Schedule-A

(See Clauses 2.1and 8.1)

Site of the Project

1 The Site

(i) Site of the [Two-Lane] Project Highway shall include the land, buildings, structures, and road works as described in Annex-I of this Schedule-A.

(ii) The dates of handing over the Right of Way to the Contractor are specified in Annex-II of this Schedule-A.

(iii) An inventory of the Site including the land, buildings, structures, road works, trees, and any other immovable property on, or attached to, the Site shall be prepared jointly by the Authority Representative and the Contractor, and such inventory shall form part of the memorandum referred to in Clause8.2 (i) of this Agreement.

(iv) The alignment plans of the Project Highway are specified in Annex-III. In the case of sections where no modification in the existing alignment of the Project Highway is contemplated, the alignment plan has not been provided. Alignment plans have only been given for sections where the existing alignment is proposed to be upgraded. The proposed profile of the Project Highways shall be followed by the contractor with minimum FRL as indicated in the alignment plan. The Contractor, however, improve/upgrade the Road Profile as indicated in Annex-III based onsite/design requirement.

(v) The status of the environment clearances obtained or awaited is given in Annex-IV.

Annex –I

(Schedule-A)

Site

[Note: Through suitable drawings and description in words, the land, buildings, structures, and road works comprising the Site shall be specified briefly but precisely in this Annex-I. All the chainages /location referred to in Annex-I to Schedule-A shall be existing chainages.]

1. Site

The Site of the [Two-Lane] Project Highway comprises the section of NH-129A commencing from km 74+800 to km 109+767i.e., Ziumi Village to Dzuku bridge near Peren Town in the state of Manipur.

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

2. Land

The Site of the Project Highway comprises the land (sum of land already in possession and land to be possessed) as described below:

SL No.	Existing Chainage (m)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
1	74800	74900	10.6	19	
2	74900	75000	10.7	19	
3	75000	75100	9.8	19	
4	75100	75200	10.3	19	
5	75200	75300	9.4	19	
6	75300	75400	10.4	19	
7	75400	75500	9.9	19	
8	75500	75600	8.9	19	
9	75600	75700	9.6	19	
10	75700	75800	10.1	19	
11	75800	75900	10.6	19	
12	75900	76000	10.2	19	
13	76000	76100	9.6	19	
14	76100	76200	9.5	19	
15	76200	76300	9.4	19	
16	76300	76400	8.2	24	
17	76400	76500	7.3	19	
18	76500	76600	8.7	24	
19	76600	76700	9.4	24	
20	76700	76800	9.7	24	
21	76800	76900	9.2	24	
22	76900	77000	8.3	24	
23	77000	77100	8.8	24	
24	77100	77200	9.3	24	
25	77200	77300	8	20	
26	77300	77400	8.9	24	
27	77400	77500	9	24	
28	77500	77600	9.1	24	

SL No.	Existing Chainage (m)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
29	77600	77700	8.7	24	
30	77700	77800	8.3	24	
31	77800	77900	8.3	24	
32	77900	78000	8.9	20	
33	78000	78100	7.8	24	
34	78100	78200	7.8	24	
35	78200	78300	8.5	24	
36	78300	78400	8.1	24	
37	78400	78500	9.6	24	
38	78500	78600	8.4	24	
39	78600	78700	9.2	24	
40	78700	78800	9.3	20	
41	78800	78900	9.2	20	
42	78900	79000	7.8	20	
43	79000	79100	10.1	24	
44	79100	79200	8.9	24	
45	79200	79300	8.4	24	
46	79300	79400	8.7	24	
47	79400	79500	8.5	24	
48	79500	79600	8.6	24	
49	79600	79700	8.8	24	
50	79700	79800	7.6	24	
51	79800	79900	9.4	24	
52	79900	80000	8.7	24	
53	80000	80100	8	24	
54	80100	80200	9	24	
55	80200	80300	9.1	24	
56	80300	80400	8.5	24	
57	80400	80500	8.1	24	
58	80500	80600	9.5	24	
59	80600	80700	9.1	24	
60	80700	80800	10.6	24	
61	80800	80900	10.7	24	
62	80900	81000	9.4	24	
63	81000	81100	9.9	20	
64	81100	81200	10.3	20	
65	81200	81300	9.8	20	
66	81300	81400	9.5	20	
67	81400	81500	10.4	20	
68	81500	81600	10.4	20	
69	81600	81700	8.9	20	
70	81700	81800	8.6	20	
71	81800	81900	9.3	20	
72	81900	82000	8.7	20	
73	82000	82100	11.1	20	
74	82100	82200	10	24	
75	82200	82300	8.3	24	
76	82300	82400	10.2	24	
77	82400	82500	7.9	20	
78	82500	82600	8.6	20	
79	82600	82700	10	24	

SL No.	Existing Chainage (m)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
80	82700	82800	10.2	24	
81	82800	82900	9.8	20	
82	82900	83000	9.5	20	
83	83000	83100	9.6	24	
84	83100	83300	10.1	24	
85	83300	83400	10	24	
86	83400	83500	10.2	24	
87	83500	83600	10.5	24	
88	83600	83700	10.3	20	
89	83700	83900	12.1	20	
90	83900	84000	10.8	20	
91	84000	84100	9.3	20	
92	84100	84200	9.9	24	
93	84200	84300	9.6	24	
94	84300	84400	11.1	24	
95	84400	84500	10.3	24	
96	84500	84600	9.1	24	
97	84600	84700	9.3	24	
98	84700	84800	10	24	
99	84800	84900	9.9	24	
100	84900	85000	10.4	24	
101	85000	85100	9.7	24	
102	85100	85200	8.5	24	
103	85200	85300	7.7	24	
104	85300	85400	9.6	24	
105	85400	85500	7.8	20	
106	85500	85600	8.5	24	
107	85600	85700	9.1	24	
108	85700	85800	8.6	24	
109	85800	85900	9.9	24	
110	85900	86000	9.8	24	
111	86000	86100	9.5	24	
112	86100	86200	9.3	24	
113	86200	86300	8.4	24	
114	86300	86400	9	24	
115	86400	86500	9.5	24	
116	86500	86600	9.4	20	
117	86600	86700	9.4	20	
118	86700	86800	10.4	20	
119	86800	86900	10.1	24	
120	86900	87000	9.9	24	
121	87000	87100	9.5	24	
122	87100	87200	9.8	24	
123	87200	87300	9.4	24	
124	87300	87400	8.7	24	
125	87400	87500	9.9	24	
126	87500	87600	10.9	24	
127	87600	87700	9.3	24	
128	87700	87800	8.5	24	
129	87800	87900	10.8	24	
130	87900	88000	7.8	24	

SL No.	Existing Chainage (m)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
131	88000	88100	9.2	24	
132	88100	88200	8.1	24	
133	88200	88300	8.5	24	
134	88300	88400	7.2	24	
135	88400	88500	8.3	24	
136	88500	88600	9.8	24	
137	88600	88700	7.9	24	
138	88700	88800	8.1	24	
139	88800	88900	7.8	24	
140	88900	89000	8.5	24	
141	89000	89100	8.6	24	
142	89100	89200	9.3	24	
143	89200	89300	8	24	
144	89300	89400	7.9	24	
145	89400	89500	9.3	24	
146	89500	89600	8.7	24	
147	89600	89700	9.4	24	
148	89700	89800	9.9	24	
149	89800	89900	10.3	20	
150	89900	90000	8.9	24	
151	90000	90100	8	24	
152	90100	90200	8.8	24	
153	90200	90300	9.2	24	
154	90300	90400	7.6	24	
155	90400	90500	9.2	24	
156	90500	90600	9.5	24	
157	90600	90700	8	24	
158	90700	90800	10	24	
159	90800	90900	10.5	24	
160	90900	91000	10.2	19	
161	91000	91100	11.3	19	
162	91100	91200	9.5	19	
163	91200	91300	10.3	19	
164	91300	91400	9.6	19	
165	91400	91500	9.9	19	
166	91500	91600	12	24	
167	91600	91700	10.5	24	
168	91700	91800	9.4	24	
169	91800	91900	13.5	24	
170	91900	92000	9.3	20	
171	92000	92100	9.6	20	
172	92100	92200	10	20	
173	92200	92300	10.1	20	
174	92300	92400	10.8	20	
175	92400	92500	9.8	20	
176	92500	92600	11.4	20	
177	92600	92700	10.5	20	
178	92700	92800	13.2	20	
179	92800	92900	11.5	20	
180	92900	93000	10.5	24	
181	93000	93100	12.7	24	

SL No.	Existing Chainage (m)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
182	93100	93200	9.1	24	
183	93200	93300	9.1	24	
184	93300	93400	9.3	24	
185	93400	93500	10.9	24	
186	93500	93600	8.4	24	
187	93600	93700	7.5	24	
188	93700	93800	9.7	24	
189	93800	93900	9.4	24	
190	93900	94000	9.8	24	
191	94000	94100	9	20	
192	94100	94200	10.1	20	
193	94200	94300	10	20	
194	94300	94400	10	24	
195	94400	94500	9	24	
196	94500	94600	9.2	20	
197	94600	94700	9.3	20	
198	94700	94800	10.8	24	
199	94800	94900	9.5	24	
200	94900	95000	9.7	24	
201	95000	95100	10.6	24	
202	95100	95200	8.4	24	
203	95200	95300	10	20	
204	95300	95400	9.3	24	
205	95400	95600	11.1	24	
206	95600	95700	9.7	24	
207	95700	95800	9.7	20	
208	95800	95900	8.4	20	
209	95900	96000	8.9	20	
210	96000	96100	9.3	20	
211	96100	96200	9.9	20	
212	96200	96300	9.1	20	
213	96300	96400	8.4	20	
214	96400	96500	9.6	20	
215	96500	96600	9	20	
216	96600	96700	9.4	20	
217	96700	96800	8.6	20	
218	96800	96900	9	20	
219	96900	97000	9.6	24	
220	97000	97100	8.8	24	
221	97100	97200	8.8	24	
222	97200	97300	9.9	24	
223	97300	97400	9.7	24	
224	97400	97500	9.7	24	
225	97500	97600	10.4	24	
226	97600	97700	9.2	24	
227	97700	97800	9.2	24	
228	97800	97900	9.6	24	
229	97900	98000	10	24	
230	98000	98100	10	24	
231	98100	98200	9.7	24	
232	98200	98300	9.9	24	

SL No.	Existing Chainage (m)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
233	98300	98400	9.1	24	
234	98400	98500	9.6	24	
235	98500	98600	10.6	24	
236	98600	98700	10.2	24	
237	98700	98800	9.8	24	
238	98800	98900	10.6	24	
239	98900	99000	9.5	24	
240	99000	99100	10	24	
241	99100	99200	9.6	24	
242	99200	99300	9.5	20	
243	99300	99400	9.8	20	
244	99400	99500	8.1	20	
245	99500	99600	9.8	20	
246	99600	99700	10.7	20	
247	99700	99800	9.2	20	
248	99800	99900	8.9	20	
249	99900	100000	9	20	
250	100000	100100	9.7	20	
251	100100	100200	8.4	20	
252	100200	100300	9.3	20	
253	100300	100400	9.5	20	
254	100400	100500	8.2	20	
255	100500	100600	10.3	24	
256	100600	100700	10.2	18	
257	100700	100800	10	18	
258	100800	100900	8.5	18	
259	100900	101000	10.6	18	
260	101000	101100	10.3	18	
261	101100	101200	9.8	18	
262	101200	101300	9.8	18	
263	101300	101400	9.8	18	
264	101400	101500	10.4	18	
265	101500	101600	9.3	18	
266	101600	101700	8.4	18	
267	101700	101800	8.9	18	
268	101800	101900	9.8	18	
269	101900	102000	9.2	18	
270	102000	102100	11.5	18	
271	102100	102200	10.6	18	
272	102200	102300	8.3	18	
273	102300	102400	10.3	18	
274	102400	102500	9	18	
275	102500	102600	8.3	18	
276	102600	102700	8.7	18	
277	102700	102800	10.1	18	
278	102800	102900	10.1	18	
279	102900	103000	9.9	18	
280	103000	103100	8.8	18	
281	103100	103200	7.1	18	
282	103200	103300	8.3	18	
283	103300	103400	8.8	18	

SL No.	Existing Chainage (m)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
284	103400	103500	8.3	18	
285	103500	103600	8.3	18	
286	103600	103700	10.1	18	
287	103700	103800	9.2	18	
288	103800	103900	11.2	18	
289	103900	104100	8.7	20	
290	104100	104200	7.9	20	
291	104200	104300	8	20	
292	104300	104400	7.8	20	
293	104400	104500	8.5	20	
294	104500	104600	8.7	20	
295	104600	104700	8.9	20	
296	104700	104800	8.1	20	
297	104800	104900	Land Slide Zone	20	
298	104900	105000		24	
299	105000	105100		20	
300	105100	105200		24	
301	105200	105300		24	
302	105300	105400		24	
303	105400	105500		24	
304	105500	105600		20	
305	105600	105700		24	
306	105700	105800		24	
307	105800	105900		20	
308	105900	106000		24	
309	106000	106100		24	
310	106100	106200		24	
311	106200	106300		24	
312	106300	106400		24	
313	106400	106500		24	
314	106500	106600		24	
315	106600	106700		24	
316	106700	106800		24	
317	106800	106900		24	
318	106900	107000		24	
319	107000	107100		24	
320	107100	107200		24	
321	107200	107300		24	
322	107300	107400		24	
323	107400	107500		24	
324	107500	107600		24	
325	107600	107700		24	
326	107700	107800		24	
327	107800	107900		24	
328	107900	108000		24	
329	108000	108100		24	
330	108100	108200		24	
331	108200	108300		24	
332	108300	108400	10.9	24	
333	108400	108500	8.8	19	
334	108500	108600	11.7	19	

SL No.	Existing Chainage (m)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
335	108600	108700	8.6	24	
336	108700	108800	8.7	19	
337	108800	108900	8	19	
338	108900	109000	7	24	
339	109000	109100	10.4	24	
340	109100	109200	8.1	24	
341	109200	109300	9.2	24	
342	109300	109400	11.9	24	
343	109400	109500	10	21	
344	109500	109600	10.6	21	
355	109600	109767	12.8	24	

3. Carriageway

The present carriageway of the Project Highway is Two Lane from km 74+800 to km 109+767. The type of the existing pavement is [flexible].

4. Major Bridges

The Site includes the following Major Bridges: -

S. No.	Chainage (km)	Type of Structure			No. of Spans with span length (m)	Width (m)
		Foundation	Sub-structure	Super-structure		
1	109.735	Open	Well	Steel Truss	1x66.48	12.60

5. Road over-bridges(ROB)/Road under-bridges(RUB)

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

S. No.	Chainage (km)	Type of Structure		No. of Spans with span length(m)	Width (m)	ROB/ RUB
		Foundation	Superstructure			
Nil						

6. Grade separators

The Site includes the following grade separators:

Sl. No.	Chainage (km)	Type of Structure		No. of Spans with span length(m)	Width (m)
		Foundation	Superstructure		
Nil					

7. Minor bridges

The Site includes the following minor bridges:

S. No.	Chainage (km)	Type of Structure			No. of Spans with span length (m)	Width (m)
		Foundation	Sub- structure	Super- structure		
1	75.865	Open	Wall	RCC T GIRDER	1 X 16.60	11.90

8. Railway level crossings

The Site includes the following railway level crossings:

S. No.	Location(km)	Remarks
Nil		

9. Underpasses (vehicular, non- vehicular)

The Site includes the following underpasses:

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

10. Culverts

The Site has the following culverts:

Sl. No.	Chainage (km)	Type of Culvert	Span/Opening with Span Length	Width of Culvert (m)
1	75.230	Pipe culvert	2×1.0	10
2	75.331	Pipe culvert	2×1.0	9.7
3	75.430	Pipe culvert	2×1.2	10
4	75.718	Slab culvert	1×4.0	10
5	75.932	Pipe culvert	2×1.0	10.2
6	76.378	Pipe culvert	2×1.0	10.1
7	76.460	Slab culvert	1×1.2	10.1
8	76.612	Pipe culvert	1×1.0	10.1
9	76.876	Slab culvert	1×1.2	9.6
10	77.070	Pipe culvert	2×1.0	9.9
11	77.200	Pipe culvert	2×1.0	10.2
12	77.575	Pipe culvert	2×1.0	9.5
13	77.748	Pipe culvert	2×1.0	10.2
14	78.163	Pipe culvert	2×1.0	10.1
15	78.363	Pipe culvert	2×1.0	10.1
16	78.642	Pipe culvert	2×1.0	10.2
17	78.942	Pipe culvert	2×1.0	10
18	79.130	Pipe culvert	2×1.0	10
19	79.324	Pipe culvert	2×0.9	10.2
20	79.503	Pipe culvert	2×0.9	10.2
21	79.706	Pipe culvert	2×1.0	10.2
22	79.844	Pipe culvert	2×1.0	10.1
23	80.037	Pipe culvert	2×0.9	10.2
24	80.460	Pipe culvert	2×0.9	10.2
25	80.728	Pipe culvert	2×1.0	10
26	81.180	Pipe culvert	2×1.0	10.3
27	81.405	Pipe culvert	2×1.0	10.1
28	81.635	Pipe culvert	2×1.0	10.1
29	81.913	Pipe culvert	2×0.9	10.1
30	82.010	Pipe culvert	2×0.9	10.3
31	82.107	Pipe culvert	2X1.0	12.8
32	82.633	Pipe culvert	1X1.2	10.2
33	82.792	Pipe culvert	1X1.0	10.1
34	82.968	Pipe culvert	2×1.0	10.1
35	83.152	Pipe culvert	2×1.0	9.9
36	83.264	Pipe culvert	2X1.0	10

