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 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-202 commencing from km 117/980 to km 169/400(Design km 95.700 to km 138.386) i.e. to Marren Khullen to Jessami section 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 (km)		DESIGN CHAINAGE (km)		Existing ROW	Remarks
	From	To	From	To		
1	117+980	169+400	95+700	138+386	5-15 m approx.	

3. Carriageway

The present carriageway of the Project Highway is single Lane from km 117/980 to km 169/400. 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		
Nil						

5. Roadover-bridges(ROB)/Roadunder-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			

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

6. Gradeseparators

The Site includes the followinggrade separators:

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

7. Minorbridges

The Siteincludes 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		
NIL						

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.	Existing Chainage	Existing Structure	Span Arrangement
1	59.570	SLAB	1 X 0.9
2	60.070	SLAB	1 X 0.9
3	60.190	SLAB	1 X 1.1
4	60.380	SLAB	1 X 0.9
5	60.920	SLAB	1 X 2.9
6	61.040	SLAB	1 X 1.1
7	61.210	SLAB	1 X 0.9
8	61.250	SLAB	1 X 0.9
9	61.425	SLAB	1 X 1.5
10	61.755	SLAB	1 X 1.0
11	61.840	SLAB	1 X 2.9
12	62.550	SLAB	1 X 0.9

Sl. No.	Existing Chainage	Existing Structure	Span Arrangement
13	62.680	SLAB	1 X 1.0
14	63.050	SLAB	1 X 1.0
15	63.230	SLAB	1 X 1.5
16	64.200	SLAB	1 X 1.2
17	65.285	SLAB	1 X 0.9
18	65.375	SLAB	1 X 1.2
19	65.635	SLAB	1 X 1.1
20	67.215	SLAB	1 X 0.5
21	67.245	SLAB	1 X 0.9
22	67.570	SLAB	1 X 0.9
23	67.705	SLAB	1 X 1.4
24	67.790	SLAB	1 X 0.9
25	68.425	SLAB	1 X 0.9
26	68.745	SLAB	1 X 0.95
27	68.920	SLAB	1 X 1.0
28	69.360	SLAB	1 X 0.8
29	69.620	SLAB	1 X 1.5
30	69.750	SLAB	1 X 1.5
31	70.915	SLAB	1 X 0.9
32	71.390	SLAB	1 X 0.9
33	71.440	SLAB	1 X 1.5
34	71.660	SLAB	1 X 4.0
35	72.025	SLAB	1 X 1.3
36	72.600	SLAB	1 X 1.0
37	73.120	MINOR	1 X 5.7
38	73.880	SLAB	1 X 1.2
39	75.150	SLAB	1 X 2.8
40	75.815	SLAB	1 X 2.6
41	75.950	SLAB	1 X 1.5
42	76.310	SLAB	1 X 3.0
43	76.610	SLAB	1 X 1.4
44	76.690	SLAB	1 X 1.1
45	76.735	SLAB	1 X 0.9
46	76.855	SLAB	1 X 1.2
47	77.360	SLAB	1 X 1.2
48	77.770	SLAB	1 X 1.1
49	77.920	SLAB	1 X 0.9
50	78.010	SLAB	1 X 4.3
51	78.090	SLAB	1 X 0.9
52	78.175	SLAB	1 X 0.9
53	78.380	SLAB	1 X 1.5
54	78.650	SLAB	1 X 0.9
55	78.050	SLAB	1 X 0.9
56	78.940	SLAB	1 X 1.5
57	79.100	SLAB	1 X 0.9
58	79.315	SLAB	1 X 0.9
59	79.940	SLAB	1 X 0.9
60	80.885	SLAB	1 X 1.3
61	85.820	SLAB	1 X 1.3
62	86.400	SLAB	1 X 1.5

Sl. No.	Existing Chainage	Existing Structure	Span Arrangement
63	86.730	SLAB	1 X 0.9
64	87.200	SLAB	1 X 0.9
65	87.320	SLAB	1 X 0.9
66	87.480	SLAB	1 X 0.9
67	87.605	SLAB	1 X 0.9
68	87.765	SLAB	1 X 0.9
69	87.890	SLAB	1 X 0.9
70	88.425	SLAB	1 X 0.8
71	88.825	SLAB	1 X 1.2
72	88.930	SLAB	1 X 1.0
73	89.050	SLAB	1 X 1.0
74	89.310	SLAB	1 X 1.0
75	89.350	SLAB	1 X 0.9
76	89.450	SLAB	1 X 0.8
77	89.625	SLAB	1 X 0.8
78	90.070	SLAB	1 X 1.0
79	90.435	SLAB	1 X 0.8
80	90.950	SLAB	1 X 0.9
81	91.085	SLAB	1 X 0.9
82	91.280	SLAB	1 X 0.9
83	91.625	SLAB	1 X 2.0
84	91.690	SLAB	1 X 0.9
85	92.000	SLAB	1 X 0.9
86	92.170	SLAB	1 X 1.5
87	92.695	SLAB	1 X 0.9
88	93.150	SLAB	1 X 0.9
89	93.400	SLAB	1 X 1.3
90	93.630	SLAB	1 X 1.3
91	93.890	SLAB	1 X 0.9
92	94.120	SLAB	1 X 0.9
93	94.350	SLAB	1 X 0.9
94	94.495	SLAB	1 X 0.9
95	94.615	SLAB	1 X 0.9
96	95.110	SLAB	1 X 0.9
97	95.390	SLAB	1 X 0.9
98	96.020	SLAB	1 X 0.9
99	96.110	SLAB	1 X 0.8
100	96.460	SLAB	1 X 0.9
101	96.585	SLAB	1 X 0.9
102	98.350	SLAB	1 X 0.9
103	98.470	SLAB	1 X 0.7
104	98.700	SLAB	1 X 0.7
105	98.890	SLAB	1 X 0.9
106	99.070	SLAB	1 X 0.9
107	99.290	SLAB	1 X 0.9
108	99.460	SLAB	1 X 0.9
109	99.750	SLAB	1 X 0.9
110	99.935	SLAB	1 X 1.3
111	100.060	SLAB	1 X 0.8
112	100.385	SLAB	1 X 1.0

Sl. No.	Existing Chainage	Existing Structure	Span Arrangement
113	100.640	SLAB	1 X 0.7
114	100.740	SLAB	1 X 0.9
115	100.845	SLAB	1 X 0.9
116	101.470	SLAB	1 X 0.9
117	102.040	SLAB	1 X 0.9
118	102.105	SLAB	1 X 0.9
119	102.725	SLAB	1 X 1.1
120	103.075	SLAB	1 X 0.9
121	103.170	SLAB	1 X 0.9
122	103.390	SLAB	1 X 1.1
123	103.525	SLAB	1 X 0.8
124	104.340	SLAB	1 X 0.9
125	104.620	SLAB	1 X 1.0
126	104.900	SLAB	1 X 0.9
127	105.275	SLAB	1 X 1.0
128	105.410	SLAB	1 X 1.0
129	105.590	SLAB	1 X 0.9
130	111.050	SLAB	1 X 3.0
131	111.470	SLAB	1 X 0.9
132	111.740	SLAB	1 X 0.9
133	112.435	SLAB	1 X 0.7

11. Bus bays

The project road has no bus-bay and no bus shelters. The details of bus bays on the Site are as follows:

S. No.	Chainage (km)	Length (m)	Left Hand Side	Right Hand Side
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. Road side drains

The details of the roadside drains are as follows:

Sl. No.	Location		Type	
	From m	To m	Masonry/cc (Pucca)	Earthen (Kutcha)
1	118530	119000	Masonry/cc	L
2	123645	123913	Masonry	L
3	117980	118530	cc (Pucca)	R
4	119000	119145	cc (Pucca)	L
5	119200	120583	cc (Pucca)	L
6	120600	120650	cc (Pucca)	L
7	121140	123254	cc (Pucca)	L

