Schedule-A

(See Clauses 2.1 and 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 Clause 8.2 (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-53commencing from km 33+396 to km 50+075i.e. K. Senam Village to TupulVillage 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 (total of land already in possession and land to be possessed) as described below:

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
1	33+375	33+475	12	24	
2	33+475	33+575	12.2	24	
3	33+575	33+675	13.6	24	
4	33+675	33+775	11.8	24	
5	33+775	33+875	13.4	24	
6	33+875	33+975	17.1	24	
7	33+975	34+075	11.2	24	
8	34+075	34+175	11.2	24	
9	34+175	34+275	11.1	24	
10	34+275	34+375	14.4	24	
11	34+375	34+475	15.8	24	
12	34+475	34+575	9.7	24	
13	34+575	34+675	12	24	
14	34+675	34+775	10.6	24	
15	34+775	34+875	12.2	24	
16	34+875	34+975	10.7	24	
17	34+975	35+075	10.9	24	
18	35+075	35+175	11.5	24	
19	35+175	35+275	9.8	24	
20	35+275	35+375	12.6	24	
21	35+375	35+475	17	24	
22	35+475	35+575	13.7	24	
23	35+575	35+675	11.5	24	
24	35+675	35+775	12.1	24	
25	35+775	35+875	15.3	24	
26	35+875	35+975	10.5	24	
27	35+975	36+075	13.7	24	
28	36+075	36+175	11.5	24	
29	36+175	36+275	10.5	24	
30	36+275	36+375	10.2	24	
31	36+375	36+475	14.8	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
32	36+475	36+575	12.1	24	
33	36+575	36+675	13.8	24	
34	36+675	36+775	13	24	
35	36+775	36+875	17.8	24	
36	36+875	36+975	11.8	24	
37	36+975	37+075	11.5	24	
38	37+075	37+175	13.4	24	
39	37+175	37+275	11.9	24	
40	37+275	37+375	10.4	24	
41	37+375	37+475	12	24	
42	37+475	37+575	12.8	24	
43	37+575	37+675	11.1	24	
44	37+675	37+775	10.2	24	
45	37+775	37+875	11.3	24	
46	37+875	37+975	12.1	24	
47	37+975	38+075	11.7	24	
48	38+075	38+175	10.2	24	
49	38+175	38+275	11.1	24	
50	38+275	38+375	11.4	24	
51	38+375	38+475	10.9	24	
52	38+475	38+575	11.7	24	
53	38+575	38+675	10.7	24	
54	38+675	38+775	11.6	24	
55	38+775	38+875	12.4	24	
56	38+875	38+975	11.3	24	
57	38+975	39+075	10.4	24	
58	39+075	39+175	10.3	24	
59	39+175	39+275	10.4	24	
60	39+275	39+375	9.3	24	
61	39+375	39+475	10.6	24	
62	39+475	39+575	10.4	24	
63	39+575	39+675	14.3	24	
64	39+675	39+775	11.3	24	
65	39+775	39+875	12.2	24	
66	39+875	39+975	11.8	24	
67	39+975	40+075	14.7	24	
68	40+075	40+175	11.7	24	
69	40+175	40+275	10.7	24	
70	40+275	40+375	10.7	24	
71	40+375	40+475	12	24	
72	40+475	40+575	11.6	24	
73	40+575	40+675	11.1	24	
74	40+675	40+775	12.4	24	
75	40+775	40+875	10.3	24	
76	40+875	40+975	10.7	24	
77	40+975	41+075	9.8	24	
78	41+075	41+175	10.6	24	
79	41+175	41+275	13.6	24	
80	41+275	41+375	11.5	24	
81	41+375	41+475	11.8	24	
82	41+475	41+575	13.2	24	
83	41+575	41+675	10.8	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
84	41+675	41+775	10.9	24	
85	41+775	41+875	10.7	24	
86	41+875	41+975	12.4	24	
87	41+975	42+075	12.6	24	
88	42+075	42+175	10.7	24	
89	42+175	42+275	11.8	24	
90	42+275	42+375	10	24	
91	42+375	42+475	11	24	
92	42+475	42+575	11.3	24	
93	42+575	42+675	10.4	24	
94	42+675	42+775	13.4	24	
95	42+775	42+875	16.9	24	
96	42+875	42+975	24.7	24	
97	42+975	43+075	15.2	24	
98	43+075	43+175	11.3	24	
99	43+175	43+275	11.4	24	
100	43+275	43+375	11.5	24	
101	43+375	43+475	12.4	24	
102	43+475	43+575	11.1	24	
103	43+575	43+675	11.2	24	
104	43+675	43+775	11.1	24	
105	43+775	43+875	12.8	24	
106	43+875	43+975	11.4	24	
107	43+975	44+075	14.1	24	
108	44+075	44+175	11.1	24	
109	44+175	44+275	11.7	24	
110	44+275	44+375	11.5	24	
111	44+375	44+475	11.9	24	
112	44+475	44+575	12.6	24	
113	44+575	44+675	12.9	24	
114	44+675	44+775	13.5	24	
115	44+775	44+875	10.5	24	
116	44+875	44+975	12.5	24	
117	44+975	45+075	11.3	24	
118	45+075	45+175	13.8	24	
119	45+175	45+275	13.4	24	
120	45+275	45+375	12	24	
121	45+375	45+475	11.9	24	
122	45+475	45+575	10.3	24	
123	45+575	45+675	11.5	24	
124	45+675	45+775	12.1	24	
125	45+775	45+875	16	24	
126	45+875	45+975	12.6	24	
127	45+975	46+075	10.6	24	
128	46+075	46+175	11.4	24	
129	46+175	46+275	10.5	24	
130	46+275	46+375	13.6	24	
131	46+375	46+475	14.1	24	
132	46+475	46+575	12.6	24	
133	46+575	46+675	13.2	24	
134	46+675	46+775	11.3	24	
135	46+775	46+875	12.3	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
136	46+875	46+975	11.8	24	
137	46+975	47+075	19.7	24	
138	47+075	47+175	13.1	24	
139	47+175	47+275	13.2	24	
140	47+275	47+375	12	24	
141	47+375	47+475	11.6	24	
142	47+475	47+575	11.8	24	
143	47+575	47+675	12.6	24	
144	47+675	47+775	13.1	24	
145	47+775	47+875	12.8	24	
146	47+875	47+975	12.3	24	
147	47+975	48+075	12.2	24	
148	48+075	48+175	13.9	24	
149	48+175	48+275	15.5	24	
150	48+275	48+375	12.9	24	
151	48+375	48+475	14.3	24	
152	48+475	48+575	12.6	24	
153	48+575	48+675	14.4	24	
154	48+675	48+775	12.4	24	
155	48+775	48+875	11.7	24	
156	48+875	48+975	11.5	24	
157	48+975	49+075	11.2	24	
158	49+075	49+175	11.5	24	
159	49+175	49+275	13	24	
160	49+275	49+375	12.8	24	
161	49+375	49+475	12.7	24	
162	49+475	49+575	11.1	24	
163	49+575	49+675	14.2	24	
164	49+675	49+775	10.4	24	
165	49+775	49+875	11.2	24	
166	49+875	49+975	12.4	24	
167	49+975	50+075	12.6	24	

3. Carriageway

The present carriage way of the Project Highway is Two Lane from km 33+396 to km 50+075. Thetypeofthe existingpavement is [flexible].

