

# **Government of Jammu & Kashmir**



## **JHELUM & TAWI FLOOD RECOVERY PROJECT**

**Jammu Province**

**Consultancy Services for Preparing Detailed Project Report for the Road  
works in Jammu and Kashmir**

**Deva Mai Ohli Mandir in Reasi District**

**(Length : 4.989 km)**

**\_(DRAWINGS)**

**(Detailed Project Report)**

**September 2019**

**ep*t*isa**

# *ROAD DRAWINGS*

≡ LIST OF DRAWINGS ≡

# LIST OF DRAWINGS FOR ROAD

Sl. No.	Descriptions	Drawing No.	No.of Sheet
(A)	ROAD WORKS		
1.	List of Drawings	EPTISA/JTFRP/DPR/J&K/LOD-01	01
2.	Legend, Abbreviations & General Notes	EPTISA/JTFRP/DPR/J&K/LEGEND-01	01
3.	Index Map	EPTISA/JTFRP/DPR/J&K/IM-01	01
4.	Typical Cross Section	EPTISA/JTFRP/DPR/J&K/TCS-01 to 03	03
5.	Strip Plan	EPTISA/JTFRP/DPR/J&K/SP-01	01
6.	Plan and Profile	EPTISA/JTFRP/DPR/J&K/PP-01	06
7.	Horizontal Alignment Report	EPTISA/JTFRP/DPR/J&K/HAR-01 to 02	02
8.	Vertical Alignment Report	EPTISA/JTFRP/DPR/J&K/VAR-01	01
9.	Signage Plan	EPTISA/JTFRP/DPR/J&K/SP-01 to 05	05
10.	Utility Relocation Plan-(For Electricity Department)	EPTISA/JTFRP/DPR/J&K/URP-01 to 05	05
11.	Utility Relocation Plan-(For Telephone Department)	EPTISA/JTFRP/DPR/J&K/URP-01 to 05	05
12.	Utility Relocation Plan-(For Water Department)	EPTISA/JTFRP/DPR/J&K/URP-01 to 05	05
13.	Tree Cutting	EPTISA/JTFRP/DPR/J&K/TC-01 to 05	05
14.	<i>Miscellaneous Drawings</i>		
i.)	Road Signs & Road Delineators - (3 Sheets)	EPTISA/JTFRP/DPR/J&K/MISC-01 to 03	03
ii.)	Typical Details of Distance Stone, Boundary Stone & Guard Post	EPTISA/JTFRP/DPR/J&K/MISC-02	01
iii.)	Typical Details of Metal Beam Crash Barrier	EPTISA/JTFRP/DPR/J&K/MISC-03	01
15.	<i>GIS Mapping</i>		01
16.	Details of PCC Retaining Wall	EPTISA/JTFRP/DPR/J&K/RW-01	01
17.	Dimension Detail of Breast Wall	EPTISA/JTFRP/DPR/J&K/BW/01	01
18.	<i>Culvert Drawings</i>		
i.)	Typical General Arrangement Drawing for Single Cell Box Culvert	EPTISA/JTFRP/DPR/J&K/BOX/GAD/01	01
ii.)	Typical General Arrangement Drawing for Single Cell Pipe Culvert	EPTISA/JTFRP/DPR/J&K/PIPE/GAD/01	01

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
for the Road works in Jammu and Kashmir  
(**Deva Mai Ohli Mandir in Reasi District**)

DESIGN CONSULTANT:



**Eptisa Servicios de Ingenieria S.L.**  
Unit 1203, 12th Floor, Tower 1, PS Srijan  
Corporate Park, Plot No. 2, Block EP & GP,  
Sector v, Salt Lake Kolkata - 700091,  
West Bengal  
Ph: 033-40347200  
www.eptisa.com

REV.	DATE	DESCRIPTION

DRAWN BY : SD

DESIGNED BY : SCK/MM

APPROVED BY : KG

TITLE :

LIST OF DRAWING

DRG. NO. : EPTISA/JTFRP/DPR/J&K/LOD/01

REVISION : R-1

September 2019



≡ LEGEND, ABBREVIATIONS & GENERAL NOTES ≡

<div> <div>LEGEND</div> <div> <div>A. PLAN</div> <div>a) Existing</div> </div> </div>					
BLD_COMMERCIAL		GATE		POWER_TRANSFORMER	
EDUCATION BUILDING		GPS_PILLAR		PUMPSHED	
Building Govt		HFL		REFFREENCE_POINTS	
BLD_RESIDENTIAL		IRRIGATION_CHANNEL		ROAD_EDGE	
Carraigeway Centre		BEAM_BOTTOM		RAILS_TOP	
Chainage		GIRDER_BOTTOM		SBI_BANK	
Carraigeway Left		Level (STRING)		SHED	
Carraigeway Left Earthen		LINK_Road		SHED_RAILWAY	
Carraigeway Left Paved		MOSQUE		SLITCHAM_TOP	
STATION_POINT		MS_SEWER		SLIT_BED	
Carraigeway Right		DRAIN_BED		SUMP_TOP	
LINK_ROAD		OPENLAND		SUMP_BOTTOM	
DRAIN_BOTTOM		PARK		TOWER	
DRAIN_BED		ELECTRIC_POLE		TRENCH_TOP	
Divider		PIER_BOTTOM		TRENCH_TOP	
BEAM_TOP		LIGHTING_POLE		Verge_Median_Top	
GIRDER_TOP		MANHOLE_TOP		VERGE_FOOTPATH_TOP	
DRAIN_TOP		MANHOLE_BOTTOM		VERGE_TOP	
EMBAKMENT_BOTTOM		PILE_LINE		VERGE_TOP	
EMBAKMENT_TOP		SIGN_BOARD		WALL_BRICK	
FENCE_GRILL		TREE_POINT		Bridge	
GATE		Chinar_Tree		BRIDGE_BOTTOM	
BRIDGE_TOP		CULVERT		WALL_BLD_GOVT	
PIER_BOTTOM		WALL_STONE			

GENERAL NOTES

A) General

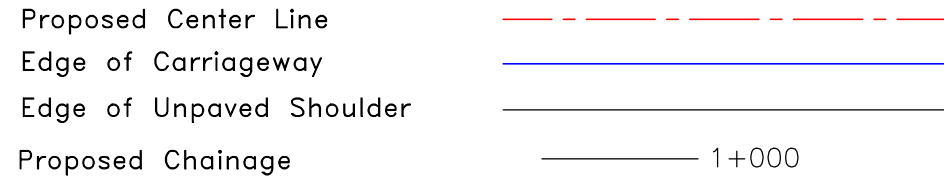
1. All angles are in degree (°) – minute (') – second (") format.
2. All chainages are in kilometres and all levels are in meters unless otherwise specified.
3. All the co–ordinates (X, Y) are with respect to GPS values (established for project road at 2 km interval).
4. Details shown in the plans are based on topographical survey carried out under the assignment,
5. The scale mentioned for all drawings is applicable for A2 sheet.

B) Geometric Design

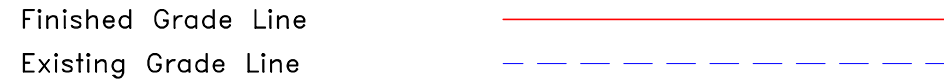
1. The pavements have been considered to be rotated about the Carriageway Center line to attain requisite amount of superelevation.

b) Proposed

A. PLAN



B. PROFILE



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Ph: 033-40347200  
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REV.	DATE	DESCRIPTION

DRAWN BY : SD

DESIGNED BY : SCK/MM

APPROVED BY : KG

SCALE : N.T.S

TITLE :

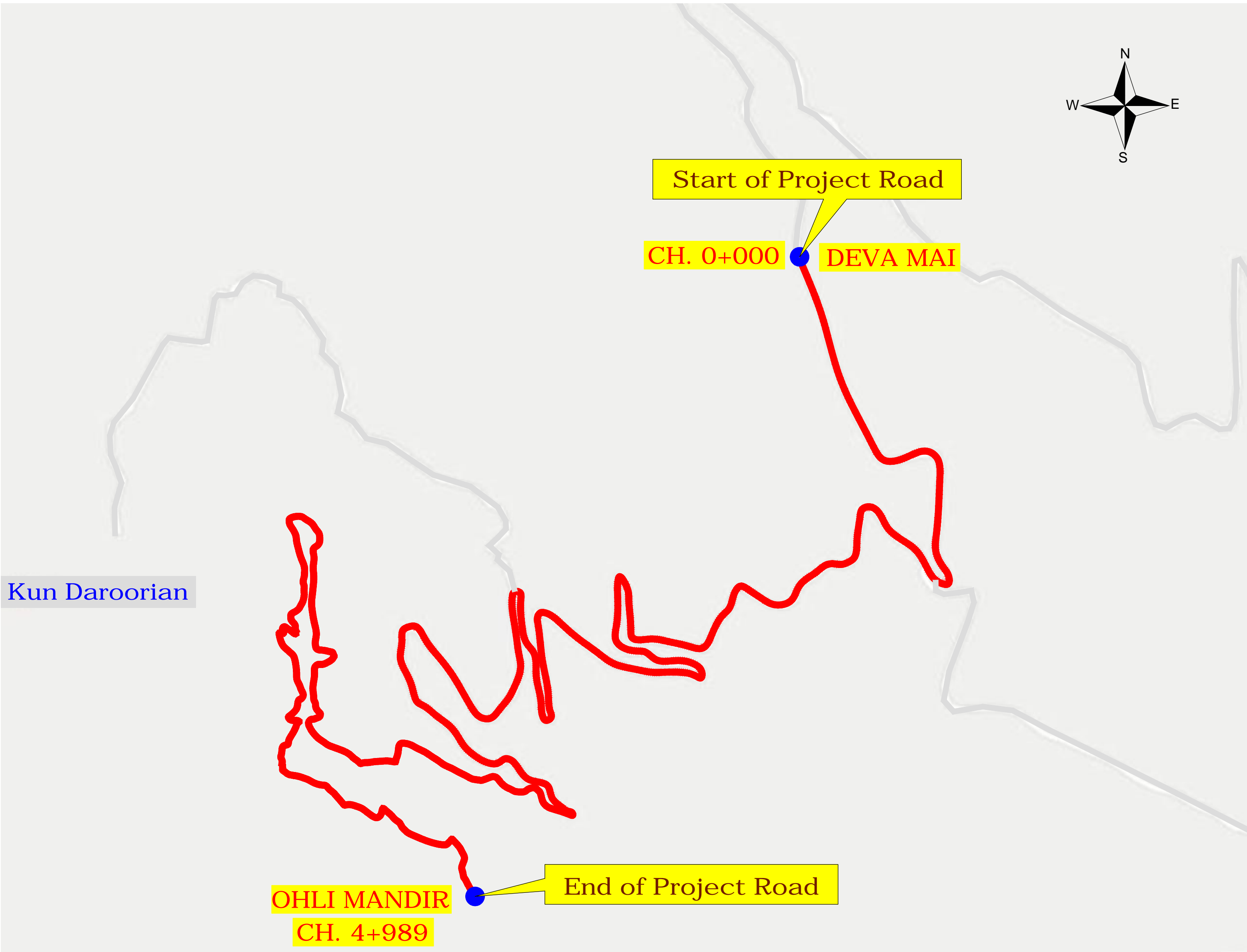
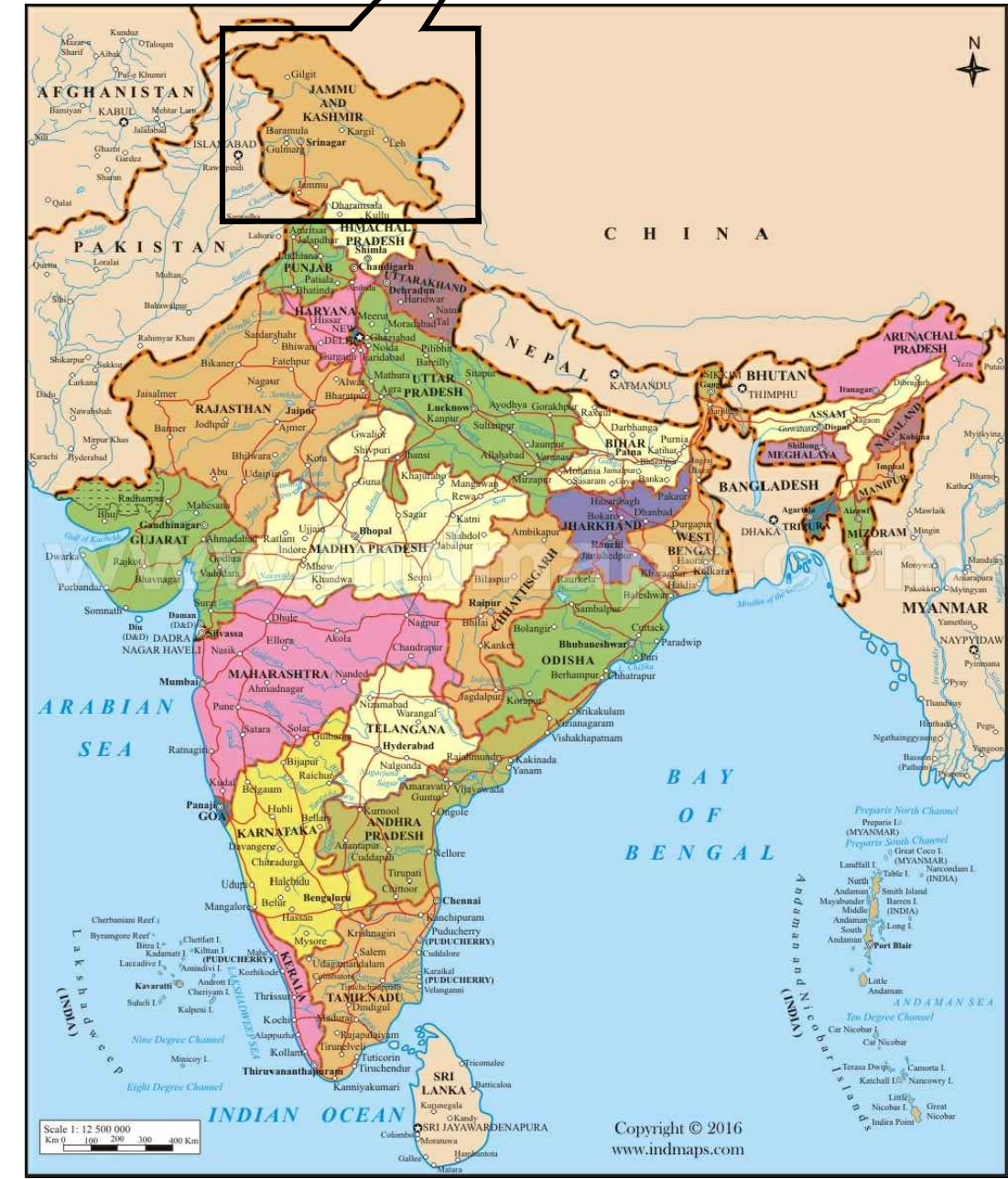
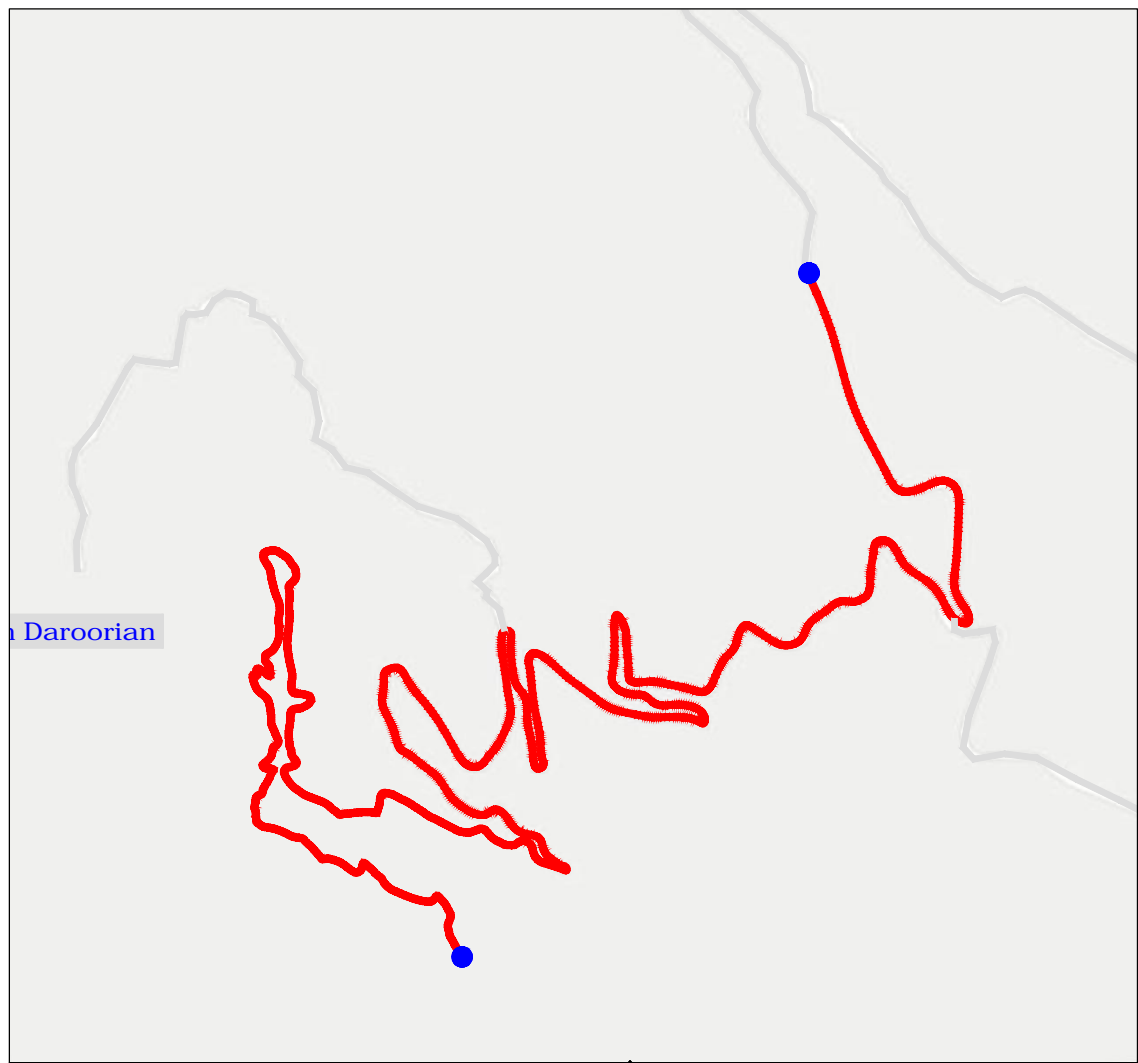
LEGEND, ABBREVIATIONS & GENERAL NOTES

DRG. NO. : EPTISA/JTRFP/DPR/J&K/LEGEND/01

REVISION : R-1


September 2019





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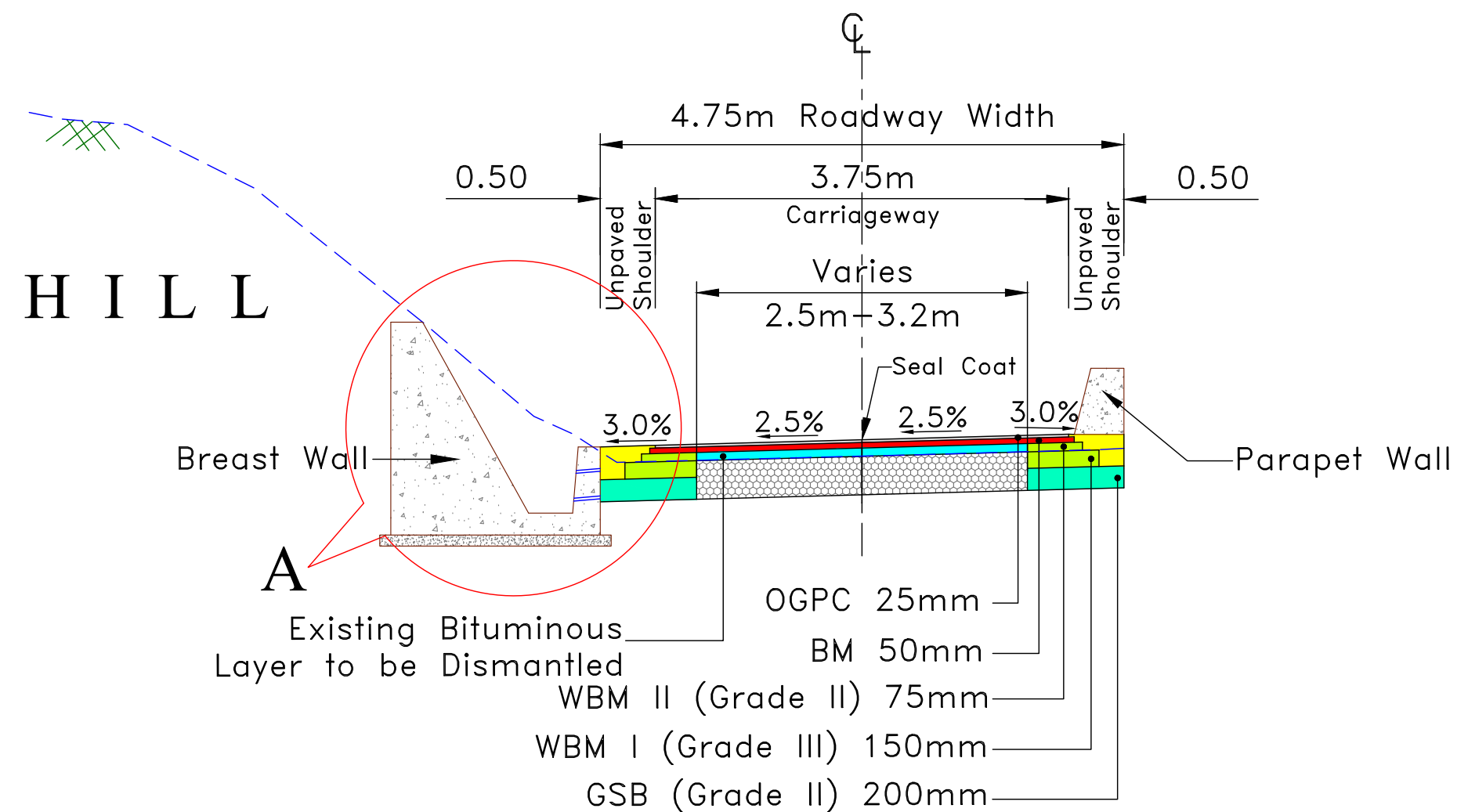
REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	N.T.S

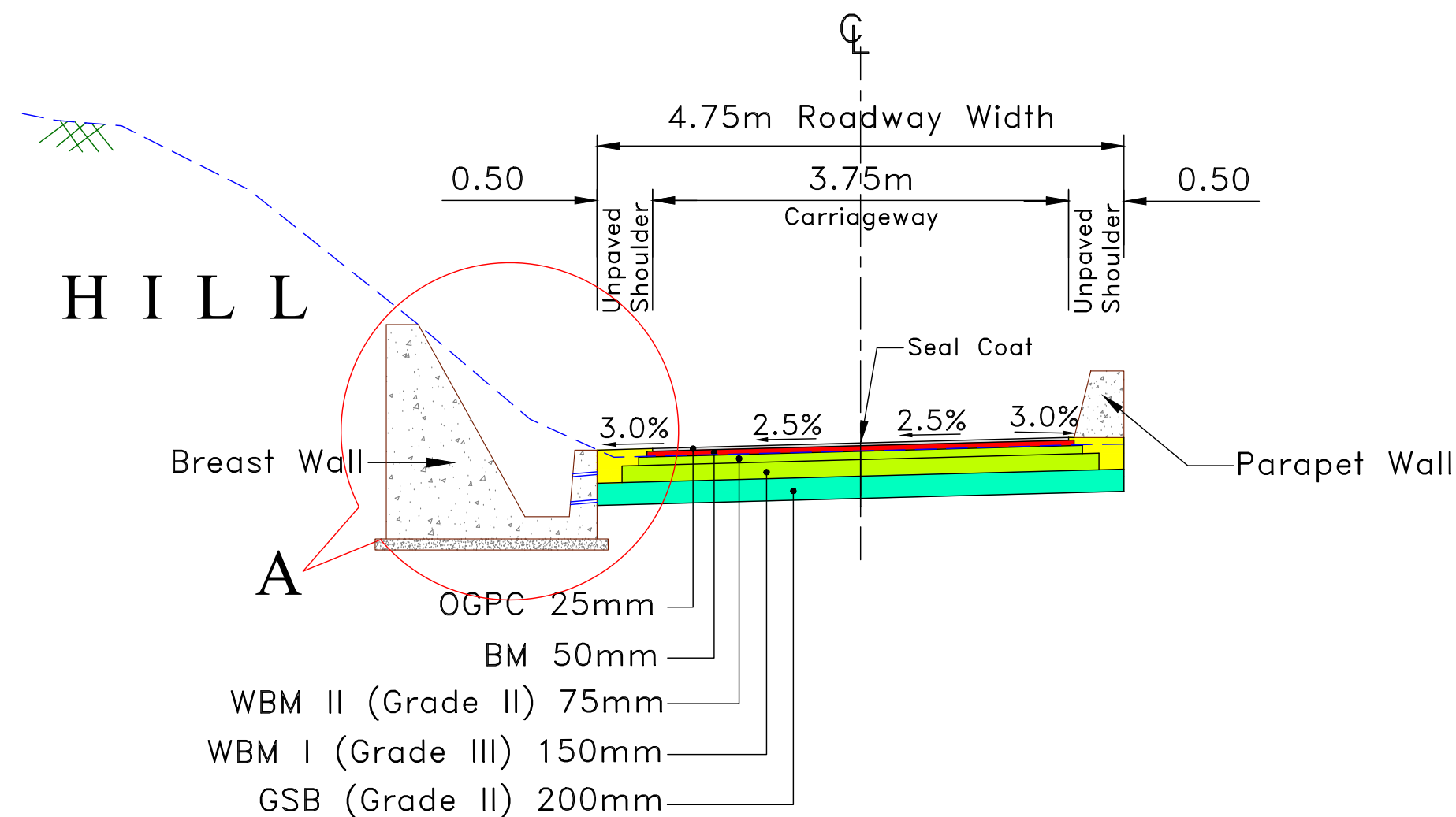
TITLE :	Index Map
DRG. NO. :	EPTISA/JTFRP/DPR/J&K/IM/01
REVISION : R-1	September 2019



≡ TYPICAL CROSS SECTIONS ≡



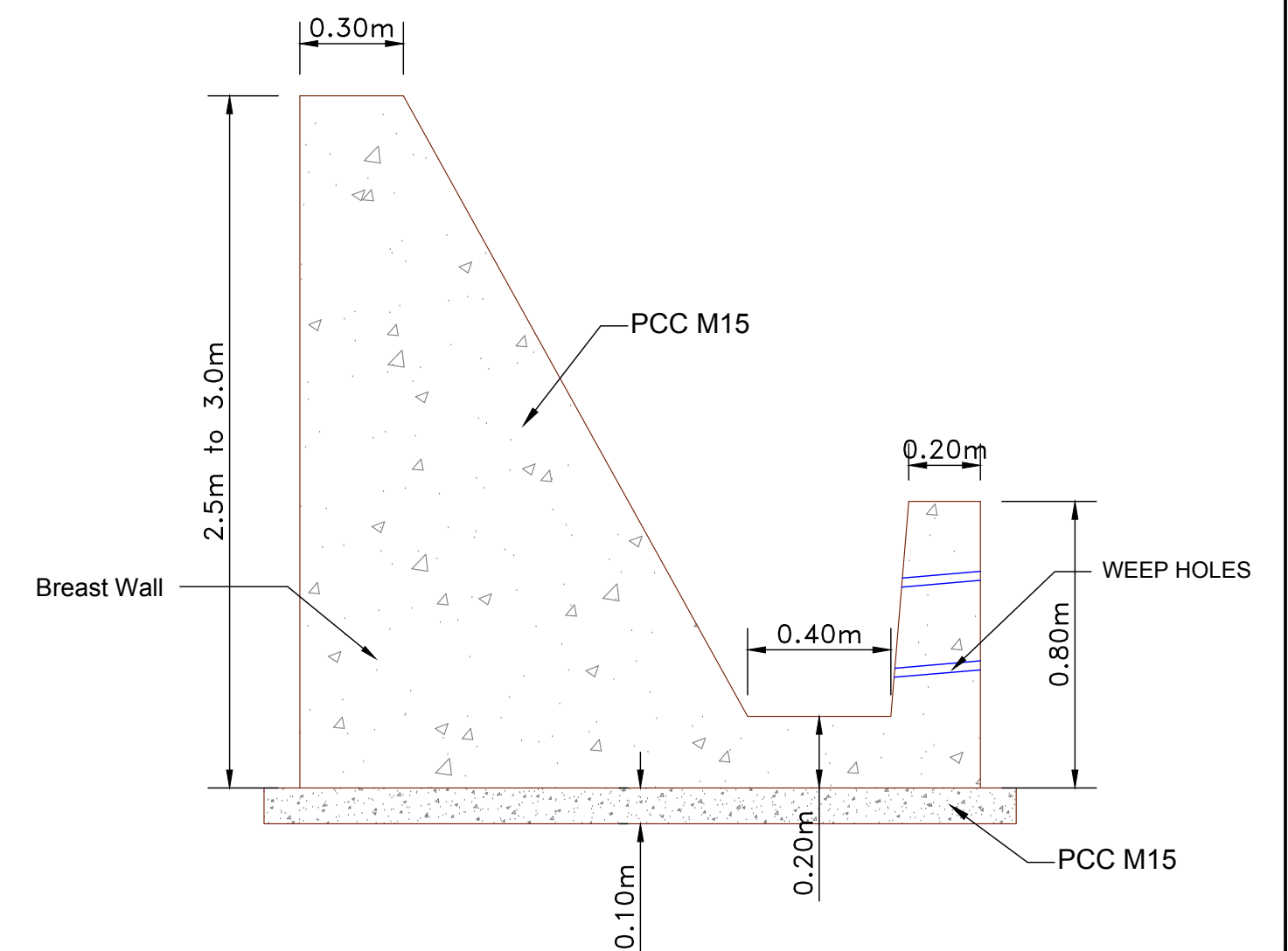
TYPE - 1 : TYPICAL CROSS SECTION OF SINGLE LANE CARRIAGEWAY AT CONCENTRIC STRETCH WITH LEFT SIDE DRAIN



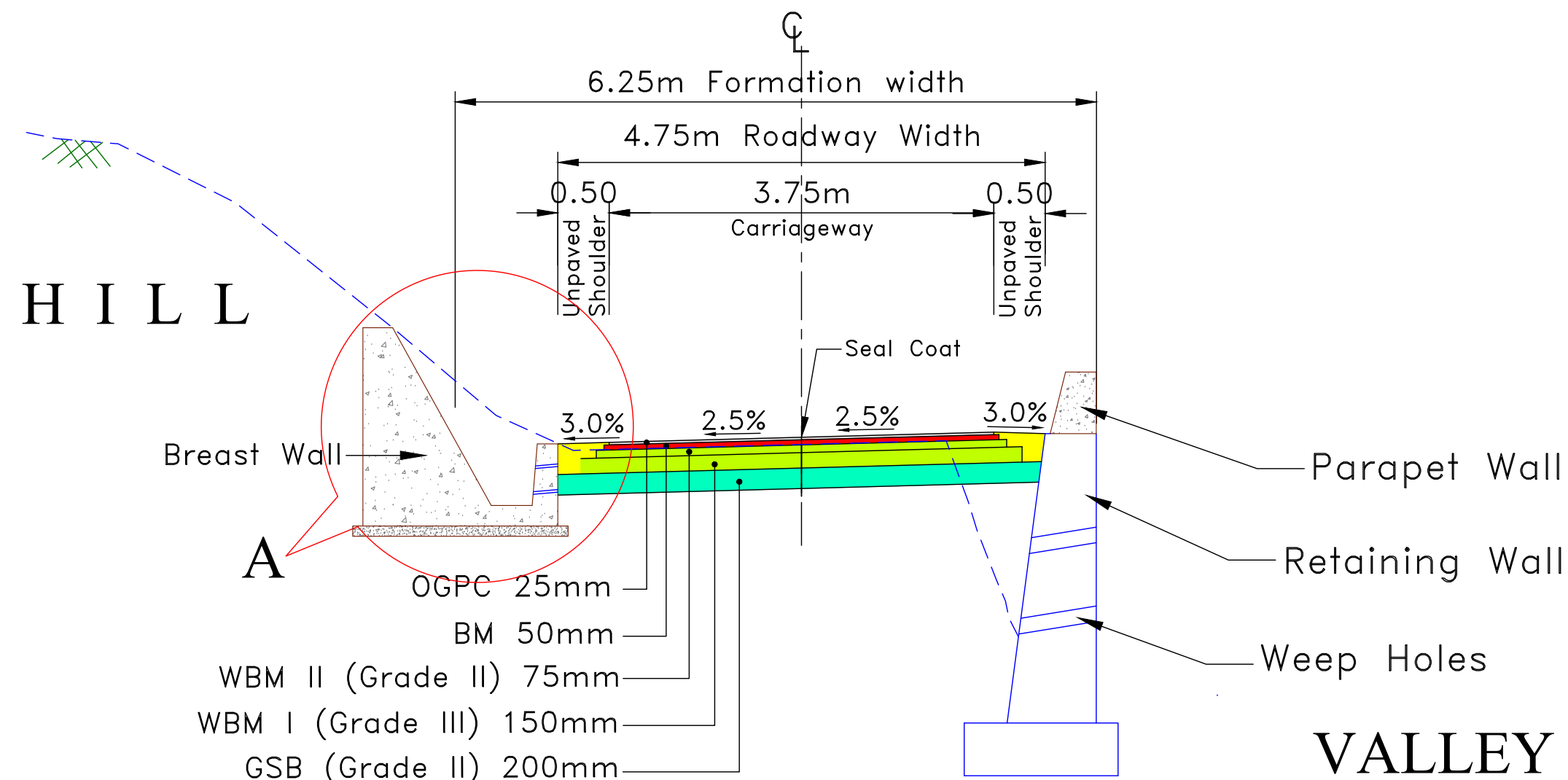
TYPE - 2 : TYPICAL CROSS SECTION OF SINGLE LANE CARRIAGEWAY AT NEW CONSTRUCTION WITH LEFT SIDE DRAIN

Note:

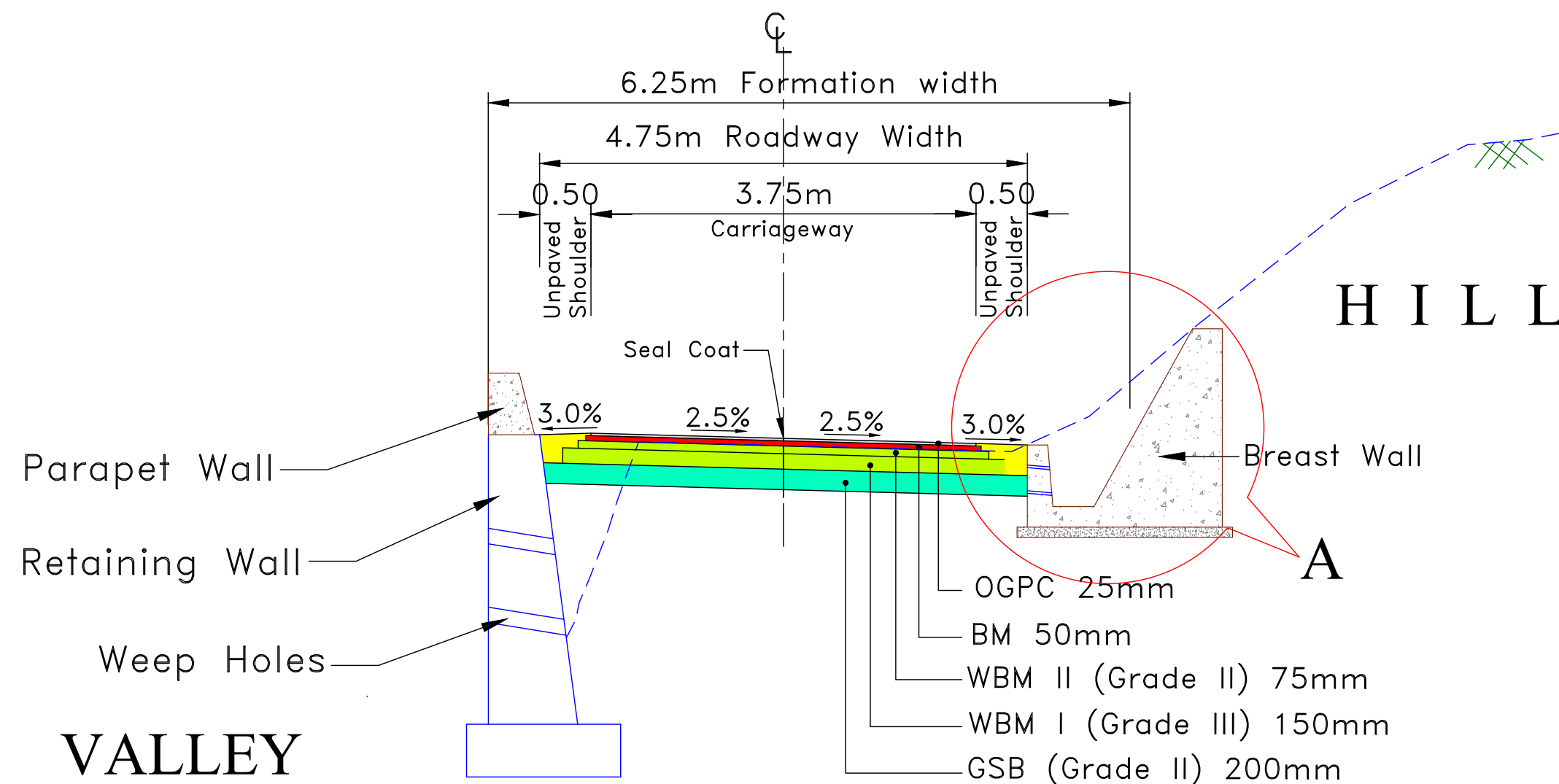
1. PCC upto 75mm thick shall be done by BM.
2. PCC from 75mm to 225mm thick shall be done by WBM after dismantling Existing Bituminous Surface.
3. PCC of thickness more than 225mm shall be done GSB after dismantling Existing Bituminous Surface.
4. PCC shall be decided based on difference in level of FRL and existing level and/or level after dismantling and recompaction of Existing Bituminous Surface.



