National Highway Infrastructure Development Corporation Limited

(Ministry of Road, Transport & Highways)
Government of India

Development, Maintenance, Management and Operation of Greenfield High-Speed Corridor from Mawlyngkhung (near Shillong) in Meghalaya to Panchgram (near Silchar) in Assam by 4-Laning with Paved Shoulders on Hybrid Annuity Basis. (Package-1: From Km 0+000 to Km 45+645, Design Length – 45.645 Km)

TECHNICAL SCHEDULES (A to D)

January 2026
1st & 2nd Floor,
Tower A, World Trade Centre, Nauroji Nagar,
New Delhi – 110029

SCHEDULE-A

(See Clause 2.1 and 8.1)

SITE OF THE PROJECT

1 THE SITE

1.1 Site of the Four Lane Project Highway shall include the land, buildings, structures and road works as described in Annex-I of this Schedule-A.

1.2 The dates of handing over the Right of Way to the Concessionaire are specified in Annex-II of this Schedule-A.

1.3 An inventory of the Site including the land, buildings, structures, road works, trees and any other immovable property on, or attach to, the Site shall be prepared jointly by the Authority Representative and the Concessionaire, and such inventory shall form part of the memorandum referred to in Clause 8.2(i) of this Agreement.

1.4 The alignment plans of the Project Highway are specified in Annex-III of Schedule-A. The proposed profile of the Project Highways shall be followed by the Concessionaire with minimum FRL as indicated in the alignment plan. The Concessionaire, however, improve/upgrade the Road Profile as indicated in Annex-III based on site/design requirement.

1.5 The status of the environment clearances obtained or awaited is given in Annex-IV of Schedule-A.

Annex – I

(Schedule-A)

Site for Four Laning

1 Site

The Site of the [Four-Lane] Project Highway starts from Design Chainage 0+000 near Pyllun Village in Ri Bhoi District, and terminates at Design Chainage 45+645 near Wahiajer Village in West Jaintia Hills District. The total design length of the project alignment is 45.645 km in the State of Meghalaya. The land, carriageway and structures comprising the Site are described below.

The land, carriageway and structures comprising the Site are described below.

S. No.	Existing Chainage (km)		Design Chainage (km)		Remarks
	Start	End	Start	End	
1	-	-	0+000	45+645	Proposed alignment for PKG-1 (Entirely Greenfield)

2 Land

The site of the project highway comprises the land (existing right of way) as described below. An Index map showing the features of Project Highway is given in Appendix A-I.

The Proposed Right of Way Coordinates are given in Appendix A-II.

The Index Map/location plan of the project highway is given at **Appendix A-I of Schedule-A.**

Sl. No.	Existing Chainage (km)		EROW (m)	Remarks
	From	To		
Proposed alignment for High-Speed Corridor PKG-1 (Entire Length Greenfield)				

3 Carriageway

The carriageway width and type of the existing pavement shown in table below.

S. No.	Existing Chainage (km)		Length (km)	Carriageway Width (m)	Pavement Type	Remarks
	From	To				
Proposed alignment for High-Speed Corridor PKG-1 (Entire Length Greenfield)						

4 Major Bridges-

The site includes the following major bridge:

S. No.	Existing Chainage (km)	Design Chainage (km)	Type of Structure	Span arrangement (No. x Span) (m)	Width (m)
Nil					

5 Railway Over Bridges / Road under Bridges

The site includes the following ROB (road over railway line)/RUB (road under railway line):

S. No.	Existing Chainage (km)	Design Chainage (km)	Type of Structure	No. of Spans	Width (m)	No. of Tracks	Remarks
Nil							

6 Grade Separators

The site includes the following Grade Separators:

S. No.	Existing Chainage (km)	Design Chainage (km)	Type of Structure	No. of Spans with span length (m)	Width (m)
	Nil				

7 Minor Bridges

The Site includes the following Minor Bridges:

S. No.	Existing Chainage (km)	Design Chainage (km)	Type of Structure	Span arrangement (No. x Span) (m)	Width (m)
	Nil				

8 Railway Line / Level Crossings

The Site includes the following Railway Line / Level Crossing:

S. No.	Existing Chainage (km)	Design Chainage (km)	Railway Crossing Type	No. of Tracks
	Nil			

9 Vehicular Underpasses

S. No.	Existing Chainage (km)	Design Chainage (km)	Type of Structure	Clear Span arrangement (No. x Span) (m)	Width(m)
	Nil				

10 Culverts

The Site has the following culverts:

S. No.	Existing Chainage (km)	Design Chainage (km)	Type of Culvert	Span / Opening with span length (m)	Width (m)
1	-	11+195	-	1 x 3	5.50
2	-	11+858	-	1 x 1.2	5.50
3	0+135	0+430	Box Culvert	1 x 2	23.00
4	0+295	0+590 on Existing NH-06 to Silchar Ramp near 1st Proposed Access Point	Box Culvert	1 x 2	23.00
5	0+525	0+815 on Existing NH-06 to Silchar Ramp near 1st Proposed Access Point	Box Culvert	1 x 2	26.00
6	0+760	1+060 on Existing NH-06 to Silchar Ramp near 1st Proposed Access Point	Box Culvert	1 x 2	23.00

11 Toll Plaza:

S. No.	Existing Chainage (km)	Type of Structure	Remarks
Nil			

12 Total Number of Structures

The total number of structures on the Site indicated below:

(a) No. of Major Bridges – Nil

(b) No. of Railway Over Bridges – Nil

(c) No. of Grade Separators –Nil

(d) No. of Underpasses – Nil

(e) No. of Minor Bridges – Nil

(f) No. of Culverts – 06 Nos.

(g) Toll Plaza –Nil

13 Bus bays/Bus shelters and Truck lay-byes

13.1 Truck Lay-byes

The location of existing truck lay-byes are given below:

S. No.	Existing Chainage (km)	Side	Village
Nil			

14 Road Side Drains (Lined)

S. No.	Existing Chainage (km)		Side
	From	To	
Nil			

15 Major Junction

The details of major junctions are as follows:

S. No.	Existing Chainage (km)	Design Chainage (km)	Side (Left/ Right/ Both)	Type of Junction	Category of Road	Remarks
Nil						

(NH: National Highway, SH: State Highway, MDR: Major District Road)

16 Minor Junction

The details of minor junctions are as follows:

S. No.	Existing Chainage (km)	Design Chainage (km)	Side (Left/ Right/ Both)	Type of Junction	Remarks
Nil					

17 Built up Area

The existing highway passes through the following built-up areas:

S. No.	Existing Chainage (km)		Length (km)	Side (LHS / RHS / Both)	Village name
	From	To			
Nil					

18 Bypasses under consideration

S. No.	Name of Bypass	Existing Chainage (km)		Design Length (km)	Remarks
		Start	End		
Nil					

19 Electrical Utilities

The site includes the following electrical utilities:

(a) Extra High-Tension Lines (EHT Lines)

S. No.	Design Chainage(m)	Crossings						Remarks	Authority
		765KV	400KV	500KV	230KV	132KV	110KV		
1	11+180					1		Raising required to meet the requisite vertical clearance	MePTCL
2	12+060					1		-do-	MePTCL
3	13+620					1		-do-	MePTCL

- SC – Single Circuit, DC – Double Circuit

(b) Low Tension Lines (LT Lines)

S. No.	Design Chainage		Length (in Km)				Crossings			Transformer (63 Kv/100 KV/200KV)
	From	To	33 KV	11 KV	LT	LT (UG)	33 KV	11 KV	LT	No.
1	4000		-	0.11		-	-	2		
2	6530	6630			0.1					
3	10000	10080			0.1					
4	10000	10080		0.1						
5	10200	10280			0.1			2		
6	11200				0.1					
7	11180				0.04					
8	11220				0.1					
9	11770				0.1					
10	11880		0.2							
11	11900	12000			0.1				1	
12	12080				0.1					
13	12200	12300			0.1				2	
14	15680			0.11				2		
15	17180		0.15				4			
16	27200				0.026				1	
17	27200				0.052				1	
18	27200				0.03				1	
19	27200				0.03				1	
20	29660				0.048					
21	29680				0.15				1	
22	29700				0.023				1	
23	29800				0.023					

S. No.	Design Chainage		Length (in Km)				Crossings			Transformer (63 Kv/100 KV/200KV)
	From	To	33 KV	11 KV	LT	LT (UG)	33 KV	11 KV	LT	No.
24	30260	30430			0.17				1	
25	30720				0.32				1	
26	36600	36700			0.1				1	
27	39500	39600		0.1					1	
28	42200			0.04					1	
29	45600			0.05						

20 Water Pipeline Utilities

The site includes the following water pipeline utilities:

S.No.	Design Chainage (m)		Length (m)	Dia (mm)	Type of pipe	Crossings (Nos.)
	From	To				
1	**3980**	4020	60	65	G.I	1
2	**4020**		10,000 ltr water tank			
3	**8860**		10,000 ltr water tank			
4	**8760**	8860	100	65	G.I	
5	**8860**		80	65	G.I	1
6	**8860**	9040	100	65	G.I	
7	**10020**		10,000 ltr water tank			2
8	**10020**		60	65	G.I	
9	**11200**		100	80	G.I	3
10	**11855**		100	100	D.I	1
11	**11855**		100	65	G.I	
12	**11900**		Spring Tapped Chamber			
13	**12100**		50	65	G.I	
14	**12200**		150	65	G.I	1
15	12400		20	65	G.I	
16	27200		10,000 ltr water tank			
17	27200		80	80	G.I	1
18	29680		80	65	G.I	4
19	30020		60	65	G.I	
20	30240		80	100	D.I	1
21	30240		80	65	G.I	1
22	30860	32400	1500	750	MS	2
23	30+675		60	100	D.I.	1
24	34+440		60	150	D.I.	1
25	36+260		60	150	D.I.	1
26	36+260		60	80	G.I.	1
27	36+260		60	65	G.I.	1
28	36+260		60	50	G.I.	1
29	36+260		60	40	G.I.	1
30	36+260		60	25	G.I.	1

S.No.	Design Chainage (m)		Length (m)	Dia (mm)	Type of pipe	Crossings (Nos.)
	From	To				
31	36+770		75	65		1
32	36+870		70	40		2
33	36+870		70	25		2
34	36+870		70	250	D.I.	1
35	36+950		80	40		1
36	36+950		80	15		1
37	36+950		80	25		1
38	36+950		10,000 ltr water tank			

21 IGGL

The site includes the following water pipeline utilities:

S. No.	Design Chainage (m)		Length (m)	Dia (mm)	Type of pipe	Crossings (Nos.)
	From	To				
1	30+685	30+700	15	200	API 5L PSL 2 X70 GRADE CS LINE PIPE OD 3LPE COATED	1
2	33+090	33+290	200	450	API 5L PSL 2 X70 GRADE CS LINE PIPE OD 3LPE COATED	1
3	36+880	36+990	110	450	API 5L PSL 2 X70 GRADE CS LINE PIPE OD 3LPE COATED	1
4	40+650	40+900	250	450	API 5L PSL 2 X70 GRADE CS LINE PIPE OD 3LPE COATED	1
5	42+320	42+680	360	450	API 5L PSL 2 X70 GRADE CS LINE PIPE OD 3LPE COATED	1

Annex - II

(Schedule-A)

DATES FOR PROVIDING RIGHT OF WAY OF CONSTRUCTION ZONE

The dates on which the Authority shall provide Right of Way of Construction Zone to the Concessionaire on different stretches of the Site are stated below:

Sl. No	From km to km	Length (km)	Width (m)	Date of providing Right of Way*
(1)	(2)	(3)	(4)	(5)
(i) Full Right of Way (full width)	Table Mentioned below	Table Mentioned below	Table Mentioned below	80% on appointed date and remaining within 150 days from appointed date.
(ii) Part Right of Way (part width)	–	–	–	–
(a) Stretch				
(b) Stretch				
(c) Stretch				
(iii) Balance Right of Way (width)	–	–	–	–
(a) Stretch				
(b) Stretch				
(c) Stretch				

For Main Carriageway & Interchanges Included PROW

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
1	600	700	100	110.0	65.0	175.0
2	700	960	260	110.0	75.0	185.0
3	960	970	10	110.0	60.0	170.0
4	970	1060	90	80.0	60.0	140.0
5	1060	1660	600	80.0	50.0	130.0
6	1660	1930	270	48.0	50.0	98.0
7	1930	2030	100	58.0	50.0	108.0
8	2030	2180	150	74.0	50.0	124.0
9	2180	2290	110	74.0	38.0	112.0
10	2290	2380	90	104.0	38.0	142.0
11	2380	2440	60	104.0	30.0	134.0
12	2440	2480	40	86.0	30.0	116.0
13	2480	2580	100	86.0	23.0	109.0
14	2580	2610	30	50.0	23.0	73.0
15	2610	2710	100	50.0	34.0	84.0
16	2710	2750	40	68.0	34.0	102.0
17	2750	2880	130	117.0	34.0	151.0
18	2880	2940	60	78.0	34.0	112.0
19	2940	3030	90	40.0	34.0	74.0

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
20	3030	3090	60	40.0	50.0	90.0
21	3090	3120	30	108.0	50.0	158.0
22	3120	3220	100	108.0	26.0	134.0
23	3220	3290	70	74.0	26.0	100.0
24	3290	3310	20	94.0	38.0	132.0
25	3310	3460	150	135.0	38.0	173.0
26	3460	3480	20	135.0	28.0	163.0
27	3480	3550	70	75.0	28.0	103.0
28	3550	3640	90	120.0	28.0	148.0
29	3640	3670	30	74.0	28.0	102.0
30	3670	3760	90	74.0	30.0	104.0
31	3760	3800	40	46.0	30.0	76.0
32	3800	3850	50	46.0	23.0	69.0
33	3850	3890	40	46.0	30.0	76.0
34	3890	3990	100	76.0	30.0	106.0
35	3990	4010	20	82.0	30.0	112.0
36	4010	4120	110	82.0	36.0	118.0
37	4120	4130	10	82.0	34.0	116.0
38	4130	4200	70	84.0	34.0	118.0
39	4200	4280	80	56.0	34.0	90.0
40	4280	4350	70	40.0	34.0	74.0
41	4350	4390	40	40.0	30.0	70.0
42	4390	4470	80	48.0	30.0	78.0
43	4470	4520	50	48.0	24.0	72.0
44	4520	4550	30	34.0	24.0	58.0
45	4550	4630	80	34.0	36.0	70.0
46	4630	4670	40	56.0	42.0	98.0
47	4670	4700	30	56.0	74.0	130.0
48	4700	4710	10	56.0	74.0	130.0
49	4710	4740	30	27.5	74.0	101.5
50	4740	4870	130	27.5	27.5	55.0
51	4870	4990	120	27.5	36.0	63.5
52	4990	5030	40	27.5	72.0	99.5
53	5030	5050	20	27.5	72.0	99.5
54	5050	5070	20	44.0	72.0	116.0
55	5070	5090	20	44.0	80.0	124.0
56	5090	5110	20	44.0	80.0	124.0
57	5110	5140	30	72.0	80.0	152.0
58	5140	5190	50	40.0	80.0	120.0
59	5190	5250	60	40.0	84.0	124.0
60	5250	5330	80	136.0	84.0	220.0
61	5330	5350	20	110.0	84.0	194.0
62	5350	5360	10	110.0	36.0	146.0

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
63	5360	5410	50	110.0	36.0	146.0
64	5410	5470	60	27.5	27.5	55.0
65	5470	5590	120	58.0	28.0	86.0
66	5590	5610	20	58.0	36.0	94.0
67	5610	5620	10	46.0	36.0	82.0
68	5620	5730	110	46.0	36.0	82.0
69	5730	5760	30	46.0	28.0	74.0
70	5760	5850	90	46.0	28.0	74.0
71	5850	5890	40	46.0	30.0	76.0
72	5890	6070	180	50.0	30.0	80.0
73	6070	6130	60	27.5	27.5	55.0
74	6130	6150	20	38.0	34.0	72.0
75	6150	6270	120	130.0	34.0	164.0
76	6270	6280	10	130.0	36.0	166.0
77	6280	6330	50	130.0	36.0	166.0
78	6330	6350	20	123.0	36.0	159.0
79	6350	6410	60	123.0	27.0	150.0
80	6410	6430	20	123.0	64.0	187.0
81	6430	6510	80	146.0	64.0	210.0
82	6510	6560	50	151.0	134.0	285.0
83	6560	6610	50	151.0	134.0	285.0
84	6610	6730	120	147.0	82.0	229.0
85	6730	6890	160	147.0	58.0	205.0
86	6890	6930	40	128.0	58.0	186.0
87	6930	7010	80	128.0	38.0	166.0
88	7010	7110	100	112.0	38.0	150.0
89	7110	7150	40	100.0	36.0	136.0
90	7150	7210	60	32.0	36.0	68.0
91	7210	7220	10	36.0	36.0	72.0
92	7220	7250	30	36.0	30.0	66.0
93	7250	7310	60	32.0	30.0	62.0
94	7310	7350	40	32.0	40.0	72.0
95	7350	7410	60	48.0	31.0	79.0
96	7410	7430	20	48.0	28.0	76.0
97	7430	7470	40	36.0	28.0	64.0
98	7470	7570	100	32.0	28.0	60.0
99	7570	7630	60	32.0	44.0	76.0
100	7630	7710	80	40.0	44.0	84.0
101	7710	7750	40	40.0	32.0	72.0
102	7750	7790	40	44.0	32.0	76.0
103	7790	7810	20	44.0	32.0	76.0
104	7810	7840	30	44.0	50.0	94.0
105	7840	8070	230	27.5	27.5	55.0

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
106	8070	9290	1220	27.5	27.5	55.0
107	9290	9330	40	56.0	50.0	106.0
108	9330	9370	40	56.0	25.0	81.0
109	9370	9390	20	38.0	25.0	63.0
110	9390	9450	60	38.0	62.0	100.0
111	9450	9530	80	94.0	38.0	132.0
112	9530	9590	60	110.0	38.0	148.0
113	9590	9630	40	100.0	38.0	138.0
114	9630	9650	20	100.0	30.0	130.0
115	9650	9730	80	112.0	30.0	142.0
116	9730	9770	40	132.0	30.0	162.0
117	9770	9850	80	90.0	30.0	120.0
118	9850	9910	60	146.0	30.0	176.0
119	9910	9950	40	146.0	36.0	182.0
120	9950	9990	40	160.0	36.0	196.0
121	9990	10030	40	120.0	36.0	156.0
122	10030	10090	60	76.0	36.0	112.0
123	10090	10100	10	154.0	36.0	190.0
124	10100	10130	30	154.0	36.0	190.0
125	10130	10150	20	122.0	36.0	158.0
126	10150	10170	20	122.0	26.0	148.0
127	10170	10230	60	100.0	26.0	126.0
128	10230	10250	20	40.0	26.0	66.0
129	10250	10330	80	40.0	38.0	78.0
130	10330	10470	140	27.5	27.5	55.0
131	10470	10490	20	27.5	27.5	55.0
132	10490	10510	20	27.5	40.0	67.5
133	10510	10590	80	27.5	40.0	67.5
134	10590	10810	220	27.5	27.5	55.0
135	10810	10880	70	43.0	43.0	86.0
136	10880	11010	130	43.0	43.0	86.0
137	11010	11050	40	43.0	43.0	86.0
138	11050	11170	120	33.0	43.0	76.0
139	11170	11190	20	36.0	43.0	79.0
140	11190	11290	100	36.0	36.0	72.0
141	11290	12330	1040	37.5	37.5	75.0
142	12330	13010	680	45.0	45.0	90.0
143	13010	13230	220	27.5	27.5	55.0
144	13230	13360	130	38.0	35.0	73.0
145	13360	13400	40	34.0	35.0	69.0
146	13400	13460	60	34.0	30.0	64.0
147	13460	13520	60	29.0	30.0	59.0
148	13520	13580	60	29.0	25.0	54.0

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
149	13580	13620	40	23.0	25.0	48.0
150	13620	13750	130	23.0	22.0	45.0
151	13750	13820	70	23.0	32.0	55.0
152	13820	13870	50	23.0	26.0	49.0
153	13870	13910	40	30.0	26.0	56.0
154	13910	13970	60	42.0	32.0	74.0
155	13970	14010	40	42.0	44.0	86.0
156	14010	14100	90	50.0	62.0	112.0
157	14100	14160	60	38.0	49.0	87.0
158	14160	14240	80	25.0	49.0	74.0
159	14240	14310	70	25.0	25.0	50.0
160	14310	14610	300	28.0	25.0	53.0
161	14610	14630	20	28.0	30.0	58.0
162	14630	14840	210	30.0	30.0	60.0
163	14840	14900	60	30.0	27.0	57.0
164	14900	15050	150	27.0	27.0	54.0
165	15050	15090	40	33.0	27.0	60.0
166	15090	15170	80	33.0	34.0	67.0
167	15170	15200	30	38.0	34.0	72.0
168	15200	15300	100	38.0	30.0	68.0
169	15300	15390	90	29.0	30.0	59.0
170	15390	15430	40	29.0	37.0	66.0
171	15430	15820	390	39.0	37.0	76.0
172	15820	15840	20	39.0	22.0	61.0
173	15840	16030	190	23.0	22.0	45.0
174	16030	16270	240	28.0	27.0	55.0
175	16270	16370	100	28.0	24.0	52.0
176	16370	16470	100	28.0	29.0	57.0
177	16470	16570	100	28.0	25.0	53.0
178	16570	16630	60	26.0	25.0	51.0
179	16630	16650	20	26.0	23.0	49.0
180	16650	16770	120	23.0	23.0	46.0
181	16770	16790	20	23.0	30.0	53.0
182	16790	16870	80	30.0	30.0	60.0
183	16870	16890	20	30.0	42.0	72.0
184	16890	17050	160	42.0	42.0	84.0
185	17050	17070	20	35.0	42.0	77.0
186	17070	17170	100	35.0	49.0	84.0
187	17170	17330	160	47.0	49.0	96.0
188	17330	17430	100	37.0	49.0	86.0
189	17430	17470	40	37.0	27.0	64.0
190	17470	17630	160	100.0	27.0	127.0
191	17630	17650	20	92.0	27.0	119.0

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
192	17650	17750	100	92.0	34.0	126.0
193	17750	17790	40	56.0	34.0	90.0
194	17790	17850	60	56.0	26.0	82.0
195	17850	17910	60	37.0	42.0	79.0
196	17910	17990	80	23.0	42.0	65.0
197	17990	18030	40	23.0	34.0	57.0
198	18030	18150	120	28.0	34.0	62.0
199	18150	18190	40	28.0	30.0	58.0
200	18190	18290	100	118.0	30.0	148.0
201	18290	18330	40	118.0	53.0	171.0
202	18330	18430	100	138.0	53.0	191.0
203	18430	18450	20	138.0	49.0	187.0
204	18450	18570	120	109.0	49.0	158.0
205	18570	18580	10	88.0	49.0	137.0
206	18580	18610	30	88.0	49.0	137.0
207	18610	18620	10	88.0	64.0	152.0
208	18620	18670	50	88.0	64.0	152.0
209	18670	18680	10	56.0	64.0	120.0
210	18680	18790	110	56.0	64.0	120.0
211	18790	18830	40	56.0	64.0	120.0
212	18830	18950	120	26.0	24.0	50.0
213	18950	18970	20	54.0	24.0	78.0
214	18970	19050	80	54.0	31.0	85.0
215	19050	19070	20	36.0	31.0	67.0
216	19070	19130	60	36.0	46.0	82.0
217	19130	19150	20	36.0	23.0	59.0
218	19150	19230	80	76.0	23.0	99.0
219	19230	19250	20	76.0	49.0	125.0
220	19250	19370	120	33.0	49.0	82.0
221	19370	19390	20	33.0	26.0	59.0
222	19390	19470	80	62.0	26.0	88.0
223	19470	19830	360	27.5	27.5	55.0
224	19830	19930	100	59.0	30.0	89.0
225	19930	20090	160	27.5	27.5	55.0
226	20090	20230	140	42.0	44.0	86.0
227	20230	20380	150	42.0	40.0	82.0
228	20380	20970	590	27.5	27.5	55.0
229	20970	21030	60	39.0	46.0	85.0
230	21030	21070	40	39.0	82.0	121.0
231	21070	21190	120	34.0	82.0	116.0
232	21190	21250	60	28.0	54.0	82.0
233	21250	21360	110	28.0	46.0	74.0
234	21360	21430	70	27.5	27.5	55.0

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
235	21430	21510	80	34.0	40.0	74.0
236	21510	21570	60	34.0	40.0	74.0
237	21570	21660	90	26.0	40.0	66.0
238	21660	21670	10	26.0	40.0	66.0
239	21670	21770	100	26.0	25.0	51.0
240	21770	21910	140	26.0	30.0	56.0
241	21910	21920	10	26.0	30.0	56.0
242	21920	22030	110	26.0	30.0	56.0
243	22030	22060	30	34.0	65.0	99.0
244	22060	22130	70	34.0	65.0	99.0
245	22130	22190	60	34.0	118.0	152.0
246	22190	22210	20	37.0	118.0	155.0
247	22210	22330	120	37.0	128.0	165.0
248	22330	22390	60	37.0	98.0	135.0
249	22390	22430	40	31.0	98.0	129.0
250	22430	22570	140	31.0	85.0	116.0
251	22570	22650	80	52.0	76.0	128.0
252	22650	22710	60	52.0	30.0	82.0
253	22710	22790	80	34.0	30.0	64.0
254	22790	22810	20	34.0	34.0	68.0
255	22810	22950	140	27.0	34.0	61.0
256	22950	22970	20	42.0	34.0	76.0
257	22970	23130	160	42.0	42.0	84.0
258	23130	23230	100	28.0	31.0	59.0
259	23230	23310	80	42.0	31.0	73.0
260	23310	23350	40	42.0	22.0	64.0
261	23350	23410	60	39.0	22.0	61.0
262	23410	23470	60	39.0	30.0	69.0
263	23470	23570	100	28.0	30.0	58.0
264	23570	23590	20	28.0	49.0	77.0
265	23590	23690	100	39.0	49.0	88.0
266	23690	23760	70	39.0	65.0	104.0
267	23760	23770	10	39.0	65.0	104.0
268	23770	23810	40	24.0	65.0	89.0
269	23810	23930	120	24.0	50.0	74.0
270	23930	23970	40	40.0	50.0	90.0
271	23970	24030	60	40.0	63.0	103.0
272	24030	24050	20	40.0	63.0	103.0
273	24050	24190	140	29.0	63.0	92.0
274	24190	24330	140	29.0	28.0	57.0
275	24330	24450	120	36.0	30.0	66.0
276	24450	24530	80	32.0	30.0	62.0
277	24530	24670	140	32.0	72.0	104.0

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
278	24670	24790	120	24.0	36.0	60.0
279	24790	24990	200	39.0	36.0	75.0
280	24990	25010	20	39.0	54.0	93.0
281	25010	25090	80	26.0	54.0	80.0
282	25090	25140	50	26.0	72.0	98.0
283	25140	25220	80	52.0	72.0	124.0
284	25220	25360	140	52.0	98.0	150.0
285	25360	25610	250	52.0	103.0	155.0
286	25610	25680	70	52.0	69.0	121.0
287	25680	26210	530	95.0	69.0	164.0
288	26210	26290	80	64.0	69.0	133.0
289	26290	26850	560	64.0	84.0	148.0
290	26850	26980	130	64.0	90.0	154.0
291	26980	27110	130	87.0	90.0	177.0
292	27110	27140	30	87.0	97.0	184.0
293	27140	27220	80	107.0	97.0	204.0
294	27220	27370	150	97.0	79.0	176.0
295	27370	27400	30	62.0	79.0	141.0
296	27400	27610	210	62.0	58.0	120.0
297	27610	27910	300	58.0	58.0	116.0
298	27910	27950	40	30.0	58.0	88.0
299	27950	28030	80	30.0	24.0	54.0
300	28030	28130	100	28.0	28.0	56.0
301	28130	28210	80	40.0	28.0	68.0
302	28210	28230	20	40.0	40.0	80.0
303	28230	28240	10	22.0	40.0	62.0
304	28240	28310	70	22.0	40.0	62.0
305	28310	28350	40	22.0	38.0	60.0
306	28350	28420	70	44.0	38.0	82.0
307	28420	28450	30	44.0	38.0	82.0
308	28450	28510	60	44.0	30.0	74.0
309	28510	28570	60	36.0	30.0	66.0
310	28570	28610	40	36.0	54.0	90.0
311	28610	28750	140	42.0	54.0	96.0
312	28750	28830	80	42.0	34.0	76.0
313	28830	28850	20	42.0	34.0	76.0
314	28850	28970	120	38.0	34.0	72.0
315	28970	29020	50	38.0	50.0	88.0
316	29020	29090	70	38.0	50.0	88.0
317	29090	29170	80	30.0	40.0	70.0
318	29170	29210	40	30.0	48.0	78.0
319	29210	29270	60	37.0	48.0	85.0
320	29270	29330	60	37.0	38.0	75.0

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
321	29330	29390	60	28.0	38.0	66.0
322	29390	29450	60	28.0	28.0	56.0
323	29450	29550	100	36.0	28.0	64.0
324	29550	29650	100	44.0	50.0	94.0
325	29650	29670	20	44.0	50.0	94.0
326	29670	29790	120	44.0	64.0	108.0
327	29790	29810	20	44.0	49.0	93.0
328	29810	29870	60	32.0	49.0	81.0
329	29870	29970	100	32.0	27.0	59.0
330	29970	30060	90	37.0	39.0	76.0
331	30060	30750	690	27.5	27.5	55.0
332	30750	30850	100	37.0	36.0	73.0
333	30850	30980	130	40.0	43.0	83.0
334	30980	31550	570	27.5	27.5	55.0
335	31550	31650	100	30.0	56.0	86.0
336	31650	31710	60	30.0	81.0	111.0
337	31710	31790	80	36.0	81.0	117.0
338	31790	31810	20	36.0	67.0	103.0
339	31810	31970	160	30.0	67.0	97.0
340	31970	32030	60	40.0	67.0	107.0
341	32030	32090	60	40.0	45.0	85.0
342	32090	32110	20	38.0	40.0	78.0
343	32110	32150	40	38.0	40.0	78.0
344	32150	32190	40	38.0	52.0	90.0
345	32190	32310	120	45.0	52.0	97.0
346	32310	32330	20	35.0	52.0	87.0
347	32330	32360	30	35.0	37.0	72.0
348	32360	32410	50	35.0	37.0	72.0
349	32410	32450	40	35.0	30.0	65.0
350	32450	32460	10	48.0	30.0	78.0
351	32460	32490	30	48.0	30.0	78.0
352	32490	32590	100	48.0	40.0	88.0
353	32590	32630	40	66.0	40.0	106.0
354	32630	32670	40	66.0	60.0	126.0
355	32670	32730	60	74.0	60.0	134.0
356	32730	32750	20	60.0	60.0	120.0
357	32750	32810	60	60.0	75.0	135.0
358	32810	32850	40	39.0	75.0	114.0
359	32850	32910	60	39.0	82.0	121.0
360	32910	32960	50	65.0	82.0	147.0
361	32960	32990	30	65.0	82.0	147.0
362	32990	33040	50	65.0	61.0	126.0
363	33040	33060	20	30.0	61.0	91.0

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
364	33060	33100	40	30.0	27.5	57.5
365	33100	33180	80	68.0	27.5	95.5
366	33180	33250	70	68.0	76.0	144.0
367	33250	33350	100	27.5	76.0	103.5
368	33350	33620	270	27.5	27.5	55.0
369	33620	33630	10	24.0	27.5	51.5
370	33630	33710	80	24.0	40.0	64.0
371	33710	33730	20	52.0	40.0	92.0
372	33730	33910	180	52.0	58.0	110.0
373	33910	33970	60	84.0	58.0	142.0
374	33970	34020	50	84.0	73.0	157.0
375	34020	34070	50	46.0	73.0	119.0
376	34070	34080	10	46.0	73.0	119.0
377	34080	34090	10	46.0	60.0	106.0
378	34090	34100	10	48.0	60.0	108.0
379	34100	34110	10	48.0	60.0	108.0
380	34110	34120	10	48.0	60.0	108.0
381	34120	34150	30	48.0	60.0	108.0
382	34150	34160	10	48.0	60.0	108.0
383	34160	34170	10	26.0	44.0	70.0
384	34170	34180	10	26.0	44.0	70.0
385	34180	34190	10	26.0	44.0	70.0
386	34190	34200	10	26.0	44.0	70.0
387	34200	34230	30	26.0	44.0	70.0
388	34230	34240	10	26.0	44.0	70.0
389	34240	34250	10	26.0	44.0	70.0
390	34250	34260	10	26.0	44.0	70.0
391	34260	34270	10	26.0	44.0	70.0
392	34270	34280	10	40.0	58.0	98.0
393	34280	34360	80	40.0	58.0	98.0
394	34360	34410	50	40.0	48.0	88.0
395	34410	34460	50	48.0	48.0	96.0
396	34460	34560	100	48.0	30.0	78.0
397	34560	34590	30	34.0	30.0	64.0
398	34590	34640	50	34.0	34.0	68.0
399	34640	34850	210	27.5	27.5	55.0
400	34850	34950	100	48.0	44.0	92.0
401	34950	34960	10	48.0	56.0	104.0
402	34960	35000	40	42.0	56.0	98.0
403	35000	35310	310	27.5	27.5	55.0
404	35310	35320	10	27.5	27.5	55.0
405	35320	35330	10	27.5	27.5	55.0
406	35330	35340	10	27.5	27.5	55.0

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
407	35340	35350	10	27.5	27.5	55.0
408	35350	35360	10	27.5	27.5	55.0
409	35360	35430	70	27.5	27.5	55.0
410	35430	35440	10	27.5	27.5	55.0
411	35440	35450	10	27.5	27.5	55.0
412	35450	35460	10	27.5	27.5	55.0
413	35460	35470	10	27.5	27.5	55.0
414	35470	35480	10	56.0	58.0	114.0
415	35480	35490	10	56.0	58.0	114.0
416	35490	35500	10	56.0	58.0	114.0
417	35500	35510	10	56.0	58.0	114.0
418	35510	35520	10	56.0	58.0	114.0
419	35520	35530	10	56.0	58.0	114.0
420	35530	35540	10	56.0	58.0	114.0
421	35540	35550	10	56.0	58.0	114.0
422	35550	35560	10	56.0	108.0	164.0
423	35560	35570	10	48.0	108.0	156.0
424	35570	35580	10	48.0	108.0	156.0
425	35580	35590	10	48.0	108.0	156.0
426	35590	35600	10	48.0	108.0	156.0
427	35600	35610	10	48.0	108.0	156.0
428	35610	35620	10	48.0	108.0	156.0
429	35620	35630	10	48.0	108.0	156.0
430	35630	35640	10	48.0	108.0	156.0
431	35640	35650	10	48.0	108.0	156.0
432	35650	35660	10	48.0	108.0	156.0
433	35660	35670	10	48.0	108.0	156.0
434	35670	35680	10	50.0	108.0	158.0
435	35680	35690	10	50.0	28.0	78.0
436	35690	35700	10	50.0	28.0	78.0
437	35700	35710	10	50.0	28.0	78.0
438	35710	35720	10	50.0	28.0	78.0
439	35720	35730	10	50.0	28.0	78.0
440	35730	35740	10	50.0	28.0	78.0
441	35740	35770	30	36.0	28.0	64.0
442	35770	35780	10	36.0	28.0	64.0
443	35780	35790	10	36.0	28.0	64.0
444	35790	35800	10	36.0	34.0	70.0
445	35800	35810	10	36.0	34.0	70.0
446	35810	35820	10	36.0	34.0	70.0
447	35820	35830	10	36.0	34.0	70.0
448	35830	35840	10	36.0	34.0	70.0
449	35840	35850	10	36.0	34.0	70.0

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
450	35850	35860	10	56.0	34.0	90.0
451	35860	35870	10	56.0	34.0	90.0
452	35870	35880	10	56.0	34.0	90.0
453	35880	35890	10	56.0	30.0	86.0
454	35890	35900	10	56.0	30.0	86.0
455	35900	35940	40	56.0	30.0	86.0
456	35940	35990	50	30.0	30.0	60.0
457	35990	36050	60	30.0	44.0	74.0
458	36050	36090	40	38.0	44.0	82.0
459	36090	36150	60	38.0	92.0	130.0
460	36150	36190	40	56.0	92.0	148.0
461	36190	36300	110	56.0	120.0	176.0
462	36300	36330	30	56.0	90.0	146.0
463	36330	36340	10	56.0	90.0	146.0
464	36340	36350	10	56.0	90.0	146.0
465	36350	36360	10	56.0	90.0	146.0
466	36360	36370	10	56.0	90.0	146.0
467	36370	36380	10	56.0	90.0	146.0
468	36380	36390	10	50.0	90.0	140.0
469	36390	36400	10	50.0	90.0	140.0
470	36400	36410	10	50.0	50.0	100.0
471	36410	36420	10	50.0	50.0	100.0
472	36420	36430	10	50.0	50.0	100.0
473	36430	36440	10	50.0	50.0	100.0
474	36440	36450	10	50.0	50.0	100.0
475	36450	36460	10	50.0	50.0	100.0
476	36460	36470	10	50.0	50.0	100.0
477	36470	36480	10	50.0	50.0	100.0
478	36480	36490	10	50.0	50.0	100.0
479	36490	36500	10	50.0	50.0	100.0
480	36500	36510	10	50.0	50.0	100.0
481	36510	36520	10	50.0	50.0	100.0
482	36520	36530	10	50.0	50.0	100.0
483	36530	36540	10	50.0	66.0	116.0
484	36540	36550	10	50.0	66.0	116.0
485	36550	36560	10	50.0	66.0	116.0
486	36560	36570	10	50.0	66.0	116.0
487	36570	36590	20	80.0	66.0	146.0
488	36590	36600	10	80.0	66.0	146.0
489	36600	36610	10	80.0	66.0	146.0
490	36610	36620	10	80.0	66.0	146.0
491	36620	36630	10	80.0	66.0	146.0
492	36630	36640	10	80.0	74.0	154.0

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
493	36640	36650	10	80.0	74.0	154.0
494	36650	36660	10	80.0	74.0	154.0
495	36660	36670	10	80.0	74.0	154.0
496	36670	36680	10	80.0	74.0	154.0
497	36680	36690	10	80.0	74.0	154.0
498	36690	36700	10	80.0	74.0	154.0
499	36700	36710	10	80.0	74.0	154.0
500	36710	36720	10	80.0	74.0	154.0
501	36720	36730	10	66.0	74.0	140.0
502	36730	36740	10	66.0	74.0	140.0
503	36740	36770	30	66.0	40.0	106.0
504	36770	36780	10	66.0	40.0	106.0
505	36780	36790	10	66.0	40.0	106.0
506	36790	36800	10	66.0	40.0	106.0
507	36800	36810	10	66.0	40.0	106.0
508	36810	36820	10	66.0	40.0	106.0
509	36820	36830	10	66.0	28.0	94.0
510	36830	36840	10	66.0	28.0	94.0
511	36840	36850	10	66.0	28.0	94.0
512	36850	36860	10	66.0	28.0	94.0
513	36860	36910	50	76.0	72.0	148.0
514	36910	36950	40	76.0	28.0	104.0
515	36950	37030	80	76.0	34.0	110.0
516	37030	37050	20	54.0	34.0	88.0
517	37050	37060	10	54.0	40.0	94.0
518	37060	37140	80	32.0	40.0	72.0
519	37140	37210	70	32.0	30.0	62.0
520	37210	37220	10	60.0	30.0	90.0
521	37220	37230	10	60.0	30.0	90.0
522	37230	37240	10	60.0	30.0	90.0
523	37240	37250	10	60.0	30.0	90.0
524	37250	37260	10	60.0	34.0	94.0
525	37260	37270	10	60.0	34.0	94.0
526	37270	37280	10	60.0	34.0	94.0
527	37280	37290	10	60.0	34.0	94.0
528	37290	37300	10	60.0	34.0	94.0
529	37300	37310	10	60.0	34.0	94.0
530	37310	37320	10	60.0	34.0	94.0
531	37320	37330	10	60.0	34.0	94.0
532	37330	37340	10	60.0	34.0	94.0
533	37340	37350	10	60.0	34.0	94.0
534	37350	37360	10	60.0	38.0	98.0
535	37360	37370	10	60.0	38.0	98.0

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
536	37370	37380	10	60.0	38.0	98.0
537	37380	37390	10	60.0	38.0	98.0
538	37390	37400	10	60.0	38.0	98.0
539	37400	37410	10	60.0	38.0	98.0
540	37410	37420	10	60.0	38.0	98.0
541	37420	37430	10	60.0	38.0	98.0
542	37430	37440	10	60.0	38.0	98.0
543	37440	37450	10	60.0	38.0	98.0
544	37450	37460	10	60.0	50.0	110.0
545	37460	37470	10	60.0	50.0	110.0
546	37470	37480	10	86.0	50.0	136.0
547	37480	37490	10	86.0	50.0	136.0
548	37490	37500	10	86.0	50.0	136.0
549	37500	37510	10	86.0	50.0	136.0
550	37510	37520	10	86.0	50.0	136.0
551	37520	37530	10	86.0	50.0	136.0
552	37530	37540	10	86.0	50.0	136.0
553	37540	37550	10	86.0	36.0	122.0
554	37550	37560	10	86.0	36.0	122.0
555	37560	37570	10	86.0	36.0	122.0
556	37570	37580	10	86.0	36.0	122.0
557	37580	37590	10	86.0	36.0	122.0
558	37590	37600	10	86.0	36.0	122.0
559	37600	37610	10	86.0	36.0	122.0
560	37610	37620	10	86.0	36.0	122.0
561	37620	37640	20	86.0	36.0	122.0
562	37640	37650	10	36.0	36.0	72.0
563	37650	37720	70	36.0	64.0	100.0
564	37720	38050	330	27.5	27.5	55.0
565	38050	38110	60	34.0	36.0	70.0
566	38110	38120	10	34.0	36.0	70.0
567	38120	38130	10	34.0	36.0	70.0
568	38130	38140	10	34.0	36.0	70.0
569	38140	38150	10	34.0	36.0	70.0
570	38150	38160	10	62.0	46.0	108.0
571	38160	38170	10	62.0	46.0	108.0
572	38170	38180	10	62.0	46.0	108.0
573	38180	38190	10	62.0	46.0	108.0
574	38190	38200	10	62.0	46.0	108.0
575	38200	38210	10	62.0	46.0	108.0
576	38210	38220	10	62.0	46.0	108.0
577	38220	38230	10	62.0	46.0	108.0
578	38230	38240	10	62.0	46.0	108.0

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
579	38240	38250	10	30.0	46.0	76.0
580	38250	38260	10	30.0	60.0	90.0
581	38260	38270	10	30.0	60.0	90.0
582	38270	38280	10	30.0	60.0	90.0
583	38280	38290	10	30.0	60.0	90.0
584	38290	38300	10	30.0	60.0	90.0
585	38300	38310	10	30.0	60.0	90.0
586	38310	38320	10	30.0	60.0	90.0
587	38320	38330	10	30.0	60.0	90.0
588	38330	38340	10	30.0	60.0	90.0
589	38340	38350	10	30.0	54.0	84.0
590	38350	38360	10	30.0	54.0	84.0
591	38360	38370	10	30.0	54.0	84.0
592	38370	38380	10	30.0	54.0	84.0
593	38380	38390	10	30.0	54.0	84.0
594	38390	38400	10	30.0	54.0	84.0
595	38400	38420	20	30.0	54.0	84.0
596	38420	38660	240	30.0	30.0	60.0
597	38660	38750	90	35.0	30.0	65.0
598	38750	38760	10	55.0	30.0	85.0
599	38760	38810	50	55.0	25.0	80.0
600	38810	38880	70	63.0	25.0	88.0
601	38880	38970	90	53.0	25.0	78.0
602	38970	38980	10	53.0	27.5	80.5
603	38980	39360	380	27.5	27.5	55.0
604	39360	39380	20	27.5	60.0	87.5
605	39380	39400	20	36.0	60.0	96.0
606	39400	39460	60	36.0	28.0	64.0
607	39460	39480	20	61.0	28.0	89.0
608	39480	39540	60	61.0	36.0	97.0
609	39540	39590	50	61.0	27.5	88.5
610	39590	39800	210	27.5	27.5	55.0
611	39800	39860	60	27.5	37.0	64.5
612	39860	39900	40	27.5	56.0	83.5
613	39900	40030	130	35.0	56.0	91.0
614	40030	40060	30	40.0	56.0	96.0
615	40060	40070	10	40.0	27.5	67.5
616	40070	40180	110	27.5	27.5	55.0
617	40180	40200	20	27.5	30.0	57.5
618	40200	40260	60	35.0	30.0	65.0
619	40260	40280	20	35.0	27.5	62.5
620	40280	40520	240	27.5	27.5	55.0
621	40520	40620	100	22.0	44.0	66.0

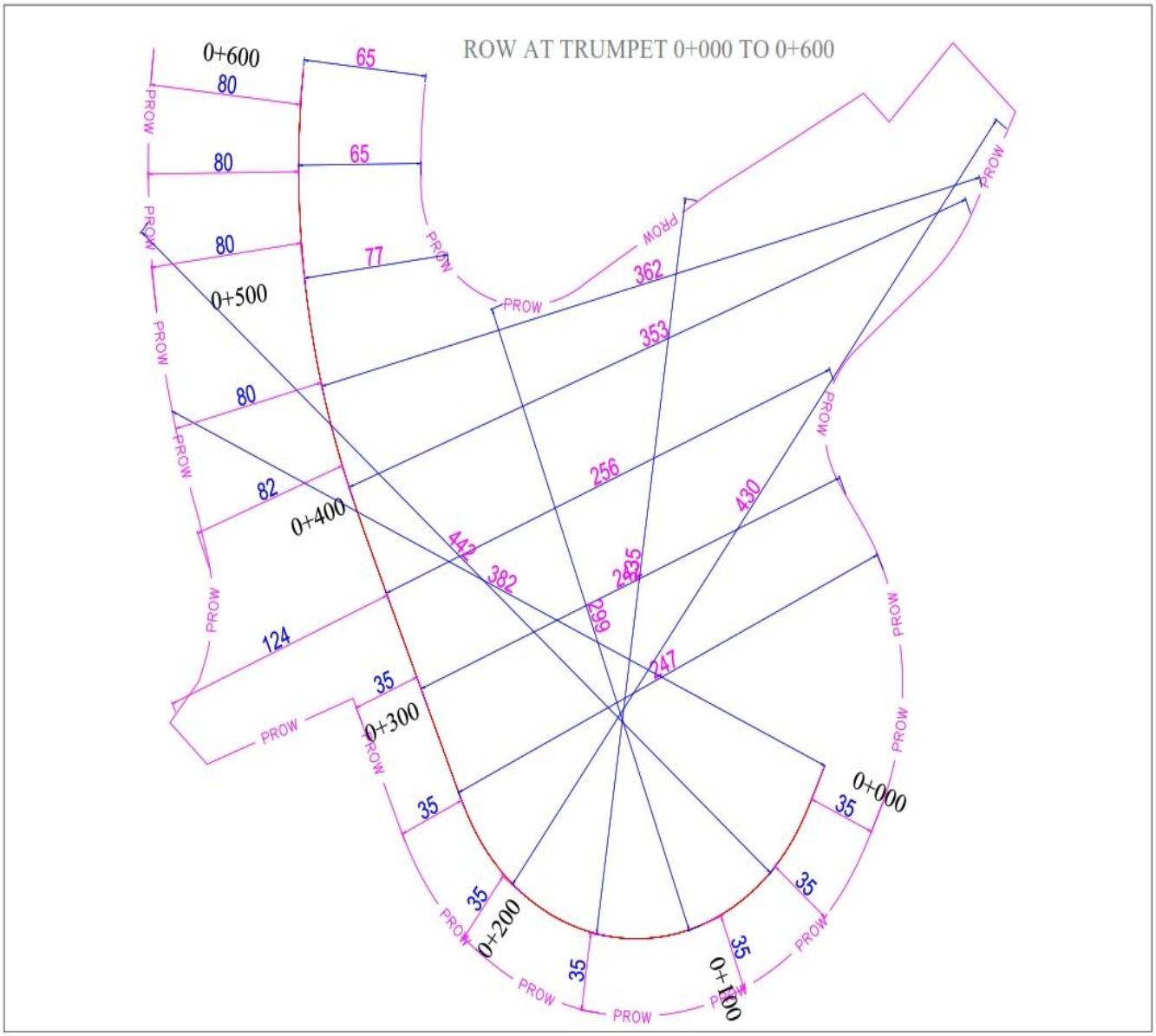
PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
622	40620	40640	20	27.5	44.0	71.5
623	40640	40650	10	27.5	100.0	127.5
624	40650	40710	60	75.0	100.0	175.0
625	40710	40860	150	27.5	100.0	127.5
626	40860	40870	10	57.0	100.0	157.0
627	40870	40890	20	57.0	38.0	95.0
628	40890	40970	80	57.0	49.0	106.0
629	40970	41080	110	44.0	49.0	93.0
630	41080	41160	80	44.0	38.0	82.0
631	41160	41240	80	52.0	38.0	90.0
632	41240	41260	20	29.0	38.0	67.0
633	41260	41360	100	29.0	42.0	71.0
634	41360	41440	80	29.0	35.0	64.0
635	41440	41460	20	65.0	35.0	100.0
636	41460	41570	110	65.0	55.0	120.0
637	41570	41580	10	75.0	55.0	130.0
638	41580	41600	20	75.0	34.0	109.0
639	41600	41680	80	45.0	34.0	79.0
640	41680	41690	10	45.0	53.0	98.0
641	41690	41780	90	53.0	53.0	106.0
642	41780	41940	160	66.0	54.0	120.0
643	41940	41960	20	32.0	54.0	86.0
644	41960	42060	100	32.0	40.0	72.0
645	42060	42080	20	56.0	40.0	96.0
646	42080	42210	130	55.0	50.0	105.0
647	42210	42320	110	90.0	63.0	153.0
648	42320	42340	20	90.0	100.0	190.0
649	42340	42450	110	73.0	100.0	173.0
650	42450	42600	150	94.0	100.0	194.0
651	42600	42650	50	36.0	100.0	136.0
652	42650	42690	40	65.0	100.0	165.0
653	42690	42760	70	36.0	43.0	79.0
654	42760	42810	50	36.0	30.0	66.0
655	42810	42820	10	36.0	30.0	66.0
656	42820	42830	10	36.0	30.0	66.0
657	42830	42840	10	36.0	30.0	66.0
658	42840	42850	10	36.0	30.0	66.0
659	42850	42860	10	36.0	30.0	66.0
660	42860	42870	10	36.0	30.0	66.0
661	42870	42880	10	36.0	30.0	66.0
662	42880	42890	10	36.0	30.0	66.0
663	42890	42900	10	36.0	30.0	66.0
664	42900	42910	10	36.0	30.0	66.0

PROW SUMMARY						
S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
665	42910	42920	10	36.0	30.0	66.0
666	42920	42930	10	36.0	30.0	66.0
667	42930	43110	180	27.5	27.5	55.0
668	43110	43230	120	60.0	54.0	114.0
669	43230	43280	50	60.0	90.0	150.0
670	43280	43380	100	48.0	90.0	138.0
671	43380	43410	30	48.0	45.0	93.0
672	43410	43570	160	57.0	45.0	102.0
673	43570	43620	50	57.0	56.0	113.0
674	43620	43750	130	48.0	56.0	104.0
675	43750	43850	100	48.0	54.0	102.0
676	43850	44040	190	65.0	54.0	119.0
677	44040	44110	70	65.0	63.0	128.0
678	44110	44140	30	50.0	63.0	113.0
679	44140	44290	150	50.0	55.0	105.0
680	44290	44410	120	72.0	55.0	127.0
681	44410	44460	50	72.0	73.0	145.0
682	44460	44550	90	65.0	73.0	138.0
683	44550	44690	140	65.0	66.0	131.0
684	44690	44740	50	65.0	69.0	134.0
685	44740	44780	40	83.0	69.0	152.0
686	44780	45010	230	83.0	89.0	172.0
687	45010	45120	110	83.0	82.0	165.0
688	45120	45190	70	67.0	82.0	149.0
689	45190	45210	20	67.0	65.0	132.0
690	45210	45260	50	55.0	65.0	120.0
691	45260	45310	50	55.0	47.0	102.0
692	45310	45340	30	40.0	47.0	87.0
693	45340	45460	120	40.0	39.0	79.0
694	45460	45610	150	36.0	39.0	75.0
695	45610	45620	10	36.0	38.0	74.0
696	45620	45645	25	30.0	38.0	68.0

INTERCHANGE @0+000 Km

Design Chainage	ROW Width (m)		Total Width (m)
	Left	Right	
0	35	382	417
50	35	442	477
100	35	300	335
150	35	335	370
200	35	430	465
250	35	247	282
300	35	242	277

Design Chainage	ROW Width (m)		Total Width (m)
	Left	Right	
350	124	256	380
400	82	353	435
450	80	362	442
500	80	77	157
550	80	65	145
600	80	65	145



INTERCHANGE @12+700 Km Connecting Road HSC to Ex. NH-06

Sr. No.	Design Chainage		Length (m)	ROW WIDTH		Total Width (m)
	From	To		LHS ROW	RHS ROW	
1	0	300	300	16	16	32

INTERCHANGE @27+200 Km Ex. NH-06 Road PROW

S. No.	Chainage (m)		Length (m)	Row Width (m)		Total Width (m)
	From	To		Left	Right	
1	0	350	350	17	17	34
2	350	420	70	30	30	60
3	580	690	110	40	40	80
4	690	850	160	25	25	50
5	850	1081	231	17	17	34

EX. 4 Lane Under Construction Road PROW @Ch. 44+935 Km

Sr. No.	Chainage		ROW WIDTH		Total Width (m)
	From	To	LHS ROW	RHS ROW	
1	0	300	27.5	27.5	55
2	470	905	27.5	27.5	55

Additional PROW for development of Existing Road @Ch. 6+400 Km

Sr. No.	Design Chainage	ROW WIDTH	
		LHS ROW	RHS ROW
1	560	31.79	10.00
2	570	32.42	10.00
3	580	32.57	10.00
4	590	32.25	10.00
5	600	31.46	10.00
6	610	30.19	16.27
7	620	28.42	16.31
8	630	26.16	15.30
9	640	23.38	13.20
10	650	20.34	10.29
11	660	17.52	8.43
12	670	14.55	7.20
13	680	11.57	6.60
14	690	8.76	6.62
15	700	7.00	7.00
16	710	7.00	7.00
17	720	7.00	7.00
18	730	7.00	7.00

Sr. No.	Design Chainage	ROW WIDTH	
		LHS ROW	RHS ROW
19	740	7.00	7.00
20	750	7.00	7.00
21	760	7.00	7.00
22	770	7.00	7.00
23	780	7.00	7.00
24	790	7.00	7.00
25	800	7.00	7.00

ANNEX-III

(Schedule-A)

ALIGNMENT PLAN

The alignment plan of the Project Highway is available on E - Tendering portal of NHIDCL.

The existing alignment of the Project Highway shall be modified in the following sections as per the alignment plan indicated below:

(i) The alignment of the Project Highway enclosed in alignment plan. Finished road level indicated in the alignment plan shall be minimum requirement. In any case, the finished road level of the project highway shall not be less than those indicated in the alignment plan. The Concessionaire shall, however, improve/upgrade the Road profile as indicated in Annex-III based on site/design requirement.

(ii) Traffic Signage plan of the Project Highway showing numbers & location of traffic signs is enclosed, which is minimum requirement. The Concessionaire shall, however, improve/upgrade upon the traffic signage plan as indicated in Annex-III of Schedule-A based on site/design requirement as per IRC: SP: 84-2019 & IRC: 67-2022 and other project facilities/road furniture as per IRC standards/Manual.