4. Major Bridges

The Site includes the followingMajor Bridges: -

S. No.	Chainage (km)	Type of Structure			No. of Spans with span length (m)	Width (m)
		Foundation	Sub- structure	Super-structure		
Nil						

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)	TypeofStructure		No.ofSpans withspan length(m)	Width (m)	ROB/ RUB
		Foundation	Superstructure			
Nil						

6. Gradeseparators

The Site includes the following grade separators:

S. No.	Chainage (km)	TypeofStructure		No.ofSpanswith spanlength(m)	Width (m)
		Foundation	Superstructure		
Nil					

7. Minor bridges

The Site includes the following minor bridges:

Sl. No.	Survey Chainage (Km)	Type of Structure			No. of Spans with span length (m)	Width (m)
		Foundation	Sub-structure	Super- structure		
1	37+350	Open	Wall	RCC Slab Bridge	1x6.5M	7.2
2	43+215	Open	Wall	RCC Slab Bridge	1x6.5M	6.8

8. Railwaylevelcrossings

The Site includes the followingrailway levelcrossings:

S. No.	Location(km)	Remarks
Nil		

9. Under passes(vehicular,non-vehicular)

The Site includes the followingunderpasses:

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	33.225	HP	1 X 0.90 Dia	15.2
2	33.763	HP	1X1.50m	15
3	33.823	HP	1 X 1.00 Dia	10
4	34.625	HP	1 X 1.00 Dia	12
5	34.664	HP	1 X 0.90 Dia	13
6	34.772	HP	2 X 1.00 Dia	14
7	35.249	HP	1 X 1.00 Dia	11.3
8	35.764	HP	1 X 0.90 Dia	9.7
9	36.189	HP	1 X 1.00 Dia	10.8
10	36.417	Box	1x1.50m	12
11	36.772	R.C.C SLAB	1 X 2.0m	15.8
12	36.860	R.C.C SLAB	1 X 2.0m	12.8
13	37.076	R.C.C SLAB	1 X 4.18m	13.7
14	37.714	HP	1 X 0.40 Dia	8
15	37.764	HP	1 X 1.20 Dia	12.5

Sl. No.	Chainage (km)	Type of Culvert	Span/Opening with Span Length	Width of Culvert (m)
16	38.264	HP	1 X 1.20 Dia	14.5
17	38.529	R.C.C SLAB	1 X 2.33m	9
18	38.642	HP	1 X 1.00 Dia	10
19	38.938	HP	1 X 0.30 Dia	15.2
20	39.132	HP	1 X 0.30 Dia	15
21	39.257	HP	1 X 1.20 Dia	10
22	39.653	HP	1 X 1.20 Dia	12
23	41.010	HP	1 X 0.60 Dia	13
24	42.907	HP	1 X 1.50 Dia	14
25	43.342	HP	1 X 1.00 Dia	11.3
26	43.451	HP	1 X 1.00 Dia	9.7
27	43.663	HP	1 X 1.00 Dia	10.8
28	44.644	HP	1 X 1.00 Dia	12
29	45.058	HP	1 X 0.90 Dia	15.8
30	45.161	R.C.C SLAB	1X1.70m	12.8
31	45.261	R.C.C SLAB	1X2.43m	13.7
32	45.833	HP	1 X 1.00 Dia	8
33	46.444	HP	1 X 0.60 Dia	12.5
34	46.993	HP	1X1.20m	14.5
35	47.455	HP	1 X 0.90 Dia	9
36	47.658	R.C.C SLAB	1X3.27m	10
37	48.617	HP	1 X 1.50 Dia	15.2
38	48.987	HP	1 X 1.00 Dia	15

11. Busbays

The details of bus bays onthe Site are as follows:

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

12. Truck Laybyes

The details of trucklay byes are as follows:

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

13. Roadsidedrains

The details of the roadside drains are as follows:

Sl. No.	Location		Length (km)	Type	
	From km	To km		Masonry/cc (Pucca)	Earthen (Kutcha)
1	34.170	34.310	0.140		Kachha (Single Side)
2	34.400	34.865	0.465		Kachha (Single Side)
3	34.990	35.225	0.235		Kachha (Single Side)
4	35.525	36.000	0.475		Kachha (Single Side)
5	36.440	37.050	0.610		Kachha (Single Side)
6	38.100	39.330	1.230		Kachha (Single Side)
7	39.500	40.260	0.760		Kachha (Single Side)
8	40.475	40.700	0.225		Kachha (Single Side)
9	40.840	42.775	1.935		Kachha (Single Side)
10	42.775	42.875	0.100	Pucca (Single Side)	
11	42.875	43.200	0.325		Kachha (Single Side)

Sl. No.	Location		Length (km)	Type	
	From km	To km		Masonry/cc (Pucca)	Earthen (Kutcha)
12	43.310	43.750	0.440		Kachha (Single Side)
13	43.850	44.340	0.490		Kachha (Single Side)
14	44.410	47.975	3.565		Kachha (Single Side)
15	48.025	50.075	2.050		Kachha (Single Side)

14. Majorjunctions

The details ofmajor junctions are as follows:

S. 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		Type of intersection	
	From Km	To Km	Type of Junction	Cross Road
1	33+470		Y	3-Legged
2	46+957		Y	3-Legged

16. Bypasses

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

Sl.No.	Nameofbypass (town)	Chainage(km)From kmtokm	Length (inKm)
Nil			

17. Other structures

[Provide details of other structures, if any.]

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) TrafficSignageplanoftheProjectHighwayshowingnumbers&locationoftraffic signs is enclosed. The contractor shall, however, improve/upgrade upon the traffic signageplanasindicatedinAnnex-IIIbasedonsite/designrequirementasperthe relevant specifications/IRC Codes/Manual.

Annex – IV

(Schedule-A)

Environment Clearances

The following environment clearances have been obtained: [***]

The following environment clearances are awaited:[***]

Environmental Clearances are not required for the project.

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-Laning 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.

Annex – I

(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 Laning of Highways (IRC:SP:73-2018)], 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 these particulars, all other essential project specific details, as required, should be provided in order to define the Scope of the Project clearly and precisely.]

1. WideningoftheExisting 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) Widthof Carriageway

(a) Two-Lanning [with] paved 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		Width (m)	Typical Cross Section (Refer to Manual)	Remarks
1	K. Senam	35+450	35+750	7	As per attached TCS drawing	7 m Carriageway
2	Sehjang	41+850	42+070	7	As per attached TCS drawing	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. GeometricDesign andGeneralFeatures