Detail - A  
Typical Drain with Breast Wall



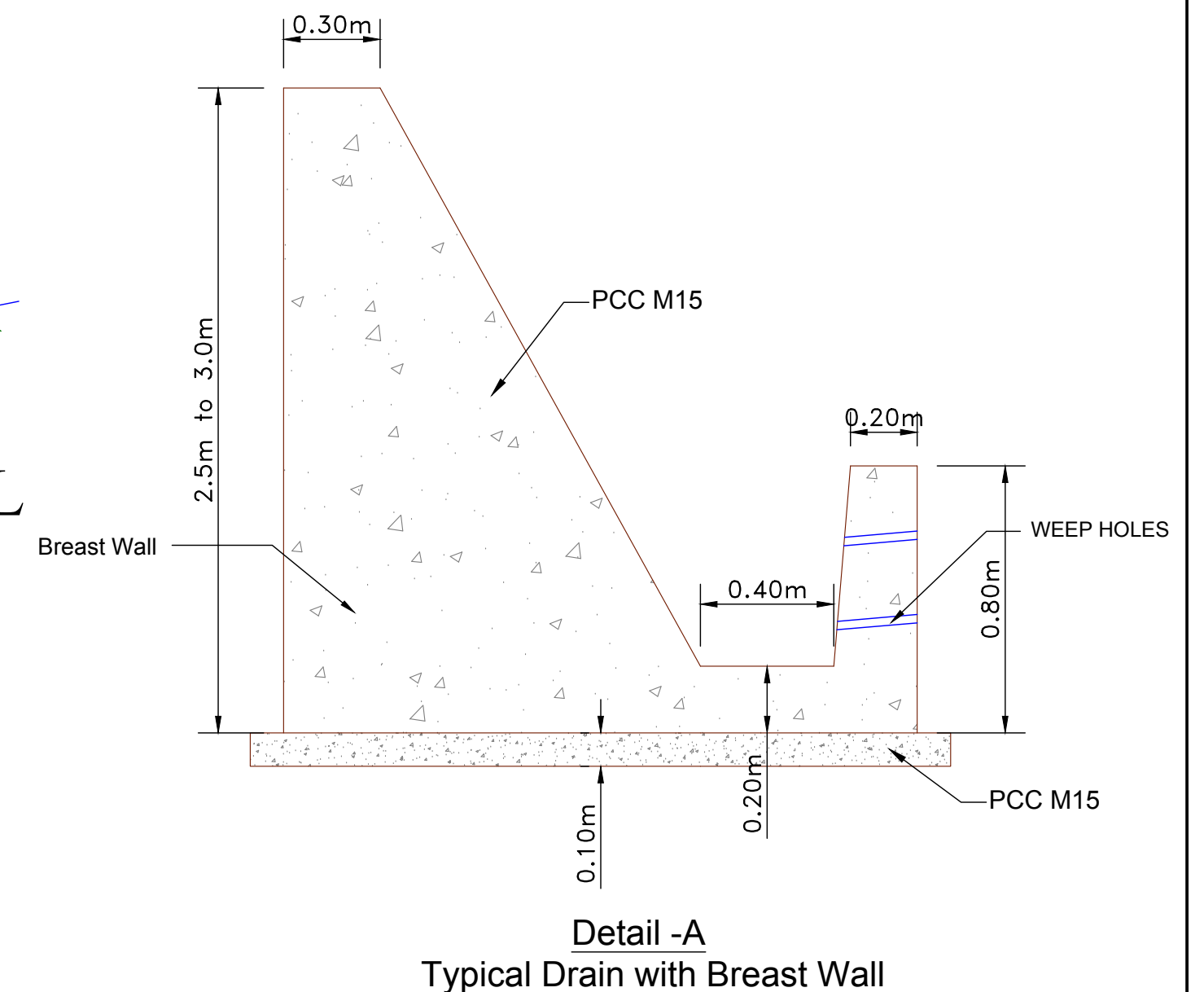
TYPE - 3 : TYPICAL CROSS SECTION OF SINGLE LANE CARRIAGEWAY AT NEW CONSTRUCTION WITH LEFT SIDE DRAIN & RIGHT SIDE RETAINING WALL



TYPE - 4 : TYPICAL CROSS SECTION OF SINGLE LANE CARRIAGEWAY AT NEW CONSTRUCTION WITH RIGHT SIDE DRAIN & LEFT SIDE RETAINING WALL

Note:

1. PCC upto 75mm thick shall be done by BM.
2. PCC from 75mm to 225mm thick shall be done by WBM after dismantling Existing Bituminous Surface.
3. PCC of thickness more than 225mm shall be done GSB after dismantling Existing Bituminous Surface.
4. PCC shall be decided based on difference in level of FRL and existing level and/or level after dismantling and recompaction of Existing Bituminous Surface.



Detail -A  
Typical Drain with Breast Wall

CLIENT : <div><p>Jhelum Tawi Flood Recovery Project 2nd Floor ERA Commercial Complex Rambagh Srinagar-190 009.</p></div>	PROJECT :  Consultancy Services for Preparing Detailed Project Report for the Road works in Jammu and Kashmir <b><u>(Deva Mai Ohli Mandir in Reasi District)</u></b>	DESIGN CONSULTANT: <div><p><b>Eptisa Servicios de Ingenieria S.L.</b> Unit 1203, 12th Floor, Tower 1, PS Srijan Corporate Park, Plot No. 2, Block EP &amp; GP, Sector v, Salt Lake Kolkata - 700091, West Bengal Ph: 033-40347200 www.eptisa.com</p></div>				DRAWN BY : SD	TITLE :  TYPICAL CROSS SECTION	
						DESIGNED BY : SCK/MM		
						APPROVED BY : KG		DRG. NO. : EPTISA/JTFRP/DPR/J&K/TCS/02
			REV.	DATE	DESCRIPTION	SCALE : 1:80	REVISION : R-1	September 2019

1. PCC upto 75mm thick shall be done by BM.

3.PCC of thickness more than 225mm shall be done GSB after dismantling Existing Bituminous Surface.

The diagram illustrates the cross-section of a road formation. The total formation width is 6.25m, which includes a 4.75m roadway width and two 0.50m unpaved shoulders. The roadway width is further divided into a 3.75m carriageway and two 0.50m unpaved shoulders. The road surface is composed of several layers: a 25mm OGPC (Open Graded Friction Course) layer, a 50mm BM (Base Material) layer, a 75mm WBM II (Grade II) layer, a 150mm WBM I (Grade III) layer, and a 200mm GSB (Grade II) layer. The road is flanked by hills, and the cross-section shows a 3.0% slope on the left and right shoulders, and a 2.5% slope on the central carriageway. A seal coat is applied to the top of the road surface. A red circle labeled 'A' highlights the left shoulder area, which is detailed in the adjacent diagram.

**L**

0.30m

2.5m to 3.0m

Breast Wall

PCC M15

0.40m

0.20m

0.80m

WEEP HOLES

0.20m

0.10m

PCC M15

CLIENT :



JHELUM & TAWI  
FLOOD RECOVERY PROJECT

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REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	1:80

TITLE :  TYPICAL CROSS SECTION	
DRG. NO. : EPTISA/JTFRP/DPR/J&K/TCS/03	
REVISION : R-1	September 2019





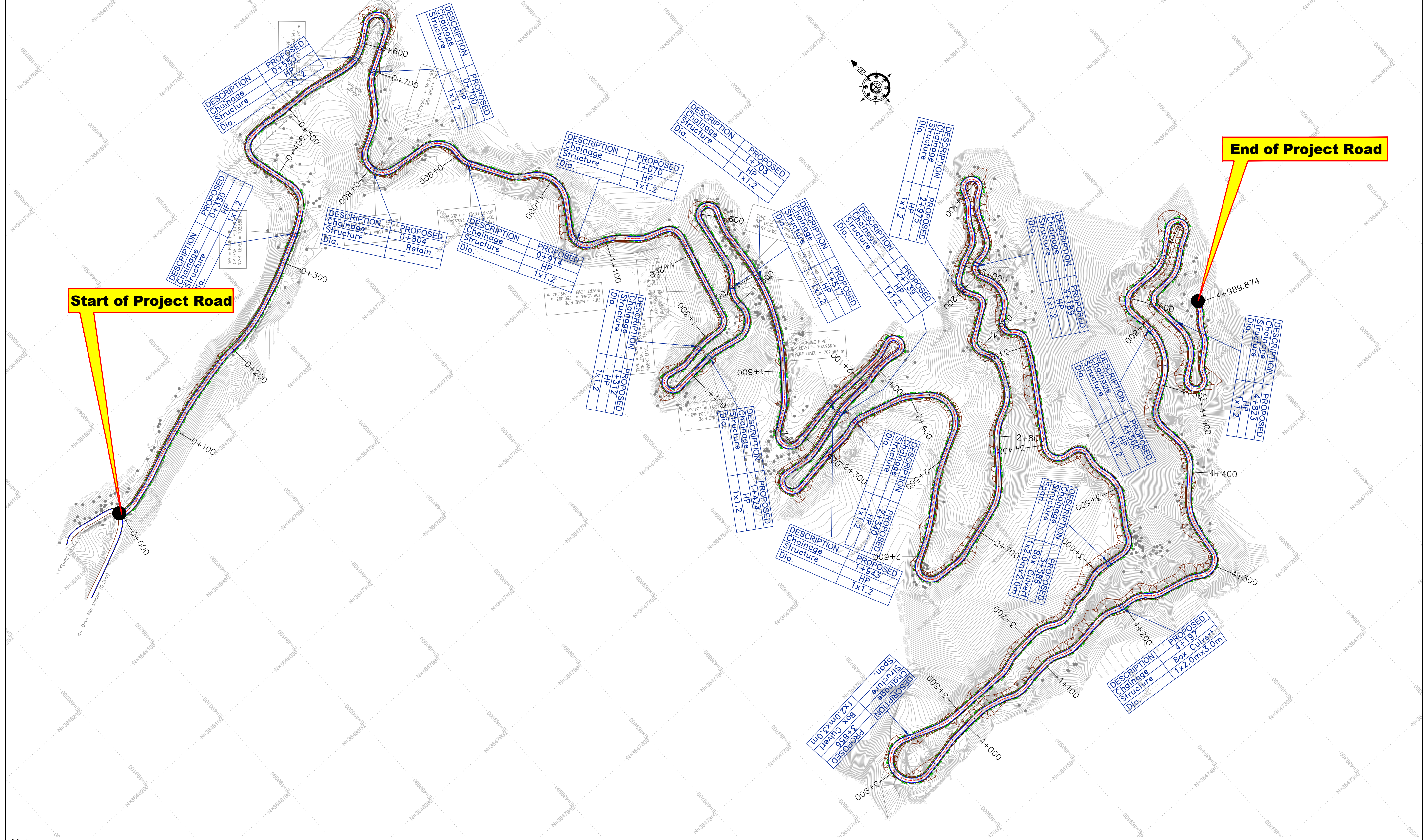






← Devamai

Ohli Mandir →



Note:  
1. Horizontal Curve Details as referred in dwg no.EPTISA/JTRFP/DPR/J&K/HAR/01 to 02

(PROFILE ON NEXT SHEET)

CLIENT :



Jhelum & Tawi  
FLOOD RECOVERY PROJECT

Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
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PROJECT :

Consultancy Services for Preparing Detailed Project Report  
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(Deva Mai Ohli Mandir in Reasi District)

DESIGN CONSULTANT:



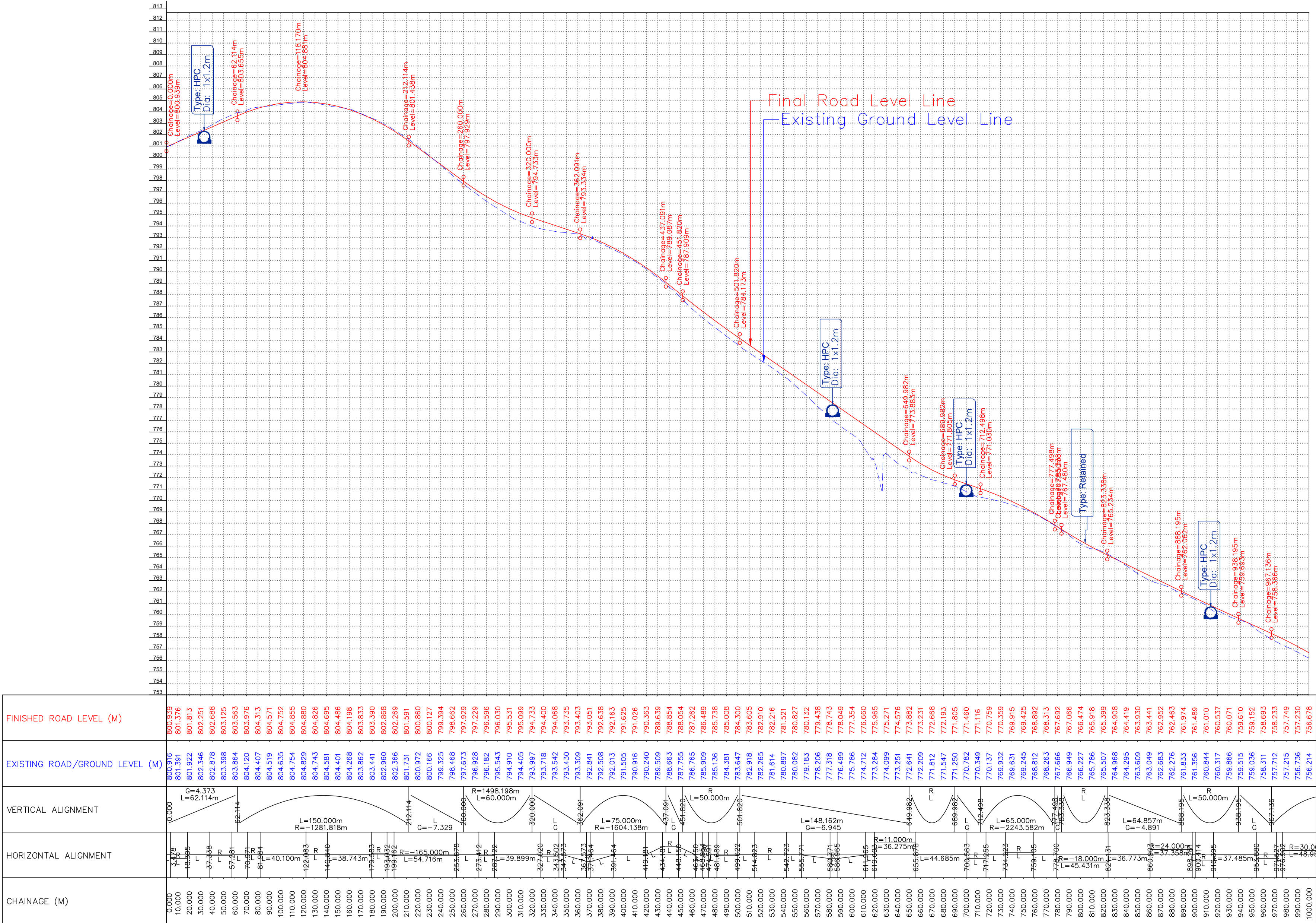
**Eptisa** *Servicios de Ingenieria S.L.*  
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Sector v, Salt Lake Kolkata - 700091,  
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REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	HOR 1:2500 VER 1:250

TITLE :	Plan (km 0+000 to km 4+989.874)
DRG. NO. :	EPTISA/JTRFP/DPR/J&K/PP/01
REVISION : R-1	September 2019





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REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	HOR 1:2500 VER 1:250

TITLE :	Profile (km 0+000 to km 1+000)
DRG. NO. :	EPTISA/JTRFP/DPR/J&K/PP/01a
REVISION : R-1	September 2019





FINISHED ROAD LEVEL (M)	756.214 756.093 755.795 755.474 755.273 754.822 754.136 753.416 752.663 751.878 751.084 750.296 749.544 748.832 748.160 747.528 746.937 746.380 745.826 745.273 744.720 744.167 743.614 743.061 742.508 741.954 741.401 740.848 740.295 739.742 739.189 738.636 738.082 737.529 736.976 736.423 735.870 735.317 734.764 734.210 733.657 733.104 732.551 731.997 731.444 730.891 730.338 730.785 730.232 729.679 729.126 728.573 728.020 727.467 726.914 726.361 725.808 725.255 724.702 724.149 723.596 723.043 722.490 721.937 721.384 720.831 720.278 719.725 719.172 718.619 718.066 717.513 716.960 716.407 715.854 715.301 714.748 714.195 713.642 713.089 712.536 711.983 711.430 710.877 710.324 709.771 709.218 708.665 708.112 707.559 707.006 706.453 705.900 705.347 704.794 704.241 703.688 703.135 702.582 702.029 701.476 700.923 700.370 700.817
EXISTING ROAD/GROUND LEVEL (M)	756.214 755.795 755.273 754.822 754.136 753.416 752.663 751.878 751.084 750.296 749.544 748.832 748.160 747.528 746.937 746.380 745.826 745.273 744.720 744.167 743.614 743.061 742.508 741.954 741.401 740.848 740.295 739.742 739.189 738.636 738.082 737.529 736.976 736.423 735.870 735.317 734.764 734.210 733.657 733.104 732.551 731.997 731.444 730.891 730.338 730.785 730.232 729.679 729.126 728.573 728.020 727.467 726.914 726.361 725.808 725.255 724.702 724.149 723.596 723.043 722.490 721.937 721.384 720.831 720.278 719.725 719.172 718.619 718.066 717.513 716.960 716.407 715.854 715.301 714.748 714.195 713.642 713.089 712.536 711.983 711.430 710.877 710.324 709.771 709.218 708.665 708.112 707.559 707.006 706.453 705.900 705.347 704.794 704.241 703.688 703.135 702.582 702.029 701.476 700.923 700.370 700.817
VERTICAL ALIGNMENT	
HORIZONTAL ALIGNMENT	
CHAINAGE (M)	1000.000 1010.000 1020.000 1030.000 1040.000 1050.000 1060.000 1070.000 1080.000 1090.000 1100.000 1110.000 1120.000 1130.000 1140.000 1150.000 1160.000 1170.000 1180.000 1190.000 1200.000 1210.000 1220.000 1230.000 1240.000 1250.000 1260.000 1270.000 1280.000 1290.000 1300.000 1310.000 1320.000 1330.000 1340.000 1350.000 1360.000 1370.000 1380.000 1390.000 1400.000 1410.000 1420.000 1430.000 1440.000 1450.000 1460.000 1470.000 1480.000 1490.000 1500.000 1510.000 1520.000 1530.000 1540.000 1550.000 1560.000 1570.000 1580.000 1590.000 1600.000 1610.000 1620.000 1630.000 1640.000 1650.000 1660.000 1670.000 1680.000 1690.000 1700.000 1710.000 1720.000 1730.000 1740.000 1750.000 1760.000 1770.000 1780.000 1790.000 1800.000 1810.000 1820.000 1830.000 1840.000 1850.000 1860.000 1870.000 1880.000 1890.000 1900.000 1910.000 1920.000 1930.000 1940.000 1950.000 1960.000 1970.000 1980.000 1990.000 2000.000

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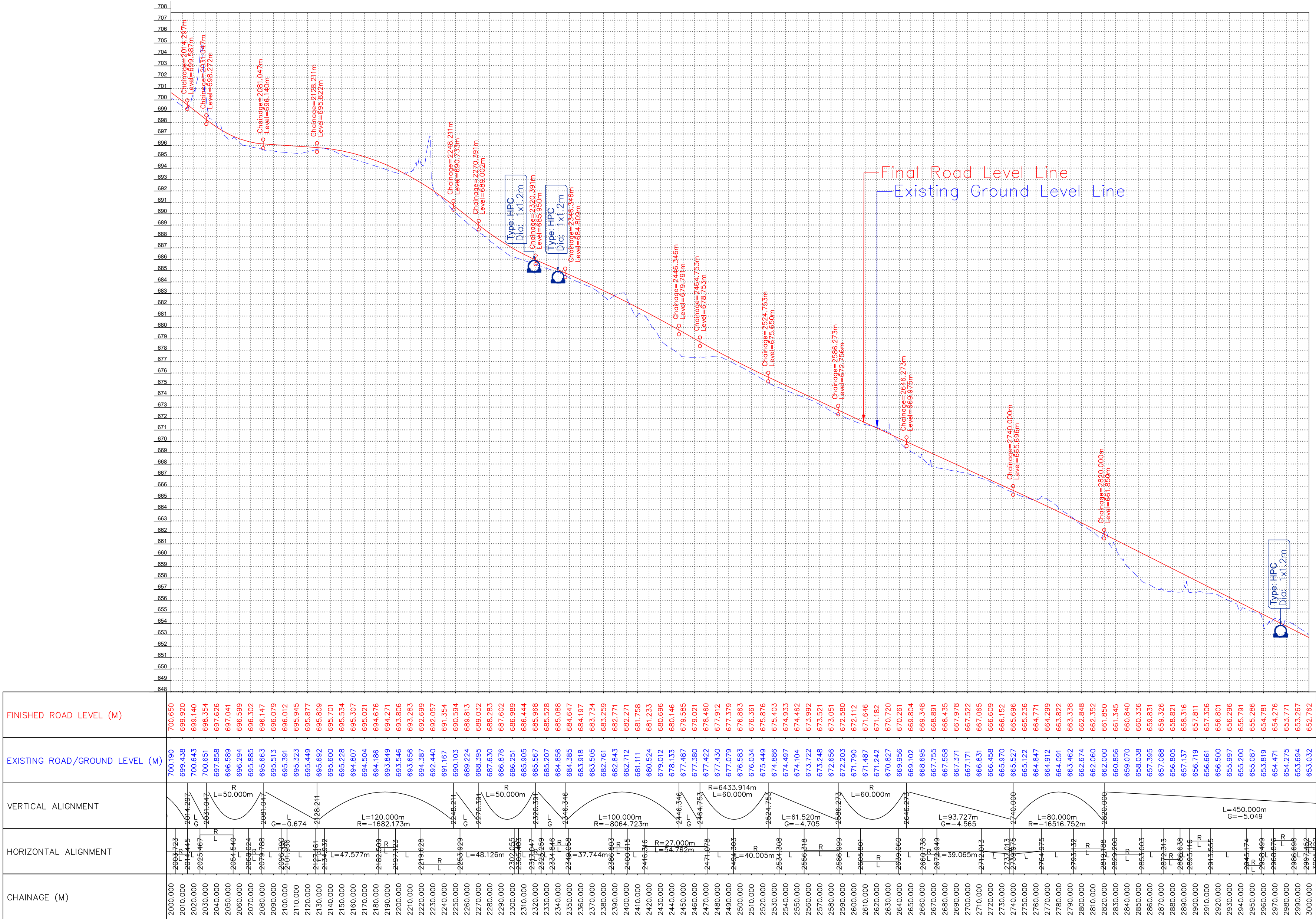
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REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	HOR 1:2500 VER 1:250

TITLE :	Profile (km 1+000 to km 2+000)
DRG. NO. :	EPTISA/JTRFP/DPR/J&K/PP/01b
REVISION : R-1	September 2019





CHAINAGE (M)	HORIZONTAL ALIGNMENT	VERTICAL ALIGNMENT	EXISTING ROAD/GROUND LEVEL (M)	FINISHED ROAD LEVEL (M)
2000.000	2003.723 G = -2.614		700.190	700.650
2010.000	2014.297 G = -2.614		699.438	699.920
2020.000	2025.047 G = -2.614		700.643	699.140
2030.000	2035.047 G = -2.614		700.651	698.354
2040.000	2045.047 G = -2.614		697.858	697.626
2050.000	2055.047 G = -2.614		696.589	697.041
2060.000	2065.047 G = -2.614		696.294	696.599
2070.000	2075.047 G = -2.614		695.885	696.302
2080.000	2085.047 G = -2.614		695.663	696.147
2090.000	2095.047 G = -2.614		695.513	696.079
2100.000	2105.047 G = -2.614		695.391	696.012
2110.000	2115.047 G = -2.614		695.323	695.945
2120.000	2125.047 G = -2.614		695.449	695.877
2130.000	2135.047 G = -2.614		695.692	695.809
2140.000	2145.047 G = -2.614		695.600	695.701
2150.000	2155.047 G = -2.614		695.534	695.534
2160.000	2165.047 G = -2.614		694.807	695.307
2170.000	2175.047 G = -2.614		694.504	695.021
2180.000	2185.047 G = -2.614		694.186	694.676
2190.000	2195.047 G = -2.614		693.849	694.271
2200.000	2205.047 G = -2.614		693.546	693.806
2210.000	2215.047 G = -2.614		693.656	693.283
2220.000	2225.047 G = -2.614		694.387	692.699
2230.000	2235.047 G = -2.614		692.440	692.057
2240.000	2245.047 G = -2.614		691.167	691.364
2250.000	2255.047 G = -2.614		690.103	690.594
2260.000	2265.047 G = -2.614		689.224	689.813
2270.000	2275.047 G = -2.614		688.395	689.032
2280.000	2285.047 G = -2.614		687.630	688.283
2290.000	2295.047 G = -2.614		686.876	687.602
2300.000	2305.047 G = -2.614		686.251	686.989
2310.000	2315.047 G = -2.614		685.905	686.444
2320.000	2325.047 G = -2.614		685.567	685.968
2330.000	2335.047 G = -2.614		685.207	685.528
2340.000	2345.047 G = -2.614		684.856	685.088
2350.000	2355.047 G = -2.614		684.385	684.647
2360.000	2365.047 G = -2.614		683.918	684.197
2370.000	2375.047 G = -2.614		683.505	683.734
2380.000	2385.047 G = -2.614		682.761	683.259
2390.000	2395.047 G = -2.614		682.843	682.771
2400.000	2405.047 G = -2.614		682.712	682.271
2410.000	2415.047 G = -2.614		681.111	681.758
2420.000	2425.047 G = -2.614		680.524	681.233
2430.000	2435.047 G = -2.614		679.012	680.696
2440.000	2445.047 G = -2.614		678.133	680.146
2450.000	2455.047 G = -2.614		677.487	679.585
2460.000	2465.047 G = -2.614		677.380	679.021
2470.000	2475.047 G = -2.614		677.422	678.460
2480.000	2485.047 G = -2.614		677.912	677.912
2490.000	2495.047 G = -2.614		677.079	677.379
2500.000	2505.047 G = -2.614		676.583	676.863
2510.000	2515.047 G = -2.614		676.034	676.361
2520.000	2525.047 G = -2.614		675.449	675.876
2530.000	2535.047 G = -2.614		674.886	675.403
2540.000	2545.047 G = -2.614		674.497	674.933
2550.000	2555.047 G = -2.614		674.104	674.462
2560.000	2565.047 G = -2.614		673.722	673.992
2570.000	2575.047 G = -2.614		673.248	673.521
2580.000	2585.047 G = -2.614		672.656	673.051
2590.000	2595.047 G = -2.614		672.203	672.580
2600.000	2605.047 G = -2.614		671.790	672.112
2610.000	2615.047 G = -2.614		671.467	671.646
2620.000	2625.047 G = -2.614		671.242	671.182
2630.000	2635.047 G = -2.614		670.827	670.720
2640.000	2645.047 G = -2.614		669.956	670.261
2650.000	2655.047 G = -2.614		669.102	669.804
2660.000	2665.047 G = -2.614		668.348	669.348
2670.000	2675.047 G = -2.614		667.755	668.891
2680.000	2685.047 G = -2.614		667.558	668.435
2690.000	2695.047 G = -2.614		667.371	667.978
2700.000	2705.047 G = -2.614		667.171	667.522
2710.000	2715.047 G = -2.614		666.831	667.065
2720.000	2725.047 G = -2.614		666.458	666.609
2730.000	2735.047 G = -2.614		665.970	666.152
2740.000	2745.047 G = -2.614		665.527	665.696
2750.000	2755.047 G = -2.614		665.122	665.236
2760.000	2765.047 G = -2.614		664.847	664.771
2770.000	2775.047 G = -2.614		664.912	664.299
2780.000	2785.047 G = -2.614		664.091	663.822
2790.000	2795.047 G = -2.614		663.462	663.338
2800.000	2805.047 G = -2.614		662.674	662.848
2810.000	2815.047 G = -2.614		662.060	662.352
2820.000	2825.047 G = -2.614		662.000	661.850
2830.000	2835.047 G = -2.614		660.856	661.345
2840.000	2845.047 G = -2.614		659.070	660.840
2850.000	2855.047 G = -2.614		658.038	660.336
2860.000	2865.047 G = -2.614		657.395	659.831
2870.000	2875.047 G = -2.614		657.088	659.326
2880.000	2885.047 G = -2.614		656.805	658.821
2890.000	2895.047 G = -2.614		657.137	658.316
2900.000	2905.047 G = -2.614		656.719	657.811
2910.000	2915.047 G = -2.614		656.661	657.306
2920.000	2925.047 G = -2.614		656.500	656.801
2930.000	2935.047 G = -2.614		655.997	656.296
2940.000	2945.047 G = -2.614		655.200	655.791
2950.000	2955.047 G = -2.614		655.087	655.286
2960.000	2965.047 G = -2.614		653.819	654.781
2970.000	2975.047 G = -2.614		654.471	654.276
2980.000	2985.047 G = -2.614		654.275	653.771
2990.000	2995.047 G = -2.614		653.694	653.267
3000.000	3005.047 G = -2.614		653.032	652.762

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
for the Road works in Jammu and Kashmir  
(Deva Mai Ohli Mandir in Reasi District)

DESIGN CONSULTANT:



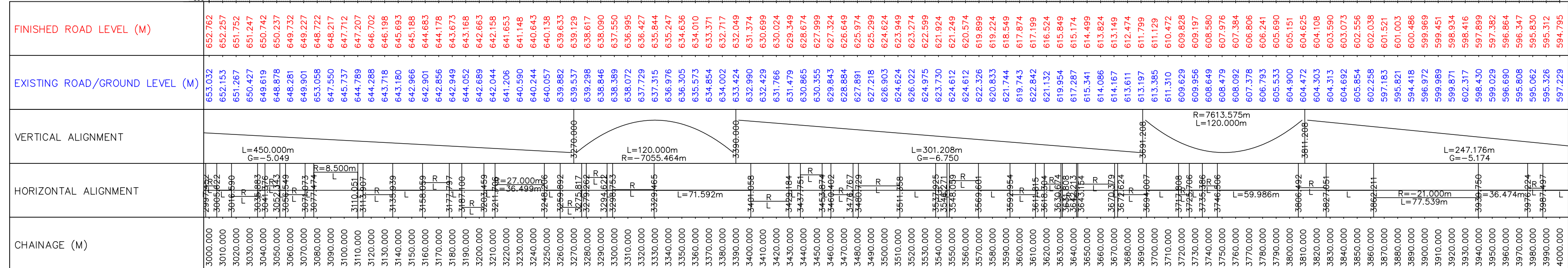
Eptisa Servicios de Ingenieria S.L.  
Unit 1203, 12th Floor, Tower 1, PS Srijan  
Corporate Park, Plot No. 2, Block EP & GP,  
Sector v, Salt Lake Kolkata - 700091,  
West Bengal  
Ph: 033-40347200  
www.eptisa.com

REV.	DATE	DESCRIPTION

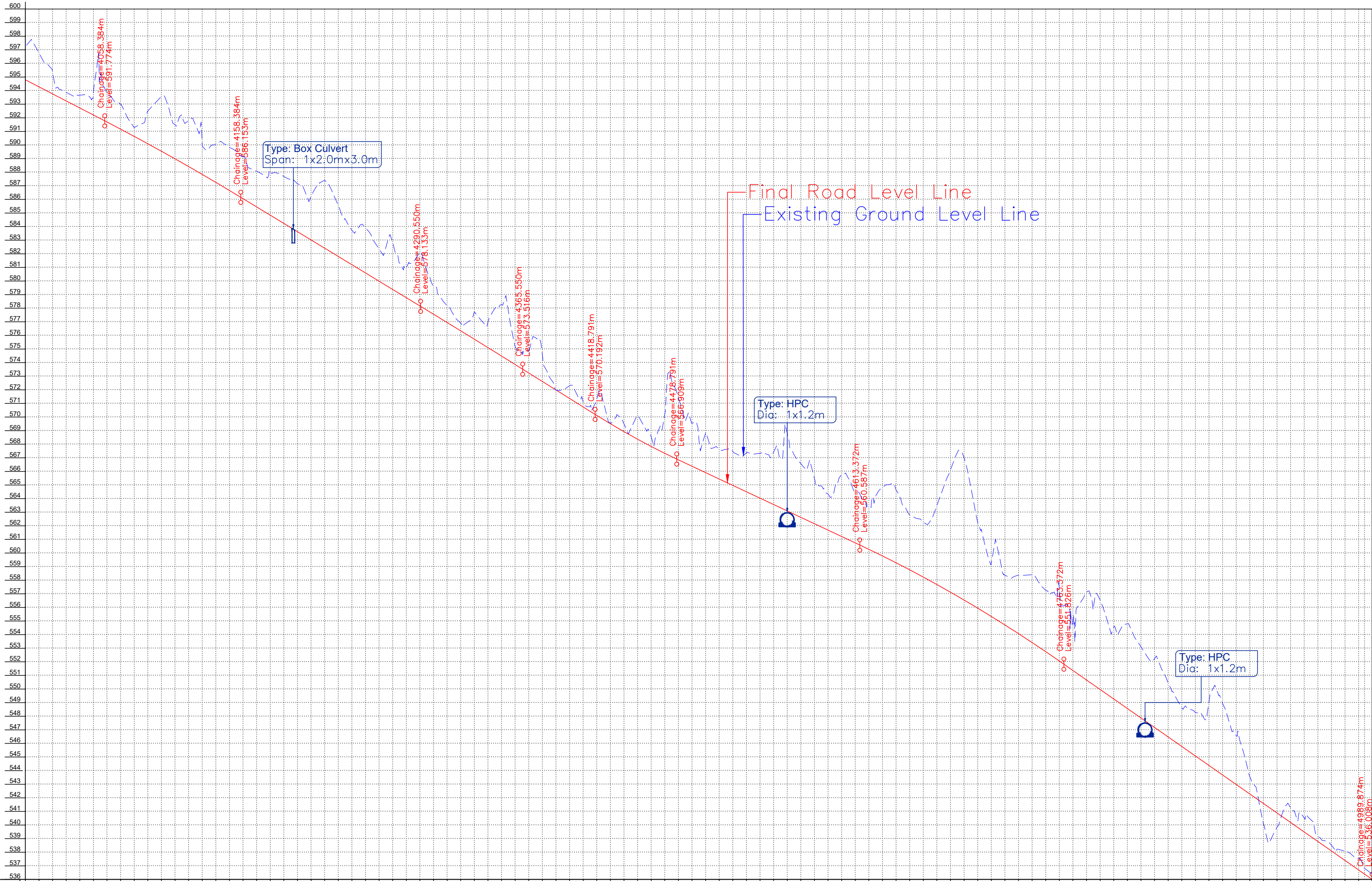
DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	HOR 1:2500 VER 1:250

TITLE :	Profile (km 2+000 to km 3+000)
DRG. NO. :	EPTISA/JTRP/DPR/J&K/PP/01c
REVISION : R-1	September 2019









FINISHED ROAD LEVEL (M)	594.795 597.229 596.776 593.760 593.243 593.659 592.725 592.208 591.690 592.980 590.635 590.094 588.984 588.416 587.839 587.253 586.659 586.144 585.055 585.448 584.841 584.235 583.628 583.021 582.414 581.808 581.201 580.594 579.987 579.380 578.774 578.167 577.559 576.949 576.336 575.721 575.104 574.485 573.863 573.239 572.614 571.990 571.365 570.741 570.117 569.508 568.895 568.282 567.667 567.054 566.443 565.833 565.225 564.616 564.004 563.394 562.785 562.176 561.568 560.961 560.355 559.750 559.146 558.543 557.941 557.340 556.740 556.141 555.543 554.946 554.351 553.757 553.164 552.572 551.981 551.391 550.802 550.214 551.586 550.999 550.414 551.831 551.247 550.664 550.082 549.501 548.921 548.342 547.764 547.187 546.611 546.036 545.462 544.889 544.317 543.746 543.176 542.607 542.038 541.470 540.903 540.337 541.772 541.207 540.642 540.077 539.512 538.947 538.382 537.817 537.252 536.687 536.122 535.557 534.992 534.427 533.862 533.297 532.732 532.167 531.602 531.037 530.472 529.907 529.342 528.777 528.212 527.647 527.082 526.517 525.952 525.387 524.822 524.257 523.692 523.127 522.562 521.997 521.432 520.867 520.302 519.737 519.172 518.607 518.042 517.477 516.912 516.347 515.782 515.217 514.652 514.087 513.522 512.957 512.392 511.827 511.262 510.697 510.132 509.567 509.002 508.437 507.872 507.307 506.742 506.177 505.612 505.047 504.482 503.917 503.352 502.787 502.222 501.657 501.092 500.527 500.000
EXISTING ROAD/GROUND LEVEL (M)	597.229 596.776 593.760 593.243 593.659 592.725 592.208 591.690 592.980 590.635 590.094 588.984 588.416 587.839 587.253 586.659 586.144 585.055 585.448 584.841 584.235 583.628 583.021 582.414 581.808 581.201 580.594 579.987 579.380 578.774 578.167 577.559 576.949 576.336 575.721 575.104 574.485 573.863 573.239 572.614 571.990 571.365 570.741 570.117 569.508 568.895 568.282 567.667 567.054 566.443 565.833 565.225 564.616 564.004 563.394 562.785 562.176 561.568 560.961 560.355 559.750 559.146 558.543 557.941 557.340 556.740 556.141 555.543 554.946 554.351 553.757 553.164 552.572 551.981 551.391 550.802 550.214 551.586 550.999 550.414 551.831 551.247 550.664 550.082 549.501 548.921 548.342 547.764 547.187 546.611 546.036 545.462 544.889 544.317 543.746 543.176 542.607 542.038 541.470 540.903 540.337 541.772 541.207 540.642 540.077 539.512 538.947 538.382 537.817 537.252 536.687 536.122 535.557 534.992 534.427 533.862 533.297 532.732 532.167 531.602 531.037 530.472 529.907 529.342 528.777 528.212 527.647 527.082 526.517 525.952 525.387 524.822 524.257 523.692 523.127 522.562 521.997 521.432 520.867 520.302 519.737 519.172 518.607 518.042 517.477 516.912 516.347 515.782 515.217 514.652 514.087 513.522 512.957 512.392 511.827 511.262 510.697 510.132 509.567 509.002 508.437 507.872 507.307 506.742 506.177 505.612 505.047 504.482 503.917 503.352 502.787 502.222 501.657 501.092 500.527 500.000
VERTICAL ALIGNMENT	L=247.176m G=-5.174 L=100.000m R=-11187.071m L=132.166m G=-6.068 L=75.000m R=-42543.608m L=53.241m G=-6.244 L=134.581m G=-4.698 L=150.000m R=-6561.704m L=134.581m G=-6.984
HORIZONTAL ALIGNMENT	L 4016.276 4026.280 4034.445 4050.694 4058.384 4073.054 4083.384 4094.261 4100.000 4114.315 4123.536 4134.799 4150.000 4160.000 4169.333 4180.000 4186.909 4193.149 4200.000 4209.072 4225.471 4227.708 4244.118 4250.000 4260.000 4270.000 4279.931 4290.000 4299.583 4300.000 4310.000 4320.000 4330.000 4336.811 4340.000 4350.000 4355.811 4360.000 4369.992 4380.000 4384.952 4400.000 4403.397 4410.000 4420.000 4430.000 4436.085 4440.000 4450.000 4455.997 4460.000 4470.000 4476.575 4480.000 4490.000 4500.000 4510.000 4520.000 4530.000 4540.000 4550.000 4560.000 4566.404 4570.000 4580.000 4590.000 4600.000 4610.000 4620.000 4630.000 4634.912 4640.000 4650.000 4660.000 4670.000 4680.000 4690.000 4700.000 4710.000 4720.000 4730.000 4740.000 4744.651 4750.000 4760.000 4770.000 4780.000 4790.000 4800.000 4810.000 4820.000 4830.000 4840.000 4850.000 4860.000 4870.000 4880.000 4890.000 4900.000 4910.000 4915.464 4917.529 4920.000 4930.000 4936.574 4940.000 4944.622 4950.000 4954.565 4960.000 4965.569 4970.000 4976.710 4980.000 4983.874
CHAINAGE (M)	4000.000 4010.000 4020.000 4030.000 4040.000 4050.000 4060.000 4070.000 4080.000 4090.000 4100.000 4110.000 4120.000 4130.000 4140.000 4150.000 4160.000 4170.000 4180.000 4190.000 4200.000 4210.000 4220.000 4230.000 4240.000 4250.000 4260.000 4270.000 4280.000 4290.000 4300.000 4310.000 4320.000 4330.000 4340.000 4350.000 4360.000 4370.000 4380.000 4390.000 4400.000 4410.000 4420.000 4430.000 4440.000 4450.000 4460.000 4470.000 4480.000 4490.000 4500.000 4510.000 4520.000 4530.000 4540.000 4550.000 4560.000 4570.000 4580.000 4590.000 4600.000 4610.000 4620.000 4630.000 4640.000 4650.000 4660.000 4670.000 4680.000 4690.000 4700.000 4710.000 4720.000 4730.000 4740.000 4750.000 4760.000 4770.000 4780.000 4790.000 4800.000 4810.000 4820.000 4830.000 4840.000 4850.000 4860.000 4870.000 4880.000 4890.000 4900.000 4910.000 4915.464 4917.529 4920.000 4930.000 4936.574 4940.000 4944.622 4950.000 4954.565 4960.000 4965.569 4970.000 4976.710 4980.000 4983.874