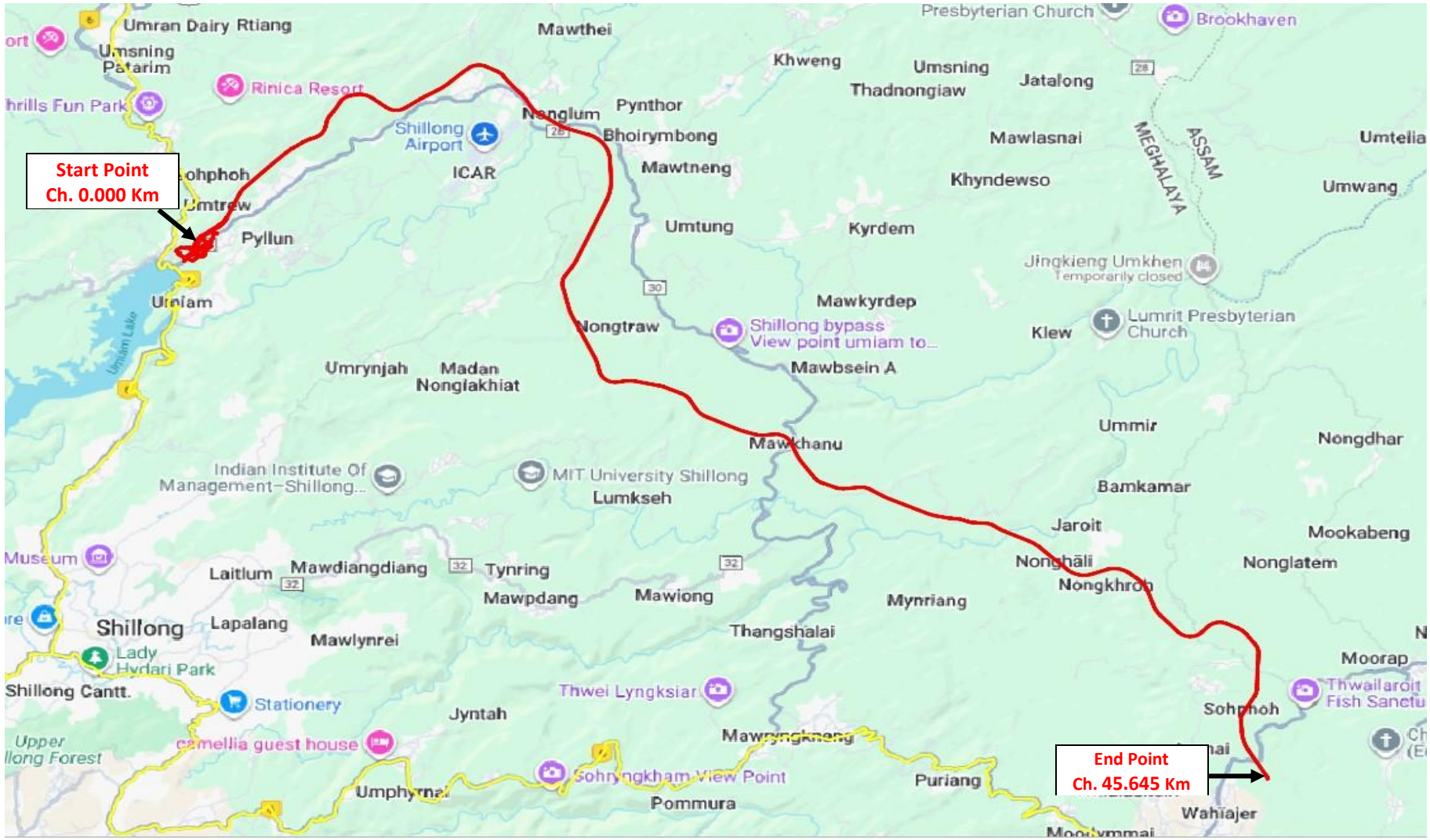
ANNEX-IV

(Schedule-A)

ENVIRONMENTAL CLEARANCES

Environmental Clearance	: Not Applicable
Forest Clearance	**: Deemed Forest identification under progress**
Wildlife Clearance	**: Not Applicable**

Appendix A-I (Schedule-A)
INDEX MAP/LOCATION



Appendix A-II (Schedule-A)
Proposed ROW Co-ordinates

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
1	600	390205.73	2840781.09	390096.42	2840793.42	390270.32	2840773.81
2	650	390214.41	2840830.30	390107.49	2840856.15	390277.59	2840815.02
3	700	390229.17	2840878.04	390126.30	2840917.02	390299.30	2840851.46
4	750	390249.76	2840923.57	390152.56	2840975.07	390316.03	2840888.45
5	800	390275.86	2840966.17	390185.84	2841029.39	390337.24	2840923.07
6	850	390307.08	2841005.19	390225.64	2841079.14	390362.60	2840954.77
7	900	390342.91	2841040.01	390271.33	2841123.54	390391.72	2840983.07
8	950	390382.81	2841070.10	390322.20	2841161.89	390424.14	2841007.51
9	1000	390425.75	2841095.69	390386.69	2841165.50	390455.05	2841043.32
10	1050	390469.42	2841120.05	390430.44	2841189.91	390498.65	2841067.65
11	1100	390513.08	2841144.41	390474.10	2841214.27	390537.44	2841100.74
12	1150	390556.74	2841168.77	390517.77	2841238.63	390581.10	2841125.10
13	1200	390600.41	2841193.13	390561.43	2841262.99	390624.77	2841149.46
14	1250	390644.07	2841217.49	390605.10	2841287.35	390668.43	2841173.82
15	1300	390687.74	2841241.85	390648.76	2841311.71	390712.10	2841198.18
16	1350	390731.40	2841266.21	390692.43	2841336.07	390755.76	2841222.54
17	1400	390775.07	2841290.57	390736.09	2841360.43	390799.43	2841246.91
18	1450	390818.22	2841315.81	390775.22	2841383.28	390845.09	2841273.65
19	1500	390858.97	2841344.75	390809.46	2841407.58	390889.92	2841305.47
20	1550	390896.63	2841377.60	390841.09	2841435.18	390931.34	2841341.62
21	1600	390930.82	2841414.05	390869.81	2841465.80	390968.96	2841381.71
22	1650	390961.21	2841453.74	390895.34	2841499.14	391002.38	2841425.36
23	1700	390987.48	2841496.26	390945.43	2841519.41	391031.27	2841472.13
24	1750	391009.65	2841541.06	390966.03	2841561.08	391055.10	2841520.20
25	1800	391030.42	2841586.54	390986.75	2841606.46	391075.91	2841565.79
26	1850	391051.17	2841632.03	391007.50	2841651.95	391096.66	2841611.28
27	1900	391071.92	2841677.52	391028.25	2841697.44	391117.41	2841656.77
28	1950	391092.68	2841723.01	391039.92	2841747.10	391138.17	2841702.27
29	2000	391113.43	2841768.50	391060.67	2841792.59	391158.93	2841747.76
30	2050	391134.18	2841813.99	391066.87	2841844.72	391179.68	2841793.25
31	2100	391154.94	2841859.48	391087.62	2841890.21	391200.43	2841838.74
32	2150	391175.69	2841904.97	391108.37	2841935.70	391221.19	2841884.23
33	2200	391196.44	2841950.46	391129.13	2841981.19	391231.02	2841934.70
34	2250	391217.20	2841995.95	391149.88	2842026.68	391251.78	2841980.19
35	2300	391237.95	2842041.44	391143.34	2842084.62	391272.53	2842025.68
36	2350	391258.70	2842086.93	391164.09	2842130.11	391293.28	2842071.17
37	2400	391279.46	2842132.42	391184.85	2842175.60	391306.76	2842119.98
38	2450	391300.22	2842177.90	391222.08	2842213.83	391327.49	2842165.39
39	2500	391322.46	2842222.67	391247.02	2842263.95	391342.65	2842211.65
40	2550	391348.25	2842265.49	391276.51	2842312.91	391367.45	2842252.82
41	2600	391377.52	2842306.01	391338.25	2842336.96	391395.60	2842291.79

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
42	2650	391410.05	2842343.96	391373.50	2842378.07	391434.93	2842320.78
43	2700	391445.11	2842379.60	391409.81	2842415.01	391469.14	2842355.54
44	2750	391480.51	2842414.92	391397.89	2842497.76	391504.53	2842390.86
45	2800	391515.91	2842450.23	391433.28	2842533.07	391539.93	2842426.17
46	2850	391551.30	2842485.54	391468.68	2842568.38	391575.33	2842461.48
47	2900	391586.70	2842520.86	391531.62	2842576.09	391610.72	2842496.80
48	2950	391622.10	2842556.17	391593.86	2842584.50	391646.12	2842532.11
49	3000	391657.49	2842591.48	391629.25	2842619.81	391681.52	2842567.43
50	3050	391692.89	2842626.80	391664.65	2842655.13	391728.22	2842591.41
51	3100	391728.29	2842662.11	391652.02	2842738.58	391763.61	2842626.73
52	3150	391763.68	2842697.43	391687.42	2842773.89	391782.06	2842679.03
53	3200	391799.08	2842732.74	391722.81	2842809.21	391817.46	2842714.34
54	3250	391834.48	2842768.05	391782.23	2842820.45	391852.85	2842749.66
55	3300	391869.87	2842803.37	391803.50	2842869.92	391896.72	2842776.48
56	3350	391905.27	2842838.68	391809.94	2842934.26	391932.12	2842811.79
57	3400	391940.67	2842873.99	391845.33	2842969.58	391967.52	2842847.10
58	3450	391976.07	2842909.31	391880.73	2843004.89	392002.92	2842882.42
59	3500	392011.46	2842944.62	391958.50	2842997.73	392031.25	2842924.81
60	3550	392046.86	2842979.94	391962.12	2843064.90	392066.65	2842960.12
61	3600	392082.26	2843015.25	391997.51	2843100.21	392102.04	2842995.44
62	3650	392117.65	2843050.56	392065.40	2843102.96	392137.44	2843030.75
63	3700	392153.17	2843085.75	392101.62	2843138.84	392174.09	2843064.24
64	3750	392189.29	2843120.33	392138.20	2843173.87	392210.02	2843098.64
65	3800	392225.45	2843154.86	392193.70	2843188.14	392241.35	2843138.23
66	3850	392261.62	2843189.38	392229.87	2843222.67	392282.35	2843167.70
67	3900	392297.78	2843223.91	392245.31	2843278.89	392318.51	2843202.22
68	3950	392333.95	2843258.44	392281.48	2843313.42	392354.68	2843236.75
69	4000	392370.11	2843292.96	392313.50	2843352.29	392390.84	2843271.28
70	4050	392406.28	2843327.49	392349.67	2843386.81	392431.15	2843301.46
71	4100	392442.44	2843362.02	392385.83	2843421.34	392467.31	2843335.99
72	4150	392478.68	2843396.47	392421.38	2843457.89	392501.89	2843371.62
73	4200	392515.92	2843429.83	392479.45	2843472.32	392538.09	2843404.04
74	4250	392554.52	2843461.60	392519.85	2843505.58	392575.59	2843434.92
75	4300	392594.41	2843491.74	392570.98	2843524.16	392614.35	2843464.21
76	4350	392635.50	2843520.22	392613.28	2843553.48	392652.20	2843495.30
77	4400	392677.11	2843547.96	392650.50	2843587.91	392693.76	2843523.00
78	4450	392718.71	2843575.69	392692.11	2843615.64	392735.36	2843550.73
79	4500	392760.32	2843603.41	392733.71	2843643.37	392773.64	2843583.45
80	4550	392801.93	2843631.14	392783.08	2843659.44	392821.90	2843601.19
81	4600	392843.53	2843658.87	392824.69	2843687.17	392863.51	2843628.92
82	4650	392885.14	2843686.60	392854.10	2843733.21	392908.45	2843651.66
83	4700	392927.03	2843713.90	392897.41	2843761.42	392966.20	2843651.11
84	4750	392970.27	2843738.98	392957.24	2843763.19	392983.33	2843714.78
85	4800	393015.00	2843761.31	393003.50	2843786.29	393026.52	2843736.34

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
86	4850	393061.02	2843780.84	393051.00	2843806.44	393071.08	2843755.24
87	4900	393107.73	2843798.68	393097.99	2843824.40	393120.51	2843765.03
88	4950	393154.48	2843816.42	393144.74	2843842.13	393167.26	2843782.76
89	5000	393201.15	2843834.35	393190.86	2843859.86	393228.13	2843767.60
90	5050	393246.54	2843855.26	393225.81	2843894.07	393280.50	2843791.77
91	5100	393289.05	2843881.52	393263.64	2843917.45	393335.28	2843816.23
92	5150	393327.95	2843912.88	393300.96	2843942.40	393381.96	2843853.86
93	5200	393362.64	2843948.84	393332.18	2843974.77	393426.64	2843894.43
94	5250	393392.58	2843988.85	393278.82	2844063.38	393462.86	2843942.84
95	5300	393417.29	2844032.28	393295.13	2844092.04	393492.76	2843995.39
96	5350	393436.40	2844078.45	393332.34	2844114.09	393470.47	2844066.80
97	5400	393450.16	2844126.50	393343.45	2844153.16	393485.10	2844117.79
98	5450	393462.03	2844175.07	393435.32	2844181.60	393488.76	2844168.57
99	5500	393473.87	2844223.65	393417.53	2844237.40	393501.08	2844217.03
100	5550	393485.71	2844272.23	393429.36	2844285.97	393512.92	2844265.61
101	5600	393498.00	2844320.69	393442.11	2844336.21	393532.69	2844311.08
102	5650	393513.57	2844368.18	393470.62	2844384.67	393547.18	2844355.30
103	5700	393533.78	2844413.89	393492.70	2844434.59	393565.94	2844397.72
104	5750	393558.45	2844457.36	393519.64	2844482.05	393582.09	2844442.35
105	5800	393586.95	2844498.43	393549.90	2844525.68	393609.53	2844481.86
106	5850	393616.73	2844538.60	393579.79	2844566.01	393640.83	2844520.74
107	5900	393646.51	2844578.75	393606.37	2844608.56	393670.62	2844560.89
108	5950	393675.84	2844619.24	393634.83	2844647.85	393700.47	2844602.10
109	6000	393703.64	2844660.80	393661.56	2844687.81	393728.90	2844644.62
110	6050	393729.83	2844703.39	393686.87	2844728.98	393755.61	2844688.07
111	6100	393755.40	2844746.36	393731.77	2844760.44	393779.04	2844732.31
112	6150	393780.97	2844789.33	393669.26	2844855.83	393810.19	2844771.95
113	6200	393806.54	2844832.29	393694.83	2844898.79	393835.76	2844814.92
114	6250	393832.33	2844875.12	393722.25	2844944.27	393861.14	2844857.06
115	6300	393861.00	2844916.06	393759.18	2844996.88	393889.21	2844893.69
116	6350	393894.44	2844953.19	393808.39	2845041.07	393913.35	2844933.91
117	6400	393932.25	2844985.85	393857.83	2845083.78	393948.61	2844964.36
118	6450	393973.84	2845013.55	393900.68	2845139.89	394005.93	2844958.17
119	6500	394018.56	2845035.84	393961.72	2845170.32	394043.50	2844976.90
120	6550	394065.71	2845052.39	394024.72	2845197.72	394102.11	2844923.43
121	6600	394114.41	2845063.66	394084.84	2845211.74	394140.68	2844932.26
122	6650	394163.47	2845073.31	394135.16	2845217.56	394179.28	2844992.85
123	6700	394212.54	2845082.91	394184.97	2845227.31	394227.94	2845002.37
124	6750	394261.93	2845090.58	394246.16	2845236.73	394268.18	2845032.91
125	6800	394311.83	2845093.46	394310.72	2845240.45	394312.29	2845035.46
126	6850	394361.76	2845091.34	394375.34	2845237.71	394356.43	2845033.58
127	6900	394411.23	2845084.25	394435.72	2845209.88	394400.16	2845027.32
128	6950	394459.75	2845072.26	394496.66	2845194.82	394448.82	2845035.86
129	7000	394506.83	2845055.48	394555.79	2845173.74	394492.32	2845020.36

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
130	7050	394552.00	2845034.09	394604.96	2845132.77	394534.05	2845000.59
131	7100	394594.81	2845008.29	394657.35	2845101.20	394573.60	2844976.75
132	7150	394635.14	2844978.75	394654.64	2845004.12	394613.23	2844950.19
133	7200	394674.79	2844948.29	394694.30	2844973.66	394652.87	2844919.73
134	7250	394714.44	2844917.83	394733.95	2844943.19	394696.17	2844894.03
135	7300	394754.09	2844887.37	394773.60	2844912.73	394735.82	2844863.57
136	7350	394793.74	2844856.90	394822.99	2844894.95	394774.86	2844832.31
137	7400	394833.38	2844826.44	394862.64	2844864.49	394814.51	2844801.85
138	7450	394873.03	2844795.98	394894.98	2844824.51	394855.99	2844773.76
139	7500	394912.68	2844765.51	394932.19	2844790.88	394895.64	2844743.30
140	7550	394952.33	2844735.05	394971.84	2844760.41	394935.28	2844712.84
141	7600	394992.22	2844704.91	395010.89	2844730.90	394966.59	2844669.15
142	7650	395034.30	2844677.96	395053.79	2844712.90	395012.90	2844639.52
143	7700	395079.39	2844656.41	395094.36	2844693.50	395062.94	2844615.60
144	7750	395126.80	2844640.65	395138.06	2844683.19	395118.64	2844609.71
145	7800	395175.81	2844630.93	395181.68	2844674.54	395171.58	2844599.21
146	7850	395225.66	2844627.39	395225.90	2844654.89	395225.44	2844599.89
147	7900	395275.55	2844630.09	395272.37	2844657.41	395278.77	2844602.78
148	7950	395324.72	2844638.99	395318.15	2844665.70	395331.32	2844612.30
149	8000	395372.39	2844653.96	395362.55	2844679.64	395382.27	2844628.29
150	8050	395417.83	2844674.75	395404.86	2844699.00	395430.83	2844650.51
151	8100	395460.52	2844700.74	395445.27	2844723.63	395475.79	2844677.87
152	8150	395501.87	2844728.85	395486.39	2844751.57	395517.38	2844706.14
153	8200	395543.18	2844757.02	395527.69	2844779.75	395558.69	2844734.31
154	8250	395584.48	2844785.20	395569.00	2844807.92	395599.99	2844762.49
155	8300	395625.79	2844813.37	395610.31	2844836.10	395641.30	2844790.66
156	8350	395667.09	2844841.55	395651.61	2844864.27	395682.60	2844818.84
157	8400	395708.40	2844869.72	395692.92	2844892.45	395723.91	2844847.01
158	8450	395749.71	2844897.90	395734.22	2844920.62	395765.22	2844875.19
159	8500	395791.01	2844926.07	395775.53	2844948.80	395806.52	2844903.36
160	8550	395832.32	2844954.25	395816.84	2844976.97	395847.83	2844931.54
161	8600	395873.63	2844982.41	395858.21	2845005.18	395889.08	2844959.66
162	8650	395915.42	2845009.86	395900.72	2845033.10	395930.15	2844986.64
163	8700	395958.09	2845035.91	395944.14	2845059.61	395972.07	2845012.23
164	8750	396001.26	2845061.14	395987.42	2845084.90	396015.14	2845037.39
165	8800	396044.45	2845086.34	396030.61	2845110.10	396058.32	2845062.59
166	8850	396087.64	2845111.54	396073.79	2845135.30	396101.51	2845087.79
167	8900	396130.82	2845136.73	396116.98	2845160.49	396144.70	2845112.99
168	8950	396174.01	2845161.93	396160.16	2845185.69	396187.88	2845138.19
169	9000	396217.19	2845187.13	396203.35	2845210.89	396231.07	2845163.39
170	9050	396260.33	2845212.42	396246.27	2845236.05	396274.42	2845188.80
171	9100	396302.96	2845238.54	396288.31	2845261.82	396317.63	2845215.28
172	9150	396344.93	2845265.72	396329.70	2845288.62	396360.18	2845242.84
173	9200	396386.20	2845293.94	396370.41	2845316.45	396402.02	2845271.44

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
174	9250	396426.75	2845323.18	396410.41	2845345.30	396443.13	2845301.09
175	9300	396466.57	2845353.43	396432.15	2845397.60	396497.32	2845314.01
176	9350	396505.61	2845384.66	396470.09	2845427.96	396521.48	2845365.35
177	9400	396543.86	2845416.86	396519.04	2845445.64	396584.39	2845369.95
178	9450	396581.29	2845450.01	396518.11	2845519.61	396606.85	2845421.89
179	9500	396617.96	2845484.00	396553.71	2845552.62	396643.95	2845456.28
180	9550	396654.45	2845518.18	396579.27	2845598.48	396680.44	2845490.46
181	9600	396690.95	2845552.36	396622.60	2845625.36	396716.93	2845524.64
182	9650	396727.44	2845586.54	396650.89	2845668.30	396747.96	2845564.66
183	9700	396763.93	2845620.72	396687.38	2845702.48	396784.45	2845598.84
184	9750	396800.57	2845654.74	396711.71	2845752.35	396820.78	2845632.57
185	9800	396837.92	2845687.98	396778.87	2845755.90	396857.62	2845665.36
186	9850	396876.02	2845720.37	396782.74	2845832.68	396895.20	2845697.30
187	9900	396914.72	2845752.02	396822.55	2845865.24	396933.68	2845728.76
188	9950	396953.49	2845783.59	396852.48	2845907.67	396976.24	2845755.68
189	10000	396992.27	2845815.16	396916.51	2845908.22	397015.01	2845787.25
190	10050	397031.04	2845846.73	396983.15	2845905.74	397053.74	2845818.79
191	10100	397070.71	2845877.14	396982.85	2846003.61	397091.27	2845847.58
192	10150	397113.45	2845903.03	397056.88	2846011.12	397125.52	2845880.01
193	10200	397159.08	2845923.40	397124.12	2846017.09	397168.18	2845899.05
194	10250	397206.89	2845937.92	397197.70	2845976.85	397215.65	2845900.94
195	10300	397256.14	2845946.36	397251.87	2845986.13	397260.22	2845908.58
196	10350	397306.05	2845948.60	397306.56	2845976.10	397305.58	2845921.11
197	10400	397355.86	2845944.60	397359.79	2845971.82	397351.96	2845917.38
198	10450	397404.78	2845934.42	397412.07	2845960.94	397397.52	2845907.90
199	10500	397452.05	2845918.22	397462.59	2845943.62	397436.75	2845881.26
200	10550	397497.30	2845896.99	397509.66	2845921.56	397479.36	2845861.24
201	10600	397541.95	2845874.48	397554.35	2845899.03	397529.59	2845849.92
202	10650	397586.60	2845851.97	397598.99	2845876.52	397574.23	2845827.41
203	10700	397631.25	2845829.47	397643.64	2845854.01	397618.88	2845804.90
204	10750	397675.89	2845806.96	397688.29	2845831.50	397663.53	2845782.39
205	10800	397720.54	2845784.45	397732.93	2845808.99	397708.17	2845759.88
206	10850	397765.12	2845761.80	397785.15	2845799.85	397745.11	2845723.73
207	10900	397808.18	2845736.44	397832.17	2845772.13	397784.21	2845700.74
208	10950	397847.84	2845706.05	397876.09	2845738.46	397819.61	2845673.61
209	11000	397883.40	2845670.94	397915.47	2845699.58	397851.34	2845642.27
210	11050	397914.72	2845631.99	397941.15	2845651.75	397880.30	2845606.22
211	11100	397944.53	2845591.85	397971.04	2845611.50	397910.00	2845566.21
212	11150	397974.32	2845551.69	398000.83	2845571.34	397939.80	2845526.06
213	11200	398004.11	2845511.54	398033.03	2845532.97	397975.21	2845490.07
214	11250	398034.16	2845471.58	398062.69	2845493.53	398005.65	2845449.60
215	11300	398065.17	2845432.35	398094.30	2845455.96	398036.05	2845408.72
216	11350	398097.14	2845393.91	398125.68	2845418.24	398068.62	2845369.56
217	11400	398130.06	2845356.28	398157.99	2845381.32	398102.16	2845331.23

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
218	11450	398163.80	2845319.38	398191.41	2845344.75	398136.21	2845293.98
219	11500	398197.64	2845282.58	398225.26	2845307.95	398170.05	2845257.18
220	11550	398231.49	2845245.77	398259.10	2845271.14	398203.90	2845220.38
221	11600	398265.33	2845208.97	398292.95	2845234.34	398237.74	2845183.57
222	11650	398299.18	2845172.16	398326.79	2845197.54	398271.59	2845146.77
223	11700	398333.02	2845135.36	398360.64	2845160.73	398305.43	2845109.96
224	11750	398366.86	2845098.55	398394.53	2845123.87	398339.22	2845073.21
225	11800	398399.69	2845060.85	398428.80	2845084.50	398370.61	2845037.18
226	11850	398429.83	2845020.97	398460.55	2845042.48	398399.14	2844999.43
227	11900	398457.09	2844979.06	398489.12	2844998.57	398425.08	2844959.53
228	11950	398482.91	2844936.25	398515.04	2844955.58	398450.80	2844916.89
229	12000	398508.71	2844893.42	398540.83	2844912.76	398476.58	2844874.07
230	12050	398534.50	2844850.58	398566.63	2844869.93	398502.38	2844831.24
231	12100	398560.30	2844807.75	398592.42	2844827.10	398528.18	2844788.40
232	12150	398586.10	2844764.92	398618.22	2844784.27	398553.97	2844745.57
233	12200	398611.91	2844722.10	398643.98	2844741.53	398579.83	2844702.66
234	12250	398638.89	2844680.01	398669.65	2844701.47	398608.13	2844658.56
235	12300	398669.50	2844640.50	398697.96	2844664.92	398641.03	2844616.09
236	12350	398703.89	2844604.24	398734.95	2844636.80	398672.83	2844571.68
237	12400	398741.74	2844571.60	398769.39	2844607.10	398714.08	2844536.10
238	12450	398782.49	2844542.65	398807.35	2844580.16	398757.63	2844505.14
239	12500	398824.36	2844515.32	398848.91	2844553.04	398799.81	2844477.61
240	12550	398866.27	2844488.05	398890.81	2844525.76	398841.72	2844450.33
241	12600	398908.17	2844460.77	398932.72	2844498.49	398883.63	2844423.06
242	12650	398950.08	2844433.50	398974.63	2844471.21	398925.53	2844395.78
243	12700	398991.99	2844406.23	399016.53	2844443.94	398967.44	2844368.51
244	12750	399033.89	2844378.95	399058.44	2844416.67	399009.34	2844341.23
245	12800	399075.80	2844351.68	399100.34	2844389.39	399051.25	2844313.96
246	12850	399117.70	2844324.40	399142.25	2844362.12	399093.16	2844286.69
247	12900	399159.61	2844297.13	399184.16	2844334.84	399135.06	2844259.41
248	12950	399201.52	2844269.85	399226.06	2844307.57	399176.97	2844232.14
249	13000	399243.42	2844242.58	399267.97	2844280.30	399218.88	2844204.86
250	13050	399285.33	2844215.31	399300.33	2844238.35	399270.33	2844192.26
251	13100	399327.23	2844188.03	399342.24	2844211.08	399312.23	2844164.98
252	13150	399369.14	2844160.76	399384.12	2844183.82	399354.16	2844137.70
253	13200	399411.67	2844134.48	399425.25	2844158.39	399398.09	2844110.57
254	13250	399456.44	2844112.28	399471.41	2844147.21	399442.66	2844080.11
255	13300	399503.26	2844094.76	399515.41	2844130.77	399492.07	2844061.60
256	13350	399550.72	2844079.04	399562.65	2844115.12	399539.74	2844045.80
257	13400	399598.19	2844063.35	399608.86	2844095.63	399588.78	2844034.86
258	13450	399645.67	2844047.66	399656.34	2844079.94	399636.25	2844019.17
259	13500	399693.14	2844031.96	399702.24	2844059.50	399683.73	2844003.48
260	13550	399740.62	2844016.27	399749.72	2844043.81	399732.77	2843992.54
261	13600	399788.09	2844000.58	399795.31	2844022.42	399780.25	2843976.85

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
262	13650	399835.57	2843984.89	399842.78	2844006.73	399828.66	2843964.00
263	13700	399883.04	2843969.20	399890.26	2843991.04	399876.14	2843948.31
264	13750	399930.51	2843953.51	399937.73	2843975.35	399920.47	2843923.13
265	13800	399977.99	2843937.82	399985.21	2843959.66	399967.95	2843907.44
266	13850	400025.46	2843922.13	400032.69	2843943.96	400017.30	2843897.44
267	13900	400072.62	2843905.53	400083.39	2843933.53	400063.29	2843881.26
268	13950	400118.70	2843886.14	400136.19	2843924.33	400105.37	2843857.05
269	14000	400163.48	2843863.91	400183.32	2843900.93	400142.69	2843825.13
270	14050	400206.78	2843838.93	400233.11	2843881.44	400174.13	2843786.22
271	14100	400248.44	2843811.29	400270.42	2843842.28	400220.08	2843771.33
272	14150	400288.29	2843781.10	400312.17	2843810.66	400257.49	2843742.99
273	14200	400326.17	2843748.49	400343.07	2843766.92	400293.06	2843712.37
274	14250	400361.95	2843713.57	400379.96	2843730.91	400343.93	2843696.23
275	14300	400395.47	2843676.48	400414.53	2843692.66	400376.41	2843660.31
276	14350	400426.61	2843637.38	400449.05	2843654.13	400406.58	2843622.42
277	14400	400455.25	2843596.40	400478.69	2843611.72	400434.32	2843582.73
278	14450	400481.28	2843553.72	400505.63	2843567.54	400459.54	2843541.38
279	14500	400504.58	2843509.49	400529.75	2843521.76	400482.11	2843498.53
280	14550	400525.08	2843463.90	400550.97	2843474.57	400501.97	2843454.36
281	14600	400542.69	2843417.11	400569.19	2843426.15	400519.03	2843409.04
282	14650	400557.35	2843369.31	400586.29	2843377.21	400528.41	2843361.42
283	14700	400568.99	2843320.70	400598.37	2843326.77	400539.61	2843314.62
284	14750	400577.57	2843271.45	400607.27	2843275.67	400547.87	2843267.22
285	14800	400583.06	2843221.76	400612.97	2843224.12	400553.15	2843219.40
286	14850	400586.00	2843171.84	400615.96	2843173.42	400559.04	2843170.43
287	14900	400588.63	2843121.91	400615.59	2843123.33	400561.66	2843120.50
288	14950	400591.25	2843071.98	400618.21	2843073.40	400564.29	2843070.57
289	15000	400593.87	2843022.05	400620.84	2843023.47	400566.91	2843020.63
290	15050	400596.50	2842972.12	400629.45	2842973.85	400569.53	2842970.70
291	15100	400599.12	2842922.19	400632.07	2842923.92	400565.17	2842920.40
292	15150	400601.74	2842872.26	400634.70	2842873.99	400567.79	2842870.47
293	15200	400604.37	2842822.33	400642.31	2842824.32	400574.41	2842820.75
294	15250	400606.99	2842772.40	400644.94	2842774.39	400577.03	2842770.82
295	15300	400609.61	2842722.46	400638.57	2842723.98	400579.65	2842720.89
296	15350	400612.23	2842672.53	400641.19	2842674.05	400582.28	2842670.96
297	15400	400614.68	2842622.59	400643.66	2842623.70	400577.70	2842621.18
298	15450	400615.75	2842572.61	400654.75	2842572.79	400578.75	2842572.43
299	15500	400615.15	2842522.61	400654.13	2842521.50	400578.16	2842523.67
300	15550	400612.89	2842472.67	400651.81	2842470.25	400575.96	2842474.96
301	15600	400608.96	2842422.82	400647.78	2842419.11	400572.13	2842426.34
302	15650	400603.38	2842373.14	400642.05	2842368.14	400566.68	2842377.88
303	15700	400596.14	2842323.67	400634.63	2842317.38	400559.62	2842329.63
304	15750	400587.25	2842274.46	400625.51	2842266.90	400550.96	2842281.64
305	15800	400576.74	2842225.59	400614.72	2842216.75	400540.70	2842233.97

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
306	15850	400564.60	2842177.08	400586.81	2842171.13	400543.35	2842182.78
307	15900	400550.85	2842129.01	400572.85	2842122.32	400529.80	2842135.42
308	15950	400535.50	2842081.43	400557.27	2842074.01	400514.68	2842088.53
309	16000	400518.58	2842034.38	400540.09	2842026.24	400498.01	2842042.17
310	16050	400500.10	2841987.93	400525.94	2841977.14	400475.18	2841998.32
311	16100	400480.49	2841941.93	400506.22	2841930.90	400455.67	2841952.57
312	16150	400460.79	2841895.98	400486.53	2841884.94	400435.97	2841906.61
313	16200	400441.09	2841850.02	400466.82	2841838.97	400416.27	2841860.64
314	16250	400421.39	2841804.06	400447.12	2841793.02	400396.57	2841814.69
315	16300	400401.69	2841758.11	400427.42	2841747.06	400379.63	2841767.55
316	16350	400382.00	2841712.15	400407.72	2841701.11	400359.93	2841721.59
317	16400	400362.30	2841666.20	400388.03	2841655.15	400335.64	2841677.61
318	16450	400342.60	2841620.24	400368.33	2841609.19	400315.94	2841631.65
319	16500	400322.90	2841574.28	400348.63	2841563.24	400299.91	2841584.12
320	16550	400303.20	2841528.33	400328.93	2841517.28	400280.22	2841538.16
321	16600	400283.50	2841482.37	400307.39	2841472.11	400260.52	2841492.21
322	16650	400263.80	2841436.42	400284.94	2841427.34	400242.66	2841445.46
323	16700	400244.10	2841390.46	400265.24	2841381.38	400222.96	2841399.51
324	16750	400224.41	2841344.50	400245.54	2841335.43	400203.26	2841353.55
325	16800	400204.71	2841298.55	400232.27	2841286.71	400177.13	2841310.35
326	16850	400185.01	2841252.59	400212.58	2841240.76	400157.43	2841264.39
327	16900	400165.31	2841206.64	400203.91	2841190.07	400126.70	2841223.17
328	16950	400145.61	2841160.68	400184.21	2841144.12	400107.00	2841177.21
329	17000	400125.91	2841114.72	400164.51	2841098.16	400087.30	2841131.25
330	17050	400105.89	2841068.91	400137.92	2841054.81	400067.43	2841085.80
331	17100	400085.76	2841023.14	400117.80	2841009.03	400040.90	2841042.84
332	17150	400065.64	2840977.37	400097.67	2840963.26	400020.78	2840997.07
333	17200	400045.51	2840931.60	400088.53	2840912.66	400000.65	2840951.30
334	17250	400025.39	2840885.82	400068.41	2840866.89	399980.53	2840905.53
335	17300	400005.26	2840840.05	400048.28	2840821.12	399960.40	2840859.76
336	17350	399985.14	2840794.28	400019.00	2840779.37	399940.28	2840813.99
337	17400	399965.01	2840748.51	399998.88	2840733.60	399920.15	2840768.22
338	17450	399944.89	2840702.74	399978.75	2840687.83	399920.17	2840713.59
339	17500	399924.76	2840656.97	400016.30	2840616.70	399900.04	2840667.82
340	17550	399904.64	2840611.20	399996.18	2840570.93	399879.92	2840622.05
341	17600	399884.51	2840565.43	399976.05	2840525.16	399859.79	2840576.28
342	17650	399864.39	2840519.66	399948.60	2840482.61	399833.26	2840533.32
343	17700	399844.27	2840473.88	399928.48	2840436.84	399813.13	2840487.55
344	17750	399824.14	2840428.11	399875.40	2840405.56	399793.01	2840441.78
345	17800	399804.02	2840382.34	399855.27	2840359.79	399780.21	2840392.79
346	17850	399783.89	2840336.57	399817.76	2840321.66	399745.44	2840353.46
347	17900	399763.77	2840290.80	399797.63	2840275.89	399725.31	2840307.69
348	17950	399743.64	2840245.03	399764.69	2840235.75	399705.19	2840261.92
349	18000	399722.93	2840199.52	399743.67	2840189.58	399692.25	2840214.18

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
350	18050	399700.42	2840154.88	399725.14	2840141.74	399670.38	2840170.80
351	18100	399676.07	2840111.22	399700.22	2840097.06	399646.72	2840128.38
352	18150	399649.92	2840068.60	399673.46	2840053.45	399624.67	2840084.81
353	18200	399622.14	2840027.03	399719.59	2839960.49	399597.35	2840043.93
354	18250	399593.95	2839985.74	399691.40	2839919.20	399569.16	2840002.63
355	18300	399565.76	2839944.44	399663.21	2839877.90	399521.98	2839974.30
356	18350	399537.58	2839903.14	399651.55	2839825.33	399493.79	2839933.01
357	18400	399509.39	2839861.84	399623.36	2839784.03	399465.60	2839891.71
358	18450	399481.20	2839820.55	399571.22	2839759.08	399440.72	2839848.16
359	18500	399453.67	2839778.82	399546.69	2839722.00	399411.84	2839804.34
360	18550	399430.14	2839734.73	399529.31	2839689.49	399385.55	2839755.05
361	18600	399412.29	2839688.06	399496.28	2839661.80	399365.51	2839702.66
362	18650	399400.39	2839639.53	399487.00	2839623.95	399337.40	2839650.84
363	18700	399394.63	2839589.90	399450.56	2839586.92	399330.72	2839593.27
364	18750	399395.11	2839539.93	399450.97	2839543.95	399331.28	2839535.31
365	18800	399401.80	2839490.42	399456.75	2839501.21	399339.01	2839478.05
366	18850	399412.89	2839441.67	399438.17	2839447.76	399389.57	2839436.01
367	18900	399424.65	2839393.07	399449.92	2839399.16	399401.32	2839387.41
368	18950	399436.40	2839344.47	399488.89	2839357.15	399413.08	2839338.81
369	19000	399448.16	2839295.87	399500.65	2839308.55	399418.03	2839288.57
370	19050	399459.91	2839247.27	399494.91	2839255.72	399429.79	2839239.97
371	19100	399471.67	2839198.67	399506.66	2839207.12	399426.96	2839187.84
372	19150	399483.43	2839150.08	399557.30	2839167.93	399461.07	2839144.65
373	19200	399495.18	2839101.48	399569.05	2839119.33	399472.83	2839096.05
374	19250	399506.94	2839052.88	399539.02	2839060.62	399459.31	2839041.34
375	19300	399518.69	2839004.28	399550.77	2839012.02	399471.07	2838992.74
376	19350	399530.45	2838955.68	399562.53	2838963.42	399482.83	2838944.14
377	19400	399542.20	2838907.08	399602.47	2838921.64	399516.94	2838900.95
378	19450	399553.96	2838858.48	399614.23	2838873.05	399528.69	2838852.36
379	19500	399566.33	2838810.04	399592.85	2838817.32	399539.82	2838802.73
380	19550	399580.51	2838762.10	399606.73	2838770.39	399554.30	2838753.77
381	19600	399596.53	2838714.74	399622.41	2838724.03	399570.66	2838705.41
382	19650	399614.36	2838668.03	399639.87	2838678.31	399588.87	2838657.71
383	19700	399633.97	2838622.04	399659.06	2838633.29	399608.90	2838610.75
384	19750	399655.07	2838576.71	399679.97	2838588.39	399630.19	2838564.99
385	19800	399676.35	2838531.46	399701.24	2838543.14	399651.47	2838519.74
386	19850	399697.62	2838486.21	399751.02	2838511.30	399670.48	2838473.43
387	19900	399718.89	2838440.96	399772.29	2838466.05	399691.75	2838428.18
388	19950	399740.16	2838395.71	399765.06	2838407.40	399715.29	2838384.00
389	20000	399761.44	2838350.46	399786.33	2838362.15	399736.56	2838338.75
390	20050	399782.71	2838305.22	399807.60	2838316.90	399757.83	2838293.50
391	20100	399803.98	2838259.97	399842.00	2838277.82	399764.17	2838241.23
392	20150	399825.26	2838214.72	399863.27	2838232.57	399785.44	2838195.98
393	20200	399846.53	2838169.47	399884.54	2838187.32	399806.72	2838150.73

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
394	20250	399867.80	2838124.22	399905.82	2838142.07	399831.61	2838107.19
395	20300	399889.07	2838078.97	399927.09	2838096.82	399852.88	2838061.94
396	20350	399910.35	2838033.72	399948.36	2838051.58	399874.15	2838016.69
397	20400	399931.62	2837988.47	399956.51	2838000.16	399906.74	2837976.76
398	20450	399952.89	2837943.22	399977.79	2837954.91	399928.01	2837931.51
399	20500	399974.17	2837897.97	399999.06	2837909.66	399949.29	2837886.26
400	20550	399995.44	2837852.73	400020.33	2837864.41	399970.56	2837841.01
401	20600	400016.71	2837807.48	400041.60	2837819.16	399991.83	2837795.76
402	20650	400037.98	2837762.23	400062.88	2837773.91	400013.10	2837750.51
403	20700	400059.26	2837716.98	400084.15	2837728.66	400034.38	2837705.26
404	20750	400080.53	2837671.73	400105.42	2837683.41	400055.65	2837660.01
405	20800	400101.80	2837626.48	400126.70	2837638.17	400076.92	2837614.77
406	20850	400123.07	2837581.23	400147.97	2837592.92	400098.19	2837569.52
407	20900	400144.35	2837535.98	400169.24	2837547.67	400119.47	2837524.27
408	20950	400165.62	2837490.73	400190.51	2837502.42	400140.74	2837479.02
409	21000	400186.89	2837445.48	400222.19	2837462.06	400145.27	2837425.90
410	21050	400207.93	2837400.13	400243.57	2837415.98	400133.03	2837366.76
411	21100	400227.31	2837354.04	400258.93	2837366.55	400151.09	2837323.82
412	21150	400244.76	2837307.19	400276.87	2837318.37	400167.34	2837280.17
413	21200	400260.24	2837259.65	400287.04	2837267.74	400208.56	2837243.99
414	21250	400273.72	2837211.50	400300.84	2837218.47	400229.18	2837200.01
415	21300	400285.36	2837162.88	400312.64	2837169.19	400240.56	2837152.46
416	21350	400296.67	2837114.17	400323.95	2837120.49	400251.86	2837103.76
417	21400	400307.97	2837065.47	400334.76	2837071.67	400281.19	2837059.23
418	21450	400319.27	2837016.76	400352.40	2837024.44	400280.32	2837007.70
419	21500	400331.59	2836968.31	400364.21	2836977.92	400293.23	2836956.97
420	21550	400348.66	2836921.35	400379.83	2836934.92	400312.00	2836905.35
421	21600	400371.44	2836876.88	400393.80	2836890.14	400337.06	2836856.43
422	21650	400399.59	2836835.60	400420.13	2836851.55	400368.03	2836811.03
423	21700	400432.67	2836798.15	400451.06	2836816.53	400415.02	2836780.45
424	21750	400470.16	2836765.11	400486.11	2836785.65	400454.85	2836745.35
425	21800	400511.48	2836737.01	400524.74	2836759.37	400496.20	2836711.19
426	21850	400555.98	2836714.28	400566.35	2836738.12	400544.04	2836686.76
427	21900	400602.96	2836697.27	400610.28	2836722.22	400594.55	2836668.48
428	21950	400651.70	2836686.25	400655.85	2836711.92	400646.94	2836656.63
429	22000	400701.43	2836681.40	400702.35	2836707.38	400700.40	2836651.42
430	22050	400751.38	2836682.78	400748.33	2836716.65	400757.25	2836618.05
431	22100	400800.89	2836689.65	400795.22	2836723.17	400811.77	2836625.56
432	22150	400850.16	2836698.15	400844.38	2836731.66	400870.28	2836581.88
433	22200	400899.43	2836706.67	400893.14	2836743.13	400919.55	2836590.40
434	22250	400948.73	2836714.99	400943.16	2836751.57	400968.08	2836588.46
435	22300	400998.36	2836721.00	400995.09	2836757.85	401009.77	2836593.50
436	22350	401048.27	2836723.89	401047.30	2836760.87	401050.89	2836625.92
437	22400	401098.26	2836723.65	401099.39	2836754.63	401094.76	2836625.71

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
438	22450	401148.14	2836720.30	401151.20	2836751.15	401139.81	2836635.71
439	22500	401197.71	2836713.83	401202.70	2836744.43	401184.11	2836629.93
440	22550	401246.80	2836704.37	401253.35	2836734.67	401228.92	2836621.28
441	22600	401295.67	2836693.80	401306.69	2836744.62	401279.62	2836619.52
442	22650	401344.54	2836683.23	401355.55	2836734.05	401338.22	2836653.91
443	22700	401393.41	2836672.66	401404.42	2836723.48	401387.09	2836643.33
444	22750	401442.28	2836662.09	401449.49	2836695.31	401435.96	2836632.76
445	22800	401491.15	2836651.52	401498.36	2836684.74	401483.98	2836618.28
446	22850	401540.02	2836640.94	401545.75	2836667.33	401532.85	2836607.71
447	22900	401588.89	2836630.37	401594.62	2836656.76	401581.72	2836597.14
448	22950	401637.76	2836619.80	401646.66	2836660.85	401630.59	2836586.56
449	23000	401686.63	2836609.23	401695.53	2836650.27	401677.77	2836568.17
450	23050	401735.50	2836598.66	401744.40	2836639.70	401726.64	2836557.60
451	23100	401784.37	2836588.08	401793.27	2836629.13	401775.51	2836547.03
452	23150	401833.22	2836577.44	401839.44	2836604.74	401826.37	2836547.21
453	23200	401881.52	2836564.56	401889.86	2836591.28	401872.32	2836534.95
454	23250	401928.58	2836547.72	401944.39	2836586.63	401916.95	2836518.98
455	23300	401974.47	2836527.87	401991.44	2836566.29	401961.98	2836499.50
456	23350	402020.22	2836507.69	402035.97	2836543.37	402011.36	2836487.56
457	23400	402065.97	2836487.52	402081.72	2836523.19	402057.11	2836467.38
458	23450	402111.72	2836467.34	402127.47	2836503.02	402099.63	2836439.89
459	23500	402157.47	2836447.17	402168.78	2836472.78	402145.38	2836419.71
460	23550	402203.22	2836426.99	402214.53	2836452.60	402191.13	2836399.54
461	23600	402248.97	2836406.82	402264.72	2836442.49	402229.21	2836361.98
462	23650	402294.72	2836386.64	402310.47	2836422.32	402274.96	2836341.80
463	23700	402340.47	2836366.47	402356.22	2836402.14	402314.25	2836306.99
464	23750	402385.98	2836345.78	402403.18	2836380.79	402357.37	2836287.42
465	23800	402429.73	2836321.61	402442.39	2836342.00	402395.50	2836266.35
466	23850	402470.84	2836293.19	402485.47	2836312.22	402440.40	2836253.53
467	23900	402508.91	2836260.81	402525.37	2836278.28	402474.67	2836224.38
468	23950	402543.56	2836224.79	402573.75	2836251.03	402505.85	2836191.96
469	24000	402574.44	2836185.49	402607.10	2836208.59	402523.03	2836149.08
470	24050	402601.37	2836143.39	402626.35	2836158.12	402547.14	2836111.34
471	24100	402626.52	2836100.17	402651.60	2836114.72	402572.04	2836068.52
472	24150	402651.63	2836056.93	402676.71	2836071.48	402597.15	2836025.28
473	24200	402676.73	2836013.69	402701.82	2836028.24	402652.53	2835999.62
474	24250	402701.84	2835970.45	402726.93	2835985.00	402677.64	2835956.38
475	24300	402726.95	2835927.22	402752.03	2835941.78	402702.76	2835913.12
476	24350	402753.07	2835884.59	402783.08	2835904.48	402728.08	2835867.99
477	24400	402782.42	2835844.13	402810.67	2835866.45	402758.90	2835825.50
478	24450	402815.04	2835806.25	402838.41	2835828.11	402793.15	2835785.73
479	24500	402850.69	2835771.22	402872.16	2835794.95	402830.59	2835748.95
480	24550	402889.14	2835739.28	402908.56	2835764.71	402845.49	2835682.02
481	24600	402930.11	2835710.65	402947.35	2835737.61	402891.38	2835649.95

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
482	24650	402973.33	2835685.52	402988.26	2835713.83	402939.78	2835621.82
483	24700	403018.29	2835663.66	403028.44	2835685.41	403003.10	2835631.02
484	24750	403063.61	2835642.54	403073.76	2835664.28	403048.42	2835609.90
485	24800	403108.93	2835621.42	403125.42	2835656.76	403093.73	2835588.78
486	24850	403154.25	2835600.29	403170.74	2835635.64	403139.05	2835567.66
487	24900	403199.57	2835579.17	403216.06	2835614.51	403184.37	2835546.53
488	24950	403244.89	2835558.05	403261.38	2835593.39	403229.69	2835525.41
489	25000	403290.21	2835536.93	403306.70	2835572.27	403267.41	2835487.97
490	25050	403335.52	2835515.80	403346.52	2835539.36	403312.73	2835466.85
491	25100	403380.84	2835494.68	403391.83	2835518.25	403350.43	2835429.42
492	25150	403426.16	2835473.56	403448.13	2835520.69	403395.75	2835408.30
493	25200	403471.48	2835452.44	403493.45	2835499.57	403441.07	2835387.18
494	25250	403516.80	2835431.32	403538.77	2835478.45	403475.40	2835342.49
495	25300	403562.12	2835410.19	403584.09	2835457.33	403520.72	2835321.37
496	25350	403607.44	2835389.07	403629.41	2835436.20	403566.04	2835300.24
497	25400	403652.76	2835367.95	403674.73	2835415.08	403609.25	2835274.59
498	25450	403698.10	2835346.87	403719.74	2835394.15	403655.23	2835253.22
499	25500	403743.82	2835326.63	403764.27	2835374.44	403703.30	2835231.93
500	25550	403790.03	2835307.54	403809.28	2835355.84	403751.15	2835210.00
501	25600	403836.59	2835289.31	403855.49	2835337.75	403798.42	2835191.50
502	25650	403883.17	2835271.14	403902.07	2835319.58	403856.63	2835203.13
503	25700	403929.75	2835252.96	403963.19	2835338.66	403903.21	2835184.95
504	25750	403976.33	2835234.78	404009.77	2835320.49	403949.79	2835166.78
505	25800	404022.91	2835216.61	404056.35	2835302.31	403996.37	2835148.60
506	25850	404069.48	2835198.43	404102.93	2835284.14	404042.95	2835130.42
507	25900	404116.06	2835180.25	404137.88	2835236.15	404089.53	2835112.25
508	25950	404162.64	2835162.08	404184.46	2835217.97	404136.11	2835094.07
509	26000	404209.28	2835144.05	404230.95	2835202.14	404183.77	2835075.66
510	26050	404256.76	2835128.44	404273.32	2835188.19	404237.27	2835058.10
511	26100	404305.54	2835117.52	404316.05	2835178.62	404293.16	2835045.58
512	26150	404355.15	2835111.52	404359.51	2835173.37	404350.03	2835038.70
513	26200	404405.12	2835110.51	404403.64	2835160.49	404407.29	2835037.54
514	26250	404454.96	2835114.32	404449.25	2835163.99	404463.30	2835041.80
515	26300	404504.57	2835120.55	404498.85	2835165.18	404515.26	2835037.23
516	26350	404554.16	2835126.91	404548.44	2835171.55	404564.86	2835043.60
517	26400	404603.76	2835133.28	404598.03	2835177.91	404614.45	2835049.96
518	26450	404653.35	2835139.64	404647.63	2835184.27	404664.04	2835056.32
519	26500	404702.97	2835145.77	404698.23	2835190.52	404711.84	2835062.24
520	26550	404752.87	2835148.43	404753.20	2835193.42	404752.26	2835064.43
521	26600	404802.72	2835144.94	404808.66	2835189.55	404791.64	2835061.67
522	26650	404851.74	2835135.27	404868.03	2835197.16	404830.37	2835054.03
523	26700	404899.18	2835119.56	404923.05	2835178.94	404867.84	2835041.62
524	26750	404944.28	2835098.06	404975.38	2835153.99	404903.47	2835024.64
525	26800	404986.35	2835071.10	405024.18	2835122.72	404936.71	2835003.34

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
526	26850	405024.74	2835039.11	405068.70	2835085.61	404962.91	2834973.71
527	26900	405058.83	2835002.58	405109.80	2835044.51	404989.33	2834945.40
528	26950	405088.11	2834962.09	405143.90	2834997.34	405012.02	2834914.02
529	27000	405112.14	2834918.27	405190.68	2834955.69	405030.88	2834879.57
530	27050	405132.52	2834872.62	405212.26	2834907.42	405050.04	2834836.63
531	27100	405152.52	2834826.80	405232.26	2834861.59	405070.03	2834790.80
532	27150	405172.52	2834780.97	405270.59	2834823.76	405083.62	2834742.17
533	27200	405192.52	2834735.14	405290.59	2834777.94	405103.61	2834696.35
534	27250	405212.51	2834689.32	405301.42	2834728.11	405140.11	2834657.72
535	27300	405232.51	2834643.49	405321.42	2834682.28	405160.11	2834611.89
536	27350	405252.51	2834597.66	405341.41	2834636.46	405180.10	2834566.06
537	27400	405272.64	2834551.89	405329.12	2834577.48	405219.81	2834527.96
538	27450	405294.03	2834506.70	405349.62	2834534.15	405242.02	2834481.02
539	27500	405316.91	2834462.25	405371.55	2834491.53	405265.79	2834434.85
540	27550	405341.26	2834418.58	405394.90	2834449.67	405291.08	2834389.49
541	27600	405367.05	2834375.75	405419.62	2834408.61	405317.87	2834345.00
542	27650	405394.25	2834333.80	405442.38	2834366.16	405346.13	2834301.43
543	27700	405422.83	2834292.77	405470.01	2834326.50	405375.65	2834259.04
544	27750	405451.91	2834252.10	405499.10	2834285.82	405404.74	2834218.35
545	27800	405480.99	2834211.43	405528.18	2834245.15	405433.82	2834177.68
546	27850	405510.07	2834170.75	405557.26	2834204.47	405462.90	2834137.00
547	27900	405539.15	2834130.08	405586.34	2834163.80	405491.98	2834096.33
548	27950	405568.24	2834089.41	405592.65	2834106.84	405548.72	2834075.43
549	28000	405597.32	2834048.73	405621.73	2834066.17	405577.80	2834034.76
550	28050	405626.40	2834008.06	405649.18	2834024.33	405603.63	2833991.76
551	28100	405655.48	2833967.39	405678.27	2833983.66	405632.71	2833951.09
552	28150	405684.56	2833926.72	405717.11	2833949.97	405661.79	2833910.42
553	28200	405713.67	2833886.06	405746.07	2833909.52	405691.01	2833869.62
554	28250	405744.47	2833846.70	405761.05	2833861.15	405714.35	2833820.38
555	28300	405779.61	2833811.18	405794.27	2833827.59	405753.01	2833781.31
556	28350	405818.91	2833780.32	405843.89	2833816.55	405797.37	2833749.02
557	28400	405861.75	2833754.60	405882.01	2833793.66	405844.28	2833720.86
558	28450	405907.34	2833734.12	405923.76	2833774.94	405896.17	2833706.27
559	28500	405953.89	2833715.86	405969.92	2833756.84	405942.99	2833687.92
560	28550	406000.46	2833697.66	406013.58	2833731.19	405989.56	2833669.72
561	28600	406047.03	2833679.47	406060.15	2833712.99	406027.39	2833629.16
562	28650	406093.60	2833661.27	406108.91	2833700.38	406073.96	2833610.96
563	28700	406140.17	2833643.07	406155.48	2833682.18	406120.53	2833592.77
564	28750	406186.74	2833624.87	406202.05	2833663.98	406174.38	2833593.19
565	28800	406233.33	2833606.71	406248.34	2833645.93	406221.20	2833574.94
566	28850	406280.63	2833590.56	406291.22	2833627.05	406271.18	2833557.89
567	28900	406329.27	2833579.06	406336.17	2833616.43	406323.13	2833545.62
568	28950	406378.81	2833572.48	406381.94	2833610.35	406376.04	2833538.59
569	29000	406428.77	2833570.88	406428.10	2833608.87	406429.68	2833520.89

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
570	29050	406478.65	2833574.04	406475.04	2833611.87	406483.45	2833524.27
571	29100	406528.41	2833579.01	406525.43	2833608.86	406532.41	2833539.21
572	29150	406578.16	2833584.00	406575.18	2833613.85	406582.16	2833544.20
573	29200	406627.91	2833588.98	406624.93	2833618.83	406632.71	2833541.22
574	29250	406677.66	2833593.97	406673.98	2833630.79	406682.46	2833546.21
575	29300	406727.41	2833598.96	406723.73	2833635.77	406731.22	2833561.15
576	29350	406777.16	2833603.95	406774.38	2833631.81	406780.97	2833566.14
577	29400	406826.91	2833608.92	406824.19	2833636.79	406829.66	2833581.06
578	29450	406876.79	2833612.24	406876.18	2833648.24	406877.29	2833584.25
579	29500	406926.70	2833609.99	406930.59	2833645.77	406923.71	2833582.15
580	29550	406975.95	2833601.52	406986.11	2833644.33	406964.43	2833552.87
581	29600	407023.75	2833586.99	407039.18	2833628.19	407006.26	2833540.14
582	29650	407069.37	2833566.60	407089.83	2833605.56	407046.16	2833522.32
583	29700	407112.73	2833541.71	407135.41	2833579.41	407079.77	2833486.85
584	29750	407155.58	2833515.94	407178.26	2833553.64	407122.62	2833461.08
585	29800	407198.43	2833490.18	407221.12	2833527.88	407173.20	2833448.18
586	29850	407241.28	2833464.42	407257.79	2833491.83	407216.05	2833422.41
587	29900	407284.13	2833438.66	407300.64	2833466.07	407270.24	2833415.51
588	29950	407326.99	2833412.89	407343.49	2833440.31	407313.09	2833389.74
589	30000	407369.84	2833387.13	407388.92	2833418.83	407349.76	2833353.70
590	30050	407412.78	2833361.52	407431.44	2833393.47	407393.14	2833327.82
591	30100	407456.28	2833336.87	407469.55	2833360.95	407443.04	2833312.77
592	30150	407500.38	2833313.31	407513.05	2833337.72	407487.74	2833288.89
593	30200	407545.06	2833290.87	407557.11	2833315.58	407533.04	2833266.13
594	30250	407590.28	2833269.54	407601.71	2833294.56	407578.88	2833244.52
595	30300	407635.89	2833249.05	407647.16	2833274.13	407624.65	2833223.95
596	30350	407681.51	2833228.59	407692.78	2833253.68	407670.28	2833203.49
597	30400	407727.14	2833208.13	407738.40	2833233.22	407715.90	2833183.03
598	30450	407772.76	2833187.67	407784.03	2833212.76	407761.52	2833162.57
599	30500	407818.38	2833167.22	407829.65	2833192.30	407807.15	2833142.12
600	30550	407864.01	2833146.76	407875.27	2833171.85	407852.77	2833121.66
601	30600	407909.63	2833126.30	407920.90	2833151.39	407898.39	2833101.20
602	30650	407955.25	2833105.84	407966.52	2833130.93	407944.02	2833080.74
603	30700	408000.88	2833085.39	408012.14	2833110.47	407989.64	2833060.29
604	30750	408046.50	2833064.93	408061.65	2833098.68	408031.78	2833032.07
605	30800	408092.12	2833044.47	408107.28	2833078.23	408077.41	2833011.62
606	30850	408137.75	2833024.01	408154.13	2833060.51	408120.17	2832984.77
607	30900	408183.37	2833003.56	408199.75	2833040.05	408165.79	2832964.31
608	30950	408228.99	2832983.10	408245.37	2833019.59	408211.41	2832943.86
609	31000	408274.62	2832962.64	408285.88	2832987.73	408263.38	2832937.54
610	31050	408320.24	2832942.18	408331.51	2832967.27	408309.00	2832917.08
611	31100	408365.86	2832921.73	408377.13	2832946.81	408354.63	2832896.63
612	31150	408411.49	2832901.27	408422.75	2832926.36	408400.25	2832876.17
613	31200	408457.11	2832880.81	408468.38	2832905.90	408445.87	2832855.71

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
614	31250	408502.77	2832860.43	408513.76	2832885.64	408491.80	2832835.21
615	31300	408548.93	2832841.23	408559.08	2832866.79	408538.81	2832815.66
616	31350	408595.71	2832823.58	408605.00	2832849.47	408586.45	2832797.69
617	31400	408643.05	2832807.50	408651.48	2832833.68	408634.66	2832781.31
618	31450	408690.90	2832793.01	408698.45	2832819.45	408683.39	2832766.55
619	31500	408739.21	2832780.12	408745.87	2832806.80	408732.58	2832753.43
620	31550	408787.92	2832768.84	408794.21	2832798.17	408776.22	2832714.08
621	31600	408836.92	2832758.91	408842.82	2832788.32	408825.97	2832703.99
622	31650	408885.95	2832749.11	408891.85	2832778.53	408870.10	2832669.68
623	31700	408934.98	2832739.31	408940.88	2832768.73	408919.13	2832659.88
624	31750	408984.01	2832729.52	408991.08	2832764.81	408968.16	2832650.08
625	31800	409033.04	2832719.72	409040.11	2832755.02	409019.93	2832654.01
626	31850	409082.21	2832710.63	409086.90	2832740.26	409071.78	2832644.45
627	31900	409131.80	2832704.27	409135.02	2832734.10	409124.65	2832637.65
628	31950	409181.52	2832698.99	409184.70	2832728.82	409174.46	2832632.36
629	32000	409231.24	2832693.71	409235.48	2832733.48	409224.18	2832627.08
630	32050	409280.96	2832688.43	409285.20	2832728.20	409276.22	2832643.68
631	32100	409330.56	2832682.21	409336.78	2832719.70	409324.05	2832642.75
632	32150	409379.28	2832671.10	409390.00	2832707.55	409364.64	2832621.20
633	32200	409426.59	2832654.95	409442.11	2832697.19	409408.68	2832606.13
634	32250	409473.52	2832637.70	409489.06	2832679.93	409455.59	2832588.89
635	32300	409520.45	2832620.45	409535.99	2832662.68	409502.52	2832571.64
636	32350	409567.52	2832603.59	409578.52	2832636.82	409555.92	2832568.46
637	32400	409615.68	2832590.25	409623.35	2832624.40	409607.61	2832554.14
638	32450	409664.94	2832581.78	409670.72	2832629.43	409661.36	2832551.99
639	32500	409714.77	2832577.72	409717.63	2832625.64	409712.41	2832537.79
640	32550	409764.68	2832574.77	409767.53	2832622.69	409762.34	2832534.84
641	32600	409814.59	2832571.83	409818.50	2832637.71	409812.25	2832531.89
642	32650	409864.51	2832568.88	409868.41	2832634.76	409860.98	2832508.98
643	32700	409914.42	2832565.93	409918.80	2832639.80	409910.90	2832506.03
644	32750	409964.33	2832562.98	409967.89	2832622.87	409959.92	2832488.11
645	32800	410014.16	2832559.00	410021.44	2832618.56	410005.11	2832484.55
646	32850	410063.31	2832549.97	410072.75	2832587.81	410043.51	2832470.40
647	32900	410110.95	2832534.89	410125.03	2832571.26	410081.38	2832458.41
648	32950	410156.33	2832513.99	410187.17	2832571.21	410117.46	2832441.79
649	33000	410199.06	2832488.05	410234.68	2832542.43	410165.66	2832437.01
650	33050	410240.79	2832460.51	410257.34	2832485.54	410207.19	2832409.60
651	33100	410282.51	2832432.96	410319.99	2832489.70	410267.37	2832410.00
652	33150	410324.24	2832405.40	410361.71	2832462.14	410309.09	2832382.45
653	33200	410366.05	2832377.99	410402.53	2832435.38	410325.28	2832313.85
654	33250	410409.06	2832352.50	410422.26	2832376.63	410372.37	2832285.94
655	33300	410453.57	2832329.75	410465.35	2832354.60	410421.05	2832261.06
656	33350	410498.96	2832308.78	410510.47	2832333.76	410487.49	2832283.79
657	33400	410544.39	2832287.89	410555.89	2832312.87	410532.91	2832262.90

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
658	33450	410589.81	2832267.00	410601.32	2832291.97	410578.34	2832242.01
659	33500	410635.24	2832246.11	410646.75	2832271.08	410623.76	2832221.11
660	33550	410680.67	2832225.21	410692.17	2832250.19	410669.19	2832200.22
661	33600	410726.09	2832204.32	410737.60	2832229.30	410714.62	2832179.33
662	33650	410771.52	2832183.43	410781.56	2832205.23	410754.82	2832147.08
663	33700	410816.94	2832162.54	410826.99	2832184.34	410800.25	2832126.19
664	33750	410862.37	2832141.65	410884.11	2832188.88	410838.15	2832088.95
665	33800	410907.80	2832120.76	410929.54	2832167.99	410883.58	2832068.05
666	33850	410953.22	2832099.86	410974.97	2832147.10	410929.00	2832047.16
667	33900	410998.65	2832078.97	411020.39	2832126.21	410974.43	2832026.27
668	33950	411044.08	2832058.08	411079.19	2832134.39	411019.86	2832005.38
669	34000	411089.40	2832036.96	411125.98	2832112.56	411057.62	2831971.23
670	34050	411133.82	2832014.02	411156.05	2832054.28	411098.56	2831950.09
671	34100	411177.03	2831988.89	411202.09	2832029.82	411145.74	2831937.69
672	34150	411218.94	2831961.63	411246.16	2832001.15	411184.94	2831912.18
673	34200	411259.44	2831932.30	411275.13	2831953.03	411232.92	2831897.19
674	34250	411298.41	2831901.00	411315.19	2831920.85	411270.04	2831867.35
675	34300	411335.80	2831867.80	411362.98	2831897.14	411296.41	2831825.22
676	34350	411372.40	2831833.74	411399.67	2831863.00	411332.89	2831791.27
677	34400	411409.00	2831799.67	411436.26	2831828.93	411376.30	2831764.52
678	34450	411445.59	2831765.60	411478.31	2831800.72	411412.90	2831730.45
679	34500	411482.19	2831731.53	411514.91	2831766.65	411461.76	2831709.56
680	34550	411518.78	2831697.46	411551.50	2831732.58	411498.35	2831675.49
681	34600	411555.38	2831663.39	411578.56	2831688.26	411532.22	2831638.49
682	34650	411591.97	2831629.32	411610.72	2831649.43	411573.25	2831609.18
683	34700	411628.57	2831595.25	411647.32	2831615.36	411609.84	2831575.11
684	34750	411665.16	2831561.18	411683.91	2831581.29	411646.44	2831541.04
685	34800	411701.76	2831527.11	411720.51	2831547.22	411683.03	2831506.97
686	34850	411738.35	2831493.04	411771.07	2831528.16	411708.38	2831460.82
687	34900	411774.95	2831458.97	411807.67	2831494.09	411744.98	2831426.75
688	34950	411811.55	2831424.90	411844.26	2831460.01	411773.40	2831383.90
689	35000	411848.14	2831390.83	411866.89	2831410.94	411829.41	2831370.69
690	35050	411884.74	2831356.76	411903.49	2831376.87	411866.01	2831336.62
691	35100	411921.33	2831322.68	411940.08	2831342.80	411902.61	2831302.55
692	35150	411957.93	2831288.61	411976.68	2831308.73	411939.20	2831268.48
693	35200	411994.52	2831254.54	412013.27	2831274.66	411975.80	2831234.40
694	35250	412031.12	2831220.47	412049.87	2831240.59	412012.39	2831200.33
695	35300	412068.13	2831186.86	412085.93	2831207.83	412050.36	2831165.88
696	35350	412107.43	2831155.98	412123.48	2831178.32	412091.42	2831133.64
697	35400	412149.17	2831128.48	412163.37	2831152.05	412135.02	2831104.91
698	35450	412193.06	2831104.55	412205.30	2831129.18	412180.85	2831079.92
699	35500	412238.78	2831084.35	412259.57	2831136.36	412217.29	2831030.48
700	35550	412286.03	2831068.04	412301.93	2831121.74	412255.43	2830964.47
701	35600	412334.47	2831055.71	412344.34	2831102.69	412312.33	2830950.01

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
702	35650	412383.77	2831047.45	412389.81	2831095.08	412370.24	2830940.32
703	35700	412433.59	2831043.33	412435.85	2831093.28	412432.34	2831015.36
704	35750	412483.57	2831043.37	412481.89	2831079.33	412484.92	2831015.40
705	35800	412533.38	2831047.57	412528.80	2831083.28	412537.75	2831013.85
706	35850	412582.67	2831055.90	412571.06	2831110.69	412589.74	2831022.65
707	35900	412631.09	2831068.30	412615.10	2831121.98	412639.68	2831039.56
708	35950	412678.49	2831084.19	412668.58	2831112.51	412688.44	2831055.89
709	36000	412725.67	2831100.74	412715.76	2831129.06	412740.25	2831059.23
710	36050	412772.85	2831117.29	412760.30	2831153.16	412787.44	2831075.78
711	36100	412820.04	2831133.84	412807.48	2831169.71	412850.50	2831047.03
712	36150	412867.22	2831150.39	412848.70	2831203.24	412897.69	2831063.58
713	36200	412914.40	2831166.94	412895.88	2831219.79	412954.14	2831053.71
714	36250	412961.58	2831183.49	412943.07	2831236.34	413001.32	2831070.26
715	36300	413008.77	2831200.02	412990.45	2831252.94	413038.25	2831114.99
716	36350	413056.46	2831215.02	413041.89	2831269.08	413079.93	2831128.12
717	36400	413105.19	2831226.12	413096.13	2831275.28	413114.30	2831176.95
718	36450	413154.68	2831233.13	413149.62	2831282.86	413159.79	2831183.39
719	36500	413204.59	2831235.99	413203.55	2831285.98	413205.66	2831186.00
720	36550	413254.56	2831234.70	413258.14	2831284.56	413249.88	2831168.86
721	36600	413304.24	2831229.24	413316.38	2831308.31	413294.26	2831163.99
722	36650	413353.30	2831219.67	413371.79	2831297.49	413336.24	2831147.66
723	36700	413401.40	2831206.05	413426.11	2831282.13	413378.58	2831135.65
724	36750	413448.19	2831188.48	413474.29	2831249.10	413432.41	2831151.72
725	36800	413493.36	2831167.07	413524.26	2831225.38	413474.66	2831131.70
726	36850	413536.59	2831141.97	413572.09	2831197.59	413521.55	2831118.34
727	36900	413577.59	2831113.37	413623.45	2831173.98	413534.14	2831055.96
728	36950	413617.06	2831082.69	413663.88	2831142.55	413596.13	2831055.89
729	37000	413656.45	2831051.88	413703.27	2831111.75	413635.52	2831025.09
730	37050	413695.83	2831021.08	413729.12	2831063.60	413671.21	2830989.56
731	37100	413735.21	2830990.27	413754.95	2831015.47	413710.59	2830958.75
732	37150	413774.60	2830959.47	413794.33	2830984.66	413756.13	2830935.83
733	37200	413813.76	2830928.38	413834.08	2830953.09	413794.73	2830905.18
734	37250	413851.23	2830895.30	413892.47	2830938.87	413827.88	2830870.57
735	37300	413886.57	2830859.93	413930.35	2830900.95	413861.78	2830836.65
736	37350	413919.63	2830822.44	413965.79	2830860.75	413890.41	2830798.13
737	37400	413950.28	2830782.94	413998.66	2830818.43	413919.67	2830760.43
738	37450	413978.41	2830741.62	414029.15	2830773.63	413936.14	2830714.89
739	37500	414003.90	2830698.61	414079.24	2830740.06	413960.11	2830674.47
740	37550	414026.66	2830654.10	414104.34	2830690.96	413994.14	2830638.63
741	37600	414046.59	2830608.25	414126.35	2830640.39	414013.21	2830594.76
742	37650	414063.74	2830561.29	414097.79	2830572.99	414003.24	2830540.44
743	37700	414080.01	2830514.01	414114.06	2830525.70	414019.50	2830493.17
744	37750	414096.27	2830466.73	414122.28	2830475.65	414070.27	2830457.76
745	37800	414112.53	2830419.45	414138.55	2830428.37	414086.54	2830410.48

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
746	37850	414128.80	2830372.17	414154.81	2830381.09	414102.80	2830363.20
747	37900	414145.06	2830324.89	414171.07	2830333.81	414119.06	2830315.92
748	37950	414161.32	2830277.60	414187.33	2830286.52	414135.33	2830268.64
749	38000	414177.58	2830230.32	414203.60	2830239.24	414151.59	2830221.35
750	38050	414193.85	2830183.04	414226.01	2830194.08	414159.81	2830171.31
751	38100	414210.35	2830135.84	414242.27	2830147.56	414176.57	2830123.39
752	38150	414229.03	2830089.47	414285.87	2830114.24	414186.88	2830071.06
753	38200	414250.56	2830044.36	414305.53	2830073.04	414209.80	2830023.04
754	38250	414274.88	2830000.68	414300.61	2830016.12	414223.48	2829969.75
755	38300	414301.87	2829958.60	414326.64	2829975.56	414252.42	2829924.64
756	38350	414331.44	2829918.29	414355.14	2829936.70	414288.85	2829885.11
757	38400	414363.47	2829879.91	414385.92	2829899.82	414323.13	2829844.02
758	38450	414397.17	2829842.97	414419.27	2829863.26	414375.11	2829822.65
759	38500	414431.01	2829806.16	414453.12	2829826.45	414408.95	2829785.84
760	38550	414464.85	2829769.36	414486.96	2829789.64	414442.79	2829749.03
761	38600	414498.69	2829732.55	414520.80	2829752.83	414476.63	2829712.22
762	38650	414532.54	2829695.74	414554.64	2829716.03	414510.47	2829675.42
763	38700	414566.38	2829658.93	414592.15	2829682.61	414544.30	2829638.62
764	38750	414600.22	2829622.13	414640.72	2829659.34	414578.14	2829601.81
765	38800	414634.06	2829585.32	414674.56	2829622.53	414615.67	2829568.39
766	38850	414667.90	2829548.51	414714.29	2829591.14	414649.51	2829531.58
767	38900	414701.74	2829511.71	414740.77	2829547.56	414683.35	2829494.77
768	38950	414735.58	2829474.90	414774.61	2829510.76	414717.19	2829457.96
769	39000	414769.42	2829438.09	414789.68	2829456.69	414749.19	2829419.47
770	39050	414803.26	2829401.28	414823.52	2829419.88	414783.03	2829382.66
771	39100	414837.70	2829365.04	414856.99	2829384.65	414818.44	2829345.42
772	39150	414875.38	2829332.22	414891.40	2829354.60	414859.42	2829309.82
773	39200	414916.84	2829304.34	414930.83	2829328.01	414902.93	2829280.61
774	39250	414961.46	2829281.84	414973.34	2829306.69	414949.70	2829256.97
775	39300	415008.54	2829265.09	415015.88	2829291.59	415001.34	2829238.54
776	39350	415057.33	2829254.33	415062.33	2829281.40	415052.52	2829227.25
777	39400	415107.09	2829249.74	415107.31	2829285.76	415107.12	2829221.74
778	39450	415157.03	2829251.39	415154.09	2829287.29	415159.53	2829223.51
779	39500	415206.37	2829259.26	415190.72	2829318.30	415215.82	2829224.50
780	39550	415254.35	2829273.21	415233.60	2829330.58	415263.92	2829247.44
781	39600	415300.22	2829293.04	415288.70	2829318.05	415312.03	2829268.21
782	39650	415343.25	2829318.43	415327.56	2829341.02	415359.26	2829296.07
783	39700	415382.79	2829348.99	415365.17	2829370.13	415400.70	2829328.14
784	39750	415418.51	2829383.94	415398.69	2829403.00	415438.63	2829365.19
785	39800	415452.62	2829420.51	415432.63	2829439.40	415479.85	2829395.46
786	39850	415486.68	2829457.11	415466.69	2829476.00	415513.91	2829432.06
787	39900	415520.74	2829493.72	415495.26	2829517.71	415561.88	2829455.72
788	39950	415554.82	2829530.30	415529.48	2829554.44	415595.75	2829492.08
789	40000	415590.31	2829565.50	415567.83	2829592.33	415626.73	2829522.91

