Corrigendum No. I

Name of Work: Rehabilitation of section from Km 298.00 to Km 330.662 (Karala to Kalipur) of NH-04 to Intermediate lane with hard shoulder in the Union Territory of Andaman & Nicobar Islands (Total Length 32.36 km) on EPC Mode (Package-VIII)

Sl. No	Reference of Tender documents	Clause No.	Existing Provision	Modified Provision
1.	Schedules	Schedule-B	Uploaded Schedule-B	Schedule-B as per **Annexure-A** of Corrigendum no. I
2.	Schedules	Schedule-H	Uploaded Schedule-H	Schedule-H as per **Annexure-B** of Corrigendum no. I
3.	Performance Bank Guarantee format	Appendix-VII of 2.21.1 & Schedule G	Format for Performance Bank Guarantee	Performance Bank Guarantee Format as per **Annexure-C** of this Corrigendum no. I
4.	DCA	Article 9 Utilities & Trees	Uploaded Article 9	Article 9 as per **Annexure-D** of this corrigendum
5.	Estimated Cost	1.1.1 of RFP	Estimated Project Cost (In Rs. Crore): **Rs. 126.45 Crore**	Estimated Project Cost (In Rs. Crore): **Rs. 134.38 Crore**
6.	Bid Security	1.2.4 of RFP	Bid Security: **Rs 1.265 Crore**	Bid Security: **Rs. 1.344 Crore**
7.	Threshold Technical Capacity	2.2.2.2 (i) of RFP	Threshold Technical Capacity: **Rs 189.68 Crore**	Threshold Technical Capacity: **Rs. 201.57 Crore**
8.	Similar Work	2.2.2.2 (ii) of RFP	One similar work : **Rs. 31.61 Crore**	One similar work : **Rs. 33.60 Crore**
9.	Financial Capacity	2.2.2.3 (i) of RFP	Minimum Net Worth (the **"Financial Capacity"**): **6.32 Crore**	Minimum Net Worth (the **"Financial Capacity"**): **Rs. 6.72 Crore**
10.	Annual Turnover	2.2.2.3 (ii) of RFP	Minimum Average Annual Turnover: **Rs. 25.29 Crore**	Minimum Average Annual Turnover: **Rs. 26.88 Crore**
11.	Receipt of executed Work	2.2.2.6 (ii) of RFP	However, receipts of or work executed amount less than **Rs. 12.65 Crore**	However, receipts of or work executed amount less than **Rs. 13.44 Crore**
12.	NIT & RFP	NIT & RFP	The complete BID document can be viewed / downloaded from web portal of [NHIDCL http://www.nhidcl.com or from web portal www.eprocure.gov.in 22.11.2019 to 07.01.2020 (upto 15.00 Hrs. IST). Bidder must submit its Financial bid and Technical Bid at [http://eprocure.gov.in] on or before (upto 07.01.2020 1500 hours IST). Bids received online shall be opened on 08.01.2020 (at 15.30 hours IST).	The complete BID document can be viewed / downloaded from web portal of [NHIDCL http://www.nhidcl.com or from web portal www.eprocure.gov.in 22.11.2019 to 07.01.2020 (upto 15.00 Hrs. IST). Bidder must submit its Financial bid and Technical Bid at [http://eprocure.gov.in] on or before (upto 07.01.2020 1500 hours IST). Bids received online shall be opened on 08.01.2020 (at 15.30 hours IST). **The Bidders are also required to submit the technical bid on BIMS portal (Bidder Information Management System).**

NHIDCL

13.	RFP	Section-2 Instructions To Bidders C. Preparation And Submission Of Bids 2.11 Documents comprising Technical and Financial BID	The Bidder shall then apply for the RFP on the CPPP website https://eprocure.gov.in/eprocure/app by submitting the documents mentioned below along with the supporting documents which shall comprise of the Technical BID on the CPPP portal.	The Bidder shall then apply for the RFP on the CPPP website https://eprocure.gov.in/eprocure/app by submitting the documents mentioned below along with the supporting documents which shall comprise of the Technical BID on the CPPP portal. **The Bidders are also required to submit the technical bid on BIMS portal (Bidder Information Management System).**
14.	RFP	Section-2 Instructions To Bidders C. Preparation And Submission Of Bids 2.13 Late Bids	E-procurement portal http://www.eprocure.gov.in shall not allow submission of any Bid after the prescribed date and time at clause 2.12. Physical receipt of documents listed at clause 2.11.2 of the RFP after the prescribed date and time at clause 2.12 shall not be considered and the bid shall be summarily rejected.	E-procurement portal CPPP website https://eprocure.gov.in/eprocure/app **and BIMS** shall not allow submission of any Bid after the prescribed date and time at clause 2.12. Physical receipt of documents listed at clause 2.11.2 of the RFP after the prescribed date and time at clause 2.12 shall not be considered and the bid shall be summarily rejected.
15.	BoQ	BoQ	Existing uploaded BoQ	Modified BoQ
16.	RFP	2.1.20 (New Clause)	New Clause	**Clause 2.1.20:** The bidder including individual or any of its JV member, who are either having 2 (two) on-going EPC Project(s) in NHIDCL or on-going Project(s) worth of Rs 500 Cr. (Awarded Cost) or more in NHIDCL, as on date of bid submission, shall not be eligible to bid for this Project (Issuance of LOA will be considered as on-going project).

(Pankaj Yadav)
Manager (Tech)

Annexure-A

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 Upgradation

Rehabilitation and Upgradation shall include Intermediate lane with Hard shoulder from Ch 298+0 to 330+357 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.

4. Availability of the aggregates/Other materials in the A&N Island

Transport/Arrangement of stones/aggregates/other materials to be planned by the contractor including its import from mainland/other countries, if required. No additional cost/variation/CoS is payable for bringing material from outside A&N Islands. The estimated cost of the bid is based on the local quarrying. Bidders need to carry out due diligence while quoting financial quote regarding availability of material at Islands. Bidders should also explore the alternate technologies as per IRC provisions to reduce the aggregate requirement and also to optimize the cost of work.

(Schedule-B)

Annex - I

Description of Two-Laning

Project Description:-

Rehabilitation and Up-gradation of NH-4 (Old NH-223) popularly known as Andaman Trunk Road (ATR) has been entrusted to NHIDCL for the entire stretch of 330.7 Km distributed in South Andaman and North & Middle Andaman. In North Andaman the stretch from Km 242.00 (panighat) to Km 298.00 (Karala junction) (Excluding Km 21 to Km 28) is being upgraded to two lanes. The rehabilitation and Upgradation of the most important stretch i.e from Km 298.00 (karala junction) to km 330.662 (kalipur) is proposed by upgrading to 5.5 m and 0.5m hard shoulder on both sides. The road is to be constructed on the existing alignment only. There is no realignment.

1. WIDENING OF THE EXISTING HIGHWAY

1.1 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 plain/rolling terrain to the extent land is available. Minimum formation width should not be less than 7mtr.

1.2 WIDTH OF CARRIAGEWAY

121 Intermediate-Lane with hard shoulders in rural section and intermediate lane with drain covered foothpath from Ch 298+0 to 330+357 shall be undertaken. The carriageway shall be 5.5m wide in rural and urban section conformation with the typical cross sections drawings in the Manual.

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

S.No.	Built up Stretch (Township)	Design Chainage (Km)		Length (km)	Typical Cross Section Proposed
		From	To		
1	Sita Nagar Village, Diglipur Market	308.900	311.000	2100	TCS II
2	R.K Village, V.S Pally	312.000	313.800	1800	TCS II
3	Karala Puram Village	314.900	315.874	974	TCS II

122 Except as otherwise provided in this Agreement, the width of the paved carriageway and cross-sectional features shall conform to paragraph 1.2.1 above

2. GEOMETRIC DESIGN AND GENERAL FEATURES

2.1 General

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

2.2 Design Speed

The design speed shall in accordance with section 2 of the manual.

2.3 Improvement of the existing road geometry

In the following sections, where improvement of the existing road geometrics to the prescribed standards is not possible within existing ROW, the existing road geometrics shall be improved to the extent possible within the given right of way and proper road signs and safety measures shall be provided:

Deficient Curves:

S. No	Design Chainage (km)	Radius (m)
1	298+052	40
2	298+724	70
3	299+491	40
4	300+106	65
5	300+457	50
6	300+877	65
7	300+999	60
8	301+876	60
9	303+836	50
10	303+910	60
11	307+373	60
12	307+671	50
13	308+163	70
14	310+364	60
15	310+582	60
16	310+684	50
17	312+165	70
18	312+356	60
19	312+958	70
20	313+186	50
21	316+664	70
22	317+086	50
23	317+386	50
24	317+772	50
25	318+032	50
26	318+540	45
27	318+722	40
28	319+228	50
29	319+793	60
30	320+025	40
31	321+483	45
32	321+564	35

Bypasses

S. No	DesignChainage (Km)		Length (Km)	Name of village	Remarks
	From	To			
NIL					

2.4 Right of Way

The Site of the Project Highway comprises the land as described in Annexure-I of Schedule-A.