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
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(Deva Mai Ohli Mandir in Reasi District)

DESIGN CONSULTANT:



**Eptisa Servicios de Ingenieria S.L.**  
Unit 1203, 12th Floor, Tower 1, PS Srijan  
Corporate Park, Plot No. 2, Block EP & GP,  
Sector v, Salt Lake Kolkata - 700091,  
West Bengal  
Ph: 033-40347200  
www.eptisa.com

REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	HOR 1:2500 VER 1:250

TITLE :	Profile (km 4+000 to km 4+989.874)
DRG. NO. :	EPTISA/JTRFP/DPR/J&K/PP/01e
REVISION : R-1	September 2019

## HORIZONTAL ALIGNMENT REPORT



Horizontal Alignment Report																								
HIP No.	Start of Transition (TS)	Start of Curve	HIP	End of Curve	End of Transition (ST)	HIP Coordinates		Radius	Design Speed (V kmph)	Transition Start Length	Transition End Length	Circular Curve Length	Shift (s)		Tangent Length (Ts)		qs (°)		Dc (°)	D (°)	Apex Distance (Es)	Hand of Curve	e%	Extra Widening
		PC / SC		CS / PT		Easting	Northing						Leading	Trailing	Leading	Trailing	Leading	Trailing						
1	0+003.478	0+003.478	0+011.051	0+018.395	0+018.395	490315.312	3648026.875	35	25	0.00	0.00	14.92	0.000	0.000	7.57	7.57	0.00	0.00	24.42	24.42	0.810	Left	7.00	1.5
2	0+037.338	0+037.338	0+047.322	0+057.281	0+057.281	490324.964	3647991.674	165	30	0.00	0.00	19.94	0.000	0.000	9.98	9.98	0.00	0.00	6.93	6.93	0.302	Left	2.50	0.6
3	0+070.971	0+070.971	0+076.480	0+081.984	0+081.984	490336.018	3647964.667	165	30	0.00	0.00	11.01	0.000	0.000	5.51	5.51	0.00	0.00	3.82	3.82	0.092	Right	2.50	0.6
4	0+122.083	0+122.083	0+131.472	0+140.840	0+140.840	490353.410	3647912.493	165	30	0.00	0.00	18.76	0.000	0.000	9.39	9.39	0.00	0.00	6.51	6.51	0.267	Right	2.50	0.6
5	0+179.583	0+179.583	0+186.323	0+193.032	0+193.032	490364.746	3647858.805	80	30	0.00	0.00	13.45	0.000	0.000	6.74	6.74	0.00	0.00	9.63	9.63	0.283	Right	5.00	0.9
6	0+199.162	0+199.162	0+226.773	0+253.878	0+253.878	490366.364	3647818.355	165	30	0.00	0.00	54.72	0.000	0.000	27.61	27.61	0.00	0.00	19.00	19.00	2.294	Left	2.50	0.6
7	0+273.412	0+273.412	0+280.271	0+287.122	0+287.122	490385.973	3647768.036	165	30	0.00	0.00	13.71	0.000	0.000	6.86	6.86	0.00	0.00	4.76	4.76	0.142	Left	2.50	0.6
8	0+327.020	0+327.020	0+335.280	0+343.502	0+343.502	490410.135	3647718.609	100	30	0.00	0.00	16.48	0.000	0.000	8.26	8.26	0.00	0.00	9.44	9.44	0.341	Left	4.00	0.9
9	0+347.573	0+367.573	0+371.743	0+371.464	0+391.464	490433.042	3647693.739	20	20	20.00	20.00	3.89	0.833	0.833	24.17	24.17	28.65	28.65	11.15	68.44	5.195	Left	7.00	1.5
10	0+419.181	0+434.181	0+447.810	0+448.150	0+463.150	490503.625	3647701.063	16	15	15.00	15.00	13.97	0.586	0.586	28.63	28.63	26.86	26.86	50.02	103.74	10.861	Right	6.25	1.5
11	0+468.954	0+468.954	0+471.779	0+474.591	0+474.591	490509.407	3647671.120	35	25	0.00	0.00	5.64	0.000	0.000	2.82	2.82	0.00	0.00	9.23	9.23	0.114	Right	7.00	1.5
12	0+481.689	0+481.689	0+490.664	0+499.622	0+499.622	490506.440	3647652.457	165	40	0.00	0.00	17.93	0.000	0.000	8.98	8.98	0.00	0.00	6.23	6.23	0.244	Left	4.31	0.6
13	0+514.823	0+514.823	0+528.806	0+542.723	0+542.723	490504.571	3647614.342	165	40	0.00	0.00	27.90	0.000	0.000	13.98	13.98	0.00	0.00	9.69	9.69	0.591	Right	4.31	0.6
14	0+555.771	0+580.771	0+585.345	0+586.965	0+611.965	490496.693	3647560.140	35	25	25.00	25.00	6.19	0.744	0.744	29.57	29.57	20.46	20.46	10.14	51.07	4.613	Left	7.00	1.5
15	0+619.603	0+619.603	0+478.985	0+655.878	0+655.878	490603.169	3647420.154	11	15	0.00	0.00	36.28	0.000	0.000	-140.62	-140.62	0.00	0.00	188.95	188.95	-152.047	Right	7.00	1.5
16	0+700.563	0+700.563	0+709.071	0+717.255	0+717.255	490471.048	3647564.024	35	25	0.00	0.00	16.69	0.000	0.000	8.51	8.51	0.00	0.00	27.33	27.33	1.019	Left	7.00	1.5
17	0+734.223	0+734.223	0+746.927	0+759.105	0+759.105	490439.046	3647584.846	50	30	0.00	0.00	24.88	0.000	0.000	12.70	12.70	0.00	0.00	28.51	28.51	1.589	Right	7.00	1.2
18	0+778.700	0+778.700	0+835.121	0+824.131	0+824.131	490396.797	3647662.861	18	15	0.00	0.00	45.43	0.000	0.000	56.42	56.42	0.00	0.00	144.61	144.61	41.222	Left	5.56	1.5
19	0+860.903	0+860.903	0+884.564	0+898.261	0+898.261	490382.655	3647546.865	24	20	0.00	0.00	37.36	0.000	0.000	23.66	23.66	0.00	0.00	89.19	89.19	9.702	Right	7.00	1.5
20	0+900.414	0+900.414	0+908.688	0+916.395	0+916.395	490348.762	3647550.509	25	20	0.00	0.00	15.98	0.000	0.000	8.27	8.27	0.00	0.00	36.63	36.63	1.334	Left	7.00	1.5
21	0+953.880	0+953.880	0+962.895	0+971.527	0+971.527	490301.562	3647522.719	35	25	0.00	0.00	17.65	0.000	0.000	9.02	9.02	0.00	0.00	28.89	28.89	1.142	Left	7.00	1.5
22	0+976.902	0+976.902	1+008.787	1+025.853	1+025.853	490277.989	3647482.897	30	20	0.00	0.00	48.95	0.000	0.000	31.89	31.89	0.00	0.00	93.49	93.49	13.780	Right	5.93	1.5
23	1+057.110	1+057.110	1+076.337	1+085.166	1+085.166	490209.793	3647529.093	16	15	0.00	0.00	28.06	0.000	0.000	19.23	19.23	0.00	0.00	100.47	100.47	9.014	Left	6.25	1.5
24	1+099.169	1+099.169	1+107.727	1+116.083	1+116.083	490193.034	3647490.814	45	25	0.00	0.00	16.91	0.000	0.000	8.56	8.56	0.00	0.00	21.54	21.54	0.807	Right	6.17	1.2
25	1+129.318	1+129.318	1+137.424	1+145.250	1+145.250	490171.825	3647469.738	35	25	0.00	0.00	15.93	0.000	0.000	8.11	8.11	0.00	0.00	26.08	26.08	0.927	Left	7.00	1.5
26	1+159.085	1+159.085	1+172.019	1+179.968	1+179.968	490160.413	3647436.783	14	15	0.00	0.00	20.88	0.000	0.000	12.93	12.93	0.00	0.00	85.46	85.46	5.060	Right	7.00	1.5
27	1+268.436	1+268.436	1+278.389	1+285.054	1+285.054	490052.638	3647464.786	12	15	0.00	0.00	16.62	0.000	0.000	9.95	9.95	0.00	0.00	79.35	79.35	3.590	Right	7.00	1.5
28	1+305.556	1+305.556	1+308.452	1+311.323	1+311.323	490054.911	3647498.060	25	20	0.00	0.00	5.77	0.000	0.000	2.90	2.90	0.00	0.00	13.22	13.22	0.167	Left	7.00	1.5
29	1+330.394	1+330.394	1+334.216	1+337.946	1+337.946	490050.738	3647523.509	20	20	0.00	0.00	7.55	0.000	0.000	3.82	3.82	0.00	0.00	21.63	21.63	0.362	Right	7.00	1.5
30	1+352.641	1+352.641	1+291.371	1+381.688	1+381.688	490067.770	3647601.463	8.5	10	0.00	0.00	29.05	0.000	0.000	-61.2									



Horizontal Alignment Report																								
HIP No.	Start of Transition (TS)	Start of Curve	HIP	End of Curve	End of Transition (ST)	HIP Coordinates		Radius	Design Speed (V kmph)	Transition Start Length	Transition End Length	Circular Curve Length	Shift (s)		Tangent Length (Ts)		qs (°)		Dc (°)	D (°)	Apex Distance (Es)	Hand of Curve	e%	Extra Widening
		PC / SC		CS / PT		Easting	Northing						Leading	Trailing	Leading	Trailing	Leading	Trailing						
61	2+872.313	2+872.313	2+879.996	2+886.638	2+886.638	489846.751	3647288.583	16	15	0.00	0.00	14.32	0.000	0.000	7.68	7.68	0.00	0.00	51.30	51.30	1.749	Left	6.25	1.5
62	2+895.116	2+895.116	2+906.349	2+913.555	2+913.555	489871.305	3647300.725	12.8	15	0.00	0.00	18.44	0.000	0.000	11.23	11.23	0.00	0.00	82.54	82.54	4.230	Right	7.00	1.5
63	2+945.174	2+945.174	2+953.396	2+958.499	2+958.499	489899.701	3647258.272	9	10	0.00	0.00	13.32	0.000	0.000	8.22	8.22	0.00	0.00	84.83	84.83	3.190	Left	4.94	1.5
64	2+968.876	2+968.876	2+979.890	2+986.698	2+986.698	489925.699	3647272.452	12	15	0.00	0.00	17.82	0.000	0.000	11.01	11.01	0.00	0.00	85.09	85.09	4.288	Right	7.00	1.5
65	2+997.452	2+997.452	3+001.556	3+005.622	3+005.622	489939.984	3647250.881	35	25	0.00	0.00	8.17	0.000	0.000	4.10	4.10	0.00	0.00	13.37	13.37	0.240	Right	7.00	1.5
66	3+016.590	3+016.590	3+026.746	3+035.883	3+035.883	489948.668	3647227.196	25	20	0.00	0.00	19.29	0.000	0.000	10.16	10.16	0.00	0.00	44.22	44.22	1.984	Left	7.00	1.5
67	3+041.376	3+041.376	3+046.905	3+052.343	3+052.343	489967.760	3647218.030	35	25	0.00	0.00	10.97	0.000	0.000	5.53	5.53	0.00	0.00	17.95	17.95	0.434	Right	7.00	1.5
68	3+056.549	3+056.549	3+063.917	3+071.073	3+071.073	489980.145	3647206.236	35	25	0.00	0.00	14.52	0.000	0.000	7.37	7.37	0.00	0.00	23.78	23.78	0.767	Left	7.00	1.5
69	3+077.474	3+077.474	3+053.859	3+110.051	3+110.051	490015.312	3647193.559	8.5	10	0.00	0.00	32.58	0.000	0.000	-23.62	-23.62	0.00	0.00	219.59	219.59	-33.599	Right	5.23	1.5
70	3+113.907	3+113.907	3+125.302	3+135.939	3+135.939	489975.139	3647202.375	35	25	0.00	0.00	22.03	0.000	0.000	11.39	11.39	0.00	0.00	36.07	36.07	1.808	Left	7.00	1.5
71	3+158.059	3+158.059	3+168.816	3+177.797	3+177.797	489934.494	3647219.923	20	20	0.00	0.00	19.74	0.000	0.000	10.76	10.76	0.00	0.00	56.55	56.55	2.709	Right	7.00	1.5
72	3+187.100	3+187.100	3+198.649	3+203.459	3+203.459	489928.951	3647251.042	9	10	0.00	0.00	16.36	0.000	0.000	11.55	11.55	0.00	0.00	104.14	104.14	5.642	Left	4.94	1.5
73	3+211.706	3+211.706	3+233.359	3+248.206	3+248.206	489891.158	3647234.023	27	20	0.00	0.00	36.50	0.000	0.000	21.65	21.65	0.00	0.00	77.46	77.46	7.610	Right	6.58	1.5
74	3+259.892	3+259.892	3+270.884	3+275.817	3+275.817	489864.610	3647269.526	9	10	0.00	0.00	15.93	0.000	0.000	10.99	10.99	0.00	0.00	101.38	101.38	5.207	Left	4.94	1.5
75	3+279.262	3+279.262	3+288.197	3+294.622	3+294.622	489849.023	3647252.110	12	15	0.00	0.00	15.36	0.000	0.000	8.93	8.93	0.00	0.00	73.34	73.34	2.961	Right	7.00	1.5
76	3+298.753	3+298.753	3+314.139	3+329.465	3+329.465	489823.272	3647264.211	200	30	0.00	0.00	30.71	0.000	0.000	15.39	15.39	0.00	0.00	8.80	8.80	0.591	Right	2.50	0.6
77	3+401.058	3+401.058	3+423.079	3+429.184	3+429.184	489732.873	3647325.115	14	15	0.00	0.00	28.13	0.000	0.000	22.02	22.02	0.00	0.00	115.11	115.11	12.095	Left	7.00	1.5
78	3+437.751	3+437.751	3+448.175	3+453.874	3+453.874	489726.557	3647284.591	10	15	0.00	0.00	16.12	0.000	0.000	10.42	10.42	0.00	0.00	92.38	92.38	4.445	Right	7.00	1.5
79	3+460.402	3+460.402	3+468.737	3+476.767	3+476.767	489701.755	3647289.518	35	25	0.00	0.00	16.36	0.000	0.000	8.33	8.33	0.00	0.00	26.79	26.79	0.979	Left	7.00	1.5
80	3+480.729	3+480.729	3+497.102	3+511.358	3+511.358	489674.135	3647281.830	35	25	0.00	0.00	30.63	0.000	0.000	16.37	16.37	0.00	0.00	50.14	50.14	3.640	Right	7.00	1.5
81	3+537.925	3+537.925	3+542.118	3+546.271	3+546.271	489635.332	3647308.585	35	25	0.00	0.00	8.35	0.000	0.000	4.19	4.19	0.00	0.00	13.66	13.66	0.250	Left	7.00	1.5
82	3+548.059	3+548.059	3+560.818	3+569.601	3+569.601	489617.827	3647315.277	16	15	0.00	0.00	21.54	0.000	0.000	12.76	12.76	0.00	0.00	77.14	77.14	4.465	Right	6.25	1.5
83	3+592.954	3+592.954	3+602.620	3+611.815	3+611.815	489624.249	3647360.602	35	25	0.00	0.00	18.86	0.000	0.000	9.67	9.67	0.00	0.00	30.88	30.88	1.310	Left	7.00	1.5
84	3+618.304	3+618.304	3+624.618	3+630.674	3+630.674	489615.538	3647381.314	25	20	0.00	0.00	12.37	0.000	0.000	6.31	6.31	0.00	0.00	28.35	28.35	0.785	Right	7.00	1.5
85	3+631.808	3+631.808	3+637.202	3+642.213	3+642.213	489616.778	3647394.096	16	15	0.00	0.00	10.41	0.000	0.000	5.39	5.39	0.00	0.00	37.26	37.26	0.885	Left	6.25	1.5
86	3+643.154	3+643.154	3+658.293	3+670.379	3+670.379	489605.488	3647412.363	25	20	0.00	0.00	27.22	0.000	0.000	15.14	15.14	0.00	0.00	62.40	62.40	4.227	Right	7.00	1.5
87	3+672.624	3+672.624	3+683.661	3+694.007	3+694.007	489619.987	3647436.806	35	25	0.00	0.00	21.38	0.000	0.000	11.04	11.04	0.00	0.00	35.00	35.00	1.699	Left	7.00	1.5
88	3+717.808	3+717.808	3+721.774	3+725.706	3+725.706	489617.058	3647475.499	35	25	0.00	0.00	7.90	0.000	0.000	3.97	3.97	0.00	0.00	12.93	12.93	0.224	Left	7.00	1.5
89	3+735.386	3+735.386	3+740.993	3+746.506	3+746.506	489611.346	3647493.886	35	25	0.00	0.00	11.12	0.000	0.000	5.61	5.61	0.00	0.00	18.20	18.20	0.446	Right	7.00	1.5
90	3+806.492	3+806.492	3+816.873	3+827.051	3+827.051	489612.598	3647569.850	60																

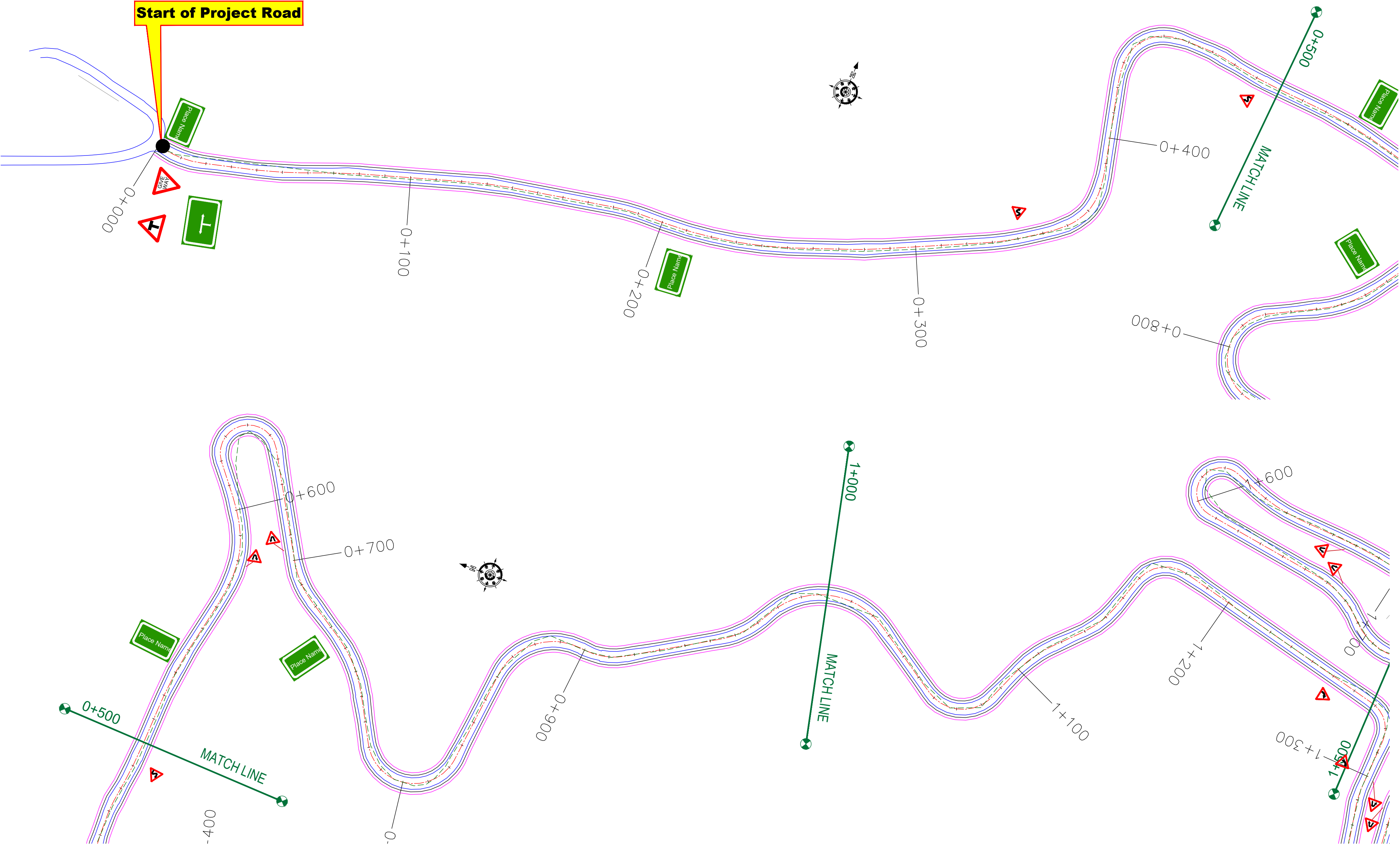
≡ VERTICAL ALIGNMENT REPORT ≡

Vertical Alignment Report

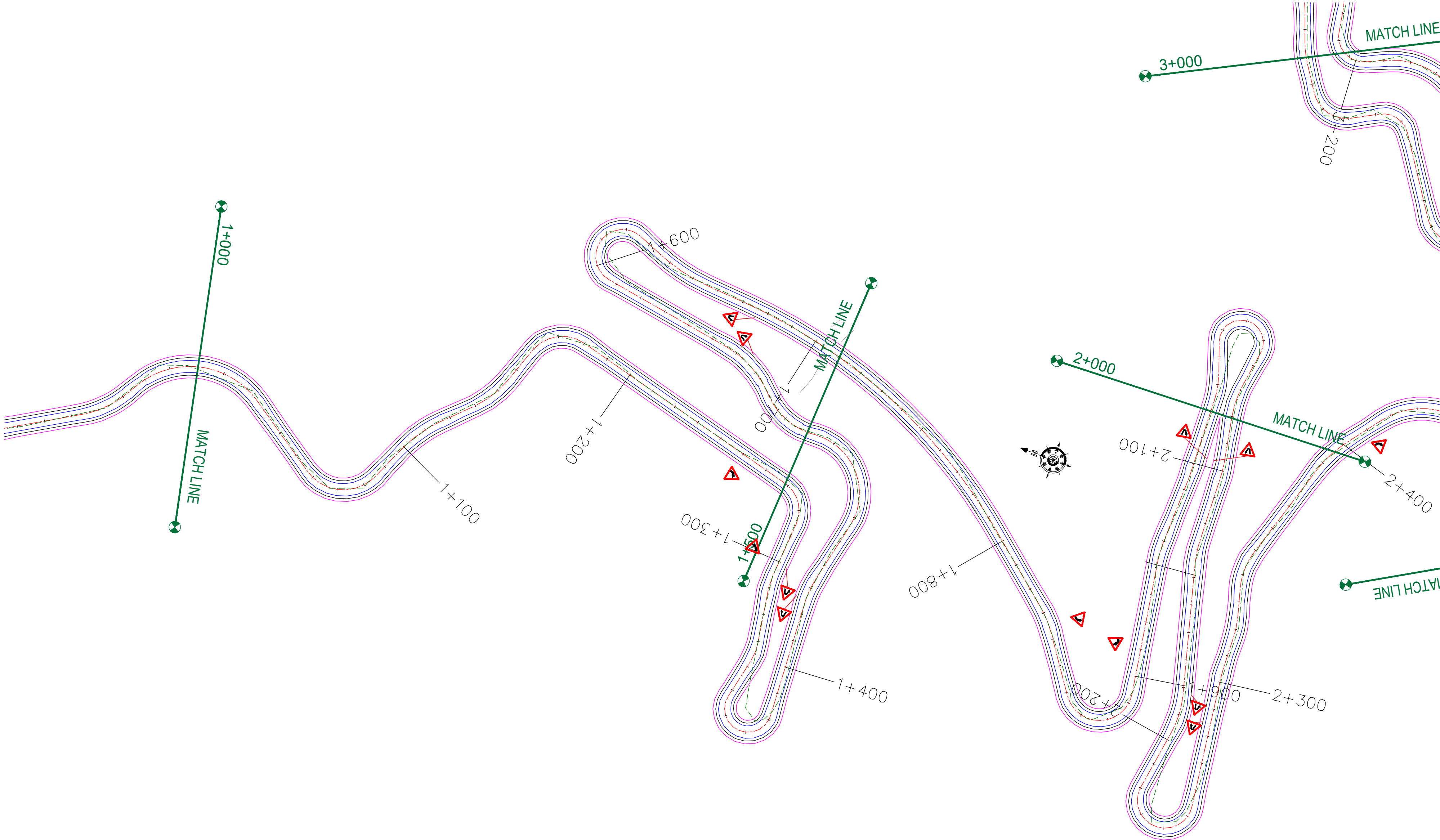
PVI No.	Start		PVI Details		End		Gradient (%)		Type of Curve	Curve Lenght (m)	K-Value
	Chainage (Km)	Level( m)	Chainage (Km)	Level( m)	Chainage (Km)	Level( m)	IN	OUT			
1	0+062.114	803.655	0+137.114	806.935	0+212.114	801.438	4.373	-7.329	Hog	150	12.82
2	0+260.000	797.929	0+290.000	795.730	0+320.000	794.733	-7.329	-3.324	Sag	60	14.98
3	0+362.091	793.334	0+399.591	792.087	0+437.091	789.087	-3.324	-8.000	Hog	75	16.04
4	0+451.820	787.909	0+476.820	785.909	0+501.820	784.173	-8.000	-6.945	Sag	50	47.41
5	0+649.982	773.883	0+669.982	772.494	0+689.982	771.805	-6.945	-3.443	Sag	40	11.42
6	0+712.498	771.030	0+744.998	769.911	0+777.498	767.850	-3.443	-6.340	Hog	65	22.44
7	0+783.338	767.480	0+803.338	766.212	0+823.338	765.234	-6.340	-4.891	Sag	40	27.60
8	0+888.195	762.062	0+913.195	760.839	0+938.195	759.693	-4.891	-4.584	Sag	50	163.09
9	0+967.136	758.366	1+017.136	756.074	1+067.136	752.105	-4.584	-7.938	Hog	100	29.82
10	1+084.586	750.720	1+114.586	748.338	1+144.586	746.679	-7.938	-5.531	Sag	60	24.93
11	1+370.000	734.210	1+400.000	732.551	1+430.000	731.661	-5.531	-2.966	Sag	60	23.38
12	1+537.500	728.473	1+580.000	727.213	1+622.500	724.270	-2.966	-6.925	Hog	85	21.47
13	1+850.144	708.506	1+880.144	706.429	1+910.144	705.137	-6.925	-4.306	Sag	60	22.91
14	1+954.297	703.236	1+984.297	701.944	2+014.297	699.587	-4.306	-7.855	Hog	60	16.91
15	2+031.047	698.272	2+056.047	696.308	2+081.047	696.140	-7.855	-0.674	Sag	50	6.96
16	2+128.211	695.822	2+188.211	695.418	2+248.211	690.733	-0.674	-7.807	Hog	120	16.82
17	2+270.391	689.002	2+295.391	687.050	2+320.391	685.950	-7.807	-4.398	Sag	50	14.67
18	2+346.346	684.809	2+396.346	682.610	2+446.346	679.791	-4.398	-5.638	Hog	100	80.65
19	2+464.753	678.753	2+494.753	677.062	2+524.753	675.650	-5.638	-4.705	Sag	60	64.34
20	2+586.273	672.756	2+616.273	671.344	2+646.273	669.975	-4.705	-4.565	Sag	60	427.30
21	2+740.000	665.696	2+780.000	663.870	2+820.000	661.850	-4.565	-5.049	Hog	80	165.17
22	3+270.000	639.129	3+330.000	636.099	3+390.000	632.049	-5.049	-6.750	Hog	120	70.56
23	3+691.208	611.717	3+751.208	607.667	3+811.208	604.563	-6.750	-5.174	Sag	120	76.14
24	4+058.384	591.774	4+108.384	589.187	4+158.384	586.153	-5.174	-6.068	Hog	100	111.87
25	4+290.550	578.133	4+328.050	575.858	4+365.550	573.516	-6.068	-6.244	Hog	75	425.44
26	4+418.791	570.192	4+448.791	568.319	4+478.791	566.909	-6.244	-4.698	Sag	60	38.80
27	4+613.372	560.587	4+688.372	557.064	4+763.372	551.826	-4.698	-6.984	Hog	150	65.62







CLIENT : <div></div> Jhelum Tawi Flood Recovery Project 2nd Floor ERA Commercial Complex Rambagh Srinagar-190 009.	PROJECT :  Consultancy Services for Preparing Detailed Project Report for the Road works in Jammu and Kashmir <b><u>(Deva Mai Ohli Mandir in Reasi District)</u></b>	DESIGN CONSULTANT: <div> <b>Servicios de Ingenieria S.L.</b> Unit 1203, 12th Floor, Tower 1, PS Srijan Corporate Park, Plot No. 2, Block EP &amp; GP, Sector v, Salt Lake Kolkata - 700091, West Bengal Ph: 033-40347200 www.eptisa.com</div>			DRAWN BY : SD	TITLE :  Signage Plan  (Ch. 0+000 to Ch. 1+000)	
					DESIGNED BY : SCK/MM		
					APPROVED BY : KG	DRG. NO. : EPTISA/JTRFP/DPR/J&K/SP/01	
					SCALE : 1:1000		
			REV.	DATE	DESCRIPTION	REVISION : R-1	



CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
for the Road works in Jammu and Kashmir  
**(Deva Mai Ohli Mandir in Reasi District)**

DESIGN CONSULTANT:



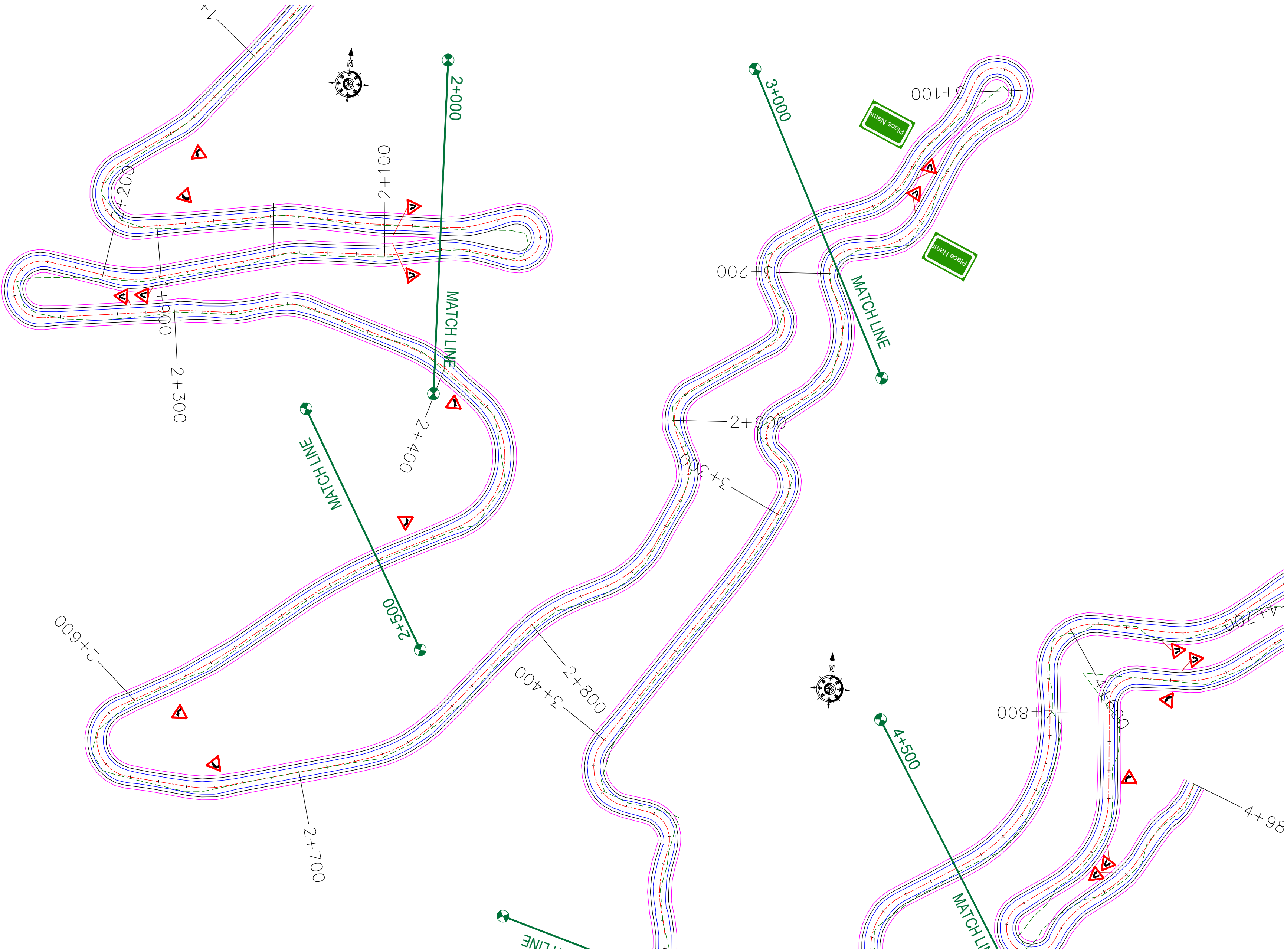
**Servicios de Ingenieria S.L.**  
Unit 1203, 12th Floor, Tower 1, PS Srijan  
Corporate Park, Plot No. 2, Block EP & GP,  
Sector v, Salt Lake Kolkata - 700091,  
West Bengal  
Ph: 033-40347200  
www.eptisa.com

REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	1:1000

TITLE :	Signage Plan (Ch. 1+000 to Ch. 2+000)
DRG. NO. :	EPTISA/JTFRP/DPR/J&K/SP/02
REVISION : R-1	September 2019





CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
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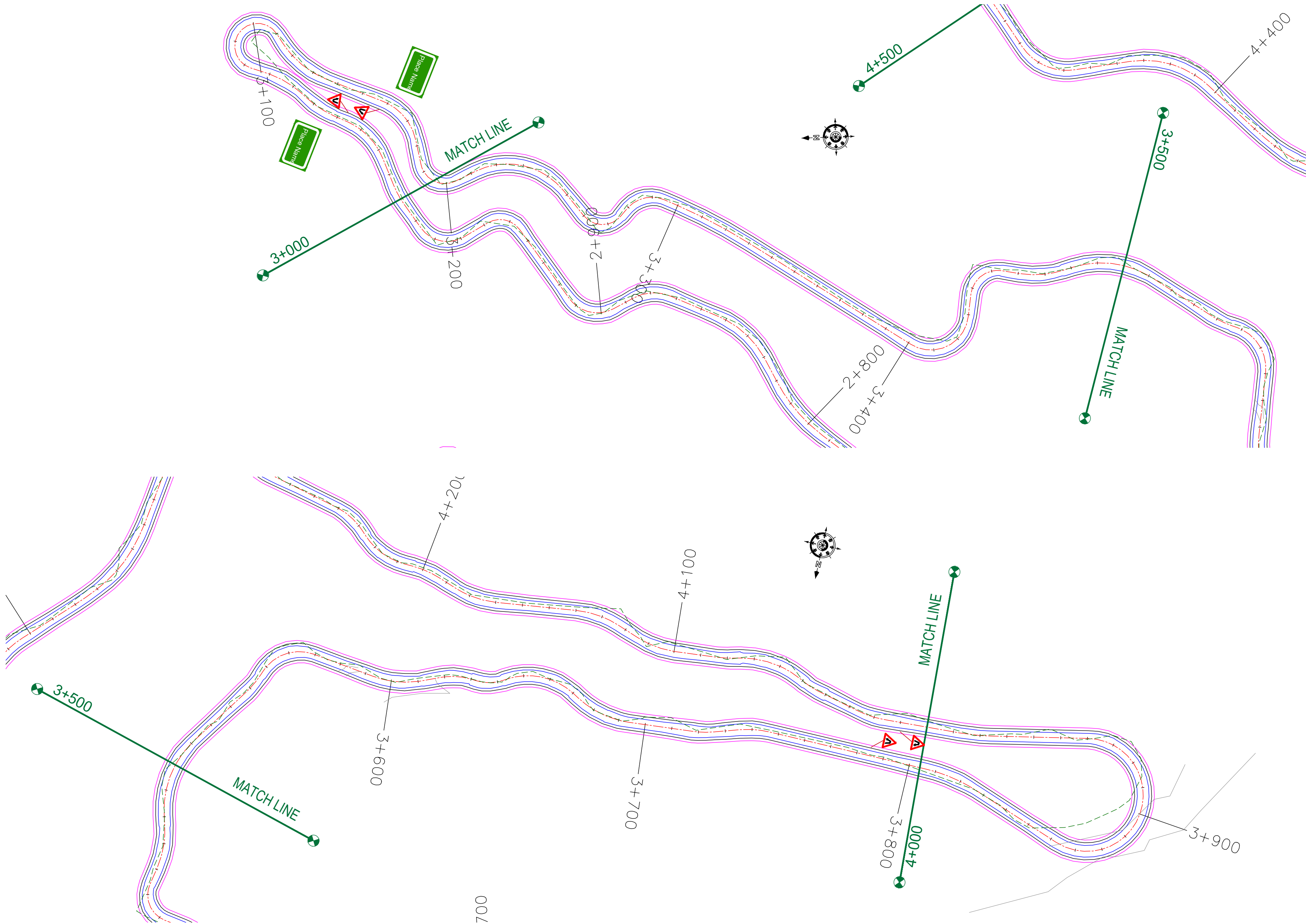
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APPROVED BY :	KG
SCALE :	1:1000

TITLE : <b>Signage Plan</b> (Ch. 2+000 to Ch. 3+000)	
DRG. NO. : EPTISA/JTFRP/DPR/J&K/SP/03	
REVISION : R-1	September 2019

← Devamai

Ohli Mandir →



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Consultancy Services for Preparing Detailed Project Report  
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**servicios de Ingenieria S.L.**