Sl. No.	Chainage (km)	Type of Culvert	Span/Opening with Span Length	Width of Culvert (m)
37	83.606	Pipe culvert	2X1.2	10
38	83.769	Pipe culvert	2×1.0	10.2
39	84.074	Pipe culvert	2X1.0	10.1
40	84.267	Pipe culvert	2X1.0	10
41	84.402	Pipe culvert	2X1.0	10
42	84.460	Pipe culvert	1X1.0	9.8
43	84.553	Pipe culvert	1X1.2	9.8
44	84.760	Pipe culvert	2X0.6	9.8
45	85.578	Pipe culvert	2X1.2	8.8
46	85.918	Pipe culvert	2X1.0	8.8
47	86.140	COVERED BY SOIL	-	9.8
48	86.595	Pipe culvert	2X1.0	9.8
49	86.880	COVERED BY SOIL	-	10.1
50	87.281	COVERED BY SOIL	2X1.0	10
51	87.887	Pipe culvert	2X1.0	9
52	88.202	Pipe culvert	2X1.0	9
53	88.400	Pipe culvert	2X1.2	10
54	88.628	Pipe culvert	2X1.0	10.2
55	88.932	Pipe culvert	1X1.0	10.5
56	89.368	Pipe culvert	1X1.0	9.6
57	89.989	Pipe culvert	2X1.0	9.7
58	90.105	Pipe culvert	2X1.0	10
59	90.110	Pipe culvert	1X1.2	10
60	90.176	Slab culvert	1X1.0	10
61	90.238	Pipe culvert	1X1.2	10
62	90.440	Pipe culvert	2X1.0	10
63	90.750	ARCH CULVERT	1X1.0	10
64	91.014	Pipe culvert	2X1.0	10.6
65	91.263	Pipe culvert	2X1.0	10.6
66	91.442	Slab culvert	1X1.5	8.9
67	91.927	Slab culvert	1X1.5	9.6
68	91.775	Slab culvert	1X1.5	9.6
69	91.925	Slab culvert	1X1.5	9.8
70	92.052	Slab culvert	1X1.5	9.6
71	92.283	Slab culvert	1X1.5	7
72	92.644	Slab culvert	1X2.0	7
73	92.837	Slab culvert	1X1.5	7
74	93.060	Slab culvert	1X1.5	7
75	93.187	Slab culvert	1X2.0	7
76	93.610	Slab culvert	1X1.5	7
77	93.747	Slab culvert	1X1.5	7
78	93.910	Slab culvert	1X1.5	7.2
79	94.125	Slab culvert	1X1.5	7
80	94.270	Slab culvert	1×1.5	7
81	94.378	Slab culvert	1×1.5	7.2
82	94.628	Slab culvert	1×1.5	7
83	94.737	Slab culvert	1×1.5	7.2
84	94.960	Slab culvert	1×3.0	7
85	95.062	Slab culvert	1×3.0	7

Sl. No.	Chainage (km)	Type of Culvert	Span/Opening with Span Length	Width of Culvert (m)
86	95.148	Slab culvert	1X1.5	7.2
87	95.310	Slab culvert	1X1.5	7
88	95.436	Slab culvert	1x3.0	7
89	95.627	Slab culvert	1X4	7.2
90	95.763	Pipe culvert	2X1.0	7
91	95.842	Pipe culvert	2X1.0	7.2
92	95.898	Pipe culvert	2X1.0	7
93	96.166	Pipe culvert	2X1.0	7
94	96.290	Slab culvert	1X2.5	7.2
95	96.433	Pipe culvert	2X1.0	7
96	96.560	Pipe culvert	2X1.0	7
97	96.835	Pipe culvert	2X1.0	7
98	97.098	Pipe culvert	2X1.0	7
99	97.602	Pipe culvert	2X1.0	7.2
100	97.707	Pipe culvert	2X1.0	7.2
101	97.850	Slab culvert	1X2.0	7
102	97.892	Pipe culvert	2X1.0	7
103	98.065	Pipe culvert	2X1.0	9.6
104	98.272	Pipe culvert	2X1.0	8.2
105	98.428	Pipe culvert	2X1.0	8.6
106	99.518	Pipe culvert	2X1.0	8.6
107	98.540	Slab culvert	1X5.8	8.6
108	98.654	Pipe culvert	2X1.0	8.2
109	98.910	Pipe culvert	2X1.0	8.6
110	98.966	Pipe culvert	2X1.0	8.5
111	99.066	Pipe culvert	2X1.0	7.6
112	99.288	Pipe culvert	2X1.0	7.6
113	99.518	Pipe culvert	2X1.0	7.6
114	99.625	Pipe culvert	2X1.0	7.6
115	99.730	Pipe culvert	2X1.0	7.6
116	99.855	Pipe culvert	2X1.0	7.6
117	100.014	Pipe culvert	2X1.0	7.6
118	100.109	Pipe culvert	2X1.0	7.6
119	100.328	Pipe culvert	2X1.0	7.6
120	100.400	Pipe culvert	2X1.0	7.6
121	100.571	Pipe culvert	2X1.0	7.6
122	100.740	Pipe culvert	2X1.0	7.6
123	100.793	Pipe culvert	2X1.0	7.6
124	100.952	Pipe culvert	2X1.0	7.6
125	101.334	Pipe culvert	2X1.0	7.6
126	101.548	Pipe culvert	2X1.0	7.1
127	101.705	Pipe culvert	2X1.0	7.1
128	101.896	Pipe culvert	2X1.0	7.2
129	102.080	Pipe culvert	2X1.0	7.2
130	102.352	Pipe culvert	2X1.0	7.2
131	102.428	Pipe culvert	2X1.0	7.2
132	102.570	Pipe culvert	2X1.0	7.1
133	102.823	Pipe culvert	2X1.0	7.2
134	102.900	Pipe culvert	2X1.0	7.1

Sl. No.	Chainage (km)	Type of Culvert	Span/Opening with Span Length	Width of Culvert (m)
135	103.350	Pipe culvert	2X1.0	7
136	103.462	Pipe culvert	2X1.0	7
137	103.790	Pipe culvert	2X1.0	7.2
138	104.260	Pipe culvert	2X1.0	7
139	104.342	Pipe culvert	2X1.0	7.2
140	104.440	Pipe culvert	2X1.0	7.2
141	104.619	Pipe culvert	2X1.0	7.6
142	105.426	Pipe culvert	2X1.0	6.9

11. Bus bays

The details of bus bays on the Site are as follows:

S. No.	Chainage (km)	Length (m)	Left Hand Side	Right HandSide
Nil				

12. Truck Lay byes

The details of truck lay byes are as follows:

S. No.	Chainage (km)	Length (m)	Left Hand Side	Right Hand Side
Nil				

13. Roadside drains

The details of the roadside drains are as follows:

Sl. No.	Location		Type	
	From km	To km	Masonry/cc (Pucca)	Earthen (Kutcha)
1	74+800	83+950		Earthen (Hill Side)
2	89+120	97+590		Earthen (Hill Side)

14. Major junctions

The details of major junctions are as follows:

Sl. No.	Location		At grade	Separated	Category of Cross Road			
	From km	to km			NH	SH	MDR	Others
Nil								

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

15. Minor junctions

The details of the minor junctions are as follows:

Sl. No.	Location(Km)	Type of intersection	
		T-Junction	Cross Road
1	75.000	Y	3-legged
2	87.580	Y	3-legged
3	91.900	Y	3-legged
4	96.150	Y	3-legged
5	109.300	Y	3-legged

Sl. No.	Location(Km)	Type of intersection	
		T-Junction	Cross Road
6	109.700	Y	3-legged

16. Bypasses

The details of the existing road sections proposed to be bypassed are as follows:

Sl. No.	Name of bypass(town)	Chainage (km) From km to km	Length (in Km)
Nil			

17. Other structures

Existing effected Utilities:

(i) Electrical utilities

The site includes the following electrical utilities:-

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

SL. NO	Chainage		Length (in Km)				Crossings			
	From	To	400KV	220KV	110KV	66KV	400KV	220KV	110KV	66KV
Nil										

b) High Tension/Low Tension Lines (HT/LT Lines)*

SL. NO	Chainage		HT/LT Poles (Nos.)			Length (in Km)			Transformer	
	From	To	33KV	11KV	LT	33KV	11KV	LT	No	Capacity
1	74+800	109+767		97			6.780			

(ii) Public Health utilities (Water/Sewage Pipe Lines)*

The site includes the following Public Health utilities:-

SL. NO	Chainage		Length (in Km)				Crossings			
			Water Supply Line		Sewage Line		Water Supply Line		Sewage Line	
	From	To	With Pumping	With Gravity Flow	With Pumping	With Gravity Flow	With Pumping	With Gravity Flow	With Pumping	With Gravity Flow
Nil										

(iii) Any Other line

(* This illustrative and may change as per features of existing utilities.)

Existing Retaining Wall:

Chainage (Km)		Length (km)	Side
From	To		
75.137	75.250	0.113	Valley
75.937	76.000	0.063	Valley
77.200	77.325	0.125	Valley
78.050	78.160	0.110	Valley
79.508	79.540	0.032	Valley

Chainage (Km)		Length (km)	Side
From	To		
80.327	80.515	0.188	Valley
82.840	82.875	0.035	Valley
88.770	88.800	0.030	Valley
89.030	89.065	0.035	Valley
89.300	89.340	0.040	Valley
89.410	89.470	0.060	Valley
90.590	90.700	0.110	Valley
91.815	91.850	0.035	Valley
90.740	90.764	0.024	Valley
91.760	91.786	0.026	Valley
91.914	91.938	0.024	Valley
92.272	92.295	0.023	Valley
92.633	92.658	0.025	Valley
92.826	92.850	0.024	Valley
95.050	95.070	0.020	Valley
95.130	95.157	0.027	Valley
95.300	95.321	0.021	Valley
95.445	95.478	0.033	Valley
95.624	95.634	0.010	Valley
95.830	95.844	0.014	Valley
95.887	95.910	0.023	Valley
96.166	96.185	0.019	Valley
96.271	96.318	0.047	Valley
96.421	96.444	0.023	Valley
96.546	96.573	0.027	Valley
96.823	96.845	0.022	Valley
97.090	97.112	0.022	Valley
97.600	97.610	0.010	Valley
97.696	97.720	0.024	Valley
98.057	98.080	0.023	Valley
98.267	98.283	0.016	Valley
98.418	98.439	0.021	Valley
98.531	98.547	0.016	Valley
98.643	98.667	0.024	Valley
98.816	98.834	0.018	Valley
98.908	98.915	0.007	Valley
98.953	98.976	0.023	Valley
99.056	99.078	0.022	Valley
99.275	99.300	0.025	Valley
99.513	99.528	0.015	Valley
99.616	99.636	0.020	Valley
99.726	99.733	0.007	Valley
99.850	99.866	0.016	Valley
99.946	99.973	0.027	Valley
100.005	100.025	0.020	Valley
100.100	100.121	0.021	Valley
100.226	100.250	0.024	Valley
100.321	100.371	0.050	Valley
100.391	100.413	0.022	Valley
100.567	100.588	0.021	Valley
100.627	100.644	0.017	Valley

Chainage (Km)		Length (km)	Side
From	To		
100.739	100.806	0.067	Valley
101.014	101.055	0.041	Valley
101.316	101.350	0.034	Valley
101.429	101.456	0.027	Valley
101.536	101.547	0.011	Valley
102.012	102.043	0.031	Valley
102.195	102.213	0.018	Valley
102.430	102.500	0.070	Valley
102.646	102.675	0.029	Valley
102.810	102.836	0.026	Valley
102.893	102.909	0.016	Valley
103.450	103.473	0.023	Valley
103.614	103.650	0.036	Valley
103.650	103.700	0.050	Valley
103.777	103.800	0.023	Valley
104.900	104.910	0.010	Valley
104.946	105.000	0.054	Valley
105.094	105.133	0.039	Valley
105.215	105.229	0.014	Valley
105.229	105.269	0.040	Valley
105.386	105.429	0.043	Valley
105.497	105.545	0.048	Valley
109.218	109.258	0.040	Valley
Total =		**2.709**	

Annex – II

(As per Clause 8.3 (i))

(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 Contractor on different stretches of the Site is stated below:

The Construction of Project Highway will be implemented as per Manual, details of which are already given in Article-2 of Annexure–I of Schedule –A.

Annex -

III(Schedule-A)

Alignment Plans

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 is enclosed in alignment plan. Finished road level indicated in the alignment plan shall be followed by the contractor as minimum FRL. In any case, the finished road level of the project highway shall not be less than those indicated in the alignment plan. The contractor shall, however, improve/upgrade the Road profile as indicated in Annex-III based onsite/design requirement.

(ii) Traffic Signage plan of the Project Highway showing numbers & location of traffic signs is enclosed. The contractor shall, however, improve/upgrade upon the traffic signage plan as indicated in Annex-III based on site/design requirement as per the relevant specifications/IRC Codes/Manual.

Annex – IV

(Schedule-A)

Environment Clearances

As per EIA notification 2006 and its amendment S.O.2559 (E) Dt 22nd August 2013, S.O 996 (E) Dt 10th April 2015, S.O 382 (E) Dt 3rd February 2015 Environmental Clearance Exempted from the purview of the Environmental Impact Assessment.

[To be published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section(ii)]

MINISTRY OF ENVIRONMENT AND FORESTS
NOTIFICATION

New Delhi, the 22nd August, 2013

S.O. 2559 (E).- Whereas by notification of the Government of India in the Ministry of Environment and Forests vide number S.O.1533(E), dated the 14th September, 2006 issued under sub-section (1) and clause (v) of sub-section (2) of section (3) of the Environment (Protection) Act, 1986 read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government directed that on and from the date of its publication, the required construction of new projects or activities or the expansion or modernization of existing projects or activities listed in the Schedule to the said notification entailing the capacity addition with change in process or technology and or product mix shall be undertaken in any part of India only after prior environmental clearance from the Central Government or as the case may be, by the State level Environment Impact Assessment Authority, duly constituted by the Central Government under sub-section (3) of section 3 of the said Act, in accordance with the procedure specified therein;

And whereas the Government of India in the Ministry of Environment and Forests had constituted a High Level Committee under the Chairmanship of Member (Environment and Forests and Science and Technology), Planning Commission, vide OM No.21-270/2008-IA.III dated the 11th December, 2012 to review the provisions of Environmental Impact Assessment Notification, 2006 relating to granting Environmental Clearances for Roads, Buildings and Special Economic Zone projects and provisions under the OM dated the 7th February, 2012 issued by the Ministry of Environment and Forests regarding guidelines for High Rise Buildings;

And whereas one of the terms of reference (ToR) of the Committee was to review the requirement of Environmental Clearance for highway expansion projects upto the right of way of 60 meters and length of 200 kms under Environmental Impact Assessment notification;

And whereas the Committee has submitted its report to the Ministry and on this ToR, the Committee has recommended exempting highway expansion projects from the requirement of scoping and that Environmental Impact Assessment or Environment Management Plan for highway expansion projects may be prepared on the basis of model ToRs to be posted on Ministry's website and in respect of requirement of environmental clearance, the Committee has recommended that expansion of National Highway projects up to 100 kms involving additional right of way or land acquisition upto 40 mts on existing alignments and 60 mts on re-alignments or by-passes may be exempted from the preview of the notification;

Schedule - B

(See Clause 2.1)

Development of the Project Highway

1. Development of the Project Highway

Development of the Project Highway shall include design and construction of the Project Highway as described in this Schedule-B and in Schedule-C.

2. [Rehabilitation and augmentation]

[Rehabilitation and augmentation] shall include [Two-Lanning and Strengthening] of the Project Highway as described in Annex-I of this Schedule-B and in Schedule-C.

3. Specifications and Standards

The Project Highway shall be designed and constructed in conformity with the Specifications and Standards specified in Annex-I of Schedule-D.

(Schedule-B)

Description of [Two-Lanning]

[Note: Description of the Project Highway shall be given by the Authority in detail together with explanatory drawings (where necessary) to explain the Authority's requirements precisely in order to avoid subsequent changes in the Scope of the Project. The particulars that must be specified in this Schedule-B are listed below as per the requirements of the Manual of Specifications and standards for [Two Lanning of Highways (IRC: SP: 73-2018& IRC: 52-2019]referred to as the Manual. If any standards specifications or details are not given in the Manual the minimum design/construction requirements shall be specified in this Schedule. In addition to the separticulars all other essential project specific details as required should be provided in order to define the Scope of the Project clearly and precisely.]

1.Widening of the Existing Highway

(i) The Project Highway shall follow the existing alignment unless otherwise specified by the Authority and shown in the alignment plans specified in Annex-III of Schedule-A. Geometric deficiencies, if any, in the existing horizontal and vertical profiles shall be corrected as per the prescribed standards for hilly terrain to the extent land is available.

(ii) Width of Carriageway

(a) Two-Lanning [with] hard shoulders shall be undertaken. The paved carriageway shall be[7(seven)m]wide..

Provided that in the built-up areas: the width of the carriageway shall be as specified in the following table:

Sl. No.	Built-up stretch (Township)	Location (Km)		Width (m)	Typical Cross Section (Refer to Manual)	Remarks
1	Ziumi	75+000	75+250	7	Table 6.2 of IRC: 52-2019	7 m Carriageway

(b) Except as otherwise provided in this Agreement the width of the paved carriageway and cross-sectional features shall conform to paragraph 1.1above.

2.Geometric Design and General Features

(i)General

Geometric design and general features of the Project Highway shall be in accordance with Section 2 of the Manual.

(ii)Design speed

For Mountainous terrain design speed shall be the minimum design speed of 40-50 km/hr and for sharp curve and hair pin bend locations speed reduces upto 30kmph & 20 kmph respectively.

