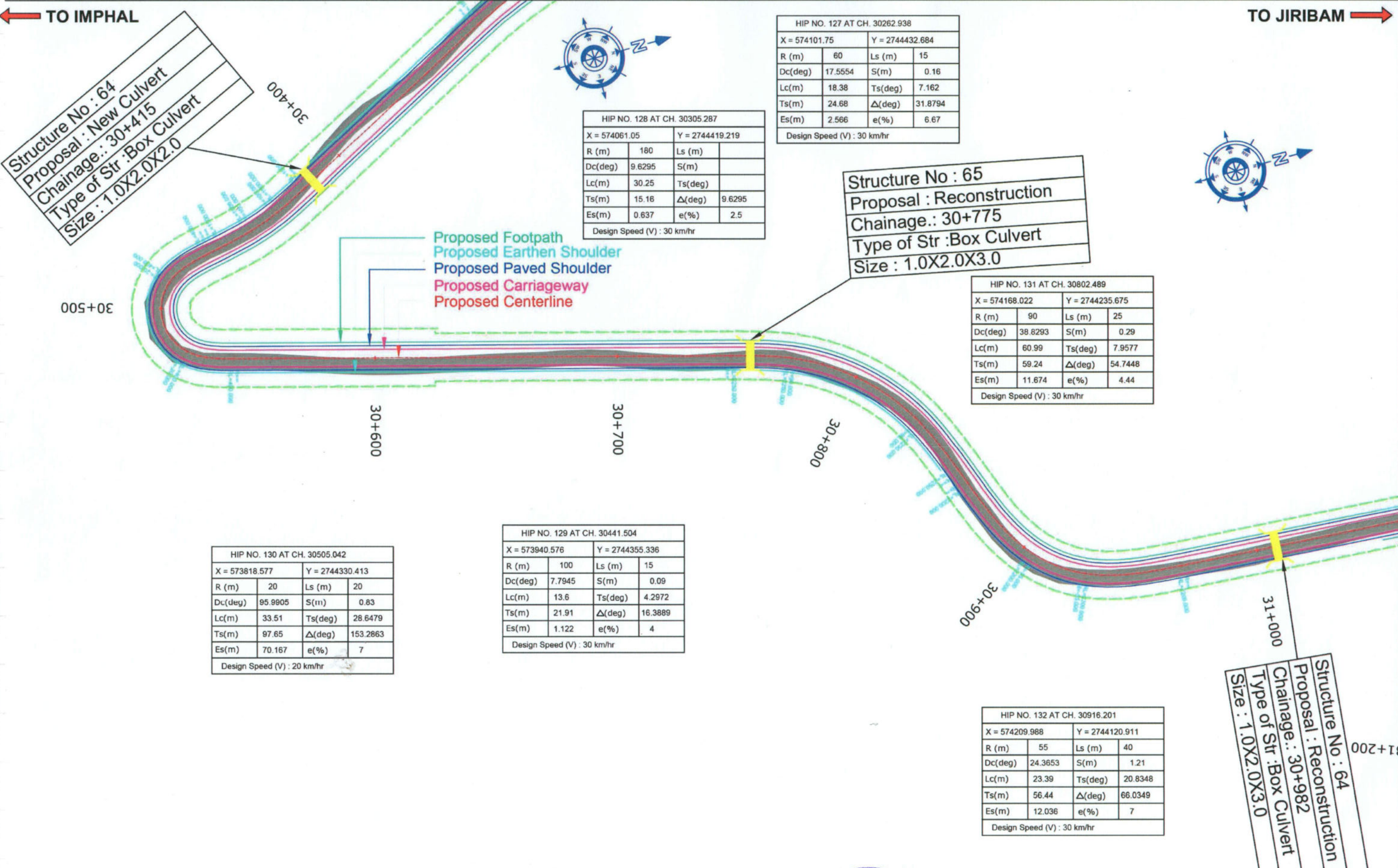
Structure No : 64
Proposal : New Culvert
Chainage.: 30+415
Type of Str :Box Culvert
Size : 1.0X2.0X2.0



DESIGN ROAD LEVEL (m)	1244.897	1244.858	1244.864	1244.914	1244.978	1245.043	1245.096	1245.113	1245.094	1245.037	1244.943	1244.813	1244.645	1244.441	1244.200	1243.922	1243.617	1243.312	1243.007	1242.703	1242.398	1242.093	1241.788	1241.483	1241.178	1240.865
EXISTING ROAD LEVEL(m)	1244.451	1244.780	1245.440	1245.213	1244.384	1244.675	1244.848	1245.113	1245.232	1245.134	1244.873	1244.783	1244.675	1244.330	1243.887	1243.424	1243.001	1242.714	1242.483	1242.210	1241.791	1241.388	1241.252	1241.073	1240.960	1240.852
LEVEL DIFFERENCE (M)	0.577	0.536	0.567	0.754	0.861	0.588	0.528	0.308	-0.035	-0.187	-0.176	-0.176	-0.149	-0.388	-0.084	0.068	0.249	0.300	0.371	0.318	0.285	0.385	0.433	0.326	0.162	-0.010
OGL AT 7.5 LHS(m)	1244.332	1244.637	1245.960	1251.623	1249.763	1248.792	1247.146	1247.500	1250.526	1251.866	1248.868	1245.861	1244.816	1244.263	1243.759	1242.441	1243.099	1243.129	1242.253	1247.997	1249.718	1247.041	1249.941	1253.344	1250.805	1249.389
OGL AT 7.5 RHS(m)	1244.332	1244.637	1245.960	1251.623	1249.763	1248.792	1247.146	1247.500	1250.526	1251.866	1248.868	1245.861	1244.816	1244.263	1243.759	1242.441	1243.099	1243.129	1242.253	1247.997	1249.718	1247.041	1249.941	1253.344	1250.805	1249.389
VERTICAL ALIGNMENT																										
HORIZONTAL ALIGNMENT																										
SUPER ELEVATION																										
DESIGN CHAINAGE	30000	30010	30020	30030	30040	30050	30060	30070	30080	30090	30100	30110	30120	30130	30140	30150	30160	30170	30180	30190	30200	30210	30220	30230	30240	30250



DESIGN ROAD LEVEL (m)	1240.865	1240.535	1240.187	1239.820	1239.435	1239.032	1238.610	1238.171	1237.713	1237.237	1236.751	1236.264	1235.781	1235.327	1234.905	1234.514	1234.154	1233.825	1233.529	1233.263	1233.029	1232.826	1232.651	1232.472	1232.277	1232.068
EXISTING ROAD LEVEL (m)	1240.852	1240.552	1240.300	1239.917	1239.490	1239.081	1238.652	1238.201	1237.713	1237.180	1236.599	1235.929	1235.178	1234.357	1233.485	1232.563	1231.591	1230.569	1229.500	1228.388	1227.237	1226.046	1224.815	1223.544	1222.233	1220.882
LEVEL DIFFERENCE (M)	-0.010	-0.228	-0.468	-0.419	-0.579	-0.270	-0.082	-0.045	-0.055	-0.231	-0.215	-0.163	-0.204	-0.220	0.166	0.250	0.369	0.243	0.101	0.016	0.012	-0.130	-0.237	-0.192	-0.153	-0.159
OGL AT 7.5 LHS (m)	1240.312	1240.302	1240.294	1240.286	1240.278	1240.270	1240.262	1240.254	1240.246	1240.238	1240.230	1240.222	1240.214	1240.206	1240.198	1240.190	1240.182	1240.174	1240.166	1240.158	1240.150	1240.142	1240.134	1240.126	1240.118	1240.110
OGL AT 7.5 RHS (m)	1240.312	1240.302	1240.294	1240.286	1240.278	1240.270	1240.262	1240.254	1240.246	1240.238	1240.230	1240.222	1240.214	1240.206	1240.198	1240.190	1240.182	1240.174	1240.166	1240.158	1240.150	1240.142	1240.134	1240.126	1240.118	1240.110
VERTICAL ALIGNMENT																										
HORIZONTAL ALIGNMENT																										
SUPER ELEVATION																										
DESIGN CHAINAGE	30250	30260	30270	30280	30290	30300	30310	30320	30330	30340	30350	30360	30370	30380	30390	30400	30410	30420	30430	30440	30450	30460	30470	30480	30490	30500



Structure No : 64
Proposal : New Culvert
Chainage : 30+415
Type of Str : Box Culvert
Size : 1.0X2.0X2.0

HIP NO. 127 AT CH. 30262.938			
X = 574101.75		Y = 2744432.684	
R (m)	60	Ls (m)	15
Dc(deg)	17.5554	S(m)	0.16
Lc(m)	18.38	Ts(deg)	7.162
Ts(m)	24.68	Δ(deg)	31.8794
Es(m)	2.566	e(%)	6.67
Design Speed (V) : 30 km/hr			

HIP NO. 128 AT CH. 30305.287			
X = 574061.05		Y = 2744419.219	
R (m)	180	Ls (m)	
Dc(deg)	9.6295	S(m)	
Lc(m)	30.25	Ts(deg)	
Ts(m)	15.16	Δ(deg)	9.6295
Es(m)	0.637	e(%)	2.5
Design Speed (V) : 30 km/hr			