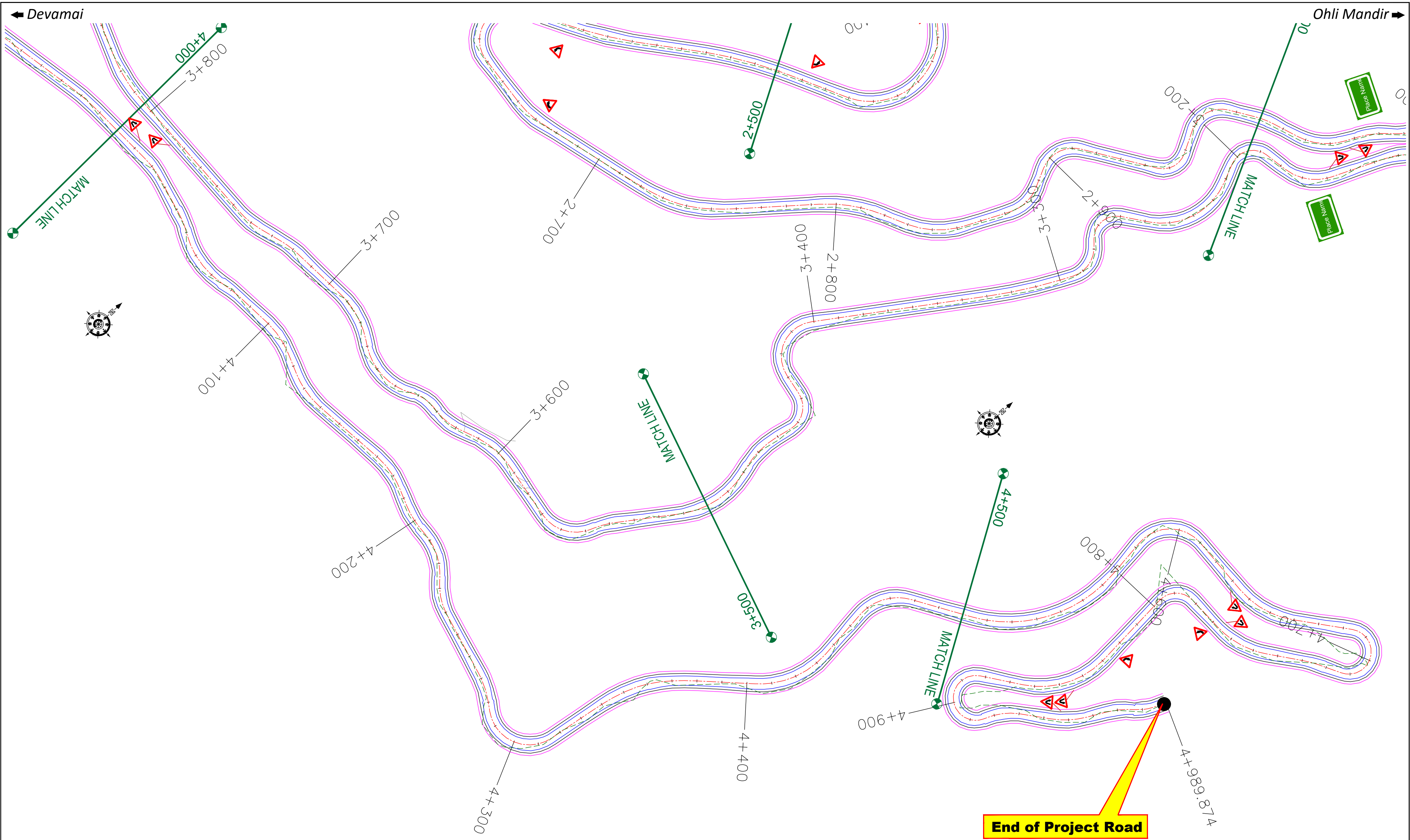
Unit 1203, 12th Floor, Tower 1, PS Srijan  
Corporate Park, Plot No. 2, Block EP & GP,  
Sector v, Salt Lake Kolkata - 700091,  
West Bengal  
Ph: 033-40347200  
www.eptisa.com

REV.	DATE	DESCRIPTION

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DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	1:1000

TITLE :	Signage Plan (Ch. 3+000 to Ch. 4+000)
DRG. NO. :	EPTISA/JTRFP/DPR/J&K/SP/04
REVISION : R-1	September 2019



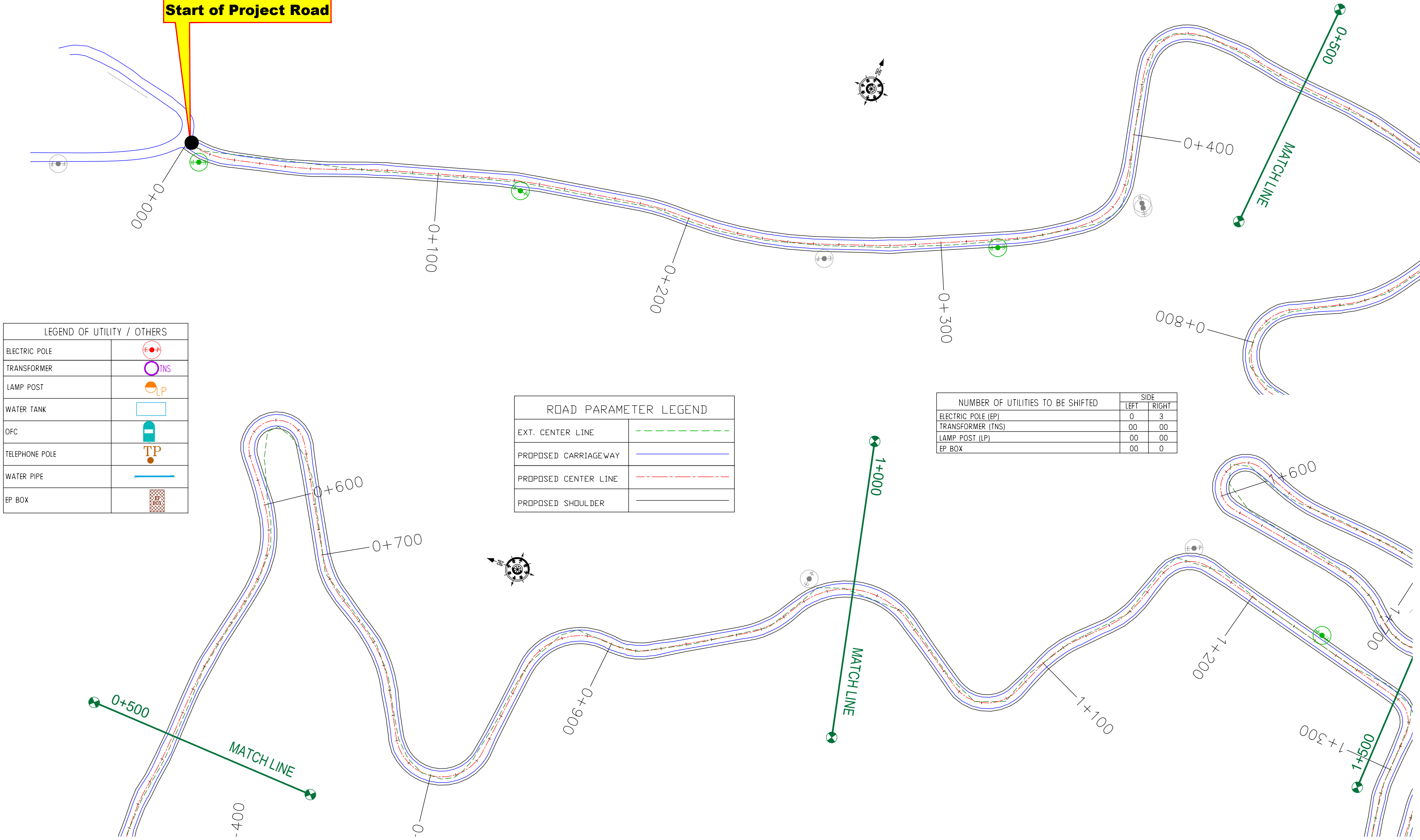


CLIENT :		 <div>Jhelum Tawi Flood Recovery Project 2nd Floor ERA Commercial Complex Rambagh Srinagar-190 009.</div>		PROJECT :		Consultancy Services for Preparing Detailed Project Report for the Road works in Jammu and Kashmir <b><u>(Deva Mai Ohli Mandir in Reasi District)</u></b>		DESIGN CONSULTANT:		 <div>Servicios de Ingenieria S.L. Unit 1203, 12th Floor, Tower 1, PS Srijan Corporate Park, Plot No. 2, Block EP &amp; GP, Sector v, Salt Lake Kolkata - 700091, West Bengal Ph: 033-40347200 www.eptisa.com</div>		<table><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td>REV.</td><td>DATE</td><td>DESCRIPTION</td></tr></table>														REV.	DATE	DESCRIPTION	<table><tr><td>DRAWN BY :</td><td>SD</td></tr><tr><td>DESIGNED BY :</td><td>SCK/MM</td></tr><tr><td>APPROVED BY :</td><td>KG</td></tr><tr><td>SCALE :</td><td>1:1000</td></tr></table>		DRAWN BY :	SD	DESIGNED BY :	SCK/MM	APPROVED BY :	KG	SCALE :	1:1000	<table><tr><td colspan="2">TITLE :</td><td>Signage Plan</td></tr><tr><td colspan="2"></td><td>(Ch. 3+000 to Ch. 4+989.874)</td></tr><tr><td colspan="2">DRG. NO. :</td><td>EPTISA/JTFRP/DPR/J&amp;K/SP/05</td></tr><tr><td>REVISION : R-1</td><td colspan="2">September 2019</td></tr></table>		TITLE :		Signage Plan			(Ch. 3+000 to Ch. 4+989.874)	DRG. NO. :		EPTISA/JTFRP/DPR/J&K/SP/05	REVISION : R-1	September 2019	
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REVISION : R-1	September 2019																																																			



≡ UTILITY RELOCATION PLAN FOR MAIN ROAD (ELECTRICITY DEPARTMENT) ≡

Start of Project Road



LEGEND OF UTILITY / OTHERS	
ELECTRIC POLE	
TRANSFORMER	
LAMP POST	
WATER TANK	
OFC	
TELEPHONE POLE	
WATER PIPE	
EP BOX	

ROAD PARAMETER LEGEND	
EXT. CENTER LINE	
PROPOSED CARRIAGEWAY	
PROPOSED CENTER LINE	
PROPOSED SHOULDER	

NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
ELECTRIC POLE (EP)	0	3
TRANSFORMER (TNS)	00	00
LAMP POST (LP)	00	00
EP BOX	00	0

CLIENT :

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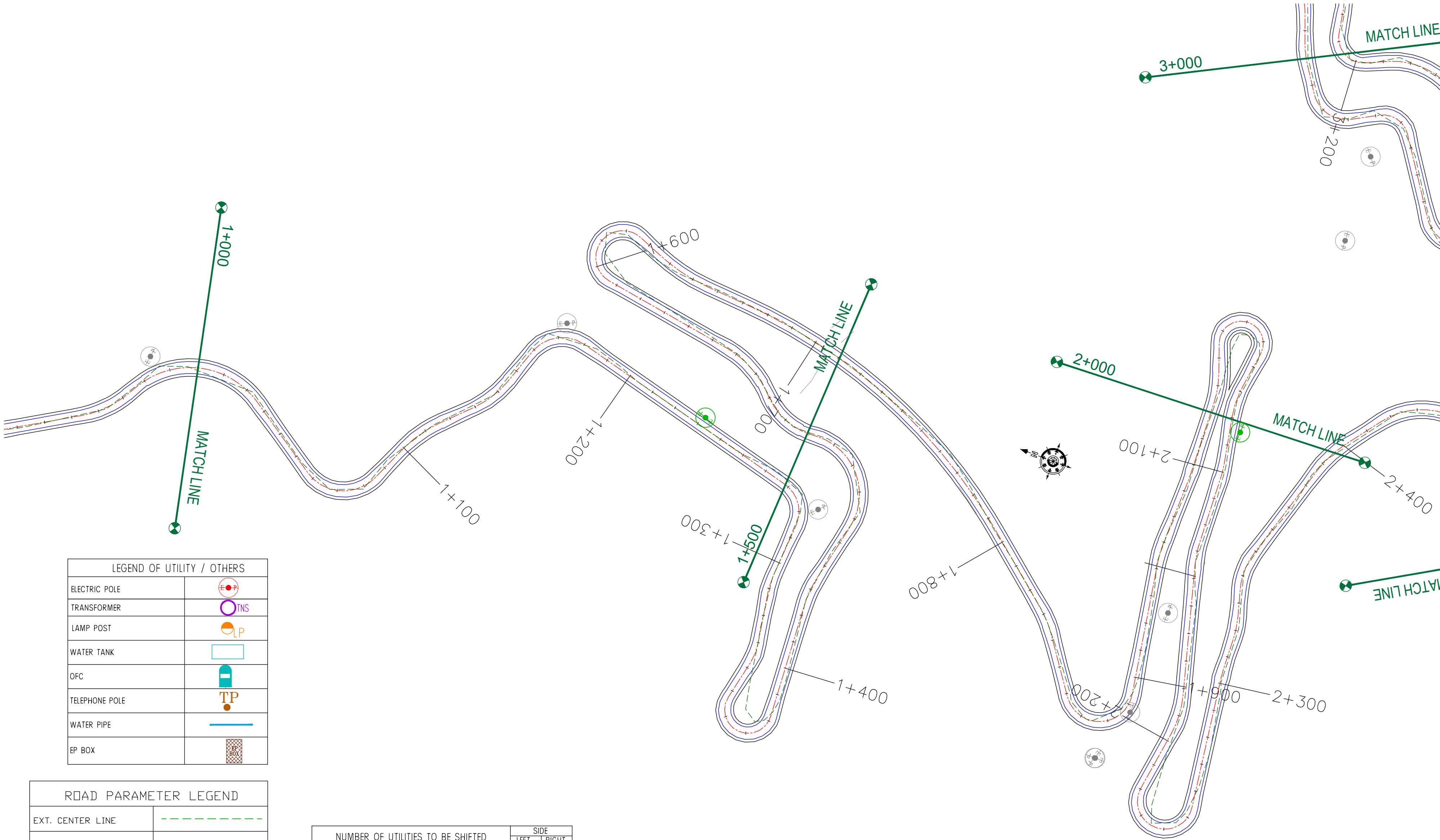
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APPROVED BY :	KG
SCALE :	1:1000

TITLE : <b>Utility Relocation Plan</b> (For Electricity Department) (Ch. 0+000 to Ch. 1+000)	
DRG. NO. : EPTISA/JTFRP/DPR/J&K/URP/01	
REVISION : R-1	September 2019



LEGEND OF UTILITY / OTHERS	
ELECTRIC POLE	
TRANSFORMER	
LAMP POST	
WATER TANK	
OFC	
TELEPHONE POLE	
WATER PIPE	
EP BOX	

ROAD PARAMETER LEGEND	
EXT. CENTER LINE	
PROPOSED CARRIAGEWAY	
PROPOSED CENTER LINE	
PROPOSED SHOULDER	

NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
ELECTRIC POLE (EP)	1	0
TRANSFORMER (TNS)	00	00
LAMP POST (LP)	00	00
EP BOX	00	0

CLIENT :   
Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :  
Consultancy Services for Preparing Detailed Project Report  
for the Road works in Jammu and Kashmir  
**(Deva Mai Ohli Mandir in Reasi District)**

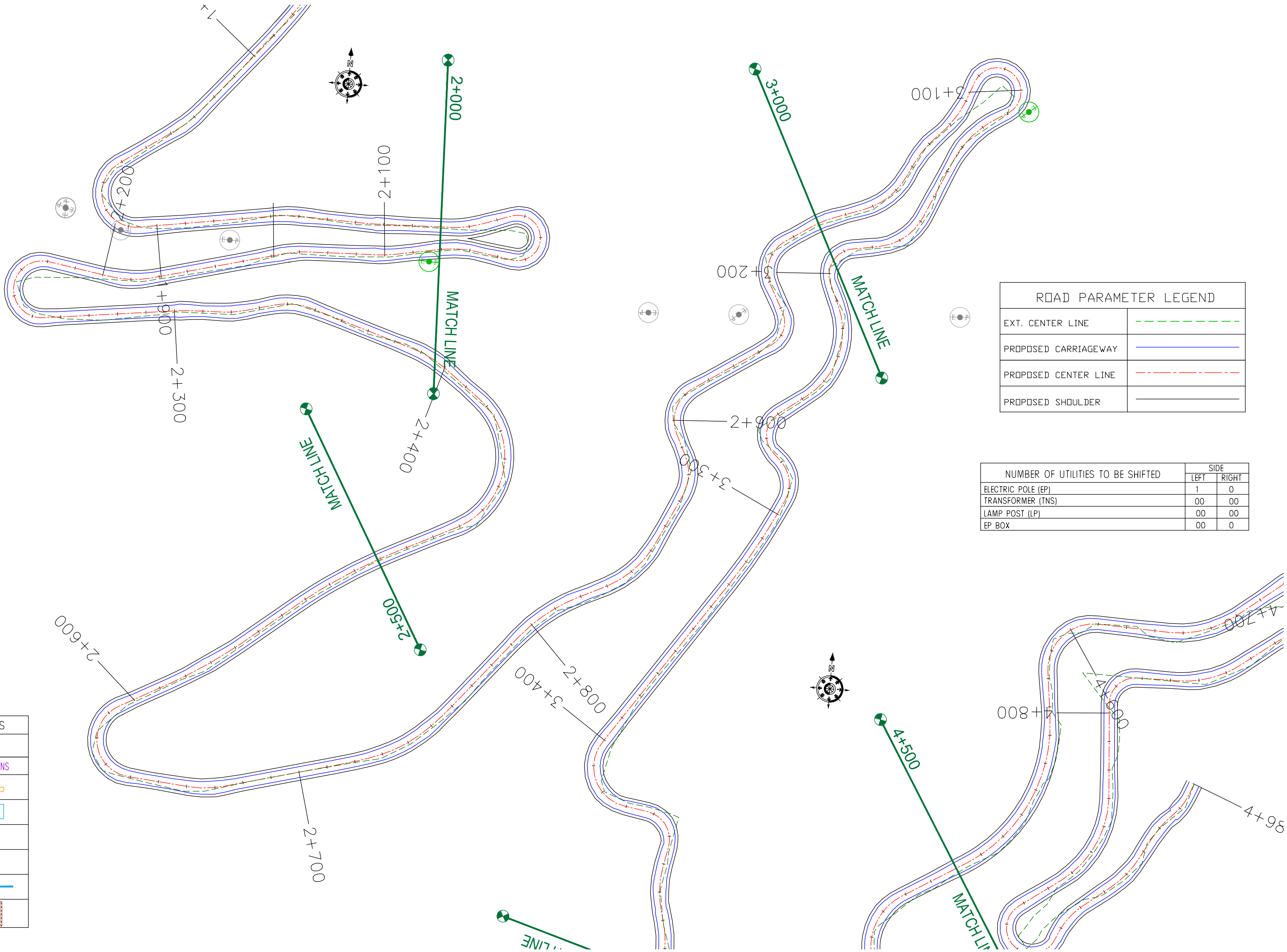
DESIGN CONSULTANT:  
 **Servicios de Ingenieria S.L.**  
Unit 1203, 12th Floor, Tower 1, PS Srijan  
Corporate Park, Plot No. 2, Block EP & GP,  
Sector v, Salt Lake Kolkata - 700091,  
West Bengal  
Ph: 033-40347200  
[www.eptisa.com](http://www.eptisa.com)

REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	1:1000

TITLE : <b>Utility Relocation Plan</b> (For Electricity Department) (Ch. 1+000 to Ch. 2+000)	
DRG. NO. : EPTISA/JTRFP/DPR/J&K/URP/02	
REVISION : R-1	September 2019





ROAD PARAMETER LEGEND	
EXT. CENTER LINE	---
PROPOSED CARRIAGEWAY	---
PROPOSED CENTER LINE	---
PROPOSED SHOULDER	---

NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
ELECTRIC POLE (EP)	1	0
TRANSFORMER (TNS)	00	00
LAMP POST (LP)	00	00
EP BOX	00	0

LEGEND OF UTILITY / OTHERS	
ELECTRIC POLE	⊙
TRANSFORMER	⊙ TNS
LAMP POST	⊙ LP
WATER TANK	□
OFC	⊙
TELEPHONE POLE	⊙ TP
WATER PIPE	—
EP BOX	⊙

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

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(**Deva Mai Ohli Mandir in Reasi District**)

DESIGN CONSULTANT:

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REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	1:1000

TITLE :	Utility Relocation Plan (For Electricity Department) (Ch. 2+000 to Ch. 3+000)	
DRG. NO. :	EPTISA/JTRFP/DPR/J&K/URP/03	
REVISION : R-1	September 2019	

← Devamai

Ohli Mandir →

NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
ELECTRIC POLE (EP)	1	0
TRANSFORMER (TNS)	00	00
LAMP POST (LP)	00	00
EP BOX	00	0

ROAD PARAMETER LEGEND	
EXT. CENTER LINE	
PROPOSED CARRIAGEWAY	
PROPOSED CENTER LINE	
PROPOSED SHOULDER	

LEGEND OF UTILITY / OTHERS	
ELECTRIC POLE	
TRANSFORMER	
LAMP POST	
WATER TANK	
OFC	
TELEPHONE POLE	
WATER PIPE	
EP BOX	

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
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DESIGN CONSULTANT:



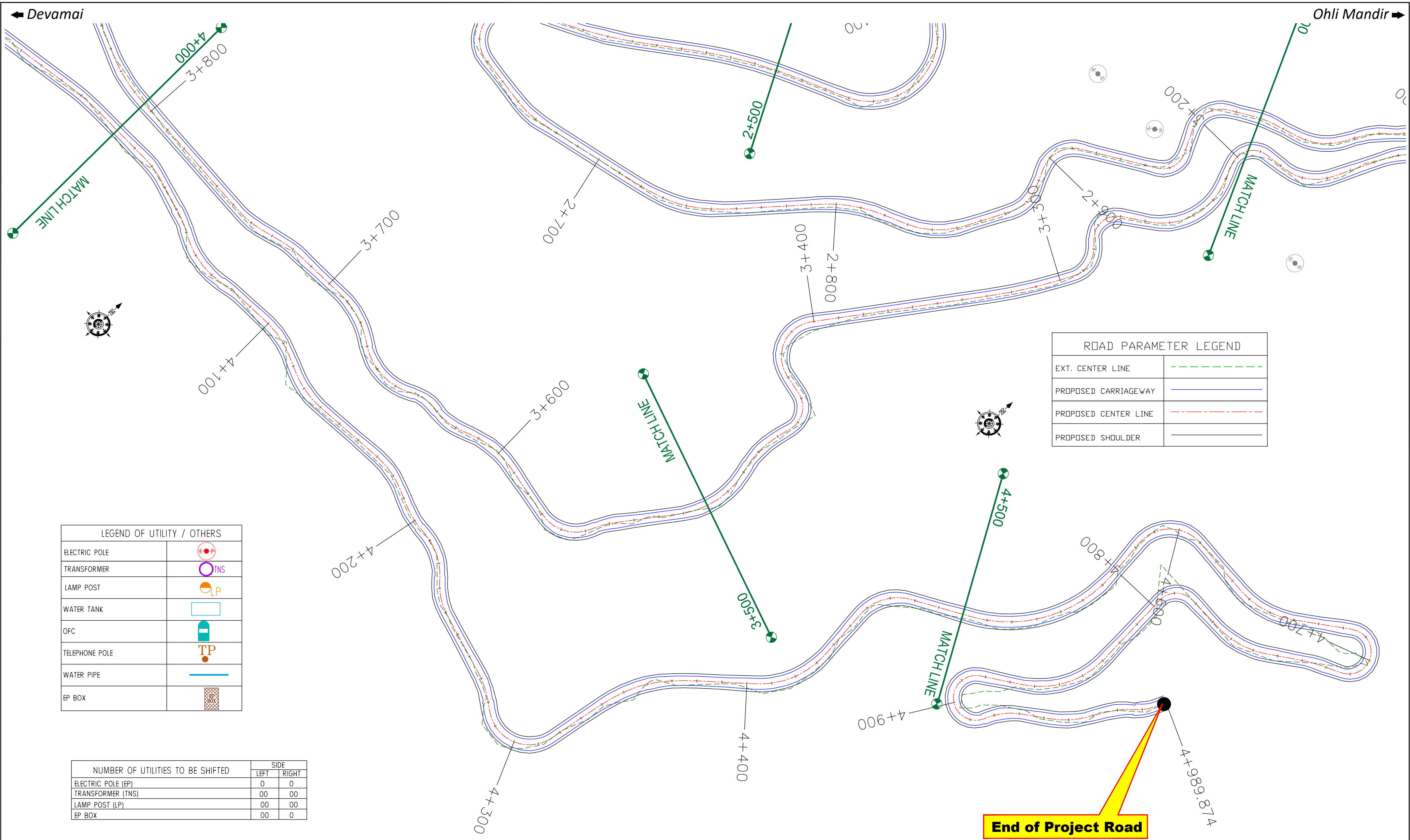
**servicios de Ingenieria S.L.**  
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Ph: 033-40347200  
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REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	1:1000

TITLE :	Utility Relocation Plan (For Electricity Department) (Ch. 3+000 to Ch. 4+000)	
DRG. NO. :	EPTISA/JTFRP/DPR/J&K/URP/04	
REVISION : R-1	September 2019	





≡ UTILITY RELOCATION PLAN FOR MAIN ROAD (TELEPHONE DEPARTMENT) ≡



Start of Project Road

0+000

0+100

0+200

0+300

0+400

0+500

MATCH LINE

0+800

0+600

0+700

0+900

1+000

MATCH LINE

1+100

1+200

1+300

1+500

1+300

-400

0

LEGEND OF UTILITY / OTHERS	
ELECTRIC POLE	
TRANSFORMER	
LAMP POST	
WATER TANK	
OFC	
TELEPHONE POLE	
WATER PIPE	
EP BOX	

ROAD PARAMETER LEGEND	
EXT. CENTER LINE	
PROPOSED CARRIAGEWAY	
PROPOSED CENTER LINE	
PROPOSED SHOULDER	

NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
TELEPHONE POLE (TP)	0	0
OFC	0	0

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
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REV.	DATE	DESCRIPTION

DRAWN BY : SD

DESIGNED BY : SCK/MM

APPROVED BY : KG

SCALE : 1:1000

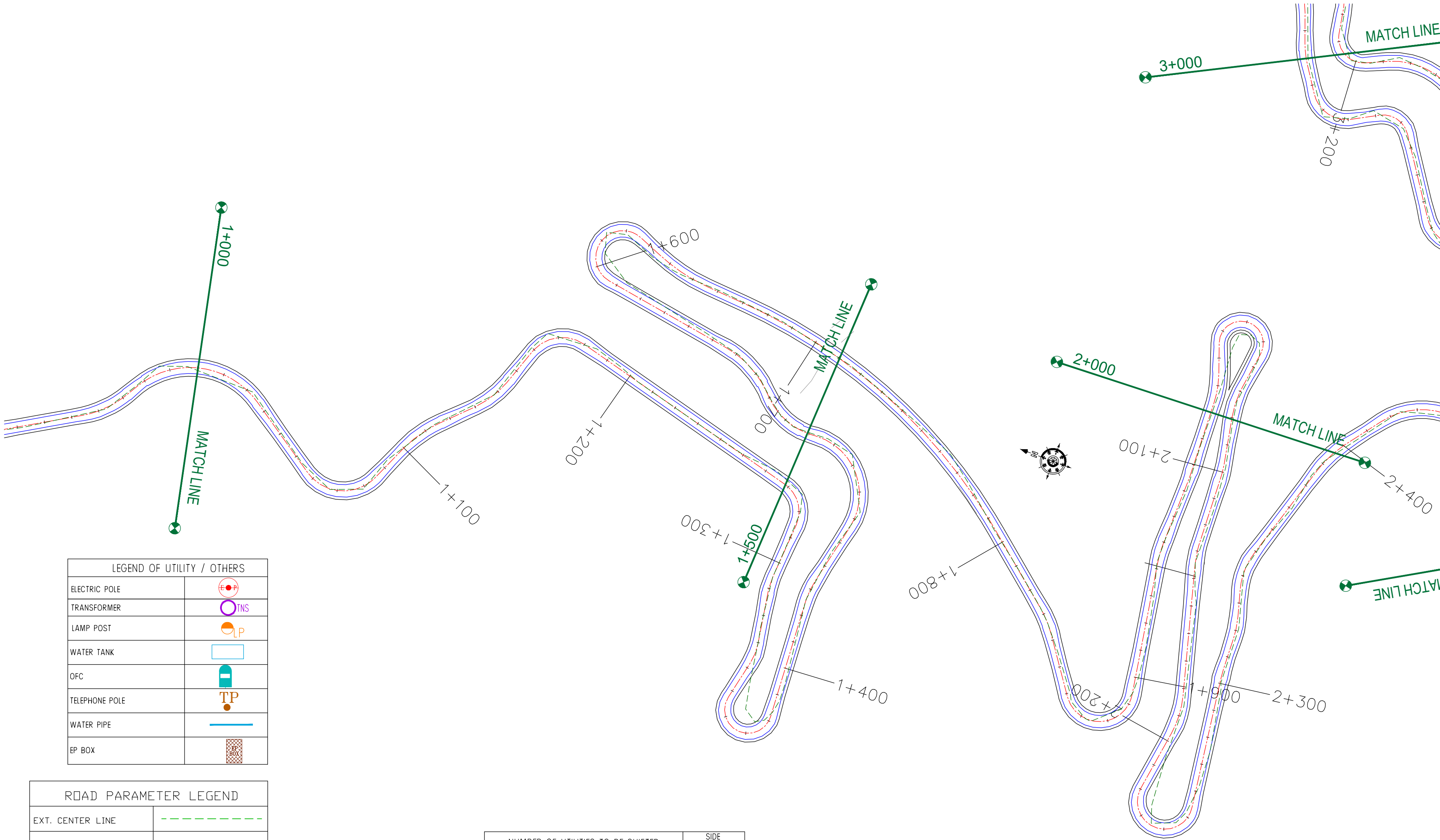
TITLE :

**Utility Relocation Plan**  
**(For Telephone Department)**  
(Ch. 0+000 to Ch. 1+000)

DRG. NO. : EPTISA/JTRFP/DPR/J&K/URP/01

REVISION : R-1

September 2019



LEGEND OF UTILITY / OTHERS	
ELECTRIC POLE	
TRANSFORMER	
LAMP POST	
WATER TANK	
OFC	
TELEPHONE POLE	
WATER PIPE	
EP BOX	

ROAD PARAMETER LEGEND	
EXT. CENTER LINE	
PROPOSED CARRIAGEWAY	
PROPOSED CENTER LINE	
PROPOSED SHOULDER	

NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
TELEPHONE POLE (TP)	0	0
OFC	0	0

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
for the Road works in Jammu and Kashmir  
**(Deva Mai Ohli Mandir in Reasi District)**

DESIGN CONSULTANT:



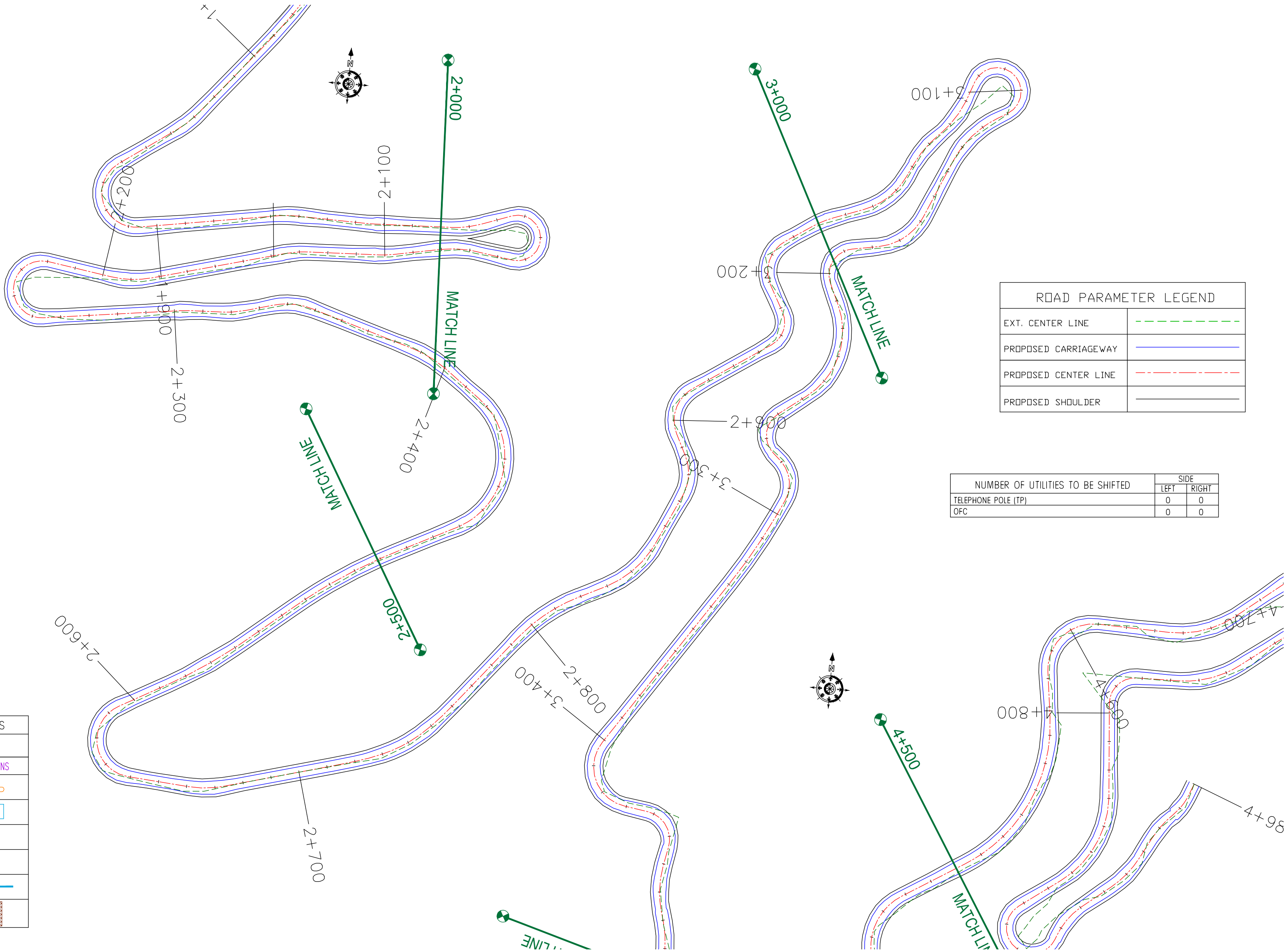
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DRAWN BY :	SD
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APPROVED BY :	KG
SCALE :	1:1000

TITLE : <b>Utility Relocation Plan</b> (For Telephone Department) (Ch. 1+000 to Ch. 2+000)	
DRG. NO. : EPTISA/JTRFP/DPR/J&K/URP/02	
REVISION : R-1	September 2019





ROAD PARAMETER LEGEND	
EXT. CENTER LINE	---
PROPOSED CARRIAGEWAY	---
PROPOSED CENTER LINE	---
PROPOSED SHOULDER	---

NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
TELEPHONE POLE (TP)	0	0
OFC	0	0

LEGEND OF UTILITY / OTHERS	
ELECTRIC POLE	⊕
TRANSFORMER	⊕
LAMP POST	⊕
WATER TANK	⊕
OFC	⊕
TELEPHONE POLE	⊕
WATER PIPE	---
EP BOX	⊕

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
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REV.	DATE	DESCRIPTION

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APPROVED BY :	KG
SCALE :	1:1000

TITLE :	Utility Relocation Plan (For Telephone Department) (Ch. 2+000 to Ch. 3+000)
DRG. NO. :	EPTISA/JTRFP/DPR/J&K/URP/03
REVISION : R-1	September 2019



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NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
TELEPHONE POLE (TP)	0	0
OFC	0	0

ROAD PARAMETER LEGEND	
EXT. CENTER LINE	
PROPOSED CARRIAGEWAY	
PROPOSED CENTER LINE	
PROPOSED SHOULDER	

LEGEND OF UTILITY / OTHERS	
ELECTRIC POLE	
TRANSFORMER	
LAMP POST	
WATER TANK	
OFC	
TELEPHONE POLE	
WATER PIPE	
EP BOX	

CLIENT :



Jhelum & Tawi  
FLOOD RECOVERY PROJECT

Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
for the Road works in Jammu and Kashmir  
**(Deva Mai Ohli Mandir in Reasi District)**

DESIGN CONSULTANT:

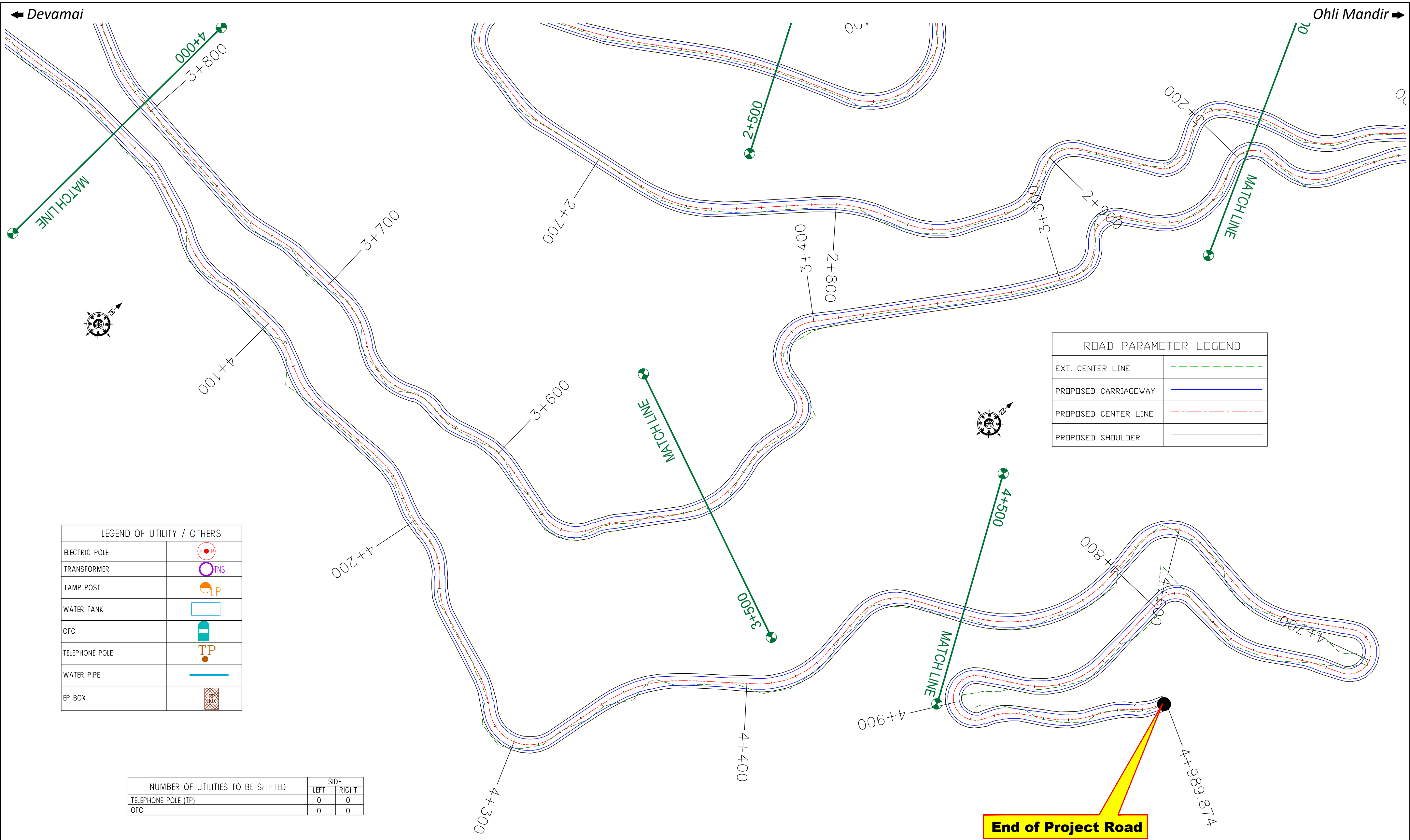


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REV.	DATE	DESCRIPTION

DRAWN BY :	SD
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APPROVED BY :	KG
SCALE :	1:1000