(iii)Improvement of the existing road geometrics

The stretches where design speed reduces below 40 kmph are summarized below:

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
1	75+345 to 75+358	Sharp Bend	Design Speed = 30 Kmph
2	75+419 to 75+422	Sharp Bend	Design Speed = 30 Kmph
3	76+028 to 76+029	Sharp Bend	Design Speed = 30 Kmph
4	76+104 to 76+111	Sharp Bend	Design Speed = 30 Kmph
5	78+223 to 78+235	Sharp Bend	Design Speed = 30 Kmph
6	78+307 to 78+322	Sharp Bend	Design Speed = 30 Kmph
7	80+169 to 80+184	Sharp Bend	Design Speed = 30 Kmph
8	80+421 to 80+437	Sharp Bend	Design Speed = 30 Kmph
9	81+555 to 81+607	Sharp Bend	Design Speed = 30 Kmph
10	81+843 to 81+852	Sharp Bend	Design Speed = 30 Kmph
11	81+910 to 81+938	Sharp Bend	Design Speed = 20 Kmph
12	82+005 to 82+024	Sharp Bend	Design Speed = 20 Kmph
13	82+778 to 82+804	Sharp Bend	Design Speed = 20 Kmph
14	82+873 to 82+882	Sharp Bend	Design Speed = 25 Kmph
15	82+993 to 83+017	Sharp Bend	Design Speed = 20 Kmph
16	83+068 to 83+084	Sharp Bend	Design Speed = 25 Kmph
17	84+019 to 84+049	Sharp Bend	Design Speed = 25 Kmph
18	85+681 to 85+697	Sharp Bend	Design Speed = 30 Kmph
19	85+780 to 85+790	Sharp Bend	Design Speed = 30 Kmph
20	85+877 to 85+907	Sharp Bend	Design Speed = 30 Kmph
21	87+339 to 87+371	Sharp Bend	Design Speed = 25 Kmph
22	89+176 to 89+190	Sharp Bend	Design Speed = 30 Kmph
23	89+251 to 89+280	Sharp Bend	Design Speed = 30 Kmph
24	89+597 to 89+689	Sharp Bend	Design Speed = 30 Kmph
25	90+070 to 90+084	Sharp Bend	Design Speed = 30 Kmph
26	90+143 to 90+158	Sharp Bend	Design Speed = 25 Kmph
27	90+228 to 90+234	Sharp Bend	Design Speed = 30 Kmph
28	90+333 to 90+349	Sharp Bend	Design Speed = 30 Kmph
29	92+872 to 92+902	Sharp Bend	Design Speed = 30 Kmph
30	92+938 to 93+015	Sharp Bend	Design Speed = 30 Kmph
31	93+067 to 93+100	Sharp Bend	Design Speed = 20 Kmph
32	93+399 to 93+496	Sharp Bend	Design Speed = 30 Kmph
33	93+547 to 93+556	Sharp Bend	Design Speed = 30 Kmph
34	93+600 to 93+631	Sharp Bend	Design Speed = 30 Kmph
35	93+703 to 93+720	Sharp Bend	Design Speed = 30 Kmph
36	93+832 to 93+837	Sharp Bend	Design Speed = 30 Kmph
37	93+904 to 93+913	Sharp Bend	Design Speed = 30 Kmph
38	93+972 to 93+974	Sharp Bend	Design Speed = 30 Kmph
39	94+024 to 94+091	Sharp Bend	Design Speed = 30 Kmph
40	95+823 to 95+836	Sharp Bend	Design Speed = 30 Kmph
41	95+889 to 95+904	Sharp Bend	Design Speed = 30 Kmph
42	95+970 to 95+981	Sharp Bend	Design Speed = 30 Kmph
43	96+035 to 96+040	Sharp Bend	Design Speed = 30 Kmph
44	96+082 to 96+094	Sharp Bend	Design Speed = 20 Kmph
45	96+146 to 96+173	Sharp Bend	Design Speed = 20 Kmph
46	96+249 to 96+265	Sharp Bend	Design Speed = 20 Kmph
47	98+042 to 98+044	Sharp Bend	Design Speed = 30 Kmph
48	98+122 to 98+129	Sharp Bend	Design Speed = 30 Kmph
49	100+939 to 100+964	Sharp Bend	Design Speed = 20 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
50	101+045 to 101+063	Sharp Bend	Design Speed = 30 Kmph
51	101+137 to 101+150	Sharp Bend	Design Speed = 30 Kmph
52	101+303 to 101+343	Sharp Bend	Design Speed = 30 Kmph
53	101+399 to 101+422	Sharp Bend	Design Speed = 30 Kmph
54	101+498 to 101+532	Sharp Bend	Design Speed = 20 Kmph
55	101+617 to 101+631	Sharp Bend	Design Speed = 20 Kmph
56	101+681 to 101+692	Sharp Bend	Design Speed = 30 Kmph
57	101+772 to 101+792	Sharp Bend	Design Speed = 20 Kmph
58	101+878 to 101+917	Sharp Bend	Design Speed = 20 Kmph
59	101+975 to 101+987	Sharp Bend	Design Speed = 20 Kmph
60	102+030 to 102+044	Sharp Bend	Design Speed = 20 Kmph
61	102+096 to 102+104	Sharp Bend	Design Speed = 20 Kmph
62	102+137 to 102+138	Sharp Bend	Design Speed = 20 Kmph
63	102+181 to 102+196	Sharp Bend	Design Speed = 20 Kmph
64	102+221 to 102+228	Sharp Bend	Design Speed = 30 Kmph
65	102+290 to 102+296	Sharp Bend	Design Speed = 30 Kmph
66	102+357 to 102+386	Sharp Bend	Design Speed = 30 Kmph
67	102+448 to 102+456	Sharp Bend	Design Speed = 30 Kmph
68	102+509 to 102+512	Sharp Bend	Design Speed = 20 Kmph
69	102+583 to 102+592	Sharp Bend	Design Speed = 20 Kmph
70	102+638 to 102+647	Sharp Bend	Design Speed = 20 Kmph
71	102+679 to 102+700	Sharp Bend	Design Speed = 20 Kmph
72	102+771 to 102+779	Sharp Bend	Design Speed = 20 Kmph
73	102+855 to 102+880	Sharp Bend	Design Speed = 20 Kmph
74	102+955 to 102+961	Sharp Bend	Design Speed = 20 Kmph
75	103+060 to 103+062	Sharp Bend	Design Speed = 20 Kmph
76	103+121 to 103+127	Sharp Bend	Design Speed = 30 Kmph
77	103+250 to 103+252	Sharp Bend	Design Speed = 30 Kmph
78	103+288 to 103+297	Sharp Bend	Design Speed = 30 Kmph
79	103+384 to 103+391	Sharp Bend	Design Speed = 30 Kmph
80	103+448 to 103+454	Sharp Bend	Design Speed = 30 Kmph
81	103+516 to 103+520	Sharp Bend	Design Speed = 20 Kmph
82	103+589 to 103+626	Sharp Bend	Design Speed = 20 Kmph
83	103+853 to 103+859	Sharp Bend	Design Speed = 30 Kmph
84	103+933 to 103+960	Sharp Bend	Design Speed = 20 Kmph
85	103+992 to 104+033	Sharp Bend	Design Speed = 20 Kmph
86	105+763 to 105+767	Sharp Bend	Design Speed = 30 Kmph
87	105+812 to 105+825	Sharp Bend	Design Speed = 30 Kmph
88	105+856 to 105+881	Sharp Bend	Design Speed = 30 Kmph
89	105+912 to 105+915	Sharp Bend	Design Speed = 20 Kmph
90	105+950 to 105+951	Sharp Bend	Design Speed = 20 Kmph
91	105+999 to 106+004	Sharp Bend	Design Speed = 30 Kmph
92	106+088 to 106+090	Sharp Bend	Design Speed = 20 Kmph
93	106+124 to 106+128	Sharp Bend	Design Speed = 20 Kmph
94	106+162 to 106+164	Sharp Bend	Design Speed = 20 Kmph
95	106+268 to 106+279	Sharp Bend	Design Speed = 30 Kmph
96	106+476 to 106+484	Sharp Bend	Design Speed = 30 Kmph
97	106+526 to 106+526	Sharp Bend	Design Speed = 25 Kmph
98	106+558 to 106+558	Sharp Bend	Design Speed = 20 Kmph
99	106+718 to 106+719	Sharp Bend	Design Speed = 30 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
100	106+770 to 106+778	Sharp Bend	Design Speed = 30 Kmph
101	106+842 to 106+843	Sharp Bend	Design Speed = 25 Kmph
102	106+869 to 106+892	Sharp Bend	Design Speed = 30 Kmph
103	106+925 to 106+927	Sharp Bend	Design Speed = 20 Kmph
104	106+966 to 106+967	Sharp Bend	Design Speed = 20 Kmph
105	106+998 to 107+001	Sharp Bend	Design Speed = 20 Kmph
106	107+040 to 107+042	Sharp Bend	Design Speed = 20 Kmph
107	107+064 to 107+076	Sharp Bend	Design Speed = 30 Kmph
108	107+086 to 107+116	Sharp Bend	Design Speed = 30 Kmph
109	107+414 to 107+435	Sharp Bend	Design Speed = 30 Kmph
110	107+499 to 107+502	Sharp Bend	Design Speed = 25 Kmph
111	107+537 to 107+555	Sharp Bend	Design Speed = 30 Kmph
112	107+577 to 107+583	Sharp Bend	Design Speed = 30 Kmph
113	107+670 to 107+680	Sharp Bend	Design Speed = 30 Kmph
114	107+734 to 107+737	Sharp Bend	Design Speed = 25 Kmph
115	107+757 to 107+774	Sharp Bend	Design Speed = 30 Kmph
116	107+832 to 107+843	Sharp Bend	Design Speed = 20 Kmph
117	107+877 to 107+886	Sharp Bend	Design Speed = 30 Kmph
118	107+903 to 107+931	Sharp Bend	Design Speed = 30 Kmph
119	107+980 to 107+981	Sharp Bend	Design Speed = 30 Kmph
120	108+058 to 108+063	Sharp Bend	Design Speed = 30 Kmph
121	108+145 to 108+150	Sharp Bend	Design Speed = 25 Kmph
122	108+184 to 108+190	Sharp Bend	Design Speed = 25 Kmph
123	108+234 to 108+250	Sharp Bend	Design Speed = 30 Kmph
124	108+383 to 108+390	Sharp Bend	Design Speed = 30 Kmph
125	108+437 to 108+444	Sharp Bend	Design Speed = 30 Kmph
126	108+499 to 108+509	Sharp Bend	Design Speed = 20 Kmph
127	108+552 to 108+558	Sharp Bend	Design Speed = 20 Kmph
128	108+592 to 108+607	Sharp Bend	Design Speed = 30 Kmph
129	108+638 to 108+646	Sharp Bend	Design Speed = 30 Kmph
130	108+704 to 108+712	Sharp Bend	Design Speed = 30 Kmph
131	108+798 to 108+805	Sharp Bend	Design Speed = 30 Kmph
132	109+010 to 109+040	Sharp Bend	Design Speed = 30 Kmph
133	109+131 to 109+142	Sharp Bend	Design Speed = 30 Kmph
134	109+228 to 109+234	Sharp Bend	Design Speed = 20 Kmph
135	109+271 to 109+303	Sharp Bend	Design Speed = 20 Kmph
136	109+382 to 109+409	Sharp Bend	Design Speed = 20 Kmph

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 existing right of way and proper road signs and safety
Measures shall be provided

(iv) Right of Way

[Refer to provision of relevant Manual].
Details of the Right of Way are given in Annex-II of Schedule-A.

(v)Type of shoulders
[Refer to provision of relevant Manual and specify]

(a) Inbuilt-up sections. footpaths/fully paved shoulders shall be provided in the following stretches:

Sl. No.	Stretch (from Km to Km)	Fully Paved shoulders/footpaths	Reference to cross section
Nil			

(b) Hard shoulders of 1.5 m width shall be provided with selected earth wherever applicable as per TCS drawing.

(c) Design and specifications of paved shoulders and granular material shall conform to the requirements specified in the relevant Manual.

(vi) Lateral and verticalclearances at underpasses

(a) Lateralandverticalclearancesatunderpassesandprovisionof guardrails/crash barriers shall be as per requirementsspecifiedinthe relevant Manual.

(b) Lateralclearance:Thewidthoftheopeningattheunderpassesshallbeas follows:

Sl.No.	Location (Chainage) (from km to km)	Span/ opening(m)	Remarks
Nil			

(vii)Lateral and verticalclearances at overpasses

(a) Lateralandverticalclearancesatoverpassesshallbeasperrequirementsspecifiedinthe relevant Manual.

(b) Lateralclearance:Thewidthoftheopeningattheoverpasses shallbeas follows:

Sl. No.	Location (Chainage) (from km to km)	Span/Opening (m)	Remarks
Nil			

(viii)Service roads

Serviceroadsshallbeconstructedatthelocationsandforthelengthsindicatedbelow: [Refer requirementsspecifiedinthe relevant Manual]

Sl. No.	Location ofservice road(fromkmtokm)	Righthandside(RHS)/Lefthand side(LHS)/orBothsides	Length(km)of service road
Nil			

(ix)Grade separatedstructures

(a) Gradeseparatedstructuresshallbeprovidedasperprovisionofthe Manual. The requisite isgivenbelow:

Sl. No.	Location of Structure (VUP)	Length (m)	Number andlengthofspans	Approach gradient	Remarks. if any
Nil					

(b) In thecase ofgradeseparated structuresthe type ofstructure andthe level of theProjectHighwayandthecrossroads shallbeasfollows:[Referto provisionofthe Manual andspecifythetypeofvehicularunderpass/ overpassstructureandwhetherthecrossroadistobecarriedattheexisting Level. raisedorlowered]

Sl.	Location	Type of	Cross road at	Remarks.if any

No.		structure Length(m)	Existing Level	Raised Level	Lowered Level	
Nil						

(x)Cattle and pedestrian underpass /overpass

Cattle and pedestrian underpass/overpass shall be constructed as follows: [Refer to provisionofthe relevant Manualand specify the requirements of cattle and pedestrian underpass/overpass]

Sl.No.	Location	Typeofcrossing
Nil		

(xi)Typical cross-sections of the Project Highway

[Give typical cross-sections of the Project Highway by reference to the Manual]As per attached Drawings.

TCS Number	TCS Description	Length (km)
TCS-1A	Typical Cross Section of Two lane Carriageway in Built up area with both side footpath cum RCC Rectangular Drain (Reconstruction of Existing Pavement)	0.320
TCS-2	Typical Cross Section of Two Lane Carriageway in Rural Area with V-Shaped Triangular Drain on Hill Side and Earthen Shoulder on valley side (Overlay Portion)	9.480
TCS-2A	Typical Cross Section of Two Lane Carriageway in Rural Area with V-Shaped Triangular Drain on Hill Side and Earthen Shoulder on valley side (Reconstruction of Existing Pavement)	2.845
TCS-3	Typical Cross Section of Two lane Carriageway in Rural area with breast wall on hill side and earthen shoulder on valley side (Overlay Portion)	0.690
TCS-3A	Typical Cross Section of Two lane Carriageway in Rural area with breast wall on hill side and earthen shoulder on valley side (Reconstruction of Existing Pavement)	0.325
TCS-4	Typical Cross Section of Two lane Carriageway at reconstruction stretch in rural area with one side retaining wall and other side V-Shaped Triangular drain (Overlay Portion)	0.390
TCS-4A	Typical Cross Section of Two lane Carriageway at reconstruction stretch in rural area with one side retaining wall and other side V-Shaped Triangular drain(Reconstruction of Existing Pavement)	0.615
TCS-5	Typical Cross Section of Two lane Carriageway in Rural area with one side retaining wall and other side breast wall (Overlay Portion)	0.180
TCS-5A	Typical Cross Section of Two lane Carriageway in Rural area with one side retaining wall and other side breast wall (Reconstruction of Existing Pavement)	2.235
TCS-6A	Typical Cross Section of Two lane Carriageway due to presence of hill in Rural area with both side V-Shaped Triangular Drain (Reconstruction of Existing Pavement)	0.895
TCS-7	Typical Cross Section of Two lane Carriageway in Rural area with one side V-Shaped Triangular Drain and earthen shoulder on valley side (New construction)	6.455
TCS-8	Typical Cross Section of Two lane Carriageway at realignment stretch due to presence of hill in Rural area withboth side V-Shaped Triangular Drain(New construction)	1.080
TCS-9	Typical Cross Section of Two lane Carriageway in rural area with one side retaining wall and other side V-Shaped Triangular Drain(New construction)	1.844

TCS Number	TCS Description	Length (km)
TCS-11A	Typical Cross Section of Two lane Carriageway in rural area with one sidebreast wall and other side V-Shaped Triangular drain (Reconstruction of Existing Pavement)	0.070
TCS-12B	Typical Cross Section of Two lane Carriageway in rural area with both sidebreast wall (New construction)	0.125
TCS-14	Typical Cross Section of Two lane Carriageway in rural area with both sideretaining wall (New Construction)	0.915
TCS-14A	Typical Cross Section of Two lane Carriageway in rural area with both sideretaining wall (Reconstruction of Existing Pavement)	1.245
TCS-17	Typical Cross Section of Two lane Carriageway in rural area with breast wall on hill side and earthen shoulder on valley side (New Construction)	0.805
TCS-18	Typical Cross Section of Two lane Carriageway in rural area with one side retaining wall and other side breast wall (New Construction)	0.830
TCS-19	Typical Cross Section of Two lane Carriageway in rural area with one side breast wall and other side V-Shaped Triangular drain (New Construction)	1.100
TCS-19A	Typical Cross Section of Two lane Carriageway in rural area with one side breast wall and other side gabion wall in Landslide and Sinking zone area (New Construction)	2.050
Total =		**34.494**

Design Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.
From	To			
75000	75320		320	TCS-1A
75320	75430	2.7	107.3	TCS-9
75430	75515	3.96	81.04	TCS-4A
75515	75575		60	TCS-9
75575	75640		65	TCS-14
75640	75700	3.96	56.04	TCS-9
75700	75735		35	TCS-14
75735	75775		40	TCS-14A
75775	75825		50	TCS-9
75825	75875	6.14	43.86	TCS-14
75875	75985		110	TCS-7
75985	76010	16.6	8.4	TCS-2A
76010	76125		115	TCS-7
76125	76200		75	TCS-14
76200	76325		125	TCS-17
76325	76400		75	TCS-9
76400	76490	2.7	87.3	TCS-17
76490	76600	2.7	107.3	TCS-4
76600	76975	3.96	371.04	TCS-2A
76975	77025		50	TCS-2A
77025	77130		105	TCS-2A
77130	77180	2.7	47.3	TCS-4A
77180	77280		100	TCS-7
77280	77310	3.96	26.04	TCS-4
77310	77380		70	TCS-7
77380	77420		40	TCS-2
77420	77470		50	TCS-17
77470	77650	5.2	174.8	TCS-3
77650	77700		50	TCS-4
77700	77950	2.6	247.4	TCS-2

Design Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.
From	To			
77950	78000		50	TCS-4
78000	78050	2.6	47.4	TCS-2
78050	78100		50	TCS-7
78100	78170		70	TCS-9
78170	78400	5.3	224.7	TCS-2
78400	78450	2.6	47.4	TCS-4
78450	78500		50	TCS-2
78500	78550		50	TCS-3
78550	78920	2.6	367.4	TCS-2
78920	79030	2.7	107.3	TCS-7
79030	79080		50	TCS-12B
79080	79110		30	TCS-7
79110	79280	2.6	167.4	TCS-2
79280	79480		200	TCS-19
79480	79550		70	TCS-11A
79550	79725		175	TCS-8
79725	79800		75	TCS-12B
79800	79990		190	TCS-8
79990	80080		90	TCS-2A
80080	80150		70	TCS-14
80150	80320		170	TCS-14A
80320	80500	2.6	177.4	TCS-14
80500	80560		60	TCS-2A
80560	80650		90	TCS-7
80650	80700	2.7	47.3	TCS-17
80700	80760		60	TCS-7
80760	81000	2.6	237.4	TCS-2
81000	81080		80	TCS-2A
81080	81150	2.6	67.4	TCS-17
81150	81380	5.3	224.7	TCS-2A
81380	81470		90	TCS-7
81470	81910	6.66	433.34	TCS-2
81910	81940		30	TCS-7
81940	82110	5.3	164.7	TCS-2
82110	82220	5.2	104.8	TCS-18
82220	82575	5.2	349.8	TCS-2
82575	82650		75	TCS-2A
82650	82960	5.3	304.7	TCS-2
82960	83100	2.7	137.3	TCS-7
83100	83570	5.4	464.6	TCS-2
83570	83625		55	TCS-19
83625	83660		35	TCS-7
83660	83775	2.7	112.3	TCS-2
83775	83825		50	TCS-7
83825	84040	2.6	212.4	TCS-2
84040	84100		60	TCS-7
84100	84175		75	TCS-2
84175	84500	2.6	322.4	TCS-3A
84500	84550		50	TCS-5A
84550	84700	2.7	147.3	TCS-2A
84700	84820		120	TCS-17