Structure No : 65
Proposal : Reconstruction
Chainage : 30+775
Type of Str : Box Culvert
Size : 1.0X2.0X3.0

HIP NO. 131 AT CH. 30802.489			
X = 574168.022		Y = 2744235.675	
R (m)	90	Ls (m)	25
Dc(deg)	38.8293	S(m)	0.29
Lc(m)	60.99	Ts(deg)	7.9577
Ts(m)	59.24	Δ(deg)	54.7448
Es(m)	11.674	e(%)	4.44
Design Speed (V) : 30 km/hr			

HIP NO. 130 AT CH. 30505.042			
X = 573818.577		Y = 2744330.413	
R (m)	20	Ls (m)	20
Dc(deg)	95.9905	S(m)	0.83
Lc(m)	33.51	Ts(deg)	28.6479
Ts(m)	97.65	Δ(deg)	153.2863
Es(m)	70.167	e(%)	7
Design Speed (V) : 20 km/hr			

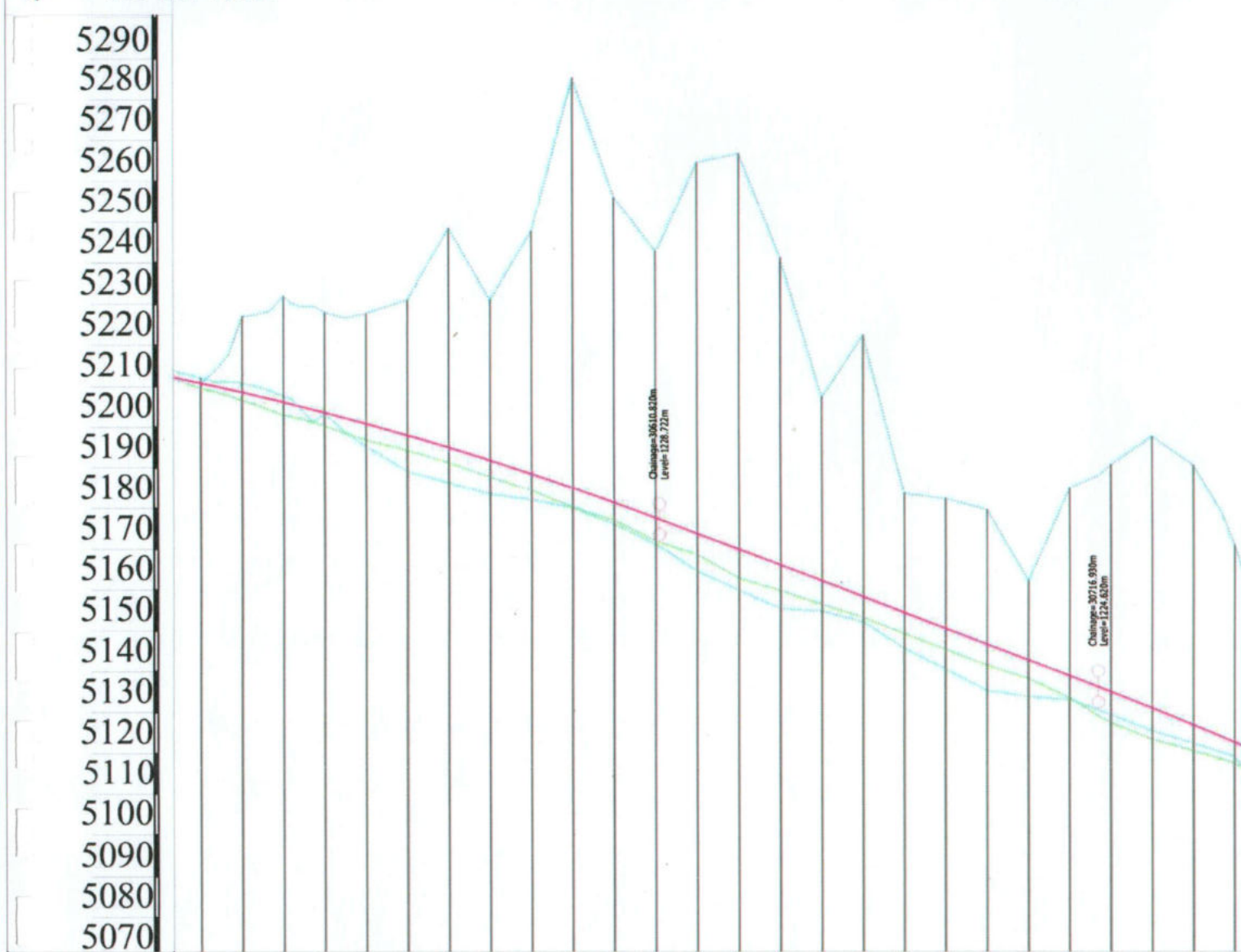
HIP NO. 129 AT CH. 30441.504			
X = 573940.576		Y = 2744355.336	
R (m)	100	Ls (m)	15
Dc(deg)	7.7945	S(m)	0.09
Lc(m)	13.6	Ts(deg)	4.2972
Ts(m)	21.91	Δ(deg)	16.3889
Es(m)	1.122	e(%)	4
Design Speed (V) : 30 km/hr			

HIP NO. 132 AT CH. 30916.201			
X = 574209.988		Y = 2744120.911	
R (m)	55	Ls (m)	40
Dc(deg)	24.3653	S(m)	1.21
Lc(m)	23.39	Ts(deg)	20.8348
Ts(m)	56.44	Δ(deg)	66.0349
Es(m)	12.036	e(%)	7
Design Speed (V) : 30 km/hr			

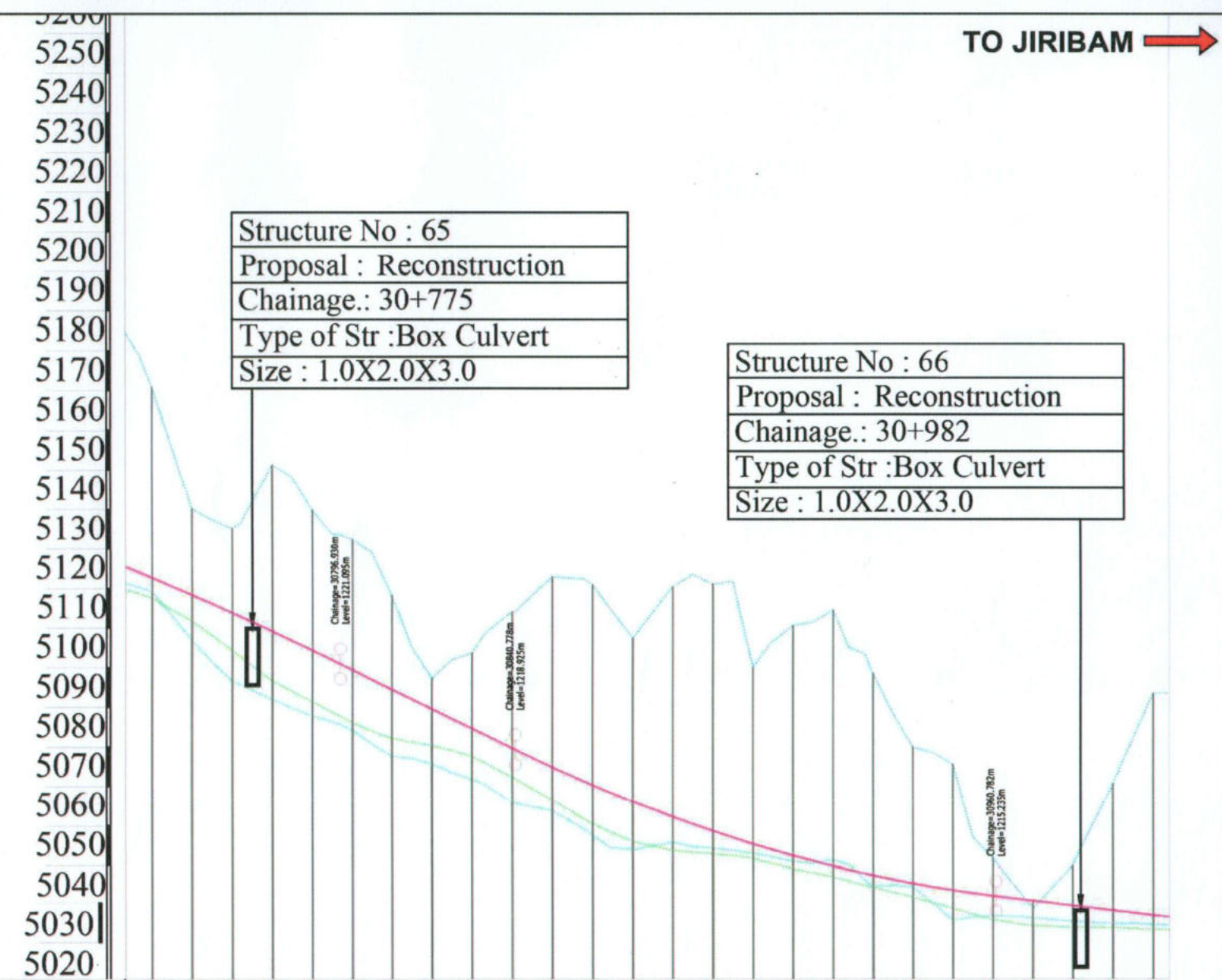
Structure No : 64
Proposal : Reconstruction
Chainage : 30+982
Type of Str : Box Culvert
Size : 1.0X2.0X3.0