Sl. No.	Location		Type	
	From m	To m	Masonry/cc (Pucca)	Earthen (Kutcha)
8	123309	123645	cc (Pucca)	L
9	123913	124043	cc (Pucca)	L
10	124075	126259	cc (Pucca)	L
11	126435	126540	cc (Pucca)	L
12	126855	128129	cc (Pucca)	L
13	128214	128710	cc (Pucca)	L
14	128937	130900	cc (Pucca)	L
15	135695	136020	Masonry	R
16	135153	135695	Masonry	R
17	136514	136571	cc (Pucca)	R
18	136710	137344	cc (Pucca)	L
19	137450	137634	cc (Pucca)	L
20	137710	137995	cc (Pucca)	L
21	138260	138631	cc (Pucca)	L
22	139586	139660	cc (Pucca)	R
23	139800	142226	cc (Pucca)	R
24	140668	140810	cc (Pucca)	R
25	140827	141510	cc (Pucca)	L
26	141565	143829	cc (Pucca)	L
27	143885	143955	cc (Pucca)	R
28	143995	144489	cc (Pucca)	L
29	144574	147600	cc (Pucca)	L
30	147741	148450	cc (Pucca)	L
31	148653	148910	cc (Pucca)	L
32	148945	149923	cc (Pucca)	L
33	150043	150466	cc (Pucca)	L
34	150547	151225	cc (Pucca)	L
35	151256	152737	cc (Pucca)	L
36	152814	153625	cc (Pucca)	L
37	168920	168990	Masonry	L
38	169295	169400	Masonry	L
39	153988	154090	cc (Pucca)	L
40	154215	155495	cc (Pucca)	R
41	155757	156163	cc (Pucca)	R
42	156200	157510	cc (Pucca)	L
43	157645	159110	cc (Pucca)	L
44	159195	161115	cc (Pucca)	L
45	161195	161936	cc (Pucca)	L
46	162026	163228	cc (Pucca)	L
47	163295	164263	cc (Pucca)	L
48	164748	165484	cc (Pucca)	L

Sl. No.	Location		Type	
	From m	To m	Masonry/cc (Pucca)	Earthen (Kutcha)
49	165438	166400	cc (Pucca)	L
50	166495	167195	cc (Pucca)	L
51	167767	168185	cc (Pucca)	L

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. Minorjunctions

The details of the minor junctions are as follows:

Sl. No.	Location		Type of intersection	
	From Km	Towards	Y-Junction	Cross Road
1	100/830		100/830	Chingjui
2	109/730		109/730	Razai Khunou
3	110/480		110/480	Kharasom Village
4	113/470		113/470	Tusoam
5	138/386		138/386	Jessami Junction

6. 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. Others tructures

[Provide details of other structures, if any.]

18. Existing utilities

(i) Electrical utilities

The site includes the following electrical utilities:-

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

SL NO	Chainage (Km)	Length (in Km)	Crossings	No of Towers obstructing/i

													nfringing ROW
	From	To	400 KV	220 KV	132 KV	110 KV	66 KV	400 KV	220 KV	132 KV	110 KV	66 KV	
1	95.700	138.386											
	TOTAL		Nil										

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

SL NO	Chainage (Km)		Length (in Km)			Crossings			Nos of Poles infringing/obstructing ROW		
	From	To	33KV	11KV	LT	33KV	11KV	LT	33KV	11KV	LT
1	95.700	138.386		6.9	4.6				46 Nos	**78 Nos**	97 Nos
	TOTAL			**6.9 Km**	**4.6 Km**				**46 Nos**	**78 Nos.**	**97 Nos**

c) Transformer details:

Sl. No.	Chainage(km)		11KV	
			NO	Capacity (KVA)
1	95.700	138.386	1	25
2			2	63
3			3	100
	TOTAL			**6 Nos**

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

The site includes the following Public Health utilities:-

SL No	Chainage		Length in (Km)				Crossing				Water Tank	
	from	To	Water supply Line		Sewage Line		Water supply Line		Sewage Line			
			With Pumping	With Gravity Flow	With Pumping	With Gravity Flow	With Pumping	With Gravity Flow	With Pumping	With Gravity Flow	Capacity (in Lts)	Quantity (in nos)
1	95.700	138.386		6.6							40000	13

(iii) Any Other line

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

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 are stated below:

S. No	Design Chainage (From km to km)	Length (km)	Width (m)	Date of providing ROW
1	Km 95.700 to Km 138.386	42.686	20 m (Built-up Area) 24 m (Open Area)	At appointed date

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

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-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.

.

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 Lanning of Highways (IRC: SP: 73-2015)] 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. 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] earthen 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 (Reference to cross section)
1	Namrei	96.400 km to 97.400 km	7	As per TSC	**2**
2	Razai	100.750 km to 101.00 km	7	As per TSC	**2**
3	Kharasom	109.600 km to 111.650 km	7	As per TSC	**2**
4	Kharasom	113.100 km to 113.500 km	7	As per TSC	**2**

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

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 40-60 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.	Chainage	Type of Deficiency	Remarks (Design Speed in kmph)
1	96660	Built-up	30
2	96722	Built-up	30
3	96776	Built-up	30
4	96828	Built-up	30
5	96905	Built-up	30
6	97144	Built-up	30
7	97213	Built-up	25
8	100606	Built-up	30
9	100783	Built-up	30
10	100880	Built-up	30
11	100959	Built-up	30
12	101087	Built-up	30
13	101156	Built-up	30
14	110766.7	Built-up	30
15	110832.8	Built-up	30
16	110911.5	Built-up	30
17	110982.6	Built-up	30
18	111104.1	Built-up	30
19	111286.6	Built-up	30
20	111425.8	Built-up	30
21	112832.5	Built-up	30
22	113104.8	Built-up	30
23	113444.7	Built-up	30
24	113523.7	Built-up	30

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
1	96.400 km to 97.400 km	Footpath on Covered Drains	2
2	100.750 km to 101.00 km	Footpath on Covered Drains	2
3	109.600 km to 111.650 km	Footpath on Covered Drains	2
4	113.100 km to 113.500 km	Footpath on Covered Drains	2

(b) Earthen shoulders of 2.5 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 vertical clearances at underpasses

(a) Lateral and vertical clearances at underpasses and provision of guardrails/crash barriers shall be as per requirements specified in the relevant Manual.

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

Sl. No.	Location (Chainage) (fromkmtokm)	Span/opening(m)	Remarks
Nil			

(vii) Lateral and vertical clearances 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 are givenbelow:

[Refer to requirementsspecifiedinthe relevant Manual]

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. 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 and pedestrian underpass/overpass shall be constructed as follows: [Refer to provisionofthe relevant Manual and 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 TYPE	DESCRIPTION	Length (m)
TYPICAL-1	2-lane with 2.5 m earthen shoulders with W-beam crash barrier on valley side and 0.6 m lined drain on hill side	19200
TYPICAL-2	2-lane with 2.5 m earthen shoulders with 1m covered drain on both side	3700
TYPICAL-2(A)	2-lane with 2.5 m earthen shoulders with 0.6 m lined drain on both side	5700
TYPICAL-2(B)	2-lane with 2.5 m earthen shoulders with 0.6 m lined drain and hill section on both side	2200
TYPICAL-3(A)	2-lane with 2.5 m earthen shoulders with breast wall on hill side	400
TYPICAL-4	2-lane with 2.5 m earthen shoulders with breast wall on hill side and W-beam crash barrier on valley side	800
TYPICAL-5	2-lane with 2.5 m with 0.6 m lined drain on hill side and retaining wall & W-beam crash barrier on valley side	3200
TYPICAL-6	2-lane with 2.5 m earthen shoulder with breast wall on hill side and retaining wall & W-beam crash barrier on valley side	5900
TYPICAL-7	2-lane with 2.5 m earthen with retaining wall & W-beam crash barrier on both side	700
TYPICAL-7(A)	2-lane with 2.5 m earthen with Reinforced Earth Wall on both side	886
	Total length =	**42686**

Typical Cross Section 1				
SL No	**From**	**To**	**Length(m)**	**Length after deducting Culverts**
1	95.700	96.400	700.000	679.000
2	99.000	100.750	1750.000	1687.000
3	101.000	101.600	600.000	572.000
4	103.800	105.700	1900.000	1781.000