Design Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.
From	To			
84820	85300	5.2	474.8	TCS-4A
85300	85370		70	TCS-18
85370	85600	2.7	227.3	TCS-5A
85600	85900	2.6	297.4	TCS-2A
85900	85920		20	TCS-3
85920	86130	5.3	204.7	TCS-2A
86130	86230		100	TCS-18
86230	86950	8	712	TCS-2
86950	87000		50	TCS-3
87000	87520	5.3	514.7	TCS-2
87520	87600		80	TCS-5
87600	87750	2.7	147.3	TCS-2
87750	88400	7.9	642.1	TCS-7
88400	88830	9.26	420.74	TCS-2
88830	89130		300	TCS-17
89130	89350	2.7	217.3	TCS-2
89350	89400		50	TCS-7
89400	89590	2.6	187.4	TCS-2
89590	89650	2.6	57.4	TCS-3
89650	89700		50	TCS-2
89700	89800	3.96	96.04	TCS-7
89800	89950	2.7	147.3	TCS-2
89950	90000	2.6	47.4	TCS-19
90000	90300	5.3	294.7	TCS-7
90300	90450	2.6	147.4	TCS-2
90450	90500		50	TCS-5
90500	90570	3.96	66.04	TCS-2
90570	90660		90	TCS-7
90660	90750		90	TCS-2
90750	90800	2.6	47.4	TCS-5
90800	90850		50	TCS-2
90850	91100	2.6	247.4	TCS-3
91100	91120		20	TCS-2
91120	91180		60	TCS-7
91180	91240	2.7	57.3	TCS-2
91240	91320		80	TCS-7
91320	91410	2.7	87.3	TCS-2
91410	91470		60	TCS-7
91470	91540		70	TCS-2
91540	91625		85	TCS-19
91625	91700	2.7	72.3	TCS-7
91700	91900	2.7	197.3	TCS-2
91900	91975		75	TCS-8
91975	92375	7.92	392.08	TCS-7
92375	92425		50	TCS-8
92425	92720	2.7	292.3	TCS-7
92720	92770	2.7	47.3	TCS-2
92770	92850		80	TCS-7
92850	93440	10.5	579.5	TCS-2
93440	93580		140	TCS-7
93580	93660	2.7	77.3	TCS-2

Design Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.
From	To			
93660	94020	5.3	354.7	TCS-7
94020	94290	5.4	264.6	TCS-2
94290	94380	2.6	87.4	TCS-7
94380	94480		100	TCS-4
94480	94800	8	312	TCS-7
94800	94930	2.7	127.3	TCS-2
94930	95060		130	TCS-7
95060	95140	3.96	76.04	TCS-3
95140	95250	6.14	103.86	TCS-2
95250	95350		100	TCS-7
95350	95830	13.2	466.8	TCS-2
95830	95960	3.96	126.04	TCS-7
95960	96750	9.16	780.84	TCS-2
96750	97000		250	TCS-5A
97000	97050		50	TCS-18
97050	97550		500	TCS-5A
97550	97650		100	TCS-18
97650	98160		510	TCS-5A
98160	98230		70	TCS-8
98230	98400		170	TCS-6A
98400	98460		60	TCS-8
98460	99070	10.1	599.9	TCS-14A
99070	99310	10.66	229.34	TCS-14
99310	99470	2.7	157.3	TCS-5A
99470	99530		60	TCS-14
99530	99680	5.3	144.7	TCS-14A
99680	99740		60	TCS-7
99740	99760		20	TCS-2A
99760	100230	8.1	461.9	TCS-7
100230	100340	5.3	104.7	TCS-2A
100340	100400		60	TCS-8
100400	100975	5.3	569.7	TCS-6A
100975	101425	5.3	444.7	TCS-2A
101425	101525		100	TCS-6A
101525	101730		205	TCS-14A
101730	101870	2.7	137.3	TCS-14
101870	101940	2.6	67.4	TCS-14A
101940	102020		80	TCS-7
102020	102070		50	TCS-9
102070	102200	2.7	127.3	TCS-7
102200	102500		300	TCS-8
102500	102675	2.7	172.3	TCS-19
102675	103075	5.4	394.6	TCS-18
103075	103250		175	TCS-7
103250	103600	2.7	347.3	TCS-19
103600	103650		50	TCS-6A
103650	103800		150	TCS-2A
103800	103860		60	TCS-2A
103860	103925		65	TCS-7
103925	104000		75	TCS-19
104000	104050		50	TCS-7

Design Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.
From	To			
104050	104250	2.6	197.4	TCS-2
104250	104400	2.7	147.3	TCS-7
104400	104510	2.6	107.4	TCS-19
104510	104670	2.7	157.3	TCS-2A
104670	104740		70	TCS-7
104740	104820		80	TCS-2A
104820	105260	3.96	436.04	TCS-7
105260	105325		65	TCS-2A
105325	105860	8	527	TCS-5A
105860	107910	7.9	2042.1	TCS-19A
107910	107975		65	TCS-7
107975	109175	8	1192	TCS-9
109175	109275		100	TCS-8
109275	109325	2.7	47.3	TCS-7
109325	109494	66.5	102.5	TCS-9
Total Length =		**498**	**33996**	

3.Intersections and Grade Separators

All intersections and grade separators shall be as per Section 3 of the Manual. Existing intersections which are deficient shall be improved to the prescribed standards.

[Refer to provision of the relevant Manual and specify the requirements. Explain where necessary with drawings/sketches/general arrangement]

Properlydesignedintersectionsshallbeprovidedatthelocationsandofthetypes and features given in the tables below:

(i) At-grade intersections

Major Intersections

Sl. No.	Location of intersection (Km)	Type of intersection	Other features	Remarks
Nil				

Minor Intersections

Sl. No.	Location of intersection (Km)	Type of intersection	Other features
1	75.200	Y-Type	3-legged
2	87.430	Y-Type	3-legged
3	91.560	Y-Type	3-legged
4	95.750	Y-Type	3-legged
5	109.110	Y-Type	3-legged
6	109.400	Y-Type	3-legged

(ii)Grade separated intersection with/without ramps

Sl. No.	Location	Salient features	Minimum length of viaduct to be provided	Road to be carried over/under the structures
Nil				

4.RoadEmbankmentandCutSection

(i) Widening and improvement of the existing road embankment/cuttings and

construction of new road embankment/cuttings shall conform to the Specifications and Standards given in Section 4 of the Manual and the specified cross-sectional details. Deficiencies in theplan and profile of the existing road shall be corrected.

(ii) Raising of the existing road[Refer to provision of the relevant Manual and specify sections to be raised]

The existing road shall be raised in the following sections:

Sl. No.	Section (from km to km)	Length (km)	Extent of raising [Top of finished road level]
Nil			

5. Pavement Design

(i) Pavement design shall be carried out in accordance with provision of the relevant manual.

(ii) Type of pavement

Flexible Pavement

(iii) Design requirements

[Refer to provision of the relevant Manual and specify design requirements and strategy]

(a)Design Period and strategy

Flexible pavement for new pavement or for widening and strengthening of the existing pavement shall be designed for a minimum design period of20 years. Stage construction shall not be permitted.

(b)Design Traffic

Surface Course has been designed for 10 MSA and Base -Subbase has been designed for 20 MSA as per relevant IRC Manual.

(iv) Reconstruction of stretches

[Refer to provision o f the relevant Manual and specify the stretches if any to be reconstructed.]

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

SL NO.	Stretch from Km to Km	Remarks	TCS Type
1	76+490 to 76+600	Reconstruction	TCS-4
2	77+280 to 77+310	Reconstruction	TCS-4
3	77+380 to 77+420	Reconstruction	TCS-2
4	77+470 to 77+650	Reconstruction	TCS-3
5	77+650 to 77+700	Reconstruction	TCS-4
6	77+700 to 77+950	Reconstruction	TCS-2
7	77+950 to 78+000	Reconstruction	TCS-4
8	78+000 to 78+050	Reconstruction	TCS-2
9	78+170 to 78+400	Reconstruction	TCS-2
10	78+400 to 78+450	Reconstruction	TCS-4
11	78+450 to 78+500	Reconstruction	TCS-2
12	78+500 to 78+550	Reconstruction	TCS-3

SL NO.	Stretch from Km to Km	Remarks	TCS Type
13	78+550 to 78+920	Reconstruction	TCS-2
14	79+110 to 79+280	Reconstruction	TCS-2
15	80+760 to 81+000	Reconstruction	TCS-2
16	81+470 to 81+910	Reconstruction	TCS-2
17	81+940 to 82+110	Reconstruction	TCS-2
18	82+220 to 82+575	Reconstruction	TCS-2
19	82+650 to 82+960	Reconstruction	TCS-2
20	83+100 to 83+570	Reconstruction	TCS-2
21	83+660 to 83+775	Reconstruction	TCS-2
22	83+825 to 84+040	Reconstruction	TCS-2
23	84+100 to 84+175	Reconstruction	TCS-2
24	85+550 to 85+600	Reconstruction	TCS-3
25	85+900 to 85+920	Reconstruction	TCS-3
26	86+230 to 86+950	Reconstruction	TCS-2
27	86+950 to 87+000	Reconstruction	TCS-3
28	87+000 to 87+520	Reconstruction	TCS-2
29	87+520 to 87+600	Reconstruction	TCS-5
30	87+600 to 87+750	Reconstruction	TCS-2
31	88+400 to 88+830	Reconstruction	TCS-2
32	89+130 to 89+350	Reconstruction	TCS-2
33	89+400 to 89+590	Reconstruction	TCS-2
34	89+590 to 89+650	Reconstruction	TCS-3
35	89+650 to 89+700	Reconstruction	TCS-2
36	89+800 to 89+950	Reconstruction	TCS-2
37	90+300 to 90+450	Reconstruction	TCS-2
38	90+450 to 90+500	Reconstruction	TCS-5
39	90+500 to 90+570	Reconstruction	TCS-2
40	90+660 to 90+750	Reconstruction	TCS-2
41	90+750 to 90+800	Reconstruction	TCS-5
42	90+800 to 90+850	Reconstruction	TCS-2
43	90+850 to 91+100	Reconstruction	TCS-3
44	91+100 to 91+120	Reconstruction	TCS-2
45	91+180 to 91+240	Reconstruction	TCS-2
46	91+320 to 91+410	Reconstruction	TCS-2
47	91+470 to 91+540	Reconstruction	TCS-2
48	91+700 to 91+900	Reconstruction	TCS-2
49	92+720 to 92+770	Reconstruction	TCS-2
50	92+850 to 93+440	Reconstruction	TCS-2
51	93+580 to 93+660	Reconstruction	TCS-2
52	94+020 to 94+290	Reconstruction	TCS-2
53	94+380 to 94+480	Reconstruction	TCS-4
54	94+800 to 94+930	Reconstruction	TCS-2
55	95+060 to 95+140	Reconstruction	TCS-3
56	95+140 to 95+250	Reconstruction	TCS-2
57	95+350 to 95+830	Reconstruction	TCS-2
58	95+960 to 96+750	Reconstruction	TCS-2
59	99+310 to 99+470	Reconstruction	TCS-2
60	104+050 to 104+250	Reconstruction	TCS-2

6.Roadside Drainage

Drainage system including surface and sub surface drains for the Project Highway has been provided in the table given below:

V-Shaped Triangular Drain

Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.	Side
From	To				
75320	75430	2.7	107.3	TCS-9	Hill
75430	75515	3.96	81.0	TCS-4A	Hill
75515	75575	0	60.0	TCS-9	Hill
75640	75700	3.96	56.0	TCS-9	Hill
75775	75825	0	50.0	TCS-9	Hill
75875	75985	0	110.0	TCS-7	Hill
75985	76010	16.6	8.4	TCS-2A	Hill
76010	76125	0	115.0	TCS-7	Hill
76325	76400	0	75.0	TCS-9	Hill
76490	76600	2.7	107.3	TCS-4	Hill
76600	76975	3.96	371.0	TCS-2A	Hill
76975	77025	0	50.0	TCS-2A	Hill
77025	77130	0	105.0	TCS-2A	Hill
77130	77180	2.7	47.3	TCS-4A	Hill
77180	77280	0	100.0	TCS-7	Hill
77280	77310	3.96	26.0	TCS-4	Hill
77310	77380	0	70.0	TCS-7	Hill
77380	77420	0	40.0	TCS-2	Hill
77650	77700	0	50.0	TCS-4	Hill
77700	77950	2.6	247.4	TCS-2	Hill
77950	78000	0	50.0	TCS-4	Hill
78000	78050	2.6	47.4	TCS-2	Hill
78050	78100	0	50.0	TCS-7	Hill
78100	78170	0	70.0	TCS-9	Hill
78170	78400	5.3	224.7	TCS-2	Hill
78400	78450	2.6	47.4	TCS-4	Hill
78450	78500	0	50.0	TCS-2	Hill
78550	78920	2.6	367.4	TCS-2	Hill
78920	79030	2.7	107.3	TCS-7	Hill
79080	79110	0	30.0	TCS-7	Hill
79110	79280	2.6	167.4	TCS-2	Hill
79280	79480	0	200.0	TCS-19	Hill
79480	79550	0	70.0	TCS-11A	Hill
79550	79725	0	350.0	TCS-8	Both
79800	79990	0	380.0	TCS-8	Both
79990	80080	0	90.0	TCS-2A	Hill
80500	80560	0	60.0	TCS-2A	Hill
80560	80650	0	90.0	TCS-7	Hill
80700	80760	0	60.0	TCS-7	Hill
80760	81000	2.6	237.4	TCS-2	Hill
81000	81080	0	80.0	TCS-2A	Hill
81150	81380	5.3	224.7	TCS-2A	Hill
81380	81470	0	90.0	TCS-7	Hill
81470	81910	6.66	433.3	TCS-2	Hill
81910	81940	0	30.0	TCS-7	Hill
81940	82110	5.3	164.7	TCS-2	Hill
82220	82575	5.2	349.8	TCS-2	Hill
82575	82650	0	75.0	TCS-2A	Hill
82650	82960	5.3	304.7	TCS-2	Hill
82960	83100	2.7	137.3	TCS-7	Hill

Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.	Side
From	To				
83100	83570	5.4	464.6	TCS-2	Hill
83570	83625	0	55.0	TCS-19	Hill
83625	83660	0	35.0	TCS-7	Hill
83660	83775	2.7	112.3	TCS-2	Hill
83775	83825	0	50.0	TCS-7	Hill
83825	84040	2.6	212.4	TCS-2	Hill
84040	84100	0	60.0	TCS-7	Hill
84100	84175	0	75.0	TCS-2	Hill
84550	84700	2.7	147.3	TCS-2A	Hill
84820	85300	5.2	474.8	TCS-4A	Hill
85600	85900	2.6	297.4	TCS-2A	Hill
85920	86130	5.3	204.7	TCS-2A	Hill
86230	86950	8	712.0	TCS-2	Hill
87000	87520	5.3	514.7	TCS-2	Hill
87600	87750	2.7	147.3	TCS-2	Hill
87750	88400	7.9	642.1	TCS-7	Hill
88400	88830	9.26	420.7	TCS-2	Hill
89130	89350	2.7	217.3	TCS-2	Hill
89350	89400	0	50.0	TCS-7	Hill
89400	89590	2.6	187.4	TCS-2	Hill
89650	89700	0	50.0	TCS-2	Hill
89700	89800	3.96	96.0	TCS-7	Hill
89800	89950	2.7	147.3	TCS-2	Hill
89950	90000	2.6	47.4	TCS-19	Hill
90000	90300	5.3	294.7	TCS-7	Hill
90300	90450	2.6	147.4	TCS-2	Hill
90500	90570	3.96	66.0	TCS-2	Hill
90570	90660	0	90.0	TCS-7	Hill
90660	90750	0	90.0	TCS-2	Hill
90800	90850	0	50.0	TCS-2	Hill
91100	91120	0	20.0	TCS-2	Hill
91120	91180	0	60.0	TCS-7	Hill
91180	91240	2.7	57.3	TCS-2	Hill
91240	91320	0	80.0	TCS-7	Hill
91320	91410	2.7	87.3	TCS-2	Hill
91410	91470	0	60.0	TCS-7	Hill
91470	91540	0	70.0	TCS-2	Hill
91540	91625	0	85.0	TCS-19	Hill
91625	91700	2.7	72.3	TCS-7	Hill
91700	91900	2.7	197.3	TCS-2	Hill
91900	91975	0	150.0	TCS-8	Both
91975	92375	7.92	392.1	TCS-7	Hill
92375	92425	0	100.0	TCS-8	Both
92425	92720	2.7	292.3	TCS-7	Hill
92720	92770	2.7	47.3	TCS-2	Hill
92770	92850	0	80.0	TCS-7	Hill
92850	93440	10.5	579.5	TCS-2	Hill
93440	93580	0	140.0	TCS-7	Hill
93580	93660	2.7	77.3	TCS-2	Hill
93660	94020	5.3	354.7	TCS-7	Hill
94020	94290	5.4	264.6	TCS-2	Hill

Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.	Side
From	To				
94290	94380	2.6	87.4	TCS-7	Hill
94380	94480	0	100.0	TCS-4	Hill
94480	94800	8	312.0	TCS-7	Hill
94800	94930	2.7	127.3	TCS-2	Hill
94930	95060	0	130.0	TCS-7	Hill
95140	95250	6.14	103.9	TCS-2	Hill
95250	95350	0	100.0	TCS-7	Hill
95350	95830	13.2	466.8	TCS-2	Hill
95830	95960	3.96	126.0	TCS-7	Hill
95960	96750	9.16	780.8	TCS-2	Hill
98160	98230	0	140.0	TCS-8	Both
98230	98400	0	340.0	TCS-6A	Both
98400	98460	0	120.0	TCS-8	Both
99680	99740	0	60.0	TCS-7	Hill
99740	99760	0	20.0	TCS-2A	Hill
99760	100230	8.1	461.9	TCS-7	Hill
100230	100340	5.3	104.7	TCS-2A	Hill
100340	100400	0	120.0	TCS-8	Both
100400	100975	5.3	1139.4	TCS-6A	Both
100975	101425	5.3	444.7	TCS-2A	Hill
101425	101525	0	200.0	TCS-6A	Both
101940	102020	0	80.0	TCS-7	Hill
102020	102070	0	50.0	TCS-9	Hill
102070	102200	2.7	127.3	TCS-7	Hill
102200	102500	0	600.0	TCS-8	Both
102500	102675	2.7	172.3	TCS-19	Hill
103075	103250	0	175.0	TCS-7	Hill
103250	103600	2.7	347.3	TCS-19	Hill
103600	103650	0	100.0	TCS-6A	Both
103650	103800	0	150.0	TCS-2A	Hill
103800	103860	0	60.0	TCS-2A	Hill
103860	103925	0	65.0	TCS-7	Hill
103925	104000	0	75.0	TCS-19	Hill
104000	104050	0	50.0	TCS-7	Hill
104050	104250	2.6	197.4	TCS-2	Hill
104250	104400	2.7	147.3	TCS-7	Hill
104400	104510	2.6	107.4	TCS-19	Hill
104510	104670	2.7	157.3	TCS-2A	Hill
104670	104740	0	70.0	TCS-7	Hill
104740	104820	0	80.0	TCS-2A	Hill
104820	105260	3.96	436.0	TCS-7	Hill
105260	105325	0	65.0	TCS-2A	Hill
107910	107975	0	65.0	TCS-7	Hill
107975	109175	8	1192.0	TCS-9	Hill
109175	109275	0	200.0	TCS-8	Both
109275	109325	2.7	47.3	TCS-7	Hill
109325	109494	66.5	102.5	TCS-9	Hill
Total =			**26345**		

Catchwater and Chute Drain

Chainage (m)	Length of CD	Net Length

From	To		(m)
76200	76325	0	125.0
76400	76490	2.7	87.3
77420	77470	0	50.0
77470	77650	5.2	174.8
78500	78550	0	50.0
79030	79080	0	50.0
79280	79480	0	200.0
79480	79550	0	70.0
79725	79800	0	75.0
80400	80500	2.6	97.4
80650	80700	2.7	47.3
81080	81150	2.6	67.4
82110	82220	5.2	104.8
83570	83625	0	55.0
84175	84500	2.6	322.4
84500	84550	0	50.0
84700	84820	0	120.0
85300	85370	0	70.0
85550	85600	2.7	47.3
85900	85920	0	20.0
86130	86230	0	100.0
86950	87000	0	50.0
87520	87600	0	80.0
88830	89130	0	300.0
89590	89650	2.6	57.4
89950	90000	2.6	47.4
90450	90500	0	50.0
90750	90800	2.6	47.4
90850	91100	2.6	247.4
91540	91625	0	85.0
95060	95140	3.96	76.0
96750	97000	0	250.0
97000	97050	0	50.0
102500	102675	2.7	172.3
102675	103075	5.4	394.6
103250	103600	2.7	347.3
103925	104000	0	75.0
104400	104510	2.6	107.4
105325	105860	8	527.0
105860	107910	7.9	2042.1
Total =			**6990**

Total Length of Trapezoidal Drain = 33335 m

Chute Drain (of avg. 8 m height @ 50m Interval) = 1118 m

7.Design of Structures

(i)General

(a) All bridges culverts and structures shall be designed and constructed in accordance with provision of the relevant Manual and shall conform to the cross- sectional features and other details specified there in.