TITLE : <b>Utility Relocation Plan</b> (For Telephone Department) (Ch. 3+000 to Ch. 4+000)	
DRG. NO. : EPTISA/JTFRP/DPR/J&K/URP/04	
REVISION : R-1	September 2019



≡ UTILITY RELOCATION PLAN FOR MAIN ROAD (WATER DEPARTMENT) ≡



← Devamai

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Start of Project Road

0+000

0+100

0+200

0+300

0+400

0+500

MATCH LINE

0+800

0+600

0+700

0+900

1+000

MATCH LINE

1+100

1+200

1+300

1+500

-400

0

LEGEND OF UTILITY / OTHERS	
ELECTRIC POLE	
TRANSFORMER	
LAMP POST	
WATER TANK	
OFC	
TELEPHONE POLE	
WATER PIPE	
EP BOX	

ROAD PARAMETER LEGEND	
EXT. CENTER LINE	
PROPOSED CARRIAGEWAY	
PROPOSED CENTER LINE	
PROPOSED SHOULDER	

NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
WATER TANK	0	0
WATER PIPE	0	0

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
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REV.	DATE	DESCRIPTION
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DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	1:1000

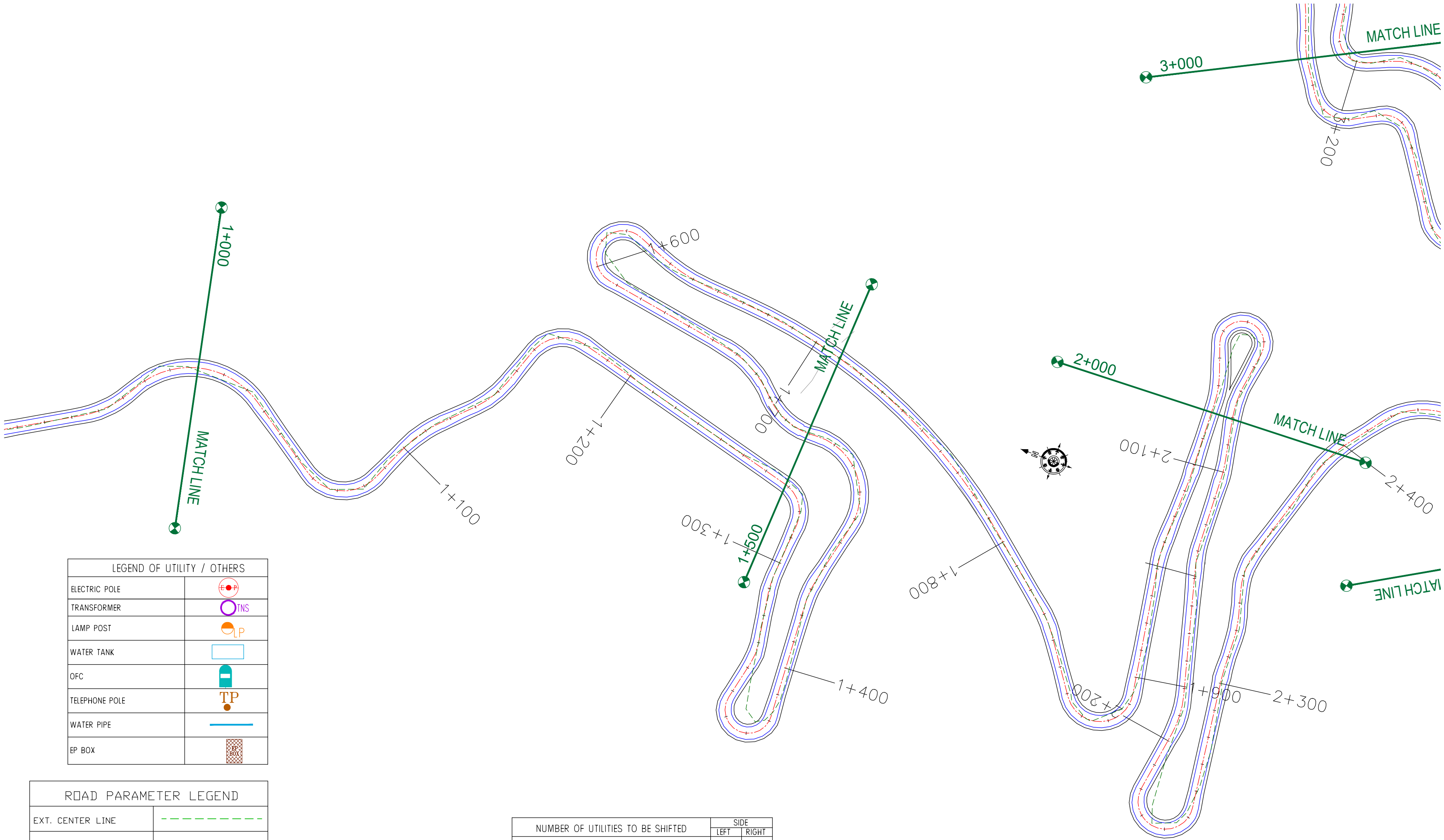
TITLE :

**Utility Relocation Plan**  
(For Water Department)  
(Ch. 0+000 to Ch. 1+000)

DRG. NO. : EPTISA/JTRFP/DPR/J&K/URP/01

REVISION : R-1

September 2019



LEGEND OF UTILITY / OTHERS	
ELECTRIC POLE	
TRANSFORMER	
LAMP POST	
WATER TANK	
OFC	
TELEPHONE POLE	
WATER PIPE	
EP BOX	

ROAD PARAMETER LEGEND	
EXT. CENTER LINE	
PROPOSED CARRIAGEWAY	
PROPOSED CENTER LINE	
PROPOSED SHOULDER	

NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
WATER TANK	0	0
WATER PIPE	0	0

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
for the Road works in Jammu and Kashmir  
**(Deva Mai Ohli Mandir in Reasi District)**

DESIGN CONSULTANT:



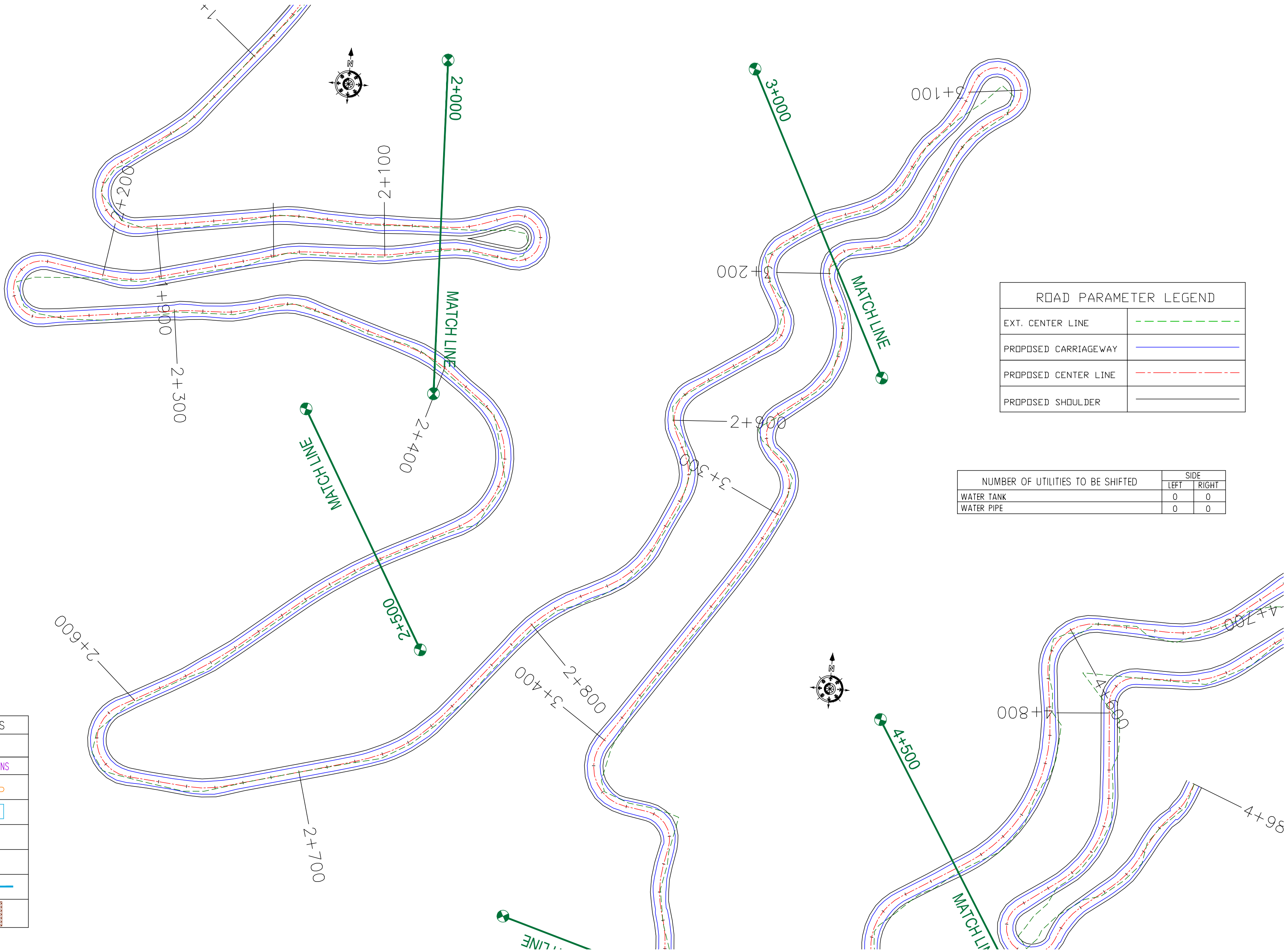
**Servicios de Ingenieria S.L.**  
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Corporate Park, Plot No. 2, Block EP & GP,  
Sector v, Salt Lake Kolkata - 700091,  
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REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	1:1000

TITLE :	Utility Relocation Plan (For Water Department) (Ch. 1+000 to Ch. 2+000)	
DRG. NO. :	EPTISA/JTFRP/DPR/J&K/URP/02	
REVISION : R-1	September 2019	





ROAD PARAMETER LEGEND	
EXT. CENTER LINE	---
PROPOSED CARRIAGEWAY	---
PROPOSED CENTER LINE	---
PROPOSED SHOULDER	---

NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
WATER TANK	0	0
WATER PIPE	0	0

LEGEND OF UTILITY / OTHERS	
ELECTRIC POLE	⊕
TRANSFORMER	⊕ TNS
LAMP POST	⊕ LP
WATER TANK	□
OFC	⊕
TELEPHONE POLE	⊕ TP
WATER PIPE	—
EP BOX	⊕

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

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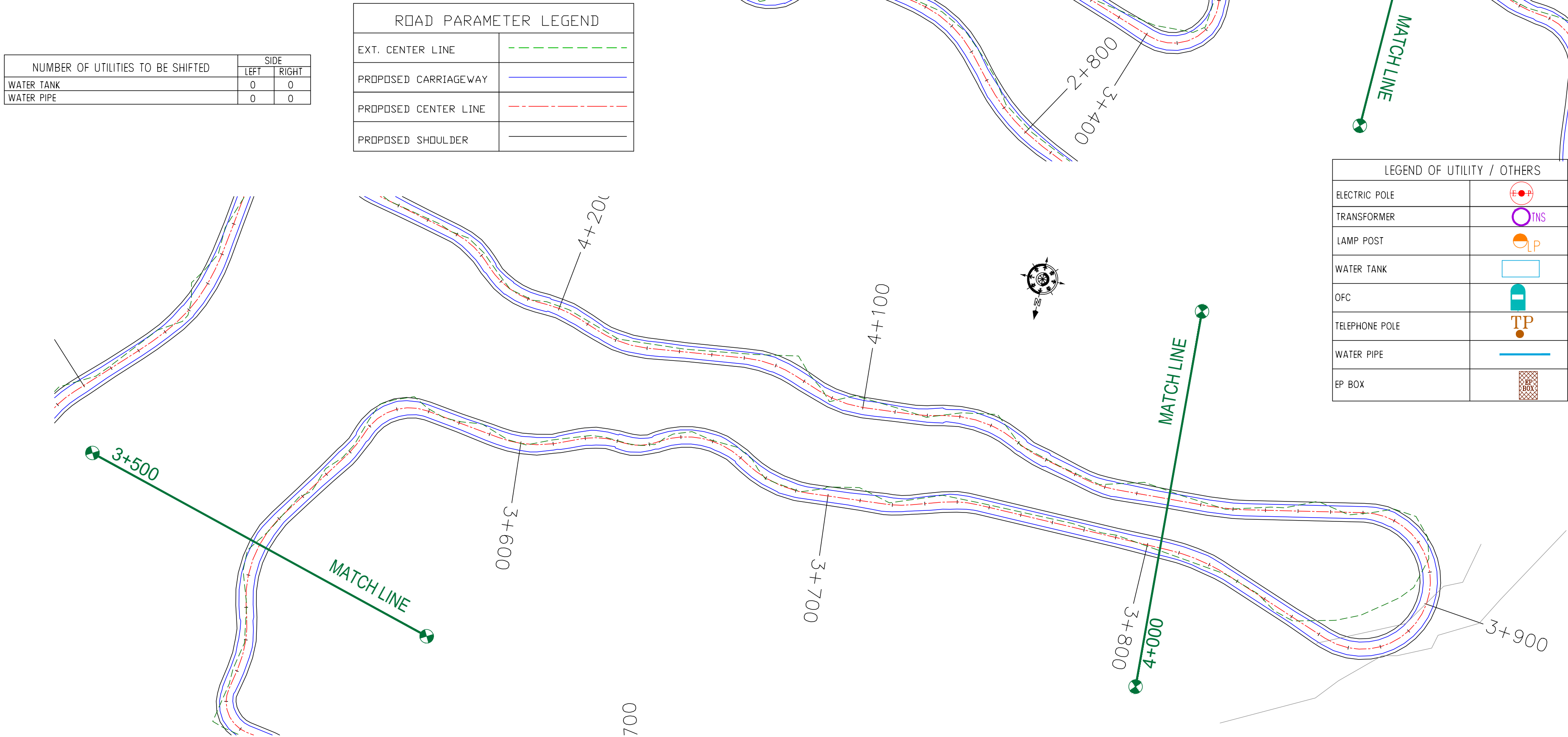
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DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	1:1000

TITLE :	Utility Relocation Plan (For Water Department) (Ch. 2+000 to Ch. 3+000)	
DRG. NO. :	EPTISA/JTRFP/DPR/J&K/URP/03	
REVISION : R-1	September 2019	



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CLIENT :  
  
Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

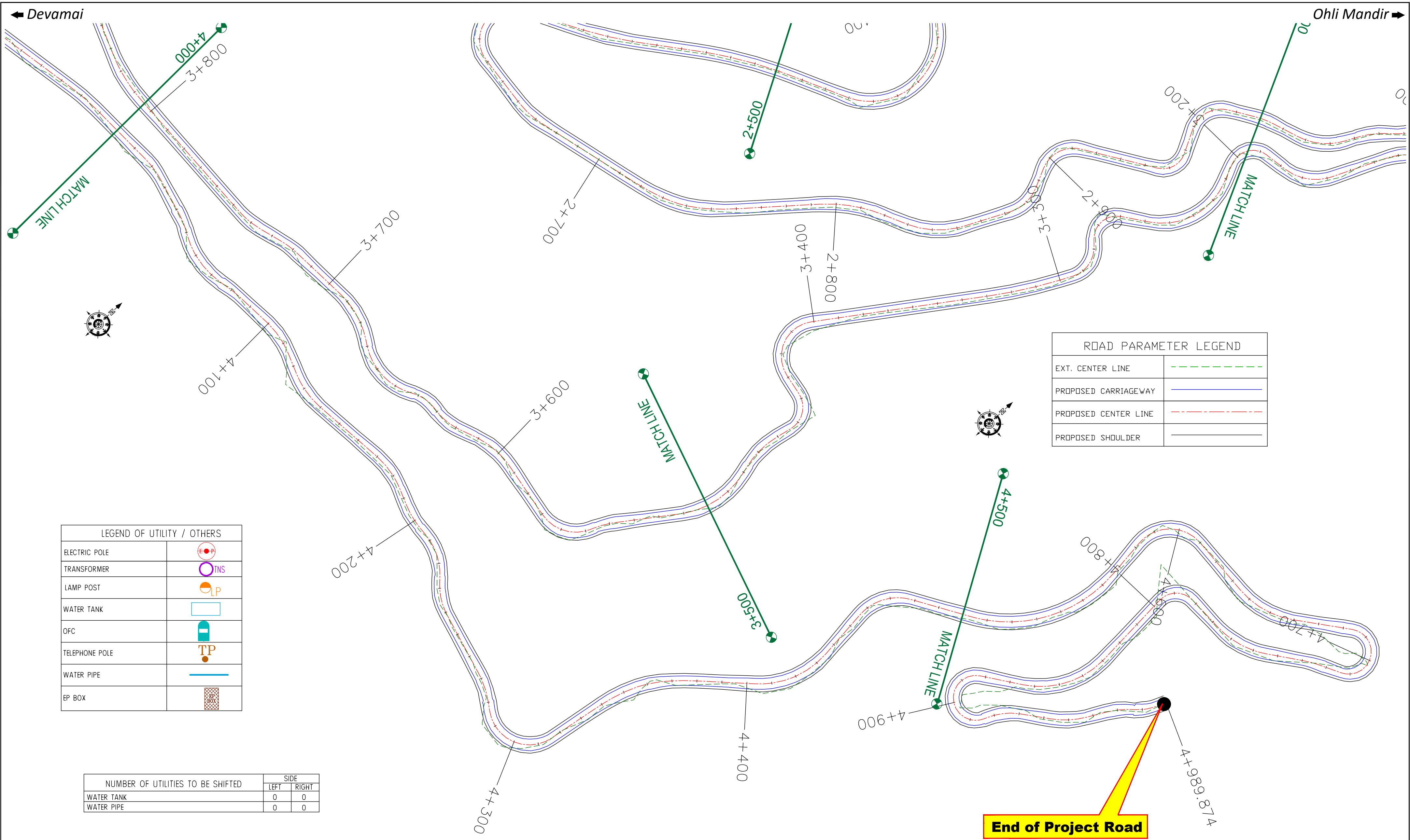
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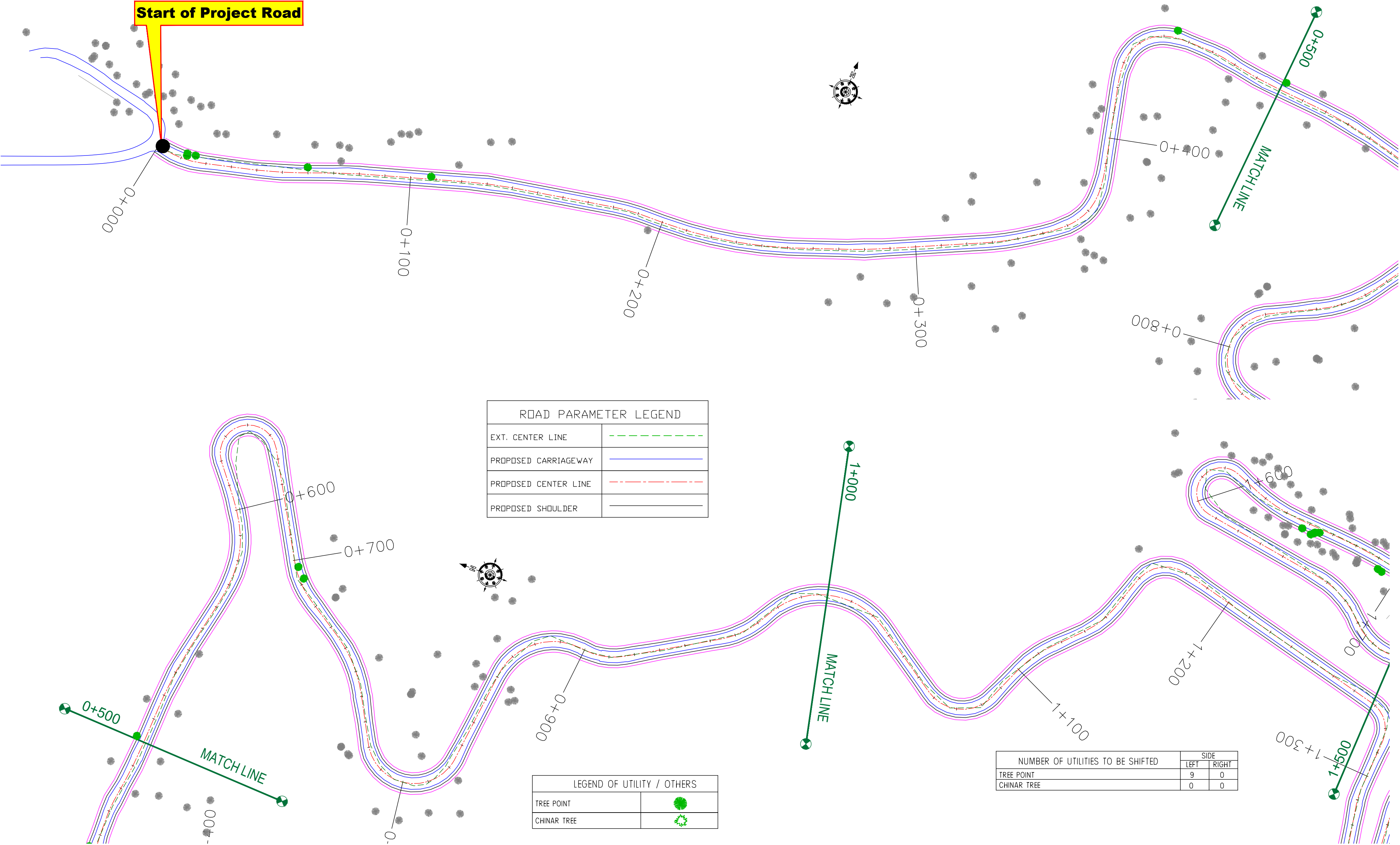
DRAWN BY : SD  
DESIGNED BY : SCK/MM  
APPROVED BY : KG  
SCALE : 1:1000

TITLE : Utility Relocation Plan  
(For Water Department)  
(Ch. 3+000 to Ch. 4+000)  
DRG. NO. : EPTISA/JTFRP/DPR/J&K/URP/04  
REVISION : R-1  
September 2019



≡ TREE CUTTING (MAIN ROAD) ≡





NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
TREE POINT	9	0
CHINAR TREE	0	0

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

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DESIGN CONSULTANT:

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REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	1:1000

TITLE :	<b>TREE CUTTING</b> (Ch. 0+000 to Ch. 1+000)
DRG. NO. :	EPTISA/JTRFP/DPR/J&K/TC/01
REVISION : R-1	September 2019



ROAD PARAMETER LEGEND	
EXT. CENTER LINE	<div></div>
PROPOSED CARRIAGEWAY	<div></div>
PROPOSED CENTER LINE	<div></div>
PROPOSED SHOULDER	<div></div>

LEGEND OF UTILITY / OTHERS	
TREE POINT	<div></div>
CHINAR TREE	<div></div>

NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
TREE POINT	2	16
CHINAR TREE	0	0

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
for the Road works in Jammu and Kashmir  
**(Deva Mai Ohli Mandir in Reasi District)**

DESIGN CONSULTANT:



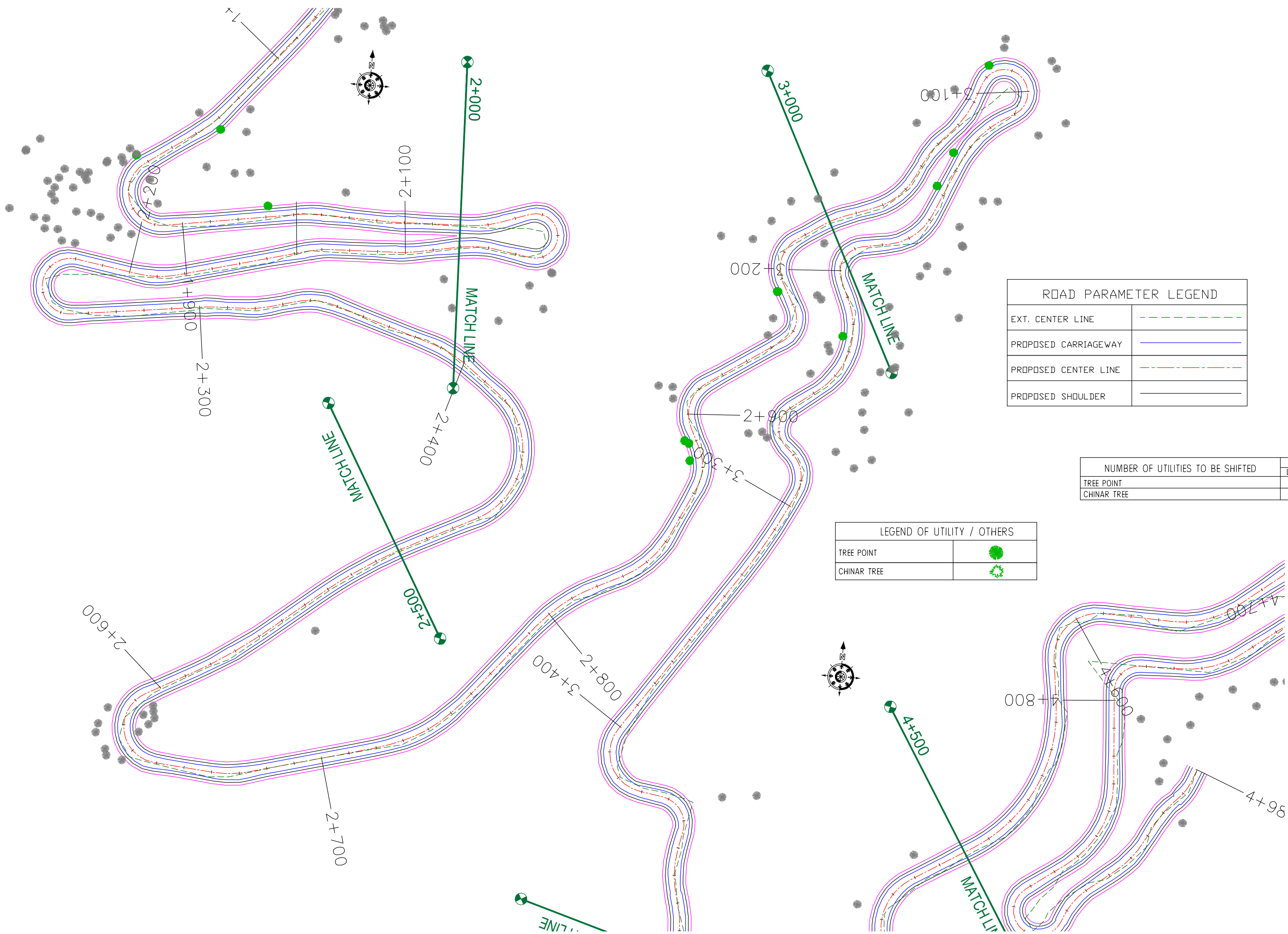
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Sector v, Salt Lake Kolkata - 700091,  
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Ph: 033-40347200  
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REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	1:1000

TITLE :	
TREE CUTTING (Ch. 1+000 to Ch. 2+000)	
DRG. NO. : EPTISA/JTRFP/DPR/J&K/TC/02	
REVISION : R-1	September 2019





ROAD PARAMETER LEGEND	
EXT. CENTER LINE	---
PROPOSED CARRIAGEWAY	---
PROPOSED CENTER LINE	---
PROPOSED SHOULDER	---

NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
TREE POINT	6	2
CHINAR TREE	0	0

LEGEND OF UTILITY / OTHERS	
TREE POINT	●
CHINAR TREE	⊗

CLIENT :



Jhelum Tawi Flood Recovery Project  
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REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	1:1000

TITLE :	
TREE CUTTING	
(Ch. 2+000 to Ch. 3+000)	
DRG. NO. : EPTISA/JTFRP/DPR/J&K/TC/03	
REVISION : R-1	September 2019



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ROAD PARAMETER LEGEND	
EXT. CENTER LINE	---
PROPOSED CARRIAGEWAY	---
PROPOSED CENTER LINE	---
PROPOSED SHOULDER	---

LEGEND OF UTILITY / OTHERS	
TREE POINT	●
CHINAR TREE	⊗

NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
TREE POINT	2	3
CHINAR TREE	0	0

CLIENT :



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PROJECT :

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DESIGN CONSULTANT:

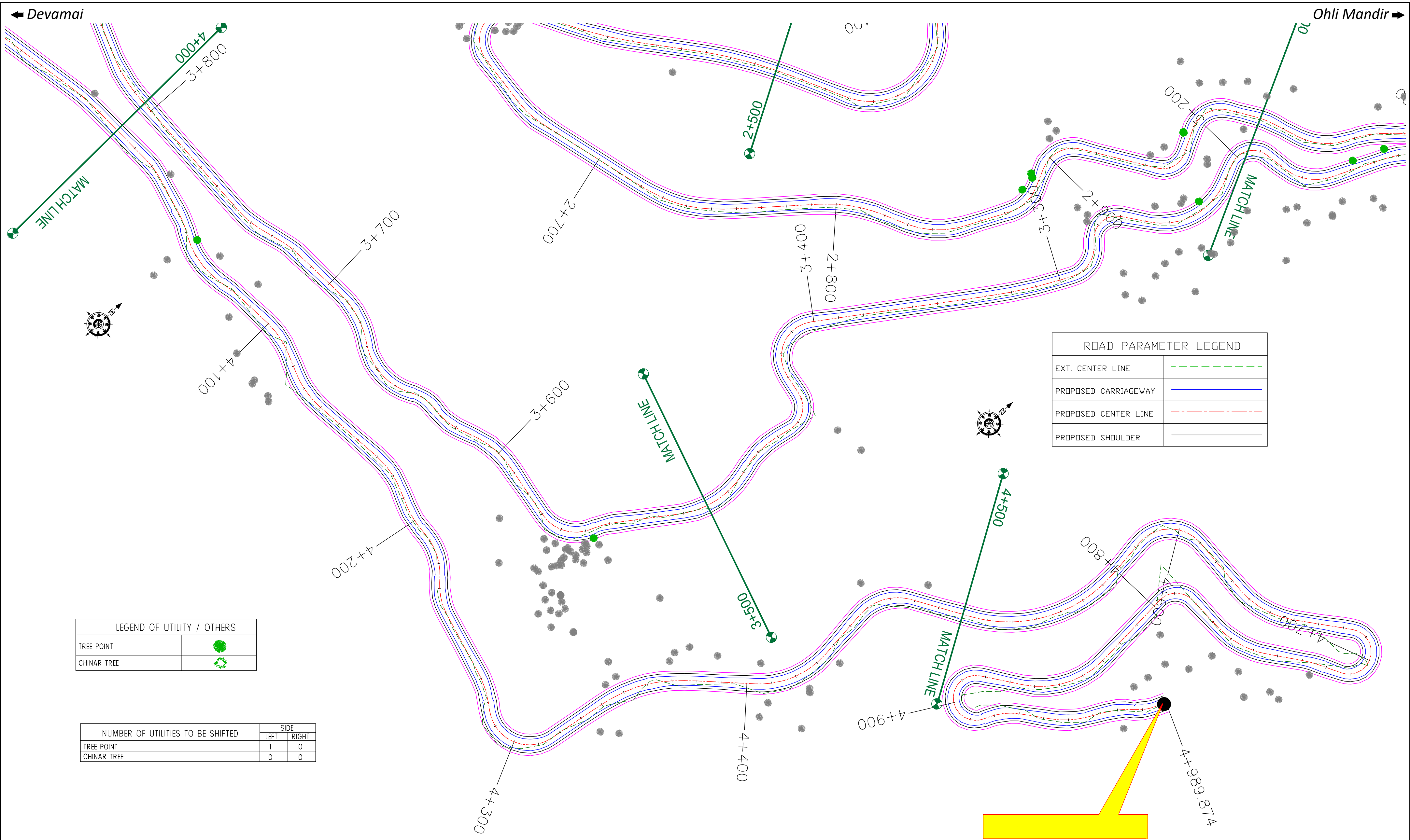


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REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	1:1000

TITLE :	
TREE CUTTING (Ch. 3+000 to Ch. 4+000)	
DRG. NO. : EPTISA/JTFRP/DPR/J&K/TC/04	
REVISION : R-1	September 2019



ROAD PARAMETER LEGEND	
EXT. CENTER LINE	
PROPOSED CARRIAGEWAY	
PROPOSED CENTER LINE	
PROPOSED SHOULDER	

LEGEND OF UTILITY / OTHERS	
TREE POINT	
CHINAR TREE	

NUMBER OF UTILITIES TO BE SHIFTED	SIDE	
	LEFT	RIGHT
TREE POINT	1	0
CHINAR TREE	0	0

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
for the Road works in Jammu and Kashmir  
**(Deva Mai Ohli Mandir in Reasi District)**

DESIGN CONSULTANT:



**servicios de Ingenieria S.L.**  
Unit 1203, 12th Floor, Tower 1, PS Srijan  
Corporate Park, Plot No. 2, Block EP & GP,  
Sector v, Salt Lake Kolkata - 700091,  
West Bengal  
Ph: 033-40347200  
www.eptisa.com

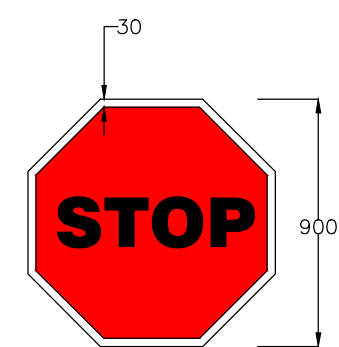
REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	1:1000

TITLE :	
TREE CUTTING	
(Ch. 3+000 to Ch. 4+989.874)	
DRG. NO. : EPTISA/JTRFP/DPR/J&K/TC/05	
REVISION : R-1	September 2019

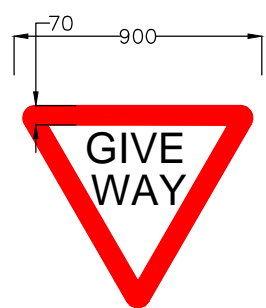
≡ MISCELLANEOUS DRAWINGS ≡





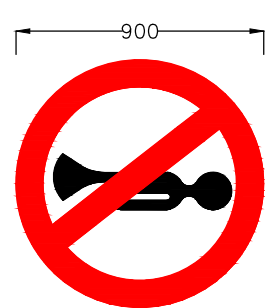
STOP SIGNS  
Fig. 14.01

MS-1



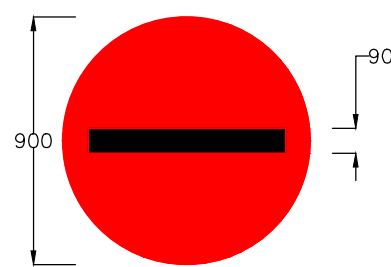
GIVE WAY  
Fig. 14.02

MS-2



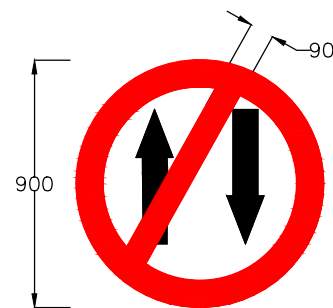
HORN PROHIBITED  
Fig. 14.18

MS-3



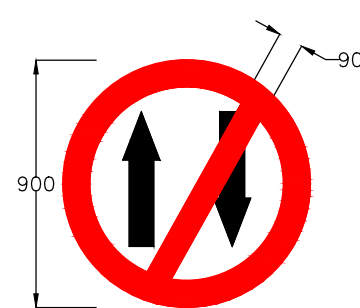
NO ENTRY  
Fig. 14.19

MS-4



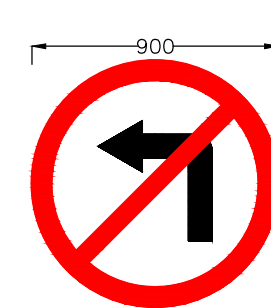
ONE WAY  
Fig. 14.20

MS-5



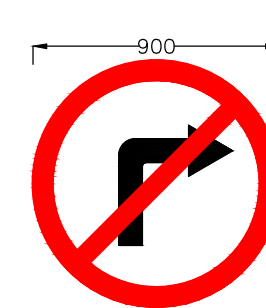
ONE WAY  
Fig. 14.20

MS-6



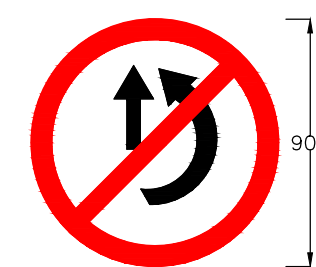
LEFT TURN PROHIBITED  
Fig. 14.21

MS-7



RIGHT TURN PROHIBITED  
Fig. 14.22

MS-8



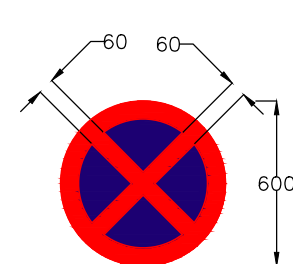
OVERTAKING PROHIBITED  
Fig. 14.23

MS-9



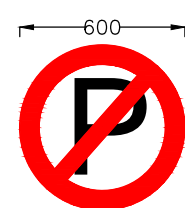
U- TURN PROHIBITED  
Fig. 14.24

MS-10



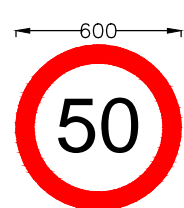
NO STOPPING AND NO STANDING  
Fig. 14.28

MS-11



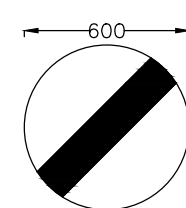
NO PARKING  
Fig. 14.29

MS-12



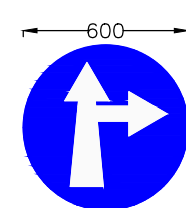
MAXIMUM SPEED LIMIT  
Fig. 14.37

MS-13



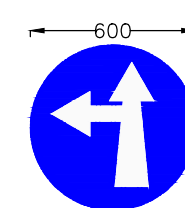
RESTRICTION ENDS  
Fig. 14.40

MS-14



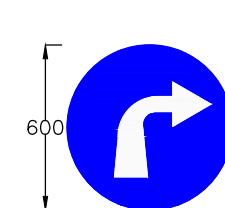
COMPULSORY AHEAD  
OR RIGHT TURN  
Fig. 14.42

MS-15



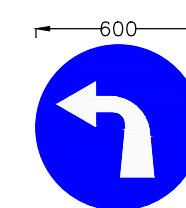
COMPULSORY AHEAD  
OR LEFT TURN  
Fig. 14.43

MS-16



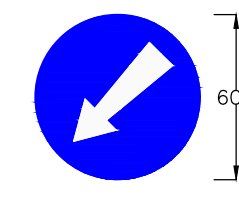
COMPULSORY  
TURN RIGHT  
Fig. 14.46

MS-17



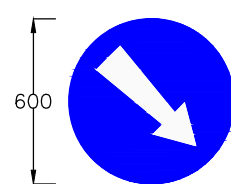
COMPULSORY  
TURN LEFT  
Fig. 14.47

MS-18



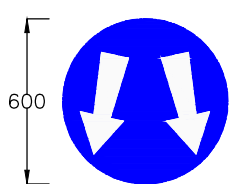
COMPULSORY KEEP LEFT  
Fig. 14.48

MS-19



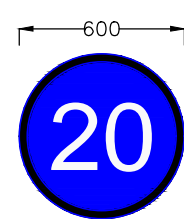
COMPULSORY KEEP RIGHT  
Fig. 14.49

MS-20



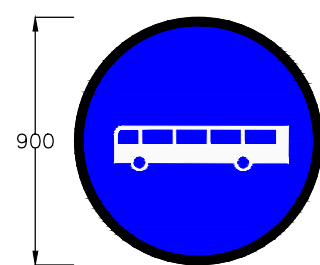
PASS EITHER SIDE  
Fig. 14.50

MS-21



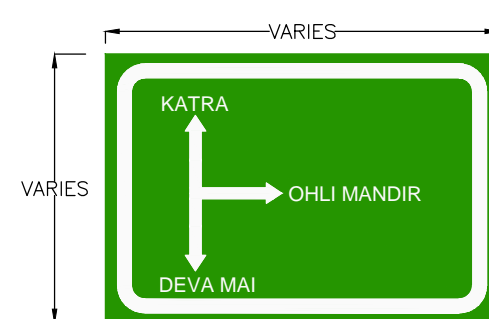
MINIMUM SPEED LIMIT  
Fig. 14.51

MS-22



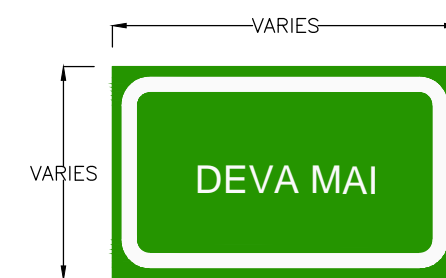
BUS WAY/BUSES ONLY  
Fig. 14.56

MS-23



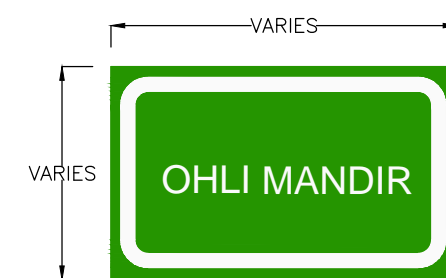
ADVANCE DIRECTION SIGN  
Fig. 16.03

DS-01



PLACE IDENTIFICATION SIGN  
Fig. 16.06

DS-02



PLACE IDENTIFICATION SIGN  
Fig. 16.06


DS-03

### Notes:

1. Road signs shall be erected as per IRC:67-2012.
2. Sizes of arrows, letters and numerals for road signs shall be as per IRC:67-2012
3. Route marker signs, letters and numerals shall be erected as per IRC:2-1968.
4. Spacing of TA2 on kerb face shall be 250mm C/C and that on metal beam crash barrier shall be 3000mm C/C. The number of reflector at island/median tips shall be as instructed by the Engineer, but in no case shall be less than five number at a tip.
5. All items indicated in this drawing may not be relevant for the subject project, these shall be used depending upon the requirement.
6. Besides the above, standards and specifications mentioned in IRC : SP : 73-2015 shall be followed strictly whenever applicable.
7. All dimensions are in millimetres unless otherwise mentioned.