2.5 Type of Shoulders

Paved shoulder in built up area and Hard shoulder with CTSB (cementations treated sub base) in other areas for impervious quality.

2.6

a) In built up section, footpath over drain shall be provided in the following stretches:

S.No.	Built up Stretch (Township)	Design Chainage (Km)		Typical Cross Section Proposed
		From	To	
1	Sita Nagar Village, Diglipur Market	308.900	311.000	TCS II
2	R.K Village, V.S Pally	312.000	313.800	TCS II
3	Karala Puram Village	314.900	315.874	TCS II

b) Design and specification of paved shoulder and granular material shall confirm to the requirements specified in paragraph 5.9.9 and 5.9.10 of the Manual.

c) In built up area full road width to be paved whereas in other area hard shoulder of 0.5m either side with CTSB is to be done.

2.7 Lateral and vertical clearances at underpasses

2.7.1 Lateral and vertical clearances at underpasses and provision of guardrails/crash barriers shall be as per paragraph 2.11 of the Manual.

2.7.2 Lateral clearance: The width of the opening at the underpasses shall be as follows:

S. No.	Design Chainage (Km)	Span/opening (m)	Remarks
NIL			

2.8 Lateral and vertical clearances at overpasses

2.8.1 Lateral and vertical clearances at overpasses and provision of guardrails/crash barriers shall be as per paragraph 2.12 of the Manual.

2.8.2 Lateral clearance: The width of the opening at the overpasses shall be as follows:

S. No.	Design Chainage (Km)	Span/opening (m)	Remarks
NIL			

2.9 Service roads

Service roads/Slip Roads shall be constructed at the locations and for the lengths indicated below:

S. No	Design Chainage (Km)	RHS/LHS	Length of the Service Road (m)
NIL			

2.10 Grade separated structures

2.10.1 Grade separated structures shall be provided as per paragraph 2.14 of the Manual. The requisite particulars are given below:

S. No.	Design Chainage (Km)	Length (m)	Number and length of spans	Approach gradient	Remarks, if any
NIL					

2.10.2 In the case of grade separated structures, the type of structure and the level of the Project Highway and the cross roads shall be as follows:

S. No.	Design Chainage (Km)	Type of structure Length (m)	Cross road at		
			Existing level	Raised Level	Lowered Level
NIL					

2.11 Cattle and pedestrian under pass / over pass

Cattle and pedestrian underpass shall be constructed as follows:

S. No.	Design Chainage (Km)	Type of Crossing
NIL		

2.12 Typical cross-sections of the Project Highway

Indicative typical cross sections along with different types of cross-sections required to be developed in different segments of the project highway are indicated in Appendix B-I. Cross Section schedule for the project highway is as follows:

S. No.	Design Chainage		Length (m)	Widening Proposal	TCS Proposed
	From	To			
1	298+000	298+400	400	Rehabilitation to IL in Rural section (Plain terrain)	TCS I
2	298+400	298+820	420	Rehabilitation to IL in Rural section (Rolling & Hilly terrain)	TCS III*
3	298+820	299+280	460	Rehabilitation to IL in Rural section (Plain terrain)	TCS I
4	299+280	299+380	100	Rehabilitation to IL in Rural section (Rolling & Hilly terrain)	TCS III*
5	299+380	299+800	420	Rehabilitation to IL in Rural section (Plain terrain)	TCS I
6	299+800	299+920	120	Rehabilitation to IL in Rural section (Rolling & Hilly terrain)	TCS III*
7	299+920	300+020	100	Rehabilitation to IL in Rural section (Plain terrain)	TCS I

8	300+020	300+400	380	Rehabilitation to IL in Rural section (Rolling & Hilly terrain)	TCS III*
9	300+400	300+960	560	Rehabilitation to IL in Rural section (Plain terrain)	TCS I
10	300+960	301+460	500	Rehabilitation to IL in Rural section (Rolling & Hilly terrain)	TCS III*
11	301+460	301+800	340	Rehabilitation to IL in Rural section (Plain terrain)	TCS I
12	301+800	302+100	300	Rehabilitation to IL in Rural section (Rolling & Hilly terrain)	TCS III*
13	302+100	307+370	5270	Rehabilitation to IL in Rural section (Plain terrain)	TCS I
14	307+370	308+127	757	Rehabilitation to IL in Urban section with Covered Drain on both sides (Plain terrain)	TCS II
15	308+127	309+370	1243	Overlaying of existing carriageway + covered RCC drain on both sides in Urban area	TCS IV
16	309+370	314+280	4910	Rehabilitation to IL in Rural section (Plain terrain)	TCS I
17	314+280	316+800	2520	Rehabilitation to IL in Rural section (Rolling & Hilly terrain)	TCS III*
18	316+800	317+700	900	Rehabilitation to IL in Urban section with Covered Drain on both sides (Plain terrain)	TCS II
19	317+700	318+900	1200	Rehabilitation to IL in Rural section (Rolling & Hilly terrain)	TCS III*
20	318+900	319+900	1000	Rehabilitation to IL in Rural section (Plain terrain)	TCS I
21	319+900	323+600	3700	Rehabilitation to IL in Rural section (Rolling & Hilly terrain)	TCS III*
22	323+600	324+700	1100	Rehabilitation to IL in Rural section (Plain terrain)	TCS I
23	324+700	330+357	5657	Rehabilitation to IL in Rural section (Rolling & Hilly terrain)	TCS III*

[Typical Cross Sections are appended separately]

*Retaining wall and Breast wall shown in TCS III drawing is typical. Location of these components should be applied as per site condition.

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 within the available road width only. Junction road to be developed upto 50 m length only.

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

a) At-grade intersections (Major Junctions)

S. No.	Design Chainage (Km)	Type of Intersection	Side	Remarks
1	309+752	Y	Left	

b) At-grade intersections (Minor Junctions)

Sl. No	Design Chainage	Type of Intersection
1	304+021	T
2	304+858	T
3	305+089	Y
4	305+462	y
5	306+316	T
6	307+279	Y
7	307+358	Y
8	307+674	T
9	308+854	T
10	309+231	Y
11	309+608	Y
12	309+759	Y
13	309+764	Y
14	310+059	Y
15	310+233	T
16	310+671	Y
17	310+977	Y
18	311+820	Y
19	311+935	Y
20	312+362	T
21	312+376	T
22	312+561	Y
23	313+112	Y
24	313+719	Y
25	313+817	Y
26	314+352	T
27	314+354	Y
28	314+602	T
29	314+892	T
30	314+896	T
31	315+368	Y
32	316+141	T
33	317+925	Y
34	318+069	Y
35	318+200	T
36	318+374	T
37	320+020	Y
38	320+186	Y

39	320+476	T
40	320+477	T
41	320+853	Y
42	320+985	T
43	324+968	Y
44	324+780	Y
45	325+894	Y
46	325+993	Y
47	326+224	Y
48	326+819	Y
49	327+583	Y
50	328+087	Y
51	328+286	T
52	328+361	T

c) Grade separated intersection without ramps

S. No.	Design Chainage (Km)	Salient features	Minimum length of viaduct to be provided	Road to be carried over/under the structures
NIL				

4. ROAD EMBANKMENT AND CUT SECTION

4.1 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. Minimum formation width should not be less than 7mtr.

4.2 Raising of the existing road

The existing road shall be raised at the required locations as per proposed plan and profile including the following sections:

S. No	Design Chainage (Km)		Length (Km)	Extent of raising (Top of finished road level)
	From	To		
NIL				

5. PAVEMENT DESIGN

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

5.2 Type of pavement

Flexible Pavement from Ch 298+000 to 330+662 will be designed as per Clause 10.4 (Treated RAP) of IRC:37-2018 along with soil stabilization.

5.3 Design Requirements

Design requirement for the flexible pavement shall be in accordance with section 5 of the IRC:SP-73-2015 and IRC:37-2018. Treated RAP and CT Subbase shall be provided as per the provisions

of IRC:37-2018 from Ch 298+000 to 330+357.

5.3.1 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 of ***15 years***. Stage construction shall not be permitted.

5.3.2 Design Traffic

Not with standing anything to the contrary contained in this Agreement or the Manual, the Contractor shall design the pavement for design traffic as given below.

S. No.	Design Chainage (Km)		Minimum Design MSA for 15 yeras
	From	To	
1	298+000	330+357	10

5.3.3 **Note**: Method for flexible pavement designing has been extracted from Plate 17 with 3% CBR value and 10 Msa of Fig 10.4 of IRC: 37 – 2012 with BC of 40mm. However the designs are indicative only and the contractor can submit the design as per the requirement. In all cases 40mm BC is mandatory requirement. The design other than plates given in IRC:2018 but based on IIT pave should only be designed by CRRI.

5.4 Reconstruction of stretches

Reconstruction of stretches for matching the proposed plan & profile shall be taken up as per actual requirements.