(b)Width of the carriage way of new bridges and structures shall be as follows:

[Refer to provision of the relevant Manual and specify the width of carriageway of new bridges and structures of more than 60(sixty) metre length. If the carriageway width is different from 7.5 (seven point five) metres in the table below.]

Sl. No.	Bridge/Structure at km	Width of carriageway and cross-sectional features
Nil		

(c) The following structures shall be provided with footpaths:

[Refer to provision of the relevant Manual and provide details of new structures with footpath]

Sl. No.	Bridge/Structure at km	Width of carriageway and cross-sectional features
Nil		

(d)All bridges shall be high-level bridges.

[Refer to provision of the relevant Manual and state if there is any exception]

(e)Thefollowingstructuresshall bedesigned tocarryutility servicesspecified in Table below:

[Refer to provisionofthe relevant Manualand provide details]

Sl.No.	Bridgeat km	Utilityservice to be carried	Remarks
Nil			

(f) Cross-sectionofthenewculvertsandbridgesatdecklevelfortheproject Highwayshall conformtothetypicalcross-sectionsgiveninprovisionofthe relevant Manual.

(ii) Culverts

(a) Overall width of all culverts shall be equal to the roadway width of the approaches.
(b) Reconstruction of existing culverts:

Theexistingculvertsatthefollowinglocationsshallbere-constructedasnew culverts:

[Refer to provision of the relevant Manualand provide details]

Sl. No.	Culvert Location (km)	Span /Opening (m)	Remarks*
1	75.390	2.0 X 3.0	Single Span
2	75.507	3.0 X 4.0	Single Span
3	75.860	5.0 X 3.0	Single Span
4	76.483	2.0 X 3.0	Single Span
5	76.565	2.0 X 3.0	Single Span
6	76.711	3.0 X 4.0	Single Span
7	77.165	2.0 X 3.0	Single Span
8	77.292	3.0 X 4.0	Single Span
9	77.650	2.0 X 2.0	Single Span
10	77.820	2.0 X 2.0	Single Span
11	78.230	2.0 X 3.0	Single Span
12	78.434	2.0 X 2.0	Single Span
13	78.708	2.0 X 2.0	Single Span
14	79.005	2.0 X 3.0	Single Span

Sl. No.	Culvert Location (km)	Span /Opening (m)	Remarks*
15	79.180	2.0 X 2.0	Single Span
16	80.435	2.0 X 2.0	Single Span
17	80.695	2.0 X 3.0	Single Span
18	81.142	2.0 X 2.0	Single Span
19	81.367	2.0 X 3.0	Single Span
20	81.592	3.0 X 4.0	Single Span
21	81.868	2.0 X 3.0	Single Span
22	81.952	2.0 X 3.0	Single Span
23	82.050	2.0 X 2.0	Single Span
24	82.568	2.0 X 2.0	Single Span
25	82.725	2.0 X 3.0	Single Span
26	82.900	2.0 X 2.0	Single Span
27	83.075	2.0 X 3.0	Single Span
28	83.180	2.0 X 3.0	Single Span
29	83.525	2.0 X 3.0	Single Span
30	83.666	2.0 X 3.0	Single Span
31	83.975	2.0 X 2.0	Single Span
32	84.435	2.0 X 2.0	Single Span
33	84.640	2.0 X 3.0	Single Span
34	85.455	2.0 X 3.0	Single Span
35	85.785	2.0 X 2.0	Single Span
36	86.005	2.0 X 3.0	Single Span
37	86.450	2.0 X 3.0	Single Span
38	86.735	2.0 X 3.0	Single Span
39	87.135	2.0 X 3.0	Single Span
40	87.740	2.0 X 3.0	Single Span
41	88.042	2.0 X 2.0	Single Span
42	88.240	2.0 X 3.0	Single Span
43	88.462	2.0 X 3.0	Single Span
44	88.763	3.0 X 4.0	Single Span
45	89.194	2.0 X 3.0	Single Span
46	89.800	3.0 X 4.0	Single Span
47	89.920	2.0 X 3.0	Single Span
48	89.980	2.0 X 2.0	Single Span
49	90.032	2.0 X 3.0	Single Span
50	90.227	2.0 X 2.0	Single Span
51	90.532	3.0 X 4.0	Single Span
52	90.793	2.0 X 2.0	Single Span
53	91.041	2.0 X 2.0	Single Span
54	91.220	2.0 X 3.0	Single Span
55	91.405	2.0 X 3.0	Single Span
56	91.670	2.0 X 3.0	Single Span
57	91.796	2.0 X 3.0	Single Span
58	92.015	3.0 X 4.0	Single Span
59	92.360	3.0 X 4.0	Single Span
60	92.540	2.0 X 3.0	Single Span
61	92.751	2.0 X 3.0	Single Span
62	92.875	2.0 X 2.0	Single Span
63	93.290	2.0 X 3.0	Single Span
64	93.425	2.0 X 2.0	Single Span

Sl. No.	Culvert Location (km)	Span /Opening (m)	Remarks*
65	93.585	2.0 X 3.0	Single Span
66	93.795	2.0 X 3.0	Single Span
67	93.930	2.0 X 2.0	Single Span
68	94.032	2.0 X 3.0	Single Span
69	94.281	2.0 X 3.0	Single Span
70	94.375	2.0 X 2.0	Single Span
71	94.590	2.0 X 3.0	Single Span
72	94.688	2.0 X 2.0	Single Span
73	94.770	2.0 X 3.0	Single Span
74	94.930	2.0 X 3.0	Single Span
75	95.070	3.0 X 4.0	Single Span
76	95.235	5.0 X 3.0	Single Span
77	95.367	2.0 X 2.0	Single Span
78	95.445	2.0 X 3.0	Single Span
79	95.503	2.0 X 3.0	Single Span
80	95.770	2.0 X 2.0	Single Span
81	95.890	3.0 X 4.0	Single Span
82	96.030	2.0 X 2.0	Single Span
83	96.157	2.0 X 2.0	Single Span
84	96.431	3.0 X 4.0	Single Span
85	98.854	5.0 X 3.0	Single Span
86	99.080	4.0 X 5.0	Single Span
87	99.181	2.0 X 3.0	Single Span
88	99.285	2.0 X 3.0	Single Span
89	99.407	2.0 X 3.0	Single Span
90	99.565	2.0 X 2.0	Single Span
91	99.660	2.0 X 3.0	Single Span
92	99.870	2.0 X 3.0	Single Span
93	99.941	2.0 X 3.0	Single Span
94	100.104	2.0 X 3.0	Single Span
95	100.267	2.0 X 2.0	Single Span
96	100.318	2.0 X 3.0	Single Span
97	100.475	2.0 X 3.0	Single Span
98	100.855	2.0 X 2.0	Single Span
99	101.072	2.0 X 3.0	Single Span
100	101.230	2.0 X 2.0	Single Span
101	101.864	2.0 X 3.0	Single Span
102	101.935	2.0 X 2.0	Single Span
103	102.100	2.0 X 3.0	Single Span
104	102.502	2.0 X 3.0	Single Span
105	102.900	2.0 X 3.0	Single Span
106	103.450	2.0 X 3.0	Single Span
107	104.230	2.0 X 2.0	Single Span
108	104.310	2.0 X 3.0	Single Span
109	104.408	2.0 X 2.0	Single Span
110	104.570	2.0 X 3.0	Single Span
111	105.360	2.0 X 3.0	Single Span

*[Specify modifications ,if any, required in the road level, etc.]

(c)Widening of existing culverts:

All existing culverts which are not to be reconstructed shall be widened to the Roadway width of the Project Highway as per the typical cross section given in provision of the relevant Manual. Repairs and strengthening of existing structures where required shall be carried.

Sl. No.	Culvert location	Type, span, height, and width of existing culvert(m)	Repairs to be carried out [specify]
Nil			

(d) Additional new culverts shall be constructed as per particulars given in the table below:

Sl. No.	Culvert Location (km)	Span /Opening (m)	Remarks*
1	75.700	3.0 X 4.0	Single Span
2	77.502	2.0 X 2.0	Single Span
3	78.002	2.0 X 2.0	Single Span
4	78.359	2.0 X 2.0	Single Span
5	80.812	2.0 X 2.0	Single Span
6	81.255	2.0 X 2.0	Single Span
7	82.127	2.0 X 2.0	Single Span
8	82.199	2.0 X 2.0	Single Span
9	82.482	2.0 X 2.0	Single Span
10	84.978	2.0 X 2.0	Single Span
11	85.217	2.0 X 2.0	Single Span
12	86.076	2.0 X 2.0	Single Span
13	86.811	2.0 X 2.0	Single Span
14	87.517	2.0 X 2.0	Single Span
15	87.927	2.0 X 2.0	Single Span
16	88.610	2.0 X 2.0	Single Span
17	89.524	2.0 X 2.0	Single Span
18	89.650	2.0 X 2.0	Single Span
19	90.450	2.0 X 2.0	Single Span
20	92.971	2.0 X 2.0	Single Span
21	95.689	2.0 X 2.0	Single Span
22	99.031	3.0 X 4.0	Single Span
23	102.713	2.0 X 3.0	Single Span
24	104.968	3.0 X 4.0	Single Span
25	105.590	2.0 X 3.0	Single Span
26	105.807	2.0 X 2.0	Single Span
27	105.978	2.0 X 2.0	Single Span
28	106.906	2.0 X 3.0	Single Span
29	107.842	2.0 X 2.0	Single Span
30	108.399	2.0 X 3.0	Single Span
31	108.697	2.0 X 2.0	Single Span
32	108.859	2.0 X 3.0	Single Span
33	109.325	2.0 X 3.0	Single Span

(e) Repairs/replacementsofrailing/parapets,flooringandprotectionworksof the existingculvertsshall be undertaken as follows:

[Refer provisionofthe relevant Manualand provide details]

Sl.No.	Location atkm	Typeofrepair required
Nil		

(f)FloorprotectionworksshallbeasspecifiedintherelevantIRCCodesandSpecifications.

(iii)Bridges

(a) Existing bridges to be re-constructed/widened.

[(i)The existing bridges at the following locations shall be re-constructed as new Structures]

Sl. No.	Bridge location	Salient details of existing bridge		Adequacy or otherwise of the existing waterway, vertical clearance etc.*	Remarks
	(km)	Type of Structures	Span Arrangement and Total Vent way (No. x Length) (m)		
1	76+000	RCC T GIRDER	1 X 16.60		Retained
2	109+450	Steel Truss	1x66.48		Retained

(ii) The following narrow bridges shall bewidened:

Sl. No.	Location (km)	Existing width(m)	Extent of widening(m)	Cross-sectionatdeck levelforwidening@
Nil				

(b)Additional new bridges

[Specify additional newbridgesif required.And attach GAD]

New bridgesat the followinglocations on the Project Highwayshallbe constructed.GADs for the new bridges are attachedin the drawings folder.

Sl. No.	Location (km)	Total Length (m)	Remarks.If any
Nil			

(c)The railingsof existingbridgesshall bereplacedby crash barriersat the followinglocations:

[Refer provisionofthe relevant Manualand provide details:]

Sl.No.	Location atkm	Remarks
Nil		

(d)Repairs/replacements ofrailing/parapets oftheexistingbridgesshallbe undertaken as follows:

[Refer to provisionofthe relevant Manualand providedetails]

Sl.No.	Locationatkm	Remarks
Nil		

(e)Drainagesystem forbridge decks

Aneffectivedrainagesystemforbridgedecks shall beprovidedas specified in provisionofthe relevantManual.

(f)Structures in marine environment

[Refertoprovisionofthe relevant Manual andspecify thenecessarymeasures/ treatments for protecting structuresin marineenvironment.Where applicable]

(v) Rail-roadbridges

(a) DesignconstructionanddetailingofROB/RUBshallbeasspecifiedinprovisionofthe relevant Manual [Refer toprovisionofthe relevant Manual andspecify modification, if any]

(b) Road over-bridges

Roadover-bridges(roadoverrail)shall beprovidedatthefollowinglevel crossings.As per GAD drawings attached:

Sl. No.	Location ofLevelcrossing(Chainagekm)	Lengthofbridge (m)
Nil		

(c)Road under-bridges

Roadunder-bridges(roadunderrailwayline)shallbeprovidedatthe followinglevel crossings as per GAD drawings attached:

Sl. No.	Location ofLevelcrossing (Chainage km)	Number andlengthof span(m)
Nil		

(v) Grade separatedstructures

[Refer provisionofthe relevant Manual]

Thegradeseparatedstructuresshallbeprovidedatthelocationsandofthetypeand length specified in paragraphs 2(ix) and3 of this Annex-I.

(vi)Repairs andstrengthening of bridges andstructures

[Refer to provisionofthe relevant Manual and provide details]

Theexistingbridgesandstructurestoberepaired/strengthenedandthenatureand extent of repairs /strengtheningrequired are given below:

(a) Bridges

Sl. No.	Location of bridge (km)	Nature and extent of repairs /strengthening to be carried out
Nil		

(b)ROB / RUB

Sl. No.	Location of ROB/RUB (km)	Natureandextent ofrepairs/strengtheningtobe carriedout
Nil		

(c)Overpasses/Underpasses and otherstructures

Sl. No.	Location of Structure(km)	Natureandextent ofrepairs/strengtheningtobe carriedout
Nil		

(vii)List of Major Bridges andStructures

The following is the list of the Major Bridges and Structures:

Sl. No.	Location (Km)
1 No. Major bridge will be retained at Ch. 109+450 Km	

8. Traffic Control Devices and Road Safety Works

(i) Traffic control devices and road safety works shall be provided in accordance with provisions of relevant Manual.

Sl. No	Traffic Signages, Road Marking and other appurtenances	unit	Quantity
1	Total No of Street Light=	Nos	22

Sl. No	Traffic Signages, Road Marking and other appurtenances	unit	Quantity
2	Kilometer stones=	Nos	28
3	5th Kilometer stones=	Nos	7
4	Boundary Stones=	Nos	347
5	Delineators (100 cm long and circular shaped)+Hazard marker =	Nos	1398
6	Road Stud=	Nos	5586
7	900 mm Octagonal	Nos	6
8	600 mm circular	Nos	42
9	900 mm Triangular	Nos	427
10	500x600 Rectangular (Chevron)	Nos	716
11	450 mm x 600 mm rectangular	Nos	16
12	Direction Sign < 0.9 sqm	sqm	2
13	Direction Sign > 0.9 sqm	sqm	16
14	Rumble Strip=	sqm	14

(ii) Specifications of the reflective sheeting. [Refer to provision of relevant Manual and specify]

9.Roadside Furniture

(i) Roadsidefurnitureshallbeprovidedinaccordancewith article 8(i) of this schedule.

(ii)Overhead trafficsigns: location andsize

Sl. No.	Location (Km)	Size
Nil		

10.Compulsory Afforestation

[Refertoprovision of relevantManualandspecifythenumberoftreeswhichare required to be plantedby the concerned departmentas compensatoryafforestation.]