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
790	40050	415629.56	2829596.43	415606.56	2829629.16	415662.20	2829550.90
791	40100	415672.35	2829622.23	415660.67	2829647.15	415684.46	2829597.52
792	40150	415718.02	2829642.49	415708.54	2829668.30	415727.99	2829616.85
793	40200	415765.87	2829656.90	415759.50	2829691.35	415771.82	2829627.47
794	40250	415815.13	2829665.24	415811.76	2829700.07	415818.56	2829635.43
795	40300	415865.06	2829667.36	415864.83	2829694.86	415865.89	2829639.83
796	40350	415914.85	2829663.25	415919.32	2829690.38	415911.01	2829636.02
797	40400	415963.75	2829652.96	415970.53	2829679.61	415957.60	2829626.12
798	40450	416010.99	2829636.66	416021.85	2829661.93	416000.76	2829611.13
799	40500	416056.53	2829616.05	416068.57	2829640.78	416045.12	2829591.03
800	40550	416101.76	2829594.73	416111.45	2829614.49	416083.31	2829554.79
801	40600	416146.99	2829573.41	416156.68	2829593.17	416128.54	2829533.47
802	40650	416192.21	2829552.09	416224.19	2829619.93	416149.58	2829461.64
803	40700	416237.44	2829530.77	416269.42	2829598.61	416194.80	2829440.32
804	40750	416282.67	2829509.46	416294.71	2829534.18	416240.03	2829419.00
805	40800	416327.60	2829487.54	416341.24	2829511.43	416281.03	2829399.05
806	40850	416370.83	2829462.43	416386.16	2829485.27	416317.04	2829378.13
807	40900	416411.81	2829433.82	416446.62	2829478.95	416382.43	2829394.60
808	40950	416450.27	2829401.89	416488.26	2829444.38	416418.13	2829364.88
809	41000	416485.94	2829366.87	416517.62	2829397.40	416451.21	2829332.26
810	41050	416518.57	2829329.01	416552.39	2829357.16	416481.43	2829296.98
811	41100	416548.66	2829289.07	416584.24	2829314.96	416518.38	2829266.12
812	41150	416578.44	2829248.91	416614.02	2829274.79	416548.16	2829225.95
813	41200	416608.22	2829208.75	416650.23	2829239.40	416577.94	2829185.79
814	41250	416638.00	2829168.58	416661.54	2829185.53	416607.72	2829145.63
815	41300	416667.78	2829128.42	416691.32	2829145.37	416634.29	2829103.08
816	41350	416697.57	2829088.26	416721.10	2829105.21	416664.07	2829062.92
817	41400	416727.35	2829048.10	416750.88	2829065.04	416699.47	2829026.92
818	41450	416756.86	2829007.74	416810.45	2829044.54	416728.36	2828987.42
819	41500	416783.20	2828965.27	416839.48	2828997.82	416735.91	2828937.05
820	41550	416804.10	2828919.88	416864.71	2828943.35	416753.08	2828899.30
821	41600	416819.17	2828872.24	416863.18	2828881.69	416786.09	2828864.36
822	41650	416828.18	2828823.10	416872.78	2828829.10	416794.56	2828817.78
823	41700	416831.02	2828773.21	416884.01	2828772.66	416778.01	2828772.84
824	41750	416829.50	2828723.23	416882.44	2828720.60	416776.53	2828724.96
825	41800	416827.44	2828673.28	416893.37	2828670.11	416773.47	2828675.04
826	41850	416825.39	2828623.32	416891.31	2828620.15	416771.41	2828625.08
827	41900	416823.33	2828573.36	416889.26	2828570.19	416769.36	2828575.13
828	41950	416821.27	2828523.40	416853.23	2828521.63	416767.30	2828525.17
829	42000	416819.22	2828473.45	416851.17	2828471.67	416779.23	2828474.63
830	42050	416817.16	2828423.49	416849.11	2828421.72	416777.17	2828424.68
831	42100	416815.10	2828373.53	416870.01	2828370.18	416765.10	2828374.49
832	42150	416813.05	2828323.57	416867.95	2828320.22	416763.04	2828324.54
833	42200	416810.99	2828273.62	416865.90	2828270.26	416760.99	2828274.58

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
834	42250	416808.93	2828223.66	416898.81	2828218.86	416745.94	2828225.16
835	42300	416806.88	2828173.70	416896.75	2828168.90	416743.88	2828175.20
836	42350	416804.82	2828123.74	416877.71	2828119.65	416704.90	2828127.86
837	42400	416802.76	2828073.78	416875.66	2828069.69	416702.85	2828077.90
838	42450	416800.71	2828023.83	416894.58	2828018.87	416700.79	2828027.94
839	42500	416798.65	2827973.87	416892.52	2827968.91	416698.73	2827977.98
840	42550	416796.59	2827923.91	416890.47	2827918.95	416696.68	2827928.02
841	42600	416794.53	2827873.95	416830.46	2827871.38	416694.62	2827878.07
842	42650	416792.48	2827824.00	416857.42	2827821.32	416692.56	2827828.11
843	42700	416790.42	2827774.04	416826.35	2827771.46	416747.41	2827774.71
844	42750	416788.36	2827724.08	416824.29	2827721.51	416745.36	2827724.76
845	42800	416785.50	2827674.17	416821.23	2827669.66	416755.53	2827675.93
846	42850	416777.85	2827624.79	416812.77	2827616.01	416748.30	2827630.15
847	42900	416764.11	2827576.75	416797.63	2827563.61	416735.48	2827585.82
848	42950	416744.48	2827530.80	416768.54	2827517.44	416719.43	2827542.20
849	43000	416720.30	2827487.05	416743.54	2827472.31	416695.95	2827499.89
850	43050	416695.22	2827443.78	416718.47	2827429.05	416670.88	2827456.63
851	43100	416670.15	2827400.52	416693.40	2827385.79	416645.81	2827413.37
852	43150	416645.08	2827357.26	416696.45	2827326.23	416597.81	2827383.39
853	43200	416620.01	2827314.00	416671.37	2827282.97	416572.74	2827340.13
854	43250	416594.94	2827270.74	416646.30	2827239.71	416516.52	2827314.92
855	43300	416569.87	2827227.48	416611.40	2827203.42	416492.00	2827272.61
856	43350	416544.80	2827184.22	416586.33	2827160.16	416466.93	2827229.35
857	43400	416519.73	2827140.96	416561.26	2827116.90	416480.79	2827163.53
858	43450	416494.66	2827097.70	416543.97	2827069.12	416455.72	2827120.27
859	43500	416469.58	2827054.44	416518.90	2827025.86	416430.65	2827077.01
860	43550	416444.71	2827011.07	416494.61	2826983.54	416405.31	2827032.81
861	43600	416422.74	2826966.19	416475.33	2826944.21	416371.07	2826987.77
862	43650	416406.39	2826918.97	416452.64	2826906.13	416352.43	2826933.95
863	43700	416396.06	2826870.08	416443.55	2826863.11	416340.66	2826878.21
864	43750	416391.91	2826820.29	416439.90	2826819.29	416335.92	2826821.45
865	43800	416393.46	2826770.33	416441.35	2826773.52	416338.93	2826777.22
866	43850	416397.07	2826720.46	416444.94	2826723.96	416342.48	2826726.49
867	43900	416400.71	2826670.59	416465.54	2826675.33	416346.13	2826676.63
868	43950	416404.36	2826620.72	416469.19	2826625.46	416349.77	2826626.76
869	44000	416408.01	2826570.86	416472.83	2826575.60	416353.42	2826576.89
870	44050	416411.65	2826520.99	416476.48	2826525.73	416348.09	2826526.37
871	44100	416415.30	2826471.12	416480.12	2826475.86	416351.73	2826476.50
872	44150	416419.28	2826421.28	416469.05	2826426.06	416355.61	2826425.75
873	44200	416425.09	2826371.63	416474.62	2826378.47	416369.22	2826374.46
874	44250	416432.97	2826322.25	416482.17	2826331.15	416377.03	2826322.76
875	44300	416442.89	2826273.25	416513.14	2826289.01	416386.98	2826271.43
876	44350	416454.85	2826224.71	416524.38	2826243.38	416399.06	2826220.55
877	44400	416468.82	2826176.70	416537.51	2826198.25	416413.25	2826170.23

S. No.	Design Chainage	CENTRELINE		LEFT		RIGHT	
		Easting	Northing	Easting	Northing	Easting	Northing
878	44450	416484.77	2826129.32	416552.51	2826153.71	416412.54	2826114.58
879	44500	416502.69	2826082.64	416562.87	2826107.19	416431.13	2826064.91
880	44550	416522.53	2826036.75	416581.64	2826063.79	416451.78	2826016.05
881	44600	416544.27	2825991.73	416602.20	2826021.21	416480.70	2825971.22
882	44650	416567.87	2825947.65	416624.52	2825979.52	416505.21	2825924.52
883	44700	416593.13	2825904.51	416648.93	2825937.85	416528.75	2825877.73
884	44750	416618.78	2825861.59	416690.03	2825904.17	416554.43	2825834.77
885	44800	416644.43	2825818.67	416715.68	2825861.25	416562.91	2825781.59
886	44850	416670.09	2825775.75	416741.33	2825818.33	416588.56	2825738.67
887	44900	416695.74	2825732.83	416766.98	2825775.41	416614.21	2825695.76
888	44950	416721.39	2825689.91	416792.63	2825732.50	416639.86	2825652.84
889	45000	416747.04	2825647.00	416818.29	2825689.58	416665.52	2825609.92
890	45050	416772.69	2825604.08	416843.94	2825646.66	416697.18	2825570.59
891	45100	416798.34	2825561.16	416869.59	2825603.74	416722.83	2825527.67
892	45150	416824.00	2825518.24	416881.51	2825552.61	416748.48	2825484.76
893	45200	416849.65	2825475.32	416907.16	2825509.69	416774.13	2825441.84
894	45250	416875.30	2825432.40	416922.51	2825460.62	416814.37	2825407.64
895	45300	416900.95	2825389.49	416948.16	2825417.70	416860.61	2825365.37
896	45350	416926.60	2825346.57	416960.94	2825367.09	416893.13	2825326.56
897	45400	416952.25	2825303.65	416986.59	2825324.17	416918.78	2825283.64
898	45450	416977.91	2825260.73	417012.24	2825281.25	416944.43	2825240.72
899	45500	417003.56	2825217.81	417034.46	2825236.28	416970.08	2825197.80
900	45550	417028.94	2825174.74	417060.28	2825192.45	416994.99	2825155.54
901	45600	417051.54	2825130.16	417084.53	2825144.59	417015.81	2825114.53
902	45645	417067.22	2825088.01	417095.91	2825096.75	417030.87	2825076.92

TRUMPET INTERCHANGE (CH. 0+000-0+600 KM)

TRUMPET INTERCHANGE (CH. 0+000-0+600 KM)				
S. No.	TRUMPET LHS PART		TRUMPET RHS PART	
	Easting	Northing	Easting	Northing
1	390577.08	2840768.35	390270.32	2840773.81
2	390584.39	2840761.52	390269.34	2840763.86
3	390579.97	2840752.62	390268.67	2840753.88
4	390575.44	2840743.71	390268.29	2840743.89
5	390570.92	2840734.79	390268.22	2840733.89
6	390566.39	2840725.87	390268.48	2840723.90
7	390561.87	2840716.95	390270.40	2840714.10
8	390556.96	2840708.25	390274.05	2840704.81
9	390551.09	2840700.16	390279.30	2840696.31
10	390544.47	2840692.67	390285.98	2840688.89
11	390537.17	2840685.84	390293.88	2840682.79
12	390529.51	2840679.41	390302.75	2840678.20
13	390521.85	2840672.98	390312.30	2840675.27
14	390514.20	2840666.55	390322.22	2840674.10

TRUMPET INTERCHANGE (CH. 0+000-0+600 KM)				
S. No.	TRUMPET LHS PART		TRUMPET RHS PART	
	Easting	Northing	Easting	Northing
15	390506.54	2840660.11	390332.19	2840674.72
16	390498.94	2840653.62	390341.88	2840677.12
17	390492.10	2840646.34	390350.99	2840681.21
18	390487.00	2840637.77	390359.44	2840686.55
19	390483.91	2840628.28	390367.95	2840691.81
20	390482.99	2840618.34	390376.46	2840697.05
21	390484.28	2840608.44	390384.98	2840702.29
22	390487.72	2840599.08	390393.50	2840707.53
23	390492.90	2840590.53	390402.01	2840712.77
24	390498.51	2840582.25	390410.53	2840718.01
25	390504.11	2840573.96	390419.05	2840723.25
26	390509.35	2840565.45	390427.69	2840728.28
27	390513.55	2840556.38	390436.49	2840733.03
28	390517.09	2840547.03	390445.28	2840737.79
29	390519.94	2840537.44	390454.08	2840742.55
30	390522.09	2840527.68	390462.88	2840747.30
31	390523.53	2840517.79	390471.64	2840752.12
32	390524.26	2840507.82	390480.39	2840756.95
33	390524.26	2840497.82	390489.1457	2840761.788
34	390523.55	2840487.85	390497.8991	2840766.623
35	390522.12	2840477.95	390506.1377	2840767.406
36	390519.97	2840468.19	390513.4045	2840760.537
37	390517.13	2840458.60	390520.4921	2840760.274
38	390513.48	2840449.30	390527.3758	2840767.527
39	390509.29	2840440.22	390534.2595	2840774.781
40	390504.98	2840431.20	390541.1432	2840782.035
41	390500.29	2840422.37	390548.0269	2840789.288
42	390495.05	2840413.85	390555.1454	2840788.813
43	390489.20	2840405.74		
44	390482.77	2840398.09		
45	390475.79	2840390.93		
46	390468.30	2840384.31		
47	390460.33	2840378.27		
48	390451.95	2840372.83		
49	390443.18	2840368.02		
50	390434.08	2840363.88		
51	390424.70	2840360.42		
52	390415.09	2840357.67		
53	390405.30	2840355.63		
54	390395.39	2840354.33		
55	390385.41	2840353.76		
56	390375.41	2840353.93		
57	390365.45	2840354.84		
58	390355.59	2840356.49		
59	390345.88	2840358.86		
60	390336.37	2840361.94		

TRUMPET INTERCHANGE (CH. 0+000-0+600 KM)				
S. No.	TRUMPET LHS PART		TRUMPET RHS PART	
	Easting	Northing	Easting	Northing
61	390327.11	2840365.72		
62	390318.16	2840370.17		
63	390309.56	2840375.27		
64	390301.37	2840381.00		
65	390293.62	2840387.32		
66	390286.36	2840394.19		
67	390279.63	2840401.58		
68	390273.46	2840409.45		
69	390267.89	2840417.75		
70	390262.95	2840426.44		
71	390258.55	2840435.42		
72	390254.51	2840444.57		
73	390250.57	2840453.76		
74	390246.64	2840462.96		
75	390242.71	2840472.15		
76	390238.78	2840481.35		
77	390234.85	2840490.54		
78	390229.33	2840495.98		
79	390219.98	2840492.41		
80	390210.64	2840488.84		
81	390201.30	2840485.27		
82	390191.96	2840481.70		
83	390182.62	2840478.13		
84	390173.28	2840474.55		
85	390163.94	2840470.98		
86	390154.60	2840467.41		
87	390147.32	2840474.16		
88	390140.07	2840481.04		
89	390136.42	2840488.15		
90	390142.77	2840495.87		
91	390149.13	2840503.60		
92	390153.05	2840512.70		
93	390155.73	2840522.33		
94	390157.22	2840532.21		
95	390157.50	2840542.20		
96	390156.58	2840552.15		
97	390154.46	2840561.92		
98	390151.78	2840571.55		
99	390148.97	2840581.15		
100	390145.84	2840590.64		
101	390142.90	2840600.20		
102	390140.17	2840609.82		
103	390137.64	2840619.49		
104	390135.30	2840629.22		
105	390133.17	2840638.99		
106	390131.25	2840648.80		

TRUMPET INTERCHANGE (CH. 0+000-0+600 KM)				
S. No.	TRUMPET LHS PART		TRUMPET RHS PART	
	Easting	Northing	Easting	Northing
107	390129.53	2840658.65		
108	390128.01	2840668.54		
109	390126.71	2840678.45		
110	390125.60	2840688.39		
111	390124.71	2840698.35		
112	390124.02	2840708.33		
113	390123.54	2840718.31		
114	390123.27	2840728.31		
115	390123.21	2840738.31		
116	390123.35	2840748.31		
117	390123.71	2840758.30		
118	390124.27	2840768.29		
119	390125.04	2840778.26		
120	390126.02	2840788.21		

INTERCHANGE @12+700 Km _Connecting Road HSC to Ex. NH-06)

Coordinate System - Universal Transverse Mercator (UTM)-WGS84 (Zone 46N) _PKG -01 INTERCHANGE @12+700 Km _Connecting Road HSC to Ex. NH-06)							
Sr. no.	Design Chainage	CENTRELINE		LEFT SIDE		RIGHT SIDE	
		Easting	Northing	Easting	Northing	Easting	Northing
1	0.0	398984.5	2844398.0				
2	10.0	398980.3	2844388.9				
3	20.0	398976.1	2844379.8				
4	30.0	398972.0	2844370.7				
5	40.0	398967.8	2844361.6	398982.4	2844355.0	398953.3	2844368.3
6	50.0	398963.7	2844352.5	398978.2	2844345.9	398949.1	2844359.2
7	60.0	398959.5	2844343.4	398974.1	2844336.8	398945.0	2844350.1
8	70.0	398955.4	2844334.3	398969.9	2844327.7	398940.8	2844341.0
9	80.0	398951.2	2844325.2	398965.8	2844318.6	398936.6	2844331.9
10	90.0	398947.0	2844316.1	398961.6	2844309.5	398932.5	2844322.8
11	100.0	398942.9	2844307.0	398957.4	2844300.4	398928.3	2844313.7
12	110.0	398938.7	2844298.0	398953.3	2844291.3	398924.2	2844304.6
13	120.0	398934.6	2844288.9	398949.1	2844282.2	398920.0	2844295.5
14	130.0	398930.4	2844279.8	398945.0	2844273.1	398915.9	2844286.4
15	140.0	398926.3	2844270.7	398940.8	2844264.0	398911.7	2844277.3
16	150.0	398922.1	2844261.6	398936.7	2844254.9	398907.6	2844268.2
17	160.0	398918.0	2844252.5	398932.5	2844245.8	398903.4	2844259.1
18	170.0	398913.8	2844243.4	398928.3	2844236.7	398899.2	2844250.0
19	180.0	398909.6	2844234.3	398924.2	2844227.6	398895.1	2844240.9
20	190.0	398905.5	2844225.2	398920.0	2844218.5	398890.9	2844231.8
21	200.0	398901.3	2844216.1	398915.9	2844209.4	398886.8	2844222.7
22	210.0	398897.2	2844207.0	398911.7	2844200.4	398882.6	2844213.6
23	220.0	398893.0	2844197.9	398907.6	2844191.3	398878.5	2844204.6
24	230.0	398888.9	2844188.8	398903.4	2844182.2	398874.3	2844195.5
25	240.0	398884.7	2844179.7	398899.3	2844173.1	398870.2	2844186.4
26	250.0	398880.5	2844170.6	398895.1	2844164.0	398866.0	2844177.3
27	260.0	398876.4	2844161.5	398890.9	2844154.9	398861.8	2844168.2
28	270.0	398872.2	2844152.4	398886.8	2844145.8	398857.7	2844159.1
29	280.0	398868.1	2844143.3	398882.6	2844136.7	398853.5	2844150.0

Coordinate System - Universal Transverse Mercator (UTM)-WGS84 (Zone 46N) _PKG -01 INTERCHANGE @12+700 Km _Connecting Road HSC to Ex. NH-06)							
Sr. no.	Design Chainage	CENTRELINE		LEFT SIDE		RIGHT SIDE	
		Easting	Northing	Easting	Northing	Easting	Northing
30	290.0	398863.9	2844134.2	398878.5	2844127.6	398849.4	2844140.9
31	300.0	398859.8	2844125.1	398874.3	2844118.5	398845.2	2844131.8

INTERCHANGE @27+200 Km Ex. NH-06

Coordinate System - Universal Transverse Mercator (UTM)-WGS84 (Zone 46N) INTERCHANGE @27+200 Km Ex. NH-06 Road PROW							
Sr. no.	Design Chainage	CENTRELINE		LEFT SIDE		RIGHT SIDE	
		Easting	Northing	Easting	Northing	Easting	Northing
1	0	405220.8	2835162	405236.0391	2835169.424	405205.5292	2835154.419
2	10	405225.2	2835153	405240.4523	2835160.45	405209.9424	2835145.445
3	20	405229.6	2835144	405244.8655	2835151.477	405214.3557	2835136.472
4	30	405234	2835135	405249.2787	2835142.503	405218.7689	2835127.498
5	40	405238.4	2835126	405253.692	2835133.53	405223.1821	2835118.525
6	50	405242.9	2835117	405258.1052	2835124.556	405227.5954	2835109.552
7	60	405247.3	2835108	405262.5184	2835115.583	405232.0086	2835100.578
8	70	405251.7	2835099	405266.9317	2835106.61	405236.4218	2835091.605
9	80	405256.1	2835090	405271.3449	2835097.636	405240.835	2835082.631
10	90	405260.5	2835081	405275.7581	2835088.663	405245.2483	2835073.658
11	100	405264.9	2835072	405280.1713	2835079.689	405249.6615	2835064.684
12	110	405269.3	2835063	405284.5846	2835070.716	405254.0747	2835055.711
13	120	405273.7	2835054	405288.9978	2835061.742	405258.4879	2835046.737
14	130	405278.2	2835045	405293.411	2835052.769	405262.9012	2835037.764
15	140	405282.6	2835036	405297.8242	2835043.795	405267.3144	2835028.79
16	150	405287	2835027	405302.2375	2835034.822	405271.7276	2835019.817
17	160	405291.4	2835018	405306.6507	2835025.848	405276.1409	2835010.843
18	170	405295.8	2835009	405311.0639	2835016.875	405280.5541	2835001.87
19	180	405300.2	2835000	405315.4847	2835007.883	405284.9573	2834992.914
20	190	405304.6	2834991	405319.9481	2834998.627	405289.1819	2834984.155
21	200	405308.7	2834982	405324.3042	2834988.965	405293.0469	2834975.586
22	210	405312.4	2834973	405328.3423	2834978.817	405296.4048	2834967.155
23	220	405315.5	2834963	405331.8106	2834968.243	405299.1692	2834958.728
24	230	405318	2834954	405334.5679	2834957.459	405301.3651	2834950.139
25	240	405319.8	2834944	405336.6006	2834946.515	405302.984	2834941.423
26	250	405321	2834934	405337.8998	2834935.46	405304.0186	2834932.619
27	260	405321.5	2834924	405338.4596	2834924.342	405304.4645	2834923.765
28	270	405321.3	2834914	405338.2775	2834913.213	405304.3195	2834914.901

Coordinate System - Universal Transverse Mercator (UTM)-WGS84 (Zone 46N) INTERCHANGE @27+200 Km Ex. NH-06 Road PROW							
Sr. no.	Design Chainage	CENTRELINE		LEFT SIDE		RIGHT SIDE	
		Easting	Northing	Easting	Northing	Easting	Northing
29	280	405320.5	2834904	405337.3545	2834902.12	405303.5844	2834906.067
30	290	405319	2834894	405335.6945	2834891.113	405302.2623	2834897.301
31	300	405316.8	2834884	405333.3049	2834880.241	405300.3593	2834888.643
32	310	405314	2834875	405330.1964	2834869.553	405297.8837	2834880.13
33	320	405310.6	2834865	405326.3828	2834859.095	405294.8465	2834871.802
34	330	405306.6	2834856	405321.881	2834848.915	405291.2612	2834863.694
35	340	405301.9	2834847	405316.711	2834839.057	405287.1438	2834855.843
36	350	405296.7	2834839	405321.7483	2834822.408	405271.6601	2834855.441
37	360	405290.9	2834831	405314.8128	2834812.618	405267.0364	2834848.914
38	370	405284.6	2834823	405307.2405	2834803.312	405261.9882	2834842.71
39	380	405277.8	2834816	405299.0651	2834794.531	405256.538	2834836.856
40	390	405270.5	2834809	405290.3229	2834786.314	405250.7098	2834831.378
41	400	405262.8	2834802	405281.0527	2834778.697	405244.5297	2834826.3
42	410	405254.7	2834797	405271.2957	2834771.715	405238.025	2834821.646
43	420	405246.2	2834791	405261.0953	2834765.399	405231.2247	2834817.435
44	430	405237.3	2834787				
45	440	405228.3	2834783				
46	450	405219	2834779				
47	460	405209.8	2834775				
48	470	405200.5	2834771				
49	480	405191.2	2834767				
50	490	405181.9	2834764				
51	500	405172.6	2834760				
52	510	405163.3	2834756				
53	520	405154.1	2834753				
54	530	405144.8	2834749				
55	540	405135.5	2834745				
56	550	405126.2	2834741				
57	560	405116.9	2834738				
58	570	405107.6	2834734				
59	580	405098.3	2834730	405113.1863	2834693.221	405083.4925	2834767.506
60	590	405089.1	2834727	405103.9007	2834689.509	405074.2069	2834763.794
61	600	405079.8	2834723	405094.615	2834685.797	405064.9212	2834760.082
62	610	405070.5	2834719	405085.3294	2834682.085	405055.6356	2834756.371

Coordinate System - Universal Transverse Mercator (UTM)-WGS84 (Zone 46N) INTERCHANGE @27+200 Km Ex. NH-06 Road PROW							
Sr. no.	Design Chainage	CENTRELINE		LEFT SIDE		RIGHT SIDE	
		Easting	Northing	Easting	Northing	Easting	Northing
63	620	405061.2	2834716	405076.0438	2834678.374	405046.35	2834752.659
64	630	405051.9	2834712	405066.7581	2834674.662	405037.0643	2834748.947
65	640	405042.6	2834708	405057.4725	2834670.95	405027.7787	2834745.235
66	650	405033.3	2834704	405048.1868	2834667.238	405018.493	2834741.524
67	660	405024.1	2834701	405038.9012	2834663.527	405009.2074	2834737.812
68	670	405014.8	2834697	405029.6156	2834659.815	404999.9218	2834734.1
69	680	405005.5	2834693	405020.3299	2834656.103	404990.6361	2834730.388
70	690	404996.2	2834690	405005.4767	2834666.32	404986.9181	2834712.748
71	700	404986.9	2834686	404996.135	2834662.592	404977.6846	2834709.063
72	710	404977.6	2834682	404986.5467	2834658.841	404968.6472	2834705.528
73	720	404968.2	2834679	404976.7191	2834655.181	404959.7331	2834702.207
74	730	404958.8	2834675	404966.8085	2834651.713	404950.7664	2834699.069
75	740	404949.3	2834672	404956.8526	2834648.449	404941.7176	2834696.104
76	750	404939.7	2834669	404947.0468	2834645.402	404932.4245	2834693.216
77	760	404930.2	2834666	404937.4407	2834642.478	404922.8972	2834690.316
78	770	404920.6	2834663	404927.8827	2834639.572	404913.3202	2834687.404
79	780	404911	2834661	404918.4785	2834636.682	404903.6066	2834684.419
80	790	404901.5	2834658	404909.2941	2834633.755	404893.7357	2834681.273
81	800	404892	2834654	404900.353	2834630.723	404883.7365	2834677.882
82	810	404882.7	2834651	404891.6811	2834627.526	404873.6442	2834674.16
83	820	404873.4	2834647	404883.2441	2834624.09	404863.5597	2834670.052
84	830	404864.3	2834643	404874.9382	2834620.356	404853.6252	2834665.586
85	840	404855.3	2834639	404866.7709	2834616.328	404843.8565	2834660.768
86	850	404846.5	2834634	404854.8348	2834618.985	404838.1839	2834648.629
87	860	404837.9	2834629	404846.7293	2834614.24	404829.0306	2834643.27
88	870	404829.4	2834623	404838.7984	2834609.208	404820.0744	2834637.588
89	880	404821.2	2834618	404831.0522	2834603.897	404811.3268	2834631.59
90	890	404813.1	2834612	404823.5007	2834598.312	404802.799	2834625.283
91	900	404805.3	2834606	404816.1533	2834592.461	404794.5018	2834618.676
92	910	404797.7	2834599	404809.0196	2834586.352	404786.4458	2834611.777
93	920	404790.4	2834592	404802.1085	2834579.991	404778.6413	2834604.594
94	930	404783.3	2834585	404795.429	2834573.388	404771.0982	2834597.137
95	940	404776.4	2834578	404788.9895	2834566.551	404763.8263	2834589.416
96	950	404769.8	2834570	404782.7982	2834559.488	404756.8346	2834581.44

Coordinate System - Universal Transverse Mercator (UTM)-WGS84 (Zone 46N) INTERCHANGE @27+200 Km Ex. NH-06 Road PROW							
Sr. no.	Design Chainage	CENTRELINE		LEFT SIDE		RIGHT SIDE	
		Easting	Northing	Easting	Northing	Easting	Northing
97	960	404763.5	2834563	404776.822	2834552.172	404750.1584	2834573.268
98	970	404757.4	2834555	404770.9753	2834544.581	404743.8003	2834565.015
99	980	404751.5	2834547	404765.2063	2834536.763	404737.6942	2834556.74
100	990	404745.6	2834539	404759.4584	2834528.763	404731.7726	2834548.498
101	1000	404739.8	2834530	404753.6774	2834520.633	404725.9632	2834540.329
102	1010	404734	2834522	404747.8846	2834512.482	404720.1703	2834532.178
103	1020	404728.2	2834514	404742.0917	2834504.331	404714.3775	2834524.026
104	1030	404722.4	2834506	404736.2989	2834496.179	404708.5846	2834515.875
105	1040	404716.6	2834498	404730.5061	2834488.028	404702.7918	2834507.724
106	1050	404710.9	2834490	404724.7132	2834479.877	404696.9989	2834499.573
107	1060	404705.1	2834482	404718.9204	2834471.726	404691.2061	2834491.421
108	1070	404699.3	2834473	404713.1275	2834463.574	404685.4133	2834483.27
109	1080	404693.5	2834465	404707.3347	2834455.423	404679.6204	2834475.119
110	1081	404692.8	2834464	404706.7554	2834454.608	404679.0411	2834474.304

EX. 4 Lane Under Construction Road @Ch. 44+935 Km

Coordinate System - Universal Transverse Mercator (UTM)-WGS84 (Zone 46N) EX. 4 Lane Under Construction Road PROW @Ch. 44+935 Km							
Sr. no.	Design Chainage	CENTRELINE		LEFT SIDE		RIGHT SIDE	
		Easting	Northing	Easting	Northing	Easting	Northing
1	0	416360.4	2825622	416367.5	2825648	416353.2	2825595
2	10	416370	2825619	416377.2	2825646	416362.9	2825593
3	20	416379.7	2825617	416386.8	2825643	416372.5	2825590
4	30	416389.3	2825614	416396.5	2825641	416382.2	2825588
5	40	416399	2825612	416406.1	2825638	416391.9	2825585
6	50	416408.7	2825609	416415.8	2825636	416401.5	2825582
7	60	416418.3	2825606	416425	2825633	416411.6	2825580
8	70	416428.1	2825604	416433.7	2825631	416422.5	2825577
9	80	416437.9	2825602	416442.1	2825630	416433.7	2825575
10	90	416447.8	2825601	416450.7	2825628	416445	2825574
11	100	416457.8	2825600	416459.3	2825628	416456.3	2825573
12	110	416467.8	2825600	416467.9	2825627	416467.7	2825572
13	120	416477.8	2825600	416476.5	2825628	416479	2825573
14	130	416487.8	2825601	416485.1	2825628	416490.4	2825574

Coordinate System - Universal Transverse Mercator (UTM)-WGS84 (Zone 46N) EX. 4 Lane Under Construction Road PROW @Ch. 44+935 Km							
Sr. no.	Design Chainage	CENTRELINE		LEFT SIDE		RIGHT SIDE	
		Easting	Northing	Easting	Northing	Easting	Northing
15	140	416497.7	2825602	416493.7	2825629	416501.7	2825575
16	150	416507.5	2825604	416502.2	2825631	416512.9	2825577
17	160	416517.3	2825606	416510.6	2825633	416524	2825579
18	170	416526.9	2825609	416518.9	2825635	416534.9	2825582
19	180	416536.4	2825612	416527.1	2825638	416545.7	2825586
20	190	416545.7	2825615	416535.1	2825641	416556.3	2825590
21	200	416554.9	2825620	416543	2825644	416566.7	2825595
22	210	416563.8	2825624	416550.7	2825648	416576.9	2825600
23	220	416572.5	2825629	416558.5	2825653	416586.4	2825605
24	230	416581.1	2825634	416566.8	2825658	416595.3	2825611
25	240	416589.6	2825639	416575.4	2825663	416603.8	2825616
26	250	416598.2	2825644	416583.9	2825668	416612.4	2825621
27	260	416606.7	2825650	416592.5	2825673	416621	2825626
28	270	416615.3	2825655	416601.1	2825678	416629.5	2825631
29	280	416623.8	2825660	416609.6	2825684	416638.1	2825636
30	290	416632.4	2825665	416618.4	2825689	416646.6	2825642
31	300	416641	2825670				
32	310	416649.5	2825675				
33	320	416658.1	2825681				
34	330	416666.6	2825686				
35	340	416675.2	2825691				
36	350	416683.8	2825696				
37	360	416692.3	2825701				
38	370	416700.9	2825707				
39	380	416709.4	2825712				
40	390	416718	2825717				
41	400	416726.5	2825722				
42	410	416735.1	2825727				
43	420	416743.7	2825732				
44	430	416752.2	2825738				
45	440	416760.6	2825743				
46	450	416768.7	2825749				
47	460	416776.2	2825755				
48	470	416783	2825763	416761.9	2825780	416804.1	2825745

Coordinate System - Universal Transverse Mercator (UTM)-WGS84 (Zone 46N) EX. 4 Lane Under Construction Road PROW @Ch. 44+935 Km							
Sr. no.	Design Chainage	CENTRELINE		LEFT SIDE		RIGHT SIDE	
		Easting	Northing	Easting	Northing	Easting	Northing
49	480	416789	2825771	416766.2	2825786	416811.8	2825755
50	490	416794.2	2825779	416770	2825792	416818.4	2825766
51	500	416798.5	2825788	416773.1	2825799	416823.9	2825778
52	510	416801.9	2825798	416775.6	2825806	416828.2	2825790
53	520	416804.3	2825807	416777.3	2825813	416831.3	2825802
54	530	416805.8	2825817	416778.4	2825820	416833.1	2825815
55	540	416806.2	2825827	416778.7	2825827	416833.7	2825827
56	550	416805.7	2825837	416778.3	2825834	416833	2825840
57	560	416804.1	2825847	416777.2	2825842	416831.1	2825853
58	570	416801.6	2825857	416775.4	2825849	416827.8	2825865
59	580	416798.1	2825866	416772.8	2825856	416823.5	2825877
60	590	416793.9	2825875	416769.3	2825863	416818.6	2825888
61	600	416789.4	2825884	416765	2825871	416813.7	2825897
62	610	416784.7	2825893	416760.4	2825880	416809	2825906
63	620	416780	2825902	416755.7	2825889	416804.4	2825915
64	630	416775.4	2825911	416751	2825898	416799.7	2825924
65	640	416770.7	2825920	416746.4	2825907	416795.1	2825932
66	650	416766.1	2825928	416741.7	2825916	416790.4	2825941
67	660	416761.4	2825937	416737.1	2825925	416785.8	2825950
68	670	416756.8	2825946	416732.2	2825934	416781.5	2825958
69	680	416752.6	2825955	416727.4	2825944	416777.7	2825966
70	690	416748.7	2825964	416723.1	2825955	416774.4	2825974
71	700	416745.4	2825974	416719.3	2825965	416771.5	2825982
72	710	416742.5	2825983	416716	2825976	416769	2825991
73	720	416740.1	2825993	416713.2	2825987	416766.9	2825999
74	730	416738.2	2826003	416711.1	2825998	416765.3	2826008
75	740	416736.7	2826013	416709.4	2826010	416764.1	2826016
76	750	416735.8	2826023	416708.4	2826021	416763.3	2826025
77	760	416735.4	2826033	416707.9	2826032	416762.9	2826033
78	770	416735.5	2826043	416708	2826044	416762.9	2826042
79	780	416736	2826053	416708.6	2826055	416763.4	2826051
80	790	416736.8	2826063	416709.3	2826065	416764.2	2826061
81	800	416737.6	2826073	416710.2	2826075	416765	2826071
82	810	416738.4	2826083	416711	2826085	416765.8	2826080

Coordinate System - Universal Transverse Mercator (UTM)-WGS84 (Zone 46N) EX. 4 Lane Under Construction Road PROW @Ch. 44+935 Km							
Sr. no.	Design Chainage	CENTRELINE		LEFT SIDE		RIGHT SIDE	
		Easting	Northing	Easting	Northing	Easting	Northing
83	820	416739.2	2826093	416711.8	2826095	416766.6	2826090
84	830	416740	2826103	416712.6	2826105	416767.4	2826100
85	840	416740.8	2826113	416713.4	2826115	416768.2	2826110
86	850	416741.6	2826123	416714.2	2826125	416769	2826120
87	860	416742.4	2826133	416715	2826135	416769.9	2826130
88	870	416743.3	2826143	416715.8	2826145	416770.7	2826140
89	880	416744.1	2826152	416716.7	2826155	416771.5	2826150
90	890	416744.9	2826162	416717.5	2826165	416772.3	2826160
91	900	416745.7	2826172	416718.3	2826175	416773.1	2826170
92	905	416746.1	2826177	416718.7	2826180	416773.5	2826175

Additional PROW for development of Existing Road @Ch. 6+400 Km

Coordinate System - Universal Transverse Mercator (UTM)-WGS84 (Zone 46N) Additional PROW for development of Existing Road @Ch. 6+400 Km							
Sr. no.	Design Chainage	CENTRELINE		LEFT SIDE		RIGHT SIDE	
		Easting	Northing	Easting	Northing	Easting	Northing
1	560	394089.44	2845191.8	394065.18	2845212.4		
2	570	394095.91	2845199.5	394071.17	2845220.4		
3	580	394102.37	2845207.1	394077.51	2845228.2		
4	590	394108.83	2845214.7	394084.21	2845235.6		
5	600	394115.29	2845222.4	394091.28	2845242.7		
6	610	394121.75	2845230	394098.72	2845249.5	394134.17	2845219.5
7	620	394128.21	2845237.6	394106.52	2845256	394140.66	2845227.1
8	630	394134.68	2845245.3	394114.71	2845262.2	394146.35	2845235.4
9	640	394141.14	2845252.9	394123.3	2845268	394151.21	2845244.4
10	650	394147.56	2845260.6	394131.49	2845273	394155.7	2845254.3
11	660	394152.86	2845269	394137.16	2845276.8	394160.42	2845265.3
12	670	394156.37	2845278.4	394142.31	2845282.1	394163.34	2845276.5
13	680	394157.96	2845288.2	394146.41	2845288.9	394164.55	2845287.8
14	690	394157.56	2845298.2	394148.88	2845297	394164.11	2845299.1
15	700	394155.27	2845307.9	394148.54	2845306	394161.99	2845309.9
16	710	394152.51	2845317.5	394145.78	2845315.6	394159.24	2845319.5
17	720	394149.75	2845327.2	394143.02	2845325.2	394156.48	2845329.1
18	730	394147.28	2845336.8	394140.33	2845336	394154.23	2845337.7
19	740	394148.24	2845346.7	394141.58	2845348.9	394154.9	2845344.5
20	750	394153.25	2845355.3	394148.11	2845360	394158.4	2845350.5
21	760	394160.03	2845362.6	394154.89	2845367.4	394165.18	2845357.9
22	770	394166.81	2845370	394161.67	2845374.7	394171.96	2845365.2
23	780	394173.59	2845377.3	394168.45	2845382.1	394178.74	2845372.6

Coordinate System - Universal Transverse Mercator (UTM)-WGS84 (Zone 46N) Additional PROW for development of Existing Road @Ch. 6+400 Km							
Sr. no.	Design Chainage	CENTRELINE		LEFT SIDE		RIGHT SIDE	
		Easting	Northing	Easting	Northing	Easting	Northing
24	790	394180.37	2845384.7	394175.23	2845389.4	394185.52	2845379.9
25	800	394187.15	2845392	394182	2845396.8	394192.3	2845387.3

SCHEDULE – B

(See Clause 2.1)

DEVELOPMENT OF THE PROJECT HIGHWAY

1 Development of the Project Highway

The Project Highway shall generally follow the horizontal alignment shown in the plan specified in Annex-III of Schedule-A, unless otherwise specified by the Authority. Notwithstanding anything to the contrary contained in this Agreement or IRC: SP:84-2019, the proposed plan & profile, locations of different structures/drains/service & slip road/RE walls, Chainage of different structures/drains/service & slip road/RE walls, length of different structures/drains/service & slip road/RE walls etc. of the project highway as indicated in the Schedule A, Schedule B, Schedule C and their Annexures shall be treated as minimum requirement. Based on site/design requirement, the Concessionaire shall finalize their Detailed Designs (Development stage) including plan & profile of the project highway and submit the same to Authority & Authority's Engineer for its Consent/Approval and Safety Audit by Safety Auditor, before the start of the execution of project. The design so approved shall not be in contradiction with the scope of the project. For the avoidance of doubt, the provisions mentioned in Schedule B & C cannot be changed, only the design of the components is to be submitted for consent/approval.

The Concessionaire shall, at its own cost and expense, deploy grading, paving and compaction equipment fitted with Machine Guidance & Control System (MGCS) for finishing of all grades including Embankment, Subgrade, GSB, WMM, DBM/DLC & BC/SMA/PQC. The Machine Guidance & Control System used by the Concessionaire shall be capable of delivering accuracy as per the applicable IRC specifications. During the construction period, the concessionaire shall furnish all the physical Progress Data (All types of Surface Grading Data, Compaction, Temperature Data, etc.) obtained through Machine Control and Guidance System/CMS to Authority for monitoring of construction on daily basis. These digital data and desired output shall be made available at the location (Server/Cloud) finalised by Authority'.

NHIDCL reserves the right to check/verify design calculations and drawings of all components of the stretch of National Highway including the structures falling within the scope of work. The Concessionaire shall be required to furnish all data pertaining to detailed designs, drawings, calculations, Design Basis Report, input files of Design Software used in the project, etc. to the Authority and/or the Independent Engineer free of cost within a time as specified by the Authority and/or the Independent Engineer.

2 Rehabilitation and Augmentation

Rehabilitation and augmentation shall include Four lane road with Paved shoulders configuration & Six Lane structures including approaches as described in Annex-I of this Schedule-B and in Schedule-C.

3 Specifications & Standards

The Project Highway shall be designed and constructed in conformity with the specifications and standards set forth in **Annex-I** of **Schedule-D**.

ANNEX – I

(Schedule-B)

Description of the Project

1 DEVELOPMENT OF THE PROJECT HIGHWAY

The Project Highway shall generally follow the horizontal alignment shown in the plan specified in Annex-III of Schedule-A, unless otherwise specified by the Authority. Notwithstanding anything to the contrary contained in this Agreement or IRC: SP:84-2019, the proposed plan & profile, locations of different structures/drains/service & slip road/RE walls, Chainage of different structures/drains/service & slip road/RE walls, length of different structures/drains/service & slip road/RE walls etc. of the project highway as indicated in the Schedule A, Schedule B, Schedule C and their Annexures shall be treated as minimum requirement. Based on site/design requirement, the Concessionaire shall finalize their Detailed Designs (Development stage) including plan & profile of the project highway and submit the same to Authority & Independent Engineer for its Consent/Approval and Safety Audit by Safety Auditor, before the start of the execution of project. The design so approved shall not be in contradiction with the scope of the project. For the avoidance of doubt, the provisions mentioned in Schedule B & C cannot be changed, only the design of the components is to be submitted for consent/approval.

The concessionaire/contractor shall, at its own cost and expense adopt Automated & Intelligent Machine aided Construction (AI-MC) for execution of the project in line with MoRTH circular No. RW/NH-33044/31/2024-S&R(P&B)(Computer No. 245397) dt. 23.06.2025 The Concessionaire shall, at its own cost and expense, deploy grading, paving and compaction equipment fitted with Machine Guidance & Control System (MGCS) for finishing of all grades including Embankment, Subgrade, GSB/CTSB, WMM/CTB, DBM/DLC & BC/SMA/PQC. The Machine Guidance & Control System used by the Concessionaire shall be capable of delivering accuracy as per the applicable IRC specifications and MoRTH circular No. RW/NH-33044/31/2024-S&R(P&B)(Computer No. 245397) dt. 23.06.2025. During the construction period, the Concessionaire shall furnish all the physical Progress Data (All types of Surface Grading Data, Compaction, Temperature Data, etc.) obtained through Machine Control and Guidance System/CMS to Authority for monitoring of construction on daily basis. These digital data and desired output shall be made available at the location (Server/Cloud) finalised by Authority.

NHIDCL reserves the right to check/verify design calculations and drawings of all components of the stretch of National Highway including the structures falling within the scope of work. The Concessionaire shall be required to furnish all data pertaining to detailed designs, drawings, calculations, Design Basis Report, input files of Design Software used in the project, etc. to the Authority and/or the Independent Engineer free of cost within a time as specified by the Authority and/or the Independent Engineer.

1.1 Width of Carriageway

1.1.1 Four lane road with paved shoulders configuration & four/six Lane structures including approaches shall be undertaken. The paved carriageway shall be 18.0 metre for four laning (including paved shoulder of 1.5m and kerb shyness) and & 25m for Six laning (including paved shoulder of 1.5m and kerb shyness). The earthen shoulder shall be 1.5 metre on valley side for main carriageway and both sides for ramps/loops in case of embankment.

1.1.2 In built-up sections/areas the width of paved carriageway shall be 18.0 metre for four laning (including paved shoulder of 1.5m and kerb shyness).

The project road is passing through the built-up areas as given below:

S. No.	Existing Chainage (km)		Design Chainage (km)		Length (km)	Side	Village name
	From	To	From	To		(LHS / RHS / Both)	
Nil							

1.1.3 Except as otherwise provided in this Agreement, the width shall be adjusted to fit into appropriate plans and cross sections developed in accordance with TCS enclosed.

1.1.4 The entire cross-sectional elements shall be accommodated in the available/proposed ROW. If required, suitable retaining structures shall be provided to accommodate the highway cross-section within the available/proposed ROW. The details of such section are mentioned in Schedule-B. In case of any other section not included in Schedule-B, where retaining structures are to be provided, shall constitute a Change of Scope.

1.2 Width of Median

1.2.1 The width of median including kerb shyness shall be 5.0 metre with Flushed median (With turfing on either side) for all the sections including built up section.

1.2.2 The metal beam (Thrie-beam) crash barrier shall be provided on either side of median side.

1.2.3 Deleted

1.2.4 A suitable anti-glare measures shall be proposed. (Clause No. 2.5.6 IRC:SP:84-2019)

2 GEOMETRIC DESIGN & GENERAL FEATURES OF PROJECT HIGHWAY

2.1 General: Geometric design and general features of the Project Highway shall be in accordance with Section 2 of the Manual. Intermediate sight distance (desirable minimum sight distance) shall be followed for design of all vertical curves including structures as well as highways. (Clause No. 2.9.5 IRC: SP:84-2019)

2.2 **Design Speed:** The project road shall be designed for 80 Kmph considering High Speed Corridor.

2.3 **Improvement of the existing road geometrics**

2.3.1 The existing road geometrics shall be improved as per the codal provisions. In the following sections, where improvement of the existing road geometrics to the prescribed standards is not possible, the existing road geometrics shall be improved to the extent possible within the given right of way and appropriate safety measures shall be provided in form of road signs, pavement markings etc.

The deficient stretches are as follows.

Sr. No.	Stretch (Design Chainage) (km)		Type of deficiency	Remarks
	From	To		
Nil				

2.3.2 The entire cross-sectional elements shall be accommodated in the available/proposed ROW. If required, suitable full height retaining structures shall be provided to accommodate the highway cross section within the available/ proposed ROW. The details of such sections are mentioned in Schedule-B. In case of any other section not included in Schedule-B, where retaining structures are to be provided, shall constitute a Change of Scope.

2.3.3 Realignments

The existing road shall improve to the standards as specified in the Manual at the following locations:

Sr. No.	Existing Chainage (km)		Design Chainage (km)		Length (km)
	From	To	From	To	
	Nil				

2.3.4 Bypasses

The existing road shall be bypassed to the standards as specified in the Manual at the following locations:

Sr. No.	Name of Bypass	Existing Chainage(km)		Design Chainage (km)		Length (km)
		From	To	From	To	
Nil						

2.4 **Right of Way**

Details of the Right of Way along Project Highways are given in Annex-II of Schedule-A.

2.5 **Type of shoulders**

2.5.1 The Design Specification of paved shoulder shall conform to the requirements specified in Paragraph 5.10 of the Manual.

2.5.2 Paved shoulders and the edge strip on median side shall be of same specification and pavement composition as of main carriageway.

2.5.3 Deleted

2.5.4 Deleted

2.5.5 In open country, paved shoulders of 1.5m width shall be provided.

2.5.6 The Design Specification of earthen shoulder shall conform to the requirements specified in Paragraph 5.11 of the Manual.

2.5.7 The earthen shoulder of 1.5m width shall be provided with top 150 mm with well graded naturals and moorum gravel crust stones or combination thereof, confirming to Clause 401 of MoRTH specification.

2.6 Lateral and Vertical Clearance at Underpasses

2.6.1 In case of VUP/ LVUP/ SVUP, the proposed structure, the finish road level in VUP/ LVUP/ SVUP shall be kept 150 mm above the ground level/service road/ cross road (whichever is higher) to ensure that these VUP/ LVUP/ SVUP don't become water accumulation points. (Clause No. 2.10 IRC: SP:84-2019)

2.6.2 The vertical and horizontal clearance at the underpasses shall be as per Clause 2.10.2 of the Manual. The provision of guardrails/crash barriers shall be as per clause 2.10.1 of the Manual.

2.7 Lateral and vertical clearances at Overpasses

2.7.1 Lateral and vertical clearances for overpasses shall be as per paragraph 2.11 of the Manual.

2.7.2 Lateral Clearance: The width of the opening at the Overpasses shall be as follows:

Main Carriageway

Sr. No.	Location Chainage (km)	No. of Spans	Span/opening (m)	Remarks
1	6+557	1 1 1	30 30 30	VOP
2	7+100	2	15.00	Overpass
3	9+850	2	15.00	VOP
4	10+135	2	15.00	VOP

Sr. No.	Location Chainage (km)	No. of Spans	Span/opening (m)	Remarks
5	18+650	1 1 1	30 30 30	VOP
6	21+792	2	15.00 (Skew Length-15.604m)	Overpass
7	22+595	2	15.00 (Skew Length-17.321m)	Overpass
8	28+685	1 1 1	30 40 30	VOP
9	29+675	1 1 1	30 40 30	VOP
10	31+770	2	15.00	VOP
11	32+160	2	15.00 (Skew Length-17.688m)	VOP
12	32+640	1 1 1	30 30 30	VOP
13	36+680	1 1 1	40 40 40	VOP
14	42+140	1 1 1	30 40 30	VOP
15	42+240	1 1 1	30 30 30	VOP
16	42+560	2	15.00	VOP
17	45+520	2	15.00 (Skew Length-15.335m)	Overpass

For Interchanges

Interchanges CH. 0+000Km				
Sr. No.	**Location Chainage (km)**	**No. of Spans**	**Span/opening (m)**	**Remarks**
	Nil			
Interchanges CH. 12+700 Km				
Sr. No.	**Location Chainage (km)**	**No. of Spans**	**Span/opening (m)**	**Remarks**
	Nil			
Interchanges CH. 27+170 Km				
Sr. No.	**Location Chainage (km)**	**No. of Spans**	**Span/opening (m)**	**Remarks**
1	0+000 (Rotary)	1	30.00	VOP
2	0+284 (Rotary)	1	30.00	VOP

Interchanges CH. 44+935 Km				
Sr. No.	**Location Chainage (km)**	**No. of Spans**	**Span/opening (m)**	**Remarks**
1	0+000 (Rotary)	1	30.00	VOP
2	0+284 (Rotary)	1	30.00	VOP

2.8 Service Roads/Slip Roads/Connecting Roads:

2.8.1 **Service Road:** The height of embankment of service road shall confirm to clause 4.2.1 of the Manual.

2.8.2 The Service Roads shall be constructed at the locations and for the lengths indicated below:

S. No.	Design Chainage (Km)		Length		Paved Carriageway width including shyness (m)	Total Length (m)	Cross Road Name	Remarks
	From	To	LHS	RHS				
1.	0+000	0+802	802		3.75	802	Cross Road No 1	MCW Chainage From 0+750 to 1+500
2.	0+000	0+083		83	3.75	83	Cross Road No 2	Interchange @ 0+000 km Ramp-03 Chainage From 0+000 to 0+050
3.	0+000	0+804	804		3.75	804	Cross Road No 3	MCW Chainage From 6+160 to 6+800
4.	0+000	0+240	240		3.75	240	Cross Road No 4	MCW Chainage From 6+400 to 6+560
5.	0+320	0+571		251	3.75	251		MCW Chainage From 6+400 to 6+560
6.	0+000	0+763	763		3.75	762	Cross Road No 5	MCW Chainage From 6+600 to 7+100
7.	0+000	0+274		274	3.75	274	Cross Road No 6	MCW Chainage From 21+000 to 21+200
8.	0+000	0+207	207		3.75	207	Cross Road No 7	MCW Chainage From 15+700 to 15+900
9.	0+000	0+339		339	2 X 8.5	339	Approach road to NH-06	MCW Chainage At 12+700

(MCW – Main carriageway, LHS – Left Hand Side and RHS – Right Hand Side)

2.8.3 The Parking bays shall be provided along service road.

Sr. No.	Design Chainage of Parking Bay		Remarks
	LHS Service Road	RHS Service Road	
1	Nil		

2.8.4 **Slip Road**: The height of embankment of slip road shall confirm to clause 4.2.1 of the Manual.

The Slip roads shall be constructed at the locations and for the lengths indicated below:

Sr. No.	Design Chainage (km)		Length (km)		Paved Carriageway Width including shyness (m)	Total (Km)	Remarks
	From	To	LHS	RHS			
Nil							

(MCW – main carriageway, LHS – Left Hand Side and RHS – Right Hand Side)

2.8.5 A Separator Between Main Carriageway and Service/Slip Road

A separator along with pedestrian railing between main carriageway and service/slip road shall be provided to prevent the pedestrians, local vehicles and animals entering the highway.

Sr. No.	Design Chainage (Km)		Length of Separator (km)		Total	Remarks
	From	To	LHS	RHS		
Nil						

(MCW – main carriageway, LHS – Left Hand Side and RHS – Right Hand Side)

Note:

i. Above length of the service/slip roads is minimum specified. The actual length of the service/slip/connecting roads shall be determined by the Concessionaire in accordance with the approved plan & profile and design approved from the Independent Engineer. Any increase/ decrease up to 5 percent length from the length specified in this Clause of Schedule-B shall not constitute a CoS.

ii. The Acceleration, deceleration lane, right turning storage lane, entry/exit lanes shall be constructed in addition to length given in above table and shall be deemed to be part of the scope and no Change of Scope shall be considered for the same.

iii. Any structures falling within acceleration/deceleration lane /taper shall be constructed to the required width. This increase in width shall not be treated as change of scope.

2.9 Grade Separated Structures

Grade separated structures shall be constructed as per Clause 2.13 of the Manual. Proposed levels at structure locations as shown in plan & profile specified in Annex-III of Schedule-A are minimum requirement and only for guidance and any increase in levels shall not constitute any change of scope. Entry/Exit arrangement from main carriageway shall be 50m before/after the start/end of approach road to grade separator i.e., start/end of valley curve (Clause No. 2.12.2.2 IRC:SP:84-2019). RCC barrier shall start from start of valley curve and end after grade separator at end of valley curve.

The sub-structure shall be continued in the median portion with RCC barrier wherever superstructure has not been proposed in median portion. (Clause 7 .1 (vii) IRC: SP: 84-2019).

Where, crash barrier on the median side is not continuous along the project highway, 50m long MBCB Safety barriers on median side shall be provided on both sides approaches of the structures. MBCB provided towards median side of each of the structure shall be joined on ends in semi-circular shape. (Clause No. 4.3.5 and 4.9, IRC 119).

Where crash barrier on the shoulder sides are not continuous along the project highway, 50m long MBCB Safety barriers on shoulder side shall be provided on both sides approaches of the bridge/ structures or till 3m embankment height whichever is more.

2.5m/1.5m/0.75m wide footpaths shall be provided at grade intersection below structures for each direction of pedestrian movement (refer fig 3.1 to 3.6 IRC: SP:84-2019).

The requisite particulars are given below:

2.9.1 Vehicle Overpass (VOP)/Overpasses

For Main Carriageway

Sr. No.	Design Chainage (km)	LHS Roadway Width(m)	RHS Roadway Width(m)	Super Structure Provision in Median	Span Arrangement (m)	Minimum Vertical Clearance (m)	Skew Angle (°)	Remarks
1	6+557	As per GAD		Yes	3 x 30	5.5		
2	7+100			Yes	2 x 15	5.5		
3	9+850			Yes	2 x 15	5.5		
4	10+135			Yes	2 x 15	5.5		
5	18+650			Yes	3 x 30	5.5		
6	21+792			Yes	2 X 15 (Skew Length-15.604m)	5.5	16	
7	22+595			Yes	2 X 15 (Skew Length-17.321m)	5.5	30	
8	28+685			Yes	1 x 30 + 1 x 40 + 1 x 30	5.5		
9	29+675			Yes	1 x 30 + 1 x 40 + 1 x 30	5.5		
10	31+770			Yes	2 x 15	5.5		
11	32+160			Yes	2 x 15 (Skew Length-17.688m)	5.5	32	
12	32+640			Yes	3 x 30	5.5		
13	36+680			Yes	3 x 40	5.5		
14	42+140			Yes	1 x 30 + 1 x 40 + 1 x 30	5.5		
15	42+240			Yes	3 x 30	5.5		
16	42+560			Yes	2 x 15	5.5		
17	45+520			Yes	2 x 15 (Skew Length-15.335m)	5.5	12	

For Interchanges

Sr. No.	Design Chainage (km)	LHS Roadway Width(m)	RHS Roadway Width(m)	Super Structure Provision in Median	Span Arrangement (m)	Minimum Vertical Clearance (m)	Skew Angle (°)	Remarks
Interchange at Ch 0+000								
	Nil							
Interchange at Ch 12+700								
	Nil							
Interchange at Ch 27+170								
1	0+000	As per GAD		-	1X30	5.5	-	Rotary
2	0+284	As per GAD		-	1X30	5.5	-	Rotary

Interchange at Ch 44+935							
3	0+000	As per GAD	-	1X30	5.5		Rotary
4	0+284	As per GAD	-	1X30	5.5		Rotary

2.9.2 Vehicular Underpasses (VUP) For Main Carriageway

Sr. No.	Design Chainage (km)	LHS Roadway `Width(m)	RHS Roadway Width(m)	Super Structure Provision in Median	Span Arrangement (m)	Minimum Vertical Clearance (m)	Skew Angle (°)	Remarks
1	0+270	15.10	15.10	No	6 x 45	5.5	-	
2	12+700	15.10	15.10	No	1 x 33.40	5.5	-	
3	13+200	15.10 (Skew Width-20.18m)	15.10 (Skew Widt-20.18m)	No	1 x 30 (Skew Length-45.00m)	5.5	48	
4	15+700	15.10 (Skew Widt-17.10m)	15.10 (Skew Widt-17.10m)	No	1 x 20 (Skew Length-22.651m)	5.5	28	
5	21+378	15.10	15.10	No	1 x 65	5.5	-	
6	25+545	15.10 (Skew Widt-16.40m)	15.10 (Skew Widt-16.40m)	No	1 x 35 (Skew Length-38.023m)	5.5	23	

2.9.3 Light Vehicular Underpasses (LVUP) Main Carriageway

Sr. No.	Design Chainage (Km)	LHS Roadway Width (m)	RHS Roadway Width (m)	Super Structure Provision in Median	Span Arrangement (m)	Minimum Vertical Clearance (m)	Skew Angle (°)	Remarks
1	11+860	1 x 15.10 (Skew Width-15.440m)	1 x 15.10 (Skew Width-15.440m)	**-**	1X12 (Skew Length-12.268m)	4	12	**-**
2	39+600	1 x 15.10 (Skew Width-16.530m)	1 x 15.10 (Skew Width-16.530m)	**-**	1X12 (Skew Length-13.136m)	4	24	**-**

2.9.4 Small Vehicular Underpasses (SVUP)/Utility Underpasses

Sr. No.	Design Chainage (km)	LHS Roadway Width(m)	RHS Roadway Width(m)	Super Structure Provision in Median	Span Arrangement (m)	Minimum Vertical Clearance (m)	Skew Angle (°)	Remarks
1	7+700	1 x 15.10	1 x 15.10	-	1X7	4	-	

Sr. No.	Design Chainage (km)	LHS Roadway Width(m)	RHS Roadway Width(m)	Super Structure Provision in Median	Span Arrangement (m)	Minimum Vertical Clearance (m)	Skew Angle (°)	Remarks
2	10+270	1 x 15.10	1 x 15.10	-	1X7	4	-	(Umsawriang Spring) The Existing CC cross roads must be developed with a minimum vertical clearance of 4.0 m from the soffit Level.
3	11+185	1 x 15.10	1 x 15.10	-	1X7	4	-	-
4	12+275	1 x 15.10	1 x 15.10	-	1X7	4	-	-
5	13+385	1 x 15.10 (Skew Width-16.070m)	1 x 15.10 (Skew Width-16.070m)	-	1X7 (Skew Length-7.449m)	4	20	-
6	14+720	1 x 15.10 (Skew Width-18.210m)	1 x 15.10 (Skew Width-18.210m)	-	1X7 (Skew Length-8.444m)	4	34	
7	17+360	1 x 15.10	1 x 15.10	-	1X7	4		
8	20+330	1 x 15.10	1 x 15.10	-	1X7	4		
9	30+247	1 x 15.10 (Skew Width-18.00m)	1 x 15.10 (Skew Width-18.00m)	-	1X7 (Skew Length-8.347m)	4	33	
10	30+465	1 x 15.10 (Skew Width-20.010m)	1 x 15.10 (Skew Width-20.010m)	-	1X7 (Skew Length-9.275m)	4	41	
11	30+685	1 x 15.10	1 x 15.10	-	1X45	4		Utility Under pass
12	31+500	1 x 15.10	1 x 15.10	-	1X7	4		
13	33+210	1 x 13.50	1 x 13.50	-	1X30	4		
14	36+880	1 x 15.10	1 x 15.10	-	1X30	4		Proposed Utility overpass for Gas pipe Line (IGGL)
15	40+677	1 x 15.10	1 x 15.10	-	1X45	4		Utility underpass for Gas Pipe Line
16	42+660	1 x 15.10	1 x 15.10	-	1X30	4		Proposed Utility overpass for Gas pipe Line (IGGL)

2.9.5 Cattle and Pedestrian underpasses

Sr. No.	Design Chainage (Km)	LHS Roadway Width (m)	RHS Roadway Width (m)	Super Structure Provision in Median	Span Arrangement (m)	Minimum Vertical Clearance (m)	Skew Angle (°)	Remarks
Nil								

2.9.6 Interchanges (IC)

Sr. No.	Design Chainage (km)	Name of Structure	Span Arrangement (m)	Total Width (m)	Typical Cross Section	Remarks
1	0+000	Trumpet	As Per GAD			Interchange-01
2	12+700	VUP with Ramp	As Per GAD			Interchange-02
3	27+170	Elongated Elevated Rotary	As Per GAD			Interchange-03
4	44+935	Elongated Elevated Rotary	As Per GAD			Interchange-04

Note: Layout, Geometric Design and Typical Cross Sections of Interchange are included in Annexure to Schedule-B.