5	106.000	106.480	480.000	466.000
6	106.480	106.500	20.000	6.000
7	114.450	115.100	650.000	629.000
8	115.500	116.600	1100.000	1065.000
9	117.600	118.200	600.000	579.000
10	119.000	119.900	900.000	886.000
11	120.600	121.200	600.000	572.000
12	122.300	124.430	2130.000	2081.000
13	124.430	124.470	40.000	5.000
14	124.470	124.500	30.000	30.000
15	125.900	128.300	2400.000	2337.000
16	130.700	131.700	1000.000	965.000
17	132.000	133.000	1000.000	972.000
18	133.000	134.800	1800.000	1737.000
19	136.000	137.500	1500.000	1458.000
			19200.000	18507.000
Typical Cross Section 2				
SL No	**From**	**To**	**Length(m)**	**Length after deducting Culverts**
1	96.400	97.400	1000.000	958.000
2	100.750	101.000	250.000	243.000
3	109.600	111.650	2050.000	1994.000
4	113.100	113.500	400.000	386.000
			3700.000	3581.000
Typical Cross Section 2A				
SL No	**From**	**To**	**Length(m)**	**Length after deducting Culverts**
1	97.400	99.000	1600.000	1537.000
2	107.900	108.500	600.000	579.000
3	111.650	112.000	350.000	343.000
4	112.400	113.100	700.000	637.000
5	113.800	114.450	650.000	636.000
6	124.500	125.200	700.000	693.000
7	131.700	132.000	300.000	279.000
8	135.200	136.000	800.000	772.000
			5700.000	5476.000
Typical Cross Section 2B				

SL No	From	To	Length(m)	Length after deducting Culverts
1	106.500	106.800	300.000	293.000
2	118.200	119.000	800.000	786.000
3	121.200	122.300	1100.000	1093.000
			2200.000	2172.000
Typical Cross Section 3A				
SL No	**From**	**To**	**Length(m)**	**Length after deducting Culverts**
1	137.900	138.300	400.000	386.000
			400.000	386.000
Typical Cross Section 4				
SL No	**From**	**To**	**Length(m)**	**Length after deducting Culverts**
1	107.100	107.900	800.000	786.000
			800.000	786.000
Typical Cross Section 5				
SL No	**From**	**To**	**Length(m)**	**Length after deducting Culverts**
1	101.600	102.200	600.000	565.000
2	103.500	103.800	300.000	293.000
3	105.700	106.000	300.000	286.000
4	113.500	113.800	300.000	293.000
5	116.600	117.600	1000.000	986.000
6	125.200	125.900	700.000	693.000
			3200.000	3116.000
Typical Cross Section 6				
SL No	**From**	**To**	**Length(m)**	**Length after deducting Culverts**
1	102.200	103.000	800.000	779.000
2	103.000	103.100	100.000	79.000
3	106.800	107.100	300.000	286.000
4	108.500	109.600	1100.000	1051.000
5	115.100	115.500	400.000	379.000
6	128.300	130.700	2400.000	2316.000
7	134.800	135.200	400.000	386.000

8	137.500	137.900	400.000	393.000
			5900.000	5669.000
Typical Cross Section 7				
SL No	From	To	Length(m)	Length after deducting Culverts
1	119.900	120.600	700.000	693.000
			700.000	693.000
Typical Cross Section 7A				
SL No	From	To	Length(m)	Length after deducting Culverts
1	103.100	103.500	400.000	386.000
2	112.000	112.400	400.000	386.000
3	138.300	138.386	86.000	86.000
			886.000	858.000
Total length of Road			42686.00	m
Total length of Road after deducting culverts			41244.00	m

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		Type of intersection	
	From Km	Towards	Y-Junction	Cross Road
1	100/830		100/830	Chingjui
2	109/730		109/730	Razai Khunou
3	110/480		110/480	Kharasom Village
4	113/470		113/470	Tusoam
5	138/386		138/386	Jessami Junction

(ii) Grade separated intersection with/without ramps

Sl. No.	Location	Salient features	Minimumlengthof viaduct tobe provided	Roadtobecarried over/underthe structures
Nil				

4. Road Embankment and Cut Section

(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 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

Notwithstanding anything to the contrary contained in this Agreement or the Manual. The Contractor shall design the pavement for design traffic of 20 msa.

(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.	Chainage		Length	Typical Cross-section	Improvement
	To	From			
1	95.7	96.4	700	1	Reconstruction

Sl.No.	Chainage		Length	Typical Cross-section	Improvement
	To	From			
2	96.4	97.4	1000	2	Reconstruction
3	97.4	99	1600	2A	Reconstruction
4	99	100.75	1750	1	Reconstruction
5	100.75	101	250	2	Reconstruction
6	101	101.6	600	1	Reconstruction
7	101.6	102.2	600	5	Reconstruction
8	102.2	103	800	6	Reconstruction
9	103	103.1	100	6	Reconstruction
10	103.1	103.5	400	7A	Reconstruction
11	103.5	103.8	300	5	Reconstruction
12	103.8	105	1200	1	Reconstruction
13	105	105.7	700	1	Reconstruction
14	105.7	106	300	5	Reconstruction
15	106	106.48	480	1	Reconstruction
16	106.48	106.5	20	1	Reconstruction
17	106.5	106.8	300	2B	Reconstruction
18	106.8	107.1	300	6	Reconstruction
19	107.1	107.9	800	4	Reconstruction
20	107.9	108.5	600	2A	Reconstruction
21	108.5	109.6	1100	6	Reconstruction
22	109.6	111.65	2050	2	Reconstruction
23	111.65	112	350	2A	Reconstruction
24	112	112.4	400	7A	Reconstruction
25	112.4	113.1	700	2A	Reconstruction
26	113.1	113.5	400	2	Reconstruction
27	113.5	113.8	300	5	Reconstruction
28	113.8	114.45	650	2A	Reconstruction
29	114.45	115.1	650	1	Reconstruction
30	115.1	115.5	400	6	Reconstruction
31	115.5	116.6	1100	1	Reconstruction
32	116.6	117.6	1000	5	Reconstruction
33	117.6	118.2	600	1	Reconstruction
34	118.2	119	800	2B	Reconstruction
35	119	119.9	900	1	Reconstruction
36	119.9	120.6	700	7	Reconstruction
37	120.6	121.2	600	1	Reconstruction
38	121.2	122.3	1100	2B	Reconstruction
39	122.3	124.47	2170	1	Reconstruction
40	124.47	125.2	730	2A	Reconstruction
41	125.2	125.9	700	5	Reconstruction
42	125.9	128.3	2400	1	Reconstruction
43	128.3	130.7	2400	6	Reconstruction
44	130.7	131.7	1000	1	Reconstruction
45	131.7	132	300	2A	Reconstruction
46	132	133	1000	1	Reconstruction
47	133	134.8	1800	1	Reconstruction

Sl.No.	Chainage		Length	Typical Cross-section	Improvement
	To	From			
48	134.8	135.2	400	6	Reconstruction
49	135.2	136	800	2A	Reconstruction
50	136	137.5	1500	1	Reconstruction
51	137.5	137.9	400	6	Reconstruction
52	137.9	138.3	400	3A	Reconstruction
53	138.3	138.386	86	7A	Reconstruction

6. Roadside Drainage

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

RCC Covered Drain

Chainage (Km)		Net Length (m)
From	To	
96.400	97.400	958.000
100.750	101.000	243.000
109.600	111.650	1994.000
113.100	113.500	386.000
Total length =		**3581.000**

RR Masonry Trapezoidal Drain

Chainage (Km)		Side	Net Length (m)
From	To		
95.7	96.4	Trapezoidal PCC Drain on Hill side	700
97.4	99	Trapezoidal PCC Drain on both side	1600
99	100.75	Trapezoidal PCC Drain on Hill side	1750
101	101.6	Trapezoidal PCC Drain on Hill side	600
101.6	102.2	Trapezoidal PCC Drain on Hill side	600
102.2	103	Trapezoidal Drain in Breast Wall on Hill Side	800
103	103.1	Trapezoidal Drain in Breast Wall on Hill Side	100
103.5	103.8	Trapezoidal PCC Drain on Hill side	300
103.8	105.7	Trapezoidal PCC Drain on Hill side	1900
105.7	106	Trapezoidal PCC Drain on Hill side	300
106	106.48	Trapezoidal PCC Drain on Hill side	480
95.7	96.4	Trapezoidal PCC Drain on Hill side	700
96.4	97.4	RCC Covered Drain on both side	1000
97.4	99	Trapezoidal PCC Drain on both side	1600
106.48	106.5	Trapezoidal PCC Drain on Hill side	20
106.5	106.8	Trapezoidal PCC Drain on both side	300
106.8	107.1	Trapezoidal Drain in Breast Wall on Hill Side	300
107.1	107.9	Trapezoidal Drain in Breast Wall on Hill Side	800
107.9	108.5	Trapezoidal PCC Drain on both side	600
108.5	109.6	Trapezoidal Drain in Breast Wall on Hill Side	1100
111.65	112	Trapezoidal PCC Drain on both side	350