S. No	Design Chainage (Km)		Remarks
	From	To	
1	298+000	330+357	Reconstruction with Treated RAP & CT subbase

5.5 Maintenance before Construction:

A Provision of 20 mm of premix carpet with seal coat to maintain the trafficability of the road before construction. The contractor shall maintain the road in the best possible manner to provide smooth trafficability. The Premix carpet with seal coat to be used only on those places which shall be taken up for the construction after a period of minimum 2 months. However the provisions are optional and the execution of the same shall be determined as per the site condition in consultation with the Authority's Engineer. The contractor has to maintain the road in accordance with Clause 10.4.1 of the Draft Contract Agreement as pot hole free road only during construction.

6. ROADSIDE DRAINAGE

Drainage system including surface and subsurface drains for the Project Highway shall be provided as per Section 6 of the Manual.

Unlined drain has been provided in complete stretch except at locations of breast wall, retaining walls and urban stretches. A minimum length of 54506 m has to be constructed.

Lined Drain of Random Rubble Masonary has been provided in hilly sections at the locations of Breast wall and in urban stretches. Minimum length of 4720m has to be constructed.

Lined RCC Open Drains:- Providing covered RCC drain in urban areas excluding excavation as per drawing and technical specifications section 1500,1600,1700. A minimum length of 2000m has to be constructed.

7. DESIGN OF STRUCTURES

7.1 General

7.1.1 All bridges, culverts and structures shall be designed and constructed in accordance with section 7 of the manual and shall conform to the cross-sectional features and other details specified therein.

7.1.2 Width of the carriageway of new structures of more than 60m length shall be as follows, if the carriageway width is different from 7.5m in the table below.

S.No	Design Chainage (Km)	Width of Carriageway (m) and cross sectional features
NIL		

7.1.3 The following structures shall be provided with footpaths:

S. No.	Design Chainage (Km)	Remarks
NIL		

7.1.4 All bridges shall be high-level bridges. **No**

7.1.5 The following structures shall be designed to carry utility services specified in table below.

S. No.	Design Chainage (Km)	Utility service to be carried	Remarks
NIL			

7.1.6 Cross-section of the new culverts and bridges at deck level for the Project Highway shall conform to the typical cross-sections for the Project Highway.

7.2 Culverts

7.2.1 The Culverts overall width shall be equal to the roadway width of the approaches.

7.2.2 ***Reconstruction of existing culverts***:

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

S. No	Design Chainage (Km)	Type of culvert proposed	Span/ Opening with Span length (m)*	Deck Width
1	298+595	RCC Box	1x3.0	7.5
2	298+658	RCC Box	1X4.0	7.5
3	298+925	RCC Box	1x3.0	7.5
4	298+991	RCC Box	1X4.0	7.5
5	299+028	RCC Box	1x3.0	7.5
6	299+324	RCC Box	1x3.0	7.5

7	299+491	RCC Box	1x4.0	7.5
8	299+707	RCC Box	1x3.0	7.5
9	299+943	RCC Box	1x3.0	7.5
10	300+090	RCC Box	1x3.0	7.5
11	300+358	RCC Box	1x3.0	7.5
12	300+516	RCC Box	1x3.0	7.5
13	300+717	RCC Box	1X4.0	7.5
14	301+684	RCC Box	1x4.0	7.5
15	302+126	RCC Box	1x4.0	7.5
16	302+336	RCC Box	1x4.0	7.5
17	302+506	RCC Box	1x4.0	7.5
18	302+826	RCC Box	1x4.0	7.5
19	303+181	RCC Box	1X4.0	7.5
20	303+259	HPC	1X2.0	7.5
21	303+564	RCC Box	1X3.0	7.5
22	303+675	RCC Box	1X3.0	7.5
23	303+977	RCC Box	1X3.0	7.5
24	304+487	RCC Box	1X3.0	7.5
25	304+616	RCC Box	1x2.0	7.5
26	304+743	RCC Box	1x2.0	7.5
27	305+106	RCC Box	1x2.0	7.5
28	305+316	RCC Box	1x2.0	7.5
29	305+477	RCC Box	1x2.0	7.5
30	305+621	RCC Box	1x2.0	7.5
31	305+974	HPC	1x2.0	7.5
32	306+178	RCC Box	1x2.0	7.5
33	306+811	RCC Box	1x2.0	7.5
34	307+387	RCC Box	1x4.0	7.5
35	307+654	RCC Box	1x2.0	7.5
36	307+888	RCC Box	1x2.0	7.5
37	308+141	RCC Box	1x2.0	7.5
38	308+700	RCC Box	1x2.0	7.5
39	308+957	RCC Box	1x2.0	7.5

40	309+108	RCC Box	1x2.0	7.5
41	309+251	RCC Box	1x3.0	7.5
42	309+323	RCC Box	1x3.0	7.5
43	309+363	RCC Box	1x3.0	7.5
44	309+520	RCC Box	1x2.5	7.5
45	310+864	RCC Box	1x2.0	7.5
46	311+600	RCC Box	1x2.0	7.5
47	311+992	RCC Box	1x2.0	7.5
48	312+117	RCC Box	1x3.0	7.5
49	313+044	RCC Box	1x2.0	7.5
50	313+737	RCC Box	1x2.0	7.5
51	314+443	RCC Box	1x2.0	7.5
52	315+009	RCC Box	1x2.0	7.5
53	315+378	RCC Box	1x2.0	7.5
54	315+471	RCC Box	1x2.0	7.5
55	315+713	RCC Box	1x2.0	7.5
56	316+194	RCC Box	1x2.0	7.5
57	316+229	RCC Box	1x2.0	7.5
58	316+440	RCC Box	1x2.0	7.5
59	316+582	RCC Box	1x2.0	7.5
60	316+641	RCC Box	1x2.0	7.5
61	317+217	RCC Box	1x2.0	7.5
62	317+540	RCC Box	1x2.0	7.5
63	317+624	RCC Box	1x2.0	7.5
64	318+404	RCC Box	1x2.0	7.5
65	318+806	RCC Box	1x2.0	7.5
66	319+012	RCC Box	1x2.0	7.5
67	319+195	RCC Box	1x2.0	7.5
68	319+277	RCC Box	1x2.0	7.5
69	319+433	RCC Box	1x2.0	7.5
70	319+512	RCC Box	1x2.0	7.5
71	319+628	RCC Box	1x2.0	7.5
72	319+777	RCC Box	1x2.0	7.5

73	319+898	RCC Box	1x2.0	7.5
74	320+432	RCC Box	1x2.0	7.5
75	320+823	RCC Box	1x2.0	7.5
76	320+943	RCC Box	1x2.0	7.5
77	320+947	RCC Box	1x2.0	7.5
78	321+160	RCC Box	1x2.0	7.5
79	321+569	RCC Box	1x2.0	7.5
80	321+614	RCC Box	1x2.0	7.5
81	321+776	RCC Box	1x2.0	7.5
82	321+944	RCC Box	1x2.0	7.5
83	322+017	RCC Box	1x2.0	7.5
84	322+142	RCC Box	1x2.0	7.5
85	322+327	RCC Box	1x2.0	7.5
86	322+669	RCC Box	1x2.0	7.5
87	322+786	RCC Box	1x2.0	7.5
88	322+894	RCC Box	1x2.0	7.5
89	322+972	RCC Box	1x2.0	7.5
90	323+044	RCC Box	1x2.0	7.5
91	323+485	RCC Box	1x2.0	7.5
92	323+693	RCC Box	1x2.0	7.5
93	323+781	RCC Box	1x2.0	7.5
94	323+956	RCC Box	1x2.0	7.5
95	324+061	RCC Box	1x2.0	7.5
96	324+173	RCC Box	1x2.0	7.5
97	324+324	RCC Box	1x2.0	7.5
98	324+387	RCC Box	1x2.0	7.5
99	324+774	RCC Box	1x2.0	7.5
100	325+450	RCC Box	1x2.0	7.5
101	326+131	RCC Box	1x2.0	7.5
102	326+339	RCC Box	1x2.0	7.5
103	326+486	RCC Box	1x2.0	7.5
104	326+842	RCC Box	1x2.0	7.5
105	326+990	RCC Box	1x2.0	7.5

106	327+591	RCC Box	1x2.0	7.5
107	328+244	RCC Box	1x2.0	7.5
108	328+305	RCC Box	1x2.0	7.5
109	328+874	RCC Box	1x2.0	7.5
110	328+887	RCC Box	1x2.0	7.5
111	328+971	RCC Box	1x2.0	7.5
112	329+206	RCC Box	1x2.0	7.5
113	329+404	RCC Box	1x2.0	7.5
114	329+494	RCC Box	1x2.0	7.5
115	329+546	RCC Box	1x2.0	7.5
116	329+658	RCC Box	1x2.0	7.5
117	329+810	RCC Box	1x2.0	7.5
118	329+893	RCC Box	1x2.0	7.5
119	330+013	RCC Box	1x2.0	7.5
120	330+112	RCC Box	1x2.0	7.5
121	330+221	RCC Box	1x2.0	7.5
122	330+359	RCC Box	1x2.0	7.5

*Note- height of opening shall be kept according to adjoining TCS.