← TO IMPHAL

TO JIRIBAM →



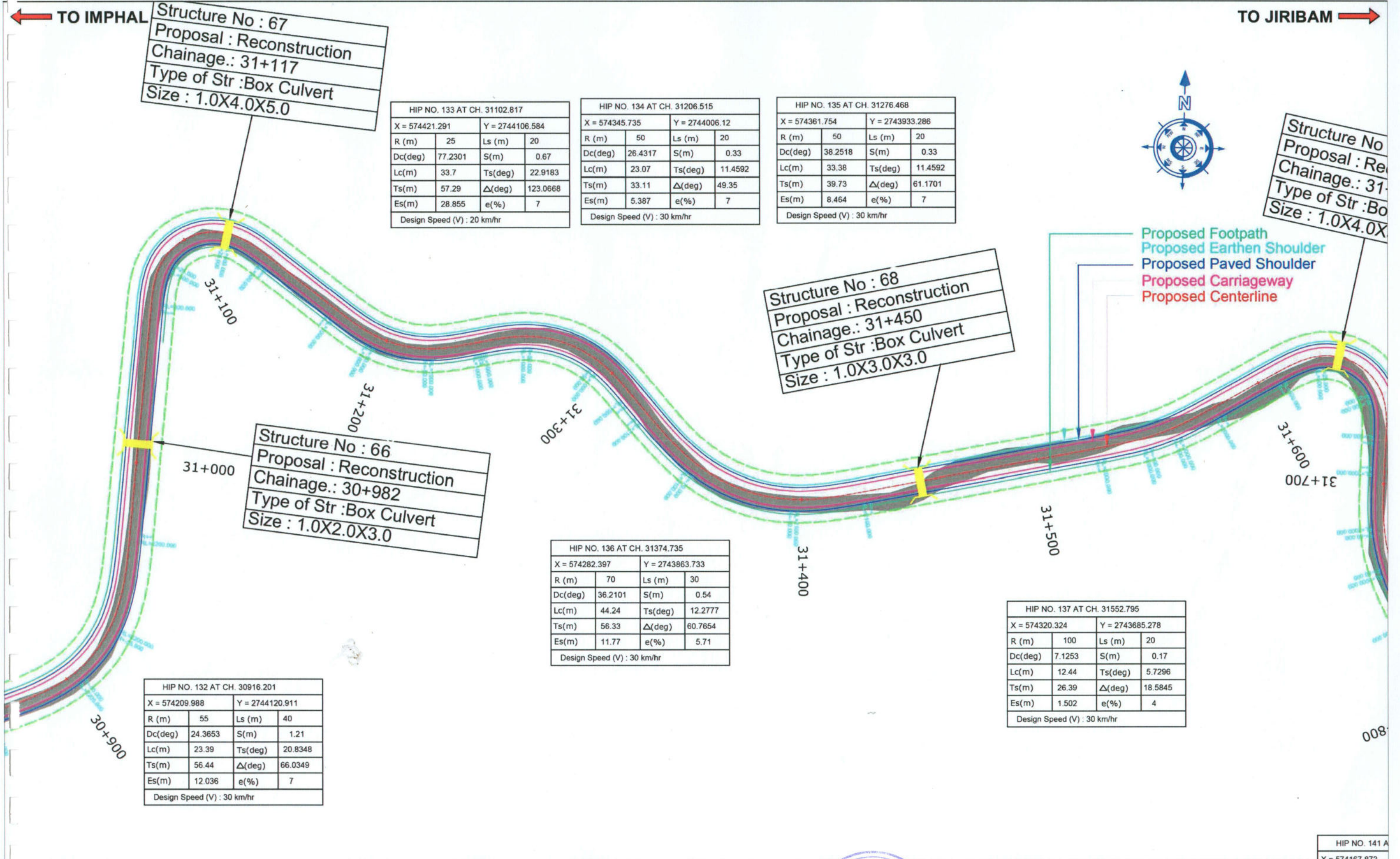
DESIGN ROAD LEVEL (m)	1232.068	1231.943	1231.603	1231.343	1231.077	1230.791	1230.489	1230.173	1229.841	1229.494	1229.132	1228.754	1228.367	1227.981	1227.594	1227.208	1226.821	1226.434	1226.048	1225.661	1225.275	1224.888	1224.501	1224.103	1223.692	1223.268
EXISTING ROAD LEVEL(m)	1231.916	1231.848	1231.288	1231.021	1230.673	1230.418	1230.116	1229.768	1229.430	1229.018	1228.643	1228.196	1227.858	1227.271	1226.969	1226.637	1226.313	1225.901	1225.530	1225.138	1224.814	1224.345	1223.791	1223.337	1222.852	1222.746
LEVEL DIFFERENCE (M)	-0.159	-0.087	0.015	0.160	0.181	0.231	0.122	0.186	0.257	0.248	0.302	0.389	0.438	0.451	0.486	0.412	0.335	0.309	0.331	0.304	0.340	0.310	0.442	0.576	0.496	0.310
OGL AT 7.5 LHS(m)	1232.055	1231.696	1231.490	1231.324	1231.107	1230.842	1230.527	1230.160	1229.742	1229.273	1228.754	1228.185	1227.566	1226.907	1226.108	1225.179	1224.130	1222.971	1221.702	1220.323	1218.844	1217.265	1215.586	1213.807	1211.928	1210.049
OGL AT 7.5 RHS(m)	1232.186	1231.827	1231.621	1231.365	1231.050	1230.683	1230.265	1229.796	1229.277	1228.708	1228.089	1227.420	1226.611	1225.602	1224.403	1223.024	1221.545	1220.066	1218.487	1216.808	1215.029	1213.150	1211.171	1209.092	1206.913	1204.634
VERTICAL ALIGNMENT																										
HORIZONTAL ALIGNMENT																										
SUPER ELEVATION																										
DESIGN CHAINAGE	30500	30510	30520	30530	30540	30550	30560	30570	30580	30590	30600	30610	30620	30630	30640	30650	30660	30670	30680	30690	30700	30710	30720	30730	30740	30750



Structure No : 65
Proposal : Reconstruction
Chainage.: 30+775
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

Structure No : 66
Proposal : Reconstruction
Chainage.: 30+982
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

DESIGN ROAD LEVEL (m)	1223.268	1222.746	1222.830	1222.378	1221.913	1221.434	1220.943	1220.448	1219.953	1219.458	1218.964	1218.482	1217.932	1217.424	1216.868	1216.342	1215.748	1215.185	1214.641	1214.124	1213.544	1212.999	1212.484	1211.904	1211.284	1210.634
EXISTING ROAD LEVEL(m)	1222.746	1222.157	1221.418	1220.660	1220.129	1219.610	1219.108	1218.629	1218.175	1217.755	1217.277	1216.857	1216.484	1216.162	1215.899	1215.644	1215.398	1215.164	1214.941	1214.730	1214.531	1214.344	1214.169	1213.999	1213.833	1213.674
LEVEL DIFFERENCE (M)	0.310	0.262	0.483	0.857	1.096	0.884	0.860	0.845	0.373	0.344	0.503	0.572	0.733	0.753	0.580	0.357	0.265	0.260	0.189	0.328	0.280	0.501	0.618	0.589	0.475	0.396
OGL AT 7.5 LHS(m)	1222.909	1221.605	1220.657	1219.195	1217.769	1216.412	1215.165	1214.005	1212.915	1211.885	1210.915	1209.995	1209.125	1208.305	1207.535	1206.815	1206.145	1205.525	1204.955	1204.435	1203.965	1203.545	1203.175	1202.855	1202.535	1202.215
OGL AT 7.5 RHS(m)	1222.909	1221.605	1220.657	1219.195	1217.769	1216.412	1215.165	1214.005	1212.915	1211.885	1210.915	1209.995	1209.125	1208.305	1207.535	1206.815	1206.145	1205.525	1204.955	1204.435	1203.965	1203.545	1203.175	1202.855	1202.535	1202.215
VERTICAL ALIGNMENT																										
HORIZONTAL ALIGNMENT																										
SUPER ELEVATION																										
DESIGN CHAINAGE	30750	30760	30770	30780	30790	30800	30810	30820	30830	30840	30850	30860	30870	30880	30890	30900	30910	30920	30930	30940	30950	30960	30970	30980	30990	31000