CLIENT :  
  
Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

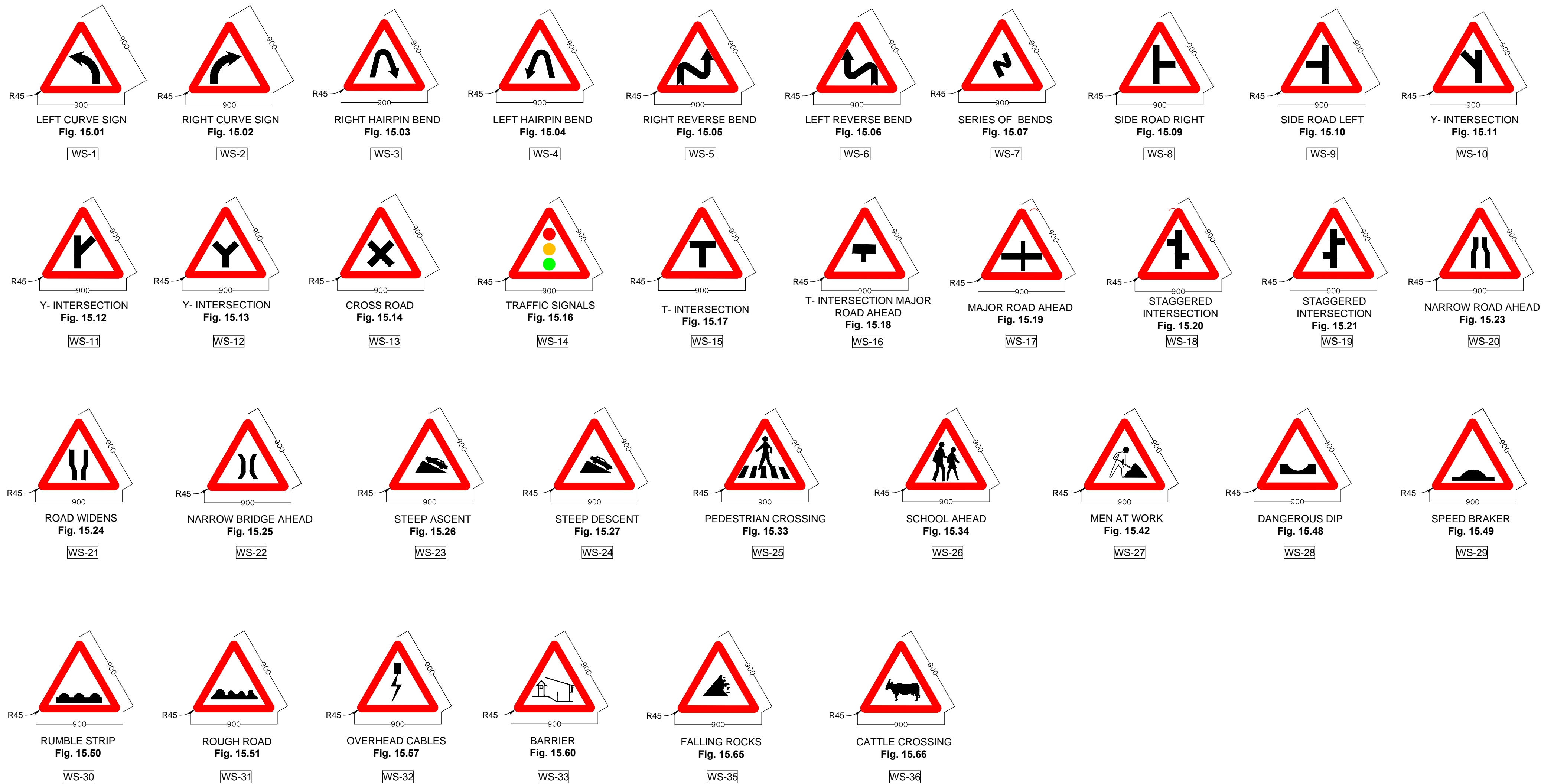
PROJECT :  
Consultancy Services for Preparing Detailed Project Report  
for the Road works in Jammu and Kashmir  
(Deva Mai Ohli Mandir in Reasi District)

DESIGN CONSULTANT:  
 **Eptisa Servicios de Ingenieria S.L.**  
Unit 1203, 12th Floor, Tower 1, PS Srijan  
Corporate Park, Plot No. 2, Block EP & GP,  
Sector v, Salt Lake Kolkata - 700091,  
West Bengal  
Ph: 033-40347200  
www.eptisa.com

REV.	DATE	DESCRIPTION

DRAWN BY : SD  
DESIGNED BY : SCK/MM  
APPROVED BY : KG  
SCALE : N.T.S

TITLE :  
**Road Signs & Road Delineators**  
DRG. NO. : EPTISA/JTRP/DPR/J&K/MISC/01  
(Sheet 01 of 03)  
REVISION : R-1  
September 2019



**Notes:**

- 1.Road signs shall be erected as per IRC:67–2012.
- 2.Sizes of arrows, letters and numerals for road signs shall be as per IRC:67–2012
- 3.All items indicated in this drawing may not be relevant for the subject project, these shall be used depending upon the requirement.
- 4.Besides the above, standards and specifications mentioned in IRC:SP:73–2015 shall be followed strictly whenever applicable.
- 5.All dimensions are in millimetres unless otherwise mentioned.

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
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DESIGN CONSULTANT:



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Sector v, Salt Lake Kolkata - 700091,  
West Bengal  
Ph: 033-40347200  
[www.eptisa.com](http://www.eptisa.com)

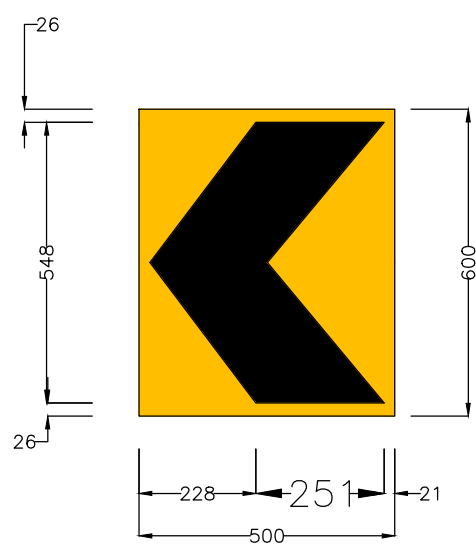
REV.	DATE	DESCRIPTION

DRAWN BY : SD  
DESIGNED BY : SCK/MM  
APPROVED BY : KG  
SCALE : N.T.S

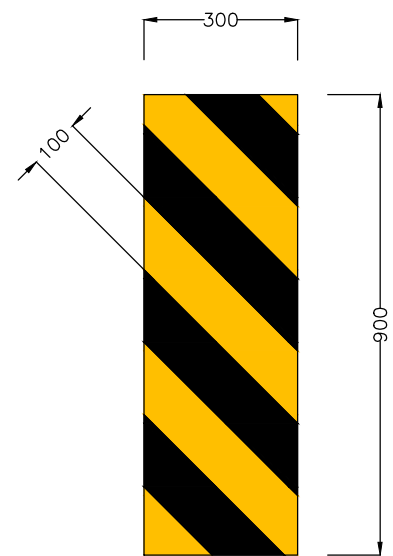
TITLE :

**Road Signs & Road Delineators**

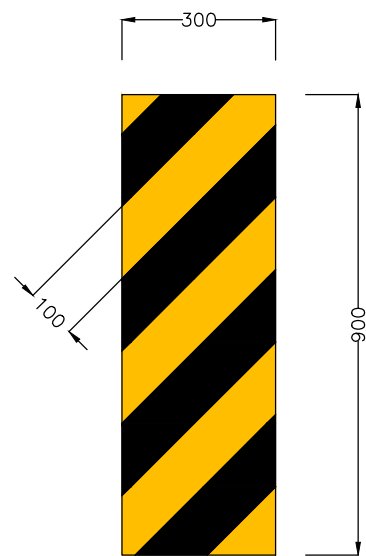
DRG. NO. : EPTISA/JTRP/DPR/J&K/MISC/01  
(Sheet 02 of 03)  
REVISION : R-1  
September 2019



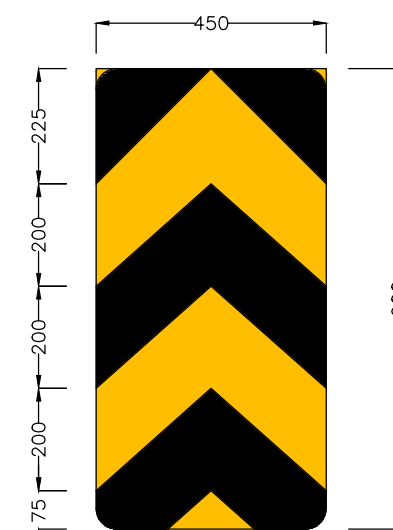
SINGLE CHEVRON  
Fig. 15.72  
TA-1  
SCALE 1:15000



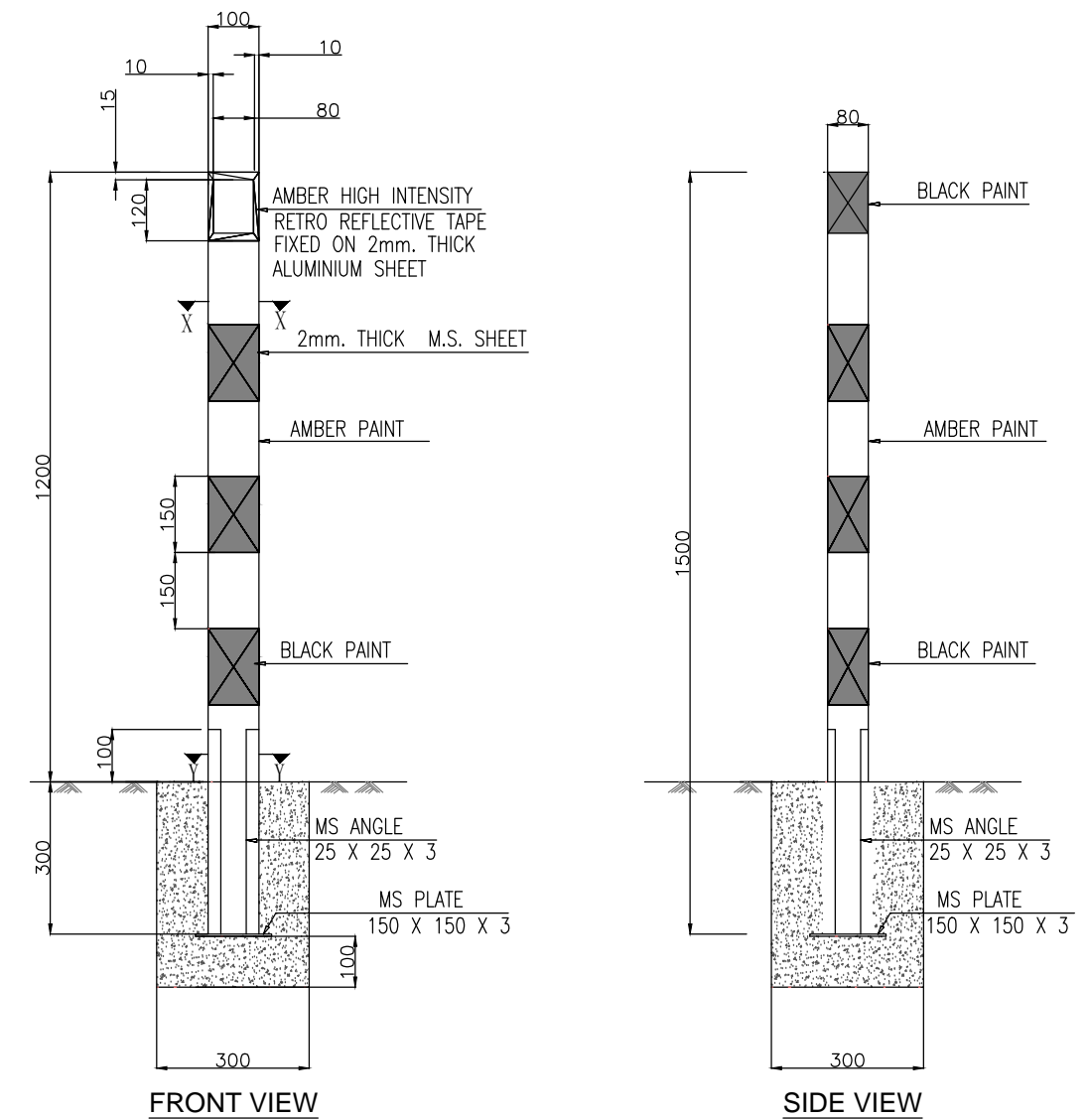
OBJECT HAZARD (LEFT)  
Fig. 15.76  
TA-2  
SCALE 1:15000



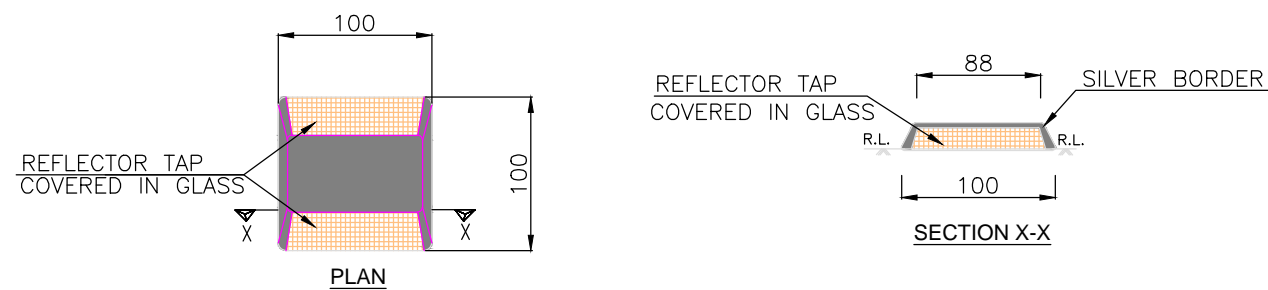
OBJECT HAZARD (RIGHT)  
Fig. 15.77  
TA-3  
SCALE 1:15000



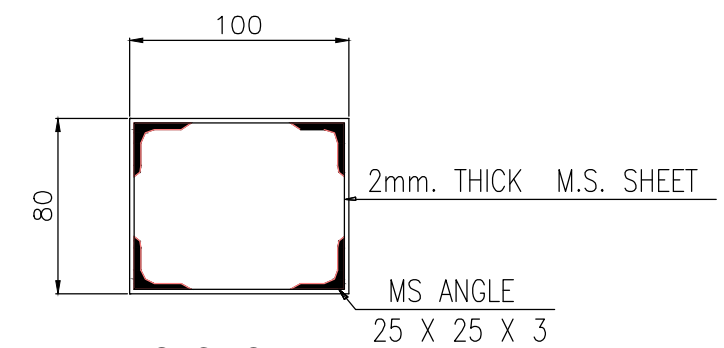
TWO WAY HAZARD MARKER  
Fig. 15.78  
TA-4  
SCALE 1:15000



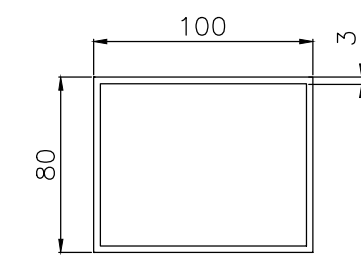
ROAD DELINEATORS  
TA-6  
SCALE 1:15000



ROAD STUDS (CATS'S EYE)  
TA-7  
SCALE 1:5000



SECTION Y-Y  
SCALE 1:3500



SECTION X-X  
SCALE 1:3500

### Notes:

- 1.Road signs shall be erected as per IRC:67-2012.
- 2.Sizes of arrows, letters and numerals for road signs shall be as per IRC:67-2012
- 3.All items indicated in this drawing may not be relevant for the subject project, these shall be used depending upon the requirement.
- 4.Besides the above, standards and specifications mentioned in IRC:SP:73-2015 shall be followed strictly whenever applicable.
- 5.All dimensions are in millimetres unless otherwise mentioned.
- 6.The scale mentioned is applicable for A2 size sheet.

CLIENT :  
  
Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :  
Consultancy Services for Preparing Detailed Project Report  
for the Road works in Jammu and Kashmir  
(Deva Mai Ohli Mandir in Reasi District)

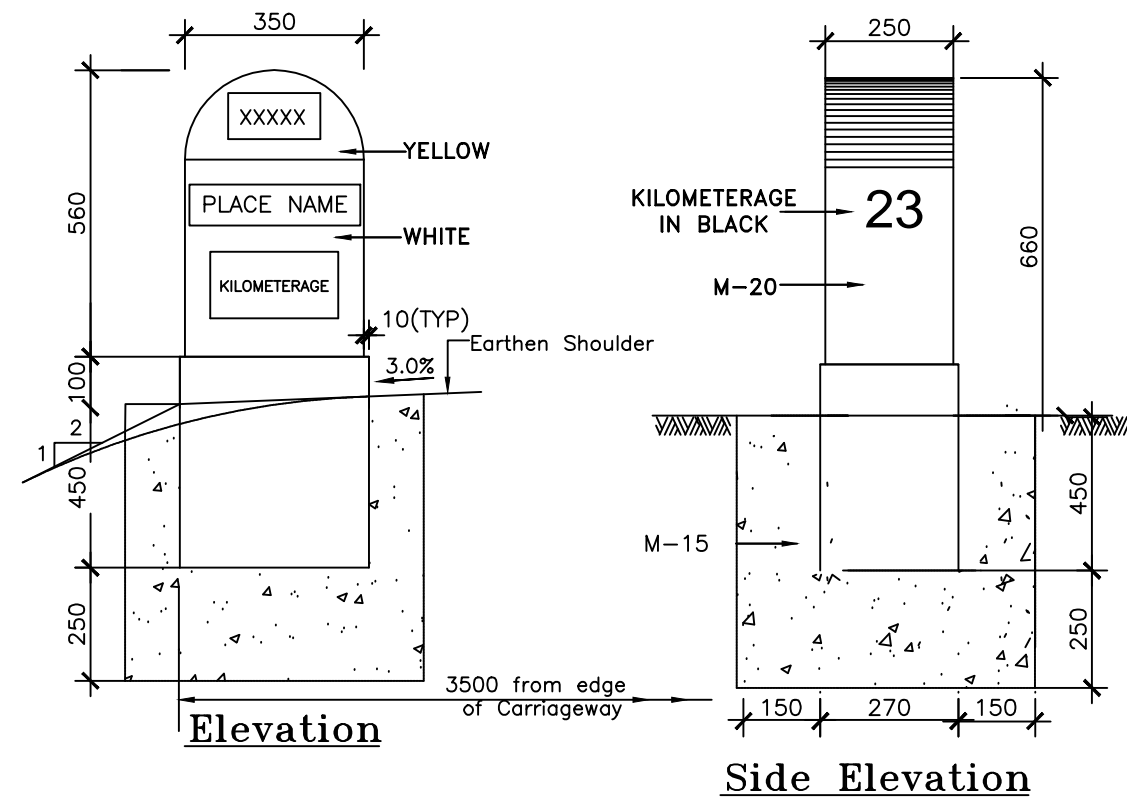
DESIGN CONSULTANT:  
  
**Eptisa Servicios de Ingenieria S.L.**  
Unit 1203, 12th Floor, Tower 1, PS Srijan  
Corporate Park, Plot No. 2, Block EP & GP,  
Sector v, Salt Lake Kolkata - 700091,  
West Bengal  
Ph: 033-40347200  
www.eptisa.com

REV.	DATE	DESCRIPTION

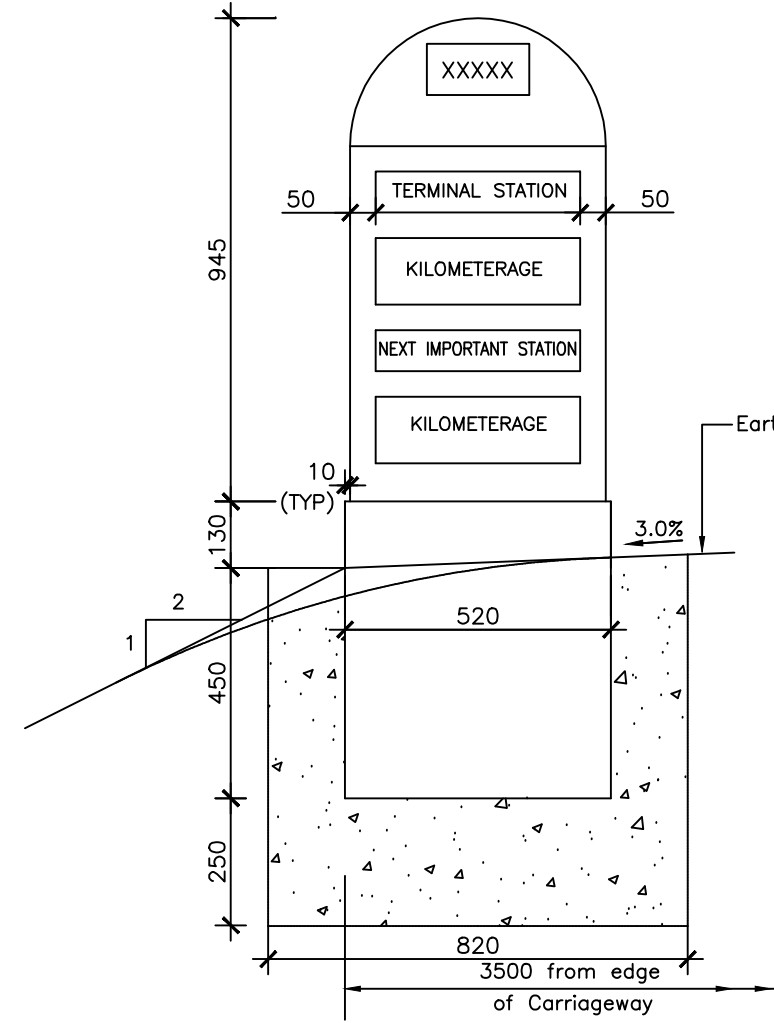
DRAWN BY : SD  
DESIGNED BY : SCK/MM  
APPROVED BY : KG  
SCALE : AS SHOWN

TITLE :  
**Road Signs & Road Delineators**  
DRG. NO. : EPTISA/JTRP/DPR/J&K/MISC/01  
(Sheet 03 of 03)  
REVISION : R-1  
September 2019

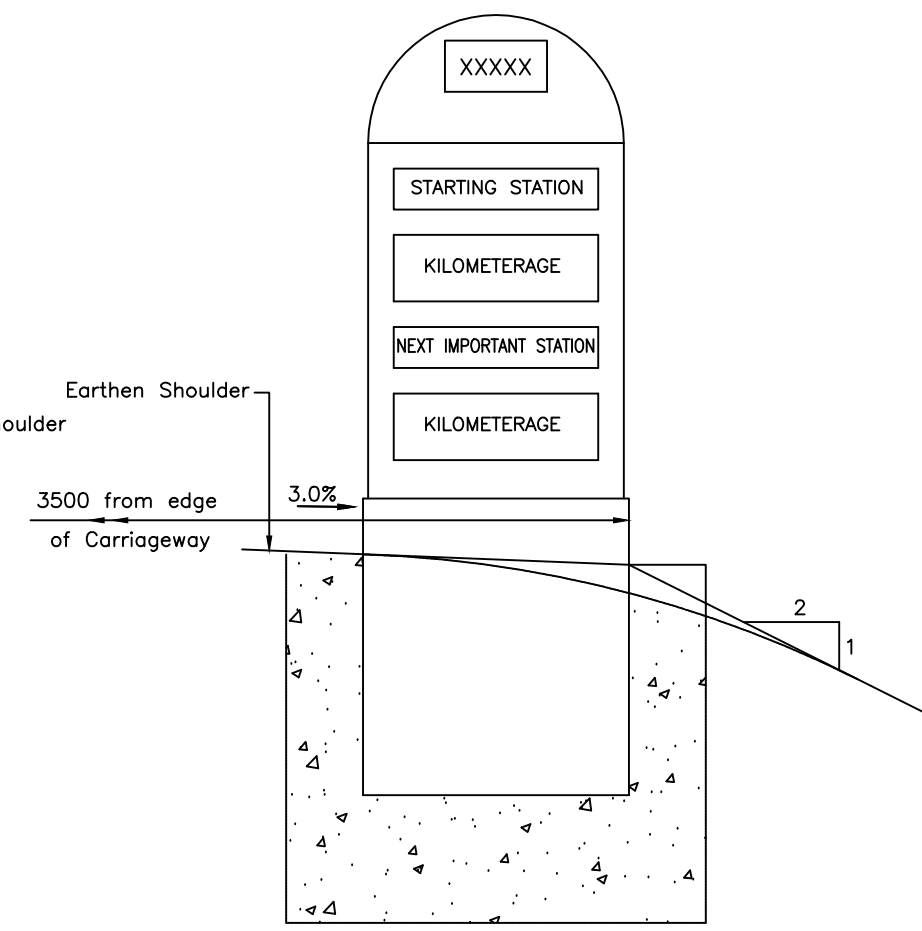




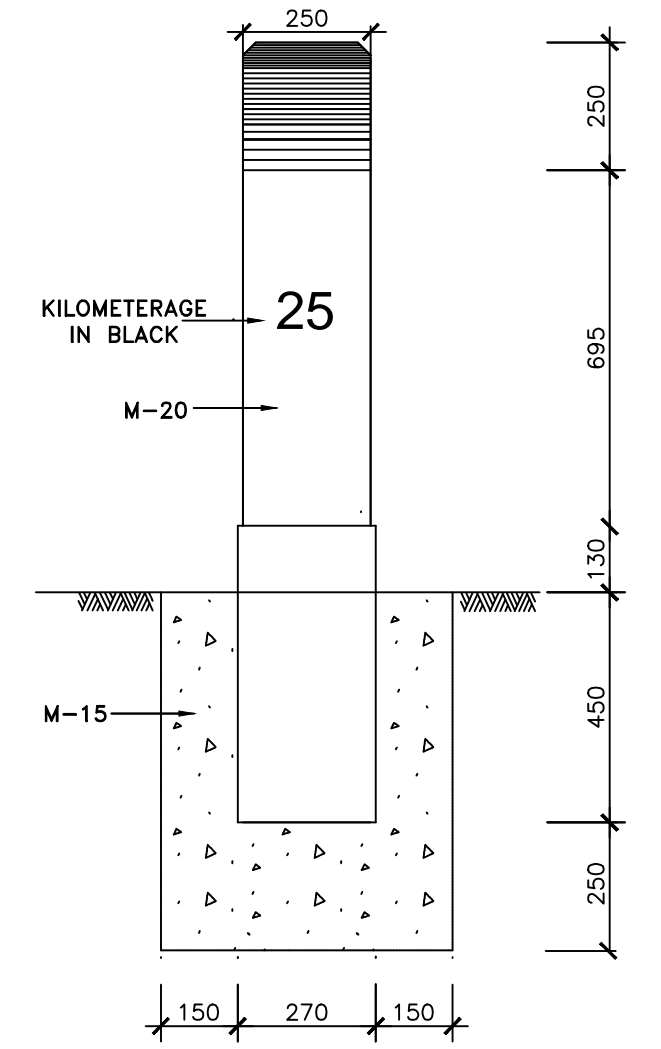
**Kilometre Stone**



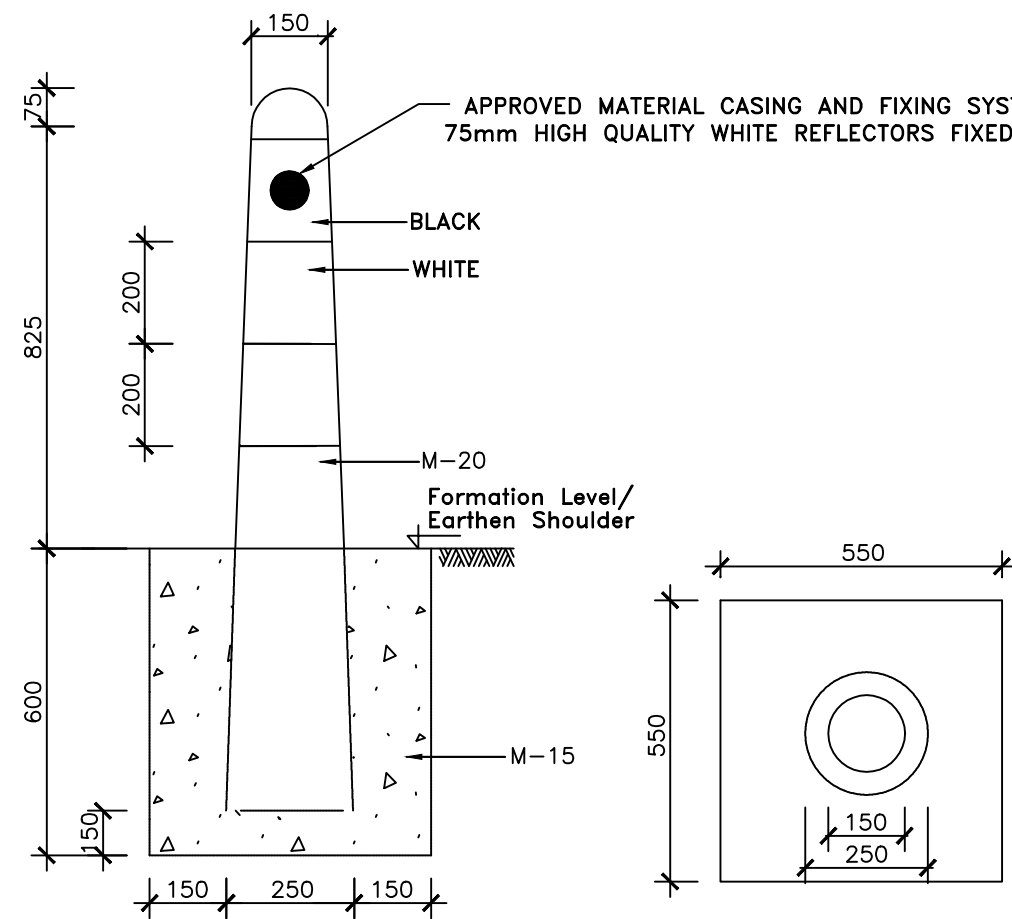
**Face - I Elevation**



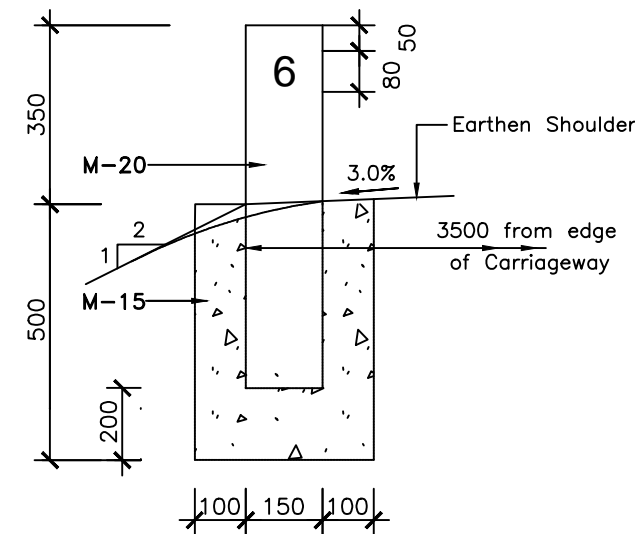
**Face - II Elevation**



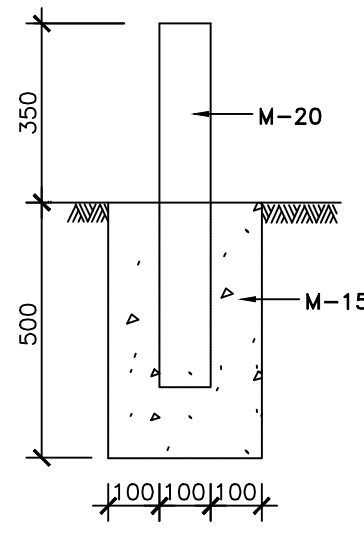
**Side Elevation**



**Guard Post**

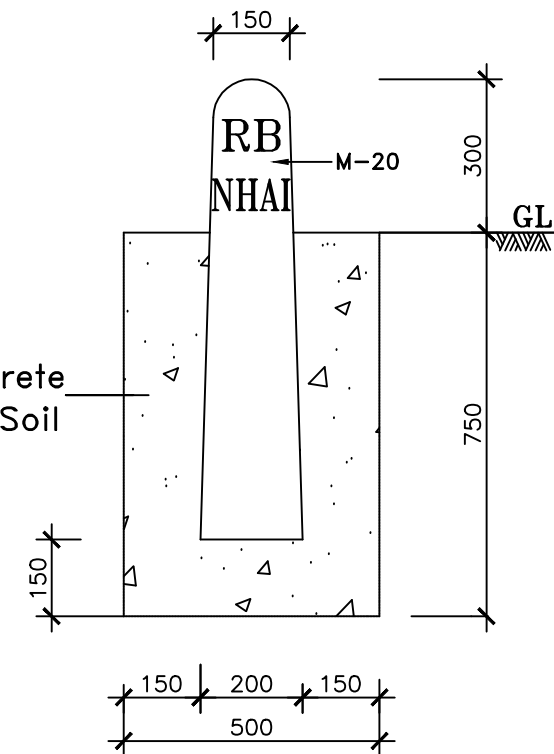


**Front Elevation**

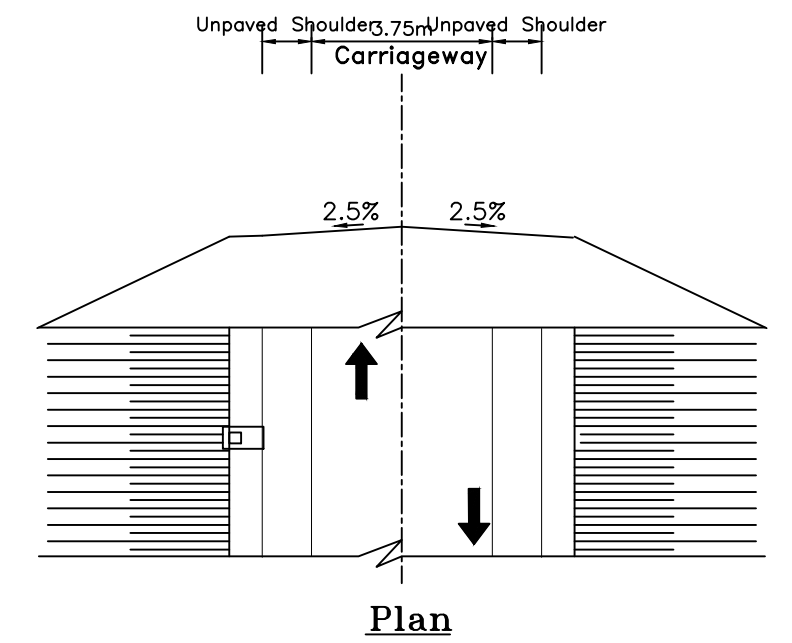


**Side Elevation**

**200 metre Stone**



**Boundary Stone**



**Location of Distance Stones**

**Notes:**

1. Details of kilometre stone and 5th kilometre stone are generally based on IRC:8-1980
2. Details of 200m stones are generally based on IRC:26-1967.
3. The distance stones shall be provided on left side of the road as shown independently for each direction of traffic flow.
4. The letters and numerals on distance stones shall be as per IRC:8-1980.
5. Details of boundary stones are generally based on IRC:25-1967.
6. Besides the above, standards and specifications mentioned in IRC : SP : 73-2015 shall be followed strictly whenever applicable.
7. All dimensions are in millimetres unless otherwise mentioned.
8. Location of Distance Stones shall be as per applicable TCSs for the stretches where Depressed Median has been provided.