Chainage (Km)		Side	Net Length (m)
From	To		
112.4	113.1	Trapezoidal PCC Drain on both side	700
113.5	113.8	Trapezoidal PCC Drain on Hill side	300
113.8	114.45	Trapezoidal PCC Drain on both side	650
114.45	115.1	Trapezoidal PCC Drain on Hill side	650
115.1	115.5	Trapezoidal Drain in Breast Wall on Hill Side	400
115.5	116.6	Trapezoidal PCC Drain on Hill side	1100
116.6	117.6	Trapezoidal PCC Drain on Hill side	1000
117.6	118.2	Trapezoidal PCC Drain on Hill side	600
118.2	119	Trapezoidal PCC Drain on both side	800
119	119.9	Trapezoidal PCC Drain on Hill side	900
120.6	121.2	Trapezoidal PCC Drain on Hill side	600
121.2	122.3	Trapezoidal PCC Drain on both side	1100
122.3	124.47	Trapezoidal PCC Drain on Hill side	2170
124.47	125.2	Trapezoidal PCC Drain on both side	730
125.2	125.9	Trapezoidal PCC Drain on Hill side	700
125.9	128.3	Trapezoidal PCC Drain on Hill side	2400
128.3	130.7	Trapezoidal Drain in Breast Wall on Hill Side	2400
130.7	131.7	Trapezoidal PCC Drain on Hill side	1000
131.7	132	Trapezoidal PCC Drain on both side	300
132	133	Trapezoidal PCC Drain on Hill side	1000
133	134.8	Trapezoidal PCC Drain on Hill side	1800
134.8	135.2	Trapezoidal Drain in Breast Wall on Hill Side	400
135.2	136	Trapezoidal PCC Drain on both side	800
136	137.5	Trapezoidal PCC Drain on Hill side	1500
137.5	137.9	Trapezoidal Drain in Breast Wall on Hill Side	400
137.9	138.3	Trapezoidal Drain in Breast Wall on Hill Side	400
138.3	138.386	Trapezoidal PCC Drain on Hill side	86
		Total length =	**36919.00**

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 carriageway 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
All Major and Minor Bridges shall be provided as per GAD attached.		

(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)

Thefollowingstructuresshallbedesigned tocarryutility servicesspecifiedin Table below:

[Refer to provisionofthe relevant Manual and provide details]

Sl.No.	Bridge at km	Utility service 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:

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

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

Sl. No.	Culvert Location	Span /Opening (m)	Remarks*
1	95.735	1 X 1.5	SLAB
2	96.025	1 X 1.5	SLAB
3	96.575	1 X 1.5	SLAB
4	96.845	1 X 1.5	SLAB
5	97.360	1 X 1.5	SLAB
6	97.525	1 X 1.5	SLAB
7	97.645	1 X 1.5	SLAB
8	97.750	1 X 1.5	SLAB
9	97.875	1 X 1.5	SLAB
10	97.935	1 X 1.5	SLAB
11	99.080	1 X 1.5	SLAB
12	101.160	1 X 1.5	SLAB
13	101.250	1 X 1.5	SLAB
14	101.380	1 X 1.5	SLAB
15	101.880	1 X 1.5	SLAB
16	101.995	1 X 1.5	SLAB
17	102.070	1 X 1.5	SLAB
18	102.195	1 X 1.5	SLAB
19	102.945	1 X 3.0	SLAB

Sl. No.	Culvert Location	Span /Opening (m)	Remarks*
20	103.125	1 X 1.5	SLAB
21	104.085	1 X 1.5	SLAB
22	104.505	1 X 1.5	SLAB
23	104.830	1 X 3.0	SLAB
24	105.380	1 X 1.5	SLAB
25	106.000	1 X 1.5	SLAB
26	106.265	1 X 1.5	SLAB
27	107.700	1 X 1.5	SLAB
28	107.935	1 X 1.5	SLAB
29	108.095	1 X 1.5	SLAB
30	109.010	1 X 1.5	SLAB
31	109.410	1 X 1.5	SLAB
32	109.585	1 X 1.5	SLAB
33	109.740	1 X 1.5	SLAB
34	110.120	1 X 1.5	SLAB
35	110.585	1 X 1.5	SLAB
36	110.950	1 X 1.5	SLAB
37	111.195	1 X 1.5	SLAB
38	111.355	1 X 1.5	SLAB
39	111.620	1 X 1.5	SLAB
40	111.765	1 X 1.5	SLAB
41	112.350	1 X 1.5	SLAB
42	112.510	1 X 1.5	SLAB
43	112.860	1 X 1.5	SLAB
44	113.780	1 X 1.5	SLAB
45	115.420	1 X 1.5	SLAB
46	116.025	1 X 1.5	SLAB
47	116.300	1 X 1.5	SLAB
48	116.690	1 X 1.5	SLAB
49	119.605	1 X 1.5	SLAB
50	120.755	1 X 1.5	SLAB
51	121.165	1 X 1.5	SLAB
52	122.740	1 X 1.5	SLAB
53	123.450	1 X 1.5	SLAB
54	124.045	1 X 1.5	SLAB
55	126.245	1 X 1.5	SLAB
56	127.580	1 X 1.5	SLAB
57	127.835	1 X 1.5	SLAB
58	127.865	1 X 1.5	SLAB
59	128.440	1 X 2.0	SLAB
60	128.515	1 X 1.5	SLAB
61	129.730	1 X 1.5	SLAB
62	129.840	1 X 1.5	SLAB
63	130.835	1 X 1.5	SLAB
64	130.975	1 X 1.5	SLAB
65	131.170	1 X 1.5	SLAB
66	131.730	1 X 1.5	SLAB
67	131.980	1 X 1.5	SLAB
68	132.565	1 X 1.5	SLAB
69	132.755	1 X 1.5	SLAB
70	132.915	1 X 1.5	SLAB

Sl. No.	Culvert Location	Span /Opening (m)	Remarks*
71	133.215	1 X 1.5	SLAB
72	133.385	1 X 1.5	SLAB
73	133.565	1 X 1.5	SLAB
74	133.790	1 X 1.5	SLAB
75	134.005	1 X 1.5	SLAB
76	134.675	1 X 1.5	SLAB
77	135.295	1 X 1.5	SLAB
78	135.575	1 X 1.5	SLAB
79	135.750	1 X 1.5	SLAB
80	135.910	1 X 1.5	SLAB
81	136.175	1 X 1.5	SLAB
82	136.340	1 X 1.5	SLAB
83	136.710	1 X 1.5	SLAB
84	136.920	1 X 1.5	SLAB
85	137.155	1 X 1.5	SLAB
86	137.455	1 X 1.5	SLAB
87	137.805	1 X 1.5	SLAB
88	138.000	1 X 1.5	SLAB
89	138.265	1 X 1.5	SLAB

*[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]
1	96.725	1 X 1.3	SLAB
2	97.175	1 X 1.5	SLAB
3	99.180	1 X 1.5	SLAB
4	99.240	1 X 1.5	SLAB
5	99.400	1 X 1.5	SLAB
6	100.655	1 X 1.0	SLAB
7	100.955	1 X 1.0	SLAB
8	101.600	1 X 1.0	SLAB
9	101.775	1 X 1.4	SLAB
10	102.830	1 X 3.0	SLAB
11	103.075	1 X 1.1	SLAB
12	103.455	1 X 1.1	SLAB
13	103.685	1 X 1.1	SLAB
14	103.945	1 X 1.1	SLAB
15	104.205	1 X 1.2	SLAB
16	104.985	1 X 1.0	SLAB
17	105.250	1 X 1.0	SLAB
18	105.725	1 X 1.0	SLAB
19	107.995	1 X 1.0	SLAB
20	110.320	1 X 1.3	SLAB
21	113.485	1 X 1.0	SLAB
22	115.105	1 X 1.6	SLAB