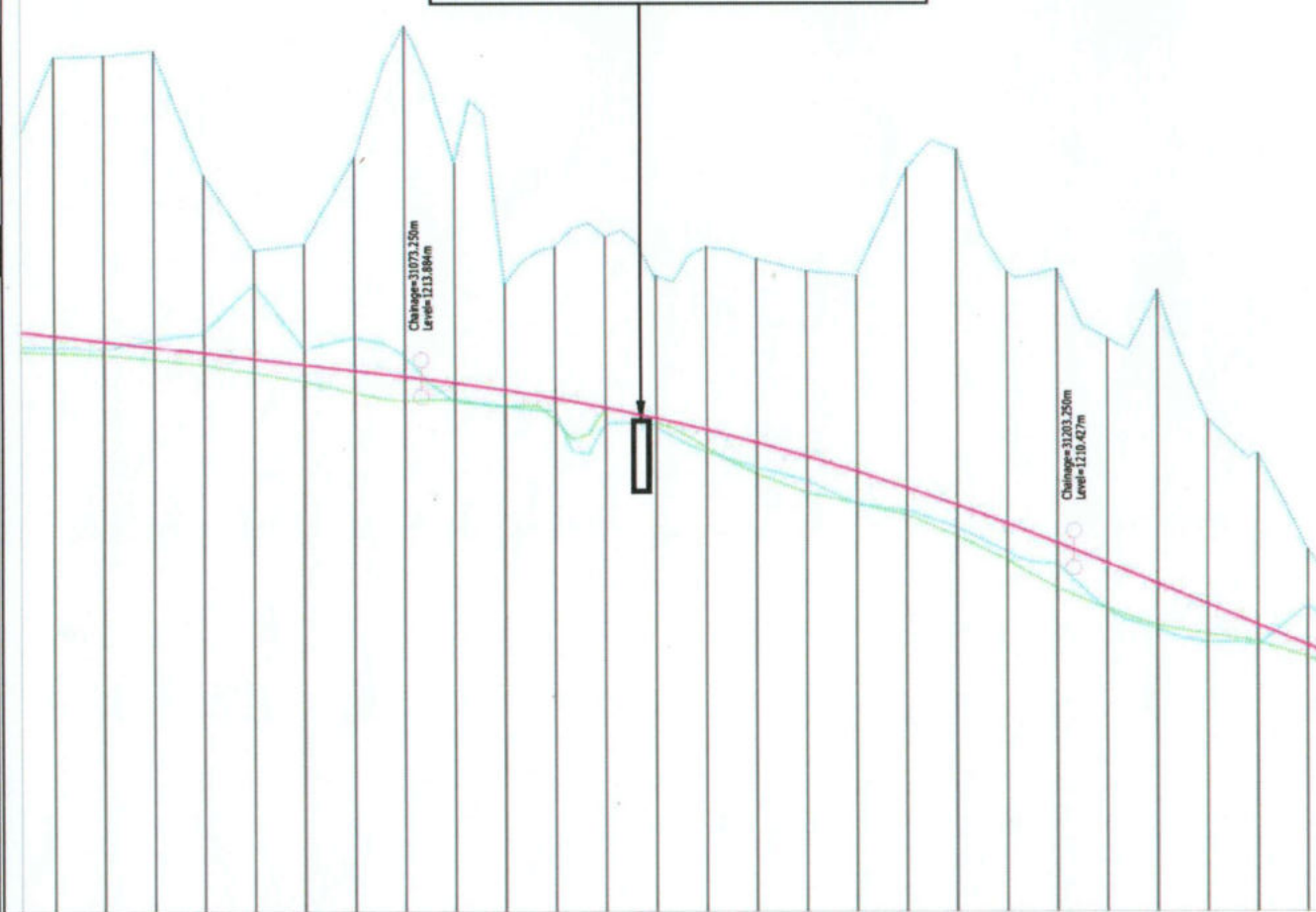


← TO IMPHAL

TO JIRIBAM →

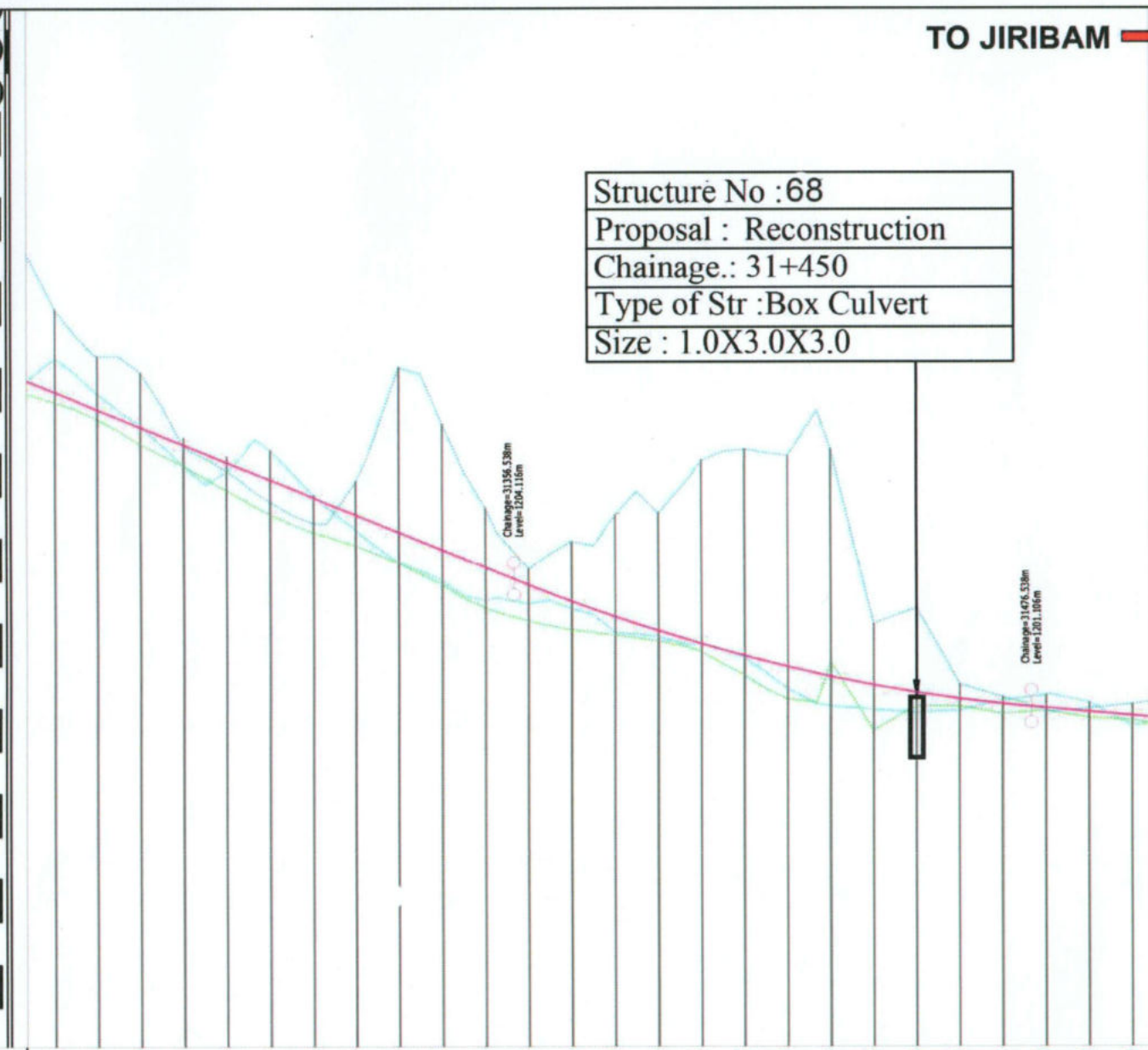
5140
5130
5120
5110
5100
5090
5080
5070
5060
5050
5040
5030
5020
5010
5000
4990
4980
4970
4960
4950
4940
4930
4920

Structure No : 67
Proposal : Reconstruction
Chainage.: 31+117
Type of Str :Box Culvert
Size : 1.0X4.0X5.0



5000
5050
5040
5030
5020
5010
5000
4990
4980
4970
4960
4950
4940
4930
4920
4910
4900
4890
4880
4870
4860
4850
4840
4830
4820

Structure No : 68
Proposal : Reconstruction
Chainage.: 31+450
Type of Str :Box Culvert
Size : 1.0X3.0X3.0