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
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DESIGN CONSULTANT:



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Ph: 033-40347200  
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REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	N.T.S

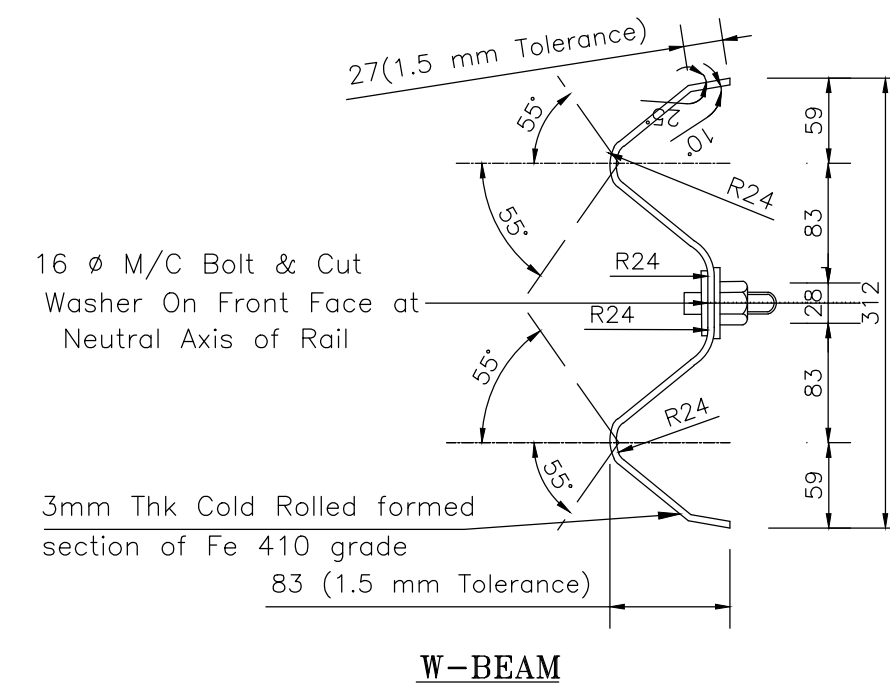
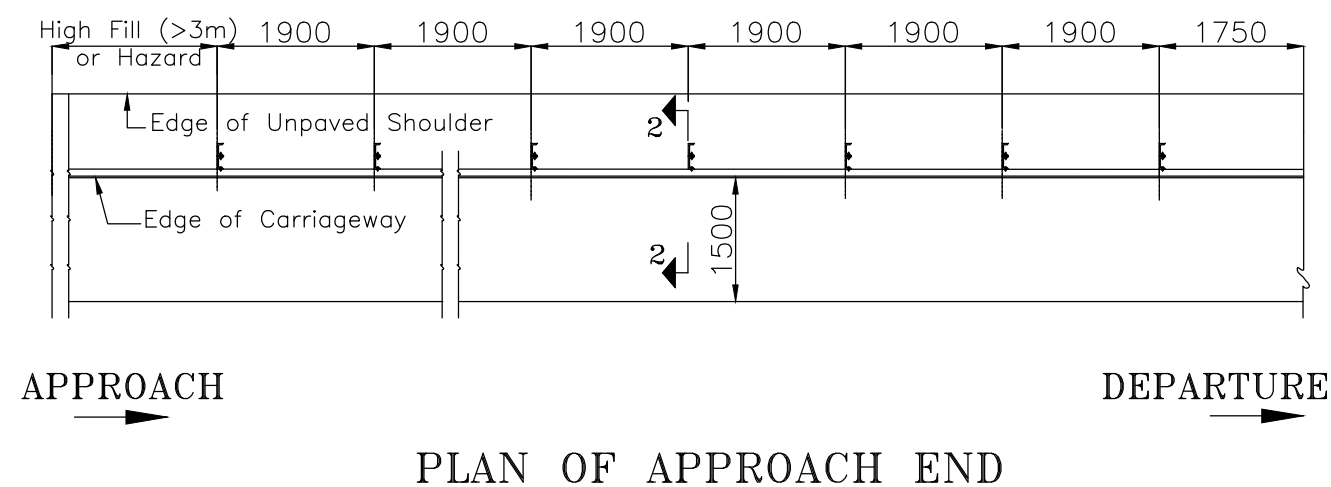
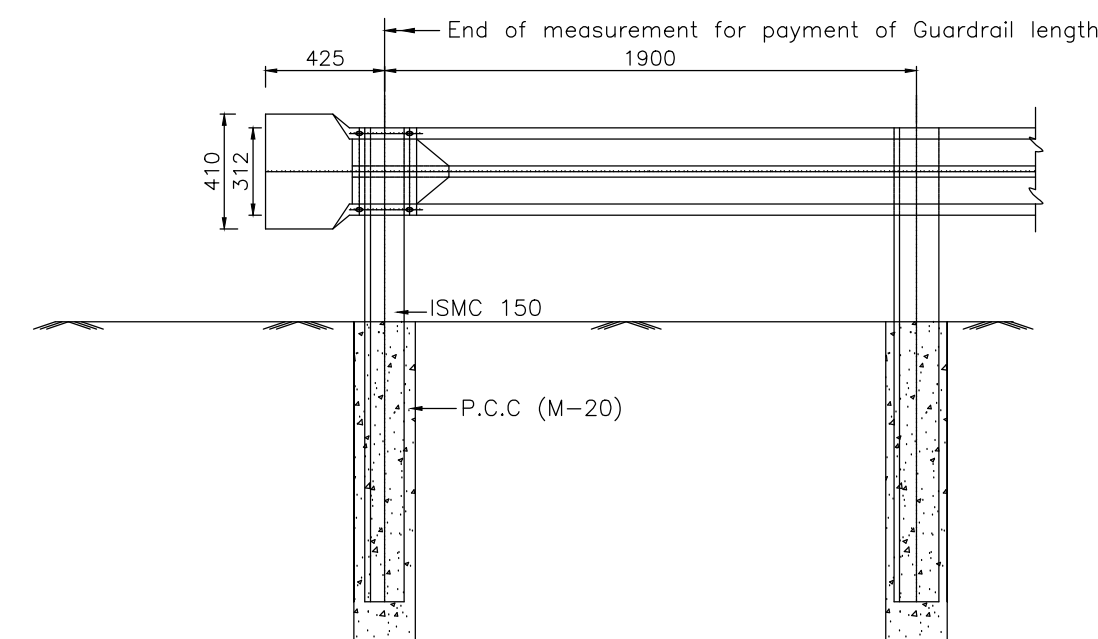
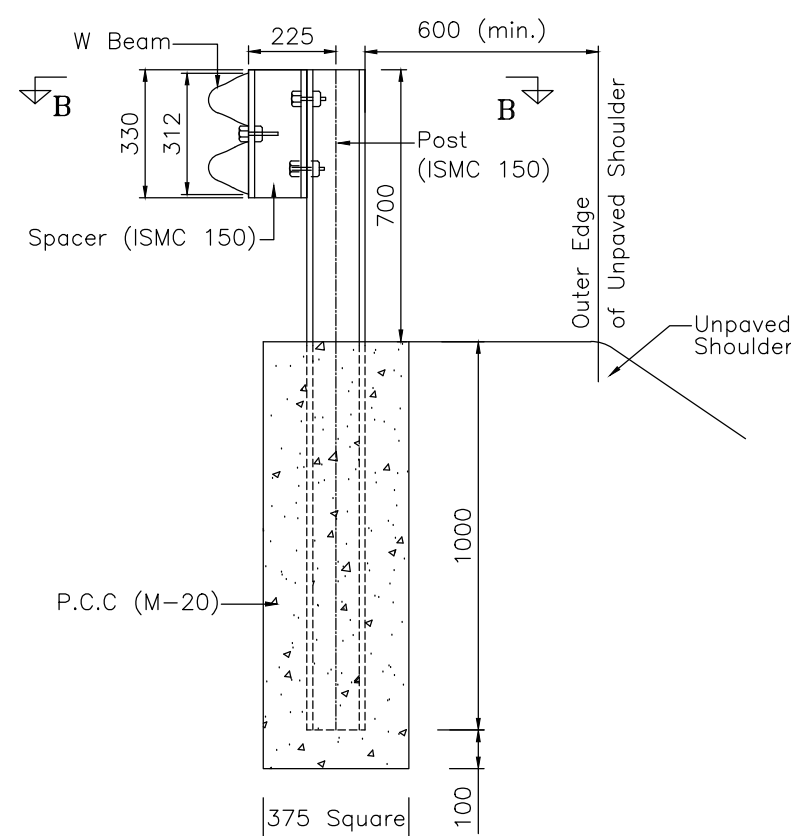
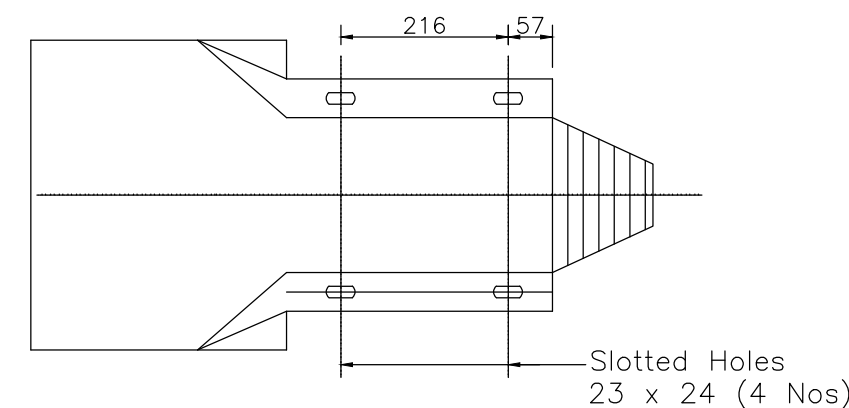
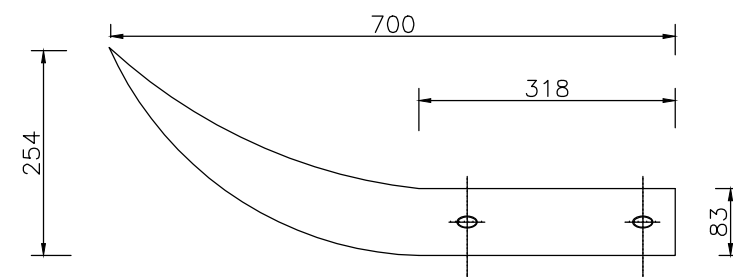
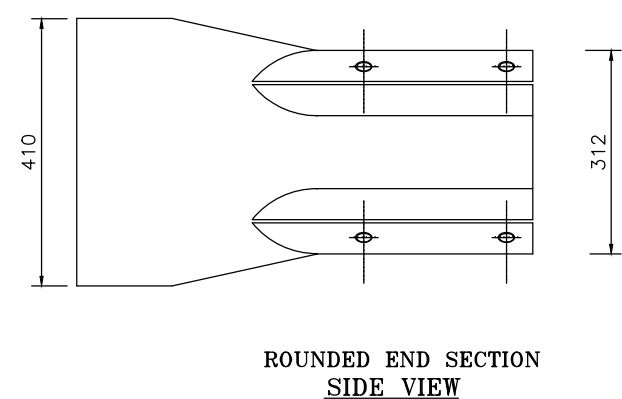
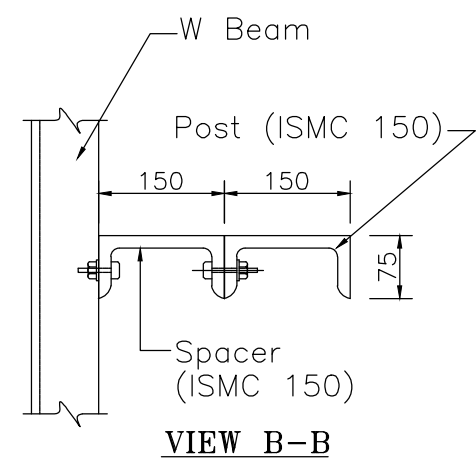
TITLE :

Typical Details of Distance Stone,  
Boundary Stone & Guard Post

DRG. NO. : EPTISA/JTRP/DPR/J&K/MISC/02

REVISION : R-1

September 2019



#### Notes:

- All dimensions are in millimetres unless otherwise mentioned
- Suitable reflectors are to be provided on W-Beam at a spacing of 3 m c/c
- All holes in posts and blocks shall be 21.50mm max
- W-beam shall be as per IS : 5986 - 1992 and post, spacers etc. shall be as per IS : 2062 - 1992
- W-beam, posts & spacers shall be hot dip galvanised as per specifications
- Besides the above, standards and specifications mentioned in IRC : SP : 73-2015 shall be followed whenever applicable.
- Metal Beam Crash Barrier (Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet (Fe-510) metal beam rail, 70 cm above road/ground level, fixed on ISMC (Fe-410 C) series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fittings to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, W-beam should conform as per latest revision of IS-5986 and for post and spacer IS-2062, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810)

CLIENT :



Jhelum Tawi Flood Recovery Project

2nd Floor ERA Commercial Complex Rambagh

Srinagar-190 009.


PROJECT :

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for the Road works in Jammu and Kashmir

**(Deva Mai Ohli Mandir in Reasi District)**

DESIGN CONSULTANT:

 **Eptisa Servicios de Ingenieria S.L.**

Unit 1203, 12th Floor, Tower 1, PS Srijan Corporate Park, Plot No. 2, Block EP & GP, Sector v, Salt Lake Kolkata - 700091, West Bengal

Ph: 033-40347200

www.eptisa.com

REV.	DATE	DESCRIPTION

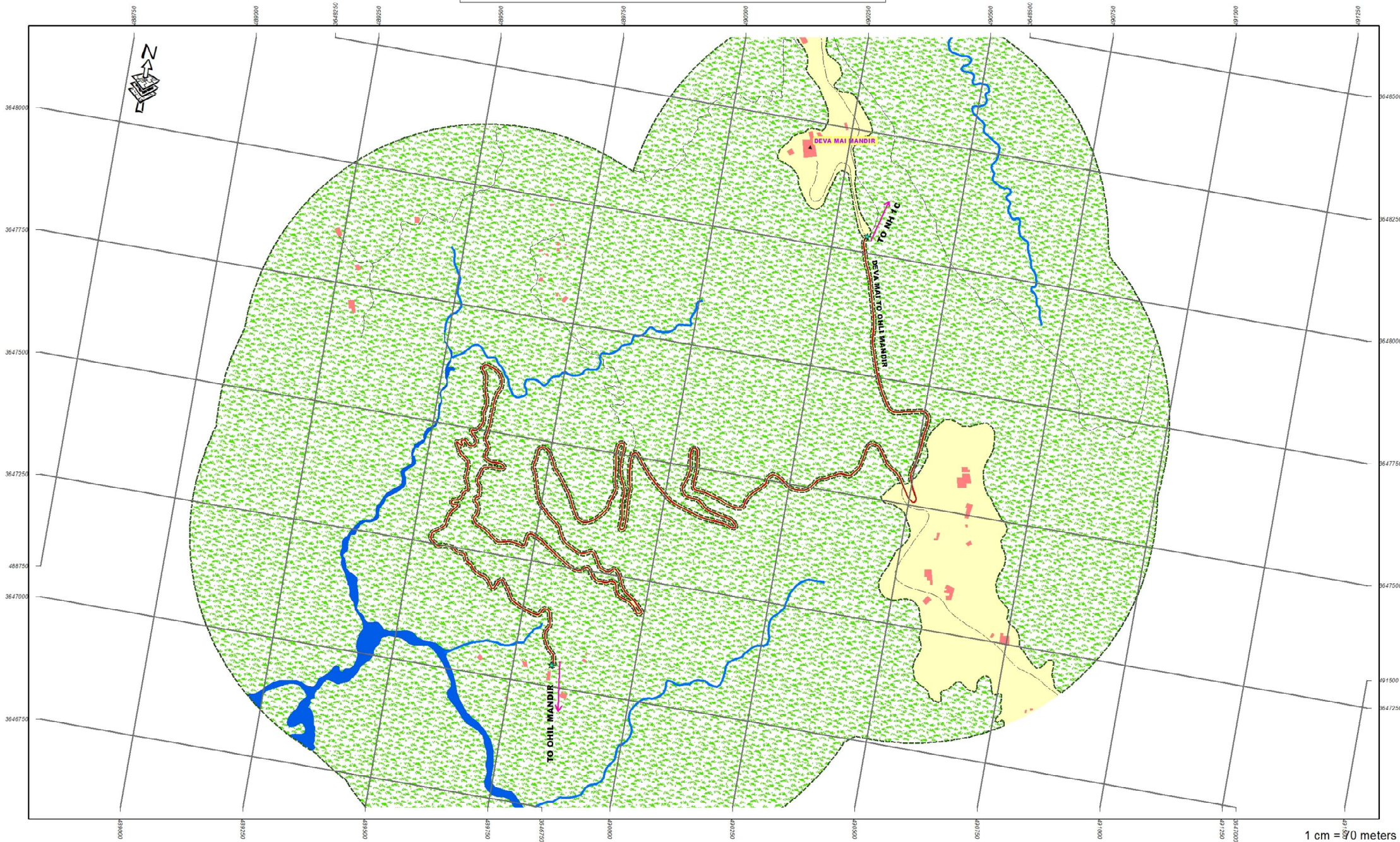
DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	N.T.S

TITLE :	Details of Metal Beam Crash Barrier
DRG. NO. :	EPTISA/JTRFP/DPR/J&K/MISC/03
REVISION : R-1	September 2019





# DEVA MAI TO OHLI MANDIR ROAD



1 cm = 70 meters

## INDEX MAP



## Legend

- |                       |                   |                       |
|-----------------------|-------------------|-----------------------|
| ▲ Importance LandMark | — Road Centerline | Water                 |
| ★ Start End Point     | — Proposed Road   | Swamp                 |
| ● Village Name        | — Major Road      | Vegetation            |
| ⬢ Park                | — Other Road      | Swamp Area            |
| ⬢ Bridge              | — Building        | Open/Agriculture Land |
| ⬢ Restricted Area     | — Forest          |                       |



**Project:** JHELM TAWI FLOOD RECOVERY PROJECT

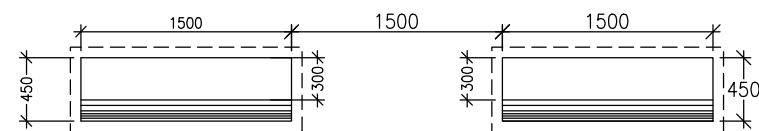
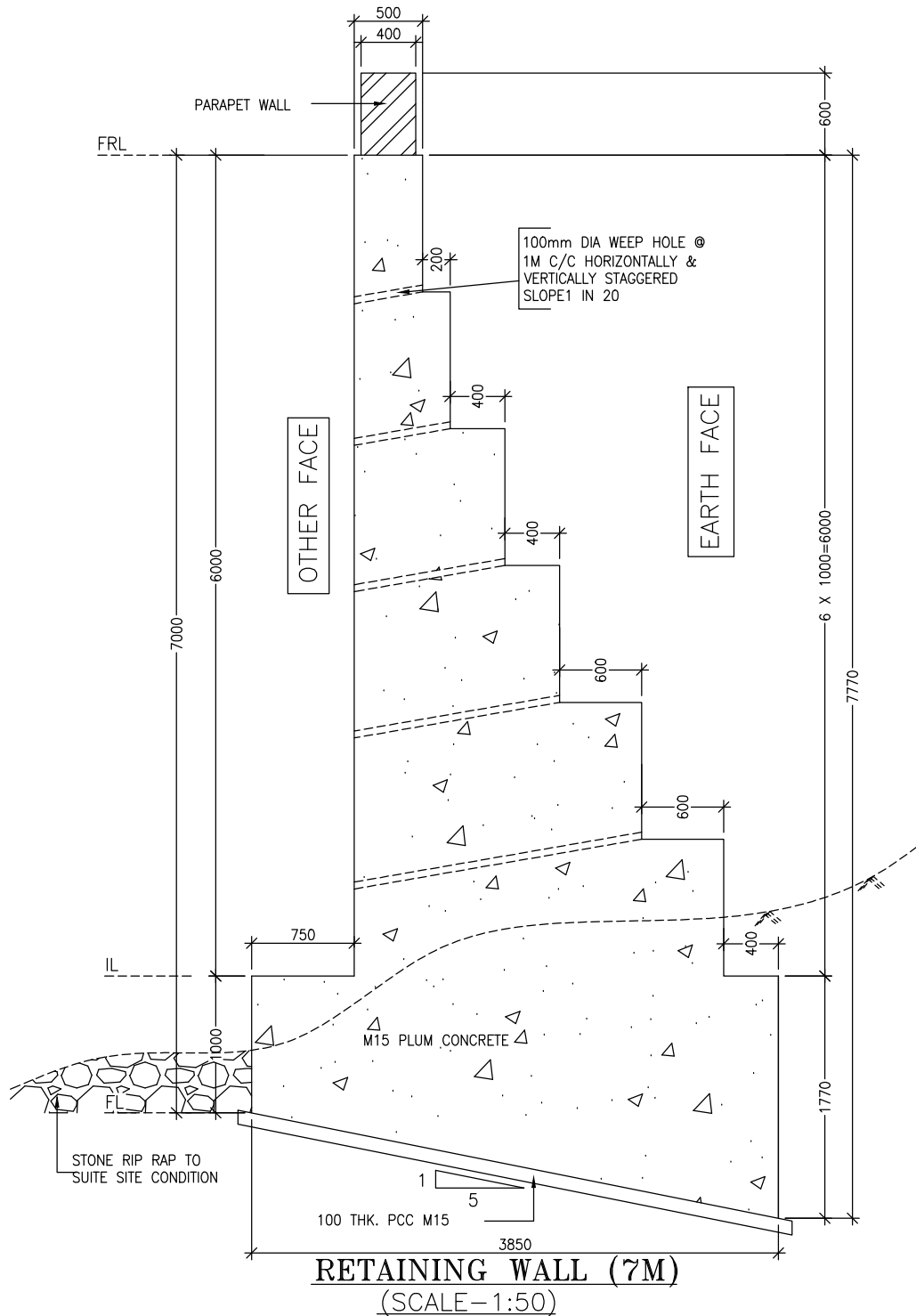
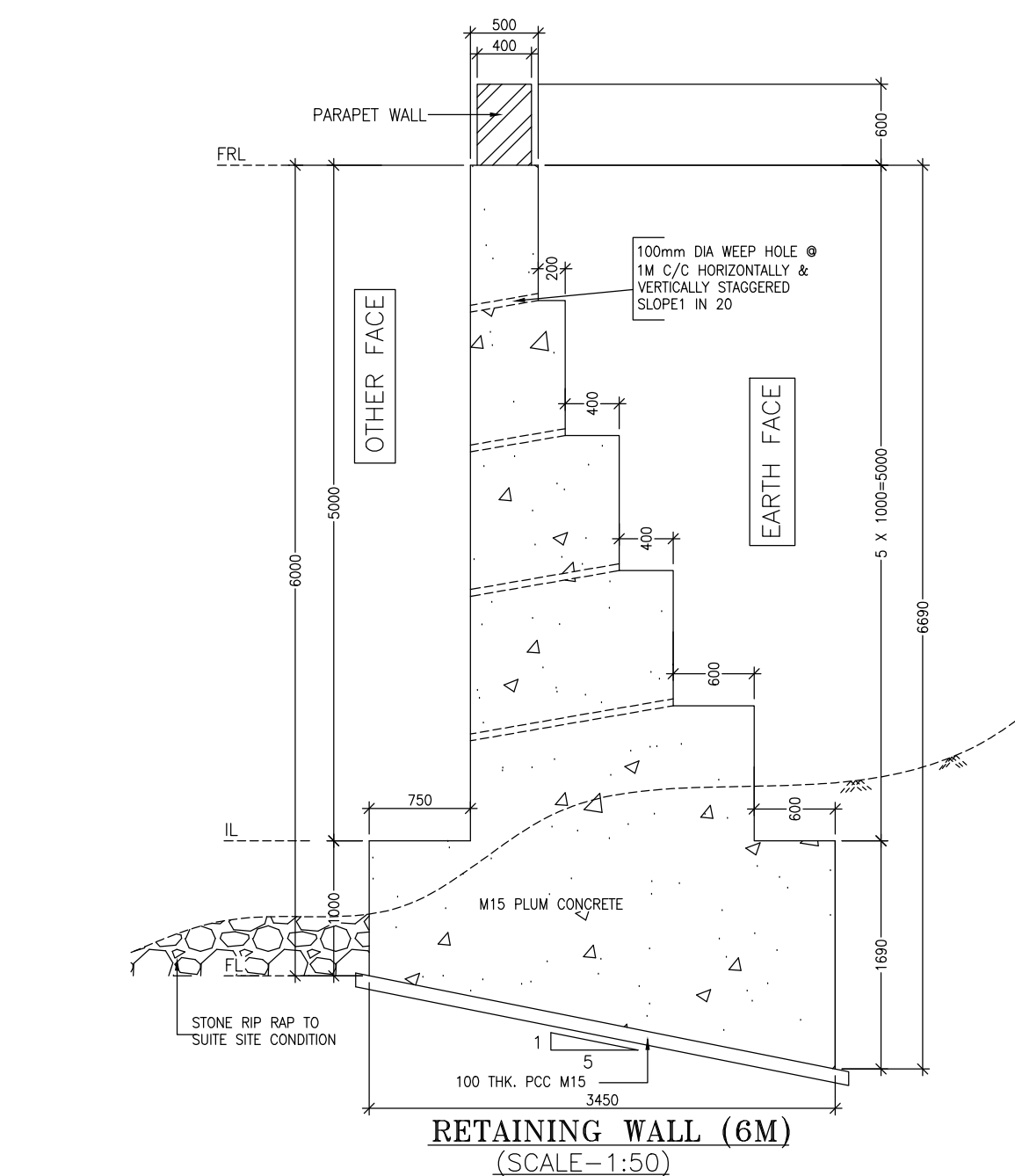
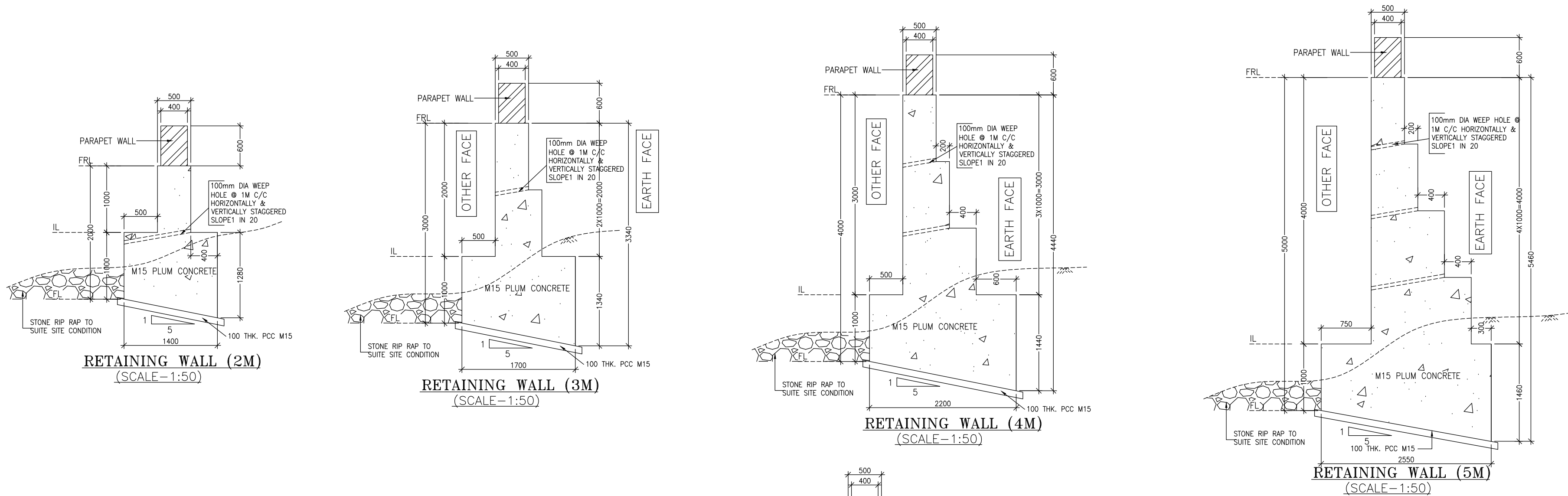
**Sub-Project:** FOR RECONSTRUCTION OF  
DEVA MAI TO OHLI MANDIR ROAD  
UNDER JAMMU DIVISION

**Agency:** PROJECT MANAGEMENT UNIT JTRP

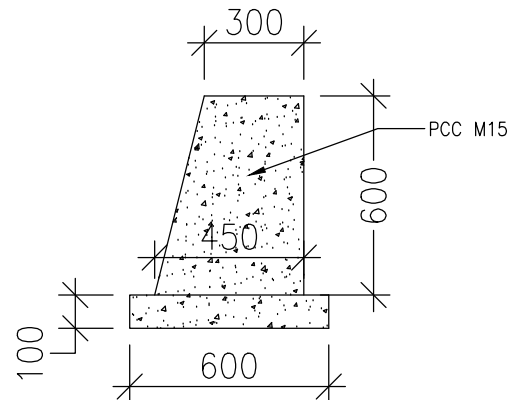
**eptisa**

DETAILS OF PCC RETAINING WALL





PLAN OF PARAPET WALL



SECTION OF PARAPET WALL

- NOTES :**
1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
  2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
  3. 100 DIA WEEP HOLES WITH SLOPE 1 IN 20 SHALL BE PROVIDED AT SPACING OF 1000 C/C BOTH HORIZONTALLY & VERTICALLY (STAGGERED) IN FULL HEIGHT OF THE RETAINING WALL WITH BOTTOM MOST ROW 150mm ABOVE G.L.
  4. BACK FILLING AND FILTER MEDIA BEHIND THE RETAINING WALL SHALL BE PROVIDED WITH SELECTED EARTH CONFORMING TO APPENDIX 6 OF IRC:78-2000 HAVING PROPERTIES  $\phi=35^\circ$ ,  $C=0$ ,  $\gamma=21/m^3$
  5. ALL FACE OF WALL SHALL BE PROVIDED WITH A MINIMUM STEEL OF 250mm<sup>2</sup> IN EACH DIRECTION. SPACING OF THESE BARS SHALL NOT EXCEED 300mm.
  6. THESE DRAWING ARE APPLICABLE FOR M15 PCC OR M15 GRADE CONCRETE WITH PLUM. REFER SPECIFICATIONS FOR PLUM CONCRETE GIVEN IN THIS DRAWING.
- PLUM CONCRETE SPECIFICATIONS:**
- THE SIZE OF STONE PLUMS MAY BE FORM 150-300MM. THE MAXIMUM DIMENSION OF THESE STONES OR PLUMS SHALL NOT EXCEED  $\frac{1}{3}$  RD THE LEAST DIMENSION OF THE MEMBERS.
- MATERIAL:**
- ALL PLUMS SHALL BE HARD, DURABLE, CLEAN AND FREE FROM SOFT MATERIALS OR LOOSEPIECES OR DELETERIOUS SUBSTANCE IN THEM & SHALL NOT HAVE SHARP.
- CONSTRUCTION OPERATIONS:**
- DURING CONCRETING THE FIRST LAYER OF CONCRETE OF THE SPECIFIED MIX SHALL BE LAID TO A THICKNESS OF THE MAXIMUM SIZE OF THE PLUMS TO BE USED. THE PLUMS SHALL THEN BE LAID WHILE THE TOP PORTION OF THIS CONCRETE IS STILL GREEN BUT SUFFICIENTLY STIFF TO PREVENT COMPLETE SUBMERGENCE OF THE PLUM UNDER THEIR OWN WEIGHT. THESE PLUMS SHALL BE ABOUT HALF EMBEDDED IN THE CONCRETE & THE REMAINING PART EXPOSED ISO AS TO FORM A KEY WITH THE NEXT LAYER OF THE CONCRETE. NO PLUM SHALL BE USED FOR CONCRETE LAID UNDER WATER.
- WHILE PLACING THE PLUMS, CARE SHALL BE TAKEN TO SEE THAT THE CLEAR DISTANCE BETWEEN ANY TWO PLUMS IS NOT LESS THAN EITHER THE WIDTH OR THICKNESS OF EITHER OF THE PLUMS. THE DISTANCE FROM THE PLUMS TO THE OUTER SURFACE FROM ANY STEEL REINFORCEMENT SHALL BE EQUAL TO GREATEST WIDTH OF PLUMS. IF PLUMS OF STRATIFIED STONE ARE USED THEY SHALL BE LAID ON THEIR NATURAL BED. STONES WITH CONCAVE FACES SHALL BE LAID WITH THE CONCAVE UPWARD WITH THE THICKNESS OF THE NEXT AND SUCCESSIVE LAYERS OF CONCRETE SHALL BE AT LEAST TWICE THAT OF THE LARGEST PLUM.
- QUALITY OF PLUM:**
- THE TOTAL VOLUME OF PLUMS SHALL NOT EXCEED 15% OF THE VOLUME OF THE FINISHED CONCRETE.
- MIX OF CONCRETE:**
- PLUM CONCRETE 1:2:4 (1 CEMENT, 2 SAND, 4 GRADED STONE AGGREGATE 40 MM NORMAL SIZE) WITH 15% PLUMS.

CLIENT :   
Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

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**(Deva Mai Ohli Mandir in Reasi District)**

DESIGN CONSULTANT:  
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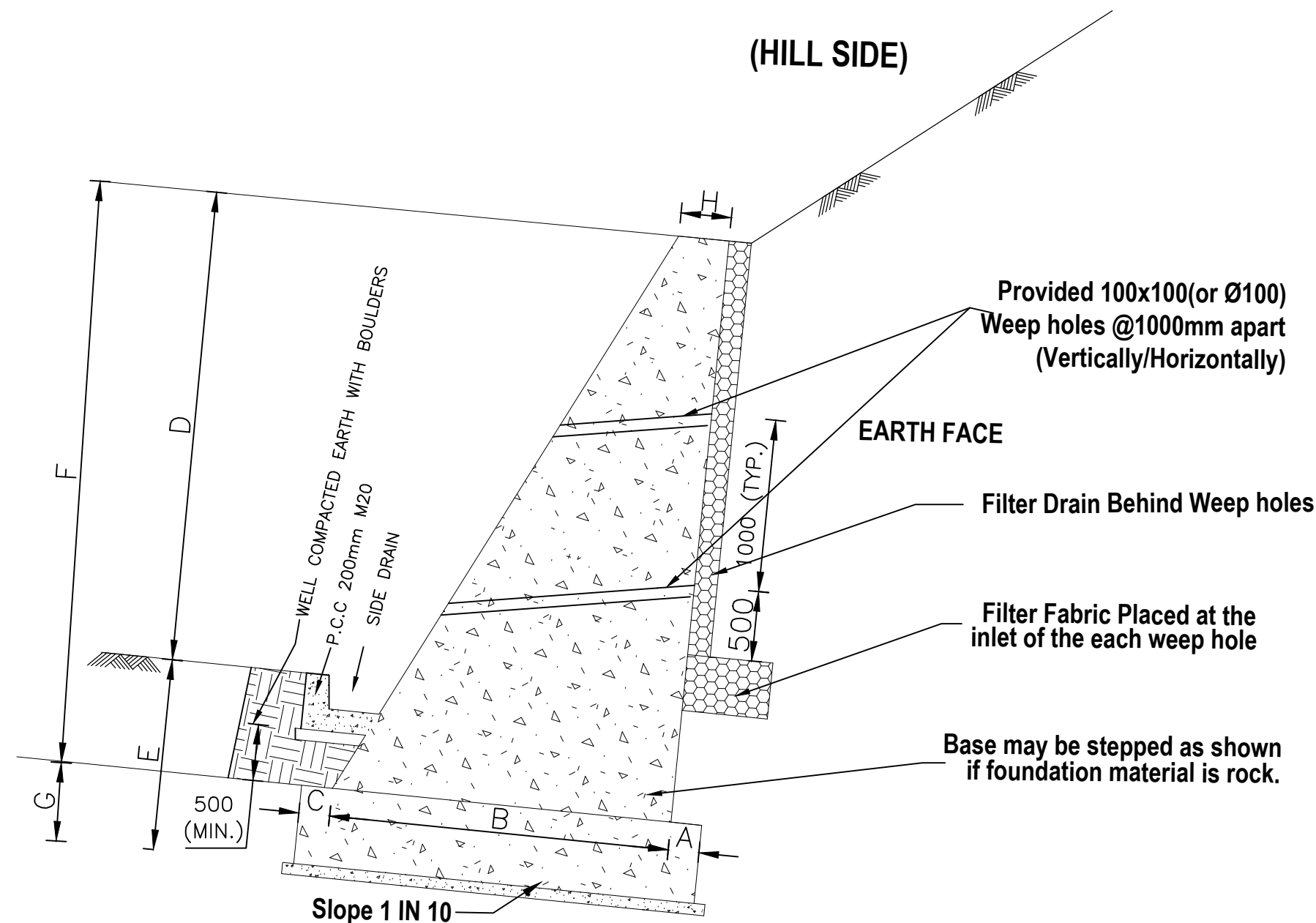
REV.	DATE	DESCRIPTION

DRAWN BY :	SD
DESIGNED BY :	SCK/MM
APPROVED BY :	KG
SCALE :	N.T.S

TITLE :	DETAILS OF PCC RETAINING WALL
DRG. NO. :	EPTISA/JTFRP/DPR/J&K/RW-01
REVISION : R-1	September 2019



☰ DETAILS OF BREAST WALL ☰



**TYPICAL CROSS SECTION OF BREAST WALL  
(Embankment Section)**

Sl no.	Total Height	1.75 m	2.25 m	2.75 m	3.25 m	3.75 m	4.25 m	4.75 m	5.25 m
	Dimensions								
1	A (in mm)	275	275	275	275	275	275	275	275
2	B (in mm)	990	1500	1740	1890	2250	2490	3018	3030
3	C (in mm)	275	275	275	275	275	275	275	275
4	D (in mm)	1000	1500	2000	2500	3000	3500	4000	4500
5	E (in mm)	750	750	750	750	750	750	750	750
6	F (in mm)	1250	1750	2150	2650	3150	3600	4100	4550
7	G (in mm)	500	500	600	600	600	650	650	700
8	H (in mm)	450	450	450	450	450	450	450	450
9	Base Pressure (in KN/m <sup>2</sup> )	100	120	150	180	180	200	200	250

## NOTES:—

- ALL DIMENSIONS IN MILLIMETERS AND LEVELS IN METERS UNLESS WRITTEN OTHERWISE.
- NO DIMENSION SHALL BE SCALED FROM THIS DRAWING, ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
- i) GRADE OF PCC M20 (1:1.5:3)  
ii) STEEL-HYSD AS PER IS 1786.
- SKIN/SURFACE REINFORCEMENT SHALL BE PROVIDED AS PER 8 $\phi$  @ 200mm C/C FOR WALL HEIGHT  $\geq$  3M WITH MINIMUM CLEAR COVER OF 40mm.
- THE SECTIONS ARE FOR GUIDANCE AND FOR ESTIMATION. EXACT STABILITY CALCULATIONS TO BE DONE WITH SITE PARAMETER.
- BACK FILLING SHALL BE DONE AS PER APPENDIX-6 OF IRC:78
- WEEP HOLES SHALL BE PROVIDED AT 1.0m c/c HORIZONTALLY AND VERTICALLY IN A STAGGERED MANNER.
- LEVELLING COURSE BELOW SHOULD BE PROVIDED WITH SUITABLE OFFSET (0.15m Min.) TO RESTRICT BASE PRESSURE ON SOIL WITHIN PERMISSIBLE LIMITS.
- WIDTH OF BASE SHALL BE INCREASED/DECREASED AS PER SBC REQUIREMENT.
- THE PROPERTIES OF THE RETAINED EARTH/BACK FILL HAVE BEEN ASSUMED AS FOLLOWS:  
 DRY DENSITY --- 18 KN/m<sup>3</sup>  
 ANGLE OF INTERNAL FRICTION --- 30°  
 ANGLE OF WALL FRICTION --- 20°  
 COHESION (c) = 0
- FACTOR OF SAFETY FOR OVERTURNING IS 2.0 FOR NON SEISMIC CONDITION AND 1.5 FOR SEISMIC CONDITION.
- WEEP HOLES SHALL BE PROVIDED IN MASONRY WALLS AT A SPACING OF 900MM IN EITHER DIRECTION.
- SIZE OF PVC SHALL BE 100MM TO 150MM PVC.
- IMPERVIOUS SILTY SOIL LAYER OR BACK FILL OF ABOUT 300MM ON THE TOP TO PREVENT SEEPAGE OF RAIN WATER IN THE BACKFILL OR IN FOUNDATION.
- NATURAL GULLIES SHALL BE DIVERTED AWAY FROM THE SILT. SO THAT FLOW OF RAIN WATER DOES NOT CAUSE EROSION OF BREAST WALL ON TOPMOST TERRACE.
- GRASS TURFING SHALL BE LAID ON THE GROUND SLOPE TO PREVENT EROSION.
- SIDE WATER DRAINS SHALL BE AVOIDED NEAR THE TOP OF THE BREAST WALLS AS THEY ALLOW SEEPAGE OF WATER IN UNMAINTAINED CONDITIOS INTO THE OUT & DESTABILISE
- SIDE WATER DRAINS TO BE PROVIDED AT THE TOE OF THE RETAINING WALLS
- FOUNDATION TO BE 500MM BELOW THE SIDE DRAIN WITHIN SOIL OR HIGHLY JOINTED ROCK SIDE DRAIN
- INCASE SIDE DRAINS AT TOE OF THE RETAINING WALL ARE NOT PROVIDED THEN DRY STONE PITCHING OF SIZE 150MM. MAY BE LAID ON SLOPE FOR A DISTANCE OF 1MTS BELOW THE TOE OF THE RETAINING WALLS.
- FOR ERODABLE SOILS AND WEAK FOUNDATIONS (CLAY, WEAK SAND ETC.) GABION WALLS SHALL BE PREFFERED AS THEY WITH STAND HIGH DIFFERENTIAL SETTLEMENTS.