Sl. No.	Culvert location	Type, span, height and width of existing culvert (m)	Repairs to be carried out [specify]
23	115.305	1 X 1.7	SLAB
24	115.800	1 X 1.0	SLAB
25	116.135	1 X 1.5	SLAB
26	117.755	1 X 1.4	SLAB
27	117.965	1 X 1.4	SLAB
28	118.160	1 X 1.5	SLAB
29	118.235	1 X 1.5	SLAB
30	118.925	1 X 1.3	SLAB
31	121.020	1 X 1.4	SLAB
32	123.050	1 X 1.2	SLAB
33	124.435	1 X 1.4	SLAB
34	127.415	1 X 1.2	SLAB
35	128.315	1 X 1.3	SLAB
36	128.610	1 X 1.0	SLAB
37	128.690	1 X 1.5	SLAB
38	129.155	1 X 1.1	SLAB
39	131.275	1 X 1.2	SLAB
40	131.485	1 X 1.2	SLAB
41	132.260	1 X 1.1	SLAB
42	133.355	1 X 1.1	SLAB
43	134.275	1 X 2.5	SLAB
44	134.385	1 X 1.5	SLAB

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

Sl. No.	Culvert Location	Span /Opening (m)	Remarks*
1	96.330	1 X 1.5	SLAB
2	97.275	1 X 1.5	SLAB
3	98.105	1 X 1.5	SLAB
4	98.365	1 X 1.5	SLAB
5	98.795	1 X 1.5	SLAB
6	98.885	1 X 1.5	SLAB
7	99.650	1 X 1.5	SLAB
8	99.765	1 X 1.5	SLAB
9	99.935	1 X 3.0	SLAB
10	100.105	1 X 1.5	SLAB
11	100.320	1 X 1.5	SLAB
12	102.580	1 X 1.5	SLAB
13	103.835	1 X 1.5	SLAB
14	104.295	1 X 2.5	SLAB
15	104.450	1 X 1.5	SLAB

Sl. No.	Culvert Location	Span /Opening (m)	Remarks*
16	104.650	1 X 1.5	SLAB
17	105.077	1 X 1.5	SLAB
18	105.505	1 X 1.5	SLAB
19	105.860	1 X 1.5	SLAB
20	106.595	1 X 1.5	SLAB
21	106.820	1 X 1.5	SLAB
22	107.060	1 X 1.5	SLAB
23	107.380	1 X 1.5	SLAB
24	108.300	1 X 1.5	SLAB
25	108.550	1 X 1.5	SLAB
26	108.725	1 X 1.5	SLAB
27	108.775	1 X 1.5	SLAB
28	109.875	1 X 1.5	SLAB
29	110.830	1 X 1.5	SLAB
30	112.160	1 X 1.5	SLAB
31	113.195	1 X 1.5	SLAB
32	114.000	1 X 1.5	SLAB
33	114.190	1 X 1.5	SLAB
34	114.335	1 X 1.5	SLAB
35	114.535	1 X 1.5	SLAB
36	114.655	1 X 1.5	SLAB
37	114.985	1 X 1.5	SLAB
38	115.650	1 X 1.5	SLAB
39	115.955	1 X 1.5	SLAB
40	117.085	1 X 3.0	SLAB
41	118.500	1 X 1.5	SLAB
42	119.280	1 X 1.5	SLAB
43	120.200	1 X 1.5	SLAB
44	120.415	1 X 1.5	SLAB
45	120.605	1 X 1.5	SLAB
46	121.775	1 X 1.5	SLAB

Sl. No.	Culvert Location	Span /Opening (m)	Remarks*
47	122.315	1 X 1.5	SLAB
48	122.550	1 X 1.5	SLAB
49	124.250	1 X 1.5	SLAB
50	124.895	1 X 1.5	SLAB
51	125.875	1 X 1.5	SLAB
52	126.785	1 X 1.5	SLAB
53	127.230	1 X 1.5	SLAB
54	127.750	1 X 1.5	SLAB
55	128.100	1 X 1.5	SLAB
56	128.800	1 X 1.5	SLAB
57	129.470	1 X 1.5	SLAB
58	129.985	1 X 1.5	SLAB
59	130.455	1 X 1.5	SLAB
60	131.850	1 X 1.5	SLAB
61	134.895	1 X 1.5	SLAB
62	135.185	1 X 1.5	SLAB

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

[Refer provisionofthe relevant Manual and provide details]

Sl.No.	Location atkm	Typeofrepair required
Nil		

(f) Floorprotectionworksshallbeasspecifiedintherelevant IRC Codesand Specifications.

(iii) Bridges

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

[(i) Theexistingbridgesatthefollowinglocationsshallbere-constructed as newStructures]

[Refer provisionofthe relevant Manual and provide details]

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)		
Nil					

(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 bridges at the following locations on the Project Highway shall be 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 Manual and provide details:]

Sl.No.	Location atkm	Remarks
Nil		

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

[Refer to provisionofthe relevant Manual and providedetails]

Sl.No.	Location atkm	Remarks
Nil		

(e) Drainagesystem forbridge decks

Aneffectivedrainagesystemforbridgedecks shall beprovidedas specified in provisionofthe relevant Manual

(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

Road under-bridges (road under railway line) shall be provided at the

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 ofthe Major Bridges and Structures:

Sl. No.	Location (Km)
Nil	

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 Signage, Road Marking and other appurtenances	unit	Quantity
1	Ordinary Kilometre stones=	Nos	33
2	5th Kilometre stones=	Nos	9
3	Hectometer Stones=	Nos	165
4	Delineators (100 cm long and circular shaped) + Hazard marker	Nos	1057
5	900 mm Octagonal	Nos	49
6	600 mm circular	Nos	588
7	900 mm Triangular	Nos	630
8	800 mm x 600 mm rectangular	Nos	777

Sl. No	Traffic Signage, Road Marking and other appurtenances	unit	Quantity
9	Object Hazard Marker (one way)	Nos	486
10	Fluroscent Strips	Rolls	15

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

9. Roadside Furniture

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

(ii) Overhead traffic signs: location and size

Sl. No.	Location (Km)	Size
1	At Razai (Ch. 101.00 km)	16 m X 1.2 m (Double Pole)
2	At Kharasom (Ch. 110.00 km)	16 m X 1.2 m (Double Pole)
3	At Jessami (Ch. 138.300 km)	16 m X 1.2 m (Double Pole)

10. Compulsory Afforestation

[Refer to provision of relevant Manual and specify the number of trees which are required to be planted by the concerned department as compensatory afforestation.]

11. Hazardous Locations

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

a) Breast Wall

Sl. No.	Design Chainage		Length (m)	Side	Remarks
	From	To			
1.	137.900	138.300	386.000	Hill side	The location and height of the breast wall shall be done as per the site condition and under guidance of Authority Engineer
2.	107.100	107.900	786.00	Hill side	
3.	786.00	786.00	779.000	Hill side	
4.	786.00	786.00	79.000	Hill side	
5.	786.00	786.00	286.000	Hill side	
6.	786.00	786.00	1051.000	Hill side	
7.	786.00	786.00	379.000	Hill side	
8.	786.00	786.00	2316.000	Hill side	
9.	786.00	786.00	386.000	Hill side	
10.	786.00	786.00	393.000	Hill side	
		Total Length =	6841.000		

b) Retaining Wall

Sl.No.	Design Chainage		Length(M)	Remark
	From	To		
1.	119.900	120.600	1386.00	The location and height of the retaining wall shall be done as per the site condition and under guidance of Authority Engineer
2.	102.200	103.000	779.000	
3.	103.000	103.100	79.000	
4.	106.800	107.100	286.000	
5.	108.500	109.600	1051.000	
6.	115.100	115.500	379.000	
7.	128.300	130.700	2316.000	
8.	134.800	135.200	386.000	