(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 40-60 km/hr and for sharp curve and hair pin bend locations speed reduces up to 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	33+422 to 33+439	Sharp Bend	Design Speed = 30 Kmph
2	33+477 to 33+504	Sharp Bend	Design Speed = 30 Kmph
3	33+752 to 33+785	Sharp Bend	Design Speed = 30 Kmph
4	34+764 to 34+788	Sharp Bend	Design Speed = 30 Kmph
5	34+932 to 34+982	Sharp Bend	Design Speed = 30 Kmph
6	35+030 to 35+070	Sharp Bend	Design Speed = 30 Kmph
7	35+177 to 35+184	Sharp Bend	Design Speed = 30 Kmph
8	35+239 to 35+267	Sharp Bend	Design Speed = 20 Kmph
9	35+326 to 35+338	Sharp Bend	Design Speed = 30 Kmph
10	35+434 to 35+441	Sharp Bend	Design Speed = 30 Kmph
11	35+546 to 35+588	Sharp Bend	Design Speed = 20 Kmph
12	35+657 to 35+660	Sharp Bend	Design Speed = 30 Kmph
13	35+762 to 35+781	Sharp Bend	Design Speed = 30 Kmph
14	35+961 to 35+997	Sharp Bend	Design Speed = 30 Kmph
15	36+020 to 36+051	Sharp Bend	Design Speed = 20 Kmph
16	36+409 to 36+436	Sharp Bend	Design Speed = 20 Kmph
17	36+530 to 36+577	Sharp Bend	Design Speed = 20 Kmph
18	36+629 to 36+640	Sharp Bend	Design Speed = 30 Kmph
19	36+679 to 36+691	Sharp Bend	Design Speed = 30 Kmph
20	36+751 to 36+779	Sharp Bend	Design Speed = 30 Kmph
21	37+012 to 37+026	Sharp Bend	Design Speed = 30 Kmph
22	37+073 to 37+087	Sharp Bend	Design Speed = 20 Kmph
23	37+321 to 37+348	Sharp Bend	Design Speed = 30 Kmph
24	37+495 to 37+510	Sharp Bend	Design Speed = 30 Kmph
25	37+561 to 37+567	Sharp Bend	Design Speed = 30 Kmph
26	37+613 to 37+632	Sharp Bend	Design Speed = 30 Kmph
27	37+746 to 37+766	Sharp Bend	Design Speed = 30 Kmph
28	38+031 to 38+047	Sharp Bend	Design Speed = 30 Kmph
29	38+087 to 38+091	Sharp Bend	Design Speed = 30 Kmph
30	38+165 to 38+207	Sharp Bend	Design Speed = 30 Kmph
31	38+251 to 38+256	Sharp Bend	Design Speed = 30 Kmph
32	38+298 to 38+315	Sharp Bend	Design Speed = 30 Kmph
33	38+345 to 38+362	Sharp Bend	Design Speed = 30 Kmph
34	38+506 to 38+511	Sharp Bend	Design Speed = 30 Kmph
35	38+568 to 38+579	Sharp Bend	Design Speed = 30 Kmph
36	38+641 to 38+652	Sharp Bend	Design Speed = 30 Kmph
37	39+112 to 39+128	Sharp Bend	Design Speed = 30 Kmph
38	39+179 to 39+198	Sharp Bend	Design Speed = 20 Kmph
39	39+655 to 39+678	Sharp Bend	Design Speed = 30 Kmph
40	40+299 to 40+330	Sharp Bend	Design Speed = 30 Kmph
41	40+380 to 40+428	Sharp Bend	Design Speed = 30 Kmph
42	40+510 to 40+513	Sharp Bend	Design Speed = 30 Kmph
43	40+556 to 40+564	Sharp Bend	Design Speed = 30 Kmph
44	40+996 to 41+001	Sharp Bend	Design Speed = 30 Kmph
45	41+042 to 41+045	Sharp Bend	Design Speed = 30 Kmph
46	41+103 to 41+106	Sharp Bend	Design Speed = 30 Kmph
47	41+165 to 41+178	Sharp Bend	Design Speed = 30 Kmph
48	41+840 to 41+873	Sharp Bend	Design Speed = 30 Kmph
49	41+919 to 41+928	Sharp Bend	Design Speed = 30 Kmph
50	41+965 to 41+974	Sharp Bend	Design Speed = 30 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
51	42+051 to 42+072	Sharp Bend	Design Speed = 30 Kmph
52	42+116 to 42+126	Sharp Bend	Design Speed = 30 Kmph
53	42+209 to 42+230	Sharp Bend	Design Speed = 30 Kmph
54	42+380 to 42+461	Sharp Bend	Design Speed = 30 Kmph
55	42+800 to 42+857	Sharp Bend	Design Speed = 30 Kmph
56	42+890 to 42+916	Sharp Bend	Design Speed = 20 Kmph
57	42+947 to 42+958	Sharp Bend	Design Speed = 20 Kmph
58	42+990 to 43+001	Sharp Bend	Design Speed = 20 Kmph
59	43+101 to 43+128	Sharp Bend	Design Speed = 30 Kmph
60	43+172 to 43+184	Sharp Bend	Design Speed = 30 Kmph
61	43+231 to 43+247	Sharp Bend	Design Speed = 30 Kmph
62	43+329 to 43+347	Sharp Bend	Design Speed = 20 Kmph
63	43+384 to 43+402	Sharp Bend	Design Speed = 20 Kmph
64	43+438 to 43+457	Sharp Bend	Design Speed = 30 Kmph
65	43+492 to 43+496	Sharp Bend	Design Speed = 30 Kmph
66	44+177 to 44+200	Sharp Bend	Design Speed = 30 Kmph
67	44+252 to 44+255	Sharp Bend	Design Speed = 30 Kmph
68	44+662 to 44+670	Sharp Bend	Design Speed = 30 Kmph
69	44+716 to 44+738	Sharp Bend	Design Speed = 30 Kmph
70	44+806 to 44+835	Sharp Bend	Design Speed = 30 Kmph
71	44+888 to 44+912	Sharp Bend	Design Speed = 30 Kmph
72	45+030 to 45+046	Sharp Bend	Design Speed = 30 Kmph
73	45+101 to 45+108	Sharp Bend	Design Speed = 30 Kmph
74	45+827 to 45+830	Sharp Bend	Design Speed = 30 Kmph
75	45+880 to 45+885	Sharp Bend	Design Speed = 20 Kmph
76	46+735 to 46+746	Sharp Bend	Design Speed = 30 Kmph
77	46+905 to 46+919	Sharp Bend	Design Speed = 30 Kmph
78	46+975 to 47+015	Sharp Bend	Design Speed = 30 Kmph
79	47+055 to 47+063	Sharp Bend	Design Speed = 30 Kmph
80	47+446 to 47+468	Sharp Bend	Design Speed = 20 Kmph
81	47+512 to 47+597	Sharp Bend	Design Speed = 30 Kmph
82	47+650 to 47+677	Sharp Bend	Design Speed = 20 Kmph
83	47+938 to 47+980	Sharp Bend	Design Speed = 30 Kmph
84	48+055 to 48+077	Sharp Bend	Design Speed = 30 Kmph
85	48+131 to 48+163	Sharp Bend	Design Speed = 20 Kmph
86	48+239 to 48+250	Sharp Bend	Design Speed = 30 Kmph
87	48+307 to 48+309	Sharp Bend	Design Speed = 30 Kmph
88	48+354 to 48+369	Sharp Bend	Design Speed = 30 Kmph
89	48+600 to 48+629	Sharp Bend	Design Speed = 20 Kmph
90	48+668 to 48+721	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

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-upsections.footpaths/fullypaved shouldersshallbeprovidedinthe followingstretches:

Sl. No.	Stretch (from Km to Km)	Fully Paved shoulders/footpaths	Reference to cross section
1	35+450 to 35+750	2X1.5 m paved shoulder & 2X1.0 m footpath	TCS-7
2	41+850 to 42+070	2X1.5 m paved shoulder & 2X1.0 m footpath	TCS-6
3	43+440 to 43+575	2X1.5 m paved shoulder &1X1.0 m footpath	TCS-7

(b) Earthen shoulders of 1.0 m width shall be provided with selected earth wherever applicable as per TCS drawing.

(c) Design andspecificationsofpavedshouldersandgranularmaterialshall conformtotherequirementsspecifiedinthe relevant Manual.

(vi) Lateral and verticalclearances at underpasses

(a) Lateraland vertical clearances at underpasses and provision of guardrails/crash barriers shall be as per requirementsspecifiedinthe relevant Manual.

(b) Lateral clearance: The width of the opening at the underpasses shall be as follows:

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

(vii) Lateral and verticalclearances at overpasses

(a) Lateral and vertical clearances at overpasses shall be as per requirements specified in the relevant Manual

(b) Lateral clearance: The width of the opening at the overpasses shall be as follows:

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

(viii) Service roads

Service roads shall be constructed at the locations and for the lengths indicated below: [Refer requirements specified in the relevant Manual]

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

(ix) Grade separated structures

(a) Grade separated structures shall be provided as provision of the Manual. The requisite particulars are given below:

[Refer to requirementsspecifiedinthe relevant Manual]

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

(b) In the case of grade separated structures, the type of structure and the level of the Project Highway and the cross roads shall be as follows: [Refer to provision of the Manual and specify the type of vehicular under pass/ overpass structure and

whether the cross road is to be carried at the existing level, raised or lowered]

Sl. No.	Location	Type of structure Length(m)	Cross road at			Remarks.if any
			Existing Level	Raised Level	Lowered Level	
Nil						