723 Widening of Existing Culverts

All existing culverts, which are not to be reconstructed, shall be widened up to the roadway width of the Project Highway & as per the typical cross section given in the Manual and the existing width portion of culverts shall be repaired as per site requirements.

S. No	Design Chainage (Km)	Type of culvert proposed	Opening Span/Span Arrangement	Deck Width
1	298+085	RCC Box	1x2	7.5
2	298+203	RCC Box	1x2	7.5
3	301+167	RCC Box	1x2	7.5
4	301+326	RCC Box	1x2	7.5
5	302+024	RCC Box	1x2	7.5
6	302+910	RCC Box	1x2	7.5
7	304+113	RCC Box	1x2	7.5
8	312+199	RCC Box	1x2	7.5
9	312+357	RCC Box	1x2	7.5
10	312+494	RCC Box	1x2	7.5

11	313+171	RCC Box	1x2	7.5
12	313+202	RCC Box	1x2	7.5
13	313+315	RCC Box	1x2	7.5
14	313+416	RCC Box	1x2	7.5
15	315+905	RCC Box	1x2	7.5
16	316+772	RCC Box	1x2	7.5
17	316+838	RCC Box	1x2	7.5
18	316+960	RCC Box	1x2	7.5
19	317+169	RCC Box	1x2	7.5
20	317+681	RCC Box	1x2	7.5
21	317+897	RCC Box	1x2	7.5
22	318+096	RCC Box	1x2	7.5
23	318+233	RCC Box	1x2	7.5
24	318+305	RCC Box	1x2	7.5
25	318+441	RCC Box	1x2	7.5
26	318+578	RCC Box	1x2	7.5
27	323+357	RCC Box	1x2	7.5

724 Additional new culverts (given in table below) shall be constructed for width equal to the roadway width of the Project Highway & as per typical cross-section given in the manual:

S. No.	Design Chainage (Km)	Proposed type	No. of Spans X span length (m)
NIL			

725 Repairs/replacements of railing/parapets, flooring and protection works of the existing culverts shall be undertaken as required as follows:

S. No.	Design Chainage (Km)	Type of repair required
Nil		

726 Floor protection works shall be as specified in the relevant IRC Codes and Specifications

7.2.6.1 Provision in Schedule H has been kept for repair of all existing culverts other than reconstruction shall be done including cleaning, maintenance, pointing, painting etc in all respect.

7.3 Bridges

731 Existing bridges to be re-constructed/widened:

(i) The Existing bridges at the following locations shall be reconstructed:

S. No	Bridge Location (Design Chainage, in Km)	Salient Features of Existing Bridge		Features of Proposed Bridge	
		No. of Spans with Span Length (c/c of exp. Gap)	Total Width (m)	Proposed Length (m)	Total proposed Width
1	310+476	27.5 + 24.4	4.9	56.600	8.5

NOTE: GAD is given in CD

(ii) The following narrow bridges shall be widened:

S. No.	Design Chainage (Km)	Width (m)	Extent* of Widening	Span Arrangement (m)	Type of Structure			Cross Section at Deck Level for widening
					Foundation	Sub-Structure	Super-Structure	
NIL								

732 Additional new bridges

New bridges at the following locations on the project highway shall be constructed. GADs for the new bridges are attached in the drawings folder.

S. No.	Bridge Location (Design Chainage, in Km)	Total Length (m)	Remarks
NIL			

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

S. No.	Design Chainage (Km)	Total length (m)	Remarks
NIL			

734 Drainage system for bridge deck

An effective drainage system for bridge decks shall be provided as specified in paragraph 7.21 of the Manual

735 Structures in marine environment

The Project Alignment does not lie in Marine Alignment.

7.3.6 Repairs and strengthening of bridges and structures

The existing bridges and structures to be repaired / strengthened as required, and the nature and extent of repairs /strengthening required are given below:

S. No.	Design Chainage (Km)	Nature and extent of repairs /strengthening to be carried out
1	298+471	Minor repair works (Cleaning, Shotcreting, Painting, Pointing, Replacement of railing with Crash Barrier, repair of Expansion joints & bearings, replacement of wearing coat, etc.)
2	311+900	
3	314+370	

7.4.1 Provision in Schedule H has been kept for repair of all existing minor bridges other than reconstruction shall be done including cleaning, maintenance, pointing, painting etc in all respect.

7.5 Rail-road bridges

7.5.1 Design, construction and detailing of ROB/RUB shall be as specified in the Manual. The Width of proposed ROB shall be as specified in Schedule D.

7.5.2 Road over-bridges

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

S. No	Proposed Structure	Existing Chainage	Design Chainage	Name of Crossing	Proposed structural configuration	Proposed Super Structure	Proposed span arrangement (m)	Total Width of Structure
NIL								

7.5.3 Road under-bridges

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

S. No	Design Chainage (Km)	Number and length of span (m)
NIL		

7.6 Grade separated structures

The grade separated structures shall be provided at the locations and of the type and length specified in paragraphs 2.9 and 3 of this Annex-I.

7.7 Repairs and strengthening of bridges and structures

The existing bridges and structures to be repaired / strengthened as required, and the nature and extent of repairs /strengthening required are given below:

A. Bridges

S. No.	Design Chainage (Km)	Nature and extent of repairs /strengthening to be carried out
1	298+471	Minor repair works (Cleaning, Shotcreting, Painting, Pointing, Replacement of railing with Crash Barrier, repair of Expansion joints & bearings, replacement of wearing coat, etc.)
2	311+900	
3	314+370	

B. ROB / RUB

S. No.	Design Chainage (Km)	Nature and extent of repairs /strengthening to be carried out
NIL		

C. Overpasses/Underpasses and other structures

S. No.	Design Chainage (Km)	Nature and extent of repairs /strengthening to be carried out
NIL		

7.8 List of Major Bridges and Structures

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

S. No.	Type of Structure	Design Chainage (Km)	Remark
NIL			

Note: - *1. The location and vent size of all the culverts proposed for irrigation purposes shall be decided in consultation with irrigation authority/ independent engineer.*

2. Width of culvert shall be reconciled as per cross section at that location

3. Cross road culvert to be provided at the location of Major Junction/ Minor Junctions or utility purposes etc. shall be decided with independent Engineer shall not be treated as change of scope.

7 TRAFFIC CONTROL DEVICES AND ROAD SAFETY WORK.

7.3 Traffic control devices and road safety works shall be provided in accordance with Section 9 of the IRC:SP:73-2015.

7.4 Specifications of the reflective sheeting shall be as per the Manual of Specifications (IRC:SP:73-2015).

8 ROAD SIDE FURNITURE

8.3 Road side furniture shall be provided in accordance with the provisions of Section 11 of the IRC:SP:73-2015.

a) Road boundary stones for the entire project highway.
b) Pedestrian guard rails: At each bus stop location.
c) Delineators: For the entire project highway at the locations as suggested in schedule D.

8.4 Overhead traffic signs: location and size

a) Full width overhead signs: 2 Nos.

b) Cantilever overhead signs: Nil

c) Overhead Traffic Signs (locations & Size) shall conform to the Manual of Specifications (IRC:SP:73-2015).

9 COMPULSORY AFFORESTATION

Not Required

10 HAZARDOUS LOCATIONS

The road side safety/Crash barriers shall be provided at following locations for minimum length as per the Manual of Specifications (IRC:SP:73-2015). However, the actual length shall be identified as per requirement of clause 9.4 of IRC:SP:73-2015 in consultation with Authority Engineer. Any increase or decrease in length as specified shall not be treated as change of scope. Metal beam has been provided at curve locations where radius is less than or equal to 50m. At every location it has been provided in the length of 150m on both sides. Locations of metal beam crash barrier are as tabulated below:

S.No	Design Chainage	Total Length
1	298+051	Total 6100 rmt of crash barrier to be provided. The final locations shall be finalized in consultation with Authority
2	299+491	
3	300+457	
4	303+835	
5	307+670	
6	310+683	
7	313+186	
8	317+085	
9	317+385	
10	317+772	
11	318+032	
12	318+539	
13	318+722	
14	319+227	
15	320+025	
16	321+482	
17	321+563	

11 SPECIAL REQUIREMENTS FOR HILL ROAD

In accordance with the section 13 of the manual (IRC: SP 73:2015 & IRC: SP 48:1998) and recommended practices for the treatment of embankment and road side slopes erosion control (First Revision), IRC: 56-2011 and relevant IRC.

11.3 Slope Protection

As the project involves cutting of existing hill slope, it is imperative that slope are stabilized for ensuring longevity of the slope and the road. Slope stability, erosion control and landslide correction shall be accomplished in accordance with IRC: SP: 48-1998, IRC SP: 116-2018 and IRC SP: 23-2014. Reference may be drawn from IRC: 56-2011.

(i) The Minimum Quantity of Protection work may be taken as below:-

Type of Protection Work	Unit	Quantity
Breast wall	Rm	720
Retaining wal006C	Rm	740

a) Passing Places

50 no's of passing places has been provided in staggered manner along the alignment so as to avoid any hindrance in the movement of vehicles as in this package only intermediate lane has been proposed. The Contractor in consultation with Authority's Engineer shall finalize the locations of these passing places.