Sl.No.	Design Chainage		Length(M)	Remark
	From	To		
9	137.500	137.900	393.000	
		Total Length =	**7055.00**	

c) W-Beam Crash Barrier

SL No	Design Chainage		Length (m)	Remark
	From	**To**		
1	95.700	96.400	679.000	The location of the W-Beam Crash Barrier shall be done as per the site condition and under guidance of Authority Engineer
2	99.000	100.750	1687.000	
3	101.000	101.600	572.000	
4	103.800	105.700	1781.000	
5	106.000	106.480	466.000	
6	106.480	106.500	6.000	
7	114.450	115.100	629.000	
8	115.500	116.600	1065.000	
9	117.600	118.200	579.000	
10	119.000	119.900	886.000	
11	120.600	121.200	572.000	
12	122.300	124.430	2081.000	
13	124.430	124.470	5.000	
14	124.470	124.500	30.000	
15	125.900	128.300	2337.000	
16	130.700	131.700	965.000	
17	132.000	133.000	972.000	
18	133.000	134.800	1737.000	
19	136.000	137.500	1458.000	
20	107.100	107.900	786.000	
21	101.600	102.200	565.000	
22	103.500	103.800	293.000	
23	105.700	106.000	286.000	
24	113.500	113.800	293.000	
25	116.600	117.600	986.000	
26	125.200	125.900	693.000	
27	119.900	120.600	693.000	
		Total length =	**23102.00**	

12. Special Requirement for Hill Roads

A) Seeding and Mulching

Sr. No.	Design Chianage		Length In (m)	Height In (m)	Area In (sqm)	Remarks
	From	To				
1	102.560	102.920	360	10	7200	Both side
2	108.16	108.50	340	6	4080	
				Total	**11280**	

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 concerned department. The cost of the same shall be borne by the concerned department.

Annexure-I

Schedule-B1

(Refer Sheet-II)

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 the Project Facilities is described below:

a) Toll Plaza: -

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

b) Roadside 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 shelter	97.236(Right side) 106.136 (Right side)	Bus shelter have been placed on one side of proposed roadway	Dimension of Passenger Shelter (L X B = 5.0 m X 3.0 m)
2	Bus shelter	110.636 (Left side) 121.836 (Right side) 124.436 (Left side)	Bus shelter have been placed on one side of proposed roadway	Dimension of Passenger Shelter (L X B = 5.0 m X 3.0 m)
3	Bus shelter	133.536 (Right side)	Bus shelter have been placed on one side of proposed roadway	Dimension of Passenger Shelter (L X B = 5.0 m X 3.0 m)

f) Rest Areas

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

g) Others to be specified

Street Lighting:
Total 326Nos. Street lighting shall be provided in junction and passenger shelters locations.
6 no of toilet has been proposed near the bus shelter.

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: 73-2015), 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:73-2015)], 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">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"></td><td colspan="3">Width of Shoulder (m)</td><td rowspan="2">Type of Section</td><td rowspan="2"></td><td colspan="2">Width of Shoulder (m)</td></tr>
<tr><td>Paved</td><td>Earthen</td><td>Total</td><td>Paved</td><td>Earthen</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>-</td><td>-</td></tr>
<tr><td>Valley Side</td><td>1.5</td><td>1</td><td>2.5</td><td>Valley Side</td><td>-</td><td>Up to 2.5 m</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>-</td><td>-</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>-</td><td>-</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: 73-2015
Radius | Extra Wideni</td><td colspan="5">Extra Widening has been proposed as per IRC: SP: 48-1998 (Table 6.9) of Hill Road Manual.
Radius | Extra Widenin</td></tr>
</table>

Item	Manual Clause Reference	Provision as per Manual			Modified Provision		
			ng			g	
		75-100 m	0.9 m		21-40 m	1.5 m	
		101-300 m	0.6 m		41-60 m	1.2 m	
					61-100 m	0.9 m	
					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 than 40 kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks (Design Speed in kmph)
1	96659.763	Built-up	30
2	96722.258	Built-up	30
3	96776.428	Built-up	30
4	96827.845	Built-up	30
5	96904.508	Built-up	30
6	97143.677	Built-up	30
7	97213.076	Built-up	25
8	100605.627	Built-up	30
9	100782.835	Built-up	30
10	100880.094		30
11	100958.722	Built-up	30
12	101087.178	Built-up	30
13	101155.615	Built-up	30
14	110766.721	Built-up	30
15	110832.824	Built-up	30
16	110911.494	Built-up	30
17	110982.579	Built-up	30
18	111104.051	Built-up	30
19	111286.616	Built-up	30
20	111425.794	Built-up	30
21	112832.533	Built-up	30
22	113104.829	Built-up	30
23	113444.723	Built-up	30
24	113523.695	Built-up	30

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

Sl. No.	HIP NO.	Chainage	RADIUS
1	1605	96659.763	30
2	1608	96722.258	50

3	1614	96827.845	50
4	1617	96904.508	50
5	1628	97143.677	50
6	1631	97213.076	60
7	1670	100782.835	40
8	1674	100880.094	40
9	1677	100958.722	40
10	1681	101087.178	30
11	1684	101155.615	50
12	1692	101519.224	60
13	1750	105372.591	50
14	1758	105631.252	50
15	1837	110766.721	30
16	1840	110832.824	30
17	1844	110911.494	50
18	1847	110982.579	50
19	1851	111104.051	50
20	1855	111286.616	50
21	1859	111425.794	30
22	1886	112832.533	30
23	1905	113444.723	50
24	1909	113523.695	60
25	1984	119201.606	50
26	1991	119471.565	50
27	2047	125678.841	50
28	2081	127839.251	50
29	2159	131847.629	50
30	2182	132893.378	50
31	2194	133360.253	50
32	2247	136158.551	70
33	2251	136248.637	70
34	2267	136954.295	50

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

Schedule-H

(SeeClauses 10.1(iv)and19.3)

Contract PriceWeightages

1.1 The Contract Price for this Agreement is Rs.**3,672,565,859.58**

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

Bill No	Weightage in percentage to the contract price	Description of Items		Percentage weightage
1		**WIDENING AND STRENGTHENING OF EXISTING ROAD**		
	57.84%	*A1.1*	*Earthwork up to top of the sub-grade including excavation in soil, soft rock and hard rock including Cleaning & grubbing with required site clearance etc.*	0.00%
		A1.2	*Sub-Base Course*	0.00%
		A1.3	*Non Bituminous Base Course*	0.00%
		A1.4	*Bituminous Base Course*	0.00%
		A1.5	*Wearing Coat*	0.00%
		A1.6	*Widening and repair of culverts*	0.00%
		A1.7	*Hard Shoulder*	0.00%
2		**RECONSTRUCTION/NEW 2-LANE ALIGNMENT/BYPASS(FLEXIBLE PAVEMENT)**		0.00%
		A2.1	*Earthwork up to top of the sub-grade including excavation in soil, soft rock and hard rock including Cleaning & grubbing with required site clearance etc.*	19.17%
		A2.2	*Sub-Base Course*	9.14%
		A2.3	*Non Bituminous Base Course*	6.47%
		A2.4	*Bituminous Base Course*	9.80%
		A2.5	*Wearing Coat*	4.28%
		A2.6	*Hard Shoulder*	0.00%
3		**RECONSTRUCTION/NEW 2-LANE ALIGNMENT/BYPASS(RIGID PAVEMENT)**		0.00%
		A3.1	*Earthwork up to top of the sub-grade including excavation in soil, soft rock and hard rock including Cleaning & grubbing with required site clearance etc.*	0.00%
		A3.2	*Sub-Base Course*	0.00%
		A3.3	*Dry Lean Concrete(DLC) Course*	0.00%
		A3.4	*Pavemennt Quality Control(PQC) Course*	0.00%
4		**RECONSTRUCTION/NEW SERVICE ROAD (FLEXIBLE PAVEMENT)**		0.00%
		A4.1	*Earthwork up to top of the sub-grade including excavation in soil, soft rock and hard rock including Cleaning & grubbing with required site clearance etc.*	0.00%
		A4.2	*Sub-Base Course*	0.00%
		A4.3	*Non Bituminous Base Course*	0.00%