(x) Cattle and pedestrian underpass /overpass

Cattle andpedestrian underpass/overpass shall be constructed as follows: [Refer to provision of the relevant Manualand specify the requirements of cattleand 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-1	Typical Cross Section of Two Lane Carriageway with Paved Shoulder in Built up area with Both side covered drain cum footpath in plain terrain (Reconstruction)	0.000
TCS-2	Typical Cross Section of Two Lane Carriageway with Paved Shoulder in Rural area in Plain Terrain (Reconstruction)	0.000
TCS-2A	Typical Cross Section of Two Lane Carriageway with Paved Shoulder in Rural area in Hilly Terrain (Reconstruction)	0.000
TCS-3	Typical Cross Section of Two Lane Carriageway with Paved Shoulder in Rural area with trapezoidal open drain on hill side and earthen shoulder on valley side (Reconstruction)	12.630
TCS-3A	Typical Cross Section of Two Lane Carriageway with Paved Shoulder in Rural area with trapezoidal open drain on hill side and earthen shoulder on valley side (New Construction)	1.205
TCS-4	Typical Cross Section of Two Lane Carriageway In Rural Area With Retaining Wall on Valley Side And Trapezoidal Open drain on Hill side (Reconstruction)	0.355
TCS-4A	Typical Cross Section of Two Lane Carriageway In Rural Area With Retaining Wall on Valley Side And Trapezoidal Open drain on Hill side (New Construction)	0.100
TCS-5	Typical Cross Section of Two Lane Carriageway In Rural Area With Breast Wall on Hill Side And Earthen Shoulder on Valley side (Reconstruction)	0.150
TCS-6	Typical Cross Section of Two Lane Carriageway In Built Up Area With Both Side Footpath Cum RCC Rectangular Covered Drain in Hilly Terrain (Reconstruction)	0.220
TCS-7	Typical Cross Section of Two Lane Carriageway In Built-Up Area With Breast Wall on Hill Side And Footpath Cum RCC Rectangular Covered Drain on Valley side (Reconstruction)	0.435
TCS-8	Typical Cross Section of Two Lane Carriageway In Rural Area With Retaining Wall on One Side And Earthen Shoulder on other side (Reconstruction)	0.000
TCS-9A	Typical Cross Section of Two Lane Carriageway In Rural Area With Breast Wall on both sides (New Construction)	0.645
TCS-10	Typical Cross Section of Two Lane Carriageway In Rural Area With Cut and Cover Tunnel and Retaining Wall on Valley side (New Construction)	0.280
Total =		**16.020**

Design Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.
From	To			
33120	33775	5.2	649.8	TCS-3

33775	34090		315	TCS-9A
34090	34370		280	TCS-10
34370	34700	110	220	TCS-9A
34700	34800		100	TCS-4A
34800	34850		50	TCS-3A
34850	35450	3.96	596.04	TCS-3
35450	35750	2.6	297.4	TCS-7
35750	35950	2.7	197.3	TCS-3
35950	36100		150	TCS-5
36100	36200	3.96	96.04	TCS-3
36200	36300		100	TCS-3A
36300	36550	2.6	247.4	TCS-3
36550	36730	8	172	TCS-3A
36730	36780	2.7	47.3	TCS-3
36780	36880	2.6	97.4	TCS-3A
36880	38125	20.72	1224.28	TCS-3
38125	38475	2.7	347.3	TCS-3A
38475	38560	3.84	81.16	TCS-3
38560	38630		70	TCS-3A
38630	40300	32.8	1637.2	TCS-3
40300	40400		100	TCS-4
40400	40500		100	TCS-3A
40500	40875	5.2	369.8	TCS-3
40875	40925		50	TCS-4
40925	41220	2.6	292.4	TCS-3
41220	41275	2.6	52.4	TCS-4
41275	41400		125	TCS-3
41400	41500		100	TCS-3A
41500	41850	2.6	347.4	TCS-3
41850	42070	2.6	217.4	TCS-6
42070	42410	10.6	329.4	TCS-3
42410	42465		55	TCS-3A
42465	43440	10.6	964.4	TCS-3
43440	43575	2.7	132.3	TCS-7
43575	43625		50	TCS-4
43625	43965	2.6	337.4	TCS-3
43965	44015		50	TCS-4
44015	44885	10.5	859.5	TCS-3
44885	44935		50	TCS-3A
44935	46710	22.44	1752.56	TCS-3
46710	46760		50	TCS-3A
46760	48675	26.2	1888.8	TCS-3
48675	48725		50	TCS-4
48725	49140	5.2	409.8	TCS-3
Total Length =		**311**	**15709**	

3.IntersectionsandGradeSeparators

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

Properly designed intersections shall be provided at the locations and of the types and

features given in the tables below:

(i) At-gradeintersections

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	33+190	Y-Type	3-Legged
2	46+070	Y-Type	3-Legged

(ii) Grade separatedintersection with/without ramps

Sl. No.	Location	Salient features	Minimumlengthof viaduct tobe provided	Roadtobecarried over/underthe 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 the plan 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 beraised in the followingsections:

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

5. PavementDesign

(i) Pavement design shall becarried outin accordance with provision of the relevant manual.

(ii) Type of pavement

Flexible Pavement

(iii) Design requirements

[Refertoprovisionofthe relevant Manual andspecifydesignrequirements and strategy]

(a) Design Period andstrategy

Flexible pavement for new pavement or for widening and strengthening of the existing pavement shallbe designed for a minimum design period of 20 years. Stage construction shall not bepermitted.

(b) Design Traffic

Notwithstandinganythingtothecontrarycontained in this Agreement or the Manual.The Contractor shall design the pavement for design traffic of 20msa.

(iv) Reconstruction of stretches.

[Refer to provision of 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	33+120 to 33+775	Reconstruction	TCS-3
2	34+850 to 35+450	Reconstruction	TCS-3
3	35+450 to 35+750	Reconstruction	TCS-7
4	35+750 to 35+950	Reconstruction	TCS-3
5	35+950 to 36+100	Reconstruction	TCS-5
6	36+100 to 36+200	Reconstruction	TCS-3
7	36+300 to 36+550	Reconstruction	TCS-3
8	36+730 to 36+780	Reconstruction	TCS-3
9	36+880 to 38+125	Reconstruction	TCS-3
10	38+475 to 38+560	Reconstruction	TCS-3
11	38+630 to 40+300	Reconstruction	TCS-3
12	40+300 to 40+400	Reconstruction	TCS-4
13	40+500 to 40+875	Reconstruction	TCS-3
14	40+875 to 40+925	Reconstruction	TCS-4
15	40+925 to 41+220	Reconstruction	TCS-3
16	41+220 to 41+275	Reconstruction	TCS-4
17	41+275 to 41+400	Reconstruction	TCS-3
18	41+500 to 41+850	Reconstruction	TCS-3
19	41+850 to 42+070	Reconstruction	TCS-6
20	42+070 to 42+410	Reconstruction	TCS-3
21	42+465 to 43+440	Reconstruction	TCS-3
22	43+440 to 43+575	Reconstruction	TCS-7
23	43+575 to 43+625	Reconstruction	TCS-4
24	43+625 to 43+965	Reconstruction	TCS-3
25	43+965 to 44+015	Reconstruction	TCS-4
26	44+015 to 44+885	Reconstruction	TCS-3
27	44+935 to 46+710	Reconstruction	TCS-3
28	46+760 to 48+675	Reconstruction	TCS-3
29	48+675 to 48+725	Reconstruction	TCS-4
30	48+725 to 49+140	Reconstruction	TCS-3

6. RoadsideDrainage

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

RCC Covered Drain

Design Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side
From	To				

Design Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side
From	To				
35450	35750	2.6	297.4	TCS-7	Valley
41850	42070	2.6	434.8	TCS-6	Both
43440	43575	2.7	132.3	TCS-7	Valley
Total =			**865**		