Sl. No.	Chainage	Side	Sl. No.	Chainage	Side
1	298+300	LHS	26	310+800	RHS
2	298+800	RHS	27	311+300	LHS
3	299+300	LHS	28	311+800	RHS
4	299+800	RHS	29	312+300	LHS
5	300+300	LHS	30	312+800	RHS
6	300+800	RHS	31	313+300	LHS
7	301+300	LHS	32	313+800	RHS
8	301+800	RHS	33	314+300	LHS
9	302+300	LHS	34	314+800	RHS
10	302+800	RHS	35	315+300	LHS
11	303+300	LHS	36	315+800	RHS
12	303+800	RHS	37	322+600	LHS
13	304+300	LHS	38	322+460	RHS
14	304+800	RHS	39	322+800	LHS
15	305+300	LHS	40	323+100	RHS
16	305+800	RHS	41	323+550	LHS
17	306+300	LHS	42	323+900	RHS
18	306+800	RHS	43	324+300	LHS
19	307+300	LHS	44	324+770	RHS
20	307+800	RHS	45	325+400	LHS
21	308+300	LHS	46	326+000	RHS
22	308+800	RHS	47	326+500	LHS
23	309+300	LHS	48	327+000	RHS
24	309+800	RHS	49	327+500	LHS
25	310+300	LHS	50	328+000	RHS

b) Breast Wall / Retaining Wall

Breast Wall have been proposed along the roadway edge on the hilly side of the section of project road where cutting is required or cutting is more than available ROW. In hilly sections, breast Wall of PCC M-15 shall be provided.

Breast wall and Retaining wall shall be provided as specified in table below & in accordance with the Manual of Specifications and Standards as referred in Schedule-D.

Breast Wall locations

S.No	Design Chainage		Side	Length (m)
	From	To		
1	298+520	298+560	Both	80
2	299+880	299+900	Both	40
3	300+120	300+300	Both	360
4	300+980	301+080	Both	200
5	308+380	308+420	Left	40
Total length (m)				720

Retaining wall shall be proposed to be installed in sections of the project road having filling embankment height > 3m or toe of the filling section is beyond available ROW to confine it within ROW. Retaining wall of Random Rubble Masonary shall be provided.

Retaining Wall locations

S.No	Design Chainage		Side	Length (m)
	From	To		
1	298+420	298+460	Both	80
2	298+640	298+820	Right	180
3	299+300	299+320	Both	40
4	300+040	300+120	Both	160
5	301+260	301+320	Both	120
6	301+940	301+980	Both	80
7	310+460	310+480	Both	40
8	311+880	311+900	Both	40
Total length (m)				740

Note – The Contractor shall be responsible for accurate assessment of the actual requirement as per site situation & prepared design for slope protection & stabilization as per the specification & standard stipulated in schedule 'D' and submit the same to the AE for review through the proof consultant and implement it accordance thereafter.

Any Increase in quantity over and above the tentative quantity as mentioned in the above table or through change in specification will not be considered as change of scope. Therefore contractor shall make thorough investigation at site and assess the requirement of slope protection

and slide prone zone and other safety features at his own before submission of bid.

11.4 ROAD LAND BOUNDARY (Clause 12.2 IRC SP: 73: 2015)

Road land (ROW) boundary shall be demarcated by putting RCC boundary pillars of size 60cm x 15cm x 15cm embedded in concrete (as per IRC:25) along the Project highways at 200 m interval on both side. All the components used in delineating road land boundary shall be aesthetically pleasing, sturdy and vandal proof. The road land boundary shall be demarcated in consultation with NHIDCL.

11.5 Disposal of Debris – As per Manual

12 CHANGE OF SCOPE

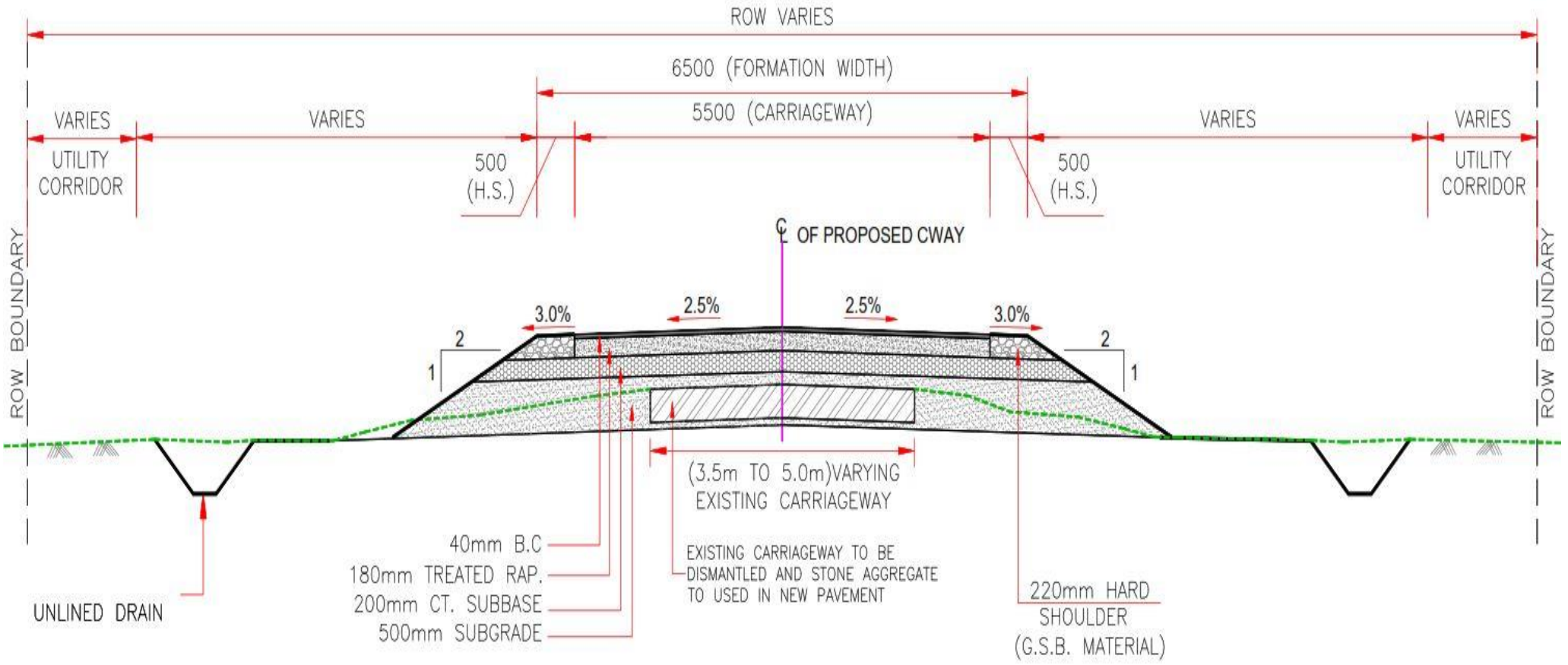
The length of Structures and bridges specified hereinabove shall be treated as an approximate assessment. The Contractor in accordance with the Specifications and Standards shall determine the actual lengths as required on the basis of detailed investigations. Any variations in the lengths specified 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 B-1)

Shifting of Utilities

Sr. No	Type of Utility	Unit	Quantity	Location/Stretch LHS/RHS
A	Electrical Utilities			
A1	**Electrical Poles**	Nos.		
(i)	GI Pipe Poles 08 meter	Nos.	23	
(ii)	GI Pipe Poles 11 meter	Nos.	94	
(iii)	GI Pipe Poles 10 meter	Nos.	25	
A2	**Electrical cables**	meters		
(i)	GI Stay wire 7/3.5 mm	Kgs	400	
(ii)	GI wire 3.15 mm	Kgs	250	
A3	Transformers	Nos.		
(i)	Shifting of Transformer	Nos.	19	
(ii)	Shifting of Isolator	Nos.	15	
B	**Water/Sewage pipeline**			
B1	Sewage	meters		
B2	Water supply	meters		
a	**GI Pipes**			
(i)	40mm dia nominal bore	meters	2821	
(ii)	50mm dia nominal bore	meters	4305	
(iii)	65 mm dia nominal bore	meters	9603	
(iv)	80 mm dia nominal bore	meters	6659	
(v)	100 mm dia nominal bore	meters	11150	
	Relaying of Servicable GI Pipes			
(i)	40mm dia nominal bore	meters	2420	
(ii)	50mm dia nominal bore	meters	2221	
(iii)	65 mm dia nominal bore	meters	5649.6	
(iv)	80 mm dia nominal bore	meters	6016	
(v)	100 mm dia nominal bore	meters	15480	
	S&S Centrifugal cast iron pipe			
(i)	100 mm dia ductile iron class K-9	meters	2100	
(ii)	150 mm dia ductile iron class K-9	meters	3150	
(iii)	200 mm dia ductile iron class K-9	meters	750	
-	**Relaying of CI/DI Pipes**	--		
(i)	80 mm dia CI/DI Pipes	meters	1750	
(ii)	100 mm dia CI/DI Pipes	meters	3150	
(iii)	150 mm dia CI/DI Pipes	meters	7350	
(iv)	200 mm dia CI/DI Pipes	meters	1750	
C	Felling of Tress	Nos.		