Bill No	Weightage in percentage to the contract price	Description of Items		Percentage weightage
		A4.4	*Bituminous Base Course*	0.00%
		A4.5	*Wearing Coat*	0.00%
5		**RECONSTRUCTION/NEW SERVICE ROAD (RIGID PAVEMENT)**		0.00%
		A5.1	*Earthwork up to top of the sub-grade including excavation in soil, soft rock and hard rock including Cleaning & grubbing with required site clearance etc.*	0.00%
		A5.2	*Sub-Base Course*	0.00%
		A5.3	*Dry Lean Concrete(DLC) Course*	0.00%
		A5.4	*Pavemennt Quality Control(PQC) Course*	0.00%
6		**RECONSTRUCTION AND NEW CULVERTS ON EXISTING ROAD, REALIGNMENTS, BYPASSES**		0.00%
		A6.1	*Culverts and associated Protection Works (Length< 6m)*	8.97%
7	**0.00%**	**WIDENING AND REPAIR OF MINOR BRIDGES (Length > 6 m and < 60 m)**		0.00%
		A7.1	*Minor Bridges*	0.00%
8		**NEW MINOR BRIDGES (Length > 6 m and < 60 m)**		0.00%
		A8.1	***Foundation + Sub Structures:*** *On completion of the foundation work including foundations for wing wall and return walls, abutments, piers upto the abutment/pier cap.*	0.00%
		A8.2	***Super-structure:*** *On completion of the super structure in all respect including wearing coat, bearings, expansion joints, hand rails, crash barriers, road signs & markings, tests on completion etc. complete in all respect.*	0.00%
		A8.3	***Approaches:*** *On completion of approaches including retaining wall, stone pitching, protection works complete in all respect and fit for use.*	0.00%
		A8.4	***Guide Bunds and River Training Works:*** *On completion of Guide bunds and river training works complete in all respects.*	0.00%
9		**WIDENING AND REPAIRS OF UNDERPASSES/ OVERPASSES**		0.00%
		A9.1	*Underpasses/ Overpasses*	0.00%
10		**NEW UNDERPASSES/ OVERPASSES**		0.00%
		A10.1	***Foundation + Sub Structures:*** *On completion of the foundation work including foundations for wing wall and return walls, abutments, piers upto the abutment/pier cap.*	0.00%

Bill No	Weightage in percentage to the contract price	Description of Items				Percentage weightage
		A10.2		***Super-structure:*** *On completion of the super structure in all respect 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 joint complete in all respects as specified and (b) in case of underpass- Rigid pavement including drainage facility complete in all respects as specified.*		0.00%
		A10.3		***Approaches:*** *On completion of approaches including retaining walls/ Reinforced earth walls, stone pitching, protection works complete in all respect and fit for use.*		0.00%
11	**0.00%**	**WIDENING AND REPAIRS OF MAJOR BRIDGES**				0.00%
		A11.1		*Foundation*		0.00%
		A11.2		*Sub-structure*		0.00%
		A11.3		*Super-structure(including bearings)*		0.00%
		A11.4		*Wearing Coat including expansion joints*		0.00%
		A11.5		*Miscellaneous items like handrails, crash barriers, road markings etc.*		0.00%
		A11.6		*Wing walls/ Return walls*		0.00%
		A11.7		*Guide Bunds, River Training Works etc*		0.00%
		A11.8		*Approaches (including Retaining walls, stone pitching and protection works)*		0.00%
12		**NEW MAJOR BRIDGES**				0.00%
		A12.1		*Foundation*		0.00%
		A12.2		*Sub-structure*		0.00%
		A12.3		*Super-structure(including bearings)*		0.00%
		A12.4		*Wearing Coat including expansion joints*		0.00%
		A12.5		*Miscellaneous items like handrails, crash barriers, road markings etc.*		0.00%
		A12.6		*Wing walls/ Return walls*		0.00%
		A12.7		*Guide Bunds, River Training Works etc*		0.00%
		A12.8		*Approaches (including Retaining walls, stone pitching and protection works)*		0.00%
13		**WIDENING AND REPAIR OF ROB/RUB**				0.00%
		A13.1	***(a)***	***ROB***		0.00%
			(i)	*Foundation*	-	0.00%
			(ii)	*Sub-structure*	-	0.00%
			(iii)	*Super-structure(including bearings)*	-	0.00%

Bill No	Weightage in percentage to the contract price	Description of Items				Percentage weightage
			(iv)	*Wearing Coat in case of ROB- wearing coat including expansion joint complete in all respects as specified.*	-	0.00%
			(v)	*Miscellaneous items like handrails, crash barriers, road markings etc.*		0.00%
			(vi)	*Wing walls/ Return walls*		0.00%
			(vii)	*Approaches (including Retaining walls, stone pitching and protection works)*	-	0.00%
		A13.2	***(b)***	***RUB***		0.00%
			(i)	*Foundation*	-	0.00%
			(ii)	*Sub-structure*	-	0.00%
			(iii)	*Super-structure(including bearings)*	-	0.00%
			(iv)	*Wearing Coat in case of RUB- Rigid pavement under RUB including drainage facility complete in all respects as specified.*	-	0.00%
			(v)	*Miscellaneous items like handrails, crash barriers, road markings etc.*		0.00%
			(vi)	*Wing walls/ Return walls*		0.00%
			(vii)	*Approaches (including Retaining walls, stone pitching and protection works)*	-	0.00%
14		**NEW ROB/RUB**				0.00%
		A14.1	***(a)***	***ROB***		0.00%
			(i)	*Foundation*	-	0.00%
			(ii)	*Sub-structure*	-	0.00%
			(iii)	*Super-structure(including bearings)*	-	0.00%
			(iv)	*Wearing Coat in case of ROB- wearing coat including expansion joint complete in all respects as specified.*	-	0.00%
			(v)	*Miscellaneous items like handrails, crash barriers, road markings etc.*		0.00%
			(vi)	*Wing walls/ Return walls*		0.00%
			(vii)	*Approaches (including Retaining walls/ Reinforced earth walls, stone pitching and protection works)*	-	0.00%
		A14.2	***(b)***	***RUB***		0.00%
			(i)	*Foundation*	-	0.00%
			(ii)	*Sub-structure*	-	0.00%
			(iii)	*Super-structure(including*	-	0.00%

Bill No	Weightage in percentage to the contract price	Description of Items				Percentage weightage
				bearings)		
			(iv)	*Wearing Coat in case of RUB- Rigid pavement under RUB including drainage facility complete in all respects as specified.*	-	0.00%
			(v)	*Miscellaneous items like handrails, crash barriers, road markings etc.*		0.00%
			(vi)	*Wing walls/ Return walls*		0.00%
			(vii)	*Approaches (including Retaining walls/ Reinforced earth walls, stone pitching and protection works)*	-	0.00%
15		**WIDENING AND REPAIR OF ELEVATED SECTION/ FLYOVERS/ GRADE SEPARATORS**				0.00%
		A.15.1	*(i)*	*Foundation*	-	0.00%
			(ii)	*Sub-structure*	-	0.00%
			(iii)	*Super-structure(including bearings)*	-	0.00%
			(iv)	*Wearing Coat including expansion joint.*	-	0.00%
			(v)	*Miscellaneous items like handrails, crash barriers, road markings etc.*		0.00%
			(vi)	*Wing walls/ Return walls*		0.00%
			(vii)	*Approaches (including Retaining walls/ Reinforced earth walls, stone pitching and protection works)*	-	0.00%
16		**NEW ELEVATED SECTION/ FLYOVERS/ GRADE SEPARATORS**				0.00%
		A.16.1	*(i)*	*Foundation*	-	0.00%
			(ii)	*Sub-structure*	-	0.00%
			(iii)	*Super-structure(including bearings)*	-	0.00%
			(iv)	*Wearing Coat including expansion joint.*	-	0.00%
			(v)	*Miscellaneous items like handrails, crash barriers, road markings etc.*		0.00%
			(vi)	*Wing walls/ Return walls*		0.00%
			(vii)	*Approaches (including Retaining walls/ Reinforced earth walls, stone pitching and protection works)*	-	0.00%
17	**41.60%**	**OTHER WORKS**				0.00%
		A17.1	*Toll Plaza*			0.00%
		A17.2	*Road side drain*			4.24%
		A17.3	*Road signs, marking, Km stones, Safety devices etc.*			0.00%
			(a)	*Pavement Marking*		0.38%