CLIENT :



Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :

Consultancy Services for Preparing Detailed Project Report  
for the Road works in Jammu and Kashmir  
(**Deva Mai Ohli Mandir in Reasi District**)

DESIGN CONSULTANT:



**Eptisa Servicios de Ingenieria S.L.**  
Unit 1203, 12th Floor, Tower 1, PS Srijan  
Corporate Park, Plot No. 2, Block EP & GP,  
Sector v, Salt Lake Kolkata - 700091,  
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Ph: 033-40347200  
www.eptisa.com

REV.	DATE	DESCRIPTION

DRAWN BY : SD

DESIGNED BY : SCK/MM

APPROVED BY : KG

SCALE : N.T.S

TITLE :

**DIMENSION DETAIL OF  
BREAST WALL**

DRG. NO. : EPTISA/JTRP/DPR/J&K/BW/01

REVISION : R-1

September 2019

||≡| CULVERT DRAWINGS |≡||



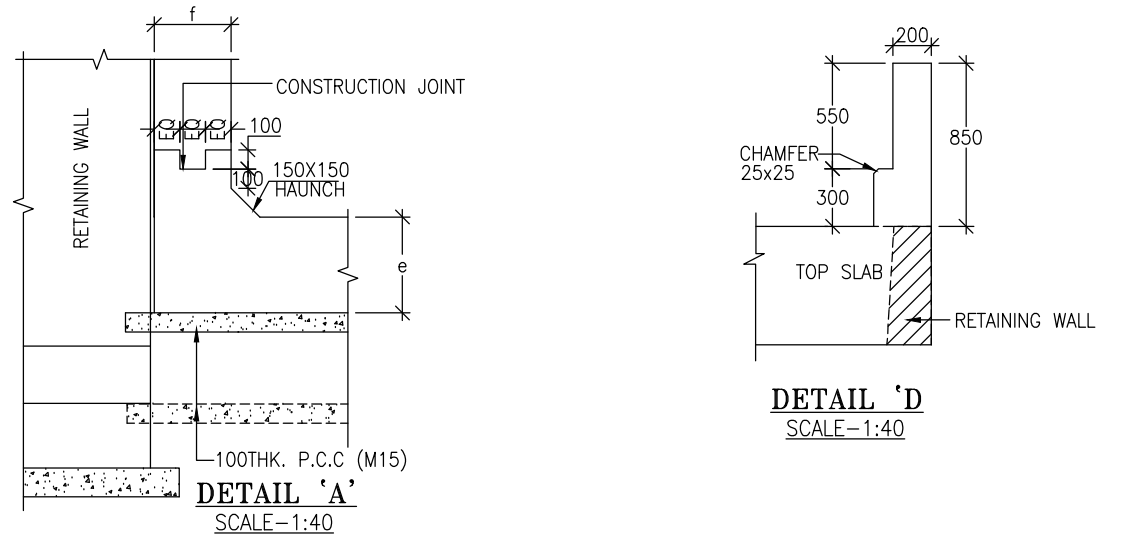
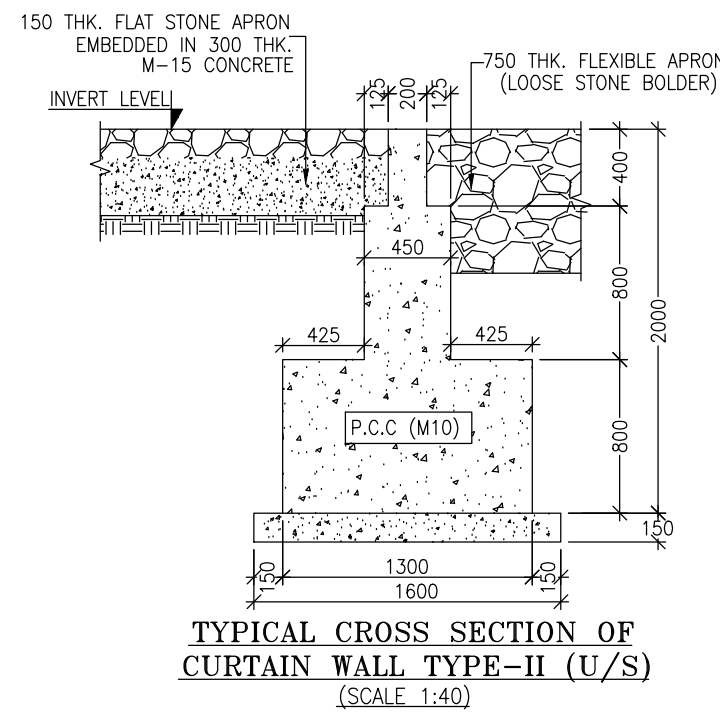
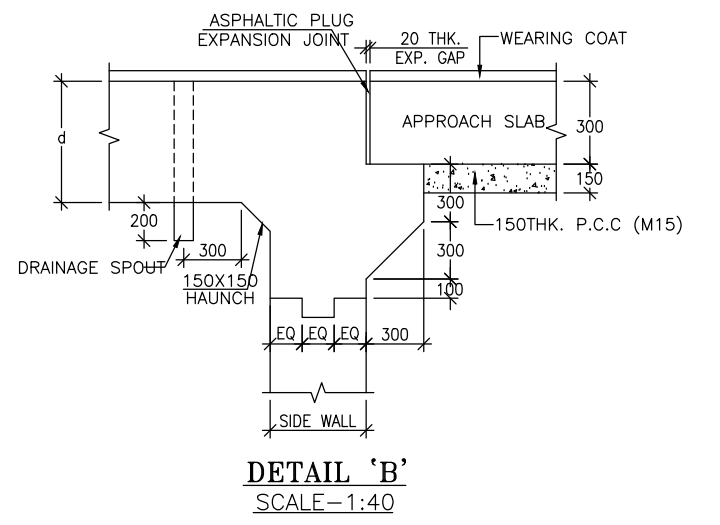
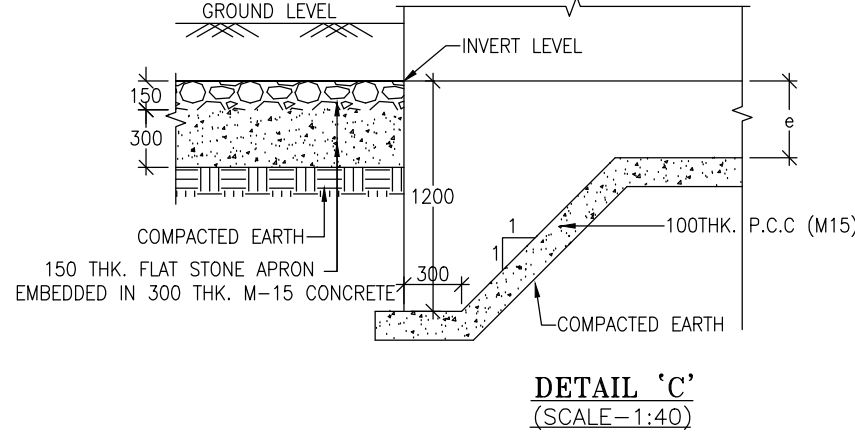
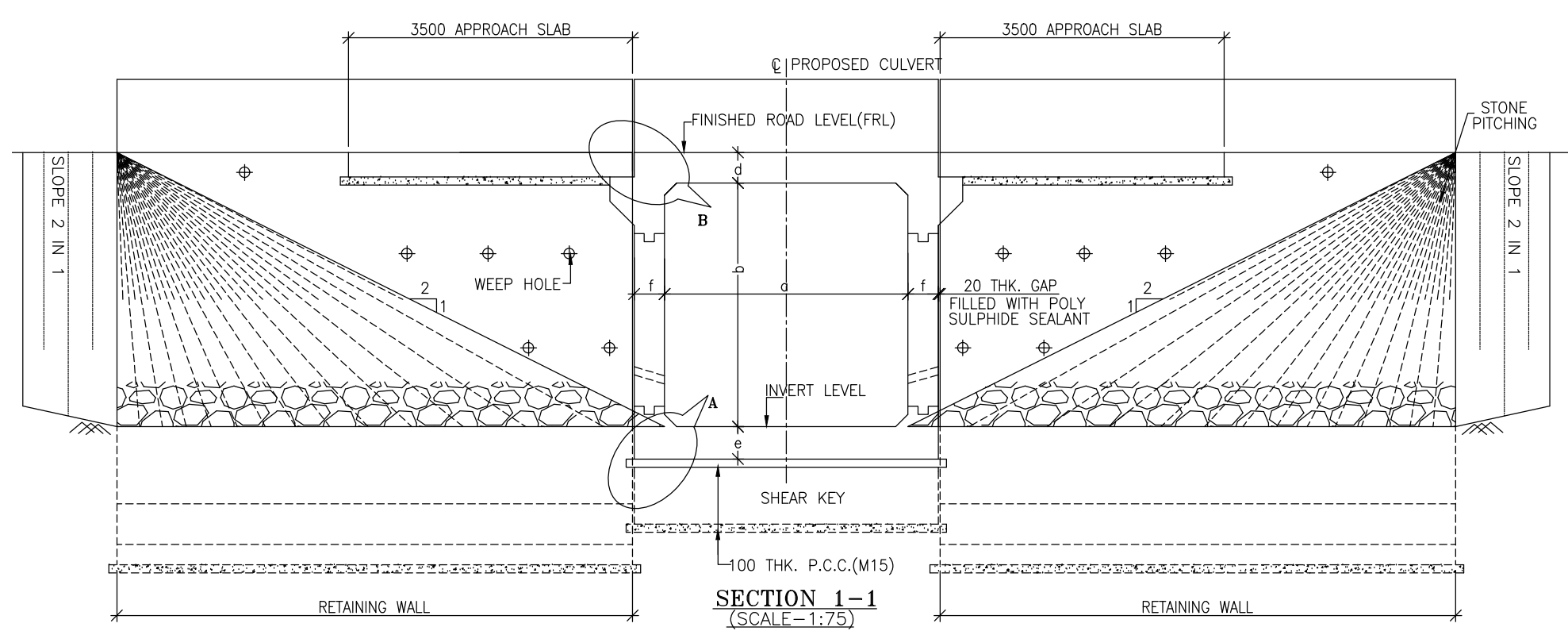
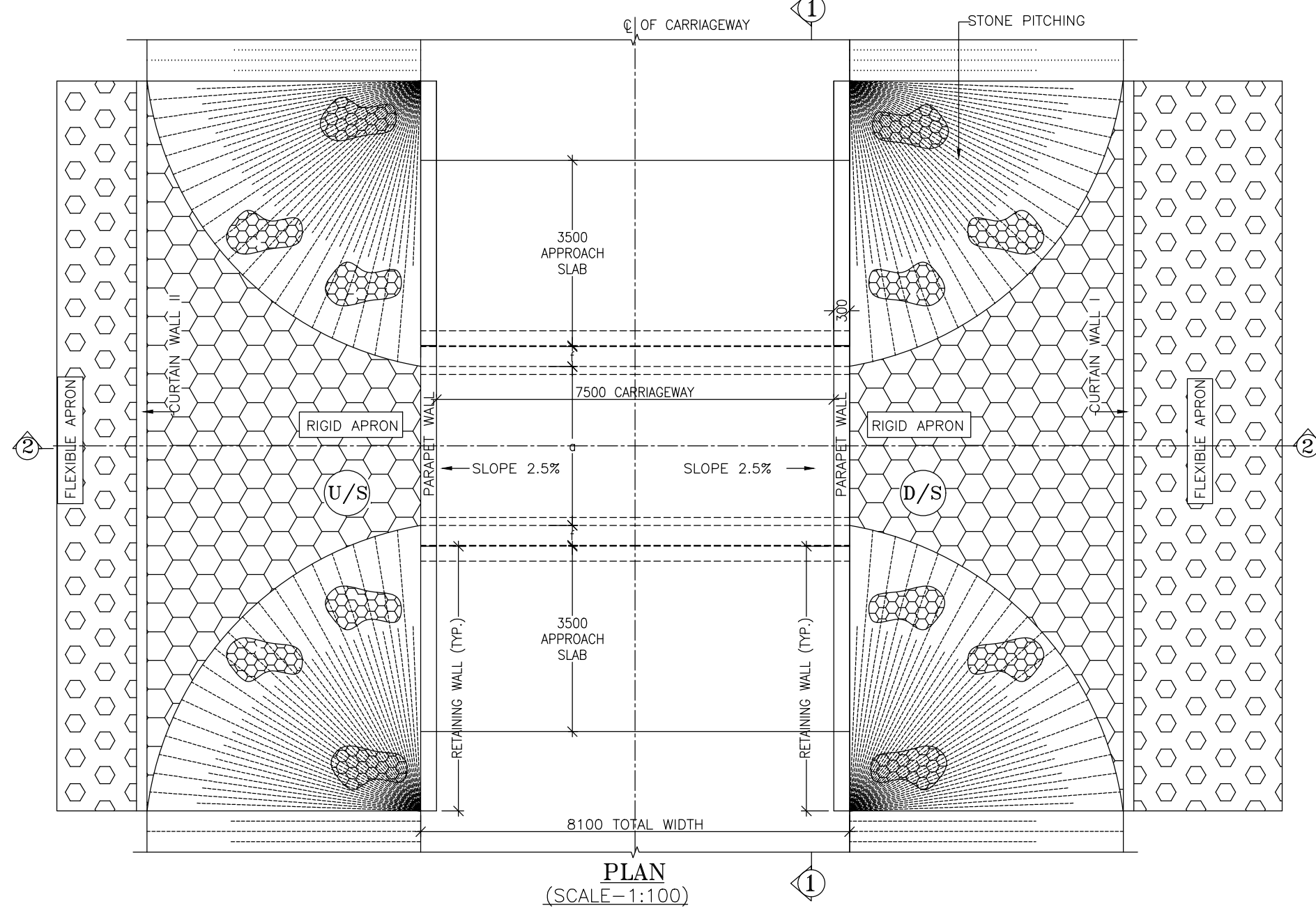
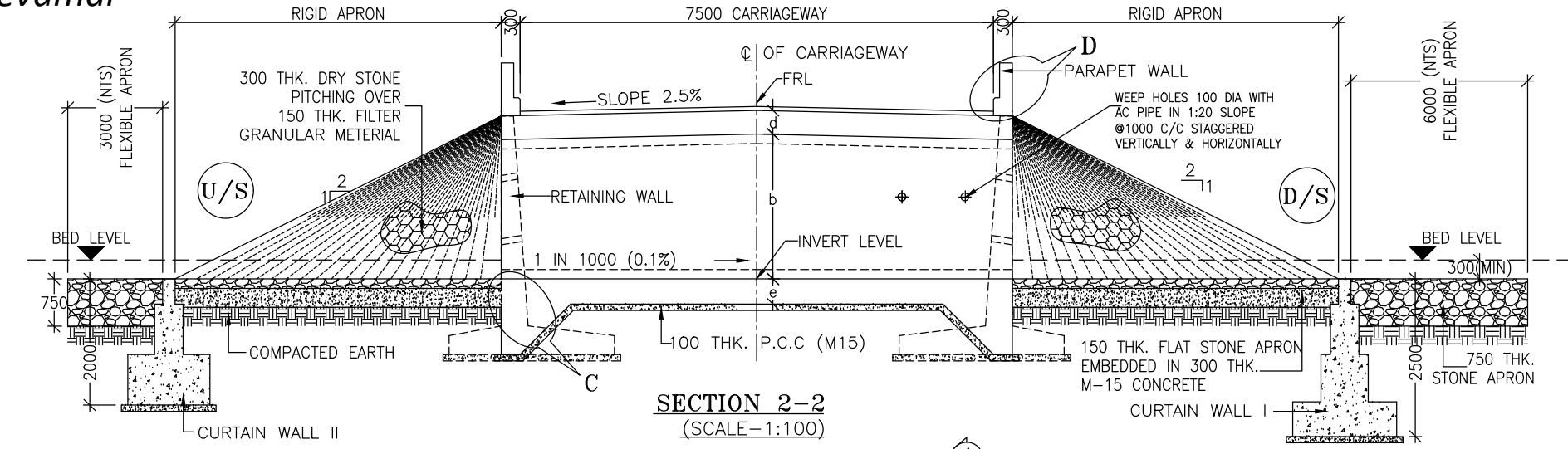
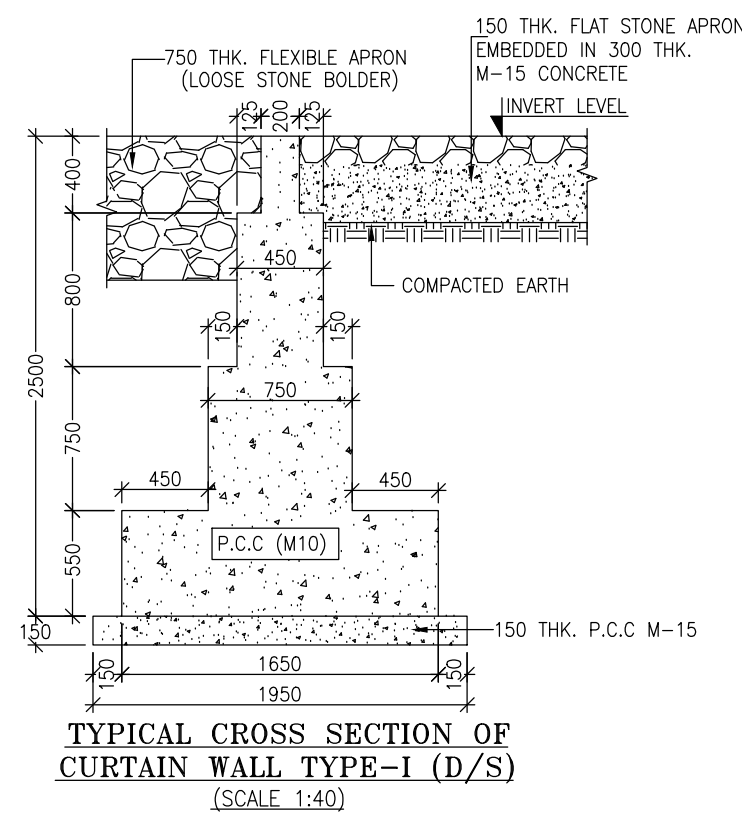


TABLE SHOWING SILENT DIMENSIONS

BOX CELL DESIGNATION	a (mm)	b (mm)	d (mm)	e (mm)	f (mm)
1/22/0	2000	2000	350	380	350
1/23/0	2000	3000	370	420	350

- NOTES:-**
- ALL DIMENSIONS ARE IN MILLIMETRES, LEVELS ARE IN METRES AND CHAINAGES ARE IN KILOMETRES, UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
  - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT ROAD PLAN AND PROFILE DRAWING.
  - THE STRUCTURE IS DESIGNED FOR LIVE LOAD COMBINATION OF 3 LANE CLASS A OR 1-LANE OF 70 R+1-LANE OF CLASS A, WHICHEVER PRODUCES SEVERE.
  - GRADE OF CONCRETE FOR VARIES ELEMENTS SHALL BE AS FOLLOWS:  
a) RCC BOX.....M25  
b) RCC RETAINING WALL.....M25  
c) PCC LEVELLING COURSE.....M15  
d) PCC CURTAIN WALL.....M20  
e) PARAPET WALL.....M35
  - GRADE OF STEEL SHALL BE Fe-500 (H.Y.S.D. REBAR CONFORMING TO IS-1786)
  - BACK FILLING BEHIND THE STRUCTURE SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX 6 OF IRC:78-2014 HAVING PROPERTIES  $\phi < 30^\circ$ ,  $C=0$ ,  $\gamma = 2.0T/M^3$
  - COMPRESSIBLE FILLER BOARD SHALL BE PROVIDED IN ALL EXPANSION GAPS AND SEALED WITH POLY-SULPHIDE SEALANT.
  - FOUNDATION OF BOX SHALL BE PLACED OVER A FIRM STRATA HAVING BEARING CAPACITY EQUAL TO 12T/M<sup>2</sup> IN GENERAL. IF THE MATERIAL ENCOUNTERED IS SOFT, SPONZY OR OTHER UNSUITABLE SOIL, SUCH UNSUITABLE MATERIAL SHALL BE TOTALLY REMOVED TO SUCH DEPTH, WIDTH & LENGTH, AS DIRECTED BY THE ENGINEER. THE EXCAVATED AREA SHALL BE BACKFILLED WITH APPROVED GRANULAR MATERIAL & THOROUGHLY COMPACTED UP TO THE SPECIFIED LEVEL.
  - 600MM THICK FILTER MEDIA SHALL BE PROVIDED BEHIND SIDE WALLS AND WING WALLS AS PER IR:78-2014.
  - ALL THE LEVELS AND CAMBERS TO BE VERIFIED WITH RESPECT TO PLAN & PROFILE DRAWINGS BEFORE EXCAVATION. ANY DISCREPANCY NOTED SHOULD BE REPORTED TO THE DESIGN ENGINEER IMMEDIATELY.
  - BACK FILLING BEHIND WALLS SHALL BE DONE SIMULTANEOUSLY ON EITHER SIDE OF THE STRUCTURE WITH HEIGHT DIFFERENCE NOT MORE THAN 1.0M. BACK FILLING SHALL BE DONE ONLY AFTER THE TOP SLAB IS CONCRETED AND CURED FOR 14 DAYS.
  - SPRADING & COMPACTED OF SAND WILL BE DONE IN ACCORDANCE WITH CLAUSE 401.3.2 OF SPECIFICATION FOR ROAD & BRIDGE WORKS BY MINISTRY OF ROAD TRANSPORT & HIGHWAY



CLIENT :  
  
Jhelum Tawi Flood Recovery Project  
2nd Floor ERA Commercial Complex Rambagh  
Srinagar-190 009.

PROJECT :  
Consultancy Services for Preparing Detailed Project Report  
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**(Deva Mai Ohli Mandir in Reasi District)**

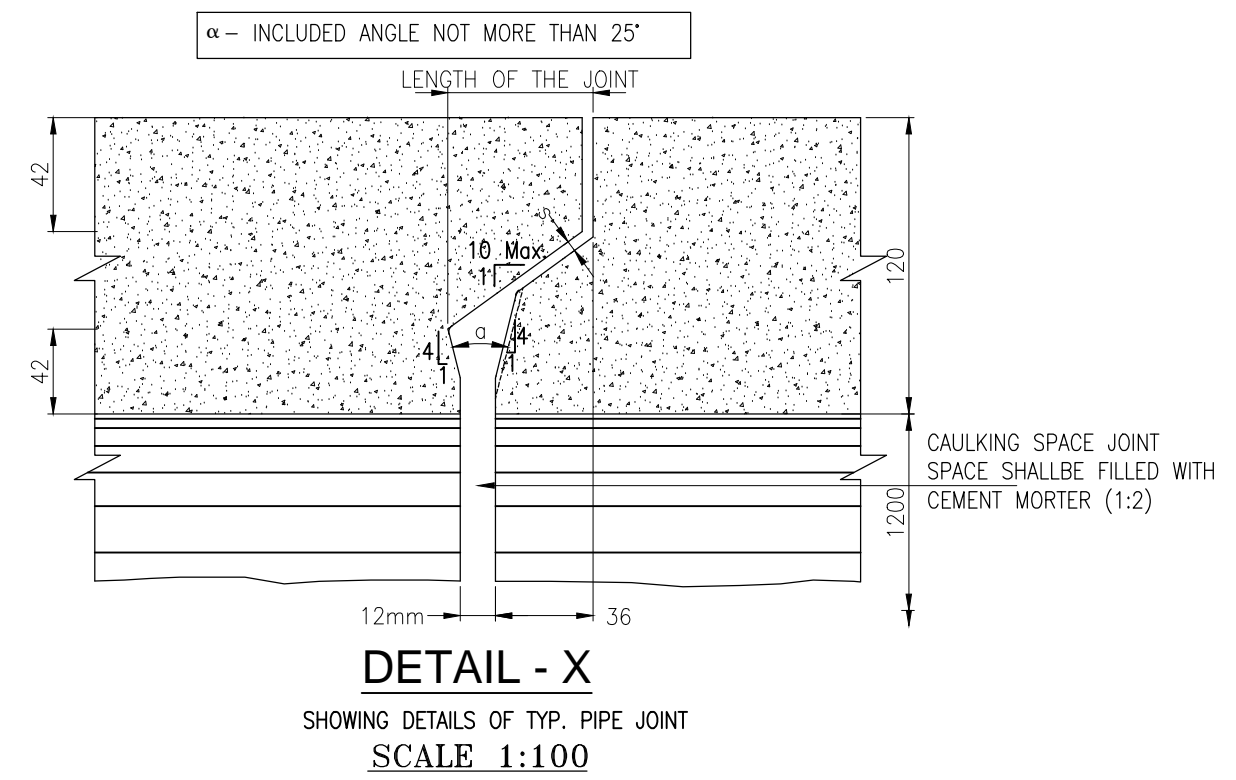
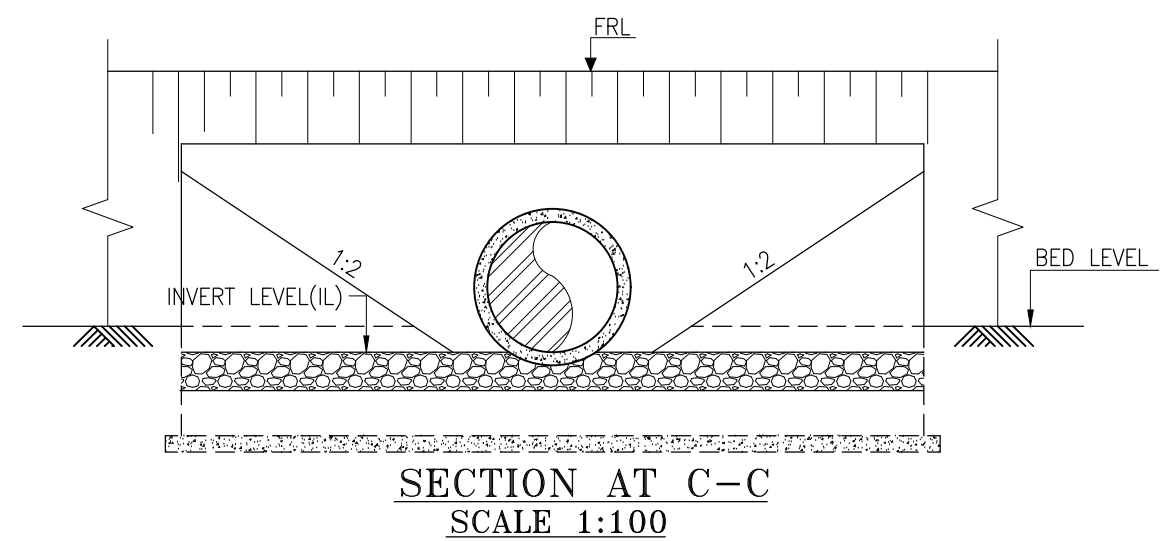
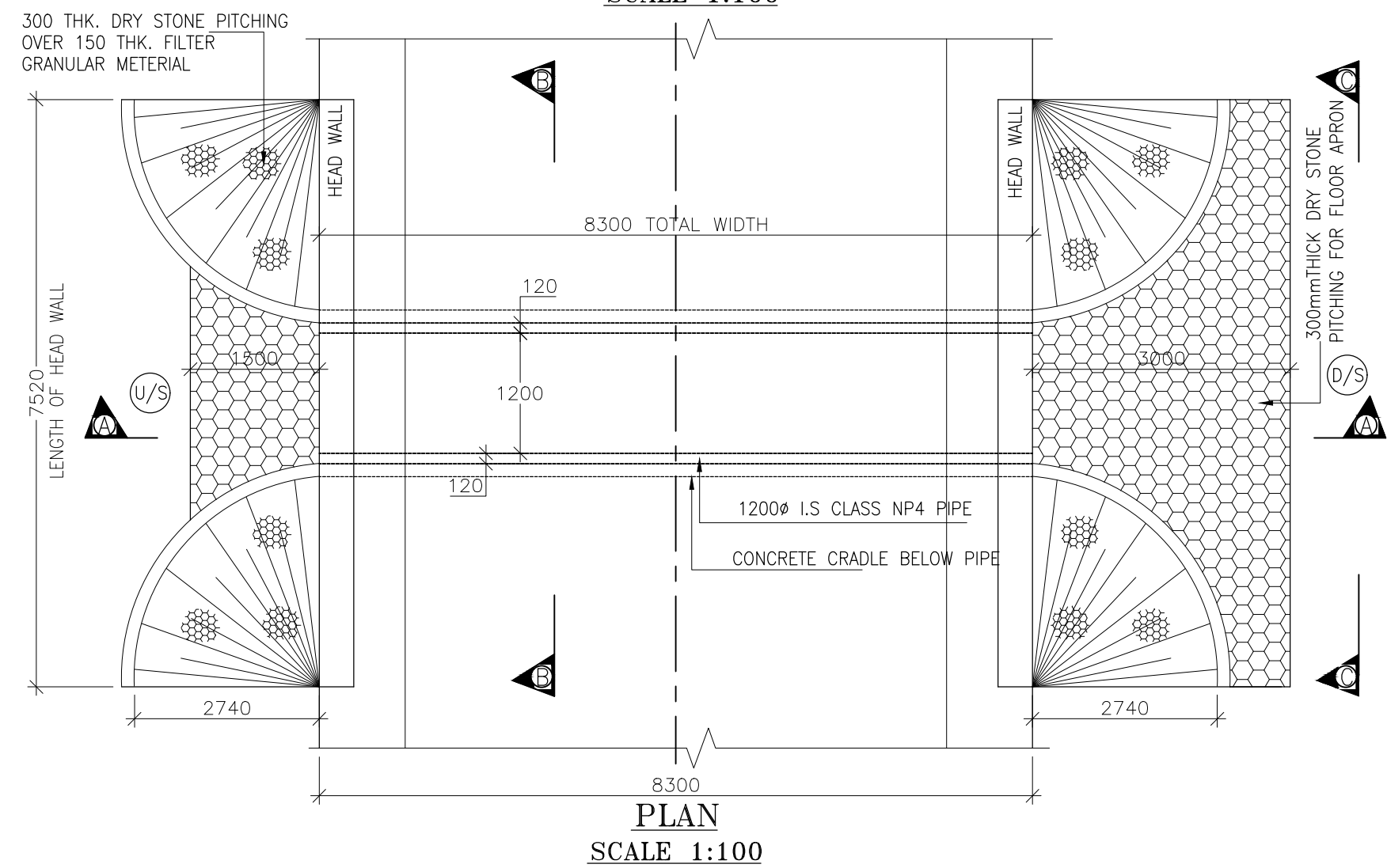
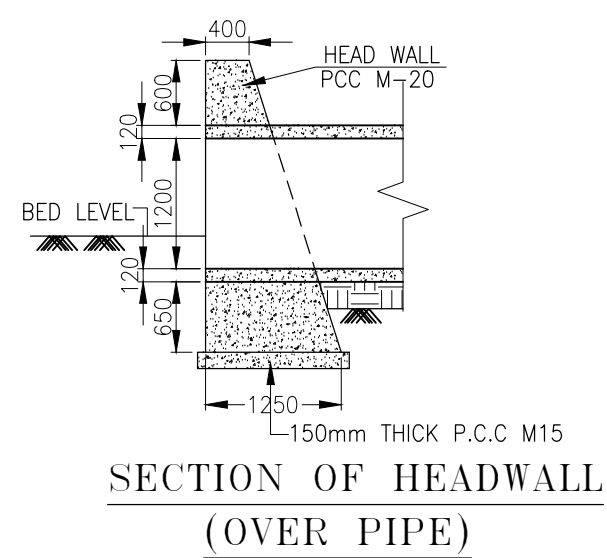
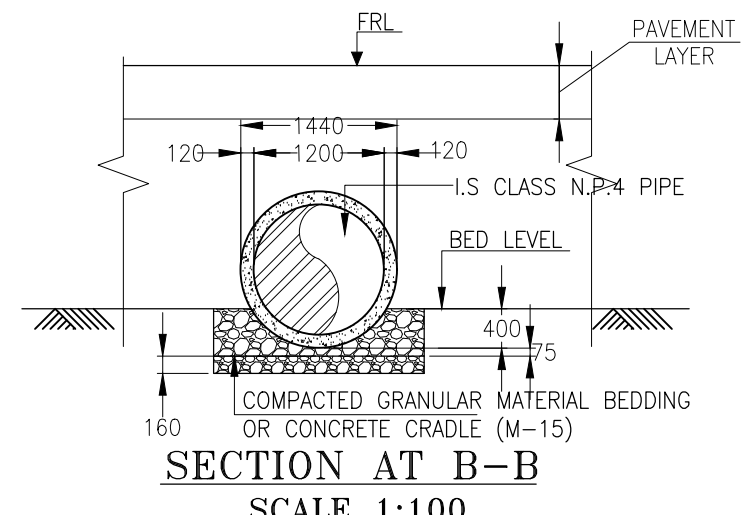
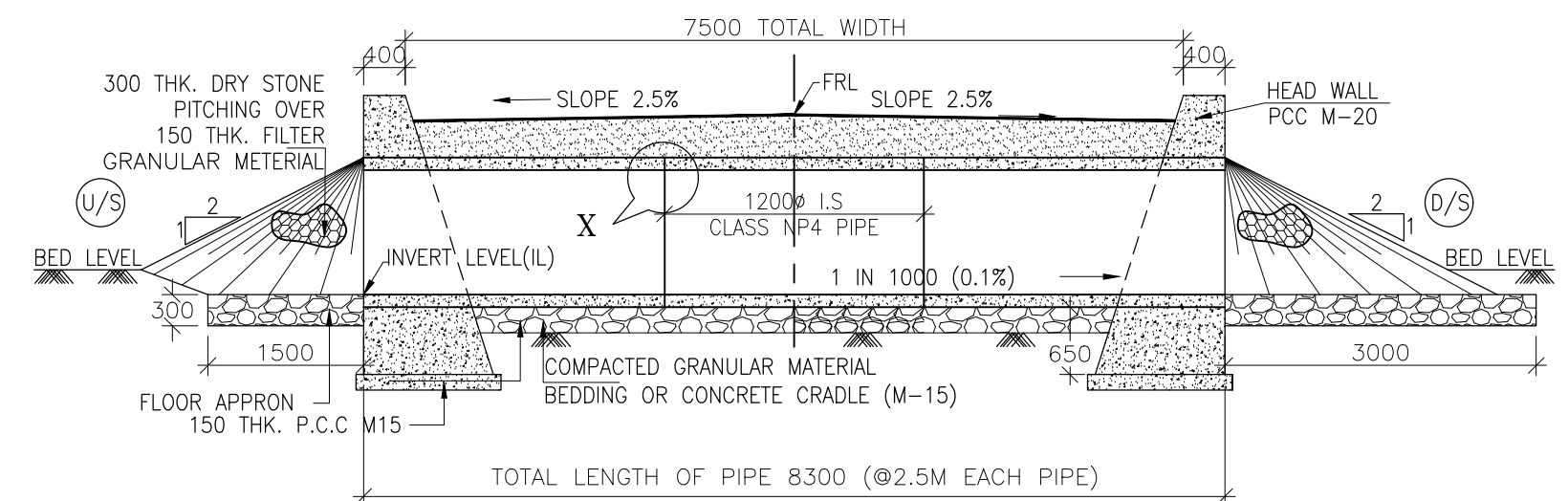
DESIGN CONSULTANT:  
  
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Unit 1203, 12th Floor, Tower 1, PS Srijan  
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Sector v, Salt Lake Kolkata - 700091,  
West Bengal  
Ph: 033-40347200  
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REV.	DATE	DESCRIPTION

DRAWN BY : PD  
DESIGNED BY : SD  
APPROVED BY : KG  
SCALE : AS SHOWN

TITLE :  
TYPICAL GENERAL ARRANGEMENT  
DRAWING FOR SINGLE  
BOX CULVERT  
DRG. NO. : EPTISA/JTRP/DPR/J&K/BOX/GAD/01  
REVISION : R-1  
September 2019





NOTES:-

1. ALL DIMENSIONS ARE IN mm, EXCEPT OTHERWISE MENTIONED.
2. NO DIMENSION SHALL BE SCALED ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH RELEVANT ROAD DRAWINGS. FRL & CAMBER / SUPER ELEVATION AT PARTICULAR LOCATION SHALL BE VERIFIED WITH THE HIGHWAY DWG. DISCREPANCY, IF ANY, IS TO BE IMMEDIATELY BROUGHT TO THE NOTICE OF ENGINEER FOR NECESSARY MODIFICATION IN THE DRAWING.
4. HUME PIPE (NP4 TYPE), SHALL CONFORM TO IS : 458-2003.
5. COMPACTED GRANULAR BED SHALL CONFORM TO MORT&H SPECIFICATION CLAUSE NO.2904.
6. LONGITUDINAL SLOPE OF WIDENED PIPE SHALL BE 1 : 1000 (MIN.)
7. LENGTH, LOCATION, ORIENTATION & INVERT LEVEL OF PIPE CULVERT SHALL BE ADJUSTED TO SUIT SITE CONDITION AND AS APPROVED BY THE ENGINEER.
8. TRENCHES SHALL BE BACKFILLED IMMEDIATELY AFTER THE PIPES HAVE BEEN LAID AND THE JOINTING MATERIAL HAS HARDENED.
9. PIPE SHALL BE JOINTED BY FLUSH JOINT METHOD AS PER THE DETAILS GIVEN IN SECTION 2906 OF MORT&H SPECIFICATIONS OF ROAD & BRIDGE WORKS.
10. FLOOR APRON SHALL BE PROVIDED AT NON-IRRIGATION CROSS DRAINAGE WORKS ONLY.

CLIENT :



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Ph: 033-40347200  
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REV.	DATE	DESCRIPTION

DRAWN BY :	PD
DESIGNED BY :	SD
APPROVED BY :	KG
SCALE :	AS SHOWN

TITLE :	TYPICAL GENERAL ARRANGEMENT DRAWING FOR SINGLE CELL PIPE CULVERT
DRG. NO. :	EPTISA/JTFRP/DPR/J&K/PIPE/GAD/01
REVISION : R-1	September 2019