DESIGN ROAD LEVEL (m)	1214.764	1214.644	1214.524	1214.404	1214.283	1214.163	1214.043	1213.923	1213.798	1213.651	1213.482	1213.291	1213.077	1212.841	1212.582	1212.301	1211.998	1211.672	1211.324	1210.953	1210.560	1210.149	1209.737	1209.326	1208.914	1208.502
EXISTING ROAD LEVEL (m)	1214.398	1214.359	1214.254	1214.152	1214.001	1213.820	1213.591	1213.425	1213.456	1213.312	1213.037	1212.336	1212.985	1212.479	1211.954	1211.568	1211.353	1211.114	1210.750	1210.239	1209.646	1209.232	1208.957	1208.777	1208.559	1208.261
LEVEL DIFFERENCE (M)	0.396	0.317	0.269	0.250	0.294	0.276	0.359	0.436	0.412	0.336	0.368	0.300	0.092	0.180	0.359	0.583	0.554	0.396	0.311	0.281	0.406	0.696	0.651	0.539	0.299	-0.029
OGL AT 7.5 LHS (m)	1214.344	1214.376	1214.476	1214.580	1214.674	1214.750	1214.804	1214.836	1214.840	1214.812	1214.750	1214.654	1214.536	1214.398	1214.249	1214.089	1213.918	1213.726	1213.514	1213.282	1213.030	1212.758	1212.466	1212.154	1211.822	1211.470
OGL AT 7.5 RHS (m)	1214.526	1214.470	1214.404	1214.320	1214.216	1214.094	1213.954	1213.798	1213.626	1213.438	1213.234	1212.914	1212.582	1212.238	1211.882	1211.514	1211.134	1210.742	1210.338	1210.022	1209.694	1209.354	1208.998	1208.626	1208.246	1207.854
VERTICAL ALIGNMENT																										
HORIZONTAL ALIGNMENT																										
SUPER ELEVATION																										
DESIGN CHAINAGE	31000	31010	31020	31030	31040	31050	31060	31070	31080	31090	31100	31110	31120	31130	31140	31150	31160	31170	31180	31190	31200	31210	31220	31230	31240	31250

DESIGN ROAD LEVEL (m)	1208.502	1208.091	1207.679	1207.267	1206.856	1206.444	1206.032	1205.620	1205.209	1204.797	1204.385	1203.975	1203.566	1203.224	1202.889	1202.580	1202.298	1202.043	1201.815	1201.614	1201.439	1201.291	1201.170	1201.074	1200.984	1200.894
EXISTING ROAD LEVEL(m)	1208.281	1207.871	1207.373	1206.757	1206.137	1205.635	1205.196	1204.895	1204.485	1203.977	1203.428	1203.120	1202.910	1202.781	1202.637	1202.388	1201.841	1201.279	1202.150	1200.542	1201.123	1201.439	1200.932	1201.008	1200.839	1200.799
LEVEL DIFFERENCE (M)	-0.029	-0.134	-0.172	-0.124	-0.153	0.122	0.285	0.376	0.353	0.299	0.384	0.598	0.579	0.438	0.200	0.092	0.045	0.826	0.637	0.618	0.513	0.290	0.113	0.092	0.060	0.059
OGL AT 7.5 LHS(m)	1209.411	1209.349	1208.959	1207.211	1206.643	1205.931	1205.419	1206.403	1209.079	1207.749	1205.779	1204.347	1204.993	1205.620	1205.657	1206.890	1207.154	1206.997	1207.164	1203.054	1203.424	1201.632	1201.326	1201.030	1201.063	1201.162
OGL AT 7.5 RHS(m)	1209.294	1208.475	1207.713	1206.786	1206.638	1207.141	1206.077	1205.261	1204.499	1204.081	1203.605	1203.529	1203.403	1202.844	1202.740	1202.592	1202.244	1201.523	1201.116	1200.635	1200.960	1201.014	1201.244	1201.374	1201.184	1200.656
VERTICAL ALIGNMENT																										
HORIZONTAL ALIGNMENT																										
SUPER ELEVATION																										
DESIGN CHAINAGE	31250	31260	31270	31280	31290	31300	31310	31320	31330	31340	31350	31360	31370	31380	31390	31400	31410	31420	31430	31440	31450	31460	31470	31480	31490	31500

TO IMPHAL

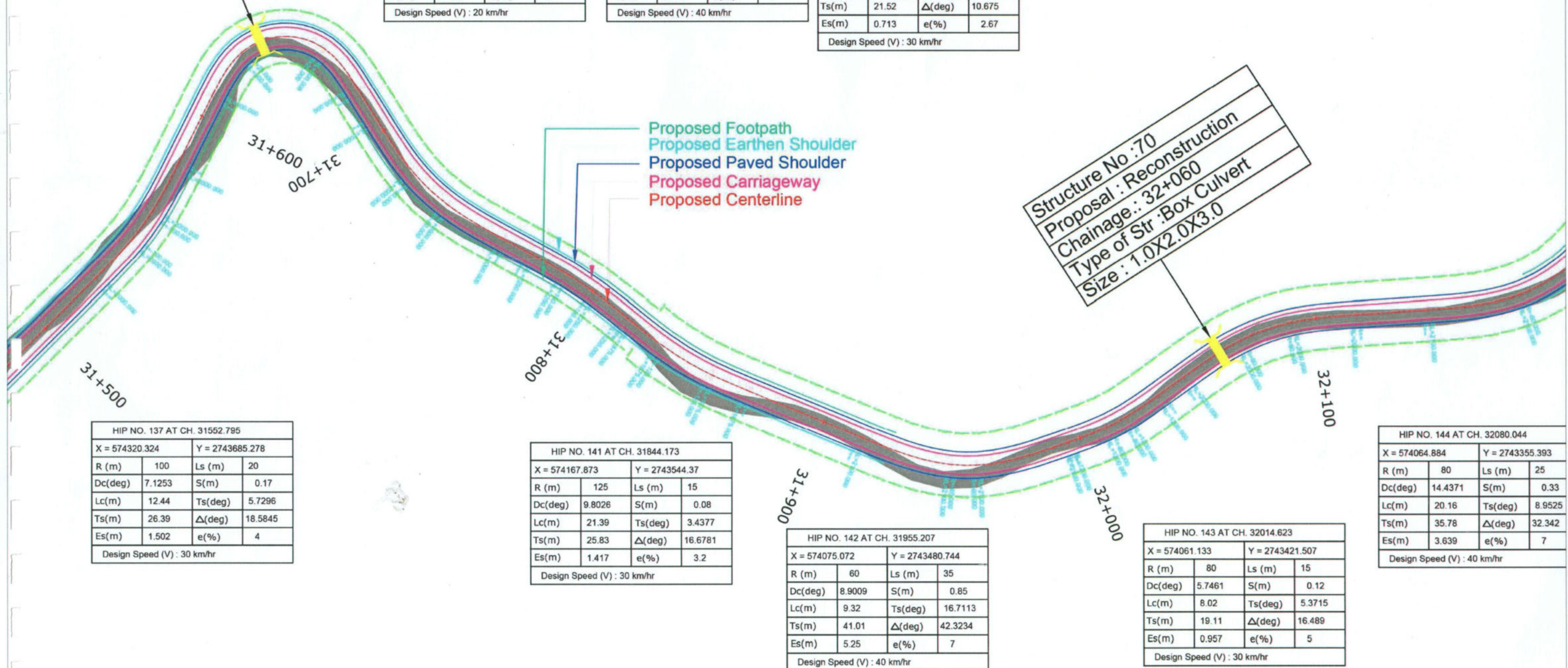
Structure No :69
Proposal : Reconstruction
Chainage : 31+646
Type of Str :Box Culvert
Size : 1.0X4.0X5.0

HIP NO. 138 AT CH. 31645.192			
X = 574377.446		Y = 2743588.623	
R (m)	25	Ls (m)	20
Dc(deg)	76.2744	S(m)	0.67
Lc(m)	33.28	Ts(deg)	22.9183
Ts(m)	56.36	Δ(deg)	122.1111
Es(m)	28.041	e(%)	7
Design Speed (V) : 20 km/hr			

HIP NO. 139 AT CH. 31728.451			
X = 574273.949		Y = 2743591.382	
R (m)	80	Ls (m)	25
Dc(deg)	12.0543	S(m)	0.33
Lc(m)	16.83	Ts(deg)	8.9525
Ts(m)	33.98	Δ(deg)	29.9592
Es(m)	3.156	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 140 AT CH. 31794.801			
X = 574214.984		Y = 2743559.457	
R (m)	150	Ls (m)	15
Dc(deg)	4.9454	S(m)	0.06
Lc(m)	12.95	Ts(deg)	2.8648
Ts(m)	21.52	Δ(deg)	10.675
Es(m)	0.713	e(%)	2.67
Design Speed (V) : 30 km/hr			

TO JIRIBAM			
X = 574170.091		Y = 2743078.272	
R (m)	80	Ls (m)	25
Dc(deg)	5.9244	S(m)	0.33
Lc(m)	8.27	Ts(deg)	8.9525
Ts(m)	29.44	Δ(deg)	23.829
Es(m)	2.099	e(%)	7
Design Speed (V) : 40 km/hr			



HIP NO. 137 AT CH. 31552.785			
X = 574320.324		Y = 2743685.278	
R (m)	100	Ls (m)	20
Dc(deg)	7.1253	S(m)	0.17
Lc(m)	12.44	Ts(deg)	5.7296
Ts(m)	26.39	Δ(deg)	18.5845
Es(m)	1.502	e(%)	4
Design Speed (V) : 30 km/hr			