RR Masonry Trapezoidal Drain

Design Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side
From	To				
33120	33775	5.2	649.8	TCS-3	Hill
34800	34850	0	50.0	TCS-3A	Hill
34850	35450	3.96	596.0	TCS-3	Hill
35750	35950	2.7	197.3	TCS-3	Hill
36100	36200	3.96	96.0	TCS-3	Hill
36200	36300	0	100.0	TCS-3A	Hill
36300	36550	2.6	247.4	TCS-3	Hill
36550	36730	8	172.0	TCS-3A	Hill
36730	36780	2.7	47.3	TCS-3	Hill
36780	36880	2.6	97.4	TCS-3A	Hill
36880	38125	20.72	1224.3	TCS-3	Hill
38125	38475	2.7	347.3	TCS-3A	Hill
38475	38560	3.84	81.2	TCS-3	Hill
38560	38630	0	70.0	TCS-3A	Hill
38630	40300	32.8	1637.2	TCS-3	Hill
40300	40400	0	100.0	TCS-4	Hill
40400	40500	0	100.0	TCS-3A	Hill
40500	40875	5.2	369.8	TCS-3	Hill
40875	40925	0	50.0	TCS-4	Hill
40925	41220	2.6	292.4	TCS-3	Hill
41220	41275	2.6	52.4	TCS-4	Hill
41275	41400	0	125.0	TCS-3	Hill
41400	41500	0	100.0	TCS-3A	Hill
41500	41850	2.6	347.4	TCS-3	Hill
42070	42410	10.6	329.4	TCS-3	Hill
42410	42465	0	55.0	TCS-3A	Hill
42465	43440	10.6	964.4	TCS-3	Hill
43575	43625	0	50.0	TCS-4	Hill
43625	43965	2.6	337.4	TCS-3	Hill
43965	44015	0	50.0	TCS-4	Hill
44015	44885	10.5	859.5	TCS-3	Hill
44885	44935	0	50.0	TCS-3A	Hill
44935	46710	22.44	1752.6	TCS-3	Hill
46710	46760	0	50.0	TCS-3A	Hill
46760	48675	26.2	1888.8	TCS-3	Hill
48675	48725	0	50.0	TCS-4	Hill
48725	49140	5.2	409.8	TCS-3	Hill
Total =			**13997**		

Catchwater Drain

Design Chainage (m)		Length of CD	Net Length (m)
From	To		
33775	34090	0	315.0
34370	34700	110	220.0
35450	35750	2.6	297.4
35950	36100	0	150.0
43440	43575	2.7	132.3
Total =			**1115**

Total Length of Trapezoidal Drain = 15112 m

Chute Drain(of avg 8 m height @ 50m Interval) = 178 m

PCC Open Drain

Design Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.
From	To			
34090	34370	0	560	TCS-10
Total =			**560**	

7. Design of Structures

(i)General

(a) All bridges culvertsand structures shall be designed and constructed in accordancewithprovisionofthe relevant Manual and shallconformtothecross- sectional features andother detailsspecifiedtherein.

(b) Width of the carriagewayof new bridges and structures shall be asfollows:

[Refer to provision of the relevant Manual and specify the width of carriageway of new bridges and structures of more than 60 (sixty) meter length, if the carriageway width is different from 7.5 (seven point five) meters in the table below

Sl. No.	Bridge/Structure at km	Width of carriageway and cross-sectional features
1	34+561	**Carriageway Width = 11.0m**
2	36+568	**Width of Railings = 1.0m (2x0.50m)**
3	42+381	**Overall width = 12 m**

(c) The following structuresshall be providedwith footpaths:

[Refer toprovisionofthe 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 bridgesshall be high-level bridges.

[Refer to provisionofthe relevant Manual and stateif there is anyexception]

(e) Thefollowingstructuresshallbedesigned tocarryutility servicesspecifiedin 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 ofall culverts shall beequal to the roadway widthof the approaches.

(b) Reconstruction of existingculverts:

The existing culverts at the following locations shall be re-constructed as new culverts:

Sl. No.	Culvert Location	Span /Opening (m)	Remarks*
1	33.225	2.0 X 2.0	Single Span
2	35.249	3.0 X 4.0	Single Span
3	35.764	2.0 X 3.0	Single Span
4	36.189	3.0 X 4.0	Single Span
5	36.417	2.0 X 2.0	Single Span
6	36.772	2.0 X 3.0	Single Span
7	36.860	2.0 X 2.0	Single Span
8	37.076	4.0 X 3.0	Single Span
9	37.714	3.0 X 4.0	Single Span
10	37.764	3.0 X 4.0	Single Span
11	38.264	2.0 X 3.0	Single Span
12	38.529	3.0 X 3.0	Single Span
13	38.642	3.0 X 4.0	Single Span
14	38.938	3.0 X 4.0	Single Span
15	39.132	3.0 X 4.0	Single Span
16	39.257	3.0 X 4.0	Single Span
17	39.653	3.0 X 4.0	Single Span
18	41.010	2.0 X 2.0	Single Span
19	42.907	2.0 X 3.0	Single Span
20	43.342	2.0 X 3.0	Single Span
21	43.451	2.0 X 3.0	Single Span
22	43.663	2.0 X 2.0	Single Span
23	44.644	2.0 X 3.0	Single Span
24	45.058	2.0 X 3.0	Single Span
25	45.161	2.0 X 3.0	Single Span
26	45.261	3.0 X 3.0	Single Span
27	45.833	2.0 X 3.0	Single Span
28	46.444	2.0 X 3.0	Single Span
29	46.993	2.0 X 3.0	Single Span
30	47.455	2.0 X 3.0	Single Span
31	47.658	3.0 X 3.0	Single Span
32	48.617	3.0 X 4.0	Single Span
33	48.987	2.0 X 2.0	Single Span

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

(c)Wideningof existingculverts:

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 out.

Sl. No.	Culvert location	Type,span,height,and widthofexistingculvert(m)	Repairstobe carriedout [specify]
Nil			

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

Sl. No.	Culvert Location	Span /Opening (m)	Remarks*
1	33.518	2.0 X 2.0	Single Span
2	34.080	2.0 X 2.0	Single Span
3	35.492	2.0 X 2.0	Single Span
4	37.275	2.0 X 2.0	Single Span
5	37.542	2.0 X 2.0	Single Span
6	38.000	2.0 X 2.0	Single Span
7	39.341	2.0 X 2.0	Single Span
8	39.561	2.0 X 2.0	Single Span
9	39.921	2.0 X 2.0	Single Span
10	40.119	2.0 X 2.0	Single Span
11	40.250	2.0 X 2.0	Single Span
12	40.553	2.0 X 2.0	Single Span
13	40.816	2.0 X 2.0	Single Span
14	41.275	2.0 X 2.0	Single Span
15	41.613	2.0 X 2.0	Single Span
16	41.918	2.0 X 2.0	Single Span
17	42.674	2.0 X 2.0	Single Span
18	42.160	2.0 X 2.0	Single Span
19	43.175	2.0 X 2.0	Single Span
20	44.050	2.0 X 2.0	Single Span
21	44.389	2.0 X 2.0	Single Span
22	44.873	2.0 X 2.0	Single Span
23	45.502	2.0 X 2.0	Single Span
24	46.172	2.0 X 2.0	Single Span
25	46.706	2.0 X 2.0	Single Span
26	47.256	2.0 X 2.0	Single Span
27	47.854	2.0 X 2.0	Single Span
28	48.070	2.0 X 2.0	Single Span
29	48.250	2.0 X 2.0	Single Span
30	48.444	2.0 X 2.0	Single Span
31	48.800	2.0 X 2.0	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) Floor protection works shall be as specified in the relevant IRC Codes and Specifications

(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 (km)	Salient details of existing bridge		Adequacy or otherwise of the existing waterway, vertical clearance etc.*	Remarks
		Type of Structures	Span Arrangement and Total Vent way (No. x Length) (m)		
1	36+568	RCC SLAB	1x6.5M	Insufficient width and not conform to IRC Loading	Proposed as RCC SLAB (1 X 8m)
2	42+381	RCC SLAB	1x6.5M	Insufficient width and not conform to IRC Loading	Proposed as RCC SLAB (1 X 8m)

(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 following locations on theProject Highwayshallbe constructed.GADs for the new bridges are attachedin the drawings folder.

Sl. No.	Location (km)	Total Length (m)	Remarks.If any
1	34+561	Type- Bow string Girder + RCC T-Beam Span - 110 m (18m+74m+18m)	

(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.	Location of bridge (km)	Nature and extent of repairs /strengthening to be carried out
Nil		

(e) Drainage system for bridge decks

An effective drainage system for bridge decks shall be provided as specified in provision of the relevant Manual

(f) Structures in marine environment

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

(v) Rail-roadbridges

(a) Design, construction and detailing of ROB/RUB shall be as specified in section 7 of

the Manual. [Refer to provision of the relevant Manual and specify modification, if any]

(b) Road over-bridges

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

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

(c)Road under-bridges

Road under-bridges (road under railwayline) shall beprovided at the following level 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 ofthe Major Bridges and Structures:

Sl. No.	Location (Km)
1	34+561

8. Traffic ControlDevicesandRoadSafetyWorks

(i) Traffic control devices and road safety works shall be provided in accordance with

provision of the relevant Manual.