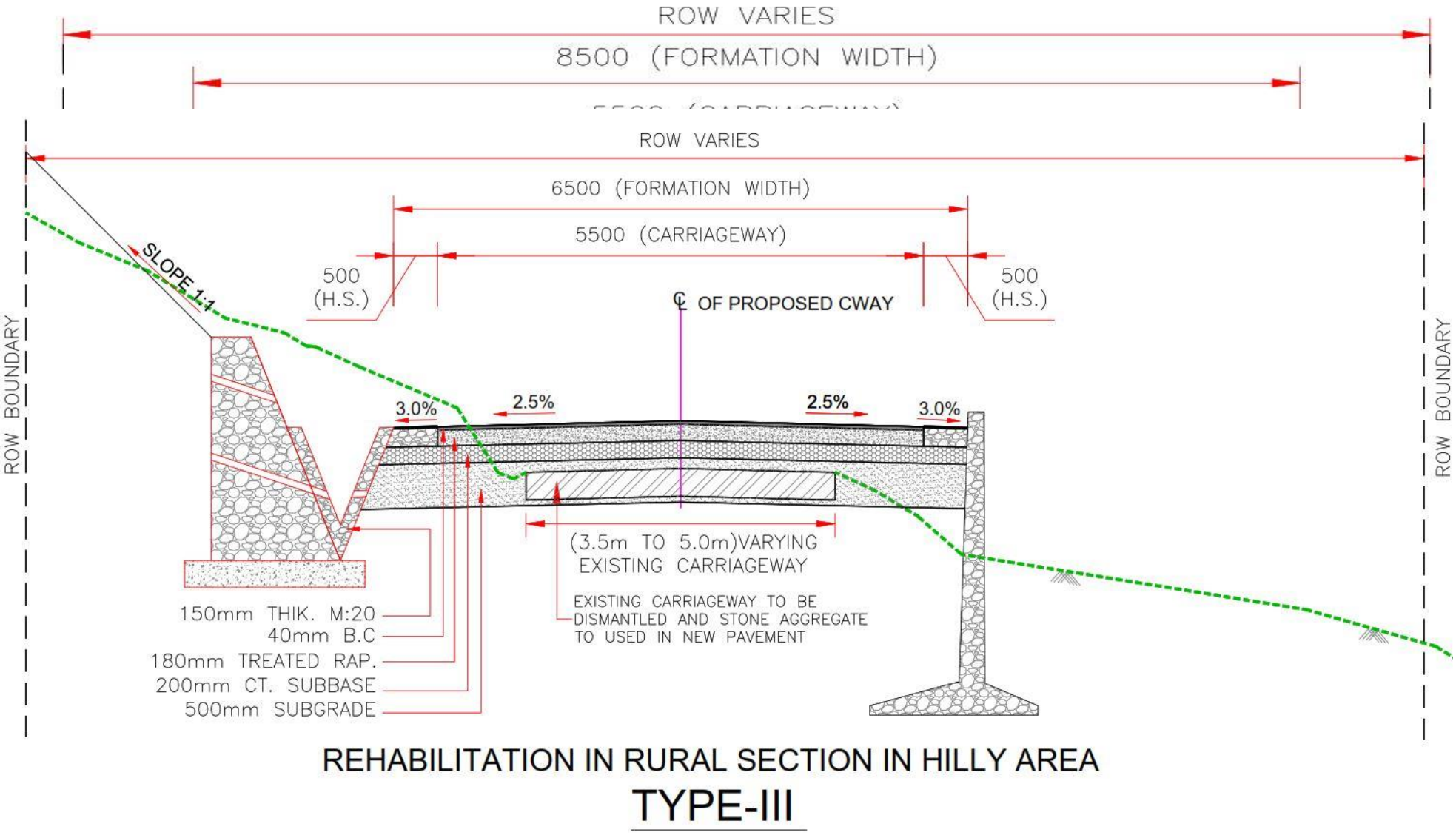
Appendix-B-I (New TCS)



REHABILITATION IN RURAL SECTION

TYPE-I

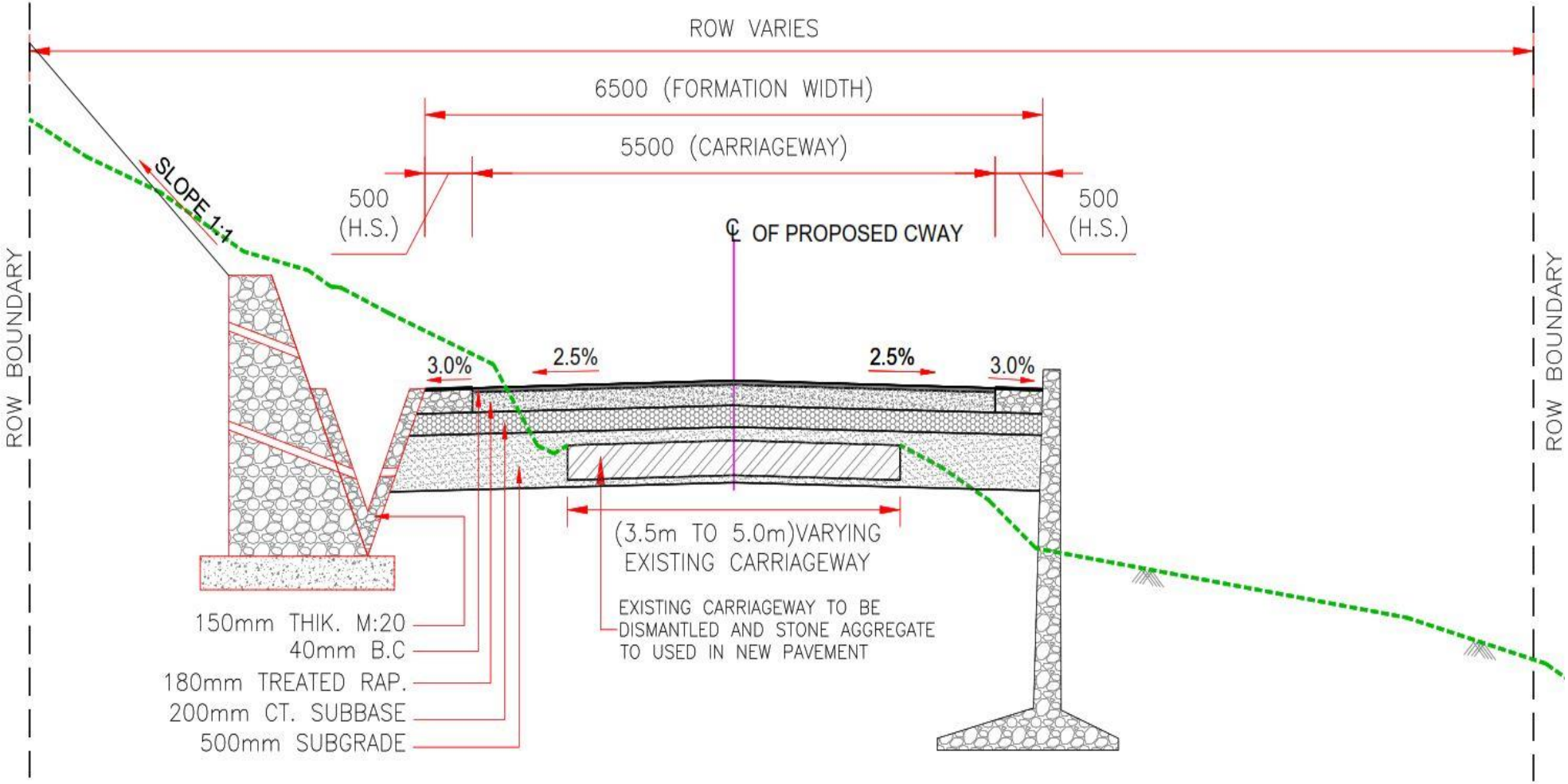
Appendix-B-I (New TCS)