11. Hazardous Locations

The safety barriers shall also be provided at the following hazardous locations:

a) Breast Wall

Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.	Side	Avg. Height (m)
From	To					
76200	76325	0	125.0	TCS-17	Hill	1.5
76400	76490	2.7	87.3	TCS-17	Hill	1.5
77420	77470	0	50.0	TCS-17	Hill	1.5
77470	77650	5.2	174.8	TCS-3	Hill	1.5
78500	78550	0	50.0	TCS-3	Hill	1.5
79030	79080	0	100.0	TCS-12B	Both	1.5
79280	79480	0	200.0	TCS-19	Hill	1.5
79480	79550	0	70.0	TCS-11A	Hill	1.5
79725	79800	0	150.0	TCS-12B	Both	1.5
80650	80700	2.7	47.3	TCS-17	Hill	1.5
81080	81150	2.6	67.4	TCS-17	Hill	1.5
82110	82220	5.2	104.8	TCS-18	Hill	1.5
83570	83625	0	55.0	TCS-19	Hill	1.5
84175	84500	2.6	322.4	TCS-3A	Hill	1.5
84500	84550	0	50.0	TCS-5A	Hill	1.5
84700	84820	0	120.0	TCS-17	Hill	1.5
85300	85370	0	70.0	TCS-18	Hill	1.5
85370	85600	2.7	227.3	TCS-5A	Hill	1.5

Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.	Side	Avg. Height (m)
From	To					
85900	85920	0	20.0	TCS-3	Hill	1.5
86130	86230	0	100.0	TCS-18	Hill	1.5
86950	87000	0	50.0	TCS-3	Hill	1.5
87520	87600	0	80.0	TCS-5	Hill	1.5
88830	89130	0	300.0	TCS-17	Hill	1.5
89590	89650	2.6	57.4	TCS-3	Hill	1.5
89950	90000	2.6	47.4	TCS-19	Hill	1.5
90450	90500	0	50.0	TCS-5	Hill	1.5
90750	90800	2.6	47.4	TCS-5	Hill	1.5
90850	91100	2.6	247.4	TCS-3	Hill	1.5
91540	91625	0	85.0	TCS-19	Hill	1.5
95060	95140	3.96	76.0	TCS-3	Hill	1.5
96750	97000	0	250.0	TCS-5A	Hill	1.5
97000	97050	0	50.0	TCS-18	Hill	1.5
97050	97550	0	500.0	TCS-5A	Hill	1.5
97550	97650	0	100.0	TCS-18	Hill	1.5
97650	98160	0	510.0	TCS-5A	Hill	1.5
99310	99470	2.7	157.3	TCS-5A	Hill	1.5
102500	102675	2.7	172.3	TCS-19	Hill	1.5
102675	103075	5.4	394.6	TCS-18	Hill	1.5
103250	103600	2.7	347.3	TCS-19	Hill	1.5
103925	104000	0	75.0	TCS-19	Hill	1.5
104400	104510	2.6	107.4	TCS-19	Hill	1.5
105325	105860	8	527.0	TCS-5A	Hill	1.5
105860	107910	7.9	2042.1	TCS-19A	Hill	3
Total =			**8465**			

b) Retaining Wall

Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.	Side	Avg. Height (m)
From	To					
75320	75430	2.7	107.3	TCS-9	Valley	6
75430	75515	3.96	81.0	TCS-4A	Valley	6
75515	75575	0	60.0	TCS-9	Valley	6
75575	75640	0	130.0	TCS-14	Both	6
75640	75700	3.96	56.0	TCS-9	Valley	6
75700	75735	0	70.0	TCS-14	Both	6
75735	75775	0	80.0	TCS-14A	Both	6
75775	75825	0	50.0	TCS-9	Valley	6
75825	75875	6.14	87.7	TCS-14	Both	6
76125	76200	0	150.0	TCS-14	Both	2
76325	76400	0	75.0	TCS-9	Valley	3
76490	76600	2.7	107.3	TCS-4	Valley	3
77130	77180	2.7	47.3	TCS-4A	Valley	3
77280	77310	3.96	26.0	TCS-4	Valley	2
77650	77700	0	50.0	TCS-4	Valley	3
77950	78000	0	50.0	TCS-4	Valley	3
78100	78170	0	70.0	TCS-9	Valley	2
78400	78450	2.6	47.4	TCS-4	Valley	2
80080	80150	0	140.0	TCS-14	Both	6
80150	80320	0	340.0	TCS-14A	Both	6
80320	80500	2.6	354.8	TCS-14	Both	6
82110	82220	5.2	104.8	TCS-18	Valley	2

Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.	Side	Avg. Height (m)
From	To					
84500	84550	0	50.0	TCS-5A	Valley	2
84820	85300	5.2	474.8	TCS-4A	Valley	6
85300	85370	0	70.0	TCS-18	Valley	6
85370	85600	2.7	227.3	TCS-5A	Valley	6
86130	86230	0	100.0	TCS-18	Valley	2
87520	87600	0	80.0	TCS-5	Valley	2
90450	90500	0	50.0	TCS-5	Valley	2
90750	90800	2.6	47.4	TCS-5	Valley	2
94380	94480	0	100.0	TCS-4	Valley	2
96750	97000	0	250.0	TCS-5A	Valley	4
97000	97050	0	50.0	TCS-18	Valley	4
97050	97550	0	500.0	TCS-5A	Valley	4
97550	97650	0	100.0	TCS-18	Valley	4
97650	98160	0	510.0	TCS-5A	Valley	6
98460	99070	10.1	1199.8	TCS-14A	Both	6
99070	99310	10.66	458.7	TCS-14	Both	6
99310	99470	2.7	157.3	TCS-5A	Valley	6
99470	99530	0	120.0	TCS-14	Both	6
99530	99680	5.3	289.4	TCS-14A	Both	4
101525	101730	0	410.0	TCS-14A	Both	4
101730	101870	2.7	274.6	TCS-14	Both	4
101870	101940	2.6	134.8	TCS-14A	Both	4
102020	102070	0	50.0	TCS-9	Valley	2
102675	103075	5.4	394.6	TCS-18	Valley	2
105325	105860	8	527.0	TCS-5A	Valley	2
107975	109175	8	1192.0	TCS-9	Valley	2
109325	109494	66.5	102.5	TCS-9	Valley	2
Total =			**10205**			

Length of 2.0 m Retaining Wall = 3092 m
Length of 3.0 m Retaining Wall = 330 m
Length of 4.0 m Retaining Wall = 2009 m
Length of 6.0 m Retaining Wall = 4775 m

c) Gabion Wall

Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.	Side
From	To				
105860	107910		2050	TCS-19A	Valley
Total =			**2050**		

d) Metal Beam Crash Barrier

Chainage (m)		Net Length (m)	Side
From	To		
76000	76125	125.0	Valley
78800	78900	100.0	Valley
79300	79400	100.0	Valley
80100	80250	150.0	Valley
80950	81100	150.0	Valley
81850	82000	150.0	Valley
82700	82850	150.0	Valley
83950	84150	200.0	Valley
85650	85850	200.0	Valley
87250	87400	150.0	Valley

Chainage (m)		Net Length (m)	Side
From	To		
89200	89300	100.0	Valley
90100	90170	70.0	Valley
90300	90400	100.0	Valley
91370	91520	150.0	Valley
93000	93150	150.0	Valley
95200	95350	150.0	Valley
96050	96130	80.0	Valley
96220	96300	80.0	Valley
96350	96450	100.0	Valley
98300	98400	100.0	Valley
99650	99780	130.0	Valley
100900	101000	100.0	Valley
103550	103650	100.0	Valley
103950	104050	100.0	Valley
106850	107000	150.0	Valley
Total =		**3135.0**	

Total no. of Bridges on the project= 2 nos.
Approach length on valley side for each bridge (25 m on both side) 50 m
Hence, Crash barrier length for 2 bridges = 200 m
Therefore, total length of crash barrier= 3335 m

e) Area of Hydro seeding = 135525 sqm

f) Area of Turfing = 111311sqm

12. Special Requirement for Hill Roads

[Refer to the provision of relevant Manual and provide details where relevant and required.]

13. Change of Scope

The length of Structures and bridges specified herein above shall be treated as an approximate assessment. The actual lengths as required based on detailed investigations shall be determined by the Contractor in accordance with the Specifications and Standards. Any variations in the lengths specified in this 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 13.

(Schedule-B1)

1. The shifting of utilities and felling of trees shall be carried out by the Contractor/Concessionaire. The cost of the same shall be borne by the Authority.

List of Utilities to be shifted

Sr. No	Type of Utility	Unit	Quantity	Location/stretch (LHS/RHS)
A	Electrical Utilities			
A1	Electrical Poles	Nos.	160	LHS
A2	Electrical cables	meters	6780	LHS

Utility Shifting.

Shifting of obstructing existing utilities indicated in Schedule A to an appropriate location in accordance with the standards and specification of concerned Utility Owning Department is part of the scope of work of the Contractor/Concessionaire*. The bidders may visit the site and assess the quantum of shifting of utilities for the projects before submission of their bid. Copy of utility relocation plan is enclosed. The specification of concerned Utility Owning Department shall be applicable and followed.

Notes:

a) 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 contractor/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 crossing to underground as per requirement of utility owning department and/or construction of project highway. The contractor/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 contractor/concessionaire* to utility owning department whenever asked by the contractor/concessionaire*. The decision/ approval of utility owning department shall be on the contractor/concessionaire*.

b) 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 contractor/concessionaire*furnishes demand of utility Owning Department along with a copy of estimated cost given by later.

c) The dismantled material/scrap of existing Utility to be shifted/Dismantled shall belong to the contractor/concessionaire* who would be free to dispose-off the dismantled material as deemed fit by them unless the contractor/concessionaire* is required to deposit the dismantled material may be availed by the contractor/concessionaire* as per estimate agreed between them.

d) The utilities shall be handed over after shifting work is completed 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.

Note –II Copy of utility shifting plans enclosed as Annexure-II to Schedule B1.

Schedule - C

(See Clause 2.1)

Project Facilities

1. Project Facilities

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

(a) Toll plaza[s]

(b) Road side furniture;

(c) Pedestrian facilities;

(d) Truck Lay byes;

(e) Bus-bays and passenger shelters;

(f) Rest areas; and

(g) Others to be specified

2. Description of Project Facilities

Each of theProject Facilities is described below:

a) TollPlaza: -

Sl. No.	Design Chainage(km)	Name of the Place
Nil		

b) Roadsidefurniture: -

Sl. No.	Description	Location	Design Standard
1	Traffic sign & pavement marking	Entire Length (As per Schedule B)	As per Manual
2	Km Stone, 5th kilometre stone	Entire Length	As per Manual
3	Boundary Stone	Entire Length	As per Manual
4	Roadside Delineator, marker & Road Stud	As per Schedule B	As per Manual
5	Metal beam crash barrier	As per Schedule B	As per Manual

C) Pedestrian Facility: -

Pedestrian facilities in the form of foot path shall be provided in the built up area (refer typical cross – section drawing). Pedestrian facilities shall be provided at the locations of urban sections in order to ensure safety of pedestrians while crossing in consultation with NHIDCL.

d) Truck Lay bye: -

Sl. No.	Truck lay bye Chainage(Both Side)	Name of the Place
Nil		

e) Bus Bay &Passenger shelter: -

Sl. No.	Project Facility	Location (km)	Design Requirements	Other Essential Details
Nil				

f) Rest Areas

Sl. No.	Rest Area Chainage	Name of the Place
Nil		

g) Others to be specified

Street Lighting:
Total 22 Nos. Street lighting shall be provided in junctionandbridge locations.

Note: Provide adequate details of each Project Facility to ensure their design and completion in accordance with the project-specific requirements and the provisions of the Manual.

Schedule - D

(See Clause 2.1)

Specifications and Standards

1. Construction

The Contractor shall comply with the Specifications and Standards set forth in Annex- I of this Schedule-D for construction of the 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 Two Lanning of Highways (IRC: SP: 73-2018 & IRC: 52-2019), referred to herein as the Manual]

[Note: Specify the relevant Manual, Specifications and Standards]

Annex – I

(Schedule-D)

Specifications and Standards for Construction

1. Specifications and Standards

All Materials, works and construction operations shall conform to the Manual of Specifications and Standards for [Two-Lanning of Highways (IRC: SP: 73-2018 & IRC: 52-2019)], referred to as the Manual, and MORTH Specifications for Road and Bridge Works. Where the specification for a work is not given, Good Industry Practice shall be adopted to the satisfaction of the Authority's Engineer.

2. Deviations from the Specifications and Standards

(i) The terms "Concessionaire", "Independent Engineer" and "Concession Agreement" used in the Manual shall be deemed to be substituted by the terms "Contractor", "Authority's Engineer" and "Agreement" respectively.

(ii) [Notwithstanding anything to the contrary contained in Paragraph 1 above, the following Specifications and Standards shall apply to the Project Highway, and for purposes of this Agreement, the aforesaid Specifications and Standards shall be deemed to be amended to the extent set forth below:]

<table>
<tr><th>Item</th><th>Manual Clause Reference</th><th colspan="5">Provision as per Manual</th><th colspan="5">Modified Provision</th></tr>
<tr><td rowspan="5">Shoulder</td><td rowspan="5">6.2</td><td colspan="5"><u>Mountainous Terrain</u></td><td colspan="5"><u>Mountainous Terrain</u></td></tr>
<tr><td rowspan="2">Type of Section</td><td rowspan="2">Side</td><td colspan="3">Width of Shoulder (m)</td><td rowspan="2">Type of Section</td><td rowspan="2">Side</td><td colspan="3">Width of Shoulder (m)</td></tr>
<tr><td>Paved</td><td>Earthen</td><td>Total</td><td>Paved</td><td>Earthen</td><td>Total</td></tr>
<tr><td rowspan="2">Open Country with Isolated Built-up Area</td><td>Hill Side</td><td>1.5</td><td>-</td><td>1.5</td><td rowspan="2">Open Country with Isolated Built-up Area</td><td>Hill Side</td><td>1.5</td><td>-</td><td>1.5</td></tr>
<tr><td>Valley Side</td><td>1.5</td><td>1</td><td>2.5</td><td>Valley Side</td><td>1.5</td><td>1.0 m</td><td>2.5</td></tr>
<tr><td rowspan="2">Built-up Area and Approaches to grade separated structures/ bridges</td><td>Hill Side</td><td>0.25 m + 1.5 m (Raised)</td><td>-</td><td>1.75</td><td rowspan="2">Built-up Area and Approaches to grade separated structures/ bridges</td><td>Hill Side</td><td>1.5</td><td>-</td><td>1.5</td></tr>
<tr><td>Valley Side</td><td>0.25 m + 1.5 m (Raised)</td><td>-</td><td>1.75</td><td>Valley Side</td><td>1.5</td><td>-</td><td>1.5</td></tr>
<tr><td>Design Speed</td><td>6.5</td><td colspan="5"><u>Mountainous Terrain:</u>
Ruling : 50 Kmph
Minimum : 40 Kmph</td><td colspan="5"><u>Mountainous Terrain:</u>
Design Speed followed 40-50 kmph in general. However design speed has been reduced to 20 kmph due to site constraints and to accommodate the proposal within EROW.
(Refer Horizontal Alignment Drawing and Table 1.1 below)</td></tr>
<tr><td>Extra Widening</td><td>6.7</td><td colspan="5">Extra Widening has been proposed as per IRC: 52-2019
Radius | Extra Widening
Up to 20 | 1.5 m
21-40 m | 1.5 m
41-60 m | 1.2 m
61-100 m | 0.9 m</td><td colspan="5">Extra Widening has been proposed as per IRC:52-2019 (Table 6.10) of Manual.
Radius | Extra Widening
Up to 20 | 1.5 m
21-40 m | 1.5 m
41-60 m | 1.2 m
61-100 m | 0.9 m</td></tr>
</table>

Item	Manual Clause Reference	Provision as per Manual			Modified Provision		
		75-100 m	0.9 m		75-100 m	0.9 m	
		101-300 m	0.6 m		101-300 m	0.6 m	
		Above 300 m	NIL		Above 300 m	NIL	
Radii Of Horizontal Curve	6.8.3	**Mountainous Terrain:** Desirable Minimum Radius: 80 m Absolute Minimum Radius: 50 m			Radius below 75 m has been provided in the location listed in table 1.		