2.9.7 Details of Ramps, Crossroads and Connecting Roads at Interchanges (IC)

Sr. No.	Carriageway Widths including Kerb Shyness (m)	Length (m)	Description of Ramps, Crossroads and Connecting Roads	Remarks
1	9.5	1541	Ramp-01	Interchange-01 At Km 0+000
2	9.5	1630	Ramp-02	
3	9.5	364	Ramp-03	
4	9.5	444	Loop	
5	2X8.5	1211	Existing Road NH-06	
6	9.5	658	Ramp-01	Interchange-02 At Km 12+700
7	9.5	665	Ramp-02	
8	2X8.5	339	Along Existing Road NH-06	
9	12	547	Rotary	Interchange-03 At Km 27+170
10	9.5	2098	Ramp-01	
11	9.5	2151	Ramp-02	
12	9.5	582	Ramp-03	
13	9.5	590	Ramp-04	
14	10	1081	Existing Road NH-06	
15	12	547	Rotary	Interchange-04 At Km 44+935
16	9.5	1700	Ramp-01	
17	9.5	1627	Ramp-02	
18	9.5	590	Ramp-03	
19	9.5	567	Ramp-04	
20	2X8.5	905	Existing Road	

Note: Layout, Geometric Design and Typical Cross Sections of Interchange are included in Annexure to Schedule-B.

2.10 Typical Cross Section (TCS) of the Project Highway

The Project Highway shall involve the new construction of a four-lane configuration with paved shoulders in greenfield alignment. It will be a controlled-access facility, with entry and exit points strategically limited to prevent congestion and ensure a high-speed corridor. Service roads will be provided at selected locations. Typical cross sections required to be developed in different sections of the Project Highway are given below:

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
1	0+000	0+150	150	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
2	0+150	0+390	240	Viaduct	Viaduct
3	0+390	0+500	110	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
4	0+500	0+520	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
5	0+520	0+540	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
6	0+540	0+580	40	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
7	0+580	0+600	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
8	0+600	1+020	420	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
9	1+020	1+040	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
10	1+040	1+080	40	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
11	1+080	1+100	20	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
12	1+100	1+110	10	Viaduct	Viaduct
13	1+110	1+220	110	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
14	1+220	1+240	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
15	1+240	1+260	20	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
16	1+260	1+300	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
17	1+300	1+320	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
18	1+320	1+440	120	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
19	1+440	1+460	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
20	1+460	1+505	45	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
21	1+505	1+515	10	Viaduct	Viaduct
22	1+515	1+540	25	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
23	1+540	1+580	40	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
24	1+580	1+600	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
25	1+600	1+660	60	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
26	1+660	1+680	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
27	1+680	1+690	10	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
28	1+690	1+850	160	Viaduct	Viaduct
29	1+850	1+880	30	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
30	1+880	1+900	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
31	1+900	2+260	360	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
32	2+260	2+280	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
33	2+280	2+420	140	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
34	2+420	2+440	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
35	2+440	2+460	20	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
36	2+460	2+560	100	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
37	2+560	2+640	80	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
38	2+640	2+660	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
39	2+660	2+700	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
40	2+700	2+840	140	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
41	2+840	2+860	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
42	2+860	2+960	100	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
43	2+960	2+980	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
44	2+980	3+020	40	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
45	3+020	3+030	10	MNB	Minor Bridge
46	3+030	3+060	30	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
47	3+060	3+080	20	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
48	3+080	3+140	60	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
49	3+140	3+180	40	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
50	3+180	3+220	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
51	3+220	3+240	20	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
52	3+240	3+260	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
53	3+260	3+280	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
54	3+280	3+480	200	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
55	3+480	3+500	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
56	3+500	3+520	20	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
57	3+520	3+540	20	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
58	3+540	3+680	140	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
59	3+680	3+800	120	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
60	3+800	3+820	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
61	3+820	3+860	40	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
62	3+860	3+900	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
63	3+900	4+280	380	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
64	4+280	4+300	20	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
65	4+300	4+320	20	TCS-9A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
66	4+320	4+350	30	Viaduct	Viaduct
67	4+350	4+480	130	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
68	4+480	4+540	60	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
69	4+540	4+550	10	TCS-2A	6 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
70	4+550	4+590	40	Viaduct	Viaduct
71	4+590	4+620	30	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
72	4+620	4+680	60	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
73	4+680	4+720	40	TCS-6A	6 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
74	4+720	4+870	150	Viaduct	Viaduct
75	4+870	4+940	70	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
76	4+940	4+980	40	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
77	4+980	5+020	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
78	5+020	5+340	320	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
79	5+340	5+360	20	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
80	5+360	5+380	20	TCS-7A	6 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
81	5+380	5+400	20	TCS-9A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
82	5+400	5+440	40	Viaduct	Viaduct
83	5+440	5+480	40	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
84	5+480	5+540	60	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
85	5+540	5+560	20	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
86	5+560	5+580	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
87	5+580	5+630	50	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
88	5+630	5+650	20	Viaduct	Viaduct
89	5+650	5+680	30	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
90	5+680	5+700	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
91	5+700	5+760	60	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
92	5+760	5+800	40	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
93	5+800	5+820	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
94	5+820	5+840	20	TCS-9A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
95	5+840	6+060	220	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
96	6+060	6+100	40	Viaduct	Viaduct
97	6+100	6+120	20	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
98	6+120	6+140	20	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
99	6+140	6+160	20	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
100	6+160	6+180	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
101	6+180	6+200	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
102	6+200	6+360	160	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
103	6+360	6+440	80	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
104	6+440	7+220	780	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
105	7+220	7+263	43	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
106	7+263	7+277	14	MNB	Minor Bridge
107	7+277	7+300	23	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
108	7+300	7+420	120	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
109	7+420	7+480	60	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
110	7+480	7+500	20	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
111	7+500	7+520	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
112	7+520	7+540	20	TCS-2A	6 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
113	7+540	7+560	20	TCS-5A	6 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
114	7+560	7+580	20	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
115	7+580	7+600	20	TCS-2A	6 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
116	7+600	7+640	40	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
117	7+640	7+680	40	TCS-7A	6 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
118	7+680	7+696	16	TCS-9A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
119	7+696	7+704	8	SVUP	SVUP
120	7+704	7+760	56	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
121	7+760	7+780	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
122	7+780	7+800	20	TCS-7A	6 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
123	7+800	7+825	25	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
124	7+825	8+666	841	Viaduct	Viaduct
125	8+666	8+760	94	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
126	8+760	8+820	60	TCS-3A	6 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
127	8+820	8+950	130	Viaduct	Viaduct
128	8+950	8+960	10	TCS-6A	6 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
129	8+960	8+980	20	TCS-3A	6 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
130	8+980	9+000	20	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
131	9+000	9+020	20	TCS-2A	6 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
132	9+020	9+065	45	Viaduct	Viaduct
133	9+065	9+080	15	TCS-5A	6 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
134	9+080	9+100	20	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
135	9+100	9+205	105	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
136	9+205	9+250	45	Viaduct	Viaduct
137	9+250	9+300	50	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
138	9+300	9+340	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
139	9+340	9+360	20	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
140	9+360	9+380	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
141	9+380	9+400	20	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
142	9+400	9+420	20	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
143	9+420	9+440	20	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
144	9+440	9+820	380	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
145	9+820	9+860	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
146	9+860	10+140	280	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
147	10+140	10+220	80	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
148	10+220	10+265	45	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
149	10+265	10+275	10	SVUP	SVUP
150	10+275	10+300	25	TCS-4A	6 - Lane Divided Highway (Filling Height <3m) New Construction Section
151	10+300	10+320	20	TCS-6A	6 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
152	10+320	10+420	100	Viaduct	Viaduct
153	10+420	10+500	80	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
154	10+500	10+520	20	TCS-2A	6 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
155	10+520	10+540	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
156	10+540	10+560	20	TCS-7A	6 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
157	10+560	10+575	15	TCS-3A	6 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
158	10+575	10+585	10	Viaduct	Viaduct
159	10+585	10+620	35	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
160	10+620	10+640	20	TCS-14A	6 - Lane Divided Highway (Both side Retaining wall in high Emb.) New Construction
161	10+640	10+840	200	TCS-14	4 - Lane Divided Highway (Both side Retaining wall in high Emb.) New Construction
162	10+840	11+140	300	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
163	11+140	11+180	40	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
164	11+180	11+189	9	SVUP	SVUP

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
165	11+189	11+260	71	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
166	11+260	11+300	40	TCS-14	4 - Lane Divided Highway (Both side Retaining wall in high Emb.) New Construction
167	11+300	11+320	20	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
168	11+320	11+400	80	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
169	11+400	11+760	360	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
170	11+760	11+854	94	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
171	11+854	11+866	12	LVUP	LVUP
172	11+866	11+940	74	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
173	11+940	12+100	160	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
174	12+100	12+160	60	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
175	12+160	12+220	60	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
176	12+220	12+271	51	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
177	12+271	12+279	8	SVUP	SVUP
178	12+279	12+480	201	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
179	12+480	12+500	20	MNB	Minor Bridge
180	12+500	12+683	183	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
181	12+683	12+717	34	VUP	VUP
182	12+717	13+000	283	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
183	13+000	13+120	120	MJB	Major Bridge
184	13+120	13+160	40	TCS-14A	6 - Lane Divided Highway (Both side Retaining wall in high Emb.) New Construction
185	13+160	13+180	20	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
186	13+180	13+220	40	VUP	VUP
187	13+220	13+380	160	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
188	13+380	13+390	10	SVUP	SVUP
189	13+390	13+440	50	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
190	13+440	13+520	80	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
191	13+520	13+540	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
192	13+540	13+720	180	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
193	13+720	13+740	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
194	13+740	13+760	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
195	13+760	13+840	80	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
196	13+840	13+860	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
197	13+860	13+880	20	TCS-1	4 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section
198	13+880	14+160	280	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
199	14+160	14+180	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
200	14+180	14+240	60	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
201	14+240	14+260	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
202	14+260	14+280	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
203	14+280	14+400	120	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
204	14+400	14+420	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
205	14+420	14+440	20	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
206	14+440	14+540	100	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
207	14+540	14+716	176	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
208	14+716	14+724	8	SVUP	SVUP
209	14+724	14+860	136	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
210	14+860	15+220	360	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
211	15+220	15+240	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
212	15+240	15+540	300	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
213	15+540	15+690	150	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
214	15+690	15+710	20	VUP	VUP
215	15+710	15+800	90	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
216	15+800	15+840	40	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
217	15+840	15+860	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
218	15+860	15+880	20	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
219	15+880	15+940	60	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
220	15+940	16+000	60	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
221	16+000	16+020	20	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
222	16+020	16+220	200	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
223	16+220	16+340	120	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
224	16+340	16+380	40	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
225	16+380	16+460	80	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
226	16+460	16+520	60	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
227	16+520	16+540	20	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
228	16+540	16+620	80	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
229	16+620	16+760	140	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
230	16+760	16+780	20	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
231	16+780	16+880	100	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
232	16+880	16+900	20	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
233	16+900	17+060	160	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
234	17+060	17+140	80	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
235	17+140	17+180	40	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
236	17+180	17+356	176	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
237	17+356	17+364	8	SVUP	SVUP
238	17+364	17+400	36	TCS-2A	6 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
239	17+400	17+420	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
240	17+420	17+500	80	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
241	17+500	17+760	260	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
242	17+760	17+840	80	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
243	17+840	17+880	40	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
244	17+880	17+900	20	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
245	17+900	17+920	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
246	17+920	17+940	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
247	17+940	17+960	20	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
248	17+960	17+980	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
249	17+980	18+000	20	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
250	18+000	18+020	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
251	18+020	18+060	40	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
252	18+060	18+080	20	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
253	18+080	18+100	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
254	18+100	18+140	40	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
255	18+140	18+160	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
256	18+160	18+180	20	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
257	18+180	18+220	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
258	18+220	18+860	640	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
259	18+860	18+880	20	TCS-1	4 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section
260	18+880	18+900	20	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
261	18+900	18+920	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
262	18+920	18+940	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
263	18+940	18+980	40	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
264	18+980	19+000	20	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
265	19+000	19+080	80	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
266	19+080	19+120	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
267	19+120	19+140	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
268	19+140	19+240	100	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
269	19+240	19+260	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
270	19+260	19+380	120	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
271	19+380	19+400	20	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
272	19+400	19+420	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
273	19+420	19+440	20	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
274	19+440	19+460	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
275	19+460	19+500	40	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
276	19+500	19+520	20	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
277	19+520	19+540	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
278	19+540	19+640	100	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
279	19+640	19+660	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
280	19+660	19+680	20	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
281	19+680	19+700	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
282	19+700	19+720	20	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
283	19+720	19+740	20	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
284	19+740	19+760	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
285	19+760	19+780	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
286	19+780	19+820	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
287	19+820	19+840	20	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
288	19+840	19+860	20	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
289	19+860	19+880	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
290	19+880	19+920	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
291	19+920	19+940	20	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
292	19+940	19+960	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
293	19+960	19+980	20	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
294	19+980	20+040	60	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
295	20+040	20+080	40	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
296	20+080	20+120	40	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
297	20+120	20+140	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
298	20+140	20+160	20	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
299	20+160	20+300	140	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
300	20+300	20+326	26	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
301	20+326	20+334	8	SVUP	SVUP
302	20+334	20+536	202	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
303	20+536	20+560	24	MNB	Minor Bridge
304	20+560	20+640	80	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
305	20+640	20+920	280	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
306	20+920	20+960	40	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
307	20+960	20+980	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
308	20+980	21+140	160	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
309	21+140	21+160	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
310	21+160	21+180	20	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
311	21+180	21+200	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
312	21+200	21+300	100	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
313	21+300	21+320	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
314	21+320	21+345	25	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
315	21+345	21+410	65	VUP	VUP
316	21+410	21+440	30	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
317	21+440	21+460	20	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
318	21+460	21+500	40	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
319	21+500	21+520	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
320	21+520	21+560	40	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
321	21+560	21+580	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
322	21+580	21+620	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
323	21+620	21+640	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
324	21+640	21+660	20	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
325	21+660	21+680	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
326	21+680	21+720	40	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
327	21+720	21+740	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
328	21+740	21+760	20	TCS-1	4 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section
329	21+760	21+780	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
330	21+780	21+820	40	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
331	21+820	21+920	100	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
332	21+920	21+940	20	TCS-1	4 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
333	21+940	21+980	40	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
334	21+980	22+000	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
335	22+000	22+020	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
336	22+020	22+100	80	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
337	22+100	22+120	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
338	22+120	22+640	520	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
339	22+640	22+660	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
340	22+660	22+700	40	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
341	22+700	22+740	40	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
342	22+740	22+760	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
343	22+760	22+780	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
344	22+780	22+840	60	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
345	22+840	22+860	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
346	22+860	22+900	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
347	22+900	22+920	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
348	22+920	22+960	40	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
349	22+960	22+980	20	Viaduct	Viaduct
350	22+980	23+000	20	TCS-14A	6 - Lane Divided Highway (Both side Retaining wall in high Emb.) New Construction
351	23+000	23+020	20	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
352	23+020	23+040	20	TCS-5A	6 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
353	23+040	23+060	20	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
354	23+060	23+100	40	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
355	23+100	23+160	60	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
356	23+160	23+180	20	TCS-1	4 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section
357	23+180	23+200	20	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
358	23+200	23+220	20	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
359	23+220	23+380	160	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
360	23+380	23+415	35	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
361	23+415	23+425	10	Viaduct	Viaduct
362	23+425	23+460	35	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
363	23+460	23+480	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
364	23+480	23+500	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
365	23+500	23+520	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
366	23+520	23+540	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
367	23+540	23+560	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
368	23+560	23+760	200	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
369	23+760	23+780	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
370	23+780	23+820	40	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
371	23+820	23+900	80	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
372	23+900	23+920	20	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
373	23+920	23+940	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
374	23+940	24+060	120	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
375	24+060	24+120	60	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
376	24+120	24+200	80	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
377	24+200	24+220	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
378	24+220	24+260	40	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
379	24+260	24+310	50	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
380	24+310	24+330	20	MNB	Minor Bridge
381	24+330	24+360	30	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
382	24+360	24+400	40	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
383	24+400	24+420	20	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
384	24+420	24+440	20	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
385	24+440	24+480	40	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
386	24+480	24+500	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
387	24+500	24+540	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
388	24+540	24+680	140	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
389	24+680	24+700	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
390	24+700	24+720	20	TCS-7A	6 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
391	24+720	24+740	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
392	24+740	24+775	35	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
393	24+775	24+785	10	MNB	Minor Bridge
394	24+785	24+810	25	TCS-5A	6 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
395	24+810	24+820	10	MNB	Minor Bridge

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
396	24+820	24+860	40	TCS-14A	6 - Lane Divided Highway (Both side Retaining wall in high Emb.) New Construction
397	24+860	24+960	100	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
398	24+960	24+980	20	TCS-2A	6 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
399	24+980	25+040	60	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
400	25+040	25+060	20	TCS-2A	6 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
401	25+060	25+100	40	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
402	25+100	25+140	40	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
403	25+140	25+185	45	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
404	25+185	25+300	115	Viaduct	Viaduct
405	25+300	25+528	228	TCS-5A	6 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
406	25+528	25+563	35	VUP	VUP
407	25+563	25+580	17	TCS-3A	6 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
408	25+580	25+620	40	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
409	25+620	26+940	1320	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
410	26+940	26+960	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
411	26+960	27+000	40	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
412	27+000	27+020	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
413	27+020	27+940	920	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
414	27+940	28+040	100	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
415	28+040	28+060	20	TCS-1	4 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section
416	28+060	28+100	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
417	28+100	28+140	40	TCS-1	4 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section
418	28+140	28+180	40	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
419	28+180	28+200	20	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
420	28+200	28+280	80	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
421	28+280	28+320	40	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
422	28+320	28+340	20	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
423	28+340	28+360	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
424	28+360	28+480	120	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
425	28+480	28+500	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
426	28+500	28+540	40	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
427	28+540	28+560	20	TCS-1	4 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section
428	28+560	28+820	260	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
429	28+820	28+840	20	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
430	28+840	28+860	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
431	28+860	28+900	40	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
432	28+900	28+940	40	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
433	28+940	28+960	20	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
434	28+960	28+980	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
435	28+980	29+100	120	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
436	29+100	29+160	60	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
437	29+160	29+320	160	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
438	29+320	29+340	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
439	29+340	29+380	40	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
440	29+380	29+400	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
441	29+400	29+420	20	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
442	29+420	29+480	60	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
443	29+480	29+500	20	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
444	29+500	29+520	20	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
445	29+520	29+540	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
446	29+540	29+560	20	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
447	29+560	29+580	20	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
448	29+580	29+600	20	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
449	29+600	29+620	20	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
450	29+620	29+640	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
451	29+640	29+880	240	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
452	29+880	29+900	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
453	29+900	29+940	40	TCS-1	4 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section
454	29+940	30+020	80	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
455	30+020	30+040	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
456	30+040	30+060	20	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
457	30+060	30+080	20	TCS-6A	6 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
458	30+080	30+100	20	TCS-14A	6 - Lane Divided Highway (Both side Retaining wall in high Emb.) New Construction

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
459	30+100	30+140	40	TCS-2A	6 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
460	30+140	30+243	103	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
461	30+243	30+251	8	SVUP	SVUP
462	30+251	30+460	209	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
463	30+460	30+470	10	SVUP	SVUP
464	30+470	30+660	190	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
465	30+660	30+710	50	Utility Underpass	Utility Underpass
466	30+710	30+740	30	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
467	30+740	30+760	20	TCS-1A	6 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section
468	30+760	30+960	200	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
469	30+960	30+980	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
470	30+980	31+000	20	TCS-1	4 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section
471	31+000	31+020	20	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
472	31+020	31+040	20	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
473	31+040	31+200	160	TCS-14	4 - Lane Divided Highway (Both side Retaining wall in high Emb.) New Construction
474	31+200	31+240	40	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
475	31+240	31+300	60	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
476	31+300	31+360	60	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
477	31+360	31+496	136	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
478	31+496	31+504	8	SVUP	SVUP
479	31+504	31+540	36	TCS-4A	6 - Lane Divided Highway (Filling Height <3m) New Construction Section

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
480	31+540	31+560	20	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
481	31+560	31+580	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
482	31+580	31+620	40	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
483	31+620	32+340	720	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
484	32+340	32+360	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
485	32+360	33+040	680	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
486	33+040	33+060	20	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
487	33+060	33+080	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
488	33+080	33+095	15	TCS-6A	6 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
489	33+095	33+105	10	MNB	Minor Bridge
490	33+105	33+160	55	TCS-6A	6 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
491	33+160	33+195	35	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
492	33+195	33+225	30	Utility Underpass	Utility Underpass
493	33+225	33+250	25	TCS-5A	6 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
494	33+250	33+570	320	MJB cum Viaduct	Major Bridge cum Viaduct
495	33+570	33+600	30	TCS-5A	6 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
496	33+600	33+620	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
497	33+620	33+640	20	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
498	33+640	33+700	60	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
499	33+700	34+140	440	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
500	34+140	34+160	20	TCS-1	4 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
501	34+160	34+180	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
502	34+180	34+200	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
503	34+200	34+260	60	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
504	34+260	34+460	200	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
505	34+460	34+500	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
506	34+500	34+540	40	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
507	34+540	34+580	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
508	34+580	34+600	20	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
509	34+600	34+620	20	TCS-6A	6 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
510	34+620	34+820	200	Viaduct	Viaduct
511	34+820	34+840	20	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
512	34+840	34+860	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
513	34+860	34+940	80	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
514	34+940	34+960	20	TCS-7A	6 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
515	34+960	35+006	46	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
516	35+006	35+454	448	MJB cum Viaduct	Major Bridge cum Viaduct
517	35+454	35+480	26	TCS-5A	6 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
518	35+480	35+500	20	TCS-1A	6 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section
519	35+500	35+700	200	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
520	35+700	35+800	100	Viaduct	Viaduct
521	35+800	35+820	20	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
522	35+820	35+840	20	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
523	35+840	35+880	40	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
524	35+880	35+900	20	TCS-3	4 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
525	35+900	35+920	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
526	35+920	35+960	40	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
527	35+960	35+980	20	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
528	35+980	36+000	20	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
529	36+000	36+020	20	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
530	36+020	36+040	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
531	36+040	36+820	780	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
532	36+820	36+840	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
533	36+840	36+865	25	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
534	36+865	36+895	30	Utility Underpass	Utility Underpass
535	36+895	36+920	25	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
536	36+920	36+940	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
537	36+940	37+080	140	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
538	37+080	37+100	20	TCS-7A	6 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
539	37+100	37+120	20	TCS-2A	6 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
540	37+120	37+130	10	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
541	37+130	37+150	20	Viaduct	Viaduct
542	37+150	37+180	30	TCS-14A	6 - Lane Divided Highway (Both side Retaining wall in high Emb.) New Construction

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
543	37+180	37+200	20	TCS-4A	6 - Lane Divided Highway (Filling Height <3m) New Construction Section
544	37+200	37+240	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
545	37+240	37+320	80	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
546	37+320	37+360	40	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
547	37+360	37+400	40	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
548	37+400	37+420	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
549	37+420	37+540	120	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
550	37+540	37+560	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
551	37+560	37+600	40	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
552	37+600	37+620	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
553	37+620	37+640	20	TCS-7A	6 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
554	37+640	37+680	40	TCS-9A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
555	37+680	37+705	25	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
556	37+705	38+026	321	MJB cum Viaduct	Major Bridge cum Viaduct
557	38+026	38+040	14	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
558	38+040	38+060	20	TCS-2A	6 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
559	38+060	38+080	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
560	38+080	38+100	20	TCS-6A	6 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
561	38+100	38+220	120	TCS-9A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
562	38+220	38+240	20	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
563	38+240	38+260	20	TCS-3A	6 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
564	38+260	38+280	20	TCS-9A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
565	38+280	38+300	20	TCS-3A	6 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
566	38+300	38+320	20	TCS-5A	6 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
567	38+320	38+340	20	TCS-3A	6 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
568	38+340	38+360	20	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
569	38+360	38+380	20	TCS-6A	6 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
570	38+380	38+620	240	Viaduct	Viaduct
571	38+620	38+640	20	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
572	38+640	38+660	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
573	38+660	38+960	300	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
574	38+960	39+000	40	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
575	39+000	39+240	240	Viaduct	Viaduct
576	39+240	39+260	20	TCS-5A	6 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
577	39+260	39+300	40	TCS-6A	6 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
578	39+300	39+320	20	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
579	39+320	39+340	20	TCS-6A	6 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
580	39+340	39+360	20	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
581	39+360	39+380	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
582	39+380	39+400	20	TCS-9A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
583	39+400	39+420	20	TCS-7A	6 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
584	39+420	39+580	160	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
585	39+580	39+600	20	TCS-7A	6 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
586	39+600	39+620	20	LVUP	LVUP
587	39+620	39+635	15	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
588	39+635	39+645	10	MNB	Minor Bridge
589	39+645	39+720	75	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
590	39+720	39+740	20	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
591	39+740	40+000	260	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
592	40+000	40+020	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
593	40+020	40+040	20	TCS-9A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section
594	40+040	40+060	20	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
595	40+060	40+080	20	TCS-2A	6 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
596	40+080	40+105	25	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
597	40+105	40+150	45	Viaduct	Viaduct
598	40+150	40+180	30	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
599	40+180	40+200	20	TCS-1A	6 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section
600	40+200	40+220	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
601	40+220	40+240	20	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
602	40+240	40+260	20	TCS-7A	6 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
603	40+260	40+280	20	TCS-6A	6 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
604	40+280	40+335	55	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
605	40+335	40+345	10	Viaduct	Viaduct

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
606	40+345	40+435	90	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
607	40+435	40+445	10	Viaduct	Viaduct
608	40+445	40+480	35	TCS-14A	6 - Lane Divided Highway (Both side Retaining wall in high Emb.) New Construction
609	40+480	40+520	40	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
610	40+520	40+540	20	TCS-3A	6 - Lane Divided Highway (Partial F 3m to 7m, C<3m) New Construction Section
611	40+540	40+560	20	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
612	40+560	40+620	60	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
613	40+620	40+640	20	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
614	40+640	40+650	10	TCS-2A	6 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
615	40+650	40+700	50	Utility Underpass	Utility Underpass
616	40+700	40+720	20	TCS-5A	6 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
617	40+720	40+740	20	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
618	40+740	40+780	40	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
619	40+780	40+800	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
620	40+800	40+820	20	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
621	40+820	40+840	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
622	40+840	40+865	25	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
623	40+865	40+875	10	Viaduct	Viaduct
624	40+875	40+940	65	TCS-13A	6 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
625	40+940	41+020	80	TCS-13	4 - Lane Divided Highway (One Breast wall & One Retaining wall) New Construction
626	41+020	41+100	80	TCS-9	4 - Lane Divided Highway with Breast wall on one side (One side Cutting 3m to 7m) New Construction Section

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
627	41+100	41+120	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
628	41+120	41+240	120	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
629	41+240	41+273	33	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
630	41+273	41+288	15	MNB	Minor Bridge
631	41+288	41+340	52	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
632	41+340	41+400	60	TCS-5A	6 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
633	41+400	41+420	20	TCS-6A	6 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
634	41+420	41+440	20	TCS-8A	6 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
635	41+440	41+620	180	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
636	41+620	41+640	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
637	41+640	41+660	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
638	41+660	41+980	320	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
639	41+980	42+020	40	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
640	42+020	42+040	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
641	42+040	42+060	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
642	42+060	42+080	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
643	42+080	42+600	520	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
644	42+600	42+620	20	TCS-10A	6 - Lane Divided Highway (Both sides Breast wall) New Construction
645	42+620	42+645	25	TCS-2A	6 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
646	42+645	42+675	30	Utility Underpass	Utility Underpass
647	42+675	42+700	25	TCS-5A	6 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
648	42+700	42+720	20	TCS-6A	6 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
649	42+720	42+743	23	TCS-2A	6 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
650	42+743	42+763	20	MNB	Minor Bridge
651	42+763	42+780	17	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
652	42+780	42+800	20	TCS-6A	6 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
653	42+800	42+820	20	TCS-5A	6 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
654	42+820	42+920	100	TCS-11A	6 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
655	42+920	42+980	60	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
656	42+980	43+100	120	Viaduct	Viaduct
657	43+100	43+140	40	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
658	43+140	43+160	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
659	43+160	43+380	220	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
660	43+380	43+400	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
661	43+400	43+420	20	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
662	43+420	43+520	100	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
663	43+520	43+540	20	TCS-1	4 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section
664	43+540	43+580	40	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
665	43+580	43+600	20	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction
666	43+600	43+680	80	TCS-5	4 - Lane Divided Highway (Filling Height 3m to 7m) New Construction Section
667	43+680	43+700	20	TCS-11	4 - Lane Divided Highway (One side Retaining Wall, One side filling 3m to 7m) New Construction
668	43+700	43+740	40	TCS-6	4 - Lane Divided Highway (One side Filling <3m,One side Filling 3m to 7m) New Construction

Sr. No.	Design Chainage From	Design Chainage To	Length (Km)	TCS Type	TCS Description
669	43+740	43+780	40	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
670	43+780	43+820	40	MNB	Minor Bridge
671	43+820	43+860	40	TCS-17	6- Lane Divided Highway for VUP/LVUP Approach Road
672	43+860	43+880	20	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
673	43+880	43+900	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
674	43+900	44+020	120	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
675	44+020	44+040	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
676	44+040	44+060	20	TCS-4	4 - Lane Divided Highway (Filling Height <3m) New Construction Section
677	44+060	44+080	20	TCS-1	4 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section
678	44+080	44+100	20	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
679	44+100	44+380	280	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
680	44+380	44+400	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
681	44+400	44+420	20	TCS-2	4 - Lane Divided Highway (Partial Cut/Fill <3m) New Construction Section
682	44+420	44+440	20	TCS-1	4 - Lane Divided Highway Cutting Section (Cutting Height < 3m) New Construction Section
683	44+440	44+460	20	TCS-7	4 - Lane Divided Highway with Breast wall on one side (One side Filling <3m) New Construction
684	44+460	45+360	900	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
685	45+360	45+420	60	TCS-8	4 - Lane Divided Highway with Breast wall on one side (One side Cutting <3m) New Construction Section
686	45+420	45+645	225	TCS-10	4 - Lane Divided Highway (Both sides Breast wall) New Construction
			45645.0	**M**	

Note:

1. *Any variations in the lengths of various TCS as specified in the Table 2.10 shall not constitute a Change of Scope.*

2. *Lengths mentioned in the above list for cross section types concerned to structures are inclusive of structure length.*

3. *RE wall to be provided for full height on all structures.*

4. *Toe wall to be provided where ROW is restricted and water bodies along the proposed highway on the sections specified in Schedule-B.*

5. *Chainage may be adjusted according to location of structures as per Site conditions.*

6. *Carriageway width tapering shall be provided 1 in 50 as per manual Clause 2.5.4*

7. *Intermediate Sight Distance (Desirable Minimum Sight Distance) shall be followed for design of all vertical curves (Summit and Valley Curves) including structures as well as highways.*

8. *A 2m wide utility corridor, along with earthen Drain/ Lined drain/Covered Drain as per TCS shall be accommodated in the ROW.*

3 Intersections and Grade Separated Intersections

All at-grade intersections and grade separated intersections shall be as per Section 3 of the Manual. Existing at-grade intersections shall be improved to the prescribed standards.

The service road pavement composition shall be continued on crossroads of the intersections for the length specified for at-grade and grade separated intersections.

Properly designed intersections shall be provided at the locations and of types and features given in the tables below:

(a) At-grade intersections Major Junctions:

Improvement of major junctions shall be carried out at the following locations:

Sr. No.	Design Chainage (Km)	Type of Junction	Leads to		Median Opening	Category of Cross Road	Carriageway Width (m) of crossroad	Length of crossroad to be developed	
			Left	Right				LHS	RHS
1.	Nil								

(b) Minor Intersections:

Sr. No.	Design Chainage (Km)	Type of Junction	Leads to		Median Opening	Category of Cross Road	Carriageway Width (m) of crossroad	Length of crossroads to be developed	
			Left	Right				LHS	RHS
Nil									

Note:

1. *"Typical Layout as per type Designs for Intersections on National Highways, 1992, Geometric Design and Typical Cross Sections of Major Junction is included in Annexure – IV to schedule-B."*

2. *Type of Junction to be improved as per Manual. (clause No. 3.2.5 IRC: SP:84-2019)*

3. *The Concessionaire shall take up 'Detailed Engineering study' to ascertain further details of all intersections and treatment of the intersections shall be designed in accordance with the latest guidelines mentioned out in section-3 of the Manual. Auxiliary lanes including storage, acceleration and deceleration lane along with physical islands to be provided.*

   The cross road at the junctions which are having a level difference from the main carriageway, are to be improved at the level of main carriageway for the length of 30 metre and then to be merged with the cross road at the gradient not more than 1:50.

4. *For minor / major layout for left-in / left out arrangement with physical islands with hazard marking. Where* there *is space constraint to provide physical islands, the effect of junction kept wide opened can be avoided by ghost island with marking.*

5. *U-turn facility shall be created. (Fig. 3.7 of manual).*

3.1 At-Grade Intersections below Grade Separators/interchanges: These shall be provided as given at para 2.9 of this Annexure-I of Schedule B (Clause No. 3.4.7 of IRC: SP:84-2019)

S. No.	Design Chainage (Km)	Junction Type	Leads to		U-Turn provision in Viaduct Spans	Category of Cross Road	Carriageway Width of Cross Road (m)	Length of Cross Road to be Developed (m)	
		(T, Y, +)	Left	Right				LHS	RHS
1	0+232	+	To Village	To Village	No	VR	3.75	50	50
2	0+229	+	To Village	To Village	No	VR	3.75	50	50
3	6+557	+	To Village	To Village	No	VR	3.75	50	50
4	7+095	+	To Village	To Village	No	VR	3.75	50	50
5	7+700	+	To Village	To Village	No	VR	3.75	50	50
6	9+850	+	To Village	To Village	No	VR	3.75	50	50
7	10+135	+	To Village	To Village	No	VR	3.75	50	50
8	10+270	+	To Village	To Village	No	VR	3.75	50	50
9	11+185	+	To Village	To Village	No	VR	3.75	50	50
10	11+860	+	To Village	To Village	No	VR	5.50	50	50
11	12+275	+	To Village	To Village	No	VR	3.75	50	50
12	12+700*	+	To Village	To Airport	No	NH-06	7	50	50
13	13+200	+	To Village	To Village	No	NH-06	7.0	50	50
14	13+385	+	To Village	To Village	No	VR	3.50	50	50
15	14+720	+	To Village	To Village	No	VR	3.75	50	50
16	15+700	+	To Village	To Village	No	VR	3.5	50	50
17	17+360	+	To Village	To Village	No	VR	3.75	50	50
18	18+650	+	To Village	To Village	No	VR	3.75	50	50
19	20+330	+	To Village	To Village	No	VR	3.75	50	50
20	21+378	+	To Village	To Village	No	VR	3.75	50	50
21	21+792	+	To Village	To Village	No	VR	3.75	50	50
22	22+595	+	To Village	To Village	No	VR	3.75	50	50
23	25+545	+	To Village	To Village	No	VR	7.5	50	50
24	28+685	+	To Village	To Village	No	VR	3.75	50	50
25	29+675	+	To Maphlong	To Maphlong	No	MDR-30	5	50	50
26	30+247	+	To Village	To Village	No	VR	3.75	50	50
27	30+461	+	To Village	To Village	No	VR	3	50	50
28	31+500	+	To Village	To Village	No	VR	3	50	50

S. No.	Design Chainage (Km)	Junction Type	Leads to		U-Turn provision in Viaduct Spans	Category of Cross Road	Carriageway Width of Cross Road (m)	Length of Cross Road to be Developed (m)	
		(T, Y, +)	Left	Right				LHS	RHS
29	31+770	+	To Village	To Village	No	VR	3.5	50	50
30	32+160	+	To Village	To Village	No	VR	3.5	50	50
31	32+640	+	To Village	To Village	No	VR	3.5	50	50
32	36+680	+	To Village	To Village	No	VR	3.5	50	50
33	39+600	+	To Village	To Village	No	VR	5.5	50	50
34	42+140	+	To Village	To Village	No	VR	3.5	50	50
35	42+240	+	To Village	To Village	No	VR	3.75	50	50
36	42+560	+	To Village	To Village	No	VR	3.5	50	50
37	44+940	+	To Village	To Village	No	VR	3.0	50	50
38	45+100	+	To Village	To Village	No	VR	5.50	50	50
39	45+520	+	To Village	To Village	No	VR	3.5	50	50

***Note- The contractor shall develop the approach road from Interchange at Km 0+000, 12+700, 27+170 & 44+935 upto existing NH06/Roads as 4- Lane + PS configuration for the length of 1211m, 339m, 1081m & 905m & new junction forming at both ends are to be developed.**

Note:

1. *The Concessionaire shall take up 'Detailed Engineering study' to ascertain further details of all intersections and treatment of the intersections shall be designed in accordance with the latest guidelines mentioned out in Section 3 of manual*

2. *Junction improvement under grade separators shall be carried out as per manual with proper entry/exit to crossroads and slip/service road, etc. Auxiliary lanes including storage, acceleration and deceleration lane along with physical islands to be provided*

3. *Location of grade-separated structures are indicative. Exact location should be decided in consultation with Independent Engineer*

4. *Only Entry or Exit shall be designed at any location (provision of entry/exit by ghost island not permitted).*

5. *Intersection Layout, Entry/Exit, Right Turning Lane, U-Turns, Geometric Design and Typical Cross Sections of Interchange shall be included by DPR consultant in Annexure to schedule-B."*

4 Road Embankment and Cut Section

Construction of road embankment/cuttings shall conform to the Specifications and Standards given in **Section 4** of the manual. Notwithstanding anything to the contrary contained in this Agreement or manual, the difference of the proposed profile and the existing ground level of the project highway as indicated in the Annexure-III of Schedule A shall be treated as minimum requirement.

Based on site/design requirement, the Concessionaire shall design the alignment plans and profiles of the project highway based on site/design requirement mentioned in Schedule B with approval from the Independent Engineer/Authority Engineer within the available Right of Way. However, it is clarified that bottom of subgrade level shall be at-least 1500 mm above HFL/Existing ground level for a greenfield/ bypass stretch. In case of green field stretches / realignments stretches / bypasses / full reconstruction of existing stretches (if the existing stretches have been overtopped in past during rains /floods), the bottom of subgrade shall be 1000 mm above highest flood level (HFL)/ ground water table/ Natural ground level / pond level, whichever is higher.

The side slopes shall not be steeper than 2H:1V. In case, there is a ROW constraint than, suitable soil retaining structures shall be provided.

For stability of slope upto 3 metre height, turfing can be adapted. For the slope from 3-6 metre, suitable geocell, geo-grid, geo-green etc. can be provided with suitable drainage chutes and suitable energy dissipaters as per IRC 56. For the slope more than 6 metre height, a complete slope stability analysis as per IRC:75 shall be done, and the slopes shall be compulsorily protected with stone pitching within stone masonry grid structure of 4x4 metre and suitable drains/chutes and energy dissipaters etc. shall be provided for effective drainage of the water.

Where pond ash is used for embankment construction, the embankment shall be designed and constructed in accordance with IRC: SP: 58 (Clause No. 4.2.4 & 4.4.4.i (d) IRC: SP: 84-2019)

The Concessionaire shall deploy grading, paving and compaction equipment fitted with Machine Guidance & Control System (MGCS) for finishing of all grades including Embankment, and Subgrade. 3D Machine Guidance and Control Systems for Motor Graders / Paver and 3D Machine Guidance System in Compactors and Dozers shall be done with help of 3D Digital model generated from Design to ensure quality standards as per IRC specifications and productivity improvement. Further, Concessionaire shall ensure the generation of measurable digital records that can be shared on a digital drive or can viewed in real time. The hardware and software used by the Concessionaire shall have features and specifications mentioned at Schedule D.

5 Pavement Design

5.1 Pavement design shall be carried out in accordance with Section 5 of the Manual.

5.1.1 Concessionaire shall develop 3D digital models and use 3D Machine Guidance and Control Systems for Motor Graders and Paver and 3D Machine Guidance System in Compactors and Dozers to ensure quality standards as per IRC specifications and productivity improvement. Further, Concessionaire shall generate measurable digital records that can be shared on a digital drive or can viewed in real time. The hardware and software used by the Concessionaire shall have features and specifications mentioned at Schedule D.

5.2 Type of Pavement and Design requirement

The pavement shall be Flexible type for entire length of project highway (For Main Carriageway and Service Road). However, the concessionaire is free to choose the type of pavement without any cost implication to the authority.

5.2.1 Design Period and Strategy: - Flexible Pavement shall be designed for a minimum design period of 20 years and minimum sub grade CBR of 8% and maximum subgrade CBR of 10%. whereas Rigid pavement shall be designed for a minimum design period of 30 years. Stage construction shall not be permitted.

5.2.2 Recommended Pavement Design: - Notwithstanding anything to the contrary contained in this Agreement or the manual, the Concessionaire shall design the pavement of main carriageway for a minimum design traffic of 110 MSA.

5.2.3 The pavement for service road/slip roads shall be designed for projected traffic of 30 MSA subject to minimum as follows:

i. Service Roads in Built-up areas for minimum 30 MSA

ii. Slip Roads for minimum 30 MSA

iii. Service Roads in Rural Area for minimum 30 MSA

iv. Cross Roads along HSC for minimum 10 MSA

5.2.4 In case the concessionaire uses the service road as diversion road, then the pavement for service road shall be designed for a traffic minimum of 10 MSA

5.3 In order to meet the intended functional requirement of respective pavement layers on main carriageway, the minimum thickness of respective pavement layers for main carriageway and connecting cross roads/service roads/ slip roads/entry/exit locations, acceleration/ deceleration lane, right turning lanes shall be for a design life of 20 years for flexible pavement & 30 years for rigid pavement and minimum design traffic of 110MSA.

5.3.1 Deleted

5.3.2 Deleted

5.3.3 Deleted

5.3.4 Deleted

5.4 Reconstruction of Stretches with New pavement

The following stretches of the existing road shall be reconstructed. These shall be designed as new pavement.

Sr. No.	Design Chainage (km)		Pavement composition	Remarks
	From	To		
Nil				

5.5 Bituminous Mix for Overlay

The following stretches of the existing road shall be provided bituminous overlay as follows:

Sr. No.	Design Chainage (km)		Overlay Pavement Composition	Remarks
	From	To		
	Nil			

Note:

1. *The Pavement crust composition shall be designed in accordance with latest guidelines of IRC 58-2015.*

6 Roadside Drainage

6.1 Drainage system including surface and subsurface drains for the Project Highway including crossroads shall be provided as per section 6 of the Manual. Concessionaire shall provide a drainage plan along with its drainage profile which should be reviewed and approved by the Engineer. RCC Drain shall conform to the cross- sectional features and other details as given in Annexure II to Schedule-B and shall be provided as under:

Details of RCC Drain for Main Carriageway

LEFT			RIGHT			Min bottom Width x Min Depth of Drain (m)
FROM CHAINAGE (M)	TO CHAINAGE (M)	LENGTH (M)	FROM CHAINAGE (M)	TO CHAINAGE (M)	LENGTH (M)	
0+520	1+080	560	0+600	1+040	440	1.2X1.2
1+110	1+485	375	1+220	1+300	80	1.2X1.2
1+580	1+680	100	1+320	1+460	140	1.2X1.2
1+880	3+020	1140	1+600	1+680	80	1.2X1.2

LEFT			RIGHT			Min bottom Width x Min Depth of Drain (m)
FROM CHAINAGE (M)	TO CHAINAGE (M)	LENGTH (M)	FROM CHAINAGE (M)	TO CHAINAGE (M)	LENGTH (M)	
3+060	3+500	440	1+880	2+440	560	1.2X1.2
3+520	4+320	800	2+460	2+560	100	1.2X1.2
4+350	4+550	200	2+660	2+860	200	1.2X1.2
4+620	4+680	60	3+080	3+220	140	1.2X1.2
4+980	5+400	420	3+260	3+500	240	1.2X1.2
5+440	5+630	190	3+540	3+680	140	1.2X1.2
5+650	6+060	410	3+860	4+300	440	1.2X1.2
6+120	7+263	1143	4+480	4+540	60	1.2X1.2
7+277	7+520	243	4+940	5+360	420	1.2X1.2
7+580	7+696	116	5+480	5+580	100	1.2X1.2
7+704	7+800	96	5+680	5+700	20	1.2X1.2
8+760	8+820	60	5+760	5+820	60	1.2X1.2
8+960	9+020	60	6+160	7+263	1103	1.2X1.2
9+100	9+205	105	7+277	7+540	263	1.2X1.2
9+250	9+400	150	7+760	7+780	20	1.2X1.2
9+420	10+265	845	9+300	9+380	80	1.2X1.2
10+500	10+575	75	9+440	10+265	825	1.2X1.2
13+760	13+840	80	10+520	10+540	20	1.2X1.2
13+860	14+260	400	13+720	14+280	560	1.2X1.2
17+364	17+980	616	15+880	15+940	60	1.2X1.2
18+000	18+020	20	17+400	17+840	440	1.2X1.2
18+160	18+880	720	18+180	18+880	700	1.2X1.2
19+080	19+120	40	18+920	18+940	20	1.2X1.2
19+240	19+380	140	19+000	19+460	460	1.2X1.2
19+400	19+420	20	19+500	19+540	40	1.2X1.2
19+440	19+460	20	19+640	19+660	20	1.2X1.2
19+780	19+840	60	19+680	19+740	60	1.2X1.2
19+880	19+920	40	19+760	19+960	200	1.2X1.2
20+120	20+326	206	19+980	20+040	60	1.2X1.2
20+980	21+160	180	20+080	20+326	246	1.2X1.2
21+200	21+320	120	20+960	21+320	360	1.2X1.2
21+440	21+500	60	21+440	21+500	60	1.2X1.2
21+520	21+560	40	21+520	21+660	140	1.2X1.2
21+580	21+620	40	21+740	21+940	200	1.2X1.2
21+720	21+940	220	21+980	22+660	680	1.2X1.2
22+000	22+740	740	22+760	22+900	140	1.2X1.2
22+860	22+920	60	23+100	23+180	80	1.2X1.2
23+100	23+180	80	23+460	23+480	20	1.2X1.2
23+540	23+780	240	23+500	23+900	400	1.2X1.2
23+920	24+220	300	23+940	24+200	260	1.2X1.2
24+500	24+700	200	24+400	24+480	80	1.2X1.2
24+720	24+740	20	24+500	24+740	240	1.2X1.2
25+100	25+140	40	24+960	25+185	225	1.2X1.2
25+563	28+140	2577	25+580	26+960	1380	1.2X1.2
28+340	28+500	160	27+000	28+140	1140	1.2X1.2
28+540	28+840	300	28+340	28+500	160	1.2X1.2
28+980	29+340	360	28+540	28+820	280	1.2X1.2
29+620	30+060	440	28+940	29+320	380	1.2X1.2
30+740	31+000	260	29+540	30+020	480	1.2X1.2
31+240	31+300	60	30+100	30+140	40	1.2X1.2
31+560	32+340	780	30+740	31+000	260	1.2X1.2
32+360	33+080	720	31+540	33+080	1540	1.2X1.2
33+700	34+160	460	33+700	34+580	880	1.2X1.2

LEFT			RIGHT			Min bottom Width x Min Depth of Drain (m)
FROM CHAINAGE (M)	TO CHAINAGE (M)	LENGTH (M)	FROM CHAINAGE (M)	TO CHAINAGE (M)	LENGTH (M)	
34+200	34+600	400	34+840	34+940	100	1.2X1.2
34+840	35+006	166	35+480	35+700	220	1.2X1.2
35+480	35+700	220	35+820	35+900	80	1.2X1.2
35+900	35+960	60	35+980	36+000	20	1.2X1.2
36+040	36+865	825	36+020	36+865	845	1.2X1.2
36+920	37+080	160	36+920	37+120	200	1.2X1.2
37+200	37+680	480	37+200	37+600	400	1.2X1.2
38+060	38+080	20	38+040	38+080	40	1.2X1.2
38+100	38+300	200	38+220	38+240	20	1.2X1.2
38+320	38+360	40	38+640	38+960	320	1.2X1.2
38+640	39+000	360	39+360	39+380	20	1.2X1.2
39+340	39+600	260	39+420	39+580	160	1.2X1.2
39+740	40+020	280	39+740	40+080	340	1.2X1.2
40+180	40+240	60	40+180	40+260	80	1.2X1.2
40+520	40+640	120	40+540	40+650	110	1.2X1.2
40+780	40+840	60	40+720	40+740	20	1.2X1.2
41+100	41+240	140	40+780	40+865	85	1.2X1.2
41+420	41+640	220	40+875	41+240	365	1.2X1.2
41+660	41+980	320	41+420	41+620	200	1.2X1.2
42+020	42+040	20	41+640	41+980	340	1.2X1.2
42+060	42+620	560	42+020	42+645	625	1.2X1.2
42+720	42+743	23	43+140	43+400	260	1.2X1.2
43+140	43+380	240	43+420	43+540	120	1.2X1.2
43+420	43+540	120	43+880	44+040	160	1.2X1.2
43+880	44+020	140	44+060	44+440	380	1.2X1.2
44+060	44+380	320	44+460	45+645	1185	1.2X1.2
44+420	45+645	1225				1.2X1.2
		25446	**Total**		**24517**	

Details of RCC Drain for Interchanges

Left Side			Right Side		
Ch. From	Ch. To	Length (m)	Ch. From	Ch. To	Length (m)
Interchange at km 0+000 including Approach/connecting roads		3811	Interchange at km 0+000 including Approach/connecting roads		3811
Interchange at km 12+700 including Approach/connecting roads		339	Interchange at km 12+700 including Approach/connecting roads		339
Interchange at km 27+170 including Approach/connecting roads		5182	Interchange at km 27+170 including Approach/connecting roads		5182
Interchange at km 44+935 including Approach/connecting roads		4405	Interchange at km 44+935 including Approach/connecting roads		4405
Total		**13737**	**Total**		**13737**

Note:

- *Unlined drain and lined covered drain/RCC drain/Footpath cum drain shall conform to the cross- sectional features and other details specified as per section 2.10 of Annex-I of Schedule-B.*

- *The water from main carriageway to be drained to the nearest RCC drain through piping network which will be laid below slip/service. Interval to be decided based on-site conditions.*

- *The above locations are minimum. Additional locations, if any required to maintain continuity in drainage to the nearest outfall/cross drainage structure as per site condition shall be provided as per manual. Any increase in length upto 10% of the scope defined above shall not be treated as a change in scope of work.*

6.2 **Unlined Drains** other than the above-mentioned locations shall be provided in the entire project length which gets terminated at all crossroad locations. In case, the definite outfall is not available, a rainwater harvesting system shall be provided at the deepest location for dispersal of water.

The size of Unlined drain should have a minimum width of 0.6m at bottom, minimum depth of 0.6m and a minimum slide slope of 2H to 1V. The Bed slope should be based on drainage profile.

The drainage plan shall account for the water from the ROW area along with the area outside the ROW as well.

6.3 Median Drain

Lined drain shall be provided in the centre of the median at super elevation locations and depressed/Flushed median with turfing on both side of the Drain as per IRC SP 42-2014. Draining of storm water from one carriage way to other carriageway is not permitted. The concessionaire shall design the median drain based on site/design requirement mentioned in schedule D with approval from the Independent Engineer and shall be connected with the nearest culvert/outfall.

6.4 Drainage arrangement between Main Carriageway and Service/Slip Roads

A suitable drainage arrangement for draining storm water of main carriageway shall be provided. Storm water of main carriageway to service road is not permitted.

6.5 Drainage where Embankment Height is more than 3m

Drainage chutes shall be provided at suitable interval on embankment slopes. The drainage arrangement shall include kerb, cement concrete drainage channel at the edge roadway, Cement Concrete Chutes, CC bedding, energy dissipation basin, etc. Mountable Kerb shall be provided beyond the post of MBCB to channelize storm water into chute (Clause No. 6.8.2.4 of IRC: SP:84-2019)

6.6 Drainage for Structures (Clause No. 6.8 IRC: SP: 84-2019)

A suitable drainage arrangement for draining storm water from deck slab shall be provided. Water shall not fall on any surface of the structures, or remain standing or flowing over the road below structure.

6.7 Drainage for Underpass and Subways Structures (Clause No. 6.8.3 IRC: SP: 84-2019)

A suitable drainage arrangement for draining storm water from Underpass and Subways shall be provided.

6.8 Drainage arrangement of Retaining Structures

Vertical Drop-down drainage pipes with suitable cleaning provision shall be provided at suitable interval. Drainage fixtures and dropdown pipes shall be of rigid, corrosion resistant material not less than 100mm dia. The storm water of main carriageway draining on service road is not permitted.

Few photographs showing the drainage arrangement are presented for reference.

Takedown pipe at interval with 300mm Dia. HP in separator and cross connection to side drains.

Alternatively: Long pipe slopped along ramp with connection with drainage spout & vertical take down pipe and connected to main drain

7 Design of Structures

7.1 General

Project Highway is proposed to be constructed to Four lane configuration. As such, superstructure of all bridges, culverts and structures is to be designed for edge movement of the vehicle considering stitching of new superstructure in future due to widening for additional lane. **All bridges, culverts and structures to be designed for Special Vehicle (SV) loading, Class 70R, Class A and congestion factor, whichever is critical, as per latest IRC provisions.**

All structures except wherever expansion joints have been provided, the pavement layers (WMM, DBM & BC) shall be continued over the structures for smooth riding quality of the project highway. These structures shall be designed considering the dead load of pavement (WMM, DBM, BC, etc.) layers.

All major structures will be designed preferably as continuous slab to reduce the number of expansion joints on the MJB/ ROBs/ flyover/ interchange etc.

7.1.1 All structures to be designed for Special Vehicle (SV) loading, Class 70R, Class A and congestion factor, whichever is critical, as per latest IRC provisions. and constructed in accordance with section-7 of the manual and shall conform to the cross-sectional features and other details specified therein.

7.1.2 Clear deck width of bridges/grade separated structures/ RoBs (measured from inside to inside of crash barrier) in their approaches shall be equal to the roadway width (carriageway width+ paved shoulder width+ earthen shoulder width+ width of median including shyness for raised median /depressed median as applicable). In case of footpath on bridge/RoB, the width of earthen shoulder shall be tapered at the rate of 1:15 (MORTH Circular: RW/NH-33044/22/2020-S&R dated 4th June, 2024).

7.1.3 The Safety Barrier and Footpath on Bridges and ROB shall continue on approaches. The footpath shall be provided with paved surface & railing till the embankment height is more than 3m (Clause No. 7.17 IRC: SP:84-2019)

Details of Structures with footpaths

Sr. No.	Location at km	Skew Angle	Footpath Width(m)	Remarks
1	6+557	-	1.0	Footpath on Bridges
2	7+100	-	0.5	Footpath on Bridges
3	9+850	-	0.5	Footpath on Bridges
4	10+135	-	0.5	Footpath on Bridges
5	18+650	-	0.5	Footpath on Bridges
6	21+792	16	0.5	Footpath on Bridges
7	22+595	30	0.5	Footpath on Bridges
8	28+685	13	0.5	Footpath on Bridges

Sr. No.	Location at km	Skew Angle	Footpath Width(m)	Remarks
9	29+675	24	0.5	Footpath on Bridges
10	31+770	-	0.5	Footpath on Bridges
11	32+160	32	0.5	Footpath on Bridges
12	32+640	-	0.5	Footpath on Bridges
13	36+680	22	0.5	Footpath on Bridges
14	42+140	19	0.5	Footpath on Bridges
15	42+240	-	0.5	Footpath on Bridges
16	42+560	-	0.5	Footpath on Bridges
17	45+520	12	0.5	Footpath on Bridges

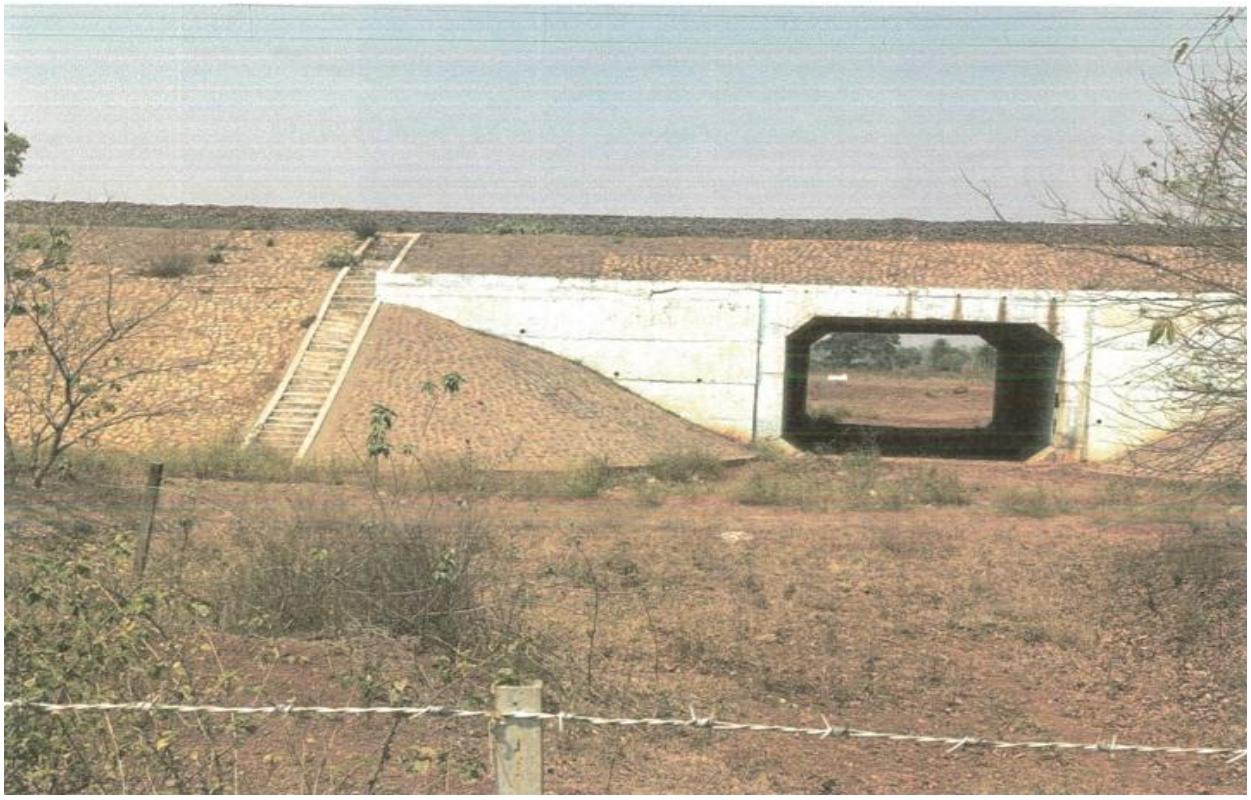
7.1.4 All bridges shall be high-level bridges.

7.1.5 All structures shall be designed to carry utility services on outer side of RCC barrier/Railing as per site requirement.

7.1.6 Cross section of the new culverts and bridges at deck level for the Project Highway shall conform to the typical cross sections given in Section 2.10 of Annex-I Schedule-B.

7.1.7 An inspection gallery along with a caged ladder (access from the deck slab) to be provided at each pier location for facilitating regular inspection of structures. An indicative General Arrangement Drawing (GAD) has been prepared and is attached at Appendix-A which may be made a part of Concession/Contract Agreement. For location where access for the deck slab is not possible from the top, the same may be provided from the bottom i.e. by providing staircase along the pier up to the top of pier cap along with an inspection platform all around the pier cap as shown in the indicative GAD. If this is not feasible, then some other kind of arrangement has to be made to provide access to the top of pier cap for inspecting bearings, underneath the box/slab structures etc.

7.1.8 Staircase (with stone masonry/concrete) in the approaches to box/slab culverts (near the end of return wall)/minor and major bridge by the side of abutments on either side of the carriageway to access the underneath box/slab culverts/bridges. An indicative picture is shown below (for understanding purpose only)



7.2 Culverts

7.2.1 Overall width of all culverts shall be equal to the roadway width of the approaches. The overall width of culverts shall be including width of main carriageway and slip/service roads/Entry ramps/Exit Ramps/Acceleration/Deceleration lanes, etc. All culverts shall also be continued in median and in gap between main carriageway and service road.

7.2.2 New/Reconstruction of existing RCC pipe culverts: The existing culverts at the following locations shall be re-constructed as new culverts:

Sr. No	Design Chainage	Culvert Type	Skew Angle	Span/ Opening (m)	New/ Reconstruction	Culvert Crossing Type (Balancing/Stream, etc.)	Remarks
Nil							

7.2.3 Widening of existing RCC Pipe culverts

All existing culverts which are to be retained shall be widened to the proposed roadway width of the Project Highway as per the typical cross section given in section 7 of the Manual. Repairs and strengthening of existing structures where required shall be carried out.