HIP NO. 141 AT CH. 31844.173			
X = 574167.873		Y = 2743544.37	
R (m)	125	Ls (m)	15
Dc(deg)	9.8026	S(m)	0.08
Lc(m)	21.39	Ts(deg)	3.4377
Ts(m)	25.83	Δ(deg)	16.6781
Es(m)	1.417	e(%)	3.2
Design Speed (V) : 30 km/hr			

HIP NO. 142 AT CH. 31955.207			
X = 574075.072		Y = 2743480.744	
R (m)	60	Ls (m)	35
Dc(deg)	8.9009	S(m)	0.85
Lc(m)	9.32	Ts(deg)	16.7113
Ts(m)	41.01	Δ(deg)	42.3234
Es(m)	5.25	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 143 AT CH. 32014.623			
X = 574061.133		Y = 2743421.507	
R (m)	80	Ls (m)	15
Dc(deg)	5.7461	S(m)	0.12
Lc(m)	8.02	Ts(deg)	5.3715
Ts(m)	19.11	Δ(deg)	16.489
Es(m)	0.957	e(%)	5
Design Speed (V) : 30 km/hr			

HIP NO. 144 AT CH. 32080.044			
X = 574064.884		Y = 2743355.393	
R (m)	80	Ls (m)	25
Dc(deg)	14.4371	S(m)	0.33
Lc(m)	20.16	Ts(deg)	8.9525
Ts(m)	35.78	Δ(deg)	32.342
Es(m)	3.639	e(%)	7
Design Speed (V) : 40 km/hr			

CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR :



DESIGN DIRECTOR :



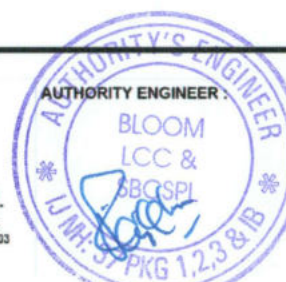
PROOF CONSULTANT :



SAFETY CONSULTANT :



AUTHORITY ENGINEER :



DRAWING SCALE :

HOR : 1 : 2000

DRAWING TITLE :

PLAN 31+500 TO 32+000

PROJECT NAME :-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of NH-37 from Design Chainage 13.949 km to 33.120 Km (Total length-17.180 Km) (PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC) mode.

DRG. NO.

DD/IMP-JIR/-63

SHEET: REV.

R1

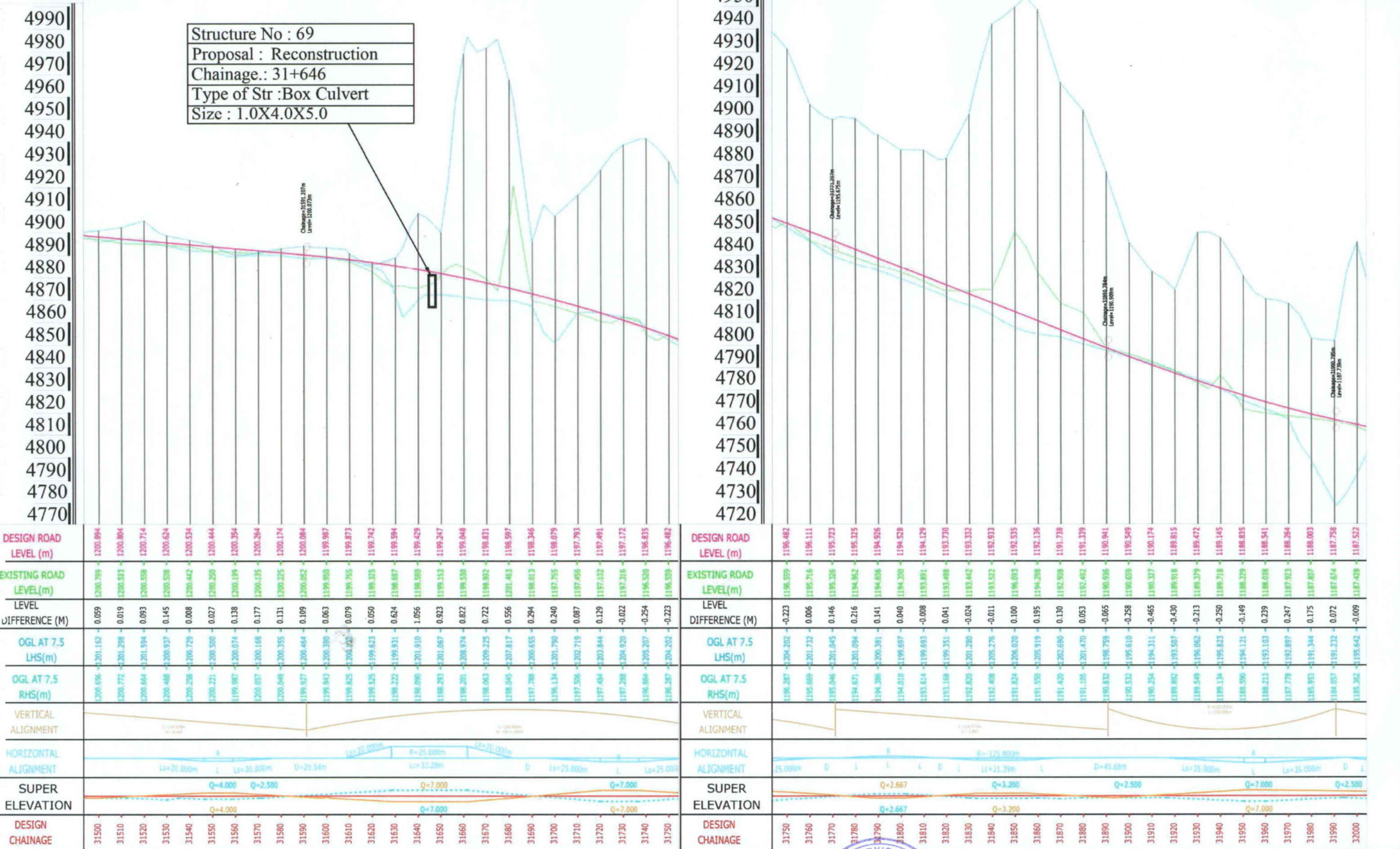
DATE DEC.-2021 DRAWN - Highway Draftsman

DESIGNED

Highway Engineering

CHECKED

APPROVED



← TO IMPHAL

TO JIRIBAM →

Structure No : 70
Proposal : Reconstruction
Chainage.: 32+060
Type of Str : Box Culvert
Size : 1.0X2.0X3.0

Structure No : 71
Proposal : Reconstruction
Chainage.: 32+460
Type of Str : Box Culvert
Size : 1.0X2.0X3.0

HIP NO. 148 AT CH. 32429.168			
X = 574170.091	Y = 2743078.272		
R (m)	80	Ls (m)	25
Dc(deg)	5.9244	S(m)	0.33
Lc(m)	8.27	Ts(deg)	8.9525
Ts(m)	29.44	Δ(deg)	23.8293
Es(m)	2.099	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 149 AT CH. 32546.431			
X = 574234.614	Y = 2742977.26		
R (m)	50	Ls (m)	40
Dc(deg)	6.6486	S(m)	1.33
Lc(m)	5.8	Ts(deg)	22.9183
Ts(m)	45.2	Δ(deg)	52.4852
Es(m)	7.229	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 143 AT CH. 32014.623			
X = 574061.133	Y = 2743421.507		
R (m)	80	Ls (m)	15
Dc(deg)	5.7461	S(m)	0.12
Lc(m)	8.02	Ts(deg)	5.3715
Ts(m)	19.11	Δ(deg)	16.489
Es(m)	0.957	e(%)	5
Design Speed (V) : 30 km/hr			

HIP NO. 144 AT CH. 32080.044			
X = 574064.884	Y = 2743355.393		
R (m)	80	Ls (m)	25
Dc(deg)	14.4371	S(m)	0.33
Lc(m)	20.16	Ts(deg)	8.9525
Ts(m)	35.78	Δ(deg)	32.342
Es(m)	3.639	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 145 AT CH. 32191.467			
X = 574008.47	Y = 2743254.018		
R (m)	60	Ls (m)	35
Dc(deg)	27.7617	S(m)	0.85
Lc(m)	29.07	Ts(deg)	16.7113
Ts(m)	53.43	Δ(deg)	61.1843
Es(m)	10.689	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 146 AT CH. 32271.751			
X = 574053.218	Y = 2743182.654		
R (m)	300	Ls (m)	
Dc(deg)	9.6578	S(m)	
Lc(m)	50.57	Ts(deg)	
Ts(m)	25.34	Δ(deg)	9.6578
Es(m)	1.069	e(%)	2.5
Design Speed (V) : 40 km/hr			

HIP NO. 147 AT CH. 32359.606			
X = 574111.82	Y = 2743116.99		
R (m)	125	Ls (m)	15
Dc(deg)	7.7748	S(m)	0.08
Lc(m)	16.96	Ts(deg)	3.4377
Ts(m)	23.58	Δ(deg)	14.6503
Es(m)	1.109	e(%)	5.69
Design Speed (V) : 40 km/hr			

Proposed Footpath
Proposed Earthen Shoulder
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline

CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR



DESIGN DIRECTOR:



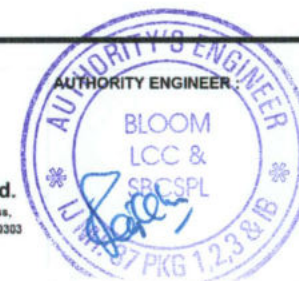
PROOF CONSULTANT:



SAFETY CONSULTANT:



AUTHORITY ENGINEER



DRAWING SCALE:

HOR: 1 : 2000

DRAWING TITLE:

PLAN 32+000 TO 32+500

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of NH-37 from Design Chainage 13.949 km to 33.120 Km (Total length-17.160 Km) (PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC) mode.