Sl. No	Traffic Signages, Road Marking and other appurtenances	unit	Quantity
1	Total Nos. of Street Light=	Nos	57
2	Kilometre stones=	Nos	13
3	5th Kilometre stones=	Nos	3
4	Boundary Stones=	Nos	163
5	Delineators (100 cm long and circular shaped) +Hazard marker =	Nos	1887
6	Road Stud=	Nos	9537
7	900 mm Octagonal	Nos	2
8	600 mm circular	Nos	34
9	900 mm Triangular	Nos	208
10	800 mm x 600 mm rectangular	Nos	6
11	Convex Mirror for Blind Curve	Nos	20
12	Rumble Strip=	sqm	120

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

9. RoadsideFurniture

(i) Road side furniture shall be provided in accordance with article 8(i) of this schedule.

(ii) Overhead trafficsigns: location andsize

Sl. No.	Location (Km)	Size
Nil		

10. Compulsory Afforestation

[Refer to provision of relevant Manual and specify the number of trees which are required to be planted by the Contractor as compensatory a forestation.]

11. Hazardous Locations

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

a) Retaining Wall

Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side	Avg. Height (m)
From	To					
34700	34800	0	100.0	TCS-4A	Valley	3
40300	40400	0	100.0	TCS-4	Valley	2
40875	40925	0	50.0	TCS-4	Valley	2
41220	41275	2.6	52.4	TCS-4	Valley	2
43575	43625	0	50.0	TCS-4	Valley	2
43965	44015	0	50.0	TCS-4	Valley	2
48675	48725	0	50.0	TCS-4	Valley	2
Total =			**452**			

b) Breast Wall

Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side	Avg. Height (m)
From	To					
33775	34090	0	630.0	TCS-9A	Both	3
34370	34700	110	440.0	TCS-9A	Both	3
35450	35750	2.6	297.4	TCS-7	Hill	2
35950	36100	0	150.0	TCS-5	Hill	2
43440	43575	2.7	132.3	TCS-7	Hill	2
Total =			**1650**			

c) Metal Beam Crash Barrier

Chainage (m)		Net Length (m)	Side
From	To		
33150	33250	100.0	Valley
33440	33540	100.0	Valley
35000	35100	100.0	Valley
35500	35650	150.0	Valley
36350	36500	150.0	Valley
36600	36700	100.0	Valley
36900	37000	100.0	Valley
37250	37400	150.0	Valley
37450	37650	200.0	Valley
38000	38100	100.0	Valley
38150	38350	200.0	Valley
38530	38630	100.0	Valley
38130	38250	120.0	Valley
40250	40400	150.0	Valley
41320	41480	160.0	Valley
44500	44630	130.0	Valley
44700	45000	300.0	Valley
45400	45550	150.0	Valley
46470	46600	130.0	Valley
47250	47400	150.0	Valley
47900	48130	230.0	Valley
48650	48750	100.0	Valley
Total =		**3170.0**	

Total no. of Bridges on the project=	3 nos.
Approach length on valley side for each bridge (25 m on both side)	50 m
Hence, Crash barrier length for 3 bridges =	300 m
Therefore, total length of crash barrier=	**3470 m**

d) Hydroseeding

Chainage (m)		Side	Avg. Height (m)	Length (m)	Area (sqm)
From	To				
33775	34090	Both	8	630	5040
34090	34370	Hill	15	280	4200
34370	34700	Both	8	660	5280
35450	35750	Hill	8	300	2400
35950	36100	Hill	8	150	1200
43440	43575	Hill	8	135	1080
		Total Length			**19200**

e) Toe Wall

Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side	Avg. Height (m)
From	To					
34090	34370	0	280.0	TCS-10	Valley	2
Total =			**280**			
Total =			**840**			

12. Special RequirementforHillRoads

a) Cut and cover tunnel:

Design Chainage (m)		Net Length (m)	TCS No.
From	To		
34090	34370	280	TCS-10

b) Double Twisted Mesh

Chainage (m)		Length of CD	Net Length (m)	TCS No.
From	To			
33775	34090	0	630.0	TCS-9A
34370	34700	110	440.0	TCS-9A
Total =			**1070**	

13. ChangeofScope

The length of Structures and bridges specified hereinabove shall be treated as an approximate assessment. The actual lengths as required on the basis of 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 ofutilities and felling of trees shall be carried out by the concerned department. The cost of the same shall be borne by the concerned department.

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 the Project Facilities is described below:

a) Toll Plaza: -

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

b) Road side furniture: -

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
1	Bus Bay & Passenger shelter	35+920 (Both side)	Bus Bays & Passenger shelter have been placed on both side of proposed roadway	Dimension of Bus Bay (L X B = 59.0 m X 3.0 m) Dimension of Passenger Shelter (L X B = 6.0 m X 2.0 m) (Refer Passenger Shelter Drawing)
2	Bus Bay & Passenger shelter	41+570 (Both side)		

f) Rest Areas

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

g) Others to be specified

Street Lighting:
Total 47 Nos. Street lighting shall be provided in built-up areas, bus bays and passenger shelters 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), 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)], 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="4">Shoulder</td><td rowspan="4">2.6</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>Open Country with Isolated Built-up Area</td><td>Hill Side</td><td>1.5</td><td>-</td><td>1.5</td><td>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>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>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></td><td>Valley Side</td><td>0.25 m + 1.5 m (Raised)</td><td>-</td><td>1.75</td><td></td><td>Valley Side</td><td>1.5</td><td>-</td><td>1.5</td></tr>
<tr><td>Design Speed</td><td>2.2</td><td colspan="5"><u>Mountainous Terrain:</u>
Ruling : 60 Kmph
Minimum : 40 Kmph</td><td colspan="5"><u>Mountainous Terrain:</u>
Design Speed followed 40-60 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>2.7</td><td colspan="5">Extra Widening has been proposed as per IRC: SP: 73-2018
Radius | Extra Widening
75-100 m | 0.9 m
101-300 m | 0.6 m</td><td colspan="5">Extra Widening has been proposed as per IRC: SP: 48-1998 (Table 6.9) of Hill Road Manual.
Radius | Extra Widening
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	
			101-300 m	0.6 m	
			Above 300 m	NIL	
Radii Of Horizontal Curve	2.9.4	**Mountainous Terrain:** Desirable Minimum Radius: 150 m Absolute Minimum Radius: 75 m	Radius below 75 m has been provided in the location listed in table 1.		