Sr. No	Design Chainage	Culvert Type	Skew Angle	Span/ Opening (m)	Repairs / Rehabilitation proposals	Culvert Crossing Type (Balancing/ Stream, etc.)	Remarks

Nil

7.2.4 Construction of Box Culverts:

7.2.5 New/Reconstruction of box culverts (given in table below) shall be constructed for width equal to the proposed roadway width of the Project Highway & as per typical cross-section given in schedule B. The details are given as under:

Main Carriageway

S. No.	Design chainage (Km)	Number of Spans	Span Arrangement (m)	Skew Angle	Culvert Crossing Type	Remarks
1	1+200	1	2	-	Drain	New Proposed
2	2+440	1	2	-	Drain	New Proposed
3	2+630	1	3	-	Drain	New Proposed
4	2+960	1	6	-	Drain	New Proposed
5	3+220	1	3	-	Drain	New Proposed
6	3+500	1	5	-	Drain	New Proposed
7	3+810	1	5	-	Drain	New Proposed
8	5+710	1	6	-	Drain	New Proposed
9	5+840	1	3	-	Drain	New Proposed
10	5+930	1	2	-	Drain	New Proposed
11	6+400	1	2	-	Drain	New Proposed
12	7+555	1	6	-	Drain	New Proposed
13	9+400	1	6	-	Drain	New Proposed
14	9+840	1	3	-	Drain	New Proposed
15	10+965	1	5 (Skew Length-5.717m)	29	Drain	New Proposed
16	11+160	1	3	-	Drain	New Proposed
17	11+195	1	3	-	Drain	Reconstruction
18	11+220	1	5 (Skew Length-6.434m)	39	Drain	New Proposed
19	11+280	1	3	-	Drain	New Proposed
20	11+490	1	5 (Skew Length-7.472 m)	48	Drain	New Proposed
21	11+820	1	3	-	Drain	New Proposed
22	11+858	1	2	-	Drain	Reconstruction
23	11+980	1	5	-	Drain	New Proposed
24	12+085	1	5 (Skew Length-6.951m)	44	Drain	New Proposed
25	12+200	1	3	-	Drain	New Proposed
26	12+545	1	5	-	Drain	New Proposed
27	12+775	1	5	-	Drain	New Proposed
28	13+360	1	3	-	Drain	New Proposed
29	13+490	1	2 (Skew Length-2.504m)	37	Drain	New Proposed
30	13+685	1	5 (Skew Length-5.962m)	33	Drain	New Proposed
31	13+845	1	2	-	Drain	New Proposed
32	14+450	1	2	-	Drain	New Proposed
33	14+580	1	2	-	Drain	New Proposed
34	14+900	1	3	-	Drain	New Proposed
35	15+320	1	3	-	Drain	New Proposed
36	15+455	1	3	-	Drain	New Proposed

S. No.	Design chainage (Km)	Number of Spans	Span Arrangement (m)	Skew Angle	Culvert Crossing Type	Remarks
37	15+780	1	6 (Skew Length-6.471m)	22	Drain	New Proposed
38	15+785	1	3 (Skew Length-3.236m)	22	Drain	New Proposed
39	16+035	1	3	-	Drain	New Proposed
40	16+110	1	3	-	Drain	New Proposed
41	16+230	1	3 (Skew Length-3.236m)	22	Drain	New Proposed
42	16+410	1	3	-	Drain	New Proposed
43	17+040	1	5 (Skew Length-5.717m)	29	Drain	New Proposed
44	17+215	1	5	-	Drain	New Proposed
45	17+940	1	5	-	Drain	New Proposed
46	18+900	1	5	-	Drain	New Proposed
47	18+960	1	5	-	Drain	New Proposed
48	19+185	1	6	-	Drain	New Proposed
49	19+480	1	5	-	Drain	New Proposed
50	19+610	1	6	-	Drain	New Proposed
51	19+745	1	2	-	Drain	New Proposed
52	19+960	1	5	-	Drain	New Proposed
53	20+050	1	3	-	Drain	New Proposed
54	20+350	1	3	-	Drain	New Proposed
55	20+425	1	5 (Skew Length-6.261m)	37	Drain	New Proposed
56	20+860	1	5	-	Drain	New Proposed
57	21+160	1	5	-	Drain	New Proposed
58	21+315	1	3	-	Drain	New Proposed
59	21+500	1	2	-	Drain	New Proposed
60	21+560	1	2	-	Drain	New Proposed
61	21+640	1	2	-	Drain	New Proposed
62	21+710	1	3	-	Drain	New Proposed
63	21+940	1	5	-	Drain	New Proposed
64	21+975	1	5 (Skew Length-6.345m)	38	Drain	New Proposed
65	21+995	1	2	-	Drain	New Proposed
66	22+740	1	3	-	Drain	New Proposed
67	22+725	1	3	-	Drain	New Proposed
68	23+070	1	5	-	Drain	New Proposed
69	23+200	1	5	-	Drain	New Proposed
70	23+270	1	6	-	Drain	New Proposed
71	23+485	1	2	-	Drain	New Proposed
72	23+860	1	5	-	Drain	New Proposed
73	24+200	1	2	-	Drain	New Proposed
74	24+450	1	2	-	Drain	New Proposed
75	24+750	1	2	-	Drain	New Proposed
76	24+920	1	6	-	Drain	New Proposed
77	26+970	1	3	-	Drain	New Proposed
78	28+200	1	5 (Skew Length-6.527m)	40	Drain	New Proposed
79	28+520	1	3	-	Drain	New Proposed
80	28+840	1	6	-	Drain	New Proposed
81	28+920	1	5 (Skew Length-5.774m)	30	Drain	New Proposed
82	29+380	1	2	-	Drain	New Proposed

S. No.	Design chainage (Km)	Number of Spans	Span Arrangement (m)	Skew Angle	Culvert Crossing Type	Remarks
83	29+560	1	5	-	Drain	New Proposed
84	29+920	1	2	-	Drain	New Proposed
85	30+070	1	2	-	Drain	New Proposed
86	30+140	1	2	-	Drain	New Proposed
87	31+040	1	2	-	Drain	New Proposed
88	31+140	1	5	-	Drain	New Proposed
89	31+460	1	6 (Skew Length-6.158m)	13	Drain	New Proposed
90	31+535	1	2	-	Drain	New Proposed
91	32+350	1	2	-	Drain	New Proposed
92	34+160	1	3	-	Drain	New Proposed
93	34+470	1	2	-	Drain	New Proposed
94	35+920	1	6	-	Drain	New Proposed
95	36+820	1	2	-	Drain	New Proposed
96	37+345	1	2	-	Drain	New Proposed
97	37+590	1	2	-	Drain	New Proposed
98	38+160	1	5	-	Drain	New Proposed
99	38+270	1	5	-	Drain	New Proposed
100	41+010	1	6	-	Drain	New Proposed
101	41+240	1	2 (Skew Length-2.103m)	18	Drain	New Proposed
102	41+350	1	6	-	Drain	New Proposed
103	41+620	1	2	-	Drain	New Proposed
104	41+980	1	2	-	Drain	New Proposed
105	42+840	1	6 (Skew Length-9.746m)	52	Drain	New Proposed
106	42+905	1	6	-	Drain	New Proposed
107	43+400	1	2	-	Drain	New Proposed
108	43+615	1	3	-	Drain	New Proposed
109	43+690	1	6	-	Drain	New Proposed
110	44+040	1	2	-	Drain	New Proposed
111	44+390	1	3 (Skew Length-3.398m)	28	Drain	New Proposed

Culverts at Interchange Km 0+000

S. No.	Design chainage (Km)	Number of Spans	Span Arrangement (m)	Skew Angle	Culvert Crossing Type	Remarks
1	0+430 (EX NH-06 to Silchar Ramp 1)	1	2.0	-	Drain	New Proposed
2	0+590 (EX NH-06 to Silchar Ramp 1)	1	2.0	-	Drain	New Proposed
3	0+815 (EX NH-06 to Silchar Ramp 1)	1	2.0	-	Drain	New Proposed
4	0+1060 (EX NH-06 to Silchar Ramp 1)	1	2.0	-	Drain	New Proposed
5	0+020 (EX NH-06 to Silchar Ramp 1)	1	2.0	-	Drain	New Proposed
6	1+450	1	2.0	-	Drain	New Proposed

S. No.	Design chainage (Km)	Number of Spans	Span Arrangement (m)	Skew Angle	Culvert Crossing Type	Remarks
	(EX NH-06 to Silchar Ramp 1)					
7	0+355 (Ramp 2)	1	5.0	-	Drain	New Proposed
8	0+055 (Ramp 3)	1	2.00	-	Drain	New Proposed
9	0+120 (EX NH-06)	1	5.00	-	Drain	New Proposed
10	0+145 (Ramp-1)	1	5.00	-	Drain	New Proposed
11	0+375 (Ramp-1)	1	5.00	-	Drain	New Proposed

Culverts at Interchange Km 27+170

Sl. No.	Design chainage (Km)	Number of Spans	Span Arrangement (m)	Skew Angle	Culvert Crossing Type	Remarks
1	0+220 (Ramp-1)	1	3.00	-	Drain	New Proposed
2	0+450 (Ramp-1)	1	2.00	-	Drain	New Proposed
3	1+050 (Ramp-1)	1	2.00	-	Drain	New Proposed
4	1+290 (Ramp-1)	1	2.00	-	Drain	New Proposed
5	1+225 (Ramp-2)	1	2.00	-	Drain	New Proposed
6	1+830 (Ramp-2)	1	2.00	-	Drain	New Proposed
7	1+900 (Ramp-2)	1	2.00	-	Drain	New Proposed
8	0+290 (Ramp-3)	1	2.00	-	Drain	New Proposed
9	0+260 (Ramp-4)	1	2.00	-	Drain	New Proposed
10	0+310 (Ramp-4)	1	2.00	-	Drain	New Proposed
11	0+180 (EX NH 06)	1	2.00	-	Drain	New Proposed
12	0+280 (EX NH 06)	1	2.00	-	Drain	New Proposed

Culverts at Interchange Km 44+935

Sl. No.	Design chainage (Km)	Number of Spans	Span Arrangement (m)	Skew Angle	Culvert Crossing Type	Remarks
1	0+265 (Ramp-1)	1	3.00	-	Drain	New Proposed
2	1+295 (Ramp-1)	1	6.00	-	Drain	New Proposed
3	1+374 (Ramp-1)	1	6.00	-	Drain	New Proposed
4	1+600 (Ramp-2)	1	6.00	-	Drain	New Proposed

Existing Cross Road

Sl. No.	Design chainage (Km)	Number of Spans	Span Arrangement (m)	Skew Angle	Culvert Crossing Type	Remarks
1	0+360 (Cross Road 1) MCW Chainage From 0+750 to 1+500	1	5	-	Drain	New Proposed
2	0+500 (Cross Road 1) MCW Chainage From 0+750 to 1+500	1	5	-	Drain	New Proposed
3	0+255 (Cross Road 1) MCW Chainage From 0+750 to 1+500	1	2	-	Drain	New Proposed
4	0+420 (Cross Road 1) MCW Chainage From 0+750 to 1+500	1	5	-	Drain	New Proposed
5	0+490 (Cross Road 3) MCW Chainage From 6+160 to 6+800	1	2	-	Drain	New Proposed
6	0+680 (Cross Road 3) MCW Chainage From 6+160 to 6+800	1	2	-	Drain	New Proposed
7	0+040 (Cross Road 4) MCW Chainage From 6+400 to 6+560	1	5	-	Drain	New Proposed
8	0+115 (Cross Road 4) MCW Chainage From 6+400 to 6+560	1	2	-	Drain	New Proposed
9	0+490 (Cross Road 4) MCW Chainage From 6+400 to 6+560	1	2	-	Drain	New Proposed
10	0+460 (Cross Road 5) MCW Chainage From 6+600 to 7+100	1	5	-	Drain	New Proposed
11	0+630 (Cross Road 5) MCW Chainage From 6+600 to 7+100	1	2	-	Drain	New Proposed
12	0+160 (Cross Road 6) MCW Chainage From 21+000 to 21+200	1	5	-	Drain	New Proposed
13	0+055 (Connecting Road at Ch 12+700)	1	2	-	Drain	New Proposed
14	0+110 (Connecting Road at Ch 12+700) MCW Chainage At 12+700	1	2	-	Drain	New Proposed
15	0+215 (Connecting Road at Ch 12+700) MCW Chainage At 12+700	1	2	-	Drain	New Proposed

7.2.6 Widening of existing box culverts

All existing culverts which are to be retained shall be widened to the proposed roadway width of the Project Highway as per the typical cross section given in Schedule-B. Repairs and strengthening of existing structures where required shall be carried out.

Sr. No	Design Chainage	Culvert Type	Skew Angle	Span/ Opening (m)	Repairs / Rehabilitation proposals	Culvert Crossing Type (Balancing/ Stream, etc.)	Remarks
Nil							

7.2.7 Culverts on Crossroads

Box Type Structures on Crossroads: (Clause No. 6.2.7 IRC: SP:84-2019)

Sr. No	Design Chainage (km)	Span Arrangement (m)	Type (Box)	Length of Culvert	Remark
50 Nos. Box barrels of appropriate size shall be provided.					

7.2.8 Utility ducts in the form of NP-4 RCC Pipe dia. 600mm shall be provided across the Project Highway @ 0.5km c/c and along with inspection chamber for crossing of utilities anywhere as per requirements.

Sr. No	Design Chainage (km)		Remark
	From	To	
1	0.000	45.645	76 Nos. Single Row for one utility services @ 300m
2	0.000	45.645	76 Nos. Double Row for two utility services @ 600m
3	2283 m Length (Both side length- 4564 m)		Longitudinal duct

Note: The locations of the utility ducts shall be finalized in consultation with Engineer/NHIDCL.

7.3 Bridges

7.3.1 Existing Bridges to be reconstructed/widened:

Existing bridges proposed for to be re-construction as new structures.

Sr. No	Design Chainage (Km)	Total Proposed length (m)	Span arrangement	Type of Crossing	Total Proposed width (m)		Typical Cross Section of Manual	Skew Angle	Remarks
					MCW	SR			
	Nil								

Existing narrow bridges proposed to be retained and widened:

Sr. No	Design Chainage (Km)	Total Proposed length (m)	Span arrangement	Type of Crossing	Total Proposed width (m)		Typical Cross Section of Manual	Skew Angle
					MCW	SR		
Nil								

Note:

1 All Major and Minor Bridges to be designed for approach protection with concrete Toe wall with filter media and stone/ block pitching up to HFL of bridge +0.6 m with full height stone/ block pitching in cone filling portion of all four sides of abutments.

2 All river bridges & underpasses without slip roads shall be provided with steps for accessing the bottom in all two-cone filling portion for easy assessable bridges and approaches.

7.3.2 Additional New Bridges: New bridges at the following locations on the Project Highway shall be constructed. GADs for the new bridges are attached in the drawings folder:

Main Carriageway

Sr. No	Design Chainage (Km)	Total Proposed length (m)	Number of Spans	Span arrangement	Type of Crossing	Total Proposed width (m)		Typical Cross Section of Manual	Skew Angle	Remarks
						MCW	SR			
1	1+510		1	10.00	Stream	2 x 11.6	-	As per GAD		New construction
2	1+770	160.00	4	40.00	Stream	2 x 15.10	-	As per GAD		New construction
3	3+025	8.00	1	8.00	Stream	2 x 13.50	-	As per GAD		New construction
4	4+335	30.00	1	30.00	Stream	2 x 15.10	-	As per GAD		New construction
5	4+570	40.00	1	40.00	Stream	2 x 15.10	-	As per GAD		New construction
6	4+795	150.00	5	30.00	Stream	2 x 15.10	-	As per GAD		New construction
7	5+420	40.00	1	40.00	Stream	2 x 15.10	-	As per GAD		New construction
8	5+640	20.00	1	20.00	Stream	2 x 15.10	-	As per GAD		New construction
9	6+080	40.00	1	40.00	Stream	2 x 15.10	-	As per GAD		New construction
10	7+270	14.649	2	6.00 (Skew Length-7.325m)	Stream	2 x 13.50 (Skew Width-16.48m)	-	As per GAD	35	New construction
11	8+246	841.00	3 7	30.0 107.0	Stream	2 x 15.10	-	As per GAD		New construction
12	8+885	80.00	2	65.00	Stream	2 x 15.10	-	As per GAD		New construction
13	9+043	45.00	1	45.00	Stream	2 x 15.10	-	As per GAD		New construction
14	9+228		1	45.00	Stream	2 x15.10	-	As per GAD		New construction
15	10+370	102.00	1	102.00	Stream	2 x 15.10	-	As per GAD		New construction

Sr. No	Design Chainage (Km)	Total Proposed length (m)	Number of Spans	Span arrangement	Type of Crossing	Total Proposed width (m)		Typical Cross Section of Manual	Skew Angle	Remarks
						MCW	SR			
16	10+580	10.00	1	10.00	Stream	2 x 15.10	-	As per GAD		New construction
17	12+490	12.690	1	10.00 (Skew Length-12.690m)	Stream	2 x 11.60 (Skew Width-15.863m)	2X12.5 (Skew Width-14.271m)	As per GAD	38	New construction
18	13+060	120	3	40.00	Stream	2 x 13.50	-	As per GAD		New construction
19	20+549	26.152	1	15.00 (Skew Length-26.152m)	Stream	2 x 13.50 (Skew Width-23.540m)	-	As per GAD	55	New construction
20	22+970	20.00	2	10.00	Stream	32.00	-	As per GAD		New construction
21	23+420	10.00	1	10.00	Stream	2 x 15.10	-	As per GAD		New construction
22	24+320	20.0	1	20.00	Stream	2 x 13.50	-	As per GAD		New construction
23	24+780	11.326	1	10.00 (Skew Length-11.326m)	Stream	2 x 13.50 (Skew Width-15.290m)	-	As per GAD	28	New construction
24	24+815	10.576	1	10.00 (Skew Length-10.576m)	Stream	2 x 13.50 (Skew Width-14.280m)	-	As per GAD	19	New construction
25	25+215	60.00	2	30.00	Stream	1 x 15.10	-	As per GAD		New construction
26	25+245	120.00	4	30.00	Stream	1 x 15.10	-	As per GAD		New construction
27	33+100	10.00	1	10.00	Stream	2 x 13.50	-	As per GAD		New construction
28	33+410	320	1 1 1	85 150 85	Stream	2 x 13.50	-	As per GAD		New construction
29	34+720	204	2	102.00	Stream	2 x 15.10	-	As per GAD		New construction
30	35+230	448	4	112.00	Stream	2 x 15.10	-	As per GAD		New construction
31	35+750	102	1	102.00	Stream	2 x 15.10	-	As per GAD		New construction
32	37+140	15.00	1	15.00	Stream	2 x 15.10	-	As per GAD		New construction
33	37+866	321	3	107	Stream	2 x 15.10	-	As per GAD		New construction
34	38+500	240	6	40.00	Stream	2 x 15.10	-	As per GAD		New construction
35	39+120	240	6	40.00	Stream	2 x 15.10	-	As per GAD		New construction

Sr. No	Design Chainage (Km)	Total Proposed length (m)	Number of Spans	Span arrangement	Type of Crossing	Total Proposed width (m)		Typical Cross Section of Manual	Skew Angle	Remarks
						MCW	SR			
36	39+640	15.026	1	12.00 (Skew Length-15.026m)	Stream	2 x 13.50 (Skew Width-16.900m)	-	As per GAD	37	New construction
37	40+128	45.00	1	45.00	Stream	2 x 15.10	-	As per GAD		New construction
38	40+340	10.00	1	10.00	Stream	41.00	-	As per GAD		New construction
39	40+440	10.00	1	10.00	Stream	28.00	-	As per GAD		New construction
40	40+870	10.00	1	10.00	Stream	2 x 15.10	-	As per GAD		New construction
41	41+280	15.00	1	15.00	Stream	2 x 13.50	-	As per GAD		New construction
42	42+753	15.00	1	15.00 (Skew Length-26.152m)	Stream	2 x 13.50 (Skew Width-23.540m)	-	As per GAD	55	New construction
43	43+040	120	3	40.00	Stream	2 x 15.10	-	As per GAD		New construction
44	43+800	40.0	1	40.00	Stream	2 x 13.50	-	As per GAD		New construction

Interchange at Ch 0.000 Km

Sr. No	Design Chainage (Km)	Total Proposed length (m)	Span arrangement	Type of Crossing	Total Proposed width (m)		Typical Cross Section of Manual	Skew Angle	Remarks
					MCW	SR			
1	1+510	45.00	1 X 45		12.50	-	As per GAD	-	New construction
2	0+085	150.00	4 X 37.50		12.50		As per GAD	-	New Construction
3	1+420	160.00	4 X 40.00		12.50	-	As per GAD	-	New Construction
4	0+220	10.00	1 X 10		12.50	-	As per GAD	-	New Construction
5	0+280	10.00	1 X 10		12.50	-	As per GAD	-	New Construction
6	0+070	10.00	1 X 10		12.50	-	As per GAD	-	New construction

Interchange at Ch 27.000 Km

Sr. No	Design Chainage (Km)	Total Proposed length (m)	Span arrangement	Type of Crossing	Total Proposed width (m)		Typical Cross Section of Manual	Skew Angle	Remarks
					MCW	SR			
1	0+300	10.00	1 X 10		12.50	-	As per GAD	-	New construction
2	0+380	10.00	1 X 10		12.50		As per GAD	-	New Construction

3	1+843	385.00	10 X 38.50		12.50	-	As per GAD	-	New Construction
4	0+253	385.00	8 X 40+ 1X65		12.50	-	As per GAD	-	New Construction

Interchange at Ch 45.000 Km

Sr. No	Design Chainage (Km)	Total Proposed length (m)	Span arrangement	Type of Crossing	Total Proposed width (m)		Typical Cross Section of Manual	Skew Angle	Remarks
					MCW	SR			
1	0+420	10.00	1 X 10		12.50	-	As per GAD	-	New construction
2	0+540	10.00	1 X 10		12.50		As per GAD	-	New Construction
3	0+940	10.00	1 X 10		12.50	-	As per GAD	-	New Construction
4	1+170	140.00	4 X 35		12.50	-	As per GAD	-	New Construction
5	0+405	270.00	6 X 45		12.50	-	As per GAD	-	New construction
6	0+717	10.00	1 X 10		12.50		As per GAD	-	New Construction
7	1+050	10.00	1 X 10		12.50	-	As per GAD	-	New Construction

Note:

1. *The span lengths mentioned are bare minimum and should not be reduced. Any increase in length upto 10% of the proposed length will not constitute a Change of Scope. It is to clarify that for increase in length beyond 10%, the Change of scope shall be applicable only for quantity beyond additional 10%.*

2. *All Major and Minor Bridges to be designed for approach protection with concrete Toe wall with filter media and stone/ block pitching up to HFL of bridge +0.6 m with full height stone/ block pitching in cone filling portion of all two sides of abutments.*

3. *All river bridges & underpasses without slip roads shall be provided with steps for accessing the bottom in all two-cone filling portion for easy assessable bridges and approaches.*

4. *Requisite Stream/River Training work wherever required for the structures are to be considered within the scope of the work*

7.3.3 The railings of existing bridges shall be replaced by crash barriers at the following locations:

Sr. No.	Design Chainage		Length (km)	Remarks
	From	To		
Nil				

7.3.4 The existing bridges/ RoB/ Grade Separators/ RUB retained on the project highway shall be upgraded and rehabilitation measures/proposals shall be as follows:

Sr. No.	Design Chainage (km)	Rehabilitation Proposals	Remarks
Nil			

7.3.5 Structures in marine environment: Nil.

7.4 Railroad Bridges (ROB/RUB)

7.4.1 Design, construction and detailing of ROB/RUB shall be as specified in Section 7 of the manual.

7.4.2 Road over bridges (road over rail) shall be provided at the following locations, as per GAD drawings attached:

Sr. No.	Design Chainage (Km)	Proposed Span Arrangement (m)	Type of super-structure (i.e. Bow string, simply supported composite structure etc.	Name of crossing	Total Width m)	Skew Angle	Remarks
Nil							

Note:

If the length/width of the span/ type of super-structure is changed due to any reason the COS shall be considered.

1. ROB shall be designed, constructed and maintained as per the requirements of Railway authorities. The construction plan shall be prepared in consultation with the concerned railway authority.

2. The ROB shall be constructed and maintained by the concessionaire under supervision of the Railways.

3. All charges payable to the Railways like D&G, capitalized maintenance, signaling, cabling, OHE modification, earthing etc. except P&E charges shall be borne by the Concessionaire.

7.4.3 Road under bridges (road under railway line) shall be provided at the following level crossings, as per GAD drawings attached:

Sr. No.	Existing Chainage (km)	Design Chainage (km)	No. of Tracks	Proposed Structure Type	Proposed Span arrangement No of span x span length (m)	Skew Angle (degrees)	Total width of the structure (m)
Nil							

7.5 Grade Separated Structures

The grade separated structures shall be provided at the locations and of the type and length specified in paragraphs 2.9 ,2.10 and 3 of Annexure-I of Schedule-B.

7.6 FoB/Skywalks

FoB/Skywalks shall be provided in built-up areas/ near schools. DPR consultant to provide detailed drawings of FOB in schedule B.

Sr. No.	Location at km	FoB Type	Remarks
Nil			

7.7 A summary of Culverts, Bridges and Structures shall be as follows:

For Main Carriageway

S. No.	Type of Structure	New Proposed
1	Major Bridge/ Major Bridge Cum Viaduct	4
2	Minor Bridge	12
3	Viaduct	28
4	Box Culvert	111 (109 New Proposed, 2 Reconstruction)
5	VOP	13
6	VUP	6
7	LVUP	2
8	SVUP	11
9	Utility underpass	5
10	Overpass	4
11	Underpass	0
Total		**196**

For Interchanges/Existing Cross Roads

S. No.	Type of Structure	New Proposed
1	Major Bridge	0
2	Minor Bridge	2
3	Viaduct	15
4	Box Culvert	42
5	VOP	4
6	VUP	0
7	LVUP	0
8	SVUP	0
9	Utility underpass	0
10	Overpass	0
11	Underpass	0
Total		**63**

Note:

a. Founding level of foundation cannot be raised above the founding level shown in GAD. If the founding level of foundation required is deeper than the founding level shown in GAD due to reasons well established and approved by the Authority, the extra depth of foundation shall not be treated as come under the clause of Change of Scope.

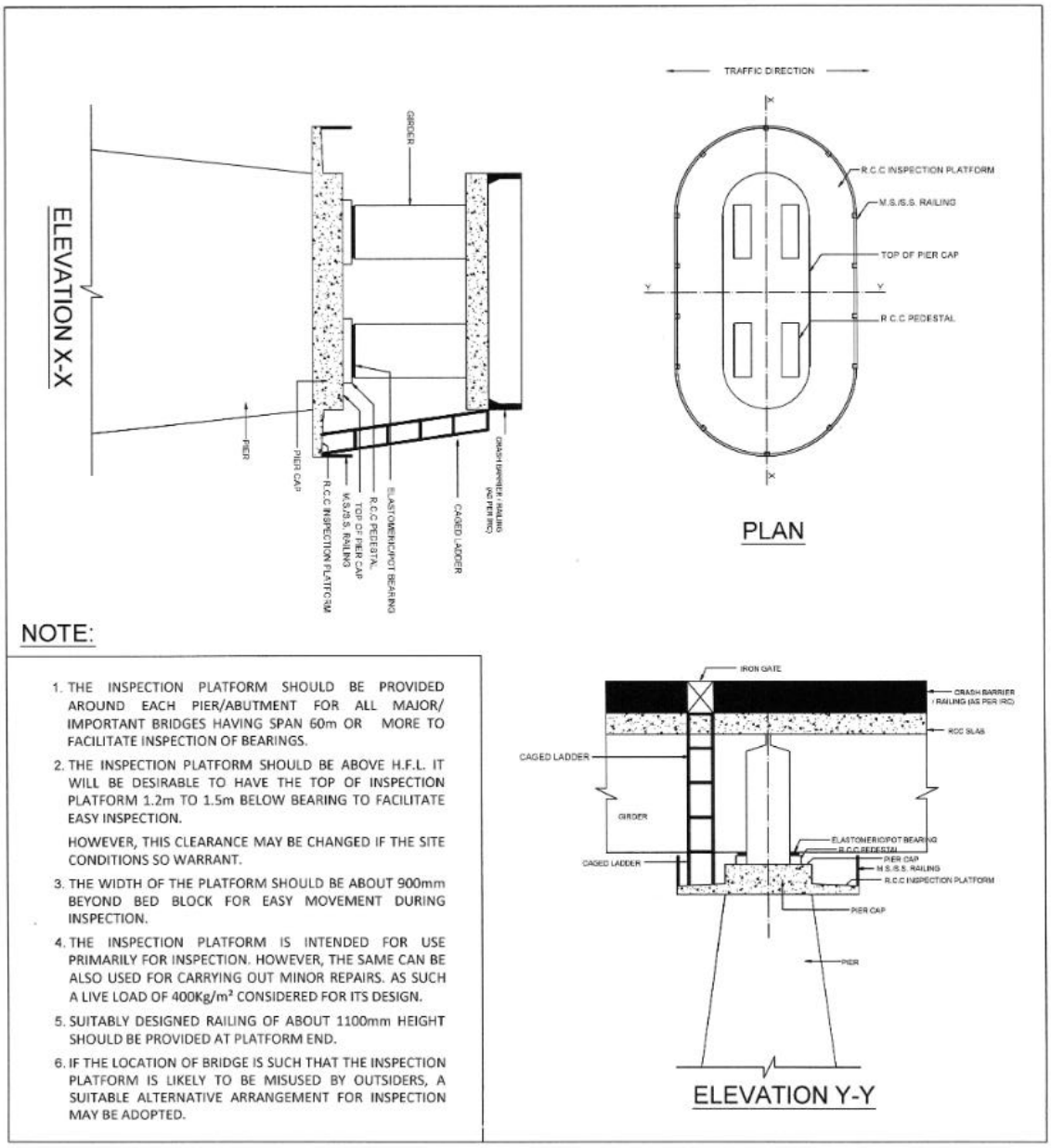
b. Pile cap top level cannot be lowered below the level shown in the GAD

c. Span arrangement - to be decided as per IWAI/Irrigation Authority/Other concerned Authority guidelines considering navigational requirement.

d. All structures to be designed for Special Vehicle (SV) loading, Class 70R, Class A and congestion factors, whichever is critical, as per latest IRC provisions

e. Individual length of spans proposed in GAD are not to be reduced

f. Project highway is proposed to be constructed to four lane configurations with provision for widening in future. As such, superstructure of all bridges, culverts and structures is to be designed for edge movement of the vehicle considering stitching of new superstructure in future due to widening for additional lane.



8 Traffic Control Devices and Road Safety Works

8.1 Traffic control devices and road safety works shall provide in accordance with Section 9 of the IRC: SP: 84-2019.

8.2 Traffic Signs:

Traffic signs shall be provided as per IRC 67 as mentioned in Schedule-C.

8.3 Pavement Marking

Pavement markings shall be completed as per IRC 35 as mentioned in Schedule-C.

8.4 Safety Barrier

The safety barriers shall be provided in accordance with Section-9 of the manual.

The Safety Barrier length proposed are excluding the safety barrier already proposed on Culverts, Grade Separated Structures, Interchange, Bridges, RoB and RUB as applicable cross sections respectively.

End Treatment of Steel barriers/Rope Barrier shall be specified i.e**., MELT or P-4 confirming to EN 1317-4,** TT, MBCB barrier to Concrete Barrier End Treatment to Concrete barrier shall be done.

The details of the Thrie-beam Crash barrier locations are as below:

For Main Carriageway

LEFT SIDE				RIGHT SIDE			
From (m.)	To (m.)	Length (m)	Remark	From (m.)	To (m.)	Length (m)	Remark
1+530	1+540	10	High Emb.	0+500	0+580	80	High Emb.
7+540	7+580	40	High Emb.	1+040	1+100	60	High Emb.
9+065	9+100	35	High Emb.	1+110	1+140	30	High Emb.
10+585	11+140	555	High Emb.	1+180	1+220	40	High Emb.
11+180	11+189	9	High Emb.	1+530	1+600	70	High Emb.
11+260	11+760	500	High Emb.	1+680	1+690	10	High Emb.
11+940	12+220	280	High Emb.	2+580	2+660	80	High Emb.
12+271	12+279	8	High Emb.	2+860	2+900	40	High Emb.
13+120	13+160	40	High Emb.	2+920	3+020	100	High Emb.
13+380	13+390	10	High Emb.	3+030	3+060	30	High Emb.
13+440	13+560	120	High Emb.	3+500	3+520	20	High Emb.
14+300	14+540	240	High Emb.	3+680	3+860	180	High Emb.
14+716	14+724	8	High Emb.	4+300	4+320	20	High Emb.
14+860	15+540	680	High Emb.	4+350	4+400	50	High Emb.
15+800	15+860	60	High Emb.	4+420	4+480	60	High Emb.
15+980	16+260	280	High Emb.	4+540	4+550	10	High Emb.
16+340	16+640	300	High Emb.	4+590	4+720	130	High Emb.
16+780	17+080	300	High Emb.	5+380	5+400	20	High Emb.
17+120	17+180	60	High Emb.	5+440	5+480	40	High Emb.
17+356	17+364	8	High Emb.	5+580	5+630	50	High Emb.
18+040	18+140	100	High Emb.	5+650	5+680	30	High Emb.
18+900	18+920	20	High Emb.	5+700	5+740	40	High Emb.
18+940	19+080	140	High Emb.	5+820	6+060	240	High Emb.
19+140	19+240	100	High Emb.	6+100	6+140	40	High Emb.
19+460	19+780	320	High Emb.	7+540	7+640	100	High Emb.
19+840	19+880	40	High Emb.	7+680	7+760	80	High Emb.
19+920	20+080	160	High Emb.	8+760	8+820	60	High Emb.
20+326	20+334	8	High Emb.	8+950	9+020	70	High Emb.
20+640	20+960	320	High Emb.	9+065	9+205	140	High Emb.

LEFT SIDE				RIGHT SIDE			
From (m.)	**To (m.)**	**Length (m)**	**Remark**	**From (m.)**	**To (m.)**	**Length (m)**	**Remark**
21+160	21+180	20	High Emb.	9+250	9+280	30	High Emb.
21+500	21+520	20	High Emb.	9+380	9+440	60	High Emb.
21+560	21+580	20	High Emb.	10+300	10+320	20	High Emb.
21+620	21+680	60	High Emb.	10+560	10+575	15	High Emb.
21+960	22+000	40	High Emb.	10+585	11+140	555	High Emb.
22+740	22+840	100	High Emb.	11+180	11+189	9	High Emb.
22+980	23+040	60	High Emb.	11+260	11+340	80	High Emb.
23+060	23+100	40	High Emb.	11+380	11+760	380	High Emb.
23+200	23+415	215	High Emb.	11+940	12+120	180	High Emb.
23+480	23+500	20	High Emb.	12+140	12+220	80	High Emb.
23+820	23+900	80	High Emb.	12+271	12+279	8	High Emb.
24+240	24+260	20	High Emb.	13+120	13+160	40	High Emb.
24+360	24+500	140	High Emb.	13+380	13+390	10	High Emb.
24+785	24+810	25	High Emb.	13+440	13+540	100	High Emb.
24+820	25+020	200	High Emb.	14+716	14+724	8	High Emb.
25+040	25+080	40	High Emb.	14+860	15+540	680	High Emb.
25+140	25+160	20	High Emb.	15+800	15+840	40	High Emb.
25+300	25+528	228	High Emb.	16+000	16+260	260	High Emb.
28+140	28+220	80	High Emb.	16+380	16+620	240	High Emb.
28+860	28+960	100	High Emb.	16+740	17+180	440	High Emb.
29+360	29+620	260	High Emb.	17+356	17+400	44	High Emb.
30+080	30+140	60	High Emb.	17+880	17+900	20	High Emb.
30+243	30+251	8	High Emb.	17+920	17+980	60	High Emb.
30+460	30+470	10	High Emb.	18+000	18+180	180	High Emb.
31+020	31+200	180	High Emb.	18+960	18+980	20	High Emb.
31+496	31+540	44	High Emb.	19+560	19+600	40	High Emb.
33+080	33+095	15	High Emb.	20+040	20+060	20	High Emb.
33+225	33+250	25	High Emb.	20+640	20+960	320	High Emb.
33+570	33+700	130	High Emb.	22+700	22+760	60	High Emb.
34+160	34+180	20	High Emb.	22+980	23+040	60	High Emb.
35+454	35+480	26	High Emb.	23+200	23+240	40	High Emb.
35+820	35+900	80	High Emb.	23+260	23+300	40	High Emb.
35+960	36+000	40	High Emb.	23+400	23+415	15	High Emb.
37+100	37+130	30	High Emb.	23+900	23+920	20	High Emb.
37+150	37+180	30	High Emb.	24+220	24+240	20	High Emb.
38+026	38+060	34	High Emb.	24+360	24+380	20	High Emb.
38+300	38+320	20	High Emb.	24+785	24+810	25	High Emb.
39+240	39+300	60	High Emb.	24+820	24+960	140	High Emb.
40+020	40+040	20	High Emb.	25+300	25+528	228	High Emb.
40+060	40+105	45	High Emb.	28+160	28+320	160	High Emb.
40+150	40+180	30	High Emb.	28+820	28+940	120	High Emb.
40+260	40+335	75	High Emb.	29+400	29+420	20	High Emb.

LEFT SIDE				RIGHT SIDE			
From (m.)	**To (m.)**	**Length (m)**	**Remark**	**From (m.)**	**To (m.)**	**Length (m)**	**Remark**
40+345	40+435	90	High Emb.	29+440	29+500	60	High Emb.
40+445	40+500	55	High Emb.	30+040	30+080	40	High Emb.
40+700	40+780	80	High Emb.	30+243	30+251	8	High Emb.
40+840	40+865	25	High Emb.	30+460	30+470	10	High Emb.
40+875	41+100	225	High Emb.	31+020	31+300	280	High Emb.
41+340	41+420	80	High Emb.	31+496	31+504	8	High Emb.
42+675	42+700	25	High Emb.	33+105	33+160	55	High Emb.
42+800	42+920	120	High Emb.	33+225	33+250	25	High Emb.
43+580	43+740	160	High Emb.	33+570	33+640	70	High Emb.
				34+580	34+620	40	High Emb.
				34+960	35+006	46	High Emb.
				35+454	35+480	26	High Emb.
				35+920	35+960	40	High Emb.
				37+120	37+130	10	High Emb.
				37+150	37+180	30	High Emb.
				37+640	37+705	65	High Emb.
				38+026	38+040	14	High Emb.
				38+080	38+220	140	High Emb.
				38+240	38+380	140	High Emb.
				39+240	39+260	20	High Emb.
				39+280	39+300	20	High Emb.
				39+320	39+360	40	High Emb.
				39+380	39+400	20	High Emb.
				39+720	39+740	20	High Emb.
				40+080	40+105	25	High Emb.
				40+150	40+180	30	High Emb.
				40+300	40+335	35	High Emb.
				40+345	40+380	35	High Emb.
				40+445	40+540	95	High Emb.
				40+700	40+720	20	High Emb.
				41+340	41+420	80	High Emb.
				42+675	42+743	68	High Emb.
				42+763	42+840	77	High Emb.
				42+880	42+920	40	High Emb.
				43+600	43+720	120	High Emb.
For Median		40451		For Median		40451	
TOTAL(m)		**48832**		**TOTAL(m)**		**49130**	

a. Thrie-Beam metal crash barriers shall be provided in entire length at both edge of median as per TCS referred in schedule-B but excluding stretches covered by bridges/structures and stretches covered by median where concrete barriers to be provided.
b. Thrie-Beam metal crash barriers shall be provided in entire length on outer side earthen shoulder of each main carriageway and Loops/ Ramps of interchanges as per TCS referred in schedule-B but excluding stretches covered by bridges/structures, and RE wall structures, where concrete barriers to be provided.
c. Concrete barriers shall be provided on bridges/structures, by RE Walls/ retaining walls as specified in Schedule B and Schedule D.
d. The above mentioned locations of Thrie Beam are indicative and minimum. The Concessionaire has to install the Thrie Beam as per site requirements and relevant IRC and any increase upto 10% of the scope provided above shall not constitute a Change of Scope. It is to clarify that for increase in length beyond 10%, the Change of scope shall be applicable only for quantity beyond additional 10%.

9 Roadside Furniture

9.1 It shall be provided as per the details mentioned in Schedule-C.

10 Hazardous Locations

The safety barriers shall be provided at the following hazardous location such as ponds, well, electric sub-station, Electric tower, spilt carriageway, etc.

Sr. No.	Location Stretch		Type of Safety Barrier	LHS/ RHS
	From (Km)	To (Km)		
	Nil			

11 Special Requirements

As the project road passes through hilly/mountainous terrain and involves significant hill cutting, stability of cut slopes and hills alongside the road is the essence of the contract for environment preservation, sustainability, and safety of all stake holders. Hence, the Concessionaire shall undertake detailed investigations and design of all cut/ fill slopes beyond 3m depth / height for safety & stability. Investigations shall inter-alia include fill soil, sub-soil/ rock strata for engineering properties, faults & fractures, geological studies. The stability of hills & the cut slopes are to be ensured with appropriate slope stabilization, erosion control and landslide correction measures in accordance with IRC: SP 48:1998, IRC:

56-2011 and manual for insuring safety & longevity of the slopes and the roads. The Concessionaire shall be responsible for precise assessment of the actual requirement & prepare design for slope protection & stabilization as per manual. Top down excavation, stable slopes with proper benches, and properly planned surface and sub-surface drainage arrangements shall be key part of the concessionaire's responsibility. The hill cutting should invariably be done in 1H:1V slope with a bench of 2m width with Catch Water Drain at a height of every of 6-7m. If the Concessionaire adopts a steeper cut slope, the same is to be substantiated with requisite soil investigations, design and the Slope Stabilisation Measures and will have to be done at the cost of the Concessionaire. Also, the Cut slopes should be designed in such a manner as to keep the toe line of cutting within available RoW and protection measures like rock bolting/ soil nailing/ reinforcing, as appropriate, shall be applied to ensure both stability and protection from erosion/ withering as per Engineering Guidelines on Landslide Mitigation Measures for Indian Roads IRC: SP-106-2015. Concessionaire shall obtain approval/ no objection from the Independent Engineer and Authority before undertaking construction. Moreover, adequate Catch Water Drains, Berm Drains, Cascade Drains, Road Side Drains, Culverts and other types of cross drainage structures as may be required as per site conditions for eventual safe release to stable natural streams is imperative. Ensuring sub-surface drainage through perforated pipe drains, gravel filters, weep holes, chimney drains etc at appropriate places and sufficient sizes and spacing shall also becomes part of the overall scope of slope protection/stabilization.

Provision for Turfing as part of the slope protection/erosion control measures has been made for a minimum length of 24,205 m. Additionally, Full-face shotcrete, welded mesh, weep holes, and full drainage provisions (As per Cross section attached as Annexure-II of Schedule B) shall be provided for rockfall measures in a length of 2160m (For Main Carriageway) and 4580m (For Interchanges). The turfing shall be installed in accordance with the approved drawings, manufacturer's recommendations, and relevant specifications to ensure effective erosion control and stabilization of the slope surface. Necessary turfing, seeding, or plantation works, wherever required, shall be carried out immediately after laying the Turfing to achieve vegetation growth and long-term stability. Moreover, slope management with drainage maintenance would be essential part of the maintenance period of concessionaire. The Concessionaire shall obtain approval / No Objection Certificate from the Independent Engineer and the Authority prior to undertaking the construction and shall maintain records of source, quality, and installation of Turfing for verification.

Any increase in length will not be considered as a change of scope. Therefore, the Concessionaire should carry out thorough investigation at site and assess the requirement of slope protection and slide prone zone and other safety features at his own before submission of bid.

Disposal of Debris: -

No Muck dumping sites will be proposed within Reserved Forest area. The muck dumping sites shall be identified by the concessionaire in consultation with the Local village head, District Administration & Forest department for dumping of muck, and necessary clearances/NOCs/permission shall be obtained by the Concessionaire in addition to the applicable permissions and clearances as stated in Schedule E.

Retaining structures and protection, works shall be provided at locations as provided in TCS Schedule in Clause 2.10 of Annex-I of Schedule-B. Location of the Retaining wall and Toe wall with stone pitching is given below and shall be considered as minimum requirement.

However, the concessionaire can propose the new innovative technology in consultation with Authority.

RCC Crash Barrier with Friction Slab

S. No.	Item	LHS		RHS		Total Length (m)	Location	Remarks
		(From)	(To)	(From)	(To)			
1	RCC Crash Barrier with Friction Slab for Main Carriageway	0+000	0+150	0+000	0+150	300	At the top of RE wall	At the top of RE wall (Structure length shall be deducted)
		0+390	0+500	0+390	0+500	220		
		1+850	1+880	1+850	1+880	60		
		4+870	4+940	4+870	4+940	140		
		7+800	7+825	7+800	7+825	50		
		8+666	8+760	8+666	8+760	188		
		10+420	10+500	10+420	10+500	160		
		11+140	11+180	11+140	11+180	80		
		11+189	11+260	11+189	11+260	142		
		11+760	11+854	11+760	11+854	188		
		11+866	11+940	11+866	11+940	148		
		12+220	12+271	12+220	12+271	102		
		12+279	12+480	12+279	12+480	402		
		12+500	12+683	12+500	12+683	366		
		12+717	13+000	12+717	13+000	566		
		13+160	13+180	13+160	13+180	40		
		13+220	13+380	13+220	13+380	320		

S. No.	Item	LHS		RHS		Total Length (m)	Location	Remarks
		(From)	(To)	(From)	(To)			
		13+390	13+440	13+390	13+440	100		
		14+540	14+716	14+540	14+716	352		
		14+724	14+860	14+724	14+860	272		
		15+540	15+690	15+540	15+690	300		
		15+710	15+800	15+710	15+800	180		
		17+180	17+356	17+180	17+356	352		
		20+334	20+536	20+334	20+536	404		
		20+560	20+640	20+560	20+640	160		
		21+320	21+345	21+320	21+345	50		
		21+410	21+440	21+410	21+440	60		
		22+920	22+960	22+920	22+960	80		
		23+425	23+460	23+425	23+460	70		
		24+260	24+310	24+260	24+310	100		
		24+330	24+360	24+330	24+360	60		
		24+740	24+775	24+740	24+775	70		
		30+140	30+243	30+140	30+243	206		
		30+251	30+460	30+251	30+460	418		
		30+470	30+660	30+470	30+660	380		
		30+710	30+740	30+710	30+740	60		
		31+360	31+496	31+360	31+496	272		
		33+160	33+195	33+160	33+195	70		
		34+820	34+840	34+820	34+840	40		
		35+800	35+820	35+800	35+820	40		
		36+895	36+920	36+895	36+920	50		
		38+620	38+640	38+620	38+640	40		
		39+300	39+320	39+300	39+320	40		
		39+620	39+635	39+620	39+635	30		
		39+645	39+720	39+645	39+720	150		
		41+240	41+273	41+240	41+273	66		
		41+288	41+340	41+288	41+340	104		
		42+920	42+980	42+920	42+980	120		
		43+100	43+140	43+100	43+140	80		
		43+740	43+780	43+740	43+780	80		
		43+820	43+860	43+820	43+860	80		
		Total Length (m)				**8408**		
2	RCC Crash Barrier with Friction Slab for Ramps and Loops	Interchange at Km 0+000				2400	At the top of RE wall	At the top of RE wall (Structure length shall be deducted)
		Interchange at Km 12+325				1526		
		Interchange at Km 27+000				280		
		Interchange at Km 45+000				2480		
		Total Length (m)				**6686**		

Retaining Wall/ Stone Pitching/Toe Wall/Breast Wall

RCC Retaining Wall- (For Main Carriageway)

Left Side			Right Side		
Ch. From	**Ch. To**	**Length (m)**	**Ch. From**	**Ch. To**	**Length (m)**
10+620	10+840	220	1+040	1+100	60
11+260	11+300	40	1+110	1+220	110
13+120	13+160	40	2+440	2+460	20
16+000	16+020	20	2+560	2+640	80
16+880	16+900	20	2+860	2+960	100
18+980	19+080	100	2+980	3+020	40
19+140	19+240	100	3+030	3+080	50
19+380	19+400	20	3+220	3+240	20
19+420	19+440	20	3+500	3+540	40
19+460	19+500	40	3+680	3+800	120
19+540	19+640	100	3+820	3+860	40
19+660	19+680	20	4+350	4+480	130
19+700	19+720	20	4+590	4+680	90
19+840	19+860	20	5+440	5+480	40
19+960	19+980	20	5+580	5+630	50
20+040	20+080	40	5+650	5+680	30
21+160	21+180	20	5+700	5+760	60
22+980	23+020	40	5+840	6+060	220
23+220	23+415	195	6+100	6+160	60
24+420	24+440	20	7+560	7+580	20
24+820	24+960	140	7+600	7+640	40
24+980	25+040	60	7+704	7+760	56
25+060	25+100	40	8+980	9+000	20
25+140	25+185	45	9+080	9+205	125
28+900	28+940	40	9+250	9+300	50
29+420	29+480	60	9+380	9+420	40
29+500	29+520	20	10+585	10+840	255
29+540	29+560	20	11+260	11+300	40
29+580	29+600	20	13+120	13+160	40
30+080	30+100	20	16+760	16+780	20
31+040	31+200	160	20+640	20+920	280
31+540	31+560	20	22+980	23+000	20
33+640	33+700	60	24+820	24+860	40
35+820	35+840	20	28+200	28+280	80
35+960	36+000	40	28+820	28+840	20
37+120	37+130	10	30+080	30+100	20
37+150	37+180	30	31+020	31+240	220
40+040	40+060	20	34+580	34+600	20
40+080	40+105	25	34+960	35+006	46
40+150	40+180	30	35+920	35+960	40

Left Side			Right Side		
Ch. From	**Ch. To**	**Length (m)**	**Ch. From**	**Ch. To**	**Length (m)**
40+280	40+335	55	37+150	37+180	30
40+345	40+435	90	37+680	37+705	25
40+445	40+480	35	38+026	38+040	14
40+720	40+780	60	38+340	38+360	20
40+840	40+865	25	38+960	39+000	40
40+875	41+020	145	39+340	39+360	20
42+820	42+920	100	40+445	40+520	75
43+680	43+700	20	42+763	42+780	17
Total (m)		**2525.000**	**Total (m)**		**3093.000**

RCC Retaining Wall- (For Interchanges)

Left Side			Right Side		
Ch. From	**Ch. To**	**Length (m)**	**Ch. From**	**Ch. To**	**Length (m)**
Interchange at km 0+000		100	Interchange at km 0+000		100
Interchange at km 12+325		Nil	Interchange at km 12+325		Nil
Interchange at km 27+000		Nil	Interchange at km 27+000		Nil
Interchange at km 45+000		Nil	Interchange at km 45+000		Nil
Total (m)		**100**	**Total (m)**		**100**

Note:

RCC Retaining wall of suitable height (as per site requirement) shall be provided to accommodate the highway cross section within the available/proposed ROW and the same shall not constitute a Change of Scope.

a. The location of retaining wall along main carriageway shall be placed in such a way that lane addition could be done without recasting/reconstruction. The design and construction of partial RE wall/ retaining wall shall be done for full height considering future widening.

b. In addition to above retaining wall mentioned above, cross wall shall be provided behind each abutment.

c. In addition to above, RE wall/Retaining wall shall be provided at toll plaza and other locations to restrict the embankment slope within the right of way.

d. The length specified hereinabove shall be treated as an approximate assessment and minimum. The actual lengths as required on the basis of detailed investigations shall be determined by the Concessionaire in accordance with the Specifications and Standards. Any increase in the lengths specified in this Schedule-B upto 10% of shall not constitute

a Change of Scope, save and except any variations arising out of a Change of Scope expressly undertaken in accordance with the provisions of Article 16.

Breast wall (For Main Carriageway) (of appropriate type)

Left Side			Right Side		
Ch. From	Ch. To	Length (m)	Ch. From	Ch. To	Length (m)
0+540	1+080	540	0+600	1+020	420
1+110	1+485	375	1+240	1+260	20
1+580	1+680	100	1+320	1+440	120
1+880	2+640	760	1+600	1+660	60
2+660	2+960	300	1+900	2+260	360
2+980	3+020	40	2+280	2+420	140
3+060	3+500	440	2+700	2+840	140
3+520	3+800	280	3+140	3+180	40
3+820	4+320	500	3+280	3+480	200
4+350	4+540	190	3+900	4+300	400
4+620	4+680	60	4+940	5+360	420
5+020	5+400	380	5+540	5+560	20
5+440	5+630	190	5+760	5+800	40
5+650	6+060	410	6+200	6+360	160
6+120	7+263	1143	6+440	7+220	780
7+300	7+500	200	7+277	7+420	143
7+600	7+696	96	7+480	7+520	40
7+704	7+800	96	9+340	9+360	20
8+980	9+000	20	9+440	9+820	380
9+100	9+205	105	9+860	10+220	360
9+250	9+400	150	13+740	13+840	100
9+420	10+265	845	13+880	14+260	380
10+520	10+560	40	17+420	17+760	340
13+880	14+160	280	18+220	18+860	640
14+180	14+240	60	19+000	19+460	460
17+400	17+920	520	19+500	19+520	20
17+940	17+960	20	19+700	19+740	40
18+160	18+860	700	19+780	19+860	80
19+260	19+380	120	19+880	19+940	60
19+820	19+840	20	20+080	20+326	246
20+140	20+300	160	20+980	21+320	340
20+980	21+140	160	21+440	21+500	60
21+200	21+300	100	21+520	21+560	40
21+440	21+500	60	21+580	21+660	80
21+520	21+560	40	21+760	21+920	160
21+780	21+820	40	22+000	22+640	640
22+020	22+100	80	22+780	22+900	120

Left Side			Right Side		
Ch. From	**Ch. To**	**Length (m)**	**Ch. From**	**Ch. To**	**Length (m)**
22+120	22+740	620	23+100	23+160	60
23+560	23+760	200	23+520	23+900	380
23+940	24+060	120	23+940	24+200	260
24+120	24+200	80	24+400	24+480	80
24+540	24+680	140	24+500	24+740	240
25+580	28+040	2460	24+980	25+040	60
28+340	28+500	160	25+060	25+185	125
28+560	28+840	280	25+580	26+940	1360
28+980	29+100	120	27+020	27+940	920
29+160	29+340	180	28+060	28+100	40
29+640	29+900	260	28+360	28+480	120
29+940	30+060	120	28+560	28+820	260
30+760	30+980	220	28+940	29+320	380
31+580	32+340	760	29+540	29+880	340
32+360	33+060	700	29+940	30+020	80
33+700	34+140	440	30+760	30+960	200
34+260	34+600	340	31+540	33+080	1540
34+860	35+006	146	33+700	34+140	440
35+500	35+700	200	34+180	34+460	280
35+900	35+960	60	34+500	34+540	40
36+040	36+865	825	34+840	34+940	100
36+920	37+080	160	35+500	35+700	200
37+200	37+680	480	35+820	35+880	60
38+060	38+080	20	35+980	36+000	20
38+100	38+240	140	36+040	36+820	780
38+260	38+280	20	36+840	36+865	25
38+320	38+360	40	36+940	37+100	160
38+640	39+000	360	37+240	37+320	80
39+340	39+600	260	37+360	37+400	40
39+740	40+000	260	37+420	37+540	120
40+200	40+240	40	37+560	37+600	40
40+540	40+560	20	38+220	38+240	20
40+620	40+640	20	38+660	38+960	300
40+800	40+820	20	39+420	39+580	160
41+120	41+240	120	39+740	40+060	320
41+440	41+640	200	40+220	40+260	40
41+660	41+980	320	40+540	40+640	100
42+080	42+620	540	40+720	40+740	20
43+160	43+380	220	40+780	40+865	85
43+420	43+520	100	40+875	41+240	365
43+880	44+020	140	41+420	41+620	200
44+080	44+380	300	41+660	41+980	320
44+440	45+645	1205	42+020	42+040	20

Left Side			Right Side		
Ch. From	**Ch. To**	**Length (m)**	**Ch. From**	**Ch. To**	**Length (m)**
			42+060	42+620	560
			43+140	43+400	260
			43+420	43+520	100
			43+900	44+020	120
			44+100	44+400	300
			44+460	45+360	900
			45+420	45+645	225
Total (m)		**23036**	**Total (m)**		**21314**

Breast wall (For Interchanges)

Left Side			Right Side		
Ch. From	**Ch. To**	**Length (m)**	**Ch. From**	**Ch. To**	**Length (m)**
Interchange at km 0+000		2600	Interchange at km 0+000		2600
Interchange at km 12+325		Nil	Interchange at km 12+325		Nil
Interchange at km 27+000		4100	Interchange at km 27+000		4100
Interchange at km 45+000		3500	Interchange at km 45+000		3500
Total (m)		**10200**	**Total (m)**		**10200**

Note: Above length of the Breast wall is minimum specified. The actual length shall be determined by the Concessionaire in accordance with the approved plan & profile and design approved from the Authority Engineer. Any increase in length upto 10% from the length specified in this Clause of Schedule-B shall not constitute a Change of Scope. It is to clarify that for increase in length beyond 10%, the Change of scope shall be applicable only for quantity beyond additional 10%.

Breast wall of suitable height (as per site requirement) shall be provided to accommodate the highway cross section within the available/proposed ROW and the same upto an increase of 10% of the proposed scope shall not constitute a Change of Scope. It is to clarify that for increase in length beyond 10%, the Change of scope shall be applicable only for quantity beyond additional 10%.

Stone Pitching for Main Carriageway

Left Side			Right Side		
Ch. From	**Ch. To**	**Length (m)**	**Ch. From**	**Ch. To**	**Length (m)**
1+080	1+100	20	0+500	0+580	80
1+530	1+540	10	1+040	1+080	40
3+030	3+060	30	1+110	1+220	110
3+500	3+520	20	1+530	1+580	50
4+590	4+620	30	1+680	1+690	10
6+100	6+120	20	2+440	2+460	20
7+540	7+580	40	2+560	2+640	80
9+065	9+100	35	2+860	3+020	160
9+400	9+420	20	3+060	3+080	20
10+585	11+140	555	3+220	3+240	20
11+260	11+760	500	3+520	3+540	20
11+940	12+220	280	3+680	3+860	180

Left Side			Right Side		
Ch. From	Ch. To	Length (m)	Ch. From	Ch. To	Length (m)
13+120	13+160	40	4+300	4+320	20
13+440	13+540	100	4+350	4+480	130
14+400	14+420	20	4+620	4+720	100
14+440	14+540	100	5+380	5+400	20
14+860	15+540	680	5+440	5+480	40
15+800	15+860	60	5+580	5+630	50
16+020	16+220	200	5+650	5+680	30
16+340	16+620	280	5+700	5+760	60
16+760	16+880	120	5+820	6+060	240
16+900	17+060	160	6+120	6+160	40
17+140	17+180	40	7+540	7+560	20
18+060	18+080	20	7+600	7+640	40
18+100	18+140	40	7+680	7+696	16
18+900	18+920	20	7+704	7+760	56
18+940	18+980	40	8+760	8+820	60
19+000	19+080	80	8+950	9+000	50
19+140	19+240	100	9+065	9+080	15
19+380	19+400	20	9+100	9+205	105
19+420	19+440	20	9+250	9+300	50
19+500	19+540	40	9+380	9+400	20
19+640	19+660	20	9+420	9+440	20
19+680	19+780	100	10+300	10+320	20
19+840	19+880	40	10+560	10+575	15
19+920	19+960	40	10+620	11+140	520
19+980	20+040	60	11+260	11+320	60
20+640	20+960	320	11+400	11+760	360
21+160	21+180	20	11+940	12+100	160
21+500	21+520	20	12+160	12+220	60
21+640	21+680	40	13+120	13+160	40
21+980	22+000	20	13+440	13+520	80
22+740	22+840	100	14+860	15+220	360
22+980	23+000	20	15+240	15+540	300
23+020	23+040	20	15+800	15+840	40
23+060	23+100	40	16+000	16+220	220
23+200	23+220	20	16+380	16+460	80
23+480	23+500	20	16+520	16+540	20
23+820	23+900	80	16+780	17+180	400
24+240	24+260	20	17+880	17+900	20
24+360	24+500	140	17+920	17+980	60
24+785	24+810	25	18+000	18+180	180
24+820	24+860	40	18+980	19+000	20
24+980	25+040	60	19+460	19+500	40
25+060	25+100	40	19+540	19+640	100
25+140	25+185	45	19+660	19+680	20
25+300	25+528	228	19+960	19+980	20
28+140	28+280	140	20+040	20+080	40
28+860	28+900	40	20+920	20+960	40
28+940	28+960	20	22+700	22+740	40
29+380	29+420	40	22+980	23+040	60
29+480	29+500	20	23+200	23+415	215
29+520	29+620	100	24+220	24+240	20
30+080	30+100	20	24+785	24+810	25
31+020	31+240	220	24+820	24+960	140
31+540	31+560	20	25+300	25+528	228
33+080	33+095	15	25+563	25+580	17

Left Side			Right Side		
Ch. From	Ch. To	Length (m)	Ch. From	Ch. To	Length (m)
33+225	33+250	25	28+180	28+200	20
33+570	33+600	30	28+280	28+320	40
33+620	33+640	20	28+820	28+940	120
34+160	34+180	20	29+400	29+520	120
35+454	35+480	26	30+040	30+100	60
35+820	35+900	80	31+040	31+200	160
35+980	36+000	20	31+240	31+300	60
37+150	37+180	30	33+105	33+160	55
37+680	37+705	25	33+225	33+250	25
38+026	38+040	14	33+570	33+700	130
38+300	38+320	20	34+580	34+620	40
39+240	39+300	60	34+960	35+006	46
40+020	40+060	40	35+454	35+480	26
40+260	40+280	20	35+920	35+980	60
40+445	40+520	75	37+120	37+130	10
40+700	40+740	40	37+150	37+180	30
40+840	40+865	25	37+640	37+680	40
40+875	41+100	225	38+080	38+220	140
41+340	41+420	80	38+240	38+380	140
42+675	42+700	25	38+960	39+000	40
42+763	42+820	57	39+240	39+260	20
43+580	43+680	100	39+320	39+360	40
43+700	43+740	40	39+380	39+400	20
			40+080	40+105	25
			40+150	40+180	30
			40+280	40+335	55
			40+345	40+435	90
			40+445	40+480	35
			40+520	40+540	20
			40+700	40+720	20
			40+740	40+780	40
			41+340	41+400	60
			42+675	42+720	45
			42+800	42+920	120
			43+600	43+700	100
Total (m)		**7050**	**Total (m)**		**8074**

RCC Toe Wall

Left Side			Right Side		
Ch. From	Ch. To	Length (m)	Ch. From	Ch. To	Length (m)
1+080	1+100	20	0+500	0+580	80
1+530	1+540	10	1+530	1+580	50
3+030	3+060	30	1+680	1+690	10
3+500	3+520	20	2+960	2+980	20
4+590	4+620	30	3+800	3+820	20
6+100	6+120	20	4+300	4+320	20
7+540	7+580	40	4+680	4+720	40
9+065	9+100	35	5+380	5+400	20
9+400	9+420	20	5+820	5+840	20
10+585	10+620	35	7+540	7+560	20

Left Side			Right Side		
Ch. From	**Ch. To**	**Length (m)**	**Ch. From**	**Ch. To**	**Length (m)**
10+840	11+140	300	7+680	7+696	16
11+300	11+760	460	8+760	8+820	60
11+940	12+220	280	8+950	8+980	30
13+440	13+540	100	9+065	9+080	15
14+400	14+420	20	9+420	9+440	20
14+440	14+540	100	10+300	10+320	20
14+860	15+540	680	10+560	10+575	15
15+800	15+860	60	10+840	11+140	300
16+020	16+220	200	11+300	11+320	20
16+340	16+620	280	11+400	11+760	360
16+760	16+880	120	11+940	12+100	160
16+900	17+060	160	12+160	12+220	60
17+140	17+180	40	13+440	13+520	80
18+060	18+080	20	14+860	15+220	360
18+100	18+140	40	15+240	15+540	300
18+900	18+920	20	15+800	15+840	40
18+940	18+980	40	16+000	16+220	220
19+500	19+540	40	16+380	16+460	80
19+640	19+660	20	16+520	16+540	20
19+680	19+700	20	16+780	17+180	400
19+720	19+780	60	17+880	17+900	20
19+860	19+880	20	17+920	17+980	60
19+920	19+960	40	18+000	18+180	180
19+980	20+040	60	18+980	19+000	20
20+640	20+960	320	19+460	19+500	40
21+500	21+520	20	19+540	19+640	100
21+640	21+680	40	19+660	19+680	20
21+980	22+000	20	19+960	19+980	20
22+740	22+840	100	20+040	20+080	40
23+020	23+040	20	20+920	20+960	40
23+060	23+100	40	22+700	22+740	40
23+200	23+220	20	23+000	23+040	40
23+480	23+500	20	23+200	23+415	215
23+820	23+900	80	24+220	24+240	20
24+240	24+260	20	24+785	24+810	25
24+360	24+420	60	24+860	24+960	100
24+440	24+500	60	25+300	25+528	228
24+785	24+810	25	25+563	25+580	17
25+300	25+528	228	28+180	28+200	20
28+140	28+280	140	28+280	28+320	40
28+860	28+900	40	28+840	28+940	100
28+940	28+960	20	29+400	29+520	120
29+380	29+420	40	30+040	30+080	40

Left Side			Right Side		
Ch. From	**Ch. To**	**Length (m)**	**Ch. From**	**Ch. To**	**Length (m)**
29+480	29+500	20	31+240	31+300	60
29+520	29+540	20	33+105	33+160	55
29+560	29+580	20	33+225	33+250	25
29+600	29+620	20	33+570	33+700	130
31+020	31+040	20	34+600	34+620	20
31+200	31+240	40	35+454	35+480	26
33+080	33+095	15	35+960	35+980	20
33+225	33+250	25	37+120	37+130	10
33+570	33+600	30	37+640	37+680	40
33+620	33+640	20	38+080	38+220	140
34+160	34+180	20	38+240	38+340	100
35+454	35+480	26	38+360	38+380	20
35+840	35+900	60	39+240	39+260	20
37+680	37+705	25	39+320	39+340	20
38+026	38+040	14	39+380	39+400	20
38+300	38+320	20	40+080	40+105	25
39+240	39+300	60	40+150	40+180	30
40+020	40+040	20	40+280	40+335	55
40+260	40+280	20	40+345	40+435	90
40+480	40+520	40	40+520	40+540	20
40+700	40+720	20	40+700	40+720	20
41+020	41+100	80	40+740	40+780	40
41+340	41+420	80	41+340	41+400	60
42+675	42+700	25	42+675	42+720	45
42+763	42+820	57	42+780	42+920	140
43+580	43+680	100	43+600	43+700	100
43+700	43+740	40			
Total (m)		**5690**	**Total (m)**		**5752**

Note:

RCC Toe wall of suitable height (as per site requirement) shall be provided to accommodate the highway cross section within the available/proposed ROW and the same shall not constitute a Change of Scope.

a. The location of RCC Toe wall along main carriageway shall be placed in such a way that lane addition could be done without recasting/reconstruction. The design and construction of partial RE wall/ retaining wall shall be done for full height considering future widening.

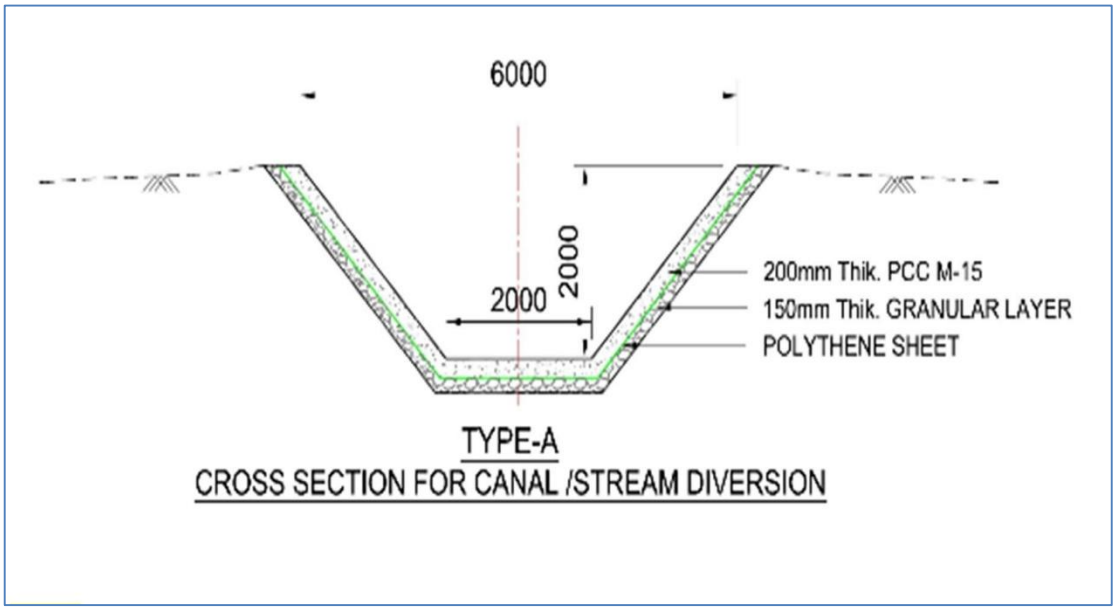
b. In addition to above, RCC Toe wall shall be provided at toll plaza and other locations to restrict the embankment slope within the right of way.

c. The length of Toe Wall and Stone Pitching specified hereinabove shall be treated as an approximate assessment and minimum. The actual lengths as required on the basis of detailed investigations shall be determined by the Concessionaire in accordance with the Specifications and Standards. Any increase in the lengths upto 10% specified in this Schedule-B shall not constitute a Change of Scope, save and except any variations arising out of a Change of Scope expressly undertaken in accordance with the provisions of Article 16. It is to clarify that for increase in length beyond 10%, the Change of scope shall be applicable only for quantity beyond additional 10%.