Bill No	Weightage in percentage to the contract price	Description of Items			Percentage weightage
			(b)	*Crash barrier/W metal crash barrier*	2.28%
			(c)	*Traffic Sign*	0.30%
			(d)	*Road Boundary stone, km Stone,5th km stone and hectometer stone*	0.01%
			(e)	*Traffic blinker LED delineator, stud, reflective payment marker, tree reflector*	0.02%
			(f)	*Traffic impact Attenuators at Abutments and Piers traffic island*	0.00%
			(g)	*Road furniture (overhead signboard etc.)*	0.00%
			(h)	*Others including Toilet Blocks and Street lightining*	0.25%
		A17.4	*Project facilities*		0.00%
			(a)	*Truck lay-byes*	0.00%
			(b)	*Bus bays and Bus Shelter*	0.11%
			(c)	*Junctions (Major & Minor)*	0.02%
			(d)	*Others including Cable duct & Lighing on Bridges, etc.*	0.00%
			(e)	*Rest areas (viewpoint/recreational areas)*	0.00%
		A17.5	*Road Side Plantation, Median plantation & Turfing of the embankment slope*		0.00%
		A17.6	*Repair of protection works other than approaches to the bridges, elevated sections/ fly-overs/ grade separator and ROBs/ RUBs.*		0.00%
		A17.7	*Traffic diversion, Safety and traffic management during construction*		0.00%
		A17.8	*Slope Protection Works as special requirement for hill road*		0.00%
			(a)	*Hydro Seeding of Cut Slopes in Soil*	0.01%
			(b)	*Seeding and Mulching with Jute net all along the perpetual slide locations*	0.11%
			(c)	*Catchwater Drain*	0.00%
			(d)	*Retaining Wall*	23.77%
			(e)	*Reinforced earth wall*	0.00%
			(f)	*Breast wall*	8.16%
			(g)	*Soil Nailing*	0.02%
			(h)	*Gabion wall*	1.93%
		A17.11	*Utility Shifting*		0.58%

Sheet-III

1.2.1 Details of utility shifting

Item	Weightage in percentage to the Utility	Stage for Payment	Percentage weightage

	Shifting Price		
Electrical Utilities and public Health Utilities (Water pipe lines and sewage lines)	0.58%	(i) EHT line	0%
		(ii) EHT crossings	
		(iii) HT/LT line	46.33%
		(iv) HT/LT crossings	
		(v) Water pipeline	53.67%
		(vi) Water pipeline crossings	
		(vii) Sewage lines	0%
		(viii) Sewage lines crossings	

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:

Table1.3.1

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	[Nil]	
(3) Sub-base Course	[Nil]	
(4) Non bituminous Base course	[Nil]	
(5) Bituminous Base course	[Nil]	
(6) Wearing Coat	[Nil]	
(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 prorata 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	**19.28%**	
(3) Sub-base Course	**9.20%**	
(4) Non bituminous Base course	**6.50%**	
(5) Bituminous Base course	**9.85%**	
(6) Wearing Coat	**4.31%**	
(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
(1)Earthwork up to top of the sub-grade	[Nil]	

Stage of Payment	Percentage weightage	Payment Procedure
(2) Sub-base Course	[Nil]	full length or 5 (five) km length, whichever is less.
(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)	9.02%	

@ 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 xweightage for road work xweightage for bituminous workx (1/L)

Where,

P = Contract Price

L = Total length in km

Similarly, the rates perkm for otherstages shallbe workedout 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.

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.	[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, 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

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	[Nil]	Foundation: Cost of each Major Bridge shall be determined on pro-rata basis with respect to the total linear length (m)

Stage of Payment	Weightage	Payment Procedure
		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.
(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

Stage of Payment	Weightage	Payment Procedure
		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, 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	[Nil]	Payment shall be made on pro-rata basis on completion of a stage in all respects as specified

Stage of Payment	Weightage	Payment Procedure
pitching and protection works)		
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. 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

Stage of Payment	Weightage	Payment Procedure
		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.
(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 caseofinnovateMajor Bridge projects like cablesuspension/cable stayed/Extra Dozedandexceptionallylongspanbridges, theschedulemay bemodifiedasper site requirements before biddingwith due approval ofCompetentAuthority.

(2) The Schedule for exclusive tunnel projects may be prepared as per site requirements beforebiddingwith dueapproval of CompetentAuthority.

1.3.4 Other works.

Procedureforestimatingthevalueofotherworksdoneshallbeasstatedin table 1.3.4.

Table1.3.4

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	4.26%	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 05% (five percent)of the total length.
(3) Road signs, markings, km stones, safety devices etc.	3.25%	
(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	0..11%	
d) Rest Area	[Nil]	
..e) Junction	0.02%	
(5) Road side Plantation including Horticulture in	[Nil]	Unit of measurement is linear length

Stage of Payment	Weightage	Payment Procedure
Wayside Amenities		
(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 05% (five percent) of the total length.
(a) Retaining Wall	23.91%	
(b) Breast Wall	8.20%	
(c) Toe Wall	[Nil]	
(d) Gabion Wall	1.53%	
(f) Soil Nailing	0.02%	
(g) Parapet wall	1.94%	
(9) Site Clearance & Dismantling	[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 05% (five percent) of the total length.
(10) Other Works (turfing & Hydro seeding and mulching etc.)	0.12%	Unit of measurement is square metre.

1.3.5 Utility Shifting

Stage of Payment	Weightage	Payment Procedure
1	2	3
(i) EHT line	0%	Unit of measurement is as per completed activities. Cost per activity hall be determine on pro-rate basis as per its weightage with reference to total cost of EHT line. Payment shall be made for completed activity. (The average weightage of major activities (only for payment purpose) in shifting work is (i) Erection of poles 20%, (ii) Conductor stringing including laying of cable 30%, (iii) DTR erection if involved)-15% and (iv) Charging of line including dismantling and site clearance-35% (with DTR) and 50% without DTR)
(ii) ETH crossing		Cost of each crossing shall be determined on pro-rate basis as per its weightage with reference to total no of crossings. Payment shall be made for not less than 25% of the crossing subject to a minimum of 4 crossings.
(iii) HT/LT line (including transformers if any)	46.33%	Unit of measurement is as per completed activities. Cost per activity hall be determine on pro-rate basis as per its weightage with reference to total cost of LT/HT line. Payment shall be made for completed activity. (The average weightage of major activities (only for payment purpose) in shifting work is (i) Erection of poles 20%, (ii) Conductor stringing including laying of cable 30%, (iii) DTR erection if involved)-10% and (iv) Charging of line including dismantling and site clearance-40% (with DTR) and 50% without DTR)
(iv) HT/LT		Cost of each crossing shall be determined on pro-rate basis as per

crossing		its weightage with reference to total no of crossings. Payment shall be made for not less than 25% of the crossing subject to a minimum of 10 crossings.
(v) Water pipeline	53.67	Unit of measurement is as per completed activities. Cost per activity hall be determine on pro-rate basis as per its weightage with reference to total cost of pipe line. Payment shall be made for completed activity. (The average weightage of major activities (only for payment purpose) in shifting work is laying of pipe-50%, Charging of line including all miscellaneous works and dismantling and site clearance-50%)
(vi) Water pipeline crossing		Cost of each crossing shall be determined on pro-rate basis as per its weightage with reference to total no of crossings. Payment shall be made for not less than 25% of the crossing subject to a minimum of 8 crossings.
(vii)Sewage lines	0%	Unit of measurement is as per completed activities. Cost per activity hall be determine on pro-rate basis as per its weightage with reference to total cost of pipe line. Payment shall be made for completed activity. (The average weightage of major activities (only for payment purpose) in shifting work is laying of pipe-50%, Charging of line including all miscellaneous works and dismantling and site clearance-50%)
(viii)Sewage line crossing		Cost of each crossing shall be determined on pro-rate basis as per its weightage with reference to total no of crossings. Payment shall be made for completed activity. (The average weightage of major activities in shifting work is laying of pipe-50%, Charging of line including all miscellaneous works and dismantling and site clearance-50%)

2. Procedure for payment for Maintenance

2.1 The cost for maintenance shall be as stated inClause 14.1.1.

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