Table 1.1: Locations where Design Speed is less than40 kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
1	75+345 to 75+358	Sharp Bend	Design Speed = 30 Kmph
2	75+419 to 75+422	Sharp Bend	Design Speed = 30 Kmph
3	76+028 to 76+029	Sharp Bend	Design Speed = 30 Kmph
4	76+104 to 76+111	Sharp Bend	Design Speed = 30 Kmph
5	78+223 to 78+235	Sharp Bend	Design Speed = 30 Kmph
6	78+307 to 78+322	Sharp Bend	Design Speed = 30 Kmph
7	80+169 to 80+184	Sharp Bend	Design Speed = 30 Kmph
8	80+421 to 80+437	Sharp Bend	Design Speed = 30 Kmph
9	81+555 to 81+607	Sharp Bend	Design Speed = 30 Kmph
10	81+843 to 81+852	Sharp Bend	Design Speed = 30 Kmph
11	81+910 to 81+938	Sharp Bend	Design Speed = 20 Kmph
12	82+005 to 82+024	Sharp Bend	Design Speed = 20 Kmph
13	82+778 to 82+804	Sharp Bend	Design Speed = 20 Kmph
14	82+873 to 82+882	Sharp Bend	Design Speed = 25 Kmph
15	82+993 to 83+017	Sharp Bend	Design Speed = 20 Kmph
16	83+068 to 83+084	Sharp Bend	Design Speed = 25 Kmph
17	84+019 to 84+049	Sharp Bend	Design Speed = 25 Kmph
18	85+681 to 85+697	Sharp Bend	Design Speed = 30 Kmph
19	85+780 to 85+790	Sharp Bend	Design Speed = 30 Kmph
20	85+877 to 85+907	Sharp Bend	Design Speed = 30 Kmph
21	87+339 to 87+371	Sharp Bend	Design Speed = 25 Kmph
22	89+176 to 89+190	Sharp Bend	Design Speed = 30 Kmph
23	89+251 to 89+280	Sharp Bend	Design Speed = 30 Kmph
24	89+597 to 89+689	Sharp Bend	Design Speed = 30 Kmph
25	90+070 to 90+084	Sharp Bend	Design Speed = 30 Kmph
26	90+143 to 90+158	Sharp Bend	Design Speed = 25 Kmph
27	90+228 to 90+234	Sharp Bend	Design Speed = 30 Kmph
28	90+333 to 90+349	Sharp Bend	Design Speed = 30 Kmph
29	92+872 to 92+902	Sharp Bend	Design Speed = 30 Kmph
30	92+938 to 93+015	Sharp Bend	Design Speed = 30 Kmph
31	93+067 to 93+100	Sharp Bend	Design Speed = 20 Kmph
32	93+399 to 93+496	Sharp Bend	Design Speed = 30 Kmph
33	93+547 to 93+556	Sharp Bend	Design Speed = 30 Kmph
34	93+600 to 93+631	Sharp Bend	Design Speed = 30 Kmph
35	93+703 to 93+720	Sharp Bend	Design Speed = 30 Kmph
36	93+832 to 93+837	Sharp Bend	Design Speed = 30 Kmph
37	93+904 to 93+913	Sharp Bend	Design Speed = 30 Kmph
38	93+972 to 93+974	Sharp Bend	Design Speed = 30 Kmph
39	94+024 to 94+091	Sharp Bend	Design Speed = 30 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
40	95+823 to 95+836	Sharp Bend	Design Speed = 30 Kmph
41	95+889 to 95+904	Sharp Bend	Design Speed = 30 Kmph
42	95+970 to 95+981	Sharp Bend	Design Speed = 30 Kmph
43	96+035 to 96+040	Sharp Bend	Design Speed = 30 Kmph
44	96+082 to 96+094	Sharp Bend	Design Speed = 20 Kmph
45	96+146 to 96+173	Sharp Bend	Design Speed = 20 Kmph
46	96+249 to 96+265	Sharp Bend	Design Speed = 20 Kmph
47	98+042 to 98+044	Sharp Bend	Design Speed = 30 Kmph
48	98+122 to 98+129	Sharp Bend	Design Speed = 30 Kmph
49	100+939 to 100+964	Sharp Bend	Design Speed = 20 Kmph
50	101+045 to 101+063	Sharp Bend	Design Speed = 30 Kmph
51	101+137 to 101+150	Sharp Bend	Design Speed = 30 Kmph
52	101+303 to 101+343	Sharp Bend	Design Speed = 30 Kmph
53	101+399 to 101+422	Sharp Bend	Design Speed = 30 Kmph
54	101+498 to 101+532	Sharp Bend	Design Speed = 20 Kmph
55	101+617 to 101+631	Sharp Bend	Design Speed = 20 Kmph
56	101+681 to 101+692	Sharp Bend	Design Speed = 30 Kmph
57	101+772 to 101+792	Sharp Bend	Design Speed = 20 Kmph
58	101+878 to 101+917	Sharp Bend	Design Speed = 20 Kmph
59	101+975 to 101+987	Sharp Bend	Design Speed = 20 Kmph
60	102+030 to 102+044	Sharp Bend	Design Speed = 20 Kmph
61	102+096 to 102+104	Sharp Bend	Design Speed = 20 Kmph
62	102+137 to 102+138	Sharp Bend	Design Speed = 20 Kmph
63	102+181 to 102+196	Sharp Bend	Design Speed = 20 Kmph
64	102+221 to 102+228	Sharp Bend	Design Speed = 30 Kmph
65	102+290 to 102+296	Sharp Bend	Design Speed = 30 Kmph
66	102+357 to 102+386	Sharp Bend	Design Speed = 30 Kmph
67	102+448 to 102+456	Sharp Bend	Design Speed = 30 Kmph
68	102+509 to 102+512	Sharp Bend	Design Speed = 20 Kmph
69	102+583 to 102+592	Sharp Bend	Design Speed = 20 Kmph
70	102+638 to 102+647	Sharp Bend	Design Speed = 20 Kmph
71	102+679 to 102+700	Sharp Bend	Design Speed = 20 Kmph
72	102+771 to 102+779	Sharp Bend	Design Speed = 20 Kmph
73	102+855 to 102+880	Sharp Bend	Design Speed = 20 Kmph
74	102+955 to 102+961	Sharp Bend	Design Speed = 20 Kmph
75	103+060 to 103+062	Sharp Bend	Design Speed = 20 Kmph
76	103+121 to 103+127	Sharp Bend	Design Speed = 30 Kmph
77	103+250 to 103+252	Sharp Bend	Design Speed = 30 Kmph
78	103+288 to 103+297	Sharp Bend	Design Speed = 30 Kmph
79	103+384 to 103+391	Sharp Bend	Design Speed = 30 Kmph
80	103+448 to 103+454	Sharp Bend	Design Speed = 30 Kmph
81	103+516 to 103+520	Sharp Bend	Design Speed = 20 Kmph
82	103+589 to 103+626	Sharp Bend	Design Speed = 20 Kmph
83	103+853 to 103+859	Sharp Bend	Design Speed = 30 Kmph
84	103+933 to 103+960	Sharp Bend	Design Speed = 20 Kmph
85	103+992 to 104+033	Sharp Bend	Design Speed = 20 Kmph
86	105+763 to 105+767	Sharp Bend	Design Speed = 30 Kmph
87	105+812 to 105+825	Sharp Bend	Design Speed = 30 Kmph
88	105+856 to 105+881	Sharp Bend	Design Speed = 30 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
89	105+912 to 105+915	Sharp Bend	Design Speed = 20 Kmph
90	105+950 to 105+951	Sharp Bend	Design Speed = 20 Kmph
91	105+999 to 106+004	Sharp Bend	Design Speed = 30 Kmph
92	106+088 to 106+090	Sharp Bend	Design Speed = 20 Kmph
93	106+124 to 106+128	Sharp Bend	Design Speed = 20 Kmph
94	106+162 to 106+164	Sharp Bend	Design Speed = 20 Kmph
95	106+268 to 106+279	Sharp Bend	Design Speed = 30 Kmph
96	106+476 to 106+484	Sharp Bend	Design Speed = 30 Kmph
97	106+526 to 106+526	Sharp Bend	Design Speed = 25 Kmph
98	106+558 to 106+558	Sharp Bend	Design Speed = 20 Kmph
99	106+718 to 106+719	Sharp Bend	Design Speed = 30 Kmph
100	106+770 to 106+778	Sharp Bend	Design Speed = 30 Kmph
101	106+842 to 106+843	Sharp Bend	Design Speed = 25 Kmph
102	106+869 to 106+892	Sharp Bend	Design Speed = 30 Kmph
103	106+925 to 106+927	Sharp Bend	Design Speed = 20 Kmph
104	106+966 to 106+967	Sharp Bend	Design Speed = 20 Kmph
105	106+998 to 107+001	Sharp Bend	Design Speed = 20 Kmph
106	107+040 to 107+042	Sharp Bend	Design Speed = 20 Kmph
107	107+064 to 107+076	Sharp Bend	Design Speed = 30 Kmph
108	107+086 to 107+116	Sharp Bend	Design Speed = 30 Kmph
109	107+414 to 107+435	Sharp Bend	Design Speed = 30 Kmph
110	107+499 to 107+502	Sharp Bend	Design Speed = 25 Kmph
111	107+537 to 107+555	Sharp Bend	Design Speed = 30 Kmph
112	107+577 to 107+583	Sharp Bend	Design Speed = 30 Kmph
113	107+670 to 107+680	Sharp Bend	Design Speed = 30 Kmph
114	107+734 to 107+737	Sharp Bend	Design Speed = 25 Kmph
115	107+757 to 107+774	Sharp Bend	Design Speed = 30 Kmph
116	107+832 to 107+843	Sharp Bend	Design Speed = 20 Kmph
117	107+877 to 107+886	Sharp Bend	Design Speed = 30 Kmph
118	107+903 to 107+931	Sharp Bend	Design Speed = 30 Kmph
119	107+980 to 107+981	Sharp Bend	Design Speed = 30 Kmph
120	108+058 to 108+063	Sharp Bend	Design Speed = 30 Kmph
121	108+145 to 108+150	Sharp Bend	Design Speed = 25 Kmph
122	108+184 to 108+190	Sharp Bend	Design Speed = 25 Kmph
123	108+234 to 108+250	Sharp Bend	Design Speed = 30 Kmph
124	108+383 to 108+390	Sharp Bend	Design Speed = 30 Kmph
125	108+437 to 108+444	Sharp Bend	Design Speed = 30 Kmph
126	108+499 to 108+509	Sharp Bend	Design Speed = 20 Kmph
127	108+552 to 108+558	Sharp Bend	Design Speed = 20 Kmph
128	108+592 to 108+607	Sharp Bend	Design Speed = 30 Kmph
129	108+638 to 108+646	Sharp Bend	Design Speed = 30 Kmph
130	108+704 to 108+712	Sharp Bend	Design Speed = 30 Kmph
131	108+798 to 108+805	Sharp Bend	Design Speed = 30 Kmph
132	109+010 to 109+040	Sharp Bend	Design Speed = 30 Kmph
133	109+131 to 109+142	Sharp Bend	Design Speed = 30 Kmph
134	109+228 to 109+234	Sharp Bend	Design Speed = 20 Kmph
135	109+271 to 109+303	Sharp Bend	Design Speed = 20 Kmph
136	109+382 to 109+409	Sharp Bend	Design Speed = 20 Kmph

Table 1.2: Locations where Radii of Horizontal Curve is less than 75m

Sl. No.	HIP NO.	CHAINAGE (KM)		RADIUS (m)
		From	To	
1	686	75.151	75.174	50
2	688	75.345	75.358	30
3	689	75.419	75.422	35
4	693	75.952	75.959	60
5	694	76.028	76.029	30
6	695	76.104	76.111	40
7	698	76.596	76.624	50
8	700	76.874	76.893	50
9	703	77.160	0.079	60
10	706	77.615	77.625	50
11	707	77.717	77.723	60
12	711	78.223	78.235	30
13	712	78.307	78.322	60
14	714	78.565	78.584	50
15	716	78.859	78.874	50
16	718	79.179	79.190	60
17	720	79.357	79.418	50
18	721	79.502	79.588	50
19	726	80.169	80.184	30
20	728	80.421	80.437	30
21	733	81.009	81.050	50
22	736	81.555	81.607	40
23	738	81.843	81.852	40
24	739	81.910	81.938	20
25	740	82.005	82.024	20
26	746	82.778	82.804	20
27	747	82.873	82.882	30
28	749	83.068	83.084	30
29	750	83.191	83.204	60
30	753	83.580	83.588	50
31	754	83.675	83.690	50
32	756	84.019	84.049	25
33	757	84.159	84.206	50
34	760	84.528	84.541	50
35	765	85.449	85.457	50
36	767	85.681	85.697	30
37	768	85.780	85.790	30
38	769	85.877	85.907	60
39	776	86.730	86.736	60
40	780	87.339	87.371	25
41	781	87.466	87.479	60
42	783	87.855	87.873	60
43	788	88.648	88.665	50
44	790	89.024	89.037	60
45	792	89.176	89.190	60
46	793	89.251	89.280	40
47	794	89.384	89.388	60
48	798	90.070	90.084	40

Sl. No.	HIP NO.	CHAINAGE (KM)		RADIUS (m)
		From	To	
49	799	90.143	90.158	30
50	800	90.228	90.234	30
51	801	90.333	90.349	30
52	806	91.419	91.431	50
53	807	91.522	91.543	60
54	815	92.710	92.733	50
55	817	92.872	92.902	35
56	819	93.067	93.100	20
57	822	93.399	93.496	60
58	823	93.547	93.556	50
59	825	93.703	93.720	50
60	826	93.832	93.837	40
61	827	93.904	93.913	40
62	828	93.972	93.974	30
63	829	94.024	94.091	55
64	831	94.282	94.303	60
65	838	95.360	95.380	50
66	839	95.482	95.490	50
67	841	95.823	95.836	60
68	842	95.889	95.904	40
69	845	96.082	96.094	20
70	846	96.146	96.173	20
71	847	96.249	96.265	20
72	848	96.361	96.435	60
73	851	96.707	96.721	50
74	857	97.279	97.300	50
75	859	97.459	97.494	50
76	864	98.042	98.044	30
77	865	98.122	98.129	40
78	867	98.342	98.376	50
79	868	98.504	98.507	50
80	877	99.717	99.754	50
81	885	100.939	100.964	15
82	886	101.045	101.063	50
83	889	101.303	101.343	50
84	890	101.399	101.422	50
85	891	101.498	101.532	20
86	892	101.617	101.631	20
87	894	101.772	101.792	40
88	895	101.878	101.917	40
89	896	101.975	101.987	30
90	897	102.030	102.044	30
91	898	102.096	102.104	15
92	899	102.137	102.138	25
93	901	102.221	102.228	50
94	903	102.357	102.386	40
95	905	102.509	102.512	30
96	906	102.583	102.592	30
97	907	102.638	102.647	30

Sl. No.	HIP NO.	CHAINAGE (KM)		RADIUS (m)
		From	To	
98	908	102.679	102.700	15

(iii) [Note1: Deviations fromtheaforesaidSpecificationsand Standards shallbe listedout here. Suchdeviations shall bespecified only ifthey are considered essential in viewof project-specific requirements.]

Schedule - H

(See Clauses 10.1 (iv) and 19.3)

Contract Price Weightages

1.1 The Contract Price for this Agreement is Rs. ****

1.2 Proportions of the Contract Price for different stages of Construction of the Project Highway shall be as specified below:

Item	Weightage in % of CP	Stage for Payment	Percentage
1	2	3	4
Road Works including Culverts, widening and repair of culverts	60.70%	**A- Widening and strengthening of existing road**	
		(1) Earthwork up to top of the sub- grade	0.15%
		(2) Sub-base Course	2.04%
		(3) Non bituminous Base course	2.16%
		(4) Bituminous Basecourse	2.91%
		(5) Wearing Coat	1.49%
		(6) Widening and repair of culverts	[Nil]
		B.1-Reconstruction/New 2-Lane Realignment /Bypass(Flexible Pavement)	
		(1) Earthwork up to top of the sub- grade	55.5%
		(2) Sub-base Course	12.29%
		(3) Non bituminous Base course	4.65%
		(4) Bituminous Basecourse	0.7%
		(5) Wearing Coat	4.83%
		B.2-Reconstruction/New 8-Lane Realignment/ Bypass(Rigid Pavement)	
		(1) Earthwork up to top of the sub- grade	[Nil]
		(2) Sub-base Course	[Nil]
		(3) Dry Lean Concrete (DLC) Course	[Nil]
		(4) Pavement Quality Control (PQC) Course	[Nil]
		C.1-Reconstruction/ New Service Road(Flexible Pavement)	
		(1) Earthwork up to top of the sub- grade	[Nil]
		(2) Sub-base Course	[Nil]
		(3) Non bituminous Base course	[Nil]
		(4) Bituminous Basecourse	[Nil]
		(5) Wearing Coat	[Nil]
		C.2- Reconstruction/New Service road(Rigid Pavement)	
		(1) Earthwork up to top of the sub- grade	[Nil]
		(2) Sub-base Course	[Nil]
		(3) DryLean Concrete (DLC) Course	[Nil]
		(4) Pavement Quality Control (PQC) Course	[Nil]
		D- Reconstruction &New Culverts onexisting	13.26%

Item	Weightage in % of CP	Stage for Payment	Percentage
		road, realignments, bypasses Culverts (length <6m)	
Minor bridge/ Underpasses/ Overpasses	0.00 %	**A.1-widening and repairing of Minor Bridges (length >6 m&<60m)**	
		Minor Bridges	[Nil]
		A.2- New Minor bridges (length >6 mand<60m)	
		(1)Foundation + Sub-Structure: On completion of the foundation work including foundations for wing and return walls, abutments, piers upto the abutment/pier cap.	[Nil]
		(2)Super-structure:On completion of the super-structure in all respects including wearing coat, bearings, expansion joints, hand rails, crash barriers, road,signs & markings, tests on completion etc. complete in all respect.	[Nil]
		(3)Approaches:On completionof approaches includingRetainingwalls, stonepitching, protection works complete in all and fit for use	[Nil]
		(4) GuideBundsand River Training Works:On completion of GuideBunds andriver training works complete in all respects	[Nil]
		B.1- Widening and repairs of underpasses/overpasses	
		Underpasses/ Overpasses	[Nil]
		B.2-NewUnderpasses/Overpasses	
		(1)Foundation + Sub-Structure: On completion of the foundation work including foundations for wing and return walls, abutments, piers upto the abutment/pier cap.	[Nil]
		(2)Super-structure:On completion of the super-structure in all respects including wearing coat, bearings, expansion joints, hand rails,crash barriers, road signs & markings, tests on completion etc. complete in all respect. Wearing Coat (a) in case of Overpass-wearing coat including expansion joints complete in all respects as specified and (b) in case of underpass- rigid pavement including drainage facility complete in all respects as specified.	[Nil]
		(3) Approaches: On completion of approaches including Retaining walls/ Reinforced Earth walls, stone pitching, protection works complete in all respect and fit for use.	[Nil]
Major bridge(length>60 m)worksand	0.000 %	**A.1- Wideningand repairs of Major Bridges**	
		(1)Foundation	[Nil]

Item	Weightage in % of CP	Stage for Payment	Percentage
ROB/RUB/elevatedsections/flyovers including viaducts,ifany		(2)Sub-structure	[Nil]
		(3)Super-structure(including bearings)	[Nil]
		(4)WearingCoatincludingexpansion joints	[Nil]
		(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]
		(6) Wing walls/return walls	[Nil]
		(7)Guidebunds,RiverTrainingworks etc.	[Nil]
		(8)Approaches(including Retaining walls, stone pitchingandprotection works)	[Nil]
		A.2-NewMajorBridges	
		(1)Foundation	[Nil]
		(2)Sub-structure	[Nil]
		(3)Super-structure(including bearings)	[Nil]
		(4)WearingCoatincludingexpansion joints	[Nil]
		(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]
		(6) Wing walls/return walls	[Nil]
		(7)Guidebunds,RiverTrainingworks etc.	[Nil]
		(8)Approaches(including Retaining walls, stone pitchingand protection works)	[Nil]
		B.1-Wideningandrepairsof (a) ROB (b) RUB	
		(1) Foundations	[Nil]
		(2) Sub-Structure	[Nil]
		(3) Super-Structure (Including bearings)	[Nil]
		(4)Wearing Coat(a)in case of ROB- wearing coat including expansion joints complete in all respectsas specified and (b) incase of RUB-rigid pavement under RUB including drainagefacility completein all respects as specified	[Nil]
		(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]
		(6) Wing walls/Return walls	[Nil]
		(7) Approaches (Including Retaining walls,Stone Pitching and protection works)	[Nil]
		B.2-NewROB/RUB	
		(1)Foundations	[Nil]
		(2) Sub-Structure	[Nil]
		(3) Super-Structure (Including bearings)	[Nil]
		(4)Wearing Coat (a) in case of ROB- wearing coat including expansion joints complete in all respectsas specified and (b) incase of RUB-rigid pavement under RUB including drainage facility complete in all respects as specified	[Nil]
		(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]
		(6) Wing walls/Return walls	[Nil]
		(7)Approaches (including Retaining walls/Reinforced Earth wall, stone pitching and protection works)	[Nil]
		C.1- Widening and repair of Elevated Section/Flyovers/Grade Separators	
		(1) Foundations	[Nil]

Item	Weightage in % of CP	Stage for Payment	Percentage
		(2) Sub-Structure	[Nil]
		(3)Super-Structure(Including bearings)	[Nil]
		(4)WearingCoatincludingexpansion joints	[Nil]
		(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]
		(6) Wing walls/Return walls	[Nil]
		(7)Approaches (including Retaining walls/Reinforced Earth wall, stone pitching and protection works)	[Nil]
		C.2- New Elevated Section/Flyovers/GradeSeparators	
		(1) Foundations	[Nil]
		(2) Sub-Structure	[Nil]
		(3)Super-Structure(Including bearings)	[Nil]
		(4)WearingCoatincludingexpansion joints	[Nil]
		(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]
		(6) Wing walls/Return walls	[Nil]
		(7)Approaches (including Retaining walls/Reinforced Earth wall, stone pitching and protection works)	[Nil]
Other Works	39.30 %	(i) Toll Plaza	[Nil]
		(ii) Road side drains	5.97%
		(iii) Road signs,markings,km stones,safety devices etc	2.31%
		(iv) Project facilities	
		a) Bus Bays	[Nil]
		b) Truck Lay-byes	[Nil]
		c) Passenger Shelter	[Nil]
		d) Rest Area	[Nil]
		(v) Road side Plantation	[Nil]
		(viRepair of Protection Works other than approaches to the bridges, elevated sections/flyover/grade separators and ROBs/ RUBs	[Nil]
		(vii) Safety &Traffic Management during const.	[Nil]
		(viii) Breast Wall	22.46%
		(ix) Toe Wall	[Nil]
		(x) Retaining Wall	53.32%
		(xi) Boundary wall	[Nil]
		(xii) Site Clearance & Dismantling	0.94%
		(xiii) Protection Works	14.46%
		(xiv) Utility Shifting	0.54%