Table 1.1: Locations where Design Speed is less than40kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
1	33+422 to 33+439	Sharp Bend	Design Speed = 30 Kmph
2	33+477 to 33+504	Sharp Bend	Design Speed = 30 Kmph
3	33+752 to 33+785	Sharp Bend	Design Speed = 30 Kmph
4	34+764 to 34+788	Sharp Bend	Design Speed = 30 Kmph
5	34+932 to 34+982	Sharp Bend	Design Speed = 30 Kmph
6	35+030 to 35+070	Sharp Bend	Design Speed = 30 Kmph
7	35+177 to 35+184	Sharp Bend	Design Speed = 30 Kmph
8	35+239 to 35+267	Sharp Bend	Design Speed = 20 Kmph
9	35+326 to 35+338	Sharp Bend	Design Speed = 30 Kmph
10	35+434 to 35+441	Sharp Bend	Design Speed = 30 Kmph
11	35+546 to 35+588	Sharp Bend	Design Speed = 20 Kmph
12	35+657 to 35+660	Sharp Bend	Design Speed = 30 Kmph
13	35+762 to 35+781	Sharp Bend	Design Speed = 30 Kmph
14	35+961 to 35+997	Sharp Bend	Design Speed = 30 Kmph
15	36+020 to 36+051	Sharp Bend	Design Speed = 20 Kmph
16	36+409 to 36+436	Sharp Bend	Design Speed = 20 Kmph
17	36+530 to 36+577	Sharp Bend	Design Speed = 20 Kmph
18	36+629 to 36+640	Sharp Bend	Design Speed = 30 Kmph
19	36+679 to 36+691	Sharp Bend	Design Speed = 30 Kmph
20	36+751 to 36+779	Sharp Bend	Design Speed = 30 Kmph
21	37+012 to 37+026	Sharp Bend	Design Speed = 30 Kmph
22	37+073 to 37+087	Sharp Bend	Design Speed = 20 Kmph
23	37+321 to 37+348	Sharp Bend	Design Speed = 30 Kmph
24	37+495 to 37+510	Sharp Bend	Design Speed = 30 Kmph
25	37+561 to 37+567	Sharp Bend	Design Speed = 30 Kmph
26	37+613 to 37+632	Sharp Bend	Design Speed = 30 Kmph
27	37+746 to 37+766	Sharp Bend	Design Speed = 30 Kmph
28	38+031 to 38+047	Sharp Bend	Design Speed = 30 Kmph
29	38+087 to 38+091	Sharp Bend	Design Speed = 30 Kmph
30	38+165 to 38+207	Sharp Bend	Design Speed = 30 Kmph
31	38+251 to 38+256	Sharp Bend	Design Speed = 30 Kmph
32	38+298 to 38+315	Sharp Bend	Design Speed = 30 Kmph
33	38+345 to 38+362	Sharp Bend	Design Speed = 30 Kmph
34	38+506 to 38+511	Sharp Bend	Design Speed = 30 Kmph
35	38+568 to 38+579	Sharp Bend	Design Speed = 30 Kmph
36	38+641 to 38+652	Sharp Bend	Design Speed = 30 Kmph
37	39+112 to 39+128	Sharp Bend	Design Speed = 30 Kmph
38	39+179 to 39+198	Sharp Bend	Design Speed = 20 Kmph
39	39+655 to 39+678	Sharp Bend	Design Speed = 30 Kmph
40	40+299 to 40+330	Sharp Bend	Design Speed = 30 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
41	40+380 to 40+428	Sharp Bend	Design Speed = 30 Kmph
42	40+510 to 40+513	Sharp Bend	Design Speed = 30 Kmph
43	40+556 to 40+564	Sharp Bend	Design Speed = 30 Kmph
44	40+996 to 41+001	Sharp Bend	Design Speed = 30 Kmph
45	41+042 to 41+045	Sharp Bend	Design Speed = 30 Kmph
46	41+103 to 41+106	Sharp Bend	Design Speed = 30 Kmph
47	41+165 to 41+178	Sharp Bend	Design Speed = 30 Kmph
48	41+840 to 41+873	Sharp Bend	Design Speed = 30 Kmph
49	41+919 to 41+928	Sharp Bend	Design Speed = 30 Kmph
50	41+965 to 41+974	Sharp Bend	Design Speed = 30 Kmph
51	42+051 to 42+072	Sharp Bend	Design Speed = 30 Kmph
52	42+116 to 42+126	Sharp Bend	Design Speed = 30 Kmph
53	42+209 to 42+230	Sharp Bend	Design Speed = 30 Kmph
54	42+380 to 42+461	Sharp Bend	Design Speed = 30 Kmph
55	42+800 to 42+857	Sharp Bend	Design Speed = 30 Kmph
56	42+890 to 42+916	Sharp Bend	Design Speed = 20 Kmph
57	42+947 to 42+958	Sharp Bend	Design Speed = 20 Kmph
58	42+990 to 43+001	Sharp Bend	Design Speed = 20 Kmph
59	43+101 to 43+128	Sharp Bend	Design Speed = 30 Kmph
60	43+172 to 43+184	Sharp Bend	Design Speed = 30 Kmph
61	43+231 to 43+247	Sharp Bend	Design Speed = 30 Kmph
62	43+329 to 43+347	Sharp Bend	Design Speed = 20 Kmph
63	43+384 to 43+402	Sharp Bend	Design Speed = 20 Kmph
64	43+438 to 43+457	Sharp Bend	Design Speed = 30 Kmph
65	43+492 to 43+496	Sharp Bend	Design Speed = 30 Kmph
66	44+177 to 44+200	Sharp Bend	Design Speed = 30 Kmph
67	44+252 to 44+255	Sharp Bend	Design Speed = 30 Kmph
68	44+662 to 44+670	Sharp Bend	Design Speed = 30 Kmph
69	44+716 to 44+738	Sharp Bend	Design Speed = 30 Kmph
70	44+806 to 44+835	Sharp Bend	Design Speed = 30 Kmph
71	44+888 to 44+912	Sharp Bend	Design Speed = 30 Kmph
72	45+030 to 45+046	Sharp Bend	Design Speed = 30 Kmph
73	45+101 to 45+108	Sharp Bend	Design Speed = 30 Kmph
74	45+827 to 45+830	Sharp Bend	Design Speed = 30 Kmph
75	45+880 to 45+885	Sharp Bend	Design Speed = 20 Kmph
76	46+735 to 46+746	Sharp Bend	Design Speed = 30 Kmph
77	46+905 to 46+919	Sharp Bend	Design Speed = 30 Kmph
78	46+975 to 47+015	Sharp Bend	Design Speed = 30 Kmph
79	47+055 to 47+063	Sharp Bend	Design Speed = 30 Kmph
80	47+446 to 47+468	Sharp Bend	Design Speed = 20 Kmph
81	47+512 to 47+597	Sharp Bend	Design Speed = 30 Kmph
82	47+650 to 47+677	Sharp Bend	Design Speed = 20 Kmph
83	47+938 to 47+980	Sharp Bend	Design Speed = 30 Kmph
84	48+055 to 48+077	Sharp Bend	Design Speed = 30 Kmph
85	48+131 to 48+163	Sharp Bend	Design Speed = 20 Kmph
86	48+239 to 48+250	Sharp Bend	Design Speed = 30 Kmph
87	48+307 to 48+309	Sharp Bend	Design Speed = 30 Kmph
88	48+354 to 48+369	Sharp Bend	Design Speed = 30 Kmph
89	48+600 to 48+629	Sharp Bend	Design Speed = 20 Kmph
90	48+668 to 48+721	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
		From	To	
1	210	33.298	33.311	50
2	213	33.477	33.504	50
3	215	33.752	33.785	30
4	219	34.764	34.788	30
5	221	35.030	35.070	40
6	222	35.177	35.184	45
7	223	35.239	35.267	25
8	224	35.326	35.338	40
9	225	35.434	35.441	40
10	226	35.546	35.588	20
11	227	35.657	35.660	30
12	228	35.762	35.781	40
13	231	36.020	36.051	20
14	232	36.131	36.196	60
15	235	36.409	36.436	25
16	236	36.530	36.577	23
17	237	36.629	36.640	50
18	238	36.679	36.691	70
19	239	36.751	36.779	30
20	240	36.921	36.954	60
21	241	37.012	37.026	60
22	242	37.073	37.087	20
23	245	37.321	37.348	40
24	247	37.495	37.510	40
25	248	37.561	37.567	40
26	249	37.613	37.632	50
27	250	37.746	37.766	30
28	251	37.835	37.857	60
29	253	38.031	38.047	50
30	254	38.087	38.091	60
31	255	38.165	38.207	70
32	256	38.251	38.256	40
33	257	38.298	38.315	70
34	260	38.506	38.511	40
35	261	38.568	38.579	30
36	262	38.641	38.652	40
37	265	39.036	39.051	60
38	266	39.112	39.128	40
39	267	39.179	39.198	20
40	270	39.488	39.510	60
41	272	39.655	39.678	30
42	278	40.094	40.101	70
43	280	40.299	40.330	30
44	281	40.380	40.428	60
45	282	40.510	40.513	40
46	283	40.556	40.564	60
47	284	40.614	40.634	70
48	286	40.884	40.888	70