All investigations, reports, designs, and rectification works shall comply with relevant IRC/MoRTH guidelines, ensuring long-term stability and safety of the project corridor.

Diversion of Nallah

Diversion of Nallah shall be constructed as per site requirement.



Note:

The actual cross-section of canal/ stream to be shifted and extent of such shifting (length) shall be determined by the Concessionaire as per the site/ design requirement with approval of concerned irrigation authority / Independent Engineer. Any variation in the cross-section and length specified in this Clause of Schedule-B shall not constitute a Change of Scope, save and except any variations in the length arising out of a Change of Scope expressly undertaken in accordance with the provisions of Article 16.

12 Open Well within RoW

The Open well shall be identified, and appropriate treatment shall be provided.

Sr. No.	Design Chainage	Well Dimension	Well Depth	Filling Material for Well	Slab on Top of Well Yes/No	Remarks
	Nil					

13 Shifting of Utilities

The Concessionaire shall undertake the work of shifting of Utilities (including electrical lines, water pipes, gas pipe lines and telephone cables) indicated in clause no 19 and 20 of Annexure –I Schedule-A to an appropriate location or alignment, in accordance with the provisions of Concession Agreement.

Note:

1. *The type/ spacing/ size/ specifications of poles/ towers/ lines/ cables to be used in shifting work shall be as per the guidelines of Utility Owning Department and it is to be agreed solely between the Concessionaire and the Utility Owning Department. No change of scope shall be admissible and no cost shall be paid for using different type/ spacing/ size/ specifications in shifted work in comparison to those in the existing work or for making any overhead crossings to underground as per requirement of Utility Owning Department and/or construction of project highway. The Concessionaire shall carry out joint inspection with Utility Owning Department and get the estimates from the Utility Owning Department. The assistance of the Authority is limited to giving forwarding letter on the proposal of Concessionaire to Utility Owning Department whenever asked by the Concessionaire. The decision/ approval of Utility Owning Department shall be binding on the Concessionaire.*

2. *The supervision charges at the rates/ charges applicable of the Utility Owning Department shall be paid directly by the Authority to the Utility Owning department as and when Concessionaire furnishes demand of Utility Owning Department along with a copy of estimated cost given by the later.*

3. *The dismantled material/scrap of existing Utility to be shifted/ dismantled shall belong to the Concessionaire who would be free to dispose-off the dismantled material as deemed fit by them, unless the Concessionaire is required to deposit the dismantled material to Utility Owning Department as per the norm and practice. In that case, the amount of credit for dismantled material may be availed by the Concessionaire as per estimate agreed between them.*

4. *The utilities shall be handed over after shifting work is complete to Utility Owning Department to their entire satisfaction. The maintenance liability shall rest with the Utility Owning Department after handing over process is complete as far as utility shifting works are concerned.*

5. Existing lights, junction boxes, connection to individual properties along the affected section shall be disconnected and reconnected as part of utility relocation and the same shall be in the scope of the Concessionaire.

Note II: It is obligation of successful bidder to keep all public utilities functional all time without any cost to Authority beyond quoted amount. Copy of Utility shifting/relocation plans enclosed as Annex-III to Schedule-A.

14 Work Zone Traffic Management Plans: Annexure-II schedule B-type cross sections

The traffic diversion plans shall be prepared as per IRC SP 55 for smooth flow of traffic and safety. A diversion plan shall be proposed for construction of Culvert, Grade Separated Structures, Bridges, RoB/RUB, etc. and traffic management plan for widening/ reconstruction of carriageway.

Sr. No.	Design Chainage (Km)	Construction Activity	Diversion	Traffic Management Plan	Barricading Type III/IV/CC Barrier with Lighting along barrier	Deployment of Flagman in Habitation/Schools/ Hospital, etc.	Remarks
1	0+270	VUP	Yes	As per IRC SP 55	Type-IV	Flagman	
2	6+557	VOP	Yes	As per IRC SP 55	Type -IV	Flagman	
3	7+100	Overpass	Yes	As per IRC SP 55	Type-IV	Flagman	
4	7+700	SVUP	Yes	As per IRC SP 55	Type-IV	Flagman	
5	9+850	VOP	Yes	As per IRC SP 55	Type-IV	Flagman	
6	10+135	VOP	Yes	As per IRC SP 55	Type-IV	Flagman	
7	10+270	SVUP	Yes	As per IRC SP 55	Type-IV	Flagman	
8	11+185	SVUP	Yes	As per IRC SP 55	Type-IV	Flagman	
9	11+860	LVUP	Yes	As per IRC SP 55	Type-IV	Flagman	
10	12+275	SVUP	Yes	As per IRC SP 55	Type-IV	Flagman	
11	12+700	VUP	Yes	As per IRC SP 55	Type-IV	Flagman	
12	13+200	VUP	Yes	As per IRC SP 55	Type-IV	Flagman	
13	13+385	SVUP	Yes	As per IRC SP 55	Type-IV	Flagman	
14	14+720	SVUP	Yes	As per IRC SP 55	Type-IV	Flagman	
15	15+700	VUP	Yes	As per IRC SP 55	Type-IV	Flagman	
16	17+360	SVUP	Yes	As per IRC SP 55	Type-IV	Flagman	
17	18+650	VOP	Yes	As per IRC SP 55	Type-IV	Flagman	
18	20+330	SVUP	Yes	As per IRC SP 55	Type-IV	Flagman	
19	21+378	VUP	Yes	As per IRC SP 55	Type-IV	Flagman	
20	21+792	Overpass	Yes	As per IRC SP 55	Type-IV	Flagman	
21	22+595	Overpass	Yes	As per IRC SP 55	Type-IV	Flagman	
22	25+545	VUP	Yes	As per IRC SP 55	Type-IV	Flagman	
23	28+685	VOP	Yes	As per IRC SP 55	Type-IV	Flagman	
24	29+675	VOP	Yes	As per IRC SP 55	Type-IV	Flagman	
25	30+247	SVUP	Yes	As per IRC SP 55	Type-IV	Flagman	
26	30+465	SVUP	Yes	As per IRC SP 55	Type-IV	Flagman	
27	30+685	Utility Underpass	Yes	As per IRC SP 55	Type-IV	Flagman	
28	31+500	SVUP	Yes	As per IRC SP 55	Type-IV	Flagman	
29	31+770	VOP	Yes	As per IRC SP 55	Type-IV	Flagman	
30	32+160	VOP	Yes	As per IRC SP 55	Type-IV	Flagman	
31	32+640	VOP	Yes	As per IRC SP 55	Type-IV	Flagman	
32	33+210	Utility Underpass	Yes	As per IRC SP 55	Type-IV	Flagman	

Sr. No.	Design Chainage (Km)	Construction Activity	Diversion	Traffic Management Plan	Barricading Type III/IV/CC Barrier with Lighting along barrier	Deployment of Flagman in Habitation/Schools/ Hospital, etc.	Remarks
33	36+680	VOP	Yes	As per IRC SP 55	Type-IV	Flagman	
34	36+880	Utility Underpass	Yes	As per IRC SP 55	Type-IV	Flagman	
35	39+600	LVUP	Yes	As per IRC SP 55	Type-IV	Flagman	
36	40+677	Utility Underpass	Yes	As per IRC SP 55	Type-IV	Flagman	
37	42+140	VOP	Yes	As per IRC SP 55	Type-IV	Flagman	
38	42+240	VOP	Yes	As per IRC SP 55	Type-IV	Flagman	
39	42+660	Utility Underpass	Yes	As per IRC SP 55	Type-IV	Flagman	
40	42+560	VOP	Yes	As per IRC SP 55	Type-IV	Flagman	
41	45+520	Overpass	Yes	As per IRC SP 55	Type-IV	Flagman	

ANNEX – II (SCHEDULE – B) - TYPICAL CROSS SECTION

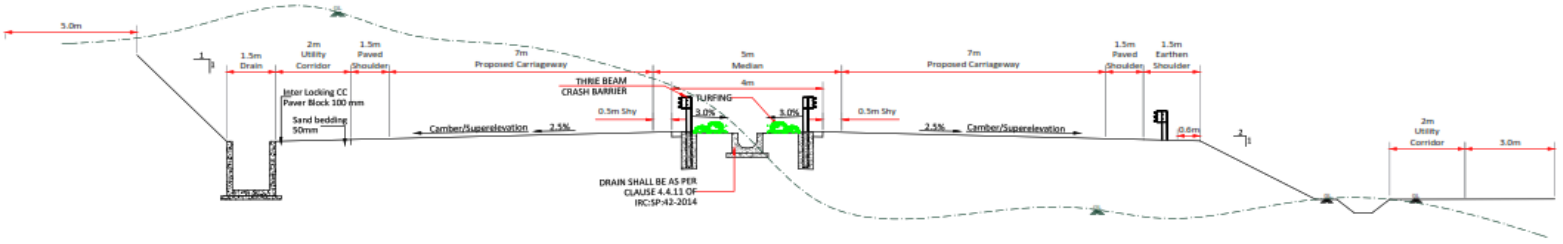
TYPE - 02

TYPICAL CROSS SECTION FOR 4 - LANE DIVIDED HIGHWAY

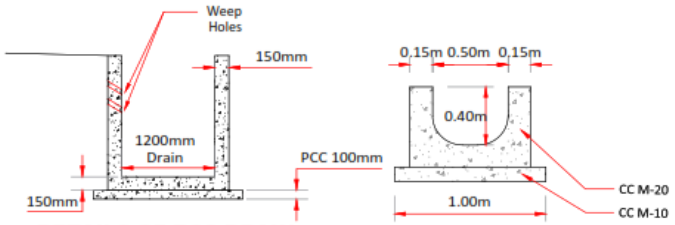
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)

PARTIAL CUT/FILL HEIGHT < 3M

NEW CONSTRUCTION SECTION



Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	2640	2660	20	TCS-2
2	13720	13740	20	TCS-2
3	13840	13860	20	TCS-2
4	14260	14280	20	TCS-2
5	15880	15940	60	TCS-2
6	18920	18940	20	TCS-2
7	20960	20980	20	TCS-2
8	21560	21580	20	TCS-2
9	21720	21740	20	TCS-2
10	22900	22920	20	TCS-2
11	23460	23480	20	TCS-2
12	23500	23520	20	TCS-2
13	23920	23940	20	TCS-2
14	24200	24220	20	TCS-2
15	36020	36040	20	TCS-2
16	41640	41660	20	TCS-2
17	42040	42060	20	TCS-2
18	44020	44040	20	TCS-2
19	44400	44420	20	TCS-2
	Total Length		420	



DETAILS OF RCC DRAIN

DRAIN SHALL BE AS PER IRC:SP:42-2014

CLIENT: NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. 1st & 2nd Floor, Tower A, World Trade Centre, Nauroji Nagar, New Delhi - 110029 Contact No- 011-26768958, E-mail - info@nhidcl.com

DESIGN CONSULTANT: Global Infra Solutions In JV with Krishna Techno Consultants Pvt. Ltd. and association with Infycons Creative Software Pvt. Ltd.

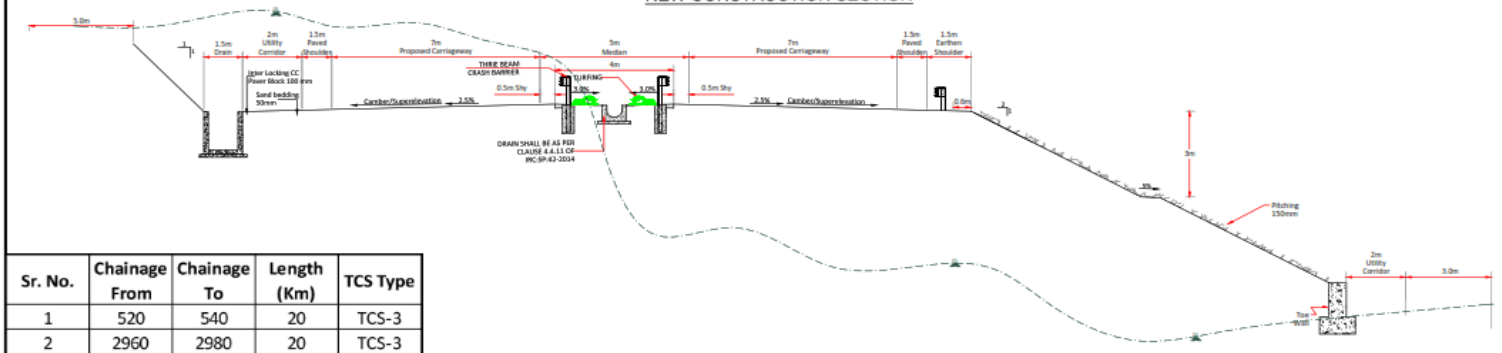
PROJECT: DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45.645 KM)

TCS

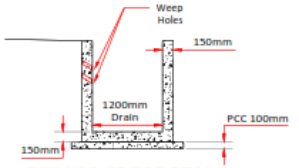
DSP

TYPE - 03
TYPICAL CROSS SECTION FOR 4 - LANE DIVIDED HIGHWAY
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)

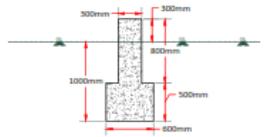
CUTTING HEIGHT <3M, FILLING HEIGHT >3M
NEW CONSTRUCTION SECTION



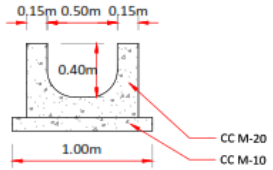
Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	520	540	20	TCS-3
2	2960	2980	20	TCS-3
3	3800	3820	20	TCS-3
4	17920	17940	20	TCS-3
5	17960	17980	20	TCS-3
6	18000	18020	20	TCS-3
7	19520	19540	20	TCS-3
8	19640	19660	20	TCS-3
9	19680	19700	20	TCS-3
10	19760	19780	20	TCS-3
11	19860	19880	20	TCS-3
12	19940	19960	20	TCS-3
13	19980	20040	60	TCS-3
14	21980	22000	20	TCS-3
15	22760	22780	20	TCS-3
16	31240	31300	60	TCS-3
17	34160	34180	20	TCS-3
18	35880	35900	20	TCS-3
	Total Length		440	



DETAILS OF RCC DRAIN



DETAILS OF TOE WALL FOR PITCHING



DRAIN SHALL BE AS PER IRC:SP:42-2014

CLIENT: NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. 1st & 2nd Floor, Tower A, World Trade Centre, Nauroji Nagar, New Delhi - 110029 Contact No- 011-26768050, E-mail - info@nhidcl.com

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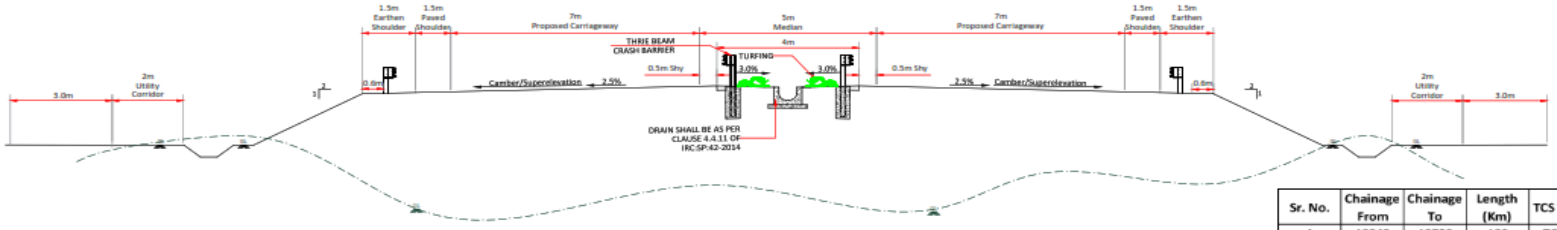
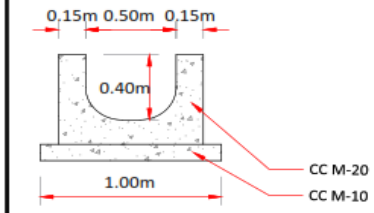
TCS

CLIENT APPROVAL | DRAWN: DSP | CHECKED: SK | APPROVED: AD

TYPE - 04
TYPICAL CROSS SECTION FOR 4 - LANE DIVIDED HIGHWAY
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)

FILLING SECTION <3M
NEW CONSTRUCTION SECTION





DRAIN SHALL BE AS PER IRC:SP:42-2014

Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	13540	13720	180	TCS-4
2	14280	14400	120	TCS-4
3	14420	14440	20	TCS-4
4	15860	15880	20	TCS-4
5	15940	16000	60	TCS-4
6	16220	16340	120	TCS-4
7	16620	16760	140	TCS-4
8	17980	18000	20	TCS-4
9	18880	18900	20	TCS-4
10	21680	21720	40	TCS-4
11	21940	21980	40	TCS-4
12	23040	23060	20	TCS-4
13	23180	23200	20	TCS-4
14	23900	23920	20	TCS-4
15	28320	28340	20	TCS-4
16	28500	28540	40	TCS-4
17	29340	29380	40	TCS-4
18	31000	31020	20	TCS-4
19	31300	31360	60	TCS-4
20	36000	36020	20	TCS-4
21	39720	39740	20	TCS-4
22	41980	42020	40	TCS-4
23	43400	43420	20	TCS-4
24	43540	43580	40	TCS-4
25	43860	43880	20	TCS-4
26	44040	44060	20	TCS-4
	Total Length		1200	

CLIENT: NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. 1st & 2nd Floor, Tower A, World Trade Centre, Nauroji Nagar, New Delhi - 110029 Contact No- 011-26768950, E-mail - info@nhidcl.com

DESIGN CONSULTANT: Global Infra Solutions in JV with Krishna Techno Consultants Pvt. Ltd. and association with Infycons Creative Software Pvt. Ltd.

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TCS

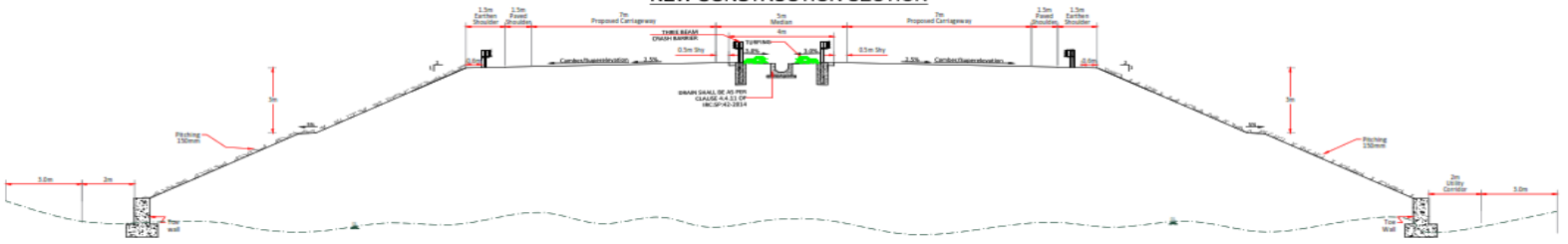
CLIENT APPROVAL | SEAL & SIGNATURE | DWG NO: | DRAWN: DSP | CHECKED | APPROVED: AS | AP

TYPE - 05

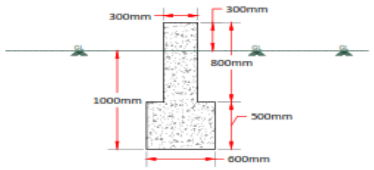
TYPICAL CROSS SECTION FOR 4 - LANE DIVIDED HIGHWAY

(OPEN COUNTRY -MOUNTAINOUS TERRAIN)

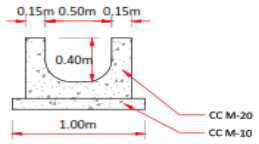
FILLING SECTION >3M
NEW CONSTRUCTION SECTION



Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	1515	1540	25	TCS-5
2	10840	11140	300	TCS-5
3	11300	11320	20	TCS-5
4	11400	11760	360	TCS-5
5	11940	12100	160	TCS-5
6	12160	12220	60	TCS-5
7	13440	13520	80	TCS-5
8	14860	15220	360	TCS-5
9	15240	15540	300	TCS-5
10	15800	15840	40	TCS-5
11	16020	16220	200	TCS-5
12	16380	16460	80	TCS-5
13	16520	16540	20	TCS-5
14	16780	16880	100	TCS-5
15	16900	17060	160	TCS-5
16	17140	17180	40	TCS-5
17	18060	18080	20	TCS-5
18	18100	18140	40	TCS-5
19	20920	20960	40	TCS-5
20	23200	23220	20	TCS-5
21	28180	28200	20	TCS-5
22	28860	28900	40	TCS-5
23	29400	29420	20	TCS-5
24	29480	29500	20	TCS-5
25	33620	33640	20	TCS-5
26	43600	43680	80	TCS-5
	Total Length		2625	



DETAILS OF TOE WALL FOR PITCHING



DRAIN SHALL BE AS PER IRC:SP:42-2014

CLIENT: NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. 1st & 2nd Floor, Tower A, World Trade Centre, Nauroji Nagar, New Delhi - 110029. Contact No- 011-26769950, E-mail - info@nhidcl.com

DESIGN CONSULTANT: Global Infra Solutions in JV with Krishna Techno Consultants Pvt. Ltd. and association with Infycons Creative Software Pvt. Ltd.

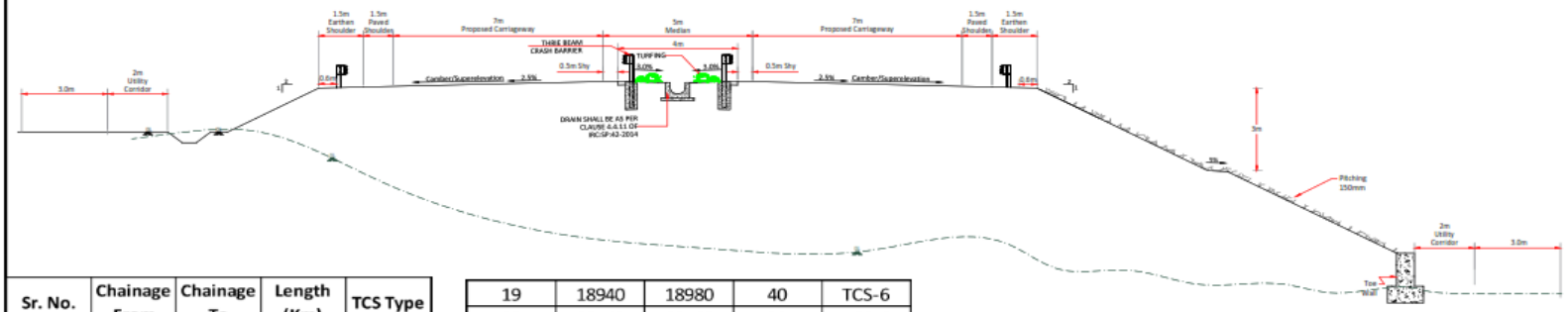
PROJECT: DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45.645 KM)

TCS

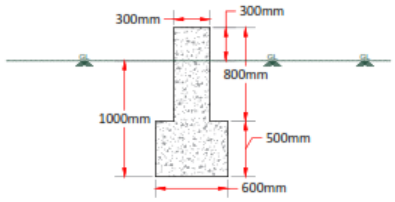
DSP

TYPE - 06
TYPICAL CROSS SECTION FOR 4 - LANE DIVIDED HIGHWAY
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)

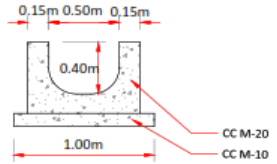
FILLING <3M ON EITHER SIDE,
NEW CONSTRUCTION SECTION



Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	500	520	20	TCS-6
2	1540	1580	40	TCS-6
3	1680	1690	10	TCS-6
4	11320	11400	80	TCS-6
5	12100	12160	60	TCS-6
6	13520	13540	20	TCS-6
7	14400	14420	20	TCS-6
8	14440	14540	100	TCS-6
9	15220	15240	20	TCS-6
10	15840	15860	20	TCS-6
11	16340	16380	40	TCS-6
12	16460	16520	60	TCS-6
13	16540	16620	80	TCS-6
14	17060	17140	80	TCS-6
15	18020	18060	40	TCS-6
16	18080	18100	20	TCS-6
17	18140	18160	20	TCS-6
18	18900	18920	20	TCS-6
19	18940	18980	40	TCS-6
20	19740	19760	20	TCS-6
21	21500	21520	20	TCS-6
22	21660	21680	20	TCS-6
23	22740	22760	20	TCS-6
24	23060	23100	40	TCS-6
25	23480	23500	20	TCS-6
26	24220	24260	40	TCS-6
27	24360	24400	40	TCS-6
28	24480	24500	20	TCS-6
29	28140	28180	40	TCS-6
30	28280	28320	40	TCS-6
31	28840	28860	20	TCS-6
32	29380	29400	20	TCS-6
33	29520	29540	20	TCS-6
34	33600	33620	20	TCS-6
35	43580	43600	20	TCS-6
36	43700	43740	40	TCS-6
	Total Length		1250	



DETAILS OF TOE WALL FOR PITCHING



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DESIGN CONSULTANT: Global Infra Solutions in JV with Krishna Techno Consultants Pvt. Ltd. and association with Infysons Creative Software Pvt. Ltd.

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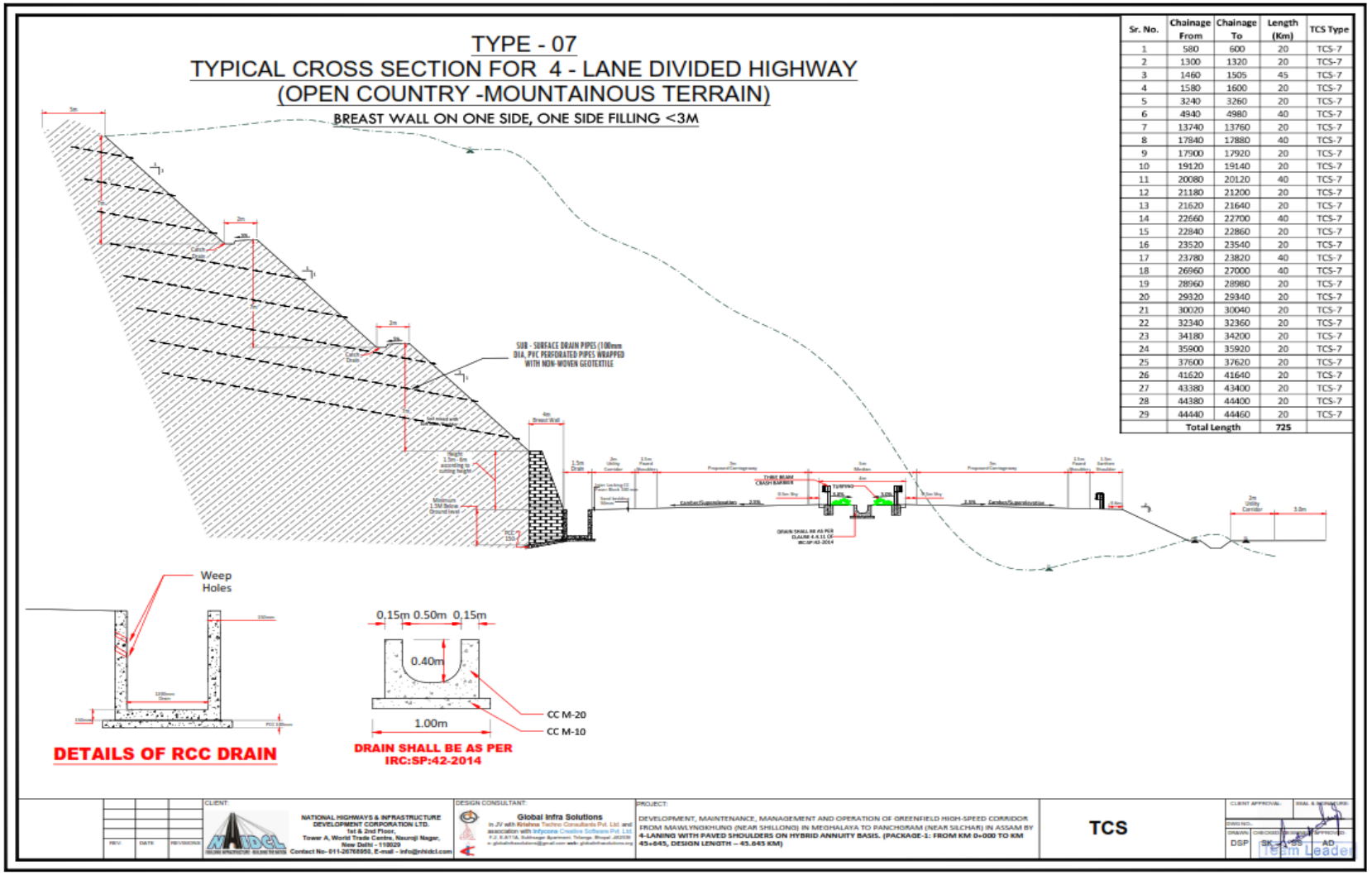
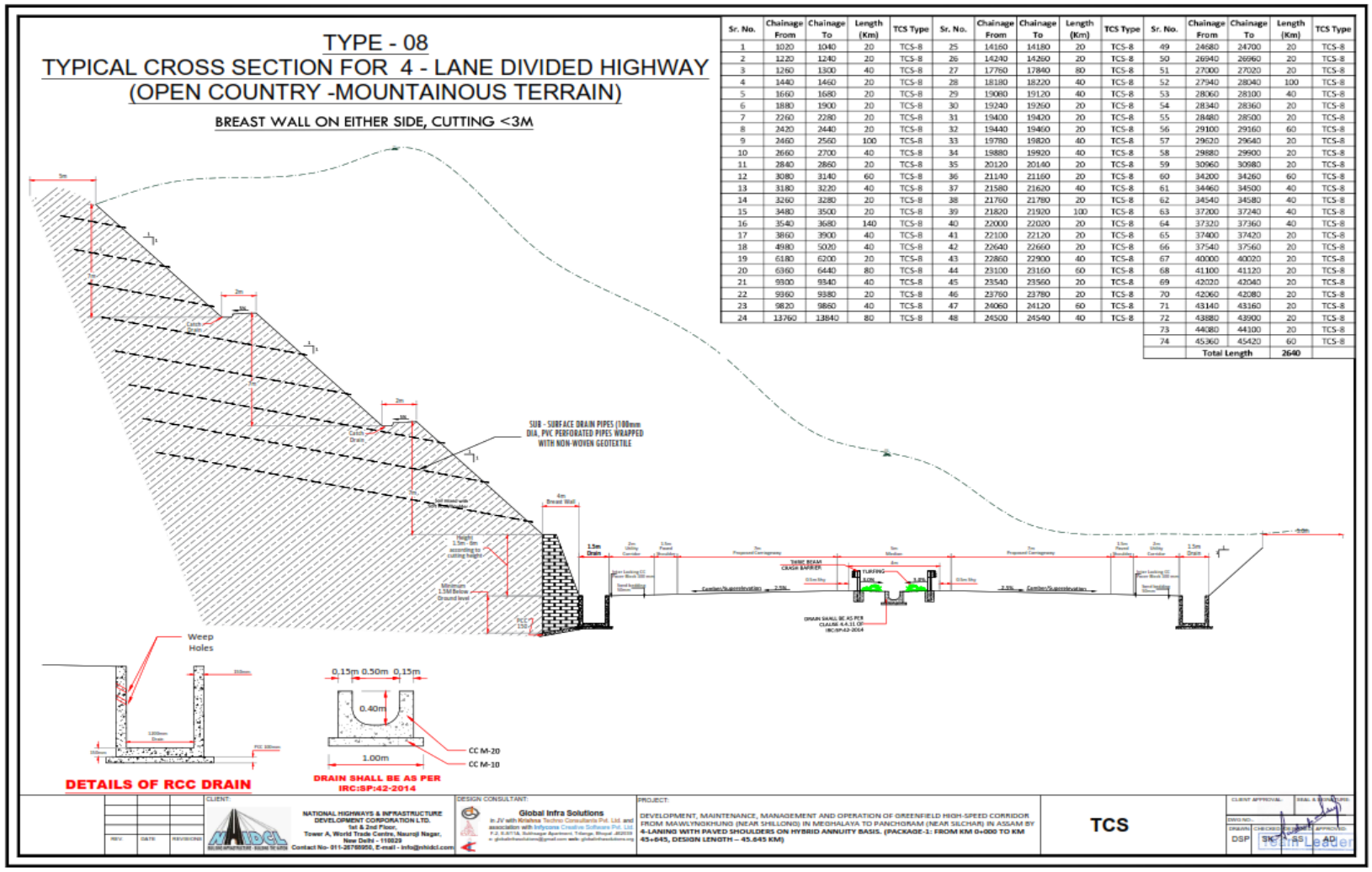
TCS

DSP SK AS AD Team Leader



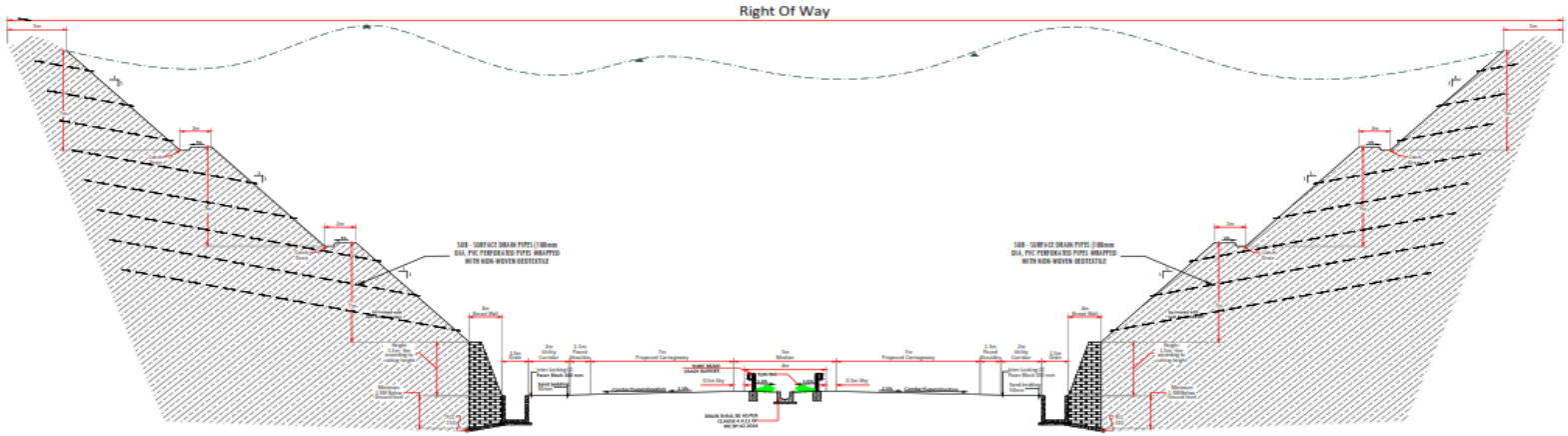
Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	580	600	20	TCS-7
2	1300	1320	20	TCS-7
3	1460	1505	45	TCS-7
4	1580	1600	20	TCS-7
5	3240	3260	20	TCS-7
6	4940	4980	40	TCS-7
7	13740	13760	20	TCS-7
8	17840	17880	40	TCS-7
9	17900	17920	20	TCS-7
10	19120	19140	20	TCS-7
11	20080	20120	40	TCS-7
12	21180	21200	20	TCS-7
13	21620	21640	20	TCS-7
14	22660	22700	40	TCS-7
15	22840	22860	20	TCS-7
16	23520	23540	20	TCS-7
17	23780	23820	40	TCS-7
18	26960	27000	40	TCS-7
19	28960	28980	20	TCS-7
20	29320	29340	20	TCS-7
21	30020	30040	20	TCS-7
22	32340	32360	20	TCS-7
23	34180	34200	20	TCS-7
24	35900	35920	20	TCS-7
25	37600	37620	20	TCS-7
26	41620	41640	20	TCS-7
27	43380	43400	20	TCS-7
28	44380	44400	20	TCS-7
29	44440	44460	20	TCS-7
	Total Length		725	



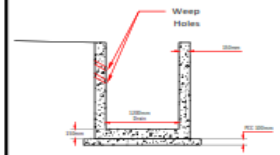
Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type	Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type	Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	1020	1040	20	TCS-8	25	14160	14180	20	TCS-8	49	24680	24700	20	TCS-8
2	1220	1240	20	TCS-8	26	14240	14260	20	TCS-8	50	26940	26960	20	TCS-8
3	1260	1300	40	TCS-8	27	17760	17840	80	TCS-8	51	27000	27020	20	TCS-8
4	1440	1460	20	TCS-8	28	18180	18220	40	TCS-8	52	27940	28040	100	TCS-8
5	1660	1680	20	TCS-8	29	19080	19120	40	TCS-8	53	28060	28100	40	TCS-8
6	1880	1900	20	TCS-8	30	19240	19260	20	TCS-8	54	28340	28360	20	TCS-8
7	2260	2280	20	TCS-8	31	19400	19420	20	TCS-8	55	28480	28500	20	TCS-8
8	2420	2440	20	TCS-8	32	19440	19460	20	TCS-8	56	29100	29160	60	TCS-8
9	2460	2560	100	TCS-8	33	19780	19820	40	TCS-8	57	29620	29640	20	TCS-8
10	2660	2700	40	TCS-8	34	19880	19920	40	TCS-8	58	29880	29900	20	TCS-8
11	2840	2860	20	TCS-8	35	20120	20140	20	TCS-8	59	30960	30980	20	TCS-8
12	3080	3140	60	TCS-8	36	21140	21160	20	TCS-8	60	34200	34260	60	TCS-8
13	3180	3220	40	TCS-8	37	21580	21620	40	TCS-8	61	34460	34500	40	TCS-8
14	3260	3280	20	TCS-8	38	21760	21780	20	TCS-8	62	34540	34580	40	TCS-8
15	3480	3500	20	TCS-8	39	21820	21920	100	TCS-8	63	37200	37240	40	TCS-8
16	3540	3680	140	TCS-8	40	22000	22020	20	TCS-8	64	37320	37360	40	TCS-8
17	3860	3900	40	TCS-8	41	22100	22120	20	TCS-8	65	37400	37420	20	TCS-8
18	4980	5020	40	TCS-8	42	22640	22660	20	TCS-8	66	37540	37560	20	TCS-8
19	6180	6200	20	TCS-8	43	22860	22900	40	TCS-8	67	40000	40020	20	TCS-8
20	6360	6440	80	TCS-8	44	23100	23160	60	TCS-8	68	41100	41120	20	TCS-8
21	9300	9340	40	TCS-8	45	23540	23560	20	TCS-8	69	42020	42040	20	TCS-8
22	9360	9380	20	TCS-8	46	23760	23780	20	TCS-8	70	42060	42080	20	TCS-8
23	9820	9860	40	TCS-8	47	24060	24120	60	TCS-8	71	43140	43160	20	TCS-8
24	13760	13840	80	TCS-8	48	24500	24540	40	TCS-8	72	43880	43900	20	TCS-8
										73	44080	44100	20	TCS-8
										74	45360	45420	60	TCS-8
											Total Length		2640	

TYPE - 10
TYPICAL CROSS SECTION FOR 4 - LANE DIVIDED HIGHWAY
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)

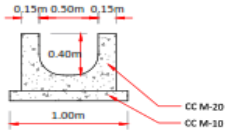
BREAST WALL BOTH SIDES



Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type	Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type	Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	600	1020	420	TCS-10	23	20140	20160	20	TCS-10	45	32360	33040	680	TCS-10
2	1240	1260	20	TCS-10	24	20980	21140	160	TCS-10	46	33700	34140	440	TCS-10
3	1320	1440	120	TCS-10	25	21200	21300	100	TCS-10	47	34260	34460	200	TCS-10
4	1600	1660	60	TCS-10	26	21460	21500	40	TCS-10	48	34500	34540	40	TCS-10
5	1900	2260	360	TCS-10	27	21520	21560	40	TCS-10	49	36040	36820	780	TCS-10
6	2280	2420	140	TCS-10	28	21780	21820	40	TCS-10	50	37240	37320	80	TCS-10
7	2700	2840	140	TCS-10	29	22020	22100	80	TCS-10	51	37360	37400	40	TCS-10
8	3140	3180	40	TCS-10	30	22120	22640	520	TCS-10	52	37420	37540	120	TCS-10
9	3280	3480	200	TCS-10	31	23560	23760	200	TCS-10	53	37560	37600	40	TCS-10
10	3900	4280	380	TCS-10	32	23940	24060	120	TCS-10	54	39740	40000	260	TCS-10
11	5020	5340	320	TCS-10	33	24120	24200	80	TCS-10	55	41120	41240	120	TCS-10
12	6200	6360	160	TCS-10	34	24540	24680	140	TCS-10	56	41440	41620	180	TCS-10
13	6440	7220	780	TCS-10	35	25620	26940	1320	TCS-10	57	41660	41980	320	TCS-10
14	9340	9360	20	TCS-10	36	27020	27940	920	TCS-10	58	42080	42600	520	TCS-10
15	9440	9820	380	TCS-10	37	28360	28480	120	TCS-10	59	43160	43380	220	TCS-10
16	9860	10140	280	TCS-10	38	28560	28820	260	TCS-10	60	43420	43520	100	TCS-10
17	13880	14160	280	TCS-10	39	28980	29100	120	TCS-10	61	43900	44020	120	TCS-10
18	14180	14240	60	TCS-10	40	29160	29320	160	TCS-10	62	44100	44380	280	TCS-10
19	17500	17760	260	TCS-10	41	29640	29880	240	TCS-10	63	44460	45360	900	TCS-10
20	18220	18860	640	TCS-10	42	29940	30020	80	TCS-10	64	45420	45645	225	TCS-10
21	19260	19380	120	TCS-10	43	30760	30960	200	TCS-10		Total Length		16545	
22	19820	19840	20	TCS-10	44	31620	32340	720	TCS-10					



DETAILS OF RCC DRAIN



DRAIN SHALL BE AS PER IRC:SP:42-2014

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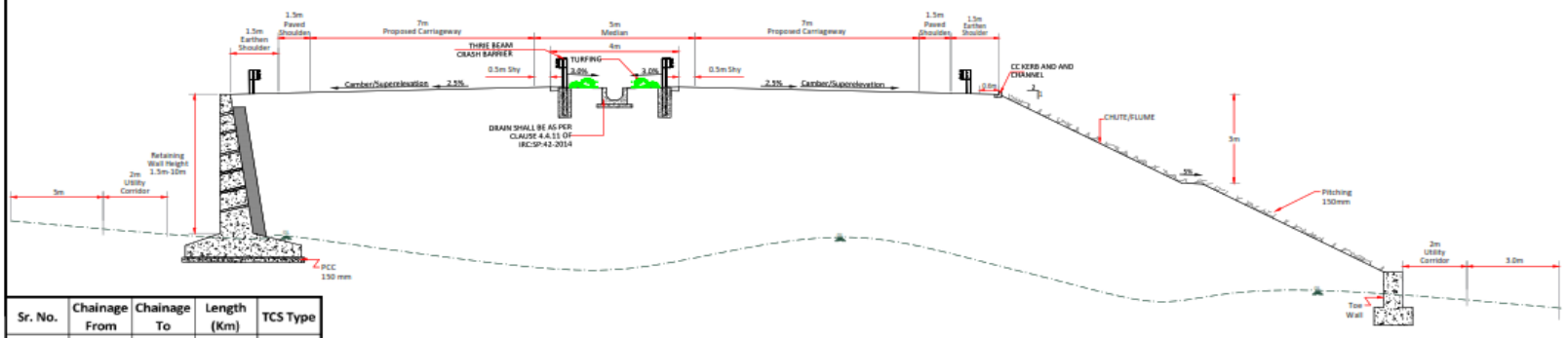
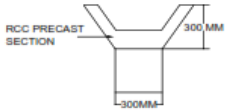
TCS

DRAWN: DSP | CHECKED: SK | DESIGNED: AD | APPROVED: Team Leader

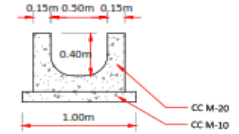
TYPE - 11
TYPICAL CROSS SECTION FOR 4 - LANE DIVIDED HIGHWAY
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)
RETAINING WALL ON EITHER SIDE, FILLING >3M



Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	1080	1100	20	TCS-11
2	3500	3520	20	TCS-11
3	9400	9420	20	TCS-11
4	16000	16020	20	TCS-11
5	16760	16780	20	TCS-11
6	16880	16900	20	TCS-11
7	18980	19000	20	TCS-11
8	19460	19500	40	TCS-11
9	19540	19640	100	TCS-11
10	19660	19680	20	TCS-11
11	19960	19980	20	TCS-11
12	20040	20080	40	TCS-11
13	20640	20920	280	TCS-11
14	23220	23380	160	TCS-11
15	28200	28280	80	TCS-11
16	28900	28940	40	TCS-11
17	29420	29480	60	TCS-11
18	29500	29520	20	TCS-11
19	31020	31040	20	TCS-11
20	31200	31240	40	TCS-11
21	33640	33700	60	TCS-11
22	35960	35980	20	TCS-11
23	43680	43700	20	TCS-11
	Total Length		1160	



CROSS SECTION OF FUME/CHUTE



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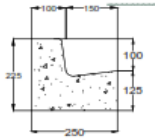
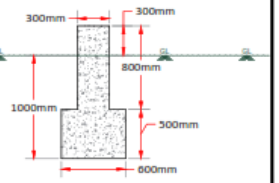


DETAIL AT 'A' (TYPE III KURB)



DETAILS OF TOE WALL FOR PITCHING

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
1st & 2nd Floor, Tower A, World Trade Centre, Nauroji Nagar, New Delhi - 110029
Contact No- 011-26780050, E-mail - info@nhidcl.com

Global Infra Solutions

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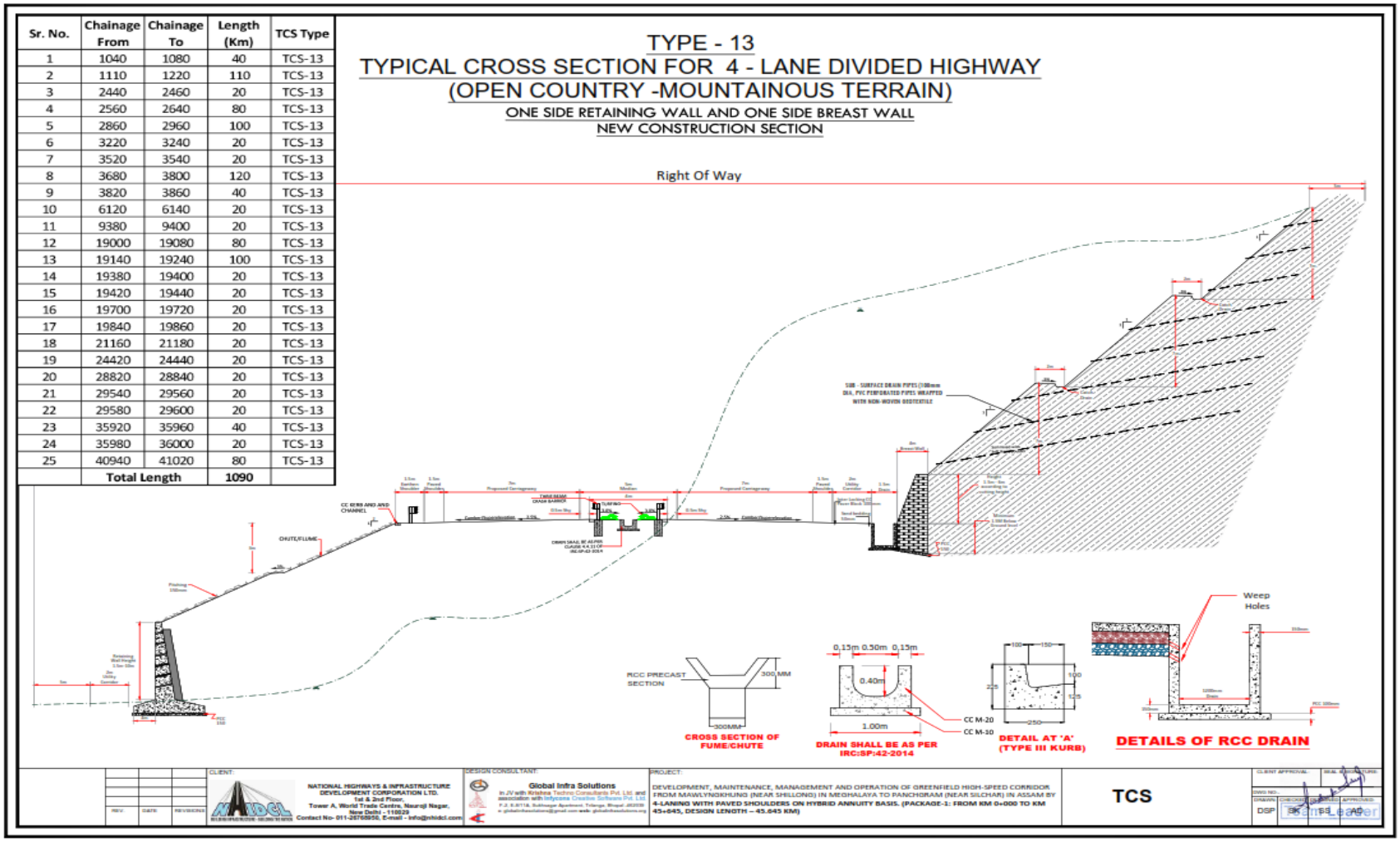
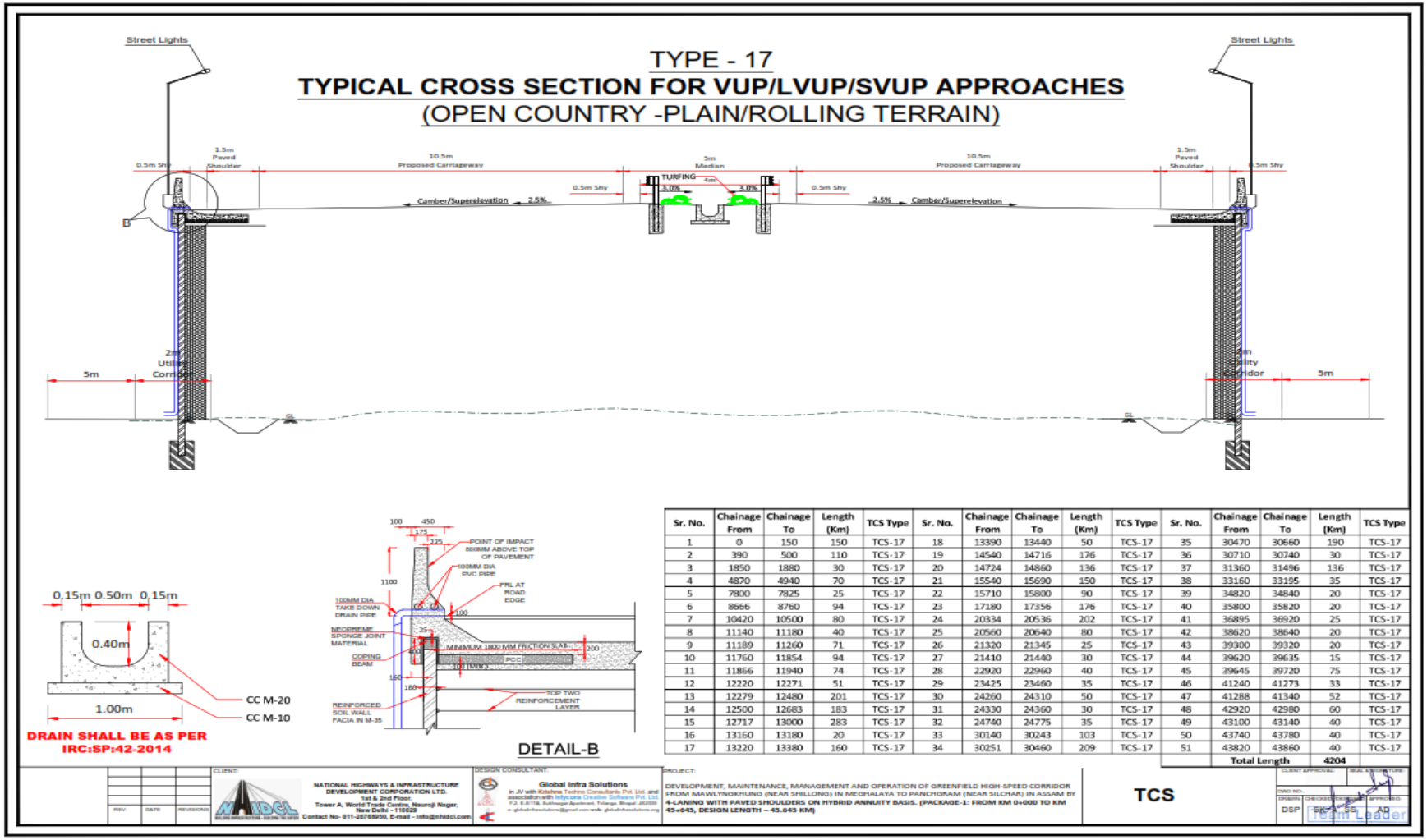
TCS

DSP

Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	1040	1080	40	TCS-13
2	1110	1220	110	TCS-13
3	2440	2460	20	TCS-13
4	2560	2640	80	TCS-13
5	2860	2960	100	TCS-13
6	3220	3240	20	TCS-13
7	3520	3540	20	TCS-13
8	3680	3800	120	TCS-13
9	3820	3860	40	TCS-13
10	6120	6140	20	TCS-13
11	9380	9400	20	TCS-13
12	19000	19080	80	TCS-13
13	19140	19240	100	TCS-13
14	19380	19400	20	TCS-13
15	19420	19440	20	TCS-13
16	19700	19720	20	TCS-13
17	19840	19860	20	TCS-13
18	21160	21180	20	TCS-13
19	24420	24440	20	TCS-13
20	28820	28840	20	TCS-13
21	29540	29560	20	TCS-13
22	29580	29600	20	TCS-13
23	35920	35960	40	TCS-13
24	35980	36000	20	TCS-13
25	40940	41020	80	TCS-13
	Total Length		1090	



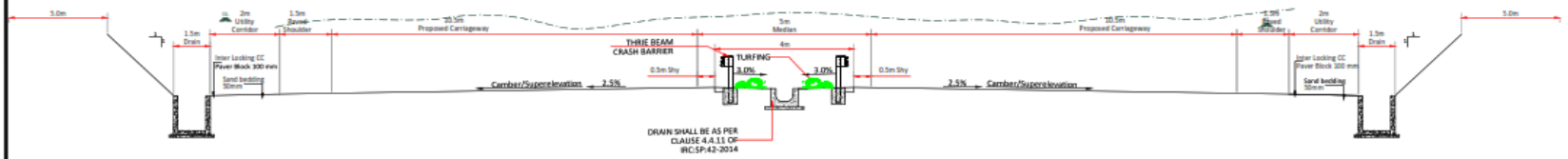


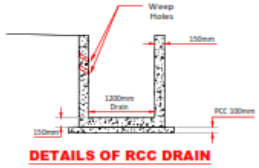
Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type	Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type	Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	0	150	150	TCS-17	18	13390	13440	50	TCS-17	35	30470	30660	190	TCS-17
2	390	500	110	TCS-17	19	14540	14716	176	TCS-17	36	30710	30740	30	TCS-17
3	1850	1880	30	TCS-17	20	14724	14860	136	TCS-17	37	31360	31496	136	TCS-17
4	4870	4940	70	TCS-17	21	15540	15690	150	TCS-17	38	33160	33195	35	TCS-17
5	7800	7825	25	TCS-17	22	15710	15800	90	TCS-17	39	34820	34840	20	TCS-17
6	8666	8760	94	TCS-17	23	17180	17356	176	TCS-17	40	35800	35820	20	TCS-17
7	10420	10500	80	TCS-17	24	20334	20536	202	TCS-17	41	36895	36920	25	TCS-17
8	11140	11180	40	TCS-17	25	20560	20640	80	TCS-17	42	38620	38640	20	TCS-17
9	11189	11260	71	TCS-17	26	21320	21345	25	TCS-17	43	39300	39320	20	TCS-17
10	11760	11854	94	TCS-17	27	21410	21440	30	TCS-17	44	39620	39635	15	TCS-17
11	11866	11940	74	TCS-17	28	22920	22960	40	TCS-17	45	39645	39720	75	TCS-17
12	12220	12271	51	TCS-17	29	23425	23460	35	TCS-17	46	41240	41273	33	TCS-17
13	12279	12480	201	TCS-17	30	24260	24310	50	TCS-17	47	41288	41340	52	TCS-17
14	12500	12683	183	TCS-17	31	24330	24360	30	TCS-17	48	42920	42980	60	TCS-17
15	12717	13000	283	TCS-17	32	24740	24775	35	TCS-17	49	43100	43140	40	TCS-17
16	13160	13180	20	TCS-17	33	30140	30243	103	TCS-17	50	43740	43780	40	TCS-17
17	13220	13380	160	TCS-17	34	30251	30460	209	TCS-17	51	43820	43860	40	TCS-17
											Total Length		4204	

TYPE - 01 (A)

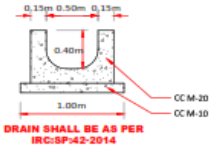
TYPICAL CROSS SECTION FOR 6 - LANE DIVIDED HIGHWAY (OPEN COUNTRY - MOUNTAINOUS TERRAIN)

CUTTING HEIGHT < 3M
NEW CONSTRUCTION SECTION





DETAILS OF RCC DRAIN



DRAIN SHALL BE AS PER IRC:SP:42-2014

Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	30740	30760	20	TCS-1A
2	35480	35500	20	TCS-1A
3	40180	40200	20	TCS-1A
	Total Length		60	

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DESIGN CONSULTANT: Global Infra Solutions in JV with Krishna Techno Consultants Pvt. Ltd. and association with Infycons Creative Software Pvt. Ltd.