REHABILITATION IN RURAL SECTION IN HILLY AREA

TYPE-III

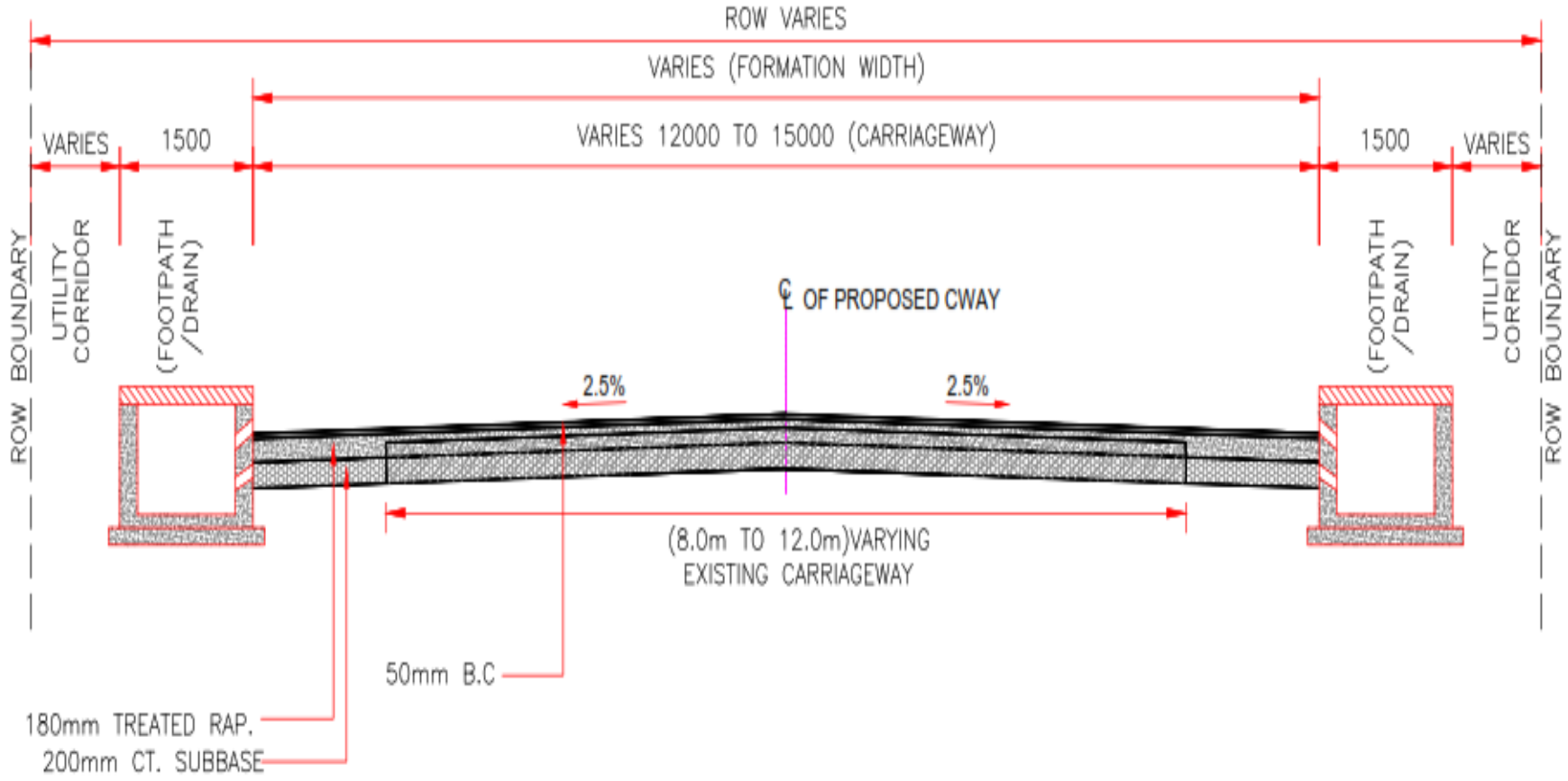
Appendix-B-I (New TCS)



REHABILITATION IN RURAL SECTION IN HILLY AREA

TYPE-III

Appendix-B-I (New TCS)



TCS-IV

Annexure-B

Schedule-H

(See Clauses 10.1.4 and 19.3)

Contract Price Weightages

1. (i) The Contract Price for this Agreement is **Rs…….. Crore.**

1. (ii) Proportions of the Contract Price for different stages of Construction of the Project Highway shall be as specified below:

Item	Weightage in percentage to the Contract Price	Stage for Payment	Percentage weightage
1	**2**	**3**	**4**
Road works including culverts, widening and repair of culverts	72.33%	**B.1- Reconstruction/ New 4-lane realignment/bypass (Flexible pavement)**	
		(1) Site Clearance, Dismantling, Scarifying and Earthwork	4.37%
		(2) Sub-Base Course	15.65%
		(3) Treated RAP	25.64%
		(4) Bituminous Wearing Course	11.13%
		(5) Hard Shoulder with CT Sub-base	2.54%
		D-Re-Construction and New culverts on existing road, realignments, bypasses:	
		Culverts (lengths < 6m)	37.75%
		Culverts maintenance	2.92%
Minor Bridges/ Underpasses/ Overpasses	2.57%	**A.1- Widening and Repair of Minor bridges (length >6 m and < 60 m)**	
		Minor bridges (as per Schedule-B)	1.84%
		A.2- New Minor bridges (length >6 m and < 60 m)	

		(1) Foundation + Sub- Structure: On completion of the foundation work including foundations for wing and return walls, abutments, piers upto the abutment/ pier cap.	56.68%
		(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 in all respect.	40.42%
		(3) Approaches: On completion of approaches including Retaining walls, stone pitching, protection works complete in all respect and fit for use.	1.06%
Major Bridge works	0.00%	**A.1- Widening and Repair of Major bridges**	
		Major Bridges	0.00%
Other works	25.10%	(i) Road side drains	
		(a) Unlined Drains	0.33%
		(b) Lined Drain	1.21%
		(c) RCC Covered Drains	12.60%
		(ii) Protection Works	
		a) Breast Wall	5.19%
		b) Retaining Wall	5.87%
		(iii) Junctions	
		a) Major Junction	2.04%
		b) Minor Junction	10.43%
		(iv) Parking Space	0.43%
		(v) Bus Shelter	3.30%
		(vi) Passing Places	3.32%
		(vii) Traffic Sign, Marking, Km Stones and other appurtenances	13.15%
		(viii) Premix Carpet with Seal Coat for patch repair work	0.77%
		(ix) Utility Shifting	41.36%

Procedure of estimating the value of work done.

(i) Road works.

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

Table 1.3.1

Stage for Payment	Percentage weightage	Payment Procedure
B.1- Reconstruction/ New 4-lane realignment/bypass (Flexible pavement)		
(1) Site Clearance, Dismantling, Scarifying & Earthwork	4.37%	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 500 mtr.
(2) Sub-Base Course (Cement Treated)	15.65%	
(3) Treated RAP	25.64%	
(4) Bituminous Wearing Course	11.13%	
(5) Hard Shoulder with CT Sub- base	2.54%	
D-Re-construction and New culverts on existing road, realignments, bypasses:		
(1) Culverts (length < 6m)	37.75%	Cost of completed 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 maintenance	2.92%	

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

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

Where P = Contract Price

L = Total length in km

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

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

1.1.1 Minor Bridge 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 Repair of Minor bridges (length >6 m and < 60 m)	1.84%	Cost of each minor bridge shall be determined on pro rata basis with respect to the total numbers of the minor bridges. Payment shall be made on the completion of widening & repair works of each minor bridge.
A.2- <u>New minor bridges</u>		
(1) Foundation + Sub- Structure: On completion of the foundation work including foundations for wing and return walls, abutments, piers upto the abutment/ pier cap.	56.68%	Payment against foundation + sub-structure shall be made on in two stages i.e. under 1st stage after completion of all the foundations and under second stage after completion of sub structure. The distribution between foundation & sub-structure will be based upon Authority`s Engineer recommendation.

(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 in all respect.	40.42%	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.
(3) Approaches: On completion of approaches including Retaining walls, stone pitching, protection works complete in all respect and fit for use.	1.06%	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.

1.1.2 Major Bridge works & Viaducts

Procedure for estimating the value of Major Bridge works & Viaducts shall be as stated in table 1.3.3:

Table 1.3.3

Stage for Payment	**Percentage weightage**	**Payment Procedure**
A.1- Widening and Repair of Major bridges	0.00%	
A.2-<u>New major bridges & Viaduct</u>	0.000%	

1.1.3 Other works.

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

Table 1.3.4

Stage for Payment	**Percentage weightage**	**Payment Procedure**
(i) Road side drains		
(a) Unlined Drains	0.33%	

(b) Lined Drain (Random Rubble Masonary drain)	1.21%	Unit of measurement is linear length in km. Payment shall be made on pro-rata basis on completion of a stage in a length of not less than 500 mtr of the respective drain length.
(c) RCC Covered Drains	12.60%	
(ii) Traffic signs, markings, km stones & safety devices.	13.15%	
(iii) Junctions		
a) Major Junction	2.04%	Payment shall be made on pro rata basis on completion of each junction.
b) Minor Junction	10.43%	
(iv) 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 200 mtr.
(a) Breast Wall	5.19%	
(b) Retaining Wall	5.87%	
(v) Project facilities (i) Bus bays/Shelters	3.30%	Payment shall be made on pro-rata basis for each completed facilities.
(ii) Passing Places	3.32%	
(ii) Truck lay bye	0.00%	
(iii) Rest areas	0.00%	
(iv) others (Parking space)	0.43%	
(vi) Repair of Protection Works other than approaches to the bridges, elevated sections/ flyover/ grade separators and ROBs/ RUBs	0.000%	
(vii) Site Clearance & Dismantling	0.00%	
(viii) Safety and traffic management during construction	0.000%	
(ix) Pre mix carpeting for filling of pot holes and repair	0.77%	On completion of entire scope of work.
(x) Utility Shifting	41.36%	On furnishing the completion certificate from concerned utility owning dept. (for any length/unit).