Sl. No.	HIP NO.	CHAINAGE (KM)		RADIUS
		From	To	
49	288	40.996	41.001	60
50	289	41.042	41.045	40
51	290	41.103	41.106	30
52	291	41.165	41.178	70
53	293	41.311	41.318	70
54	294	41.389	41.405	50
55	295	41.476	41.490	70
56	298	41.840	41.873	40
57	299	41.919	41.928	50
58	300	41.965	41.974	60
59	301	42.051	42.072	50
60	302	42.116	42.126	60
61	303	42.209	42.230	50
62	305	42.380	42.461	36
63	306	42.583	42.604	50
64	307	42.706	42.718	60
65	309	42.890	42.916	30
66	310	42.947	42.958	30
67	311	42.990	43.001	40
68	312	43.101	43.128	50
69	313	43.172	43.184	60
70	314	43.231	43.247	40
71	315	43.329	43.347	20
72	316	43.384	43.402	30
73	317	43.438	43.457	50
74	318	43.492	43.496	60
75	324	44.177	44.200	40
76	325	44.252	44.255	40
77	329	44.532	44.606	70
78	330	44.662	44.670	40
79	331	44.716	44.738	50
80	332	44.806	44.835	50
81	333	44.888	44.912	30
82	334	45.030	45.046	40
83	335	45.101	45.108	40
84	338	45.448	45.511	50
85	340	45.827	45.830	30
86	341	45.880	45.885	60
87	345	46.308	46.320	60
88	347	46.509	46.529	50
89	348	46.613	46.663	50
90	349	46.735	46.746	50
91	351	46.905	46.919	40
92	352	46.975	47.015	50
93	353	47.055	47.063	50
94	355	47.287	47.381	70
95	356	47.446	47.468	20
96	358	47.650	47.677	20
97	362	47.938	47.980	40
98	363	48.055	48.077	30

Sl. No.	HIP NO.	CHAINAGE (KM)		RADIUS
		From	To	
99	364	48.131	48.163	20
100	365	48.239	48.250	50
101	366	48.307	48.309	40
102	367	48.354	48.369	50
103	368	48.490	48.500	50
104	369	48.600	48.629	20
105	370	48.668	48.721	30

(iii) [Note1: Deviations from the aforesaid Specifications and Standards shall be listed out here. Such deviations shall be specified only if they are considered essential in view of 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	58.03 %	**A- Widening and strengthening of existing road**	
		(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]
		(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	38.36%
		(2) Sub-base Course	11.82%
		(3) Non bituminous Base course	14.72%
		(4) Bituminous Basecourse	13.71%
		(5) Wearing Coat	7.88%
		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) Dry Lean Concrete (DLC) Course	[Nil]
		(4) Pavement Quality Control (PQC) Course	[Nil]
		D- Reconstruction & New Culverts on existing road, realignments, bypasses Culverts (length <6m)	13.5%

Item	Weightage in % of CP	Stage for Payment	Percentage
Minor bridge/ Underpasses/ Overpasses	0.97%	**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 up to the abutment/pier cap.	58.36%
		(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.	38.15%
		(3) Approaches: On completion of approaches including Retaining walls, stone pitching, protection works complete in all and fit for use	3.48%
		(4) Guide Bunds and River Training Works: On completion of Guide Bunds and river 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) works and ROB/RUB/elevated sections/flyovers including viaducts, if any	7.417 %	**A.1- Widening and repairs of Major Bridges**	
		(1)Foundation	[Nil]
		(2)Sub-structure	[Nil]
		(3)Super-structure(including bearings)	[Nil]
		(4)Wearing Coat including expansion joints	[Nil]
		(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]

Item	Weightage in % of CP	Stage for Payment	Percentage
		(6) Wing walls/return walls	[Nil]
		(7)Guide Bunds,River Training works etc.	[Nil]
		(8)Approaches(including Retaining walls, stone pitching and protection works)	[Nil]
		A.2-NewMajorBridges	
		(1)Foundation	19.72%
		(2)Sub-structure	11.77%
		(3)Super-structure(including bearings)	63.95%
		(4)Wearing Coat including expansion joints	2.61%
		(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	1.17%
		(6) Wing walls/return walls	[Nil]
		(7)Guide Bunds, River Training works etc.	0.44%
		(8)Approaches(including Retaining walls, stone pitching and protection works)	0.34%
		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 respects as specified and (b) In case 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, 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 respects as specified and (b) in case 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)Wearing Coat including expansion 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/Grade Separators	
		(1) Foundations	[Nil]
		(2) Sub-Structure	[Nil]
		(3)Super-Structure(Including bearings)	[Nil]
		(4)Wearing Coat including expansion 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	33.58 %	(i) Toll Plaza	[Nil]
		(ii) Road side drains	12.91%
		(iii) Road signs, markings, km stones, safety devices etc	2.92%
		(iv) Project facilities	
		a) Bus Bays	0.85%
		b) Truck Lay-byes	[Nil]
		c) Passenger Shelter	0.12%
		d) Rest Area	[Nil]
		e) Diversion Works	1.16%
		(v) Road side Plantation	[Nil]
		(vi) Repair 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	10.42%
		(ix) Toe Wall	0.37%
		(x) Retaining Wall	1.98%
		(xi) Crash Barrier	1.78%
		(xi) Boundary wall	[Nil]
		(xii) Site Clearance & Dismantling	2.88%

Item	Weightage in % of CP	Stage for Payment	Percentage
		(xiii) Protection Works	0.93%
		(xiv) Tunnel	63.67%

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 5(five)percent of the total length.
(1)Earthwork up to top of the sub-grade	[Nil]	
(2) Sub-base Course	[Nil]	
(3) Non bituminous Base course	[Nil]	
(4) Bituminous Base course	[Nil]	
(5) Wearing Coat	[Nil]	
(6) 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(half) km length, whichever is less.
(1)Earthwork up to top of the sub-grade	38.36%	
(2) Sub-base Course	11.82%	
(3) Non bituminous Base course	14.72%	
(4) Bituminous Base course	13.71%	
(5) Wearing Coat	7.88%	
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
(1)Earthwork up to top of the sub-grade	[Nil]	

Stage of Payment	Percentage weightage	Payment Procedure
(2) Sub-base Course	[Nil]	length, whichever is less.
(3) Dry Lean Concrete (DLC)Course	[Nil]	
(4) Pavement Quality Control (PQC) Course	[Nil]	
D-Reconstruction & New Culverts on existing road, 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)	13.5%	

@ 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.	58.36%	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.

Stage of Payment	Weightage	Payment Procedure
(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.	38.15%	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, stone pitching, protection works complete in all and fit for use	3.48%	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

Stage of Payment	Weightage	Payment Procedure
(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	19.72%	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	11.77%	Sub-structure: Payment against sub- structure shall be made on pro-rata basis on completion of a stage i.e. not

Stage of Payment	Weightage	Payment Procedure
		lessthan25% of the scope of sub- structure of major bridge.
(3)Super-structure(including bearings)	63.95%	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	2.61%	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.	1.17%	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.	0.44%	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)	0.34%	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

Stage of Payment	Weightage	Payment Procedure
		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, 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-Wideningandrepairs 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.

Stage of Payment	Weightage	Payment Procedure
		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 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	[Nil]	Miscellaneous: Payments shall be made on completion of all miscellaneous works like handrails, crash barriers, road

Stage of Payment	Weightage	Payment Procedure
markings etc.		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]	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	12.91%	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.	2.92%	
(4) Project Facilities		Payment shall be made on pro-rata basis for completed facilities.
a) Bus Bays	0.85%	
b) Truck Lay-byes	[Nil]	
c) Passenger Shelter	0.12%	
d) Rest Area	[Nil]	
e) Diversion Works	1.16%	
(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 5% (five percent)of the total length.
(7) Safety and traffic management during construction	[Nil]	Payment shall be made on prorate basis every six months.

Stage of Payment	Weightage	Payment Procedure
(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) Breast Wall	10.42%	
(b) Toe Wall	0.37%	
(c)Retaining Wall	1.98%	
(c) Crash Barrier	1.78%	
(9) Site Clearance & Dismantling	2.88%	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) Protection Works	0.93%	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.
(11) Tunnel	63.67%	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.