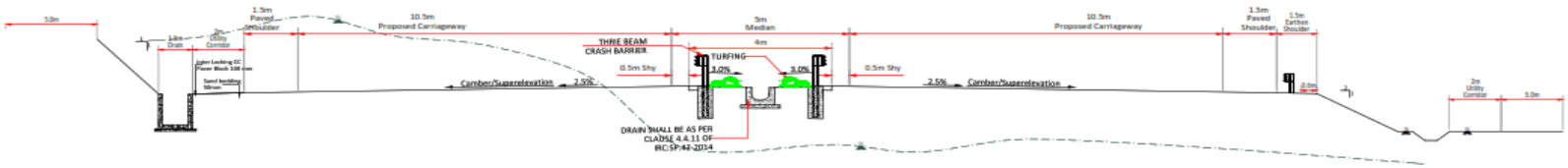
PROJECT: DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45.645 KM)

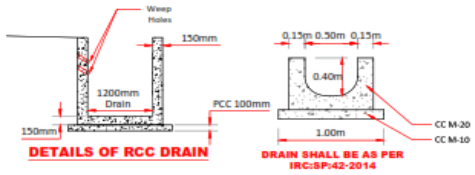
TCS

DRAWN: DSP CHECKED: SK APPROVED: AD

TYPE - 02 (A)
TYPICAL CROSS SECTION FOR 6 - LANE DIVIDED HIGHWAY
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)

PARTIAL CUT/FILL HEIGHT < 3M
NEW CONSTRUCTION SECTION





Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	4540	4550	10	TCS-2A
2	7520	7540	20	TCS-2A
3	7580	7600	20	TCS-2A
4	9000	9020	20	TCS-2A
5	10500	10520	20	TCS-2A
6	17364	17400	36	TCS-2A
7	24960	24980	20	TCS-2A
8	25040	25060	20	TCS-2A
9	30100	30140	40	TCS-2A
10	37100	37120	20	TCS-2A
11	38040	38060	20	TCS-2A
12	40060	40080	20	TCS-2A
13	40640	40650	10	TCS-2A
14	42620	42645	25	TCS-2A
15	42720	42743	23	TCS-2A
	Total Length		324	

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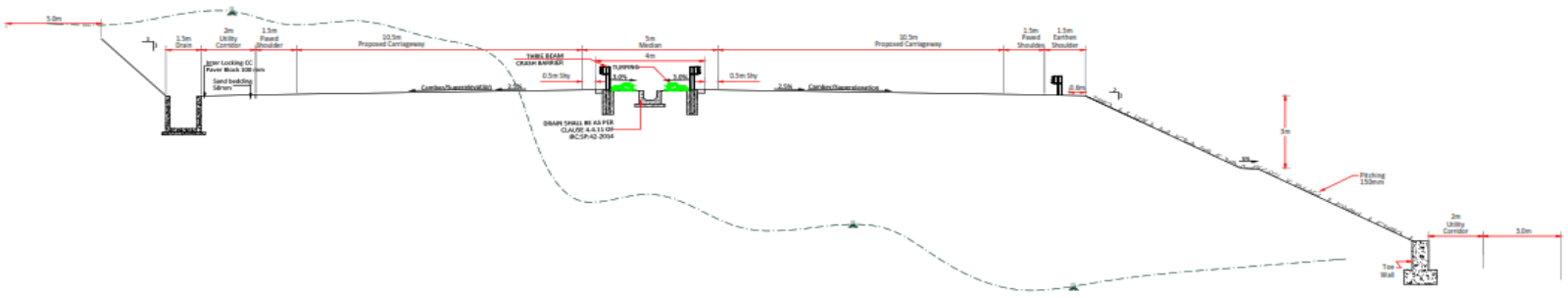
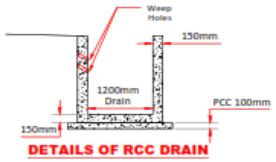
TCS

CLIENT APPROVAL | DRAWN | CHECKED | APPROVED: DSP | SK | SS | AD

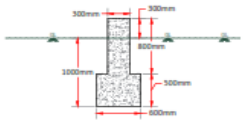
TYPE - 03 (A)
TYPICAL CROSS SECTION FOR 6 - LANE DIVIDED HIGHWAY
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)

CUTTING HEIGHT <3M, FILLING HEIGHT >3M
NEW CONSTRUCTION SECTION

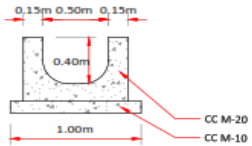




DETAILS OF RCC DRAIN



DETAILS OF TOE WALL FOR PITCHING



DRAIN SHALL BE AS PER IRC:SP:42-2014

Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	8760	8820	60	TCS-3A
2	8960	8980	20	TCS-3A
3	10560	10575	15	TCS-3A
4	25563	25580	17	TCS-3A
5	38240	38260	20	TCS-3A
6	38280	38300	20	TCS-3A
7	38320	38340	20	TCS-3A
8	40520	40540	20	TCS-3A
	Total Length		192	

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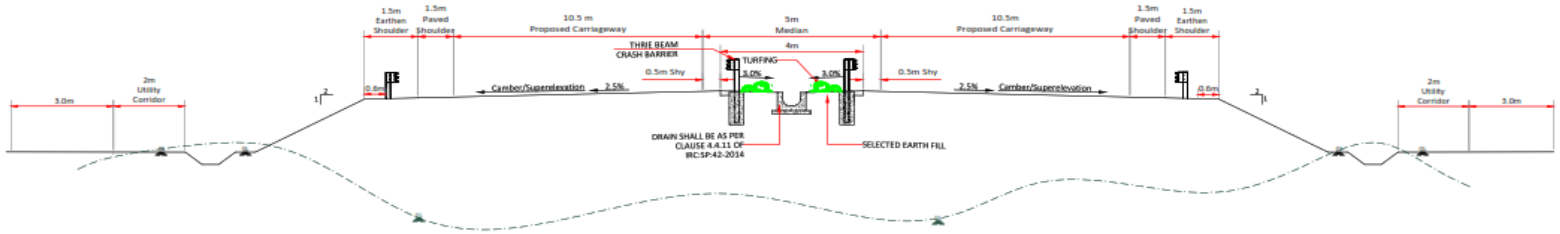
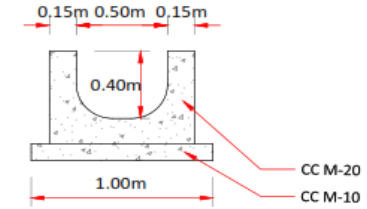
TCS

DRAWN: DSP | CHECKED: SK | APPROVED: AD | Team Leader

TYPE - 04 (A)
TYPICAL CROSS SECTION FOR 6 - LANE DIVIDED HIGHWAY
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)

FILLING SECTION <3M
NEW CONSTRUCTION SECTION





DRAIN SHALL BE AS PER IRC:SP:42-2014

Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	10275	10300	25	TCS-4A
2	31504	31540	36	TCS-4A
3	37180	37200	20	TCS-4A
	Total Length		**81**	

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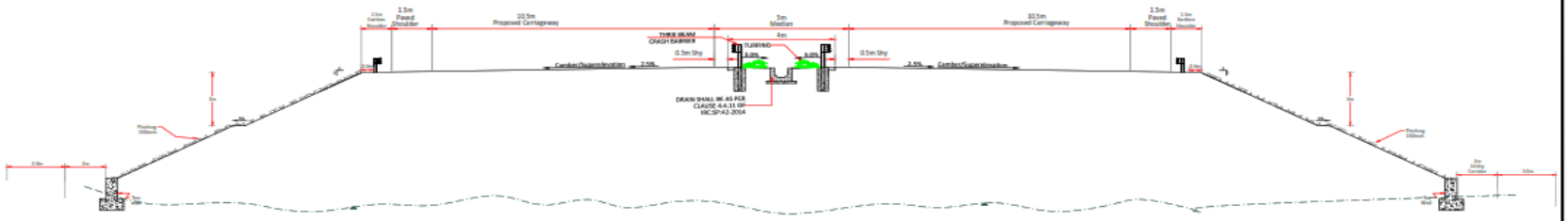
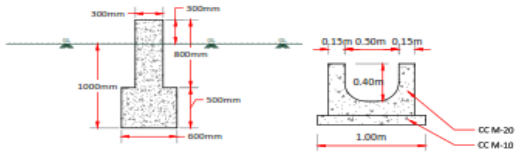
TCS

TYPE - 05 (A)
TYPICAL CROSS SECTION FOR 6 - LANE DIVIDED HIGHWAY
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)

FILLING SECTION >3M
NEW CONSTRUCTION SECTION



Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	7540	7560	20	TCS-5A
2	9065	9080	15	TCS-5A
3	23020	23040	20	TCS-5A
4	24785	24810	25	TCS-5A
5	25300	25528	228	TCS-5A
6	33225	33250	25	TCS-5A
7	33570	33600	30	TCS-5A
8	35454	35480	26	TCS-5A
9	38300	38320	20	TCS-5A
10	39240	39260	20	TCS-5A
11	40700	40720	20	TCS-5A
12	41340	41400	60	TCS-5A
13	42675	42700	25	TCS-5A
14	42800	42820	20	TCS-5A
	Total Length		554	



DETAILS OF TOE WALL FOR PITCHING

DRAIN SHALL BE AS PER IRC:SP:42-2014

CLIENT: NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. 1st & 2nd Floor, Tower A, World Trade Centre, Nauroji Nagar, New Delhi - 110029 Contact No - 011-26768950, E-mail - info@nhidcl.com

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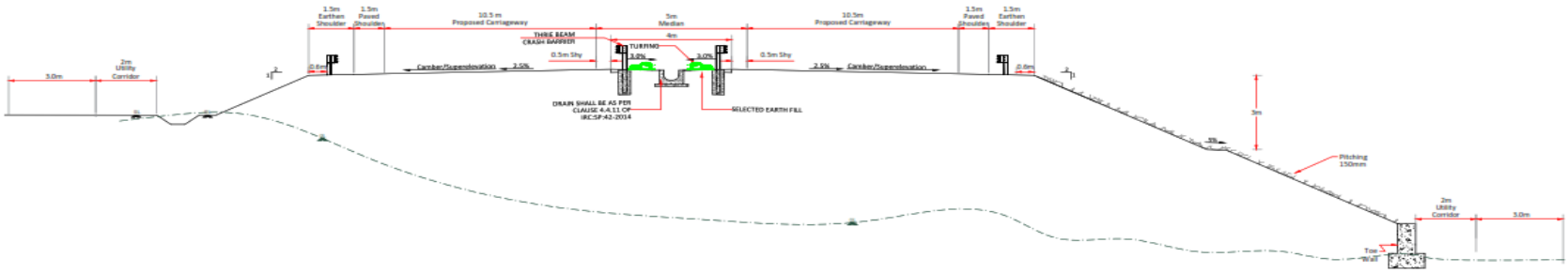
PROJECT: DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45.645 KM)

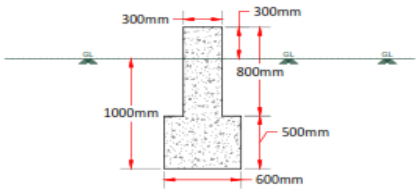
TCS

CLIENT APPROVAL | SEAL & SIGNATURE | DWG NO:- | DRAWN: DSP | CHECKED: SK | DESIGNED: SS | APPROVED: AD

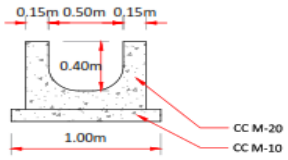
TYPE - 06 (A)
TYPICAL CROSS SECTION FOR 6 - LANE DIVIDED HIGHWAY
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)

FILLING <3M ON EITHER SIDE,
NEW CONSTRUCTION SECTION





DETAILS OF TOE WALL FOR PITCHING



DRAIN SHALL BE AS PER IRC:SP:42-2014

Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	4680	4720	40	TCS-6A
2	8950	8960	10	TCS-6A
3	10300	10320	20	TCS-6A
4	30060	30080	20	TCS-6A
5	33080	33095	15	TCS-6A
6	33105	33160	55	TCS-6A
7	34600	34620	20	TCS-6A
8	38080	38100	20	TCS-6A
9	38360	38380	20	TCS-6A
10	39260	39300	40	TCS-6A
11	39320	39340	20	TCS-6A
12	40260	40280	20	TCS-6A
13	41400	41420	20	TCS-6A
14	42700	42720	20	TCS-6A
15	42780	42800	20	TCS-6A
	Total Length		360	

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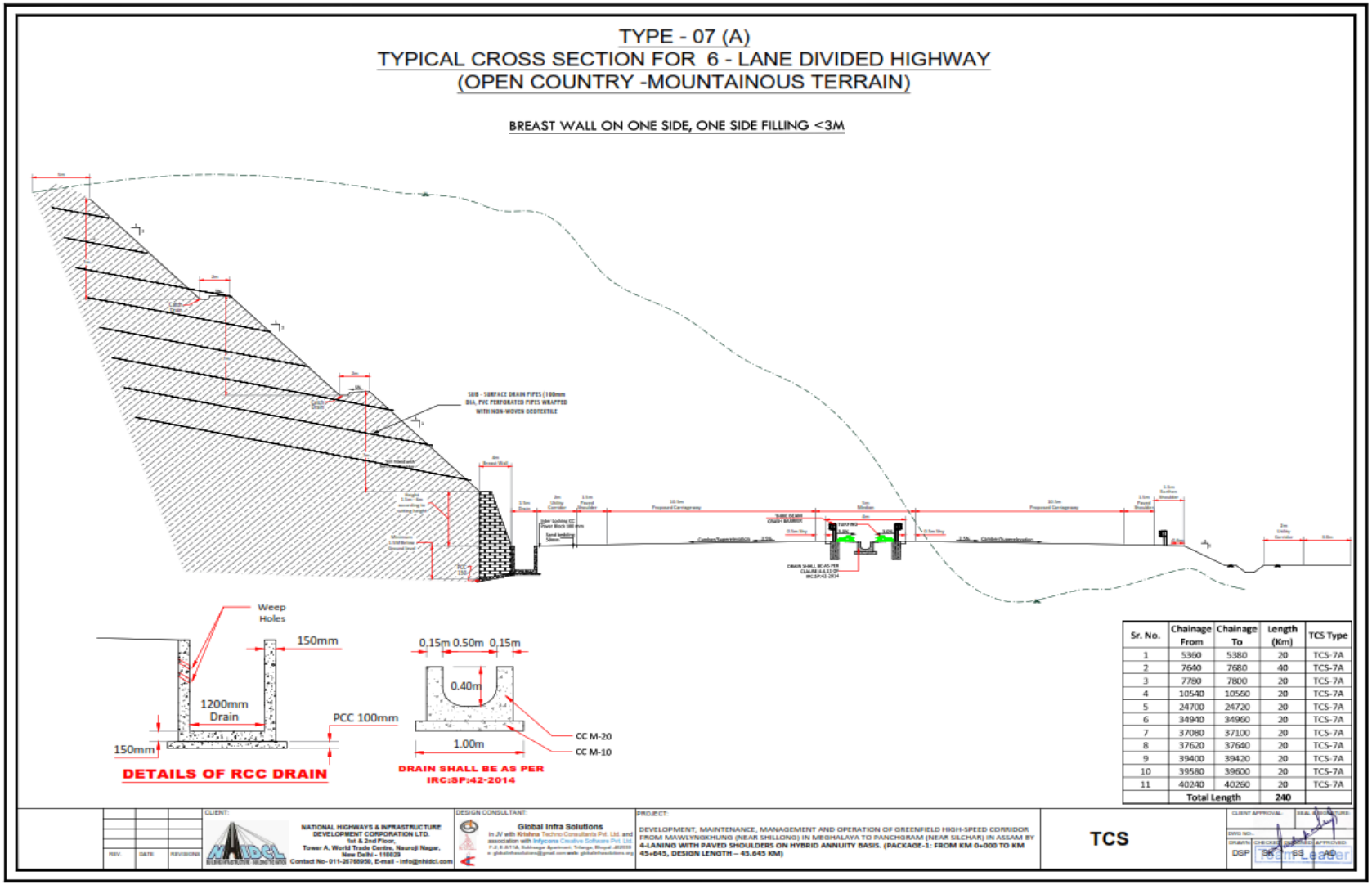
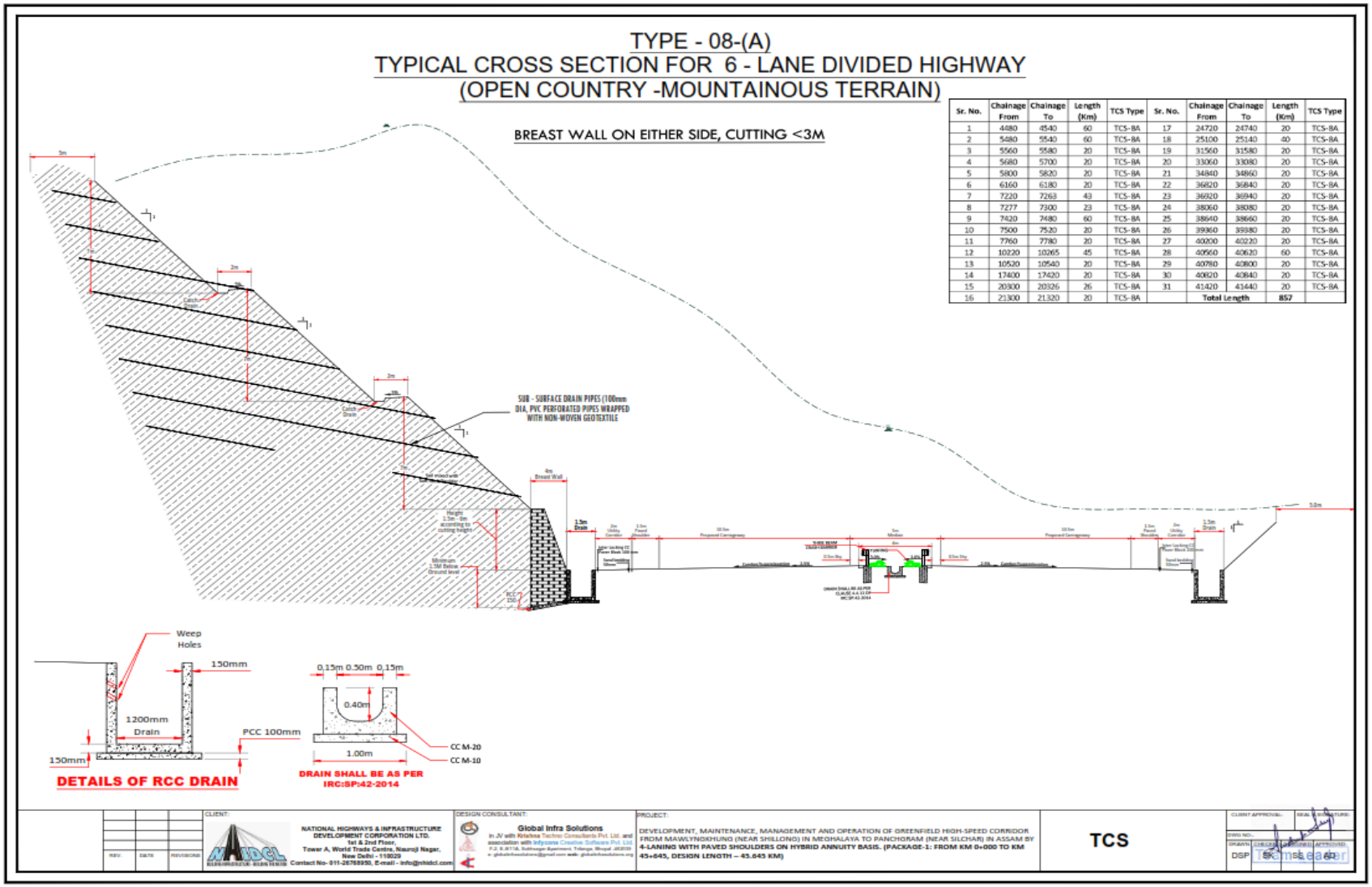
DESIGN CONSULTANT: Global Infra Solutions

PROJECT: DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45.645 KM)

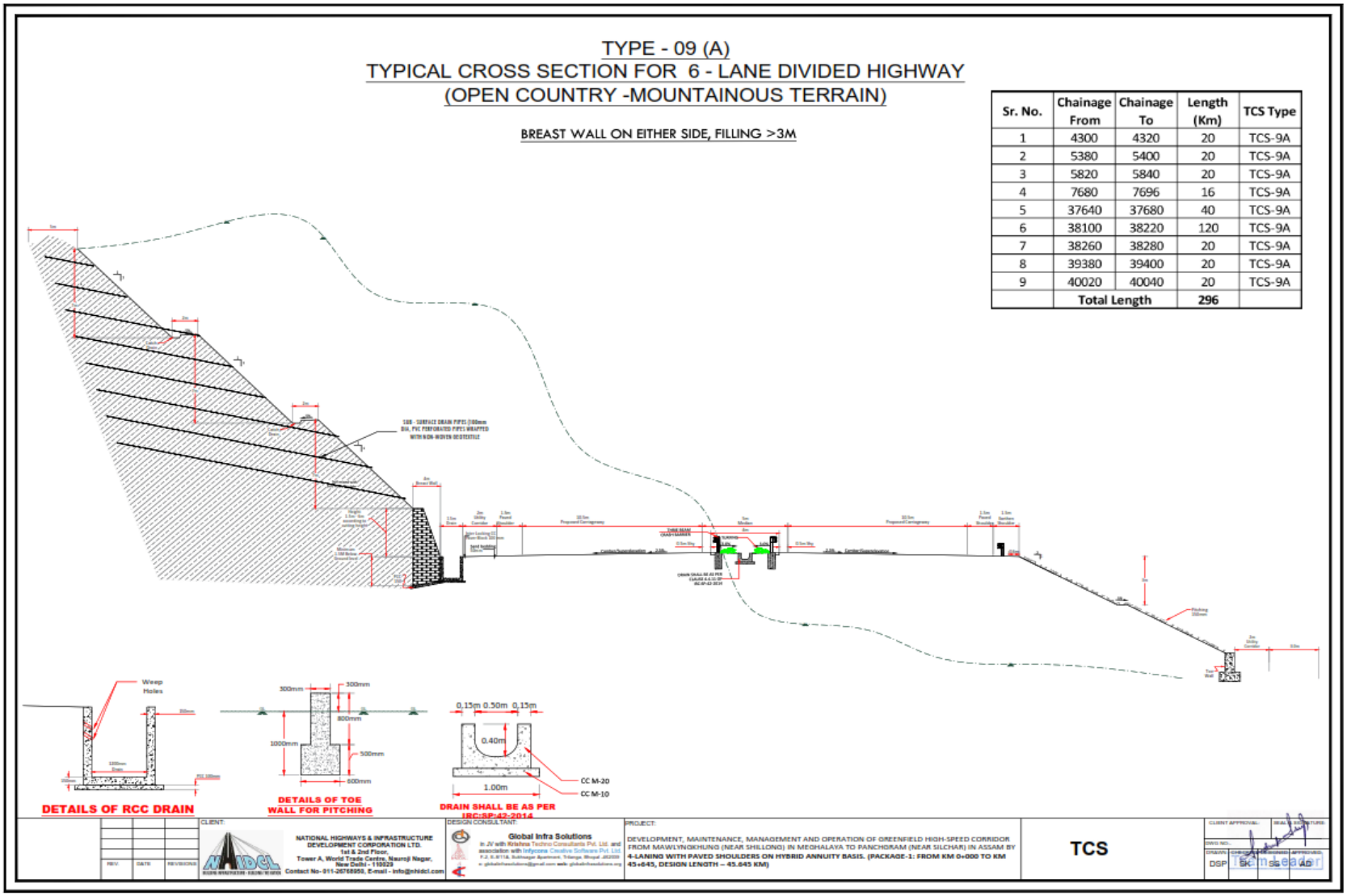
TCS

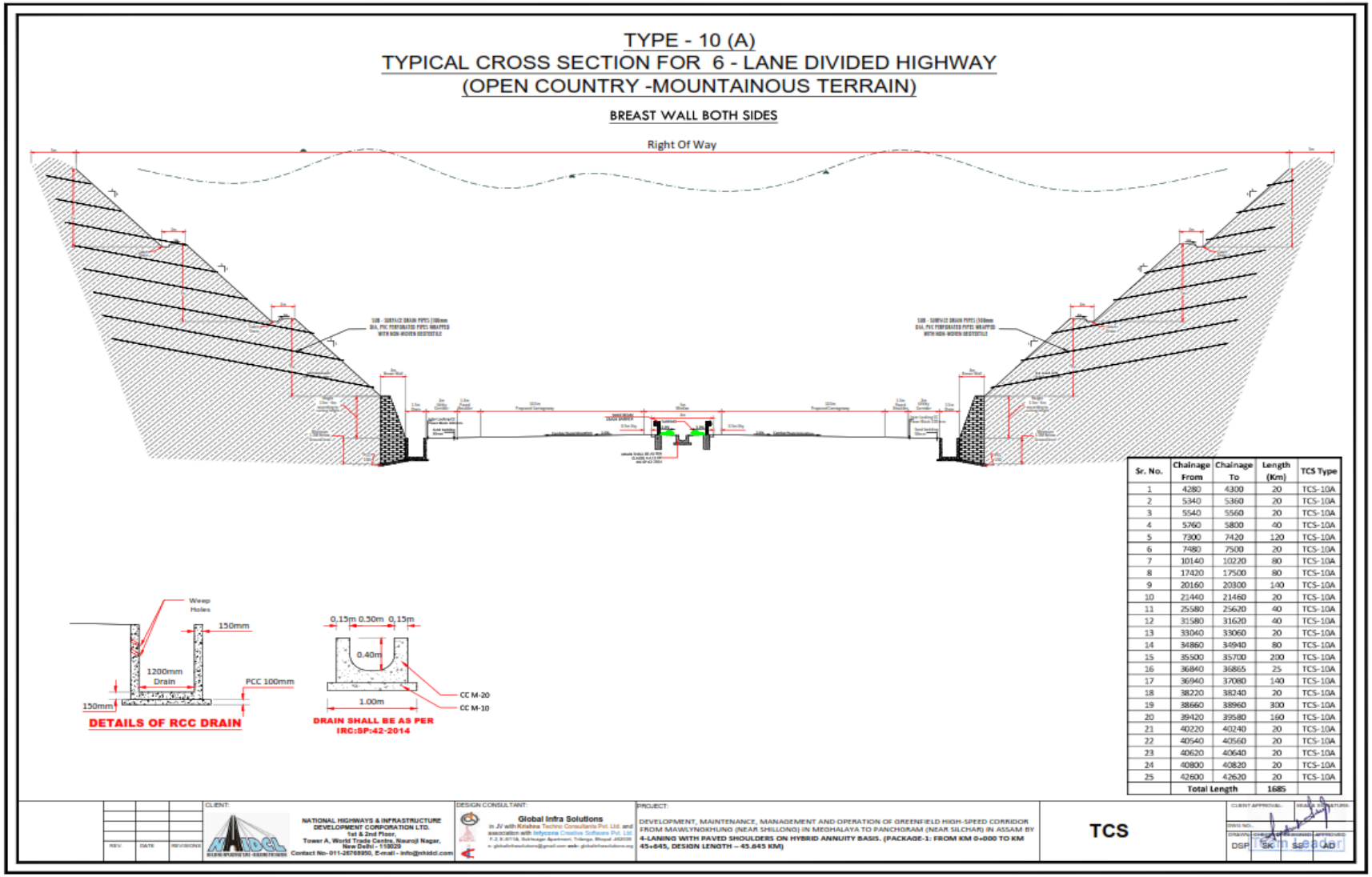


Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	5360	5380	20	TCS-7A
2	7640	7680	40	TCS-7A
3	7780	7800	20	TCS-7A
4	10540	10560	20	TCS-7A
5	24700	24720	20	TCS-7A
6	34940	34960	20	TCS-7A
7	37080	37100	20	TCS-7A
8	37620	37640	20	TCS-7A
9	39400	39420	20	TCS-7A
10	39580	39600	20	TCS-7A
11	40240	40260	20	TCS-7A
	Total Length		240	



Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type	Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	4480	4540	60	TCS-8A	17	24720	24740	20	TCS-8A
2	5480	5540	60	TCS-8A	18	25100	25140	40	TCS-8A
3	5560	5580	20	TCS-8A	19	31560	31580	20	TCS-8A
4	5680	5700	20	TCS-8A	20	33060	33080	20	TCS-8A
5	5800	5820	20	TCS-8A	21	34840	34860	20	TCS-8A
6	6160	6180	20	TCS-8A	22	36820	36840	20	TCS-8A
7	7220	7263	43	TCS-8A	23	36920	36940	20	TCS-8A
8	7277	7300	23	TCS-8A	24	38060	38080	20	TCS-8A
9	7420	7480	60	TCS-8A	25	38640	38660	20	TCS-8A
10	7500	7520	20	TCS-8A	26	39360	39380	20	TCS-8A
11	7760	7780	20	TCS-8A	27	40200	40220	20	TCS-8A
12	10220	10265	45	TCS-8A	28	40560	40620	60	TCS-8A
13	10520	10540	20	TCS-8A	29	40780	40800	20	TCS-8A
14	17400	17420	20	TCS-8A	30	40820	40840	20	TCS-8A
15	20300	20326	26	TCS-8A	31	41420	41440	20	TCS-8A
16	21300	21320	20	TCS-8A			Total Length	857	

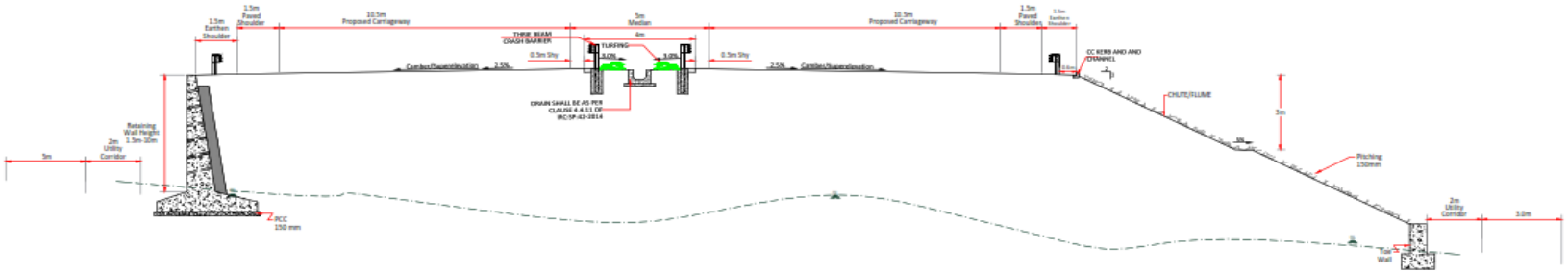

TYPE - 09 (A)
TYPICAL CROSS SECTION FOR 6 - LANE DIVIDED HIGHWAY
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)
BREAST WALL ON EITHER SIDE, FILLING >3M
Sr. No. | Chainage From | Chainage To | Length (Km) | TCS Type
1 | 4300 | 4320 | 20 | TCS-9A
2 | 5380 | 5400 | 20 | TCS-9A
3 | 5820 | 5840 | 20 | TCS-9A
4 | 7680 | 7696 | 16 | TCS-9A
5 | 37640 | 37680 | 40 | TCS-9A
6 | 38100 | 38220 | 120 | TCS-9A
7 | 38260 | 38280 | 20 | TCS-9A
8 | 39380 | 39400 | 20 | TCS-9A
9 | 40020 | 40040 | 20 | TCS-9A
Total Length | 296
Weep Holes
DETAILS OF RCC DRAIN
300mm
800mm
1000mm
500mm
600mm
DETAILS OF TOE WALL FOR PITCHING
0.15m 0.50m 0.15m
0.40m
1.00m
CC M-20
CC M-10
DRAIN SHALL BE AS PER IRC:SP:42-2014
NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
1st & 2nd Floor, Tower A, World Trade Centre, Nauroji Nagar, New Delhi - 110023
Contact No- 011-26768950, E-mail - info@nhidcl.com
Global Infra Solutions
DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45.645 KM)
TCS



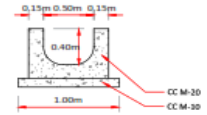
Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	4280	4300	20	TCS-10A
2	5340	5360	20	TCS-10A
3	5540	5560	20	TCS-10A
4	5760	5800	40	TCS-10A
5	7300	7420	120	TCS-10A
6	7480	7500	20	TCS-10A
7	10140	10220	80	TCS-10A
8	17420	17500	80	TCS-10A
9	20160	20300	140	TCS-10A
10	21440	21460	20	TCS-10A
11	25580	25620	40	TCS-10A
12	31580	31620	40	TCS-10A
13	33040	33060	20	TCS-10A
14	34860	34940	80	TCS-10A
15	35500	35700	200	TCS-10A
16	36840	36865	25	TCS-10A
17	36940	37080	140	TCS-10A
18	38220	38240	20	TCS-10A
19	38660	38960	300	TCS-10A
20	39420	39580	160	TCS-10A
21	40220	40240	20	TCS-10A
22	40540	40560	20	TCS-10A
23	40620	40640	20	TCS-10A
24	40800	40820	20	TCS-10A
25	42600	42620	20	TCS-10A
	Total Length		1685	

TYPE - 11 (A)
TYPICAL CROSS SECTION FOR 6 - LANE DIVIDED HIGHWAY
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)

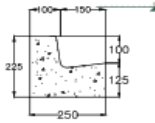
RETAINING WALL ON EITHER SIDE, FILLING >3M



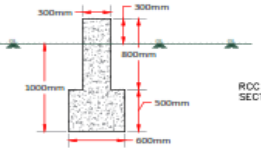
Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	3030	3060	30	TCS-11A
2	4590	4620	30	TCS-11A
3	6100	6120	20	TCS-11A
4	7560	7580	20	TCS-11A
5	9080	9100	20	TCS-11A
6	10585	10620	35	TCS-11A
7	23000	23020	20	TCS-11A
8	23380	23415	35	TCS-11A
9	24860	24960	100	TCS-11A
10	37120	37130	10	TCS-11A
11	37680	37705	25	TCS-11A
12	38026	38040	14	TCS-11A
13	40080	40105	25	TCS-11A
14	40150	40180	30	TCS-11A
15	40280	40335	55	TCS-11A
16	40345	40435	90	TCS-11A
17	40480	40520	40	TCS-11A
18	40740	40780	40	TCS-11A
19	42763	42780	17	TCS-11A
20	42820	42920	100	TCS-11A
	Total Length		756	



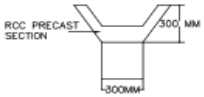
DRAIN SHALL BE AS PER IRC:SP:42-2014



DETAIL AT 'A' (TYPE III KURB)



DETAILS OF TOE WALL FOR PITCHING



CROSS SECTION OF FUME/CHUTE

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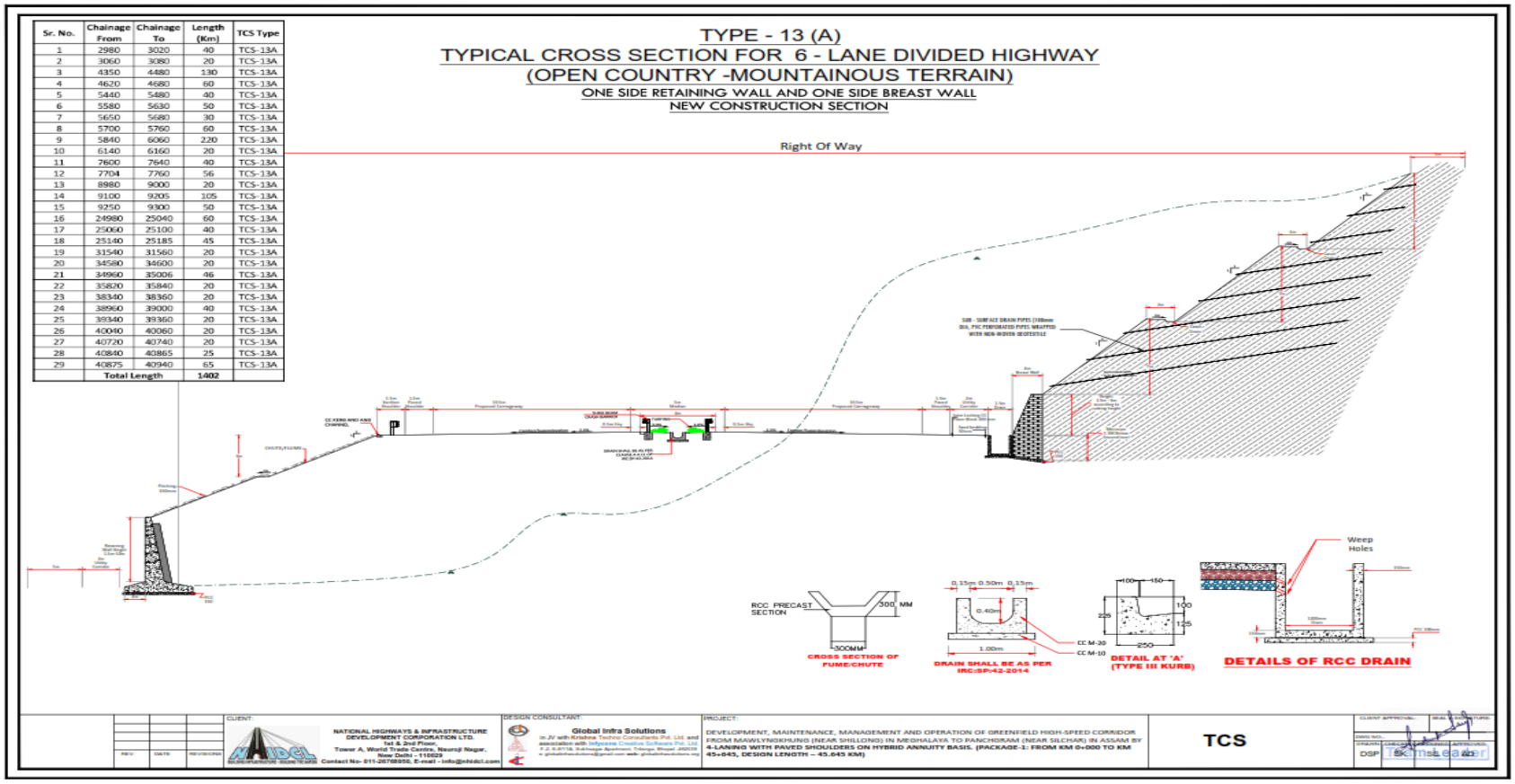
DESIGN CONSULTANT: Global Infra Solutions

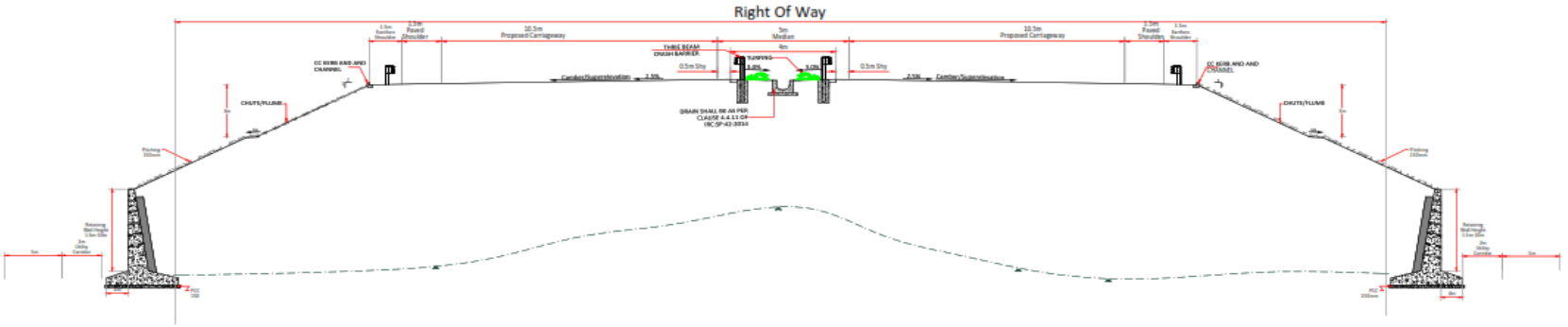
PROJECT: DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45.645 KM)

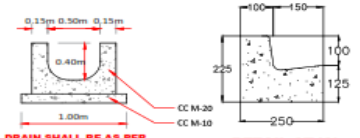
TCS

Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	2980	3020	40	TCS-13A
2	3060	3080	20	TCS-13A
3	4350	4480	130	TCS-13A
4	4620	4680	60	TCS-13A
5	5440	5480	40	TCS-13A
6	5580	5630	50	TCS-13A
7	5650	5680	30	TCS-13A
8	5700	5760	60	TCS-13A
9	5840	6060	220	TCS-13A
10	6140	6160	20	TCS-13A
11	7600	7640	40	TCS-13A
12	7704	7760	56	TCS-13A
13	8980	9000	20	TCS-13A
14	9100	9205	105	TCS-13A
15	9250	9300	50	TCS-13A
16	24980	25040	60	TCS-13A
17	25060	25100	40	TCS-13A
18	25140	25185	45	TCS-13A
19	31540	31560	20	TCS-13A
20	34580	34600	20	TCS-13A
21	34960	35006	46	TCS-13A
22	35820	35840	20	TCS-13A
23	38340	38360	20	TCS-13A
24	38960	39000	40	TCS-13A
25	39340	39360	20	TCS-13A
26	40040	40060	20	TCS-13A
27	40720	40740	20	TCS-13A
28	40840	40865	25	TCS-13A
29	40875	40940	65	TCS-13A
	Total Length		1402	



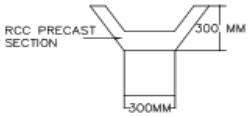
TYPE - 14 (A)
TYPICAL CROSS SECTION FOR 6 - LANE DIVIDED HIGHWAY
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)
RETAINING WALL ON BOTH SIDES IN HIGH EMBANKMENT





DRAIN SHALL BE AS PER IRC:SP:42-2014

DETAIL AT 'A' (TYPE III KURB)



CROSS SECTION OF FUME/CHUTE

Sr. No.	Chainage From	Chainage To	Length (Km)	TCS Type
1	10620	10640	20	TCS-14A
2	13120	13160	40	TCS-14A
3	22980	23000	20	TCS-14A
4	24820	24860	40	TCS-14A
5	30080	30100	20	TCS-14A
6	37150	37180	30	TCS-14A
7	40445	40480	35	TCS-14A
	Total Length		205	

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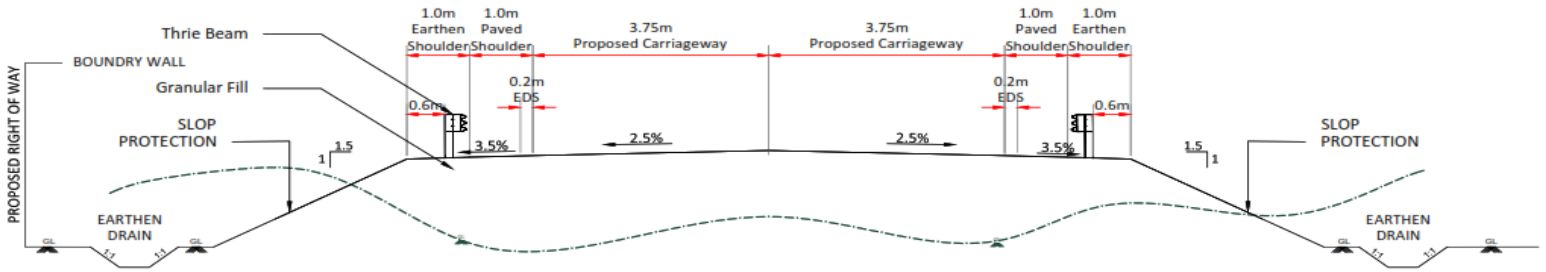
DESIGN CONSULTANT: Global Infra Solutions in JV with Krishna Techno Consultants Pvt. Ltd. and association with Infycona Creative Software Pvt. Ltd.

PROJECT: DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45.645 KM)

TCS

CLIENT APPROVAL: DRAWN SIGNATURE: DWG NO.: DRAWN: DSP CHECKED: APPROVED:

TYPE - 01
TYPICAL CROSS SECTION FOR RAMP AT INTERCHANGE LOCATION



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DESIGN CONSULTANT: Global Infra Solutions in JV with Krishna Techno Consultants Pvt. Ltd. and association with Infycons Creative Software Pvt. Ltd.

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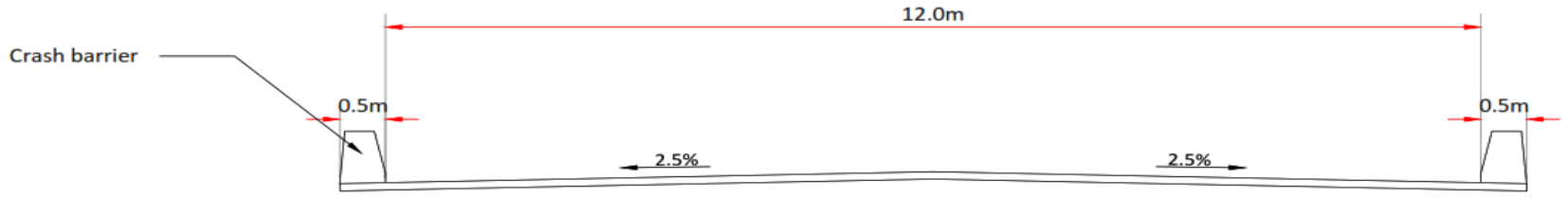
TCS

TYPE - 02
TYPICAL CROSS SECTION FOR ROTARY



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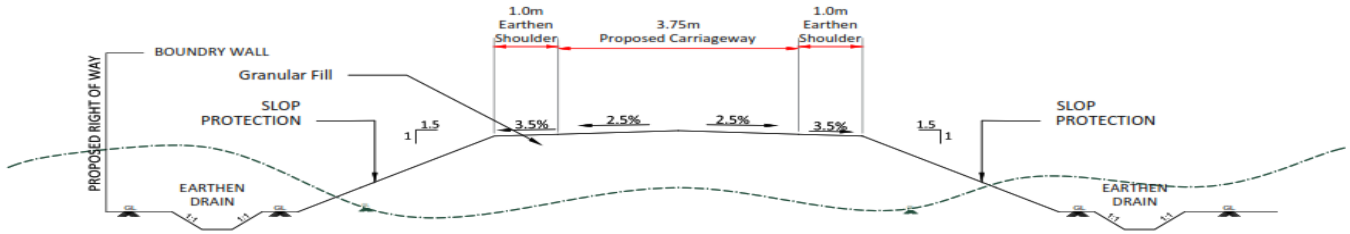
TCS

DSP

TYPE - 01
TYPICAL CROSS SECTION FOR CROSS ROAD



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DESIGN CONSULTANT: Global Infra Solutions in JV with Krishna Techno Consultants Pvt. Ltd. and association with Infysons Creative Software Pvt. Ltd.

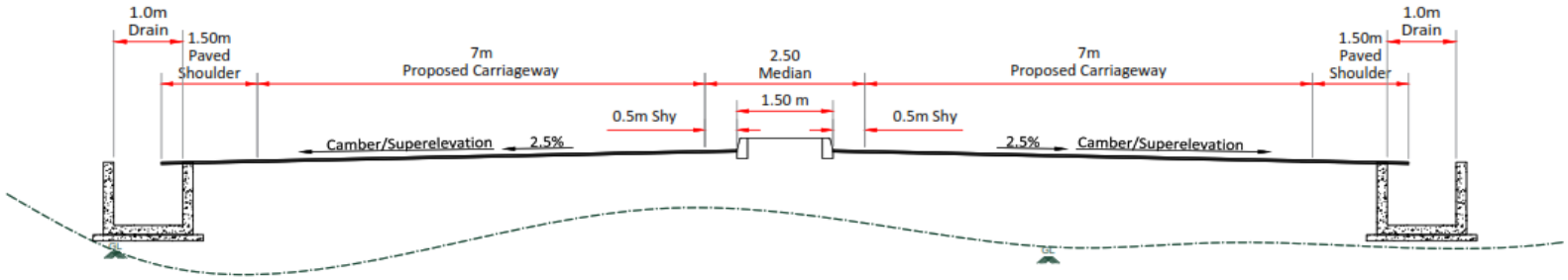
PROJECT: DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45+645 KM)

TCS

CLIENT APPROVAL | DSP

TYPE - 02
TYPICAL CROSS SECTION FOR 4 - LANE DIVIDED HIGHWAY
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)

FILLING SECTION <3M
NEW CONSTRUCTION SECTION



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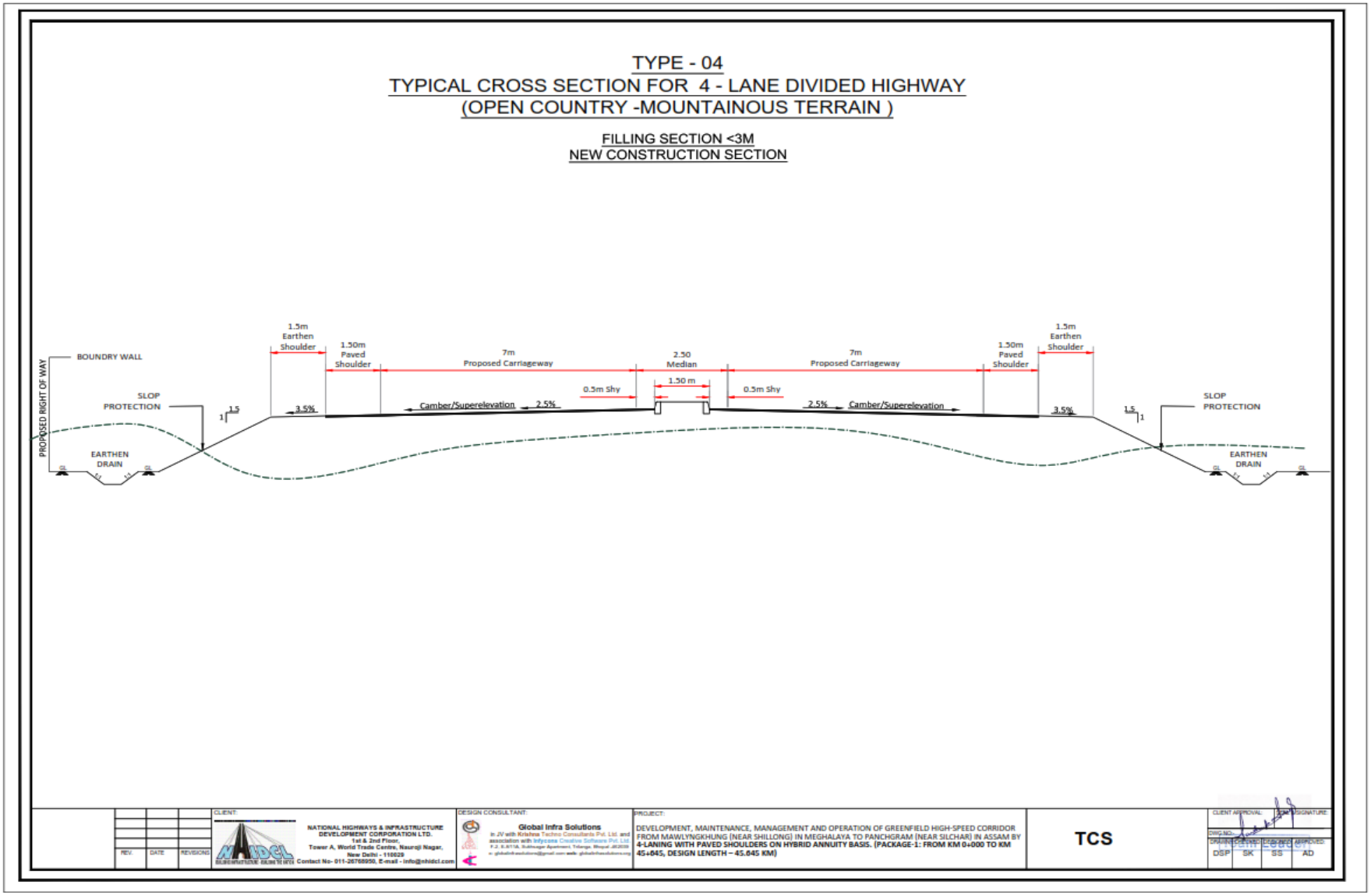
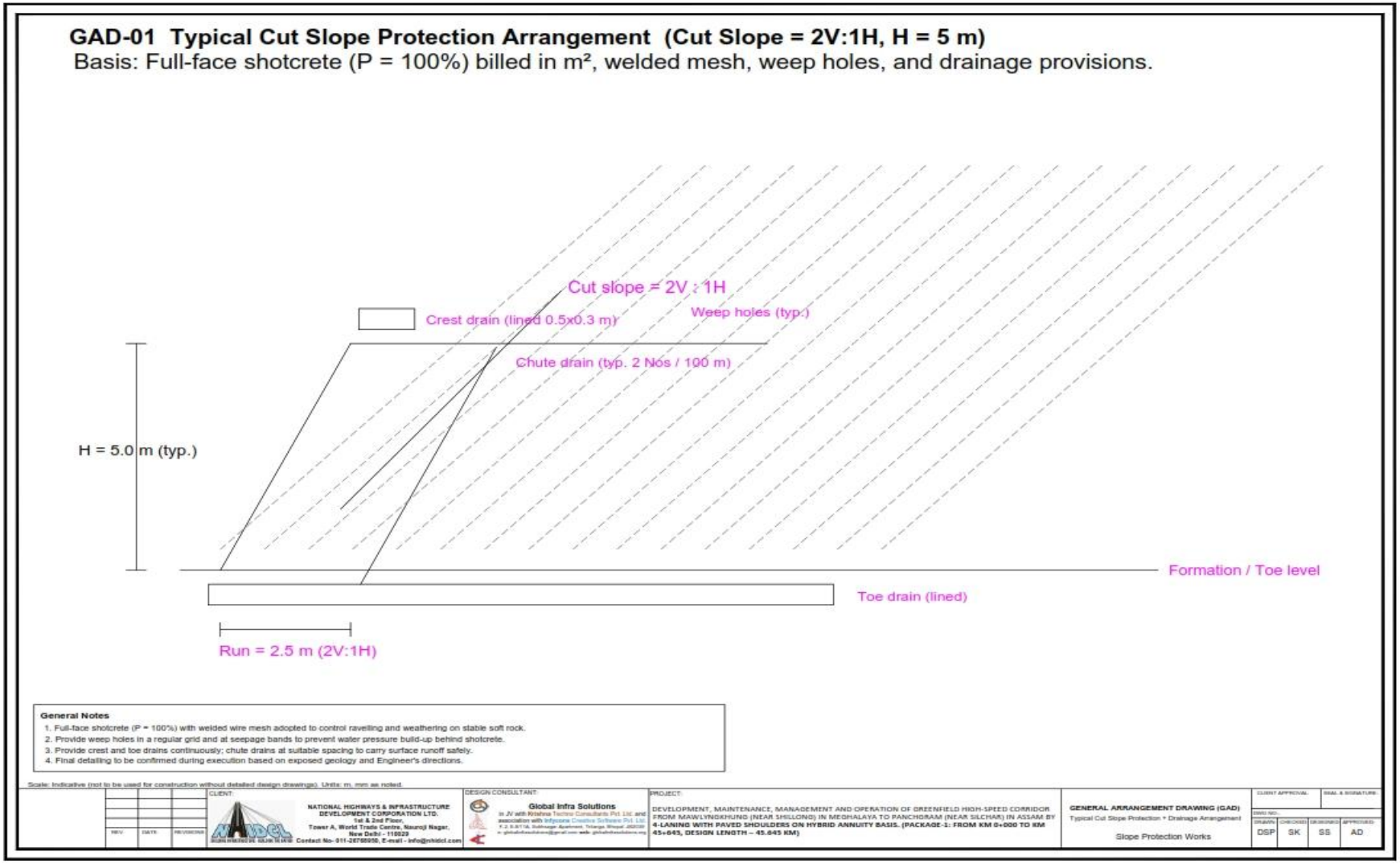
DESIGN CONSULTANT: Global Infra Solutions In JV with Krishna Techno Consultants Pvt. Ltd. and association with Infycons Creative Software Pvt. Ltd

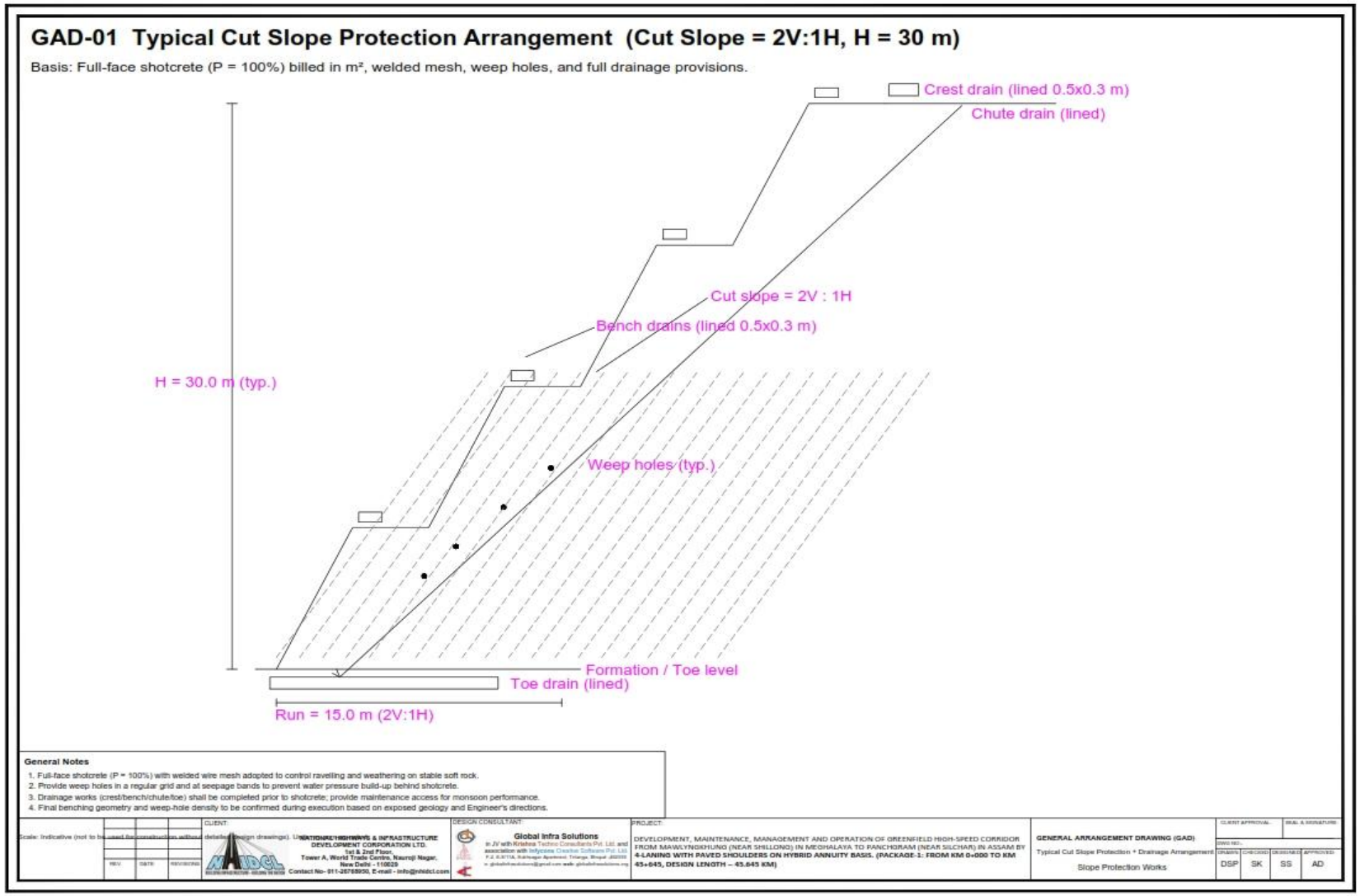
PROJECT: DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45.645 KM)

TCS

DSP | SK | SS | AD


TYPE - 04
TYPICAL CROSS SECTION FOR 4 - LANE DIVIDED HIGHWAY
(OPEN COUNTRY -MOUNTAINOUS TERRAIN)
FILLING SECTION <3M
NEW CONSTRUCTION SECTION
PROPOSED RIGHT OF WAY
BOUNDRY WALL
SLOP PROTECTION
EARTHEN DRAIN
1.5m Earthen Shoulder
1.50m Paved Shoulder
7m Proposed Carriageway
2.50 Median
1.50 m
0.5m Shy
Camber/Superelevation
2.5%
3.5%
1.5
1
GL
NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
1st & 2nd Floor, Tower A, World Trade Centre, Nauroji Nagar, New Delhi - 110029
Contact No- 011-26768950, E-mail - info@nhidcl.com
Global Infra Solutions
DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45.645 KM)
TCS
DSP
SK
SS
AD


GAD-01 Typical Cut Slope Protection Arrangement (Cut Slope = 2V:1H, H = 5 m)
Basis: Full-face shotcrete (P = 100%) billed in m², welded mesh, weep holes, and drainage provisions.
Cut slope = 2V : 1H
Crest drain (lined 0.5x0.3 m)
Weep holes (typ.)
Chute drain (typ. 2 Nos / 100 m)
H = 5.0 m (typ.)
Formation / Toe level
Toe drain (lined)
Run = 2.5 m (2V:1H)
General Notes
1. Full-face shotcrete (P = 100%) with welded wire mesh adopted to control ravelling and weathering on stable soft rock.
2. Provide weep holes in a regular grid and at seepage bands to prevent water pressure build-up behind shotcrete.
3. Provide crest and toe drains continuously; chute drains at suitable spacing to carry surface runoff safely.
4. Final detailing to be confirmed during execution based on exposed geology and Engineer's directions.
Scale: Indicative (not to be used for construction without detailed design drawings). Units: m, mm as noted.
CLIENT:
NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
1st & 2nd Floor,
Tower A, World Trade Centre, Nauroji Nagar,
New Delhi - 110029
Contact No- 011-26765950, E-mail - info@nhidcl.com
DESIGN CONSULTANT:
Global Infra Solutions
PROJECT:
DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45.645 KM)
GENERAL ARRANGEMENT DRAWING (GAD)
Typical Cut Slope Protection + Drainage Arrangement
Slope Protection Works
DRAWN
DSP
CHECKED
SK
DESIGNED
SS
APPROVED
AD


GAD-01 Typical Cut Slope Protection Arrangement (Cut Slope = 2V:1H, H = 30 m)
Basis: Full-face shotcrete (P = 100%) billed in m², welded mesh, weep holes, and full drainage provisions.
Crest drain (lined 0.5x0.3 m)
Chute drain (lined)
Cut slope = 2V : 1H
Bench drains (lined 0.5x0.3 m)
H = 30.0 m (typ.)
Weep holes (typ.)
Formation / Toe level
Toe drain (lined)
Run = 15.0 m (2V:1H)
General Notes
1. Full-face shotcrete (P = 100%) with welded wire mesh adopted to control ravelling and weathering on stable soft rock.
2. Provide weep holes in a regular grid and at seepage bands to prevent water pressure build-up behind shotcrete.
3. Drainage works (crest/bench/chute/toe) shall be completed prior to shotcrete; provide maintenance access for monsoon performance.
4. Final benching geometry and weep-hole density to be confirmed during execution based on exposed geology and Engineer's directions.
CLIENT:
NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
1st & 2nd Floor,
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DESIGN CONSULTANT:
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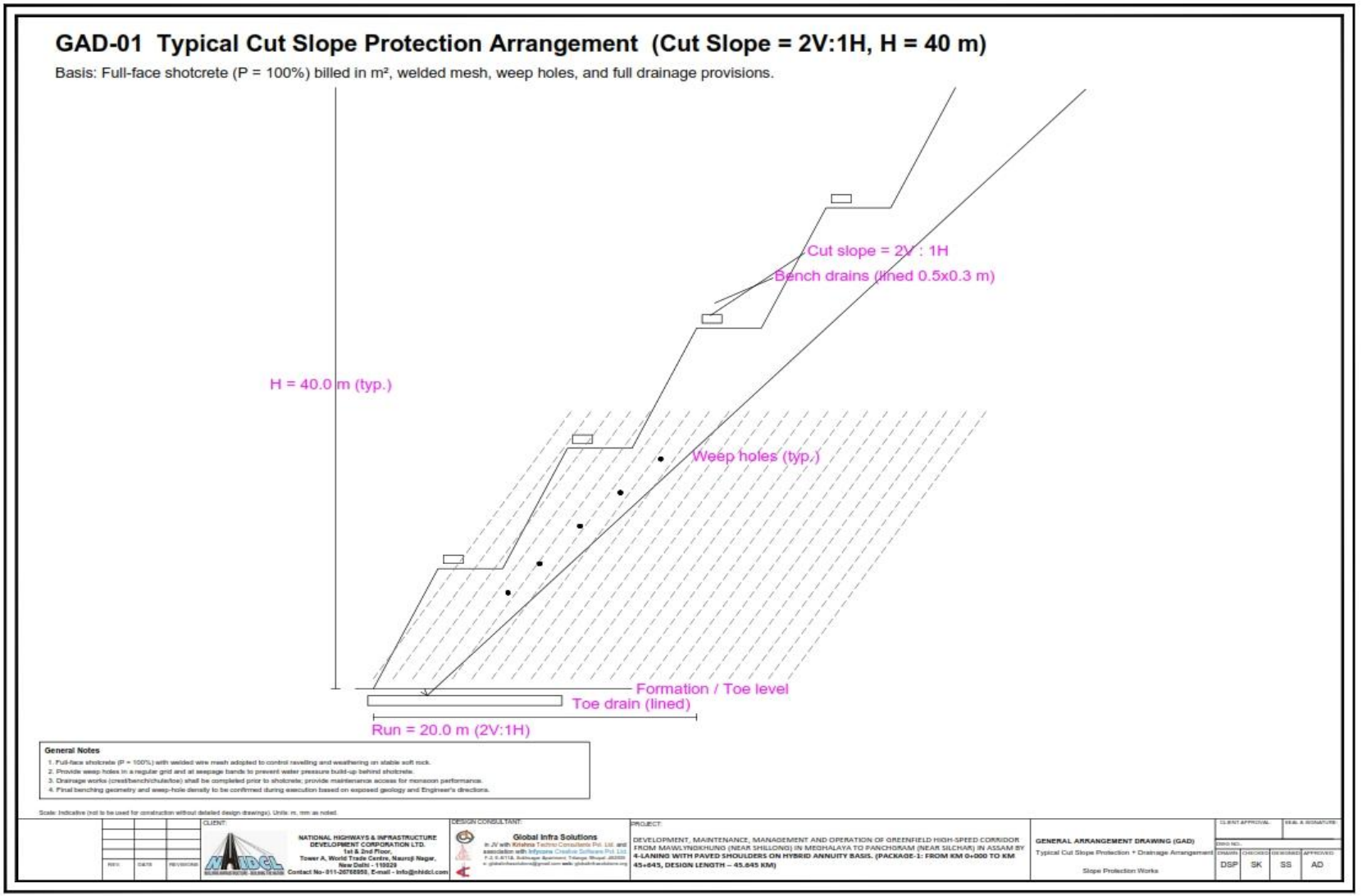
DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45.645 KM)
GENERAL ARRANGEMENT DRAWING (GAD)
Typical Cut Slope Protection + Drainage Arrangement
Slope Protection Works
DSP
SK
SS
AD


GAD-01 Typical Cut Slope Protection Arrangement (Cut Slope = 2V:1H, H = 40 m)
Basis: Full-face shotcrete (P = 100%) billed in m², welded mesh, weep holes, and full drainage provisions.
Cut slope = 2V : 1H
Bench drains (lined 0.5x0.3 m)
H = 40.0 m (typ.)
Weep holes (typ.)
Formation / Toe level
Toe drain (lined)
Run = 20.0 m (2V:1H)
General Notes
1. Full-face shotcrete (P = 100%) with welded wire mesh adopted to control ravelling and weathering on stable soft rock.
2. Provide weep holes in a regular grid and at seepage bands to prevent water pressure build-up behind shotcrete.
3. Drainage works (crest/bench/chute/toe) shall be completed prior to shotcrete; provide maintenance access for monsoon performance.
4. Final benching geometry and weep-hole density to be confirmed during execution based on exposed geology and Engineer's directions.
Scale: Indicative (not to be used for construction without detailed design drawings). Units: m, mm as noted.
CLIENT:
NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
1st & 2nd Floor,
Tower A, World Trade Centre, Nauroji Nagar,
New Delhi - 110029
Contact No- 011-25768958, E-mail - info@nhidcl.com
DESIGN CONSULTANT:
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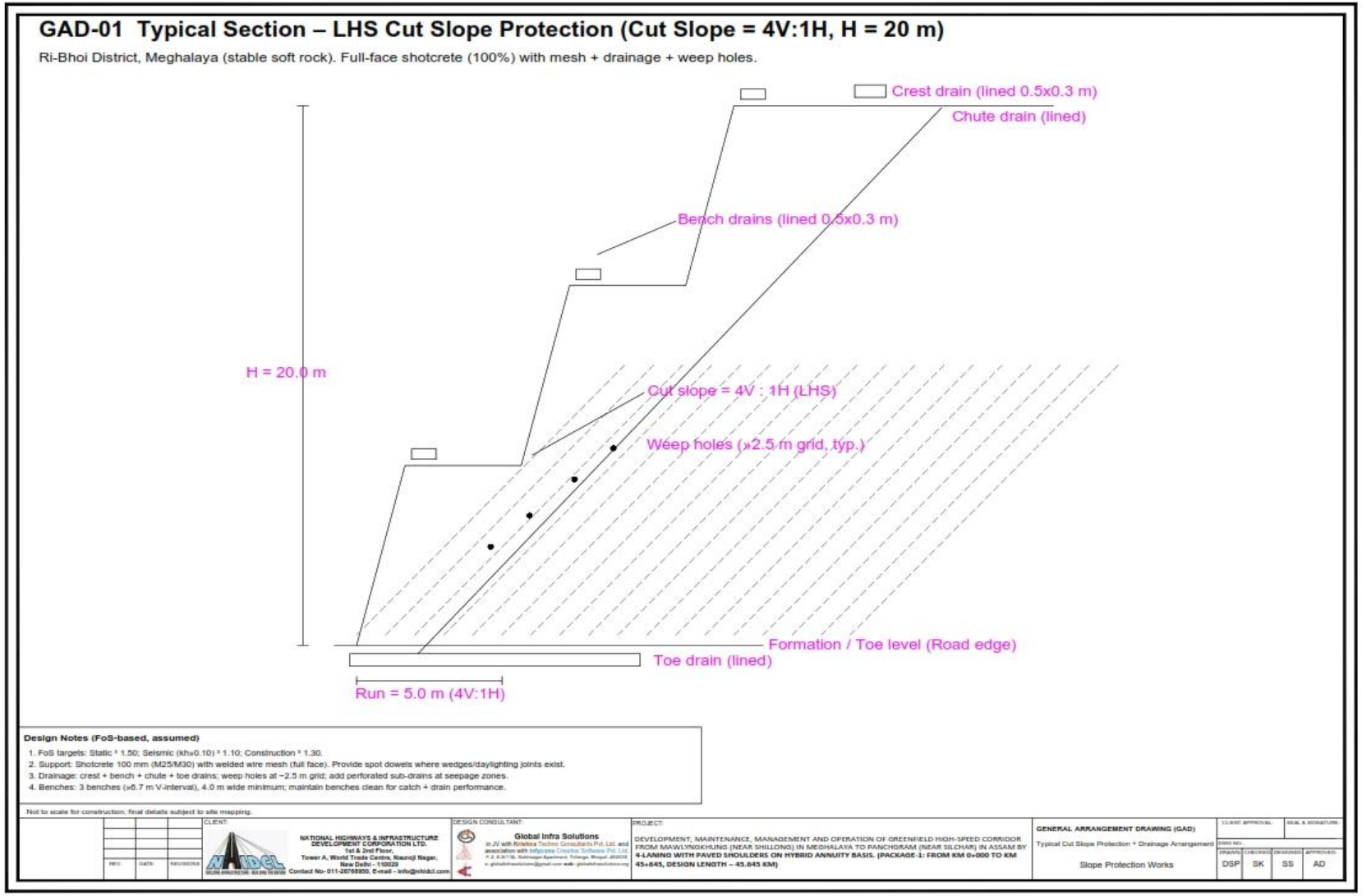
PROJECT:
DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45.645 KM)
GENERAL ARRANGEMENT DRAWING (GAD)
Typical Cut Slope Protection + Drainage Arrangement
Slope Protection Works
DRAWN
CHECKED
DESIGNED
APPROVED
DSP
SK
SS
AD