DRG. NO.

DD/IMP-JIR/-65

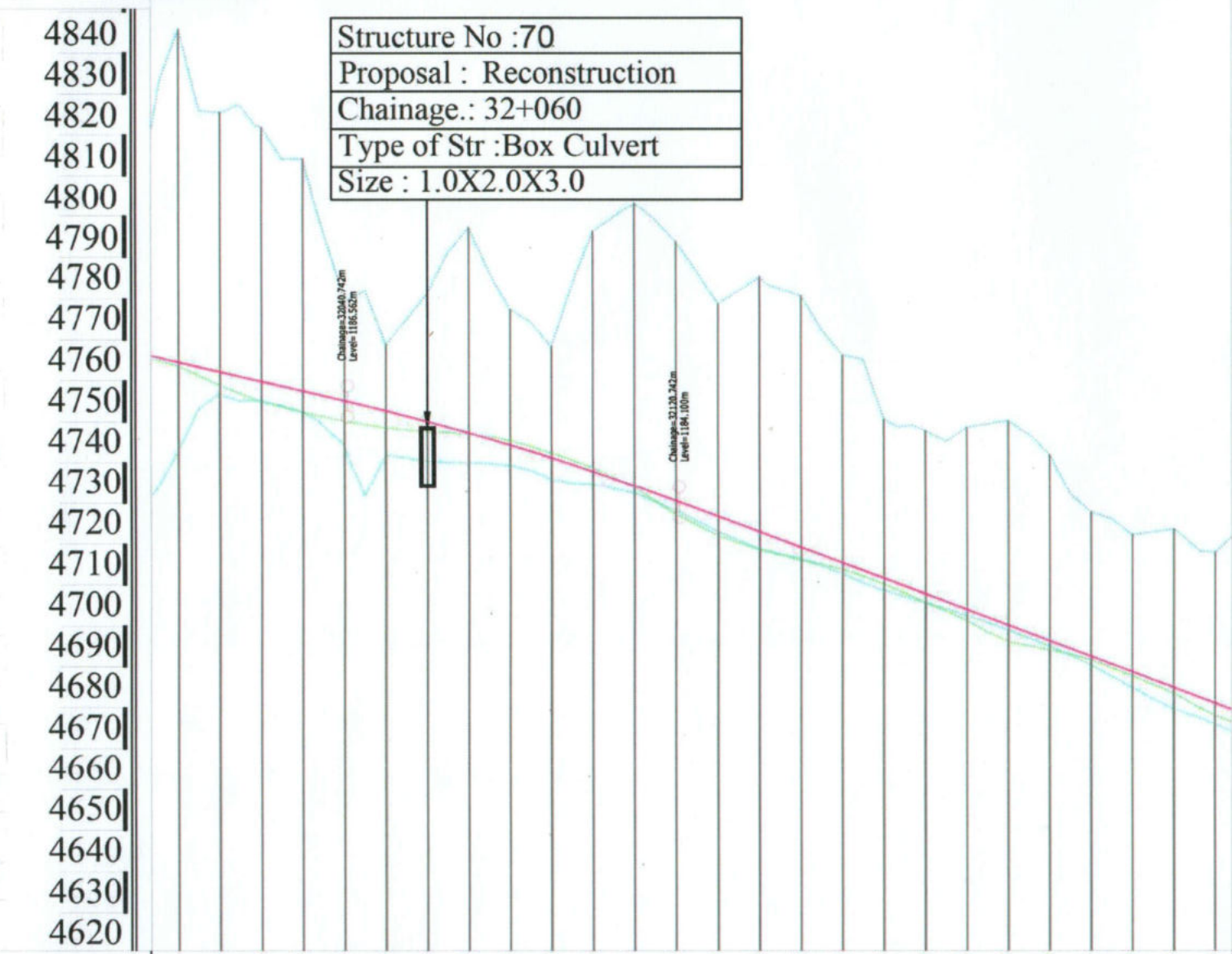
SHEET: REV.

R1

DATE DEC.-2021 DRAWN - Highway Draftsman

DESIGNED	CHECKED	APPROVED
Highway Engineering	---	---

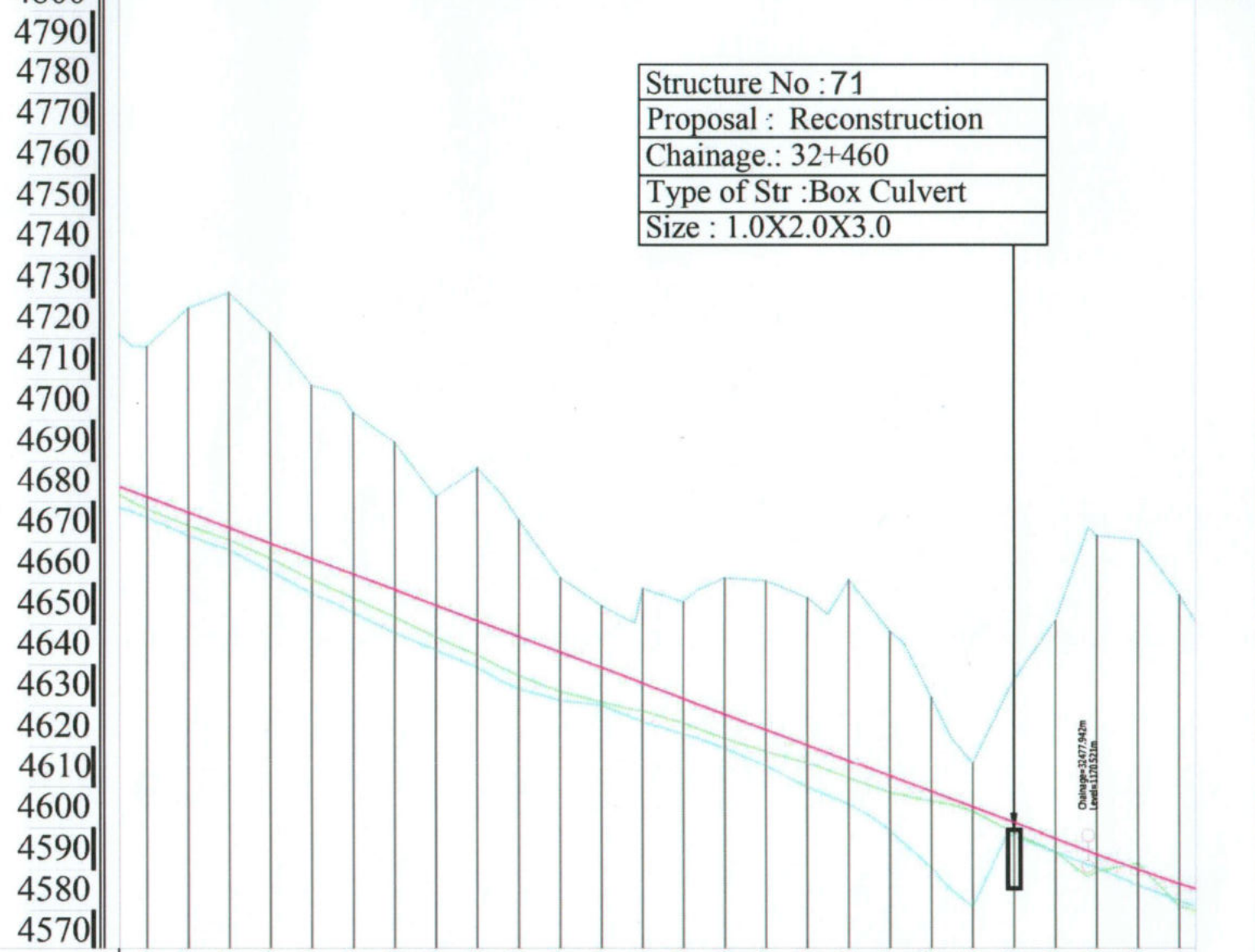
TO IMPHAL



Structure No :70
Proposal : Reconstruction
Chainage.: 32+060
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