1.3 Procedure of estimating the value of work done

1.3.1 Road works

Procedure for estimating the value of road work done shall be as follows:

Table 1.3.1

Stage of Payment	Percentage weightage	Payment Procedure
A- Widening & Strengthening of road		Unit of measurement is linear length. Payment of each stage shall be made on pro rata basis on completion of a stage in a length of not less than 10(ten)percent of the total length.
(1)Earthwork up to top of the sub-grade	0.15%	
(3) Sub-base Course	2.04%	
(4) Non bituminous Base course	2.16%	
(5) Bituminous Base course	2.91%	
(6) Wearing Coat	1.49%	
(7) Widening and repair of culverts	[Nil]	Cost of ten completed culverts shall be determined on pro rata basis with respect to the total number of culverts.
B.1- Reconstruction/New2-Lane Realignment/Bypass (Flexible Pavement)		Unit of measurement is linear length. Payment of each stage shall be made on pro rata basis on completion of a stage in full length or 0.5 (one and half) km length, whichever is less.
(1)Earthwork up to top of the sub-grade	55.5%	
(3) Sub-base Course	12.29%	
(4) Non bituminous Base course	4.65%	
(5) Bituminous Base course	0.7%	
(6) Wearing Coat	4.83%	
(7) Widening and repair of culverts		
B.2- Reconstruction/New 8-Lane Realignment/Bypass(Rigid Pavement)		Unit of measurement is linear length. Payment of each stage shall be made on pro rata basis on completion of a stage in full length or 5 (five) km length, whichever is less.
(1)Earthwork up to top of the sub-grade	[Nil]	
(2) Sub-base Course	[Nil]	
(3) Dry Lean Concrete (DLC) Course	[Nil]	
(4) Pavement Quality Control (PQC) Course	[Nil]	
C.1- Reconstruction/New Service Road/ Slip Road (Flexible Pavement)		Unit of measurement is linear length. Payment of each stage shall be made on pro rata basis on completion of a stage in full length or 5 (five) km length, whichever is less.
(1)Earthwork up to top of the sub-grade	[Nil]	
(2) Sub-base Course	[Nil]	
(3) Non bituminous Base course	[Nil]	
(4) Bituminous Basecourse	[Nil]	
(5) Wearing Coat	[Nil]	
C.2- Reconstruction/New Service road (Rigid Pavement)		Unit of measurement is linear length. Payment of each stage shall be made on pro rata basis on completion of a stage in full length or 5 (five) km length, whichever is less.
(1)Earthwork up to top of the sub-grade	[Nil]	
(2) Sub-base Course	[Nil]	
(3) Dry Lean Concrete (DLC)Course	[Nil]	
(4) Pavement Quality Control (PQC) Course	[Nil]	

D- Reconstruction &New Culverts on existingroad, realignments, bypasses		Cost of each culverts shall be determined on pro rata basis with respect to the total number of culverts. Payment shall be made on the completion of at least one culverts
Culverts (length <6m)	13.26%	

@ For example, if the total length of bituminous work to be done is 100 km, the cost per km of bituminous work shall be determined as follows:

Cost per km = P x weightage for road work x weightage for bituminous work x (1/L)

Where,

P = Contract Price

L = Total length in km

Similarly, the rates per km for other stages shall be worked out accordingly.

Note: The length affected due to law and order problems or litigation during execution due to which the Contractor is unable to execute the work, may be deducted from the total project length for payment purposes. The total length calculated here is only for payment purposes and will not affect and referred in other clauses of the Contract Agreement.

1.3.2 Minor Bridges and Underpasses/Overpasses.

Procedure for estimating the value of Minor bridge and Underpasses/Overpasses shall be as stated in table 1.3.2:

Table 1.3.2

Stage of Payment	Weightage	Payment Procedure
1	2	3
A.1-Widening and repairs of Minor Bridges(length>6m&<60m)	[Nil]	Cost of each minor bridge shall be determined on pro-rata basis with respect to the total linear length of the minor bridges. Payment shall be made on the completion of widening & repair works of a minor bridge
A.2- New Minor Bridges (length > 6m & < 60m)		
(1)Foundation + Sub-Structure: On completion of the foundation work including foundations for wing and return walls, abutments, piers up to the abutment/pier cap.	[Nil]	Foundation: Cost of each minor bridge shall be determined on pro-rata basis with respect to the total linear length (m) of the minor bridges. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. Not less than 25% of the scope of foundation of each bridge. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(2)Super-structure: On completion of the super-structure in all respects including wearing coat, bearings, expansion joints, hand	[Nil]	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super structure of at least one span in all respects as specified in the column of "Stage of Payment" in this sub-clause. In case of structures where pre-cast girders have been proposed by

Stage of Payment	Weightage	Payment Procedure
rails, crash barriers, road,signs & markings, tests on completion etc. complete in all respect.		the Contractor, 50% of the stage payment shall be due and payable on casting of girders for each span and balance 50% of the stage payment shall be made on completion of stage specified as above
(3)Approaches :On completion of approaches including Retaining walls, stone pitching, protection works complete in all and fit for use	[Nil]	Approaches: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of approaches in all respect as specified in the column of "Stage of Payment" in this sub-clause.
(4) Guide Bunds and River Training Works: On completion of Guide Bunds and river training works complete in all respects	[Nil]	Guide Bunds and River Training Works: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of Guide Bund sand River training Works in all respects as specified
B.1- Widening and repairs of underpasses/overpasses	[Nil]	Cost of each underpass/overpass shall be determined on pro-rata basis with respect to the total linear length of the underpasses/ overpasses. Payment shall be made on the completion of widening & repair works of a underpass/overpass.
B.2- New Underpasses/Overpasses		
(1)Foundation + Sub-Structure: On completion of the foundation work including foundations for wing and return walls, abutments, piers up to the abutment/pier cap.	[Nil]	Foundation: Cost of each Underpass/ Overpass shall be determined on pro- rata basis with respect to the total linear length (m) of the Underpasses/Overpasses. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. Not less than 25% of the scope of foundation of each Underpasses/ Overpasses. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(2)Super-structure: On completion of the super-structure in all respects including wearing coat, bearings, expansion joints, hand rails, crash barriers, road signs & markings, tests on completion etc. complete in all respect. Wearing Coat (a) in case of Overpass-wearing coat including expansion joints complete in all respects as specified and (b) in case of underpass- rigid pavement including drainage facility complete in all respects as specified.	[Nil]	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super- structure of at least one span in all respects as specified in the column of "Stage of Payment" in this sub-clause. In case of structures where pre-cast girders have been proposed by the Contractor,50% of the stage payment shall be due and payable on casting of girders for each span and balance 50% of the stage payment shall be made on completion of stage specified as above
(3) Approaches: On completion of approaches including Retaining walls/ Reinforced Earth walls, stone pitching, protection works complete in all respect and fit for use.	[Nil]	Payment shall be made on pro-rata basis on completion of a stage in all respects as specified

1.3.3 Major Bridge works, ROB/RUB and Structures.

Procedure for estimating the value of Major Bridge works, ROB/RUB and Structures shall be as stated in table 1.3.3:

Table 1.3.3

Stage of Payment	Weightage	Payment Procedure
A.1- Widening and repairs of Major Bridges		
(1) Foundation	[Nil]	Foundation: Cost of each Major Bridge shall be determined on pro-rata basis with respect to the total linear length (m) of the Major Bridge. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the major Bridge. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(2) Sub-structure	[Nil]	Sub-structure: Payment against sub- structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of sub- structure of major bridge.
(3)Super-structure(including bearings)	[Nil]	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super- structure including bearings of at least one span in all respects as specified. In case of structures where pre-cast girders have been proposed by the Contractor,50% of the stage payment shall be due and payable on casting of girders for each span and balance 50% of the stage payment shall be made on completion of stage specified as above
(4)Wearing Coat including expansion joints	[Nil]	Wearing Coat: Payment shall be made on completion of wearing coat including expansion joints complete in all respects as specified.
(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]	Miscellaneous: Payments shall be made on completion of all miscellaneous works like handrails, crash barriers, road markings etc. complete in all respects as specified.
(6) Wing walls/return walls	[Nil]	Wingwalls/return walls: Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(7)Guide Bunds, River Training works etc.	[Nil]	Guide Bunds, River Training works: Payments shall be made on completion of all guide bunds/river training works etc. complete in all respects as specified.
(8)Approaches(including Retaining walls, stone pitching and protection works)	[Nil]	Approaches: Payments shall be made on pro-rata basis on completion of 10% of the scope of each stage.
A.2-NewMajorBridges		
(1)Foundation	[Nil]	Foundation: Cost of each Major Bridge shall be determined on pro-rata basis with respect to the total linear length (m) of the Major Bridge. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the major Bridge. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(2)Sub-structure	[Nil]	Sub-structure: Payment against sub- structure shall be made on pro-rata basis on completion of a stage i.e. not lessthan25% of the scope of sub- structure of major bridge.

Stage of Payment	Weightage	Payment Procedure
(3)Super-structure(including bearings)	[Nil]	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super- structure including bearings of at least one span in all respects as specified. In case of structures where pre-cast girders have been proposed by the Contractor, 50% of the stage payment shall be due and payable on casting of girders for each span and balance 50% of the stage payment shall be made on completion of stage specified as above
(4)Wearing Coat including expansion joints	[Nil]	Wearing Coat: Payment shall be made on completion of wearing coat including expansion joints complete in all respects as specified.
(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]	Miscellaneous: Payments shall be made on completion of all miscellaneous works like handrails, crash barriers, road markings. complete in all respects as specified.
(6) Wing walls/return walls	[Nil]	Wingwalls/return walls: Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(7)Guide bunds, River Training works etc.	[Nil]	Guide Bunds, River Training works: Payments shall be made on completion of all guide bunds/river training works etc. complete in all respects as specified.
(8)Approaches(including Retaining walls, stone pitching and protection works)	[Nil]	Approaches: Payments shall be made on pro-rata basis on completion of 10% of the scope of each stage.
B.1- Widening and repairs of (a)ROB (b)RUB		
(1) Foundations	[Nil]	Foundation: Cost of each ROB/RUB shall be determined on pro-rata basis with respect to the total linear length (m)of the ROB/RUB. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the ROB/RUB. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(2) Sub-Structure	[Nil]	Sub-structure: Payment against sub- structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of sub- structure of ROB/RUB.
(3) Super-Structure (Including bearings)	[Nil]	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super- structure including bearings of at least one span in all respects as specified. In case of structures where pre-cast girders have been proposed by the Contractor,50%ofthe stage payment shall be due and payable on casting of girders for each span and balance 50% of the stage payment shall be made on completion of stage specified as above
(4) Wearing Coat(a)in case of ROB-wearing coat including expansion joints complete in all respects as specified and (b) in case of RUB-rigid pavement under RUB including drainage facility complete in all respects as specified	[Nil]	Wearing Coat: Payment shall be made on completion (a) in case of ROB-wearing coat including expansion joints complete in all respects as specified and (b) in case of RUB-rigid pavement under RUB including drainage facility complete in all respects as specified.
(5) Miscellaneous Items like	[Nil]	Miscellaneous: Payments shall be made on completion of all

Stage of Payment	Weightage	Payment Procedure
handrails, crash barrier, road markings etc.		miscellaneous works like handrails, crash barriers, road markings etc. complete in all respects as specified.
(6) Wing walls/Return walls	[Nil]	Wingwalls/return walls: Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(7) Approaches (Including Retaining walls, Stone Pitching and protection works)	[Nil]	Payments shall be made on pro-rata basis on completion of 20% of the total area.
B.2-NewROB/RUB		
(1) Foundation	[Nil]	Foundation: Cost of each ROB/RUB shall be determined on pro-rata basis with respect to the total linear length (m)of the ROB/RUB. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the ROB/RUB.
(2) Sub-structure	[Nil]	Sub-structure: Payment against sub- structure shall be made on pro-rata basis on completion of a stage i.e. Not less than 25% of the scope of sub- structure of ROB/RUB.
(3) Super-structure (including bearing)	[Nil]	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super- structure including bearings of at least one span in all respects as specified. In case of structures where pre-cast girders have been proposed by the Contractor,50% of the stage payment shall be due and payable on casting of girders for each span and balance 50% of the stage payment shall be made on completion of stage specified as above
(4)Wearing Coat (a) in case of ROB- wearing coat including expansion joints complete in all respects as specified and (b) in case of RUB-rigid pavement under RUB including drainage facility complete in all respects as specified	[Nil]	Wearing Coat: Payment shall be made on completion (a) in case of ROB-wearing coat including expansion joints complete in all respects as specified and (b) In case of RUB-rigid pavement under RUB including drainage facility complete in all respects as specified.
(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]	Miscellaneous: Payments shall be made on completion of all miscellaneous works like handrails, crash barriers, road markings etc. Complete in all respects as specified.
(6) Wing walls/Return walls	[Nil]	Wingwalls/return walls: Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(7)Approaches (including Retaining walls/Reinforced Earth wall, stone pitching and protection works)	[Nil]	Payment shall be made on pro-rata basis on completion of a stage in all respects as specified
C.1-Widening and repairs of Elevated Section/ Flyovers/Grade Separators		
(1) Foundations	[Nil]	Foundation: Cost of each structure shall be determined on pro-rata basis with respect to the total linear length (m)of the structure. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the structure. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.

Stage of Payment	Weightage	Payment Procedure
(2) Sub-Structure	[Nil]	Sub-structure: Payment against sub- structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of sub- structure of structure.
(3) Super-Structure (Including bearings)	[Nil]	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super- structure including bearings of at least one span in all respects as specified. In case of structures where pre-cast girders have been proposed by the Contractor,50% of the stage payment shall be due and payable on casting of girders for each span and balance 50% of the stage payment shall be made on completion of stage specified as above
(4) Wearing Coat including expansion joints	[Nil]	Wearing Coat: Payment shall be made on completion of wearing coat including expansion joints complete in all respects as specified.
(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]	Miscellaneous: Payments shall be made on completion of all miscellaneous works like handrails, crash barriers, road markings etc. Complete in all respects as specified.
(6) Wing walls/Return walls	[Nil]	Wingwalls/return walls: Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(7) Approaches (including Retaining walls/Reinforced Earth wall, stone pitching and protection works)	[Nil]	Payment shall be made on pro-rata basis on completion of a stage in all respects as specified
C.2- New Elevated Section/ Flyovers/Grade Separators		
(1) Foundations	[Nil]	Foundation: Cost of each structure shall be determined on pro-rata basis with respect to the total linear length (m)of the structure. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the structure. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(2) Sub-Structure	[Nil]	Sub-structure: Payment against sub- structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of sub- structure of structure.
(3)Super-Structure(Including bearings)	[Nil]	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super- structure including bearings of at least one span in all respects as specified. In case of structures where pre-cast girders have been proposed by the Contractor,50% of the stage payment shall be due and payable on casting of girders foreach span and balance 50% of the stage payment shall be made on completion of stage specified as above
(4)Wearing Coat including expansion joints	[Nil]	Wearing Coat: Payment shall be made on completion of wearing coat including expansion joints complete in all respects as specified.
(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]	Miscellaneous: Payments shall be made on completion of all miscellaneous works like handrails, crash barriers, road markings etc. complete in all respects as specified.
(6) Wing walls/Return walls	[Nil]	Wingwalls/return walls: Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.

Stage of Payment	Weightage	Payment Procedure
(7)Approaches (including Retaining walls/Reinforced Earth wall, stone pitching and protection works)	[Nil]	Payments shall be made on pro-rata basis on completion of 20% of the total area.

Note: (1) In case of innovate Major Bridge projects like cable suspension/cable stayed/ Extra Dozed and exceptionally long span bridges, the schedule may be modified as per site requirements before bidding with due approval of Competent Authority.

(2) The Schedule for exclusive tunnel projects may be prepared as per site requirements before bidding with due approval of Competent Authority.

1.3.4 Other works.

Procedure for estimating the value of other works done shall be as stated in table 1.3.4.

Table 1.3.4

Stage of Payment	Weightage	Payment Procedure
1	2	3
(1) Toll Plaza	[Nil]	Unit of measurement is each completed toll plaza. Payment of each toll plaza shall be made on pro-rata basis with respect to the total of all toll plaza.
(2) Roadside drains	5.97%	Unit of measurement is linear length. Payment shall be made on pro-rata basis on completion of a stage in a length of not less than 5% (five percent) of the total length.
(3) Road signs, markings, km stones, safety devices etc.	2.31%	
(4) Project Facilities		Payment shall be made on pro-rata basis for completed facilities.
a) Bus Bays	[Nil]	
b) Truck Lay-byes	[Nil]	
c) Passenger Shelter	[Nil]	
d) Rest Area	[Nil]	
(5) Road side Plantation including Horticulture in Wayside Amenities	[Nil]	Unit of measurement is linear length
(6) Repair of Protection Works other than approaches to the bridges, elevated sections/flyover/grade separators and ROBs/ RUBs	[Nil]	Unit of measurement is linear length. Payment shall be made on pro-rata basis on completion of a stage in a length of not less than 10% (ten percent) of the total length.
(7) Safety and traffic management during construction	[Nil]	Payment shall be made on prorate basis every six months.
(8) Protection Works		Unit of measurement is linear length. Payment shall be made on pro-rata basis on completion of a stage in a length of not less than 5% (five percent) of the total length.
(a) Retaining Wall	53.32%	
(b) Breast Wall	22.46%	
(c) Toe Wall	[Nil]	
(9) Site Clearance & Dismantling	0.94%	Unit of measurement is linear length. Payment shall be made on pro-rata basis on completion of a stage in a length of not less than 5% (five percent) of the total length.
(10) Other Works(Hydroseeding,Turfing,Gabion Structure)	14.46%	Unit of measurement is linear length. Payment shall be made on pro-rata basis on completion of a stage in a length of

Stage of Payment	Weightage	Payment Procedure
		not less than 5% (five percent) of the total length.
(11) Utility Shifting	0.54%	Unit of measurement is linear length. Payment shall be made on pro-rata basis on completion of a stage in a length of not less than 5% (five percent) of the total length.

2. Procedure for payment for Maintenance

2.1 The cost for maintenance shall be as stated in Clause 14.1.1.

2.2 Payment for Maintenance shall be made in quarterly instalments in accordance with the provisions of Clause 19.7.