GAD-01 Typical Section – LHS Cut Slope Protection (Cut Slope = 4V:1H, H = 20 m)
Ri-Bhoi District, Meghalaya (stable soft rock). Full-face shotcrete (100%) with mesh + drainage + weep holes.
Crest drain (lined 0.5x0.3 m)
Chute drain (lined)
Bench drains (lined 0.5x0.3 m)
H = 20.0 m
Cut slope = 4V : 1H (LHS)
Weep holes (»2.5 m grid, typ.)
Formation / Toe level (Road edge)
Toe drain (lined)
Run = 5.0 m (4V:1H)
Design Notes (FoS-based, assumed)
1. FoS targets: Static ³ 1.50; Seismic (kh»0.10) ³ 1.10; Construction ³ 1.30.
2. Support: Shotcrete 100 mm (M25/M30) with welded wire mesh (full face). Provide spot dowels where wedges/daylighting joints exist.
3. Drainage: crest + bench + chute + toe drains; weep holes at ~2.5 m grid; add perforated sub-drains at seepage zones.
4. Benches: 3 benches (»0.7 m V-interval), 4.0 m wide minimum; maintain benches clean for catch + drain performance.
Not to scale for construction; final details subject to site mapping.
CLIENT:
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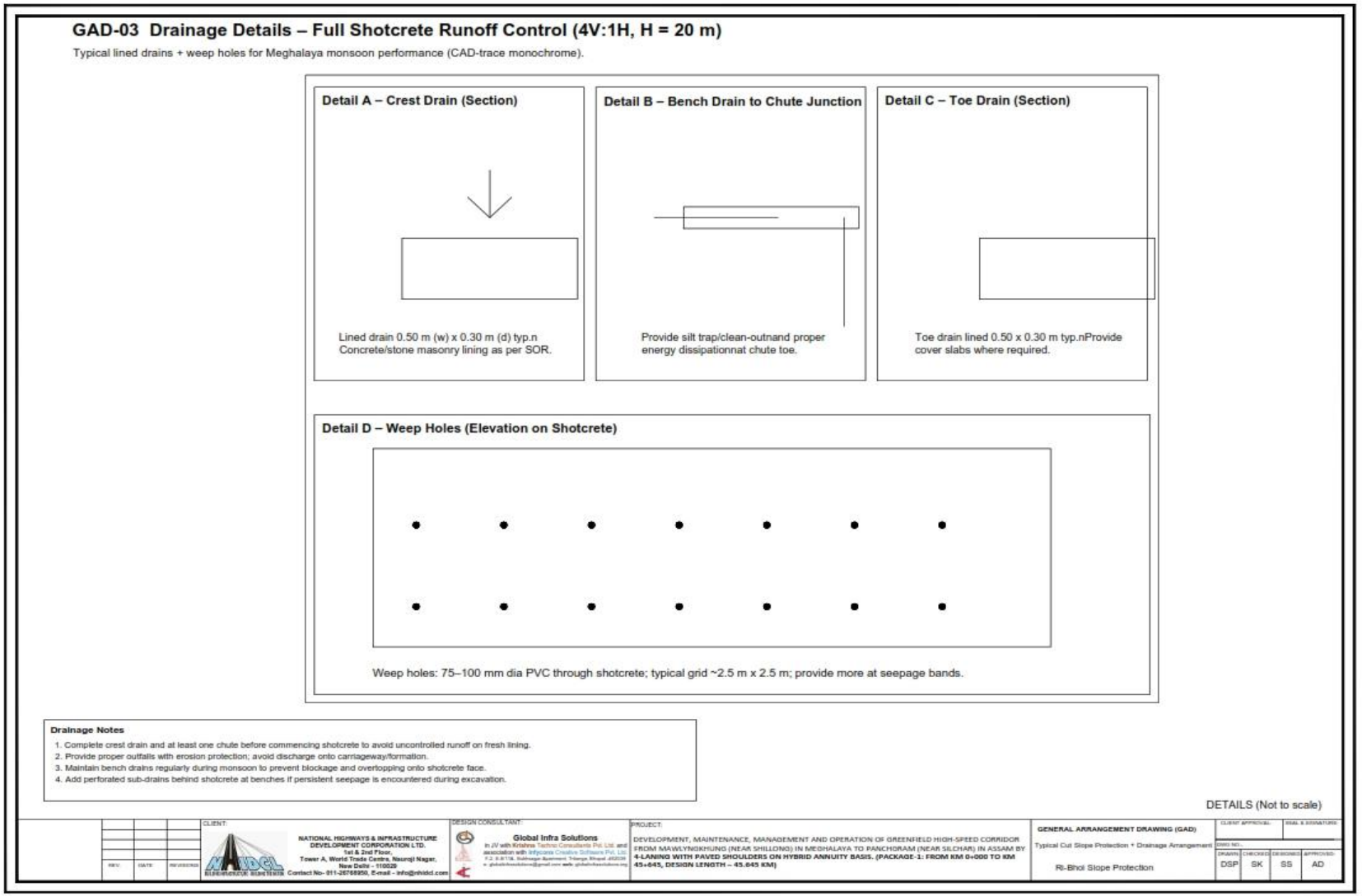
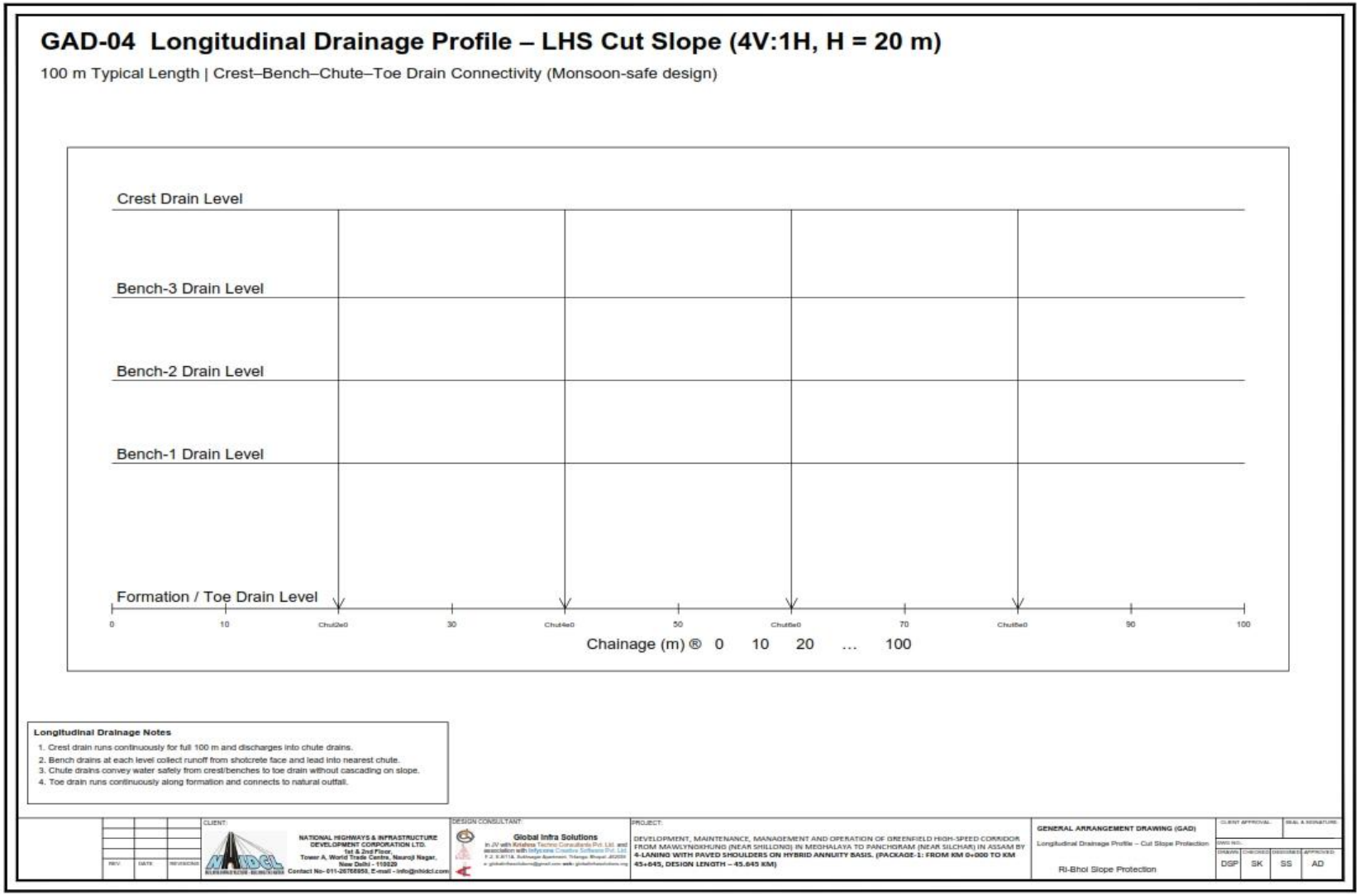
1st & 2nd Floor,
Tower A, World Trade Centre, Nauroji Nagar,
New Delhi - 110029
Contact No- 011-26769350, E-mail – info@nhidcl.com
DESIGN CONSULTANT:
Global Infra Solutions
PROJECT:
DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45.645 KM)
GENERAL ARRANGEMENT DRAWING (GAD)
Typical Cut Slope Protection + Drainage Arrangement
Slope Protection Works
DSP
SK
SS
AD


GAD-03 Drainage Details – Full Shotcrete Runoff Control (4V:1H, H = 20 m)
Typical lined drains + weep holes for Meghalaya monsoon performance (CAD-trace monochrome).
Detail A – Crest Drain (Section)
Lined drain 0.50 m (w) x 0.30 m (d) typ.n Concrete/stone masonry lining as per SOR.
Detail B – Bench Drain to Chute Junction
Provide silt trap/clean-outnand proper energy dissipationnat chute toe.
Detail C – Toe Drain (Section)
Toe drain lined 0.50 x 0.30 m typ.nProvide cover slabs where required.
Detail D – Weep Holes (Elevation on Shotcrete)
Weep holes: 75–100 mm dia PVC through shotcrete; typical grid ~2.5 m x 2.5 m; provide more at seepage bands.
Drainage Notes
1. Complete crest drain and at least one chute before commencing shotcrete to avoid uncontrolled runoff on fresh lining.
2. Provide proper outfalls with erosion protection; avoid discharge onto carriageway/formation.
3. Maintain bench drains regularly during monsoon to prevent blockage and overtopping onto shotcrete face.
4. Add perforated sub-drains behind shotcrete at benches if persistent seepage is encountered during excavation.
DETAILS (Not to scale)
CLIENT:
NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
1st & 2nd Floor,
Tower A, World Trade Centre, Nauroji Nagar,
New Delhi - 110029
Contact No- 011-26769950, E-mail – info@nhidcl.com
DESIGN CONSULTANT:
Global Infra Solutions
PROJECT:
DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY 4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-1: FROM KM 0+000 TO KM 45+645, DESIGN LENGTH – 45.645 KM)
GENERAL ARRANGEMENT DRAWING (GAD)
Typical Cut Slope Protection + Drainage Arrangement
RI-Bhoi Slope Protection
DRAWN: DSP
CHECKED: SK
DESIGNED: SS
APPROVED: AD


GAD-04 Longitudinal Drainage Profile – LHS Cut Slope (4V:1H, H = 20 m)
100 m Typical Length | Crest–Bench–Chute–Toe Drain Connectivity (Monsoon-safe design)
Crest Drain Level
Bench-3 Drain Level
Bench-2 Drain Level
Bench-1 Drain Level
Formation / Toe Drain Level
0
10
Chut2e0
30
Chut4e0
50
Chut6e0
70
Chut8e0
90
100
Chainage (m) ® 0 10 20 ... 100
Longitudinal Drainage Notes
1. Crest drain runs continuously for full 100 m and discharges into chute drains.
2. Bench drains at each level collect runoff from shotcrete face and lead into nearest chute.
3. Chute drains convey water safely from crest/benches to toe drain without cascading on slope.
4. Toe drain runs continuously along formation and connects to natural outfall.
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GENERAL ARRANGEMENT DRAWING (GAD)
Longitudinal Drainage Profile – Cut Slope Protection
RI-Bhoi Slope Protection
CLIENT APPROVAL
SEAL & SIGNATURE
DRAWN
CHECKED
DESIGNED
APPROVED
DSP
SK
SS
AD

SCHEDULE – C

(See Clause 2.1)

PROJECT FACILITIES

1 Project Facilities

The Concessionaire shall construct the Project Facilities in accordance with the provisions of this Agreement. Such Project Facilities shall include:

a) Toll Plaza

b) Roadside furniture

i. Kilometer and Hectometer Stones

ii. Traffic Signs

iii. Overhead Signs

iv. Road Marking

v. Road Delineators

vi. Reflective Pavement Markers & Solar Studs

vii. Traffic Impact Attenuators

viii. Boundary pillars

c) Operation and Maintenance centers

d) Way side Amenities / Service Areas

e) Truck lay-byes

f) Bus Bay and Bus shelter

g) Pedestrian Facilities

h) Highway Lighting

i) Rainwater Harvesting

j) Environmental Management Plan

k) Landscaping and Tree Plantation

l) Advanced Traffic Management System (ATMS)

m) Highway Patrol Units

n) Emergency medical services

o) Crane Service

1.1 Project Facilities for Project Highway

Project Facilities to be completed on or before project completion date have been described in Annex-I of this Schedule-C.

Annexure – II

(Schedule-C)

PROJECT FACILITIES

1. Project Facilities

The Concessionaire shall construct the Project Facilities described in this Annexure-I to form part of the Project Highway. The Project Facilities shall include:

a) Toll Plaza

b) Roadside furniture

i. Kilometer and Hectometer Stones
ii. Traffic Signs
iii. Overhead Signs
iv. Road Marking
v. Road Delineators
vi. Reflective Pavement Markers & Solar Studs
vii. Traffic Impact Attenuators
viii. Boundary pillars

c) Operation and Maintenance centers

d) Wayside Amenities / Service Areas

e) Truck lay-byes

f) Bus Bay and Bus shelter

g) Pedestrian Facilities

h) Highway Lighting

i) Rainwater Harvesting

j) Environmental Management Plan

k) Landscaping and Tree Plantation

l) Advanced Traffic Management System (ATMS)

m) Highway Patrol Units

n) Emergency medical services

o) Crane Service

Description of Project Facilities

Each of the Project Facilities is briefly described below:

1. Toll Plaza

Tolling system shall be provided in entire length of the project and the same is integrated with the adjoining packages. The toll plazas shall be provided as per NHAI circular No.17.5.82 dated 24/5/2021 and Schedule D. Minimum Lane requirement in the opening year are as follows.

Toll plaza shall be provided at the following locations.

S. No.	Existing Chainage (km)	Design Chainage (km)	Direction	Minimum number of Toll Lanes		Remarks
				Entry	Exit	
1	-	0+900	Ramp-01– Shillong to Silchar	3		Interchange-01 At Km 0+000
2	-	0+600	Ramp-02- Silchar to Shillong		3	
3	-	0+300	Loop- Silchar to Shillong		3	
4	-	0+100	Ramp-03- Silchar to Shillong	3		
5	-	0+260	Ramp-01– Shillong to Silchar		2	Interchange-02 At Km 12+700
6	-	0+320	Ramp-02- Silchar to Shillong	2		
7	-	0+460	Ramp-01– Shillong to Silchar	2		
8	-	0+475	Ramp-02- Silchar to Shillong		2	
9	-	0+275	Ramp-01- Silchar to Shillong	2		Interchange-03 At Km 27+170
10	-	1+890	Ramp-02– Shillong to Silchar		2	
11	-	0+260	Ramp-03– Shillong to Silchar	2		
12	-	0+310	Ramp-04- Silchar to Shillong		2	
13	-	0+340	Ramp-01- Silchar to Shillong	2		Interchange-04 At Km 44+935
14	-	1+360	Ramp-02– Shillong to Silchar		2	
15	-	0+250	Ramp-03– Shillong to Silchar	2		
16	-	0+330	Ramp-04- Silchar to Shillong		2	

Note: 1.The Toll Plaza shall be constructed as per Manual (Schedule D) considering the modification as per NHAI Circular NHAI/Policy Guidelines/Management of Toll Plaza/2021 Policy Circular No. 17.5.82 dated 24th May, 2021. However, layout as mentioned in Schedule-C shall be followed.

2.Based on the toll lanes as given above, toll Booth complex, weigh bridges, electrical systems, and all other facilities required/ mentioned in manual shall be provided as per specification mentioned in Schedule D

3.No. of toll lane specified above are to be provided. The Concessionaire shall design and provide toll lane as per Manual (Schedule D) & NHAI Circular NHAI/Policy Guidelines/Management of Toll Plaza/2021 Policy Circular No.17.5.82 dated 24th May, 2021 subject to as specified above.

4.All Toll Lanes to be equipped with Hybrid ETC equipment's as per NHAI/Policy Guidelines/Management of Toll Plaza/2021 Policy Circular No. 17.5.82 dated 24th May, 2021.

5. A separate Highway Nest with toilet facility for road users shall be provided near toll plaza location along with parking facility. One toilet block on each direction shall be provided. These toilet facilities shall follow CPWD specifications for sanitary ware items and fittings such as WC, wash basin, Wash basin-Under counter, Urinal flat back, PVC Cistern, IWC Orissa Pan, Flush Value -CP, Wash Basin pillar cock-CP, Bib Cock-CP, Health Faucet, W/c Bib cock, Wash Basin angle cock. One WC shall be provided for specially challenged persons.

6.Point of Sale (POS) with card swapping machines shall be provided.

7.Provide Lane markings and Traffic Signs as per IRC: SP: 84-2019, IRC 35 and IRC 67 (Clause No. 10.8 & 10.9 of IRC: SP:84-2019)

8.Solar panels shall be erected over the either on FOB or over Toll plaza / Admin building to generate the green energy. Same shall be utilized for toll plaza lighting and other energy requirement within toll plaza area along with conventional lighting.

9.Medium speed Weigh in Motion (MSWIM) devices shall be provided in all toll lanes at Toll plaza Location. In addition to MSWIM, Static weigh Bridge (SWBs) shall be provided on each direction as per manual. (Clause No. 10.6, IRC: SP:84-2019)

10.Provide Impact Attenuators on Toll Plaza islands in the direction of traffic. Impact attenuators shall be self-restoring confirm to section 10.6 of IRC SP 99 i.e. Manual of Specifications and Standards for Expressways. (Clause No9.6, IRC: SP:84-2019)

2. Roadside furniture

2.1 Kilometre and Hectometre Stones

	Item	Number	Remarks
1	**Kilometer Marker/ Stones (including 5th Kilometer stone)**	93	The KM/Hectometer stones/ marker can be Concrete/ Stones and shall be placed on both outer side of the earthen shoulder. The size of Kilometer/ 5th Kilometer/Hectometer will be as per Manual. In case KM/Hectometer marker are to be fixed on separator between Main Carriageway & Service Road then these should be fixed as reflective signs. In case of Access Control Highway/ Expressway, KM/Hectometer marker should be fixed as reflective signs. Km/ Hectometre stones are required to provide on main carriageway and Service Road, both If continuous service road is provided throughout project length (Service Road length is more than 1 Km).
2	**Hectometer Marker/ Stones**	345	

2.2 Traffic Signs

Traffic Signs include roadside signs, overhead signs and kerb mounted signs etc. shall be provided along the entire Project Highway and on all Side, Roads joining the main carriageway/service road. A QR code shall be marked on back of each sign as per IRC

67:2022.

All signs shall be of Micro Prismatic Grade Sheeting Corresponding to Class C sheeting as per ASTM D 4956 Type VIII, IX and XI.

All shoulder mounted signs shall be supported on GI Pipes. Overhead Signs shall be placed on a structurally sound gantry or cantilever structure made of GI pipes. On multi-lane roads (6 lanes or above), signs shall be mounted overhead.

The siting of signs shall confirm to Table 4.1 and Fig 4.1 of IRC 67 2022. The two successive signs shall be placed at a minimum distance of 0.6 x V metre (V is design speed in Kmph).

The overhead gantry/Cantilever signs shall be placed as given below: **(Clause No. 16.3.2 of IRC 67 2022)**

S.No.	Item	Carriageway (Left, Right, Both)
1	Overhead Gantry signs	
a	Start of Project	-
b	End of project	-
2	Overhead Gantry signs	
a	Reassurance Sign- (Before 10 Km of exit) At 4 Nos. Interchanges exit	Both Side
3	Overhead Gantry signs (Vehicle Type) 2 nos. for each direction	Both Side
4	Cantilever Gantry signs	
a	Advance Direction Sign 2Km Before Exit At 4 Nos. Interchanges exit	Both Side
5	Cantilever Gantry signs at Fee Plaza	
a	At Ch. 1.700 Exit, 0.000 Entry, 13.000 Exit, 12.325 Entry. 27.700 Exit, 27.100 Entry, 45.465 Exit, 45.300 Entry.	Both Side

The detailed minimum number of signage indicating places, direction, distances, and other features shall be marked on the alignment plan and submitted, which are as mentioned below.

Note: The locations of the placement of signs shall be finalized in consultation with Independent Engineer/ NHIDCL, as per site requirement.

Sl. No.	Road Signs	Number	Remarks
I	**Mandatory/Regulatory**		
1	Stop signs	-	
2	Give Way Signs		
3	Prohibitory signs	16	
4	No Parking signs		
5	No Stopping signs		

Sl. No.	Road Signs	Number	Remarks
6	Speed Limit signs (Circular)	37	
7	Speed Limit signs (Vehicle Type)	-	
8	Vehicle Control signs		
9	Restriction Ends sign		
10	Compulsory Direction Control and other signs		
II	**Cautionary/Warning**		
1	Left/Right Curve	120	
2	Left / Right Curve with side road		
2	Right/Left Hairpin Bend	-	
3	Right/Left Reverse Bend	-	
4	Series of Bends		
5	270 Degree Loop		
6	Side Road		
7	Y-intersection		
8	Cross Road		
9	Roundabout		
10	Traffic Signals		
11	T-intersection		
12	Major Road Ahead		
13	Staggered Inter-section		
14	Merging Traffic Ahead	16	
15	Narrow Road Ahead		
16	Road Widens		
17	Narrow Bridge Ahead		
18	Steep Ascent/Descent		
20	Reduced Carriageway		
21	Start /End of Dual Carriageway		
23	Gap in Median		
24	Pedestrian Crossing		
25	Pedestrian crossing with backing board		
26	School Ahead		
27	Built Up Area		
28	Two Way Operation (on main carriage way /service road		Based on requirement by AE/IE
29	Two Way Traffic on Cross Road Ahead		
30	Danger Warning Sign		
31	Deaf or Blind Persons Likely on Road Ahead		
32	Cycle Crossing		
33	Cycle Route Ahead (Warning for Cycles on road ahead)		
34	Dangerous Dip		
35	Speed Breaker		

Sl. No.	Road Signs	Number	Remarks
36	Rumble Strip	32	
37	Rough Road		
38	Dangerous Ditch		
39	Slippery Road		
40	Slippery Road because of Ice		
41	Opening or Swing Bridge		
42	Overhead Cable	4	
43	Play Ground Ahead		
44	Quay Side or River Bank		
45	Sudden Side Winds		
46	Tunnel Ahead Warning		
47	Falling Rocks		
48	Cattle Crossing		
49	Wild Animals likely to be on Road Ahead		
50	Queues Likely Ahead		
51	Low flying Aircraft		
52	Unguarded Railway Crossing		
53	Guarded Railway Crossing		
54	Crash prone area ahead		
55	U- Turn	-	
III	**Chevron Signs**		
1	Single Chevron	339	
2	Double Chevron		
3	Triple Chevron		
IV	**Object Hazard Marker Sign**		
1	Left /Right side Object Hazard Marker	430	
2	Two-way Object Hazard Marker	-	
V	**Informatory/Guide**		
1	Direction and Place Identification signs	32	
2	Stack Type Advance Direction Sign (Shoulder Mounted)		
3	Stack Type Advance Direction Sign with cautionary / regulatory signs (Shoulder Mounted)		
4	Map Type Advance Direction Sign (Shoulder Mounted)		
5	Map Type Advance Direction Sign for roundabout (Shoulder Mounted)		
6	Flag Type Direction Sign	30	
7	Reassurance Sign	8	
8	Place Identification Sign		
9	Bus Lay Bay	-	
10	Toll Booth Ahead	16	

Sl. No.	Road Signs	Number	Remarks
11	Weigh Bridge Ahead		
12	Shoulder Mounted Sign in Advance of a Grade Separated Junction/ Interchange		
13	Expressway Sign		
14	Gantry Mounted Advanced Direction Sign Ahead of a Flyover in Urban/City Roads		Instead of continuous sign board, Separate Signs shall be provided for each information
15	Gantry Mounted advance Direction Sign Ahead of a Grade Separated Junction		
16	Gantry Mounted advance Direction Sign Ahead of a At Grade Intersection		
17	Gantry Mounted Advance Direction Sign for Interchange	8	
18	Cantilever Gantry Mounted Advance Direction Sign for Interchange	8	
19	Lane Dedicated Gantry Sign	2	
20	Definition/Supplementary Plates		
21	Tourism Related Sign		
22	Tourist Destination Direction Information Signs Without Photograph		
23	Tourist Destination Direction Information Signs With Photograph		
24	Finger Destination direction Information Sign for Pedestrians		
25	Tourist Map Information Sign		
26	Boundary Sign at Entrance to a City/Place		
27	Boundary Sign at Entrance to a Tourist Destination		
VI	**Facility Information signs**		
1	Eating Place	10	
2	Light Refreshment		
3	Resting Place		
4	First Aid Post		
5	Toilet		
6	Filling Station (Fuel Pump)	-	
7	Hospital	-	
9	U-Turn Ahead		
10	Pedestrian Subway		
11	Police Station		
12	Picnic Site		
13	Repair Facility		
14	Railway Station/Metro Station/Monorail Station	-	
15	Industrial Area		
16	Cycle Rickshaw Stand		

Sl. No.	Road Signs	Number	Remarks
17	Taxi Stand		
18	Auto Rickshaw Stand		
19	Home Zone		
20	Camp Site		
21	Airport		
22	Golf Course		
23	National Heritage		
24	No Through Road		
25	No Through Side Road		
26	Toll Road Ahead	-	
27	Guide Sign on Toll Lane Portal		
28	Country Border		
29	Entry Ramp for Expressway	16	
30	Exit Ramp for Expressway	16	
31	Expressway Symbol		
32	End of Expressway		
33	Bus Stop	-	
34	Bus Lane		
35	Contra Flow Bus Lane		
36	Cycle Lane		
37	Contra Flow Cycle Lane		
38	Holiday Chalets		
39	Emergency Exit		
VII	**Other Useful Information Signs**		
1	Signs For Persons with Disabilities		
2	International symbol of Accessibility		
3	Parking Information		
4	Parking Areas		
5	Ramped Entrance to Subway/Over Bridge		
6	Telephone Facilities	8	
7	Toilet Facilities	2	
8	Way Finding		
9	Parking Signs		
10	Auto Rickshaw Parking		
11	Cycle Parking		
12	Cycle Rickshaw Parking		
13	Scooter and Motorcycle Parking		
14	Taxi Parking		
15	Park and Ride		
16	Parking Restrictions Signs for Traffic Management		
17	Flood Gauge Sign		
VIII	**Route Maker Signs**		

Sl. No.	Road Signs	Number	Remarks
1	State Highway Route Marker Sign		
2	National Highway Route Marker Sign		
3	Asian Highway Route Marker Sign		
4	Expressway Route Marker Sign	19	

2.3 Road Marking

Road Markings shall be Hot applied thermoplastic materials with reflectorized beads to achieve visibility confirming to clause 2.7.2 of IRC 35.

The cold applied plastics pavement markings shall be used for School Zone Markings, Audible Raised Profile Edge Lines and Block Markings (BM 01/02/03).

S.No.	Item	Unit		Remarks
		Length/Area	Number	
1	Longitudinal Marking	-		
2	Transverse Marking			
3	Hazard Marking			
4	Block Marking			
5	Arrow Marking		3448	
6	Directional Marking	2155m^2		
7	Facility Marking			
8	Center Line	5950m^2		
9	Traffic Lane Lines	-	-	
10	No Overtaking Lines			
11	Warning Lines			
12	Border or Edge Lines	28535m^2		
13	Longitudinal Markings for Undivided Roads			
14	Longitudinal Markings for Divided Roads			
15	Longitudinal Markings for Ramps/Slip Roads/One Way Streets	1722 m^2		
16	Stop Line		-	
17	Give Way Lines		-	
18	Ghost Island			
19	Chevron Markings	10070 m^2		
20	Continuity Line			
21	Word Messages			
22	Lane Change			
23	Merging/Diverging Markings			
24	Hatch Markings			
25	Raised Profile Edge Lines	576 m^2		Rumble Strips
26	Lane Reduction / Narrowing Situations and Transitions (lane Balancing)	477 m^2		
27	Directional Arrows			

S.No.	Item	Unit		Remarks
		Length/Area	Number	
28	Mandatory Turn Arrows			
29	Guidance Arrows			
30	Deflection Arrows			
31	Bifurcation Arrows			
32	Arrows on Side Road Approaches			
33	Arrows on Main Road Approaches			
34	Word Messages			
35	Yellow Box Markings			
36	Diagonal Markings for ramps	266 m^2		
37	Marking for Speed Breakers			
38	Pedestrian Crossing			
39	Markings when highway passes through settlement fig 9.4 of IRC SP 84/87			
40	Transverse Bar Markings			
41	Bus bay Marking			
42	Truck Lay-by Markings			
43	Toll Plaza Marking	200 m^2	-	
44	School Zone Markings			
45	Object Markings within Carriageway			
46	Objects Markings Adjacent to Carriageway			
47	i. Subway Piers, Abutments, Culverts Head Walls, Concrete Barrier			
48	ii. Electrical Poles			
49	iii. Guard Rails			
50	iv. Trees			
51	v. Kerbs	-		
52	Directional Markings as per Annexure: A 6 of IRC:35-2015			
53	Facility Markings as per Annexure A 6 of IRC:35-2015			

Note: The number & locations of the Road Marking mentioned above are minimum and shall be finalized in consultation with Independent Engineer/NHIDCL, as per site requirement.

2.4 Road Delineators: The road delineators shall be provided in accordance with Schedule-D.

S.No.	Item	Number/ Length (m)	Remarks
1	Roadway Indicators	-	On Curves & in Slip Road at underpass
2	Median Marker on Median/ RCC Barrier **(Clause 4 of IRC 79 2019)**	7293	
3	Object Markers	-	At Intersections, Grade Separators, Bridges & ROB locations

S.No.	Item	Number/ Length (m)	Remarks
4	Road Delineators	172	
5	Flexible Object Markers (Clause 6 of IRC 79 2019) i. On Metal Beam Barrier ii. On Toll Booth/Toll Island iii. On Entry/Exit of Tunnel iv. On Exit from Main carriageway	80902 m (In median) & 17060 m (In sharp curve & Embankment)	On Thrie Beam Crash Barrier in Fig 2.2A on either side
6	Solar Blinkers on Median opening, on exit from main carriageway and traffic island of grade separated intersections.	-	

Note: The number & locations of the Road Delineators/flexible object markers are minimum and shall be finalized in consultation with Independent Engineer/NHIDCL, as per site requirement.

2.5 Reflective Pavement Markers & Solar Studs

The Prismatic Retro-Reflective type confirming to ASTM D-4280 Pavement Markers & Solar Power Studs on Highway shall be provided in accordance with Schedule –D.

S.No.	Item	Number	Location	Remarks
A- For 4 Lane Projects				
1	White Colour one coloured face Road Studs	3782	Traffic lane line & center of carriageway	-
2	Red Colour one coloured face Road Studs	3782	Left hand edge of the carriageway, entry to bus bay, start of service road, chevron/diagonal markings on gorge	
3	Yellow / Amber Colour one coloured face Road Studs	3782	Median side edge line, zebra crossing	
4	Green Colour one coloured face Road Studs	-	Lay byes, left hand side of the carriageway in case of multi-lane divided carriageways, crossable continuous line like in acceleration/deceleration lanes involving lane changing	
5	Solar Studs on Major/Minor bridge, RoB, and all structures (Interchange/Flyover/VUP) and Builtup areas, In storage lane of median	-	NIL	

S.No.	Item	Number	Location	Remarks
	opening and Exit/Entry from main carriageway			

Note: The number & locations of Studs are minimum and shall be finalized in consultation with Independent Engineer/NHIDCL, as per site requirement.

2.6 Traffic Impact Attenuators: The Traffic Impact Attenuators shall be provided as per Schedule D.

2.6.1 Provide Impact Attenuators in Gore Areas

It shall be self-restoring confirming to section 6 of IRC SP 84:2019 at the following locations.

S.No.	Item	Chainage / Number	Remarks
1	On flyover/grade separated structure at exit from main carriageway	-	As per site requirement
2	Any other location which Safety Hazard -Before Toll Plaza	-	As per site requirement

2.6.2 Providing End Terminals

Provide End Terminals confirming to EN 1317 part-2 to Parapet Walls of Culverts, Structures ends for the safety of approaching traffic etc.

S.No.	Item	Chainage / Number	Remarks
At all bridges as per Sch-B			

2.7 Boundary Wall and Fencing (Clause No. 12.2 IRC-SP-84-2019):

Boundary wall shall be provided along the entire length on either side (including transverse requirements at structure locations) as per the detail given below in accordance with IRC: SP:84/87. Road boundary walls shall be provided at the boundary on both sides of the right of way available under the control of the Authority, except at ingress and egress points. The boundary walls shall be of reinforced cement concrete as per figure enclosed as Annexure A.

At all CD structure locations, the boundary wall shall be discontinued by turning and joining it with the wing/return wall to allow crossing through these structures during dry seasons.

3. Operation and Maintenance centers-

There shall be operation and maintenance center(s) as per Clause 12.15 of Schedule-D, either near the toll plaza location or at any other location along the Project Highway, as identified by the Concessionaire. The minimum land for O & M center shall be 2000 sq.m and shall be

acquired by the Concessionaire at his own cost and risk. Dedicated operation and maintenance center shall be provided in accordance to Schedule D.

4. Wayside Amenities / Service Areas/Rest Area

S. No	Item	Design Chainage (Km)	Side	Remarks
1	Way side amenities	-	BHS	One on each side

The site needs to levelled/graded/paved for the whole of way side amenities area and boundary wall of the height of 1.5m shall be constructed along the periphery of the area.

5. Truck lay-byes:

5.1 The truck lay-bye shall be provided at below given location and as per the design mentioned in Schedule-D.

Sr. No.	Existing Chainage (Km)	Design Chainage (Km)	Side	Remarks
NIL				

5.2 Deleted

5.3 Truck Lay Bye Pavement

Pavement Composition (Flexible/Rigid/ Paver Blocks)
NIL

6. Bus shelter:

Provision of bus shelter on highways as per IRC 80: 2022 including paving of laybye, signs, markings, speed calming measures, drainage, lighting etc., in built-up areas, intersections of NH/SH/MDR and roads leading to large settlements is as follows:

6.1 Bus Shelters locations

Bus shelters shall be constructed at the following locations:

Sr. No.	Chainage (Km)	SIDE
1	Interchange locations on each side	

6.2 Kerb Side Bus Stop with Pedestrian shelter

Kerb Side Bus Stop with Pedestrian shelter shall be provided at the following locations.

Sr. No.	Design (Existing) Chainage (Km)		Pedestrian Shelter Length	Remark
	Left	Right		
NIL				

6.3 Bus Bay Pavement

Flexible Pavement as per Clause-5 of Schedule-B.

7. Pedestrian Facilities

Pedestrian Facilities shall be provided in accordance with the Manual of Specifications and Standards as referred in Clause 9.8 of Schedule D and IRC 103 2022. This shall consist of footpath (sidewalks), pedestrian guard rails and pedestrian crossing.

The details are as mentioned below:

S. No.	Pedestrian Facilities	Chainage		Side	Remarks
		From	To		
1	Pedestrian guardrails shall be 150 mm from Carriageway/Paved Shoulder i. Hazardous Locations on Straight Stretches ii. At Junctions/Intersections iii. Schools iv. Bus Stop/Railway Stations v. Overpass, Subway vi. Central Reserve	Nil			
2	Footpath paving including fixing pavers	Nil			
3	Pedestrian Crossing i. With Zebra Marking ii. With Tabletop Crossing iii. At Intersections iv. At Schools	Nil			

8. Highway Lighting

The street light poles shall be 1 piece, continuous-tapered, Octagonal poles and shall be manufactured from one length of steel sheet, formed in continuous tapered tube, with one continuous arc-welded vertical seam. The minimum wall thickness for lighting poles shall not be less than 4 mm. The Bottom Diameter shall be minimum 175 mm. The Top Diameter shall be minimum 75 mm. The door on window of pole shall be antitheft. All electrical cable should be concealed. All electrical lighting fixers shall be LED. The fixtures shall be concealed except on poles. Lighting poles shall be fixed on outer side

of steel/concrete barrier. The lighting shall be providing at the following location.

Sl.No.	Lighting facilities	Chainage		Side	Lighting Source: Electricity Board/ Generator/ Solar
		From	To		
1	High mast lighting of 25m height (In interchanges and Entry-Exit ramps)	**1**. 4 Interchanges- At Ch. 0.000, 12.700, 27.170 & 44.935 2. Ramp/Loop Entry-Exit- At Ch. 0.250 Exit, 0.150 Entry, 0.575 Entry, 0.740 Exit, 0.260 Exit, 0.320 Entry, 0.460 Entry, 0.475 Exit. 0.275 Entry, 1.890 Exit, 0.260 Entry & 0.310 Exit, 0.340 Entry, 1.360 Exit, 0.250 Entry & 0.330 Exit. 3. At Emergency Lay Bye location 2 nos.			**Electricity Board/ Generator/ Solar**
2	On Major/Minor Bridges, viaducts and Underpasses and its approaches (Both side Over hanged) for main carriageway and service road	0+000	0+460	Both	Electricity Board/ Generator/ Solar
		0+460	0+500	Both	
		1+100	1+110	Both	
		1+485	1+530	Both	
		1+690	1+850	Both	
		1+850	1+880	Both	
		3+020	3+030	Both	
		4+320	4+350	Both	
		4+550	4+590	Both	
		4+720	4+870	Both	
		4+870	4+940	Both	
		5+400	5+440	Both	
		5+630	5+650	Both	
		6+060	6+100	Both	
		7+263	7+277	Both	
		7+696	7+704	Both	
		7+800	7+825	Both	
		7+825	8+666	Both	
		8+666	8+760	Both	
		8+820	8+950	Both	
		9+020	9+065	Both	
		9+205	9+250	Both	
		10+265	10+275	Both	
		10+320	10+420	Both	
		10+420	10+500	Both	
		10+575	10+585	Both	

Sl.No.	Lighting facilities	Chainage		Side	Lighting Source: Electricity Board/ Generator/ Solar
		From	To		
		11+140	11+180	Both	
		11+180	11+189	Both	
		11+189	11+260	Both	
		11+760	11+854	Both	
		11+854	11+866	Both	
		11+866	11+940	Both	
		12+220	12+271	Both	
		12+271	12+279	Both	
		12+279	12+480	Both	
		12+480	12+500	Both	
		12+500	12+683	Both	
		12+683	12+717	Both	
		12+717	13+000	Both	
		13+000	13+120	Both	
		13+160	13+180	Both	
		13+180	13+220	Both	
		13+220	13+380	Both	
		13+380	13+390	Both	
		13+390	13+440	Both	
		14+540	14+716	Both	
		14+716	14+724	Both	
		14+724	14+860	Both	
		15+540	15+690	Both	
		15+690	15+710	Both	
		15+710	15+800	Both	
		17+180	17+356	Both	
		17+356	17+364	Both	
		20+326	20+334	Both	
		20+334	20+536	Both	
		20+536	20+560	Both	
		20+560	20+640	Both	
		21+320	21+345	Both	
		21+345	21+410	Both	
		21+410	21+440	Both	
		22+920	22+960	Both	
		22+960	22+980	Both	
		23+415	23+425	Both	
		23+425	23+460	Both	
		24+260	24+310	Both	
		24+310	24+330	Both	

Sl.No.	Lighting facilities	Chainage		Side	Lighting Source: Electricity Board/ Generator/ Solar
		From	To		
		24+330	24+360	Both	
		24+740	24+775	Both	
		24+775	24+785	Both	
		24+810	24+820	Both	
		25+185	25+300	Both	
		25+528	25+563	Both	
		30+140	30+243	Both	
		30+243	30+251	Both	
		30+251	30+460	Both	
		30+460	30+470	Both	
		30+470	30+660	Both	
		30+660	30+710	Both	
		30+710	30+740	Both	
		31+360	31+496	Both	
		31+496	31+504	Both	
		33+095	33+105	Both	
		33+160	33+195	Both	
		33+195	33+225	Both	
		33+250	33+570	Both	
		34+620	34+820	Both	
		34+820	34+840	Both	
		35+006	35+454	Both	
		35+700	35+800	Both	
		35+800	35+820	Both	
		36+865	36+895	Both	
		36+895	36+920	Both	
		37+130	37+150	Both	
		37+705	38+026	Both	
		38+380	38+620	Both	
		38+620	38+640	Both	
		39+000	39+240	Both	
		39+300	39+320	Both	
		39+600	39+620	Both	
		39+620	39+635	Both	
		39+635	39+645	Both	
		39+645	39+720	Both	
		40+105	40+150	Both	
		40+335	40+345	Both	
		40+435	40+445	Both	
		40+650	40+700	Both	

Sl.No.	Lighting facilities	Chainage		Side	Lighting Source: Electricity Board/ Generator/ Solar
		From	To		
		40+865	40+875	Both	
		41+240	41+273	Both	
		41+273	41+288	Both	
		41+288	41+340	Both	
		42+645	42+675	Both	
		42+743	42+763	Both	
		42+920	42+980	Both	
		42+980	43+100	Both	
		43+100	43+140	Both	
		43+740	43+780	Both	
		43+780	43+820	Both	
		43+820	43+860	Both	
3	Grade separated interchanges, underpasses pedestrian) overpasses: Lighting requirement shall be as per section 12 of the manual. The top and underside of the grade separated structures including service road/ slip road, interchange area at the ground level up to 50m beyond the point from where flaring of the main carriageway takes place shall be provided with lighting. Also, on all legs of at grade interchange/ crossings the lighting shall be provided 50m beyond the point of Centre on all legs. The minimum illumination shall be 40 Lux., at the extreme edge of the Highway	**Ch 0+000, Ch 12+700, Ch 27+170 & 44+935**			**Electricity Board/ Generator/ Solar**

9. Rainwater Harvesting

The provision of rainwater harvesting shall be provided at every 500 m staggered in the entire project length and shall be executed as per requirement of IRC SP: 42-2014 and IRC SP: 50-2013. Additionally, wherever urban drains are provided, which do not have a definite outfall for discharge of water, at such location one pit for rain water harvesting shall be provided along the side drains at the lowest point/ where the water stagnates. The type and location of rainwater harvesting is as follows:

S.No.	Rain water Harvesting Type	Chainage	Side	Depth of Recharge Structure
Where no outlet is available for discharging the rainwater or the nearest outlet is more than 250m				

10. Environmental Management Plan

The contractor shall ensure

1. **Tree Plantation and Protection**
   The Contractor shall ensure the plantation of **3,50,000(Three Lakh Fifty Thousand) trees**, each with a **tree guard**, at locations identified in coordination with the Authority or the Authority's Engineer.

2. **Sanitation and Environmental Management**
   The Concessionaire/Contractor shall:

   - Provide adequate **sanitation arrangements** at the camp site;
   - Implement effective **dust suppression measures** throughout the project area;
   - Carry out **solid waste management** in accordance with relevant environmental guidelines and regulations.

3. **Environmental Monitoring**
   The Concessionaire/Contractor shall:

   - Monitor **Ambient Air Quality**, **Ambient Noise Levels**, **Surface Water Quality**, and **Soil Quality**;
   - Engage a **NABL-accredited laboratory** for all environmental monitoring activities;
   - Submit environmental monitoring reports to the Authority on a **quarterly basis**, during both the construction and maintenance periods.

11. Land Scaping and Tree Plantation

The Concessionaire shall plant trees and shrubs (as per green Highway Policy) of

required numbers and types at the appropriate locations within Right of Way and in the land earmarked by the Authority for afforestation as per Schedule D in the following areas.

Sl. No.	Types of Plantations	Location (Km)	Number of trees to be planted	Remarks
1	Shrubs	NIL		
2	Land Scaping	O & M Centers, Vacant land parcels, lend within loops of flyovers, Toll Plaza building and surroundings Vacant space below the flyovers	Landscaping plans will be submitted by the Concessionaire/Contractor which shall include ornamental trees, decorative statues and landscaping	The number of Ornamental type plantations and other things shall be decided on the basis availability of land.
3	Plantations	Available open land within ROW	1 row of 333 plants on each side of project highway.	Trees of desired type in two rows per Km. @10 m c/c near edge of ROW on both side (As per Schedule D) preferably local like mango, Neem, Sheesham, Babul, Peepal etc. shall be planted

Drip irrigation system for median plantation by gravity/pressure sources with all necessary components / systems and emitting devices at plants shall be provided.

The Concessionaire shall maintain the trees and shrubs in good condition during concession period as per the concession agreement.

12. Advanced Traffic Management System (ATMS)

The Concessionaire is required to design, install, operate and maintain Advanced Traffic Management System (ATMS) as part of the project facilities. Advanced Traffic Management System shall be provided as per standards and specifications specified in the manual and as per NHAI circular and shall be maintained throughout the contract period. (NHAI Policy circular no.11.53/2023 dated 10.10.2023).

The ATMS components to be deployed shall inter alia include:

12.1 General

The ATMS Project shall broadly include the following sub-systems to be provided as per the standards & specifications mentioned in NHAI policy circular technical (NHAI Policy

circular no.11.53/2023 dated 10.10.2023):

12.1.1 Video Surveillance System / Traffic Monitoring Camera System (TMCS)

12.1.2 Video Incident Detection and Enforcement System (VIDES)

12.1.3 Vehicle Actuated Speed Display System (VASD)

12.1.4 Fixed and Portable Variable Message Sign (VMS) System

12.1.5 Communication Network with OFC Backbone

12.1.6 Emergency Roadside Telephone System (ECB)

12.1.7 Emergency Call Box*

12.1.8 Mobile Radio Communication System*

12.1.9 ATMS Command & Control Center with ATMS Software.

12.1.10 Power Supply for Field Equipment as well as for ATMS Command & Control Center.

The requirements stated herein shall be construed as minimum requirement and meeting the respective requirements individually shall not relieve the Concessionaire from the responsibility. The entire system should function efficiently as an integrated solution during the entire O&M period.

12.1.1 Video Surveillance System / Traffic Monitoring Camera System (TMCS)

(i) The system monitors vehicular and other road related activity along the highway stretch through PTZ Camera mounted on Poles. Generally, the camera should be placed at a distance not greater than 1km so as to effectively monitor all the lanes of the entire stretch of Highway. In case certain stretches include regular curves, ramps etc. not allowing central line of sight, then additional TMCS camera shall be put to ensure effective surveillance of the entire stretch. The TMCS cameras should also be placed on the following Junctions below the Grade Separated Structure.

(ii) The TMCS should also be provided at the following locations so as to monitor the traffic at the following locations:

Sr. no	Equipment name	Location (Km)	LHS/RHS/BHS	Remarks
1	TMCS+RSU	0+000	Median	Pole Mounted
2	TMCS+RSU	1+000	Median	Pole Mounted
3	TMCS+RSU	2+000	Median	Pole Mounted

Sr. no	Equipment name	Location (Km)	LHS/RHS/BHS	Remarks
4	TMCS+RSU	3+000	Median	Pole Mounted
5	TMCS+RSU	4+000	Median	Pole Mounted
6	TMCS+RSU	5+000	Median	Pole Mounted
7	TMCS+RSU	6+000	Median	Pole Mounted
8	TMCS+RSU	7+000	Median	Pole Mounted
9	TMCS+RSU	8+000	Median	Pole Mounted
10	TMCS+RSU	9+000	Median	Pole Mounted
11	TMCS+RSU	10+000	Median	Pole Mounted
12	TMCS+RSU	11+000	Median	Pole Mounted
13	TMCS+RSU	12+000	Median	Pole Mounted
14	TMCS+RSU	13+000	Median	Pole Mounted
15	TMCS+RSU	14+000	Median	Pole Mounted
16	TMCS+RSU	15+000	Median	Pole Mounted
17	TMCS+RSU	16+000	Median	Pole Mounted
18	TMCS+RSU	17+000	Median	Pole Mounted
19	TMCS+RSU	18+000	Median	Pole Mounted
20	TMCS+RSU	19+000	Median	Pole Mounted
21	TMCS+RSU	20+000	Median	Pole Mounted
22	TMCS+RSU	21+000	Median	Pole Mounted
23	TMCS+RSU	22+000	Median	Pole Mounted
24	TMCS+RSU	23+000	Median	Pole Mounted
25	TMCS+RSU	24+000	Median	Pole Mounted
26	TMCS+RSU	25+000	Median	Pole Mounted
27	TMCS+RSU	26+000	Median	Pole Mounted
28	TMCS+RSU	27+000	Median	Pole Mounted
29	TMCS+RSU	28+000	Median	Pole Mounted
30	TMCS+RSU	29+000	Median	Pole Mounted
31	TMCS+RSU	30+000	Median	Pole Mounted
32	TMCS+RSU	31+000	Median	Pole Mounted
33	TMCS+RSU	32+000	Median	Pole Mounted
34	TMCS+RSU	33+000	Median	Pole Mounted
35	TMCS+RSU	34+000	Median	Pole Mounted
36	TMCS+RSU	35+000	Median	Pole Mounted
37	TMCS+RSU	36+000	Median	Pole Mounted
38	TMCS+RSU	37+000	Median	Pole Mounted
39	TMCS+RSU	38+000	Median	Pole Mounted
40	TMCS+RSU	39+000	Median	Pole Mounted
41	TMCS+RSU	40+000	Median	Pole Mounted
42	TMCS+RSU	41+000	Median	Pole Mounted
43	TMCS+RSU	42+000	Median	Pole Mounted
44	TMCS+RSU	43+000	Median	Pole Mounted
45	TMCS+RSU	44+000	Median	Pole Mounted

Sr. no	Equipment name	Location (Km)	LHS/RHS/BHS	Remarks
46	TMCS+RSU	45+000	Median	Pole Mounted

12.1.2 Video Incident Detection and Enforcement System (VIDES)

The VIDS include Gantry Mounted ANPR Cameras, Overview Cameras and associated incident detection software system to effectively detect pre-defined actionable incidents which triggers enforcement and incident response system. The VIDES should also act as Automatic Traffic Counting and Classifying (ATCC) system. The VIDES should be provided at following locations:

Sl No	Location (Km)	Remarks	Availability of Full Gantry**
1	0+000	BHS	No
2	12+700	BHS	No
3	27+140	BHS	No
4	45+490	BHS	No

** [VIDS system requires full Gantry on both LHS & RHS]

12.1.3 Vehicle Actuated Speed Display (VASD) System

The VASD system shall include gantry mounted Radar and Speed Display system for each lane to warn the road users of their speed. The system shall act as a Speed Calming Measure. VASD System should be provided at following locations along the Expressways:

Sl No	Location (Km)	Remarks	Availability of Full Gantry**
1	33+900	BHS	VASD on Butterfly type Gantry

** [VIDS system requires full Gantry on both LHS & RHS]

12.1.4 Fixed and Portable Variable Message Sign (VMS) System

The VMS shall provide road users advance information of road conditions ahead and shall be controlled from the local ATMS Control center. The VMS shall be installed at following locations:

12.1.4.1 Fixed VMS

12.1.4.1.2 Gantry (M Type)

Sl No	Location (Km)	Remarks	Availability of Full Gantry**
1	10+135 (Shillong-Silchar)	on VOP	No
2	10+135 (Silchar-Shillong)	on VOP	No

** [VIDS system requires full Gantry on both LHS & RHS]

12.1.4.1.2 Cantilever (L Type)

Sl No	Location (Km)	Remarks	Availability of Gantry**
1	Nil		

** [VIDS system requires full Gantry on both LHS & RHS]

12.1.4.2 Portable VMS

The Concessionaire shall provide 02 (No.) Trolley Mounted Portable VMS.

12.1.5 Communication Network with OFC Backbone

The entire stretch shall be provided with a minimum of 24 Core OFC Backbone as per the standards & specifications. The short haul connections, like between field equipment to access points, access points to OFC backbone etc., shall be done with a minimum of 12 Core cable. The OFC shall be laid strictly as per the Standards and Specification.

12.1.6 Emergency Roadside Telephone System (ECB)

The existing emergency call box shall be provided as per NHAI Policy circular no.11.53/2023 dated 10.10.2023.

Sl. No.	Equipment name	Location	Side	Remark
1	ECB+RSU	2+000	BHS	To enable a caller from the highway to provide urgent messages on Accidents/incidents and road congestion for supporting the Emergency response System. Emergency Road Side Telephone (ERT) / ECB shall be provided at every 2 km along the Project Highway. In addition to this, zones experiencing telecom blackspots along the Project Highway need be identified to be provided with ERT. On long highway stretches (> 2 Km) suffering from telecom blackspots, ERT to be located at every 2 Km on both sides of the highway stretch.
2	ECB+RSU	4+000	BHS	
3	ECB+RSU	6+000	BHS	
4	ECB+RSU	8+000	BHS	
5	ECB+RSU	10+000	BHS	
6	ECB+RSU	12+000	BHS	
7	ECB+RSU	14+000	BHS	
8	ECB+RSU	16+000	BHS	
9	ECB+RSU	18+000	BHS	
10	ECB+RSU	20+000	BHS	
11	ECB+RSU	22+000	BHS	
12	ECB+RSU	24+000	BHS	
13	ECB+RSU	26+000	BHS	
14	ECB+RSU	28+000	BHS	
15	ECB+RSU	30+000	BHS	
16	ECB+RSU	32+000	BHS	
17	ECB+RSU	34+000	BHS	
18	ECB+RSU	36+000	BHS	
19	ECB+RSU	38+000	BHS	
20	ECB+RSU	40+000	BHS	

Sl. No.	Equipment name	Location	Side	Remark
21	ECB+RSU	42+000	BHS	
22	ECB+RSU	44+000	BHS	

12.1.7 ATMS Command and Control Center

The Concessionaire shall integrate ATMS with existing Control Centre and operate the ATMS Command and Control Center as per the Standards and Specification. The Concessionaire shall undertake any additional civil works, interior works, MEP works, for setting up the Command Center, including all additional related electrical, lighting, electrical connection, DG set, power backup, HVAC works, access control, building CCTV, PTZ cameras outside building, firefighting system, alarm, fire extinguishers, raised floor, housekeeping, building cleaning, maintenance, recurring charges including electricity bills, telephone bills, DG fuel, servicing, security.

12.1.8 Power Supply for ATMS Command & Control Center and Field Equipment

The Concessionaire shall ensure 24x7 supply for the ATMS Command and Control Centre and Field Equipment with supply power from Electricity Department as primary source supported by UPS renewable power (solar etc.) and DG Set of adequate capacity.

There shall be NO obligation of NHIDCL with regard to providing power/ electricity supply/connections for testing commission, operation & maintenance of any component of the ATMS. Further, the following points are also to be observed by the ATMS Concessionaire:

a. The Concessionaire shall perform all the necessary application procedures to the Power Company required for the power to be supplied to the Traffic Management Centre, Sub-Centre and the field equipment in their own name. All the expenses charged by Power Companies regarding such applications and execution of work shall be borne by the Concessionaire as part of the scope of this contract. Any damage to the highway during such execution of work shall have to be repaired by the ATMS Concessionaire to the pre-existing condition without any cost implications to NHAI.

b. The Concessionaire shall make all necessary arrangements for the electricity needed for the execution of the Works and O&M period for the entire period of the Contract. In case electricity is not made available through electricity companies, alternate electricity arrangement such as through renewable energy/DG Set should be made by the Concessionaire. Under no circumstances NHAI shall grant an extension of time for achieving the milestones if the Concessionaire is unable to make the electricity arrangement either for the execution of the work or for the O&M activities.

c. The fixed charges, installation charges, recurring charges, electricity bill, DG set

fuel, maintenance etc. for each field equipment, TMC, Control Centre, Sub-centre, Concessionaire's site office, or any other facility being used by the Concessionaire under the scope of this Contract shall be in the scope of the Concessionaire only for the entire Contract period i.e., Design phase, procurement, installation, testing, trail-run, commissioning, operations, and maintenance period. The Authority shall not be responsible for any provision for power supply during implementation as well as operations and maintenance period.

12.1.9 Operation & Maintenance (O&M) of the entire ATMS Facility.

a. The O&M period after the successful completion of works shall include Operation & Maintenance of the entire ATMS Facility as per the Service Level Agreement (SLA) with Qualified Manpower mentioned in Standards & Specifications including supply of adequate spares, parts, consumables and maintenance equipment required for the facility. The Concessionaire shall maintain required spare parts to maintain required service levels.

b. The Concessionaire shall have sufficient infrastructure and capability to keep/store spares required for maintenances and will at all times during the contract period maintain sufficient inventory of spares and consumables for operating and maintaining the ATMS and to meet the Service Level requirements.

c. Before the start of O&M Period, the Concessionaire shall deploy the O&M Personal mentioned at Appendix-C of Standards & Specification (NHAI Policy circular no. 11.53/2023 dated 10.10.2023) with prior approval of the Authority.

12.1.10 **Maintenance Vehicle-**The Concessionaire shall keep adequate numbers of dedicated vehicles (minimum 1 vehicle per 50km) to attend the maintenance requirement during the Operation & Maintenance period.

13. Highway Patrol Units

Highway Patrol units shall be established and operate at toll plaza location as per Schedule-D Clause 12.10, which shall continuously patrol the highway in a stretch not exceeding 50 km (if the stretch is more than 50 km additional 1 number of patrol vehicle per 50 km or less shall be provided). The vehicle shall be brand new with fuel, driver, and insurance all inclusive for the entire contract period. Highway Patrol units shall be fitted with GPS and GSM based vehicle tracker system. Highway Patrol Vehicles shall be stationed on layby constructed on Project Highway @ every 20 km of each Toll Plaza.

14. Emergency medical services

The Contractor shall, at its own cost, construct a medical aid post at each toll plaza with a minimum size of 5 x 5 sq.m with a toilet (to be used for the patients of minimum size of 3 x3 sq.m) and hand it over to the Authority, no later than 30 (thirty) days prior to PCOD/COD. The Medical Aid Post(s) shall be deemed to be part of the project and shall vest

in the Authority. Medical Aid Post shall be set up at Administrative Block with round-the-clock services for victims of accidents on the Project Highway.

One number Ambulance shall be provided in a stretch not exceeding 50 km (if the stretch is more than 50 km additional 1 number of ambulances per 50 km or less shall be provided). The Ambulance shall be brand new with fuel, driver, medical staff and insurance all-inclusive for the entire contract period. Ambulance fitted with GPS and GSM based vehicle tracker system shall be provided to be integrated with the Video Incident Detection System with ATMS, as per Schedule - D, Clause 12. 11 (strictly as per details mentioned in Annex-I of Schedule D), along with all necessary manpower (including paramedical staff), medicines, equipment's etc. and shall be maintained in an effective manner throughout the contract period starting from the appointed date. Ambulance shall be stationed on lay bye constructed on Project Highway@ every 20 km of each Toll Plaza.

15. Crane Service:

Crane Service shall be provided on project highway, as specified in the manual Clause 12. 1One number crane shall be provided in a stretch not exceeding 50 km (if the stretch is more than 50 km additional 1 number of cranes per 50 km or less shall be provided). Crane having capacity of minimum 20T shall be made available. The crane shall be brand new with fuel, driver, and insurance all-inclusive for the entire contract period. Cranes shall be stationed on layby constructed on Project Highway@ every 20 km of each Toll Plaza.

16. Buildings for Traffic Aid Posts

Nil.

17. Building for Medical Aid Post

Nil.

SCHEDULE – D

(See Clause 2.1)

SPECIFICATIONS AND STANDARDS

1. Specification and Standards for the Project

The Concessionaire shall comply with the Specifications and Standards set forth in Annex-I of this Schedule-D for construction of the Four Lane Project Highway.

2. Design Standards

The project Highway including Project Facilities shall conform to design requirements set out in the following documents.

Manual of Specifications and Standards for Four laning of Highways through IRC SP: 84-2019, referred to herein as the manual.

As regards to work of utility shifting, the relevant specifications, relevant rules, regulations and acts of Utility owning Department/Agencies shall be applicable.

Annex - I

(Schedule-D)

SPECIFICATIONS AND STANDARDS

1 Manual of Specifications and Standards to apply

Four laning of the Project Highway shall conform to the 'Manual of Specifications and Standards for Four Laning of Highways' published as IRC: SP: 84-2019 with all amendments and additions until date. (Referred to as "Manuals" in this Schedule) and MORTH Specifications for Road & Bridge Works (5th revision). Where the specification for a work is not given, Good Industry Practice shall be adopted to the satisfaction of the Independent Engineer.

2 Deviations from the Specifications and Standards

2.1 Notwithstanding anything to the contrary contained in the aforesaid Manual, the following Specifications and Standards shall apply to the Four-Lane Project Highway, and for purposes of this Agreement, the aforesaid Manual shall deemed to be amended to the extent set forth below:

S. No.	Clause as per Manual	Manual Provision	Modified Provision
1	2.2	Design Speed as per Table 2.1 is 40-60 Kmph for Mountainous terrain	Ruling Design Speed is 80 Kmph
2	6.2.2 of IRC-92-2017	Desirable design speed for loops/ramps	As per IRC 92-2017
3	2.3	A minimum Right of Way (ROW) of 45 m should be available for development of a 4-lane highway	As per manual. The proposed Right of Way (PROW) shall be as specified in Annex-II of Schedule-A.
4	2.5	Table 2.2 – Width of Median is 5m in Built Up and 7.0 m Depressed Median in Open country with isolated built-up area	Flushed Median of Width 5.0m (with turfing on both side of the Median Drain).
5	2.6	• Built up area – 2.5m Paved Shoulders • Approaches to grade separated structures – 2.5m Paved.	Width of Paved and Earthen Shoulders is as per TCS Drawing attached.
6	2.17	Typical cross-sections	The typical cross sections are not as per manual.

S. No.	Clause as per Manual	Manual Provision	Modified Provision
7	6.2	Surface Drains	RCC drain of 1.2 m width is provisioned along approaches of grade separated structures, extension of slip road, hillside cutting location and built-up sections. Unlined Side Drains are provided throughout the Project on either side except at approaches of Grade Separators, built up sections.
8	12	Project Facilities	The project facilities and building structures shall be provided in accordance with Schedule-C and Schedule D.
9	12.2	Road Boundary Wall/ Road Boundary stones walls shall be provided at the boundary on both sides of the right of way available under the control of the Authority, except at ingress and egress points.	Road Boundary wall is provisioned on both sides of the ROW as per MoRT&H circular-RW/NH-24036/27/2010-PPP Dtd. 04-02-2024.
10	Section 11 of Manual	Landscaping and Tree Plantation As per Section 11 of Manual	Specifications for plantations shall be followed as per IRC: SP:21 i.e. Guidelines on Landscaping and Tree Plantation and as per circular no. 7.4.7/2022 dated 12.07.2022, 7.4.8/2022 dated 06.10.2022 & 7.4.16/2024 dated 19.12.2024.
11	9.7.1	Roadside safety barriers	Thrie-beam metal crash barriers shall be provided in entire length on outer side earthen shoulder of each main carriageway where the height is more than 3 m and approaches to bridges & underpasses but excluding stretches covered by bridges & underpasses where concrete barriers shall be provided.
12	Section 12	Project Facilities	The project facilities and building structures shall be constructed in accordance to Annex I of Schedule-C.

2.2 MoRT&H circular no. RW/NH-34066/09/2017 S&R dated 21.07.2020 (regarding use of manufactured aggregates) shall be applicable on the project.

2.3 The Concessionaire is permitted to use waste plastic as per IRC: 98:2013 and Ministry's circulars dated 26.11.2019, 27.08.2019, 27.12.2016 & 09.11.2015 in consultation with IE.

2.4 As regards the work of Utility Shifting/relocation, the relevant specifications, rules, regulations and acts of Utility Owning Department/Agencies shall be applicable.

2.5 For specification for landscaping/tree plantation NHAI policy circular no. 7.4.7/2022 dated 12.07.2022, 7.4.8/2022 dated 06.10.2022 & 7.4.16/2024 dated 19.12.2024 will be applicable.

2.6 Concessionaire is encouraged to do value engineering in line with MoRT&H circular dated 30.08.2022 & amendments thereof.

3. Adoption of Machine Guidance & Control System

The concessionaire/contractor shall, at its own cost and expense adopt Automated & Intelligent Machine aided Construction (AI-MC) for execution of the project in line with MoRTH circular No. RW/NH-33044/31/2024-S&R(P&B)(Computer No. 245397) dt. 23.06.2025

4. Mandatory use of Precast Concrete Components

The concessionaire/contractor shall, use Precast Concrete Components in line with MoRTH circular No. RW/NH-33049/01/2020-S&R(B) (Computer No. 182692) dt. 24.06.2025.