		Kindly note: In case of change in quantities of Utility Shifting (mentioned in Schedule B-1), the cost will be accordingly reduced or increased on pro rata basis.

2. Procedure for payment for Maintenance

(a) The cost for maintenance shall be as stated in Clause 14.1.1.
(b) Payment for Maintenance shall be made in Monthly basis in accordance with the provisions of Clause 19.6 & 19.7 of the Contract Agreement.

Annexure-C

Appendix-VII
(See Clauses 2.21)

FORM OF BANK GUARANTEE
[Performance Security/Additional Performance Security]

To

_____[name of Authority]
_____[address of Authority]

WHEREAS_____[name and address of Contractor] (hereafter called the "Contractor") has undertaken, in pursuance of Letter of Acceptance (LOA) No. _____Dated_____ for construction of _____[name of the Project] (hereinafter called the "Contract").

AND WHEREAS the Contract requires the Contractor to furnish an {Performance Security/ Additional Performance Security} for due and faithful performance of its obligations, under and in accordance with the Contract, during the {Construction Period/ Defects Liability Period and Maintenance Period} in a sum of Rs….. cr. (Rupees ……..….. crore) (the "**Guarantee Amount**"[13]).

AND WHEREAS we, …….. through our branch at ..... (the "**Bank**") have agreed to furnish this Bank Guarantee (hereinafter called the **"Guarantee**") by way of Performance Security.

NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful performance of the Contractor's obligations during the {Construction Period/ Defects Liability Period and Maintenance Period} under and in accordance with the Contract, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

2. A letter from the Authority, under the hand of an officer not below the rank of [Executive Director of National Highways & Infrastructure Development Corporation Limited, that the Contractor has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Contract shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of itsobligations during and under the Contract and its decision that the Contractor is in default shall be final and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.

3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.

4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.

5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Contract or to extend the time or period for the compliance with, fulfillment and/ or performance of all or any of the obligations of the Contractor contained in the Contract or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Contract and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.

6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Contract or for the fulfillment, compliance and/or performance of all or any of the obligations of the Contractor under the Contract.

7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. The Guarantee shall cease to be in force and effect on ****[$]. Unless a demand or claim under this Guarantee is made in writing before expiry of the Guarantee, the Bank shall be discharged from its liabilities hereunder.

9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.

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10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be

conclusive.

11. This Guarantee shall come into force with immediate effect and shall remain in force and effect for up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Contract.

12. This guarantee shall also be operable at our…… Branch at New Delhi, from whom, confirmation regarding the issue of this guarantee or extension/ renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment thereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.

13. This Guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

Signed and sealed this ……. day of ……., 20…… at ……..

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank
by: (Signature)
(Name) (Designation)
(Code Number)
(Address)

Note: Intimation regarding issuance of this Bank Guarantee shall be sent to Authority's Bank through SFMS gateway as per the details below:

S.No.	Particulars	Details
1	Name of Beneficiary	National Highways & Infrastructure Development Corporation Limited
2	Beneficiary Bank Account No.	90621010002659
3	Beneficiary Bank Branch	IFSC SYNB0009062
4	Beneficiary Bank Branch Name	Transport Bhawan, New Delhi
5	Beneficiary Bank Address	Syndicate Bank transport Bhawan, 1st Parliament Street, New Delhi-110001

Annexure-D

Article 9

Utilities and Trees

9.1 Existing utilities and roads

Notwithstanding anything to the contrary contained herein, it shall be the responsibility of the Contractor to ensure that the respective entities owning the existing roads, right of way, level crossings, structures, or utilities on, under or above the Site are enabled by it to keep them in continuous satisfactory use, if necessary, by providing suitable temporary diversions with the authority of the controlling body of that road, right of way or utility. Cost of all temporary diversion are deemed included in the Financial Quote of the contractor and no separate cost is payable.

9.2 Shifting of obstructing utilities

The Contractor shall, in accordance with Applicable Laws and with assistance of the Authority, undertake the work of shifting of any utility (including electric lines, water pipes, gas pipelines and telephone cables) to an appropriate location or alignment, if such utility or obstruction adversely affects the execution of Works or Maintenance of the Project Highway in accordance with this Agreement. The cost of such shifting of all the utilities detailed in Schedule B-1 is included in the financial quote of the Contractor. The Contractor shall prepare detailed proposal for utility diversion alongwith specifications for submission to the utility owning agency and submit with recommendation of the Authority. The Contractor shall also prepare as executed drawings and get the acceptance of concerned utility owning department for release of payment. The scope of work of such shifting of Utilities shall be as indicated in Schedule-B. In the event of any delay of such shifting ~~on the part of the contractor~~, no extension of time for completion of the project and no claims, in any manner, shall be admissible on this account against the Authority.

The work of shifting of Utilities can be taken up by the Contractor any time after signing of the Agreement.

9.3 New utilities

(i) The Contractor shall allow, subject to the permission from the Authority and such conditions as the Authority may specify, access to, and use of the Site for laying telephone lines, water pipes, electricity lines/ cables or other public utilities. Where such access or use causes any financial loss to the Contractor, it may require the user of the Site to pay compensation or damages as per Applicable Laws. For the avoidance of doubt, it is agreed that use of the Site under this Clause 9.3 shall not in any manner relieve the Contractor of its obligation to construct and maintain the Project Highway in accordance with this Agreement and any damage caused by such use shall be restored forthwith at the cost of the Authority.

(ii) The Authority may, by notice, require the Contractor to connect any adjoining road to the Project Highway, and the connecting portion thereof falling within the Site shall be constructed by the Contractor at the Authority's cost in accordance with Article 10.

(iii) The Authority may by notice require the Contractor to connect, through a paved road, any adjoining service station, hotel, motel or any other public facility or amenity to the Project Highway, whereupon the connecting

portion thereof that falls within the Site shall be constructed by the Contractor on payment of the cost. The cost to be paid by the Authority to the Contractor shall be determined by the Authority's Engineer. For the avoidance of doubt, in the event such road is to be constructed for the benefit of any entity, the Authority may require such entity to make an advance deposit with the Contractor or the Authority, as the case may be, of an amount equal to the estimated cost as determined by the Authority's Engineer and such advance shall be adjusted against the cost of construction as determined by the Authority's Engineer hereunder.

(iv) In the event construction of any Works is affected by a new utility or works undertaken in accordance with this Clause 9.3, the Contractor shall be entitled to a reasonable Time Extension as determined by the Authority's Engineer.

9.4 Felling of trees

The Authority shall assist the Contractor in obtaining the Applicable Permits for felling of trees in non-forest area to be identified by the Authority for this purpose if, and only if, such trees cause a Material Adverse Effect on the construction or maintenance of the Project Highway. The Contractor shall fell these trees (as detailed in Schedule B-1) as per the Permits obtained. The cost of such felling shall be included in the financial quote of the Contractor and in the event of any delay in felling thereof for reasons beyond the control of the Contractor; it shall be excused for failure to perform any of its obligations hereunder if such failure is a direct consequence of delay in the felling of trees. The Parties hereto agree that the felled trees shall be deemed to be owned by the Authority and shall be disposed in such manner and subject to such conditions as the Authority may in its sole discretion deem appropriate. For the avoidance of doubt, the Parties agree that if any felling of trees hereunder is in a forest area, the Applicable Permit thereof shall be procured by the Authority within the time specified in the Agreement.

9.5 Dismantling of structures

The Contractor shall at its own cost dismantle the structures in the acquired lands including those on patta lands, abadi lands, assigned lands, etc. the compensation for which, was paid by the Authority to the land owners and the lands were handed over to the Contractor. The Contractor shall, at its own cost, dispose off the dismantled material in its sole discretion as deemed appropriate, while complying with all environmental guidelines and regulations and clear the Site for undertaking construction. In the event of any delay in dismantling of structures thereof for reasons beyond the control of the Contractor, the Contractor shall be entitled to Damages in a sum calculated in accordance with the formula specified in Clause
8.3 (i) for the period of delay, and to the Time Extension in accordance with Clause 10.5 for and in respect of the part(s) of the Works affected by such delay; provided that if the delays involve any time overlaps, the overlaps shall not be additive.

9.6 Development Period

The Contractor may commence pre-construction activities like utility shifting, boundary wall construction or any other activity assigned to the Contractor by the Authority to enable construction of the Project Highway immediately after signing of the Agreement, to the extent that such work is ready for execution. The Parties agree that these works may be taken up and completed to the extent feasible by the Contractor, before declaration of the Appointed Date, but no claim against the Authority for delay shall survive during this period and that the undertaking

of these works by the Contractor shall not count towards the Scheduled Construction Period of the project which starts counting only from the Appointed Date. No construction activity of the Project Highway shall be undertaken during the development period.