DESIGN ROAD LEVEL (m)	1187.522	1187.286	1187.051	1186.815	1186.580	1186.337	1186.075	1185.796	1185.499	1185.183	1184.849	1184.498	1184.128	1183.748	1183.368	1182.988	1182.607	1182.227	1181.847	1181.467	1181.087	1180.707	1180.326	1179.946	1179.566	1179.186
EXISTING ROAD LEVEL (m)	1187.428	1186.959	1186.568	1186.324	1186.086	1185.919	1185.818	1185.774	1185.636	1185.299	1184.936	1184.468	1183.791	1183.256	1182.928	1182.667	1182.446	1182.227	1181.842	1181.195	1180.683	1180.479	1180.240	1179.849	1179.431	1178.882
LEVEL DIFFERENCE (M)	-0.009	0.052	0.265	0.409	0.474	0.417	0.318	0.066	-0.252	-0.397	-0.383	-0.417	-0.391	-0.135	-0.012	0.001	-0.087	-0.160	-0.107	-0.105	-0.085	-0.011	-0.259	-0.185	-0.118	0.070
OGL AT 7.5 LHS (m)	1185.562	1185.642	1185.731	1185.800	1185.850	1185.885	1185.919	1185.940	1185.950	1185.940	1185.910	1185.860	1185.790	1185.700	1185.580	1185.430	1185.260	1185.080	1184.890	1184.690	1184.480	1184.260	1184.030	1183.790	1183.540	1183.280
OGL AT 7.5 RHS (m)	1185.562	1185.642	1185.731	1185.800	1185.850	1185.885	1185.919	1185.940	1185.950	1185.940	1185.910	1185.860	1185.790	1185.700	1185.580	1185.430	1185.260	1185.080	1184.890	1184.690	1184.480	1184.260	1184.030	1183.790	1183.540	1183.280
VERTICAL ALIGNMENT																										
HORIZONTAL ALIGNMENT																										
SUPER ELEVATION																										
DESIGN CHAINAGE	32000	32010	32020	32030	32040	32050	32060	32070	32080	32090	32100	32110	32120	32130	32140	32150	32160	32170	32180	32190	32200	32210	32220	32230	32240	32250

TO JIRIBAM



Structure No :71
Proposal : Reconstruction
Chainage.: 32+460
Type of Str :Box Culvert
Size : 1.0X2.0X3.0

DESIGN ROAD LEVEL (m)	1179.186	1178.806	1178.426	1178.045	1177.665	1177.285	1176.905	1176.525	1176.145	1175.765	1175.384	1175.004	1174.624	1174.244	1173.864	1173.484	1173.103	1172.723	1172.343	1171.963	1171.583	1171.203	1170.823	1170.443	1170.075	1169.726
EXISTING ROAD LEVEL (m)	1178.882	1178.481	1178.129	1177.665	1177.156	1176.700	1176.234	1175.747	1175.304	1174.802	1174.412	1174.158	1173.946	1173.651	1173.273	1172.952	1172.655	1172.290	1171.935	1171.715	1171.472	1171.058	1170.958	1170.493	1170.022	1169.162
LEVEL DIFFERENCE (M)	0.070	0.021	-0.045	0.035	0.114	0.445	0.504	0.521	0.609	0.727	0.754	0.647	0.476	0.357	0.281	0.331	0.229	0.198	0.217	0.140	0.011	0.023	-0.086	-0.062	-0.067	0.209
OGL AT 7.5 LHS (m)	1178.674	1178.235	1177.874	1177.600	1177.422	1177.338	1177.258	1177.166	1177.060	1176.900	1176.714	1176.514	1176.314	1176.114	1175.914	1175.714	1175.514	1175.314	1175.114	1174.914	1174.714	1174.514	1174.314	1174.114	1173.914	1173.714
OGL AT 7.5 RHS (m)	1178.674	1178.235	1177.874	1177.600	1177.422	1177.338	1177.258	1177.166	1177.060	1176.900	1176.714	1176.514	1176.314	1176.114	1175.914	1175.714	1175.514	1175.314	1175.114	1174.914	1174.714	1174.514	1174.314	1174.114	1173.914	1173.714
VERTICAL ALIGNMENT																										
HORIZONTAL ALIGNMENT																										
SUPER ELEVATION																										
DESIGN CHAINAGE	32250	32260	32270	32280	32290	32300	32310	32320	32330	32340	32350	32360	32370	32380	32390	32400	32410	32420	32430	32440	32450	32460	32470	32480	32490	32500

← TO IMPHAL

TO JIRIBAM →

Structure No : 71
Proposal : Reconstruction
Chainage : 32+460
Type of Str : Box Culvert
Size : 2.0X3.0

HIP NO. 150 AT CH. 32655.658			
X = 574360.092		Y = 2742966.402	
R (m)	60	Ls (m)	35
Dc(deg)	57.9375	S(m)	0.85
Lc(m)	60.67	Ts(deg)	16.7113
Ts(m)	79.76	Δ(deg)	91.36
Es(m)	27.095	e(%)	7
Design Speed (V) : 40 km/hr			



HIP NO. 155 AT CH. 33059.288			
X = 574645.451		Y = 2742791.715	
R (m)	20	Ls (m)	20
Dc(deg)	98.2594	S(m)	0.83
Lc(m)	34.3	Ts(deg)	28.6479
Ts(m)	106.08	Δ(deg)	155.5552
Es(m)	78.391	e(%)	7
Design Speed (V) : 20 km/hr			

Structure No : 73
Proposal : Re-Construction
Chainage : 33+080
Type of Str : Minor Bridge
Size : 1.0X8.5 R.C.C Slab

Structure No : 72
Proposal : Reconstruction
Chainage : 32+832
Type of Str : Box Culvert
Size : 1.0X3.0X3.0

Proposed Footpath
Proposed Earthen Shoulder
Proposed Paved Shoulder
Proposed Carriageway
Proposed Centerline

HIP NO. 149 AT CH. 32546.431			
X = 574234.614		Y = 2742977.26	
R (m)	50	Ls (m)	40
Dc(deg)	6.6486	S(m)	1.33
Lc(m)	5.8	Ts(deg)	22.9183
Ts(m)	45.2	Δ(deg)	52.4852
Es(m)	7.229	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 151 AT CH. 32789.592			
X = 574343.257		Y = 2742814.053	
R (m)	50	Ls (m)	40
Dc(deg)	22.5092	S(m)	1.33
Lc(m)	19.64	Ts(deg)	22.9183
Ts(m)	54.74	Δ(deg)	68.3458
Es(m)	12.042	e(%)	7
Design Speed (V) : 40 km/hr			

HIP NO. 152 AT CH. 32866.173			
X = 574415.437		Y = 2742775.741	
R (m)	60	Ls (m)	15
Dc(deg)	9.7584	S(m)	0.16
Lc(m)	10.22	Ts(deg)	7.162
Ts(m)	20.33	Δ(deg)	24.0824
Es(m)	1.513	e(%)	6.67
Design Speed (V) : 30 km/hr			

HIP NO. 153 AT CH. 32918.899			
X = 574448.844		Y = 2742732.918	
R (m)	50	Ls (m)	20
Dc(deg)	24.125	S(m)	0.33
Lc(m)	21.05	Ts(deg)	11.4592
Ts(m)	31.89	Δ(deg)	47.0433
Es(m)	4.891	e(%)	7
Design Speed (V) : 30 km/hr			

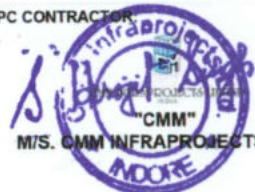
HIP NO. 154 AT CH. 32980.113			
X = 574511.593		Y = 2742727.43	
R (m)	50	Ls (m)	20
Dc(deg)	7.7326	S(m)	0.33
Lc(m)	6.75	Ts(deg)	11.4592
Ts(m)	23.78	Δ(deg)	30.651
Es(m)	2.186	e(%)	7
Design Speed (V) : 30 km/hr			

CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD

EPC CONTRACTOR :



M/S. CMM INFRA PROJECTS LTD.

DESIGN DIRECTOR :



PROOF CONSULTANT :



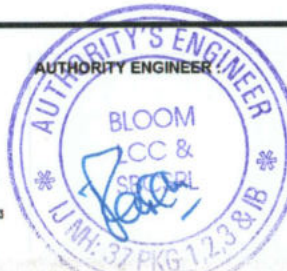
Hindia Engineers Pvt. Ltd.
Address: 191, Mohan Nagar, Connaught Place, Phase-1,
Gurgaon-Faridabad Road, Gurgaon, INDIA-122002,
Phone No. 0124-4028581

SAFETY CONSULTANT :



Antique Buildtech Pvt. Ltd.
Address: 191, Mohan Nagar, Connaught Bypass,
Jaipur-302018 (Rajasthan) Phone No. 0141-2760303
Email : info@antiquebuildtech.com

AUTHORITY ENGINEER :



DRAWING SCALE :

HOR : 1 : 2000

DRAWING TITLE :

PLAN 32+000 TO 33+100

DRG. NO.

DD/IMP-JIR/ -67

SHEET: REV.

R1

PROJECT NAME:-

Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of
NH-37 from Design Chainage 13.940 km to 33.120 Km (Total length-17.180 Km)
(PKG-2) in the State of Manipur on Engineering, Procurement & Construction (EPC)
mode.

DATE DEC-2021 DRAWN - Highway Draftsman

DESIGNED CHECKED APPROVED

Highway Engineering

