SCHEDULE - B

(See Clause 2.1)

Development of the Project Highway

1 Development of the Project Highway

Development of the Project Stretch from Km. 32+000 to Km. 43+454 of Kohima Bypass includes design and construction of the Project Highway as described in this Schedule-B and in Schedule-C.

2 Rehabilitation and Augmentation

NA.

3 Specifications and Standards

The Project Highway shall be designed and constructed in conformity with the Specifications and Standards (IRC: SP: 73-2018) as specified in Annex-I of Schedule-D.

Annex - I
(Schedule-B)

Description of Two Lane with Paved Shoulder

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

1 CONSTRUCTION OF THE HIGHWAY

i) WIDTH OF CARRIAGEWAY

a) Two Lanning with paved shoulder shall be undertaken. The paved carriageway including paved shoulders shall be in accordance with the typical cross sections drawings provided in para 14 of Annexure-I Schedule-B

Note: The length of road in built-up section is tentative, and it may vary as per site condition. In case of increase of length, no positive change of scope will be payable.

b) Except as otherwise provided in this Agreement, the width of the paved carriageway and cross-sectional features shall conform to paragraph 1(i) 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 IRC: SP: 73-2018

ii) Design speed

The design speed shall be as per IRC 73: 2018.

iii) Improvement of the existing road geometrics

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

Sr. No.	Stretch (from Km to Km)	Type of deficiency	Remarks

NIL

iv) Right of Way

Details of the Right of Way have been given in Annex II of Schedule A.

v) Type of shoulders

a) Type of shoulders have been given in TCS mentioned in para 14, Annexure I of Schedule B.

b) Design and specifications of the paved shoulders and granular material shall be conform to the requirements specified in paragraph 5.10 of the IRC: SP: 73-2018.

vi) Lateral and vertical clearances at underpasses

a) Lateral and vertical clearances at underpasses and provision of guardrails/crash barriers shall be as per Cl. 2.10 of the IRC: SP: 73-2018

b) Lateral clearance: The width of the opening at the Vehicular Under Passes (VUP) shall be as follows:

Sr. No.	Location (Design Chainage) Km	Span / Opening (m)	Vertical Clearances (m)
Nil			

vii) Lateral and vertical clearances at overpasses

a) Lateral and vertical clearances at overpasses shall be as per paragraph 2.11 of the 4-lanning Manual, however no overpass has been proposed.

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

Sr. No.	Location (Chainage) (From Km to Km)	Span / Opening (m)	Remarks
Nil			

viii) Service roads/Slip road

Service roads/Slip road shall be constructed at the locations and for the lengths indicated below [Refer to paragraph 2.12 of IRC: SP: 73-2018]:

(a) Details of service road

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

Sr. No.	Location of service road (From Km to Km)	Right hand side(RHS) /Left hand side (LHS)/or both sides	Length (Km) of service road
Nil			

ix) Grade separated structures

a) Grade separated structures shall be provided as per paragraph 2.13 of the 4-lanning Manual. The requisite particulars are given below:

Sr. No.	Location of structure (Existing)	Location of structure (Design)	Length (m)	Number and length of Spans(m)	Approach Gradient	Remarks, if any
NIL						

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

Sr. No.	Location (Design Chainage)	Location (Design Chainage)	Type of Structure Length	Cross road at		
				Existing level	Raised Level	Lowered Level
NIL						

x) Cattle and pedestrian underpass /overpass

Cattle and pedestrian underpass/overpass shall be constructed as follows: (as per IRC SP: 73:2018)

Sr. No.	Location (Chainage) (From Km to Km)	Type of Crossing
NIL		

xi) Typical cross-sections of the Project Highway

Indicative typical cross section of the Project highway has been provided as per para 14 of Annexure-I (Schedule B).

TCS		Length
TCS -I	With Retaining wall on New alignment	0
TCS-II	Without Retaining wall on New alignment	5754
TCS-III	Built up section-Mountainous Terrain	0
TCS-IV	With Retaining wall on Existing Road	100

TCS-V	Without Retaining wall on Existing Road	5350
TCS-VI	BOX cutting section	250
TOTAL		11454

3 INTERSECTIONS AND GRADE SEPARATORS

All intersections and grade separators shall be developed conforming to Section 3 of IRC: SP: 73-2018 & typed design for intersections on National Highways (MoRTH Guidelines). Existing intersections which are deficient shall be improved to the prescribed standards.

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

i. At-Grade intersections:

Sr. No.	Location of Intersection	Type of intersection	Other feature
1	39+100	Y	NH-39 (NH-02)
2	43+454	Y	Village Road

ii. Grade Seperated intersection with/without ramps

S. NO	Location	Salient features	Minimum length of viaduct to be provided	Road to be carried over/under the 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 IRC: SP: 73-2018 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

The existing road shall be raised in the following sections:

Sl. No.	Section (from km to km)	Length	Extent of raising [Top of finished road level]
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 shall be adopted for Project Highway. Notwithstanding anything contrary contained in this Agreement or the Manual, the pavement shall be designed as given below.

5.3 Design requirements

Notwithstanding anything to the contrary contained in this agreement or the manual, the contractor shall design the pavement of main carriageway for design traffic of 50 MSA with a minimum design period of 20 years. CBR value as obtained at site shall be taken for design if less than 10%. Maximum value of CBR to be taken for design shall not exceed 10%.

Bituminous Grade VG 30 or VG 40 shall be used for BC.

5.4 Reconstruction of stretches

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

Sr. No.	Chainage		Length in (Km)	Type of Cross Section	Remarks
	From (Km)	To (Km)			
Nil					

6 ROAD SIDE DRAINAGE

Drainage system including surface and subsurface drains for the Project Highway shall be provided as per Section 6 of the Manual (IRC: SP: 73-2018).

Lined drain of following length shall be provided

Sr. No.	Length (except CD structures)	Side of construction
	(m)	Hill side/Both
1	10956	Hill side
2	250	Both side

The length of side drains given above are minimum and it may vary as per site condition. In case of increase of length, no positive change of scope will be payable.

7 DESIGN OF STRUCTURES

i. General

a) All bridges, culverts and structures shall be designed and constructed in accordance with section 7 of IRC: SP: 73-2018 and referred other codes therein and shall conform to the cross- sectional features and other details specified therein

b) Width of the carriageway of new bridges and structures shall be as follows:

Sr. No.	Bridge (km)	Length of Bridge (m)	Width of carriageway and Cross - Sectional feature
1	33+415	24	As per section 7.3 (ii) of the manual
2	35+635	90	

c) Following structures shall be provided with footpaths:

Sr. No.	Bridge (km)	Length of Bridge (m)	Remark
1	33+415	24	Footpath on both sides as per section 7 of the manual.
2	35+635	90	

d) All bridges shall be high-level bridges.

e) The following structures shall be designed to carry utility services specified in table below:

Sr. No.	Bridge (km)	utility service to be carried out on both side
1	33+415	OFC ,telephone and Electricity cables
2	35+635	

f) Cross-section of the new culverts and bridges at deck level for the Project Highway shall conform to the typical cross-sections given in section 7 of IRC: SP: 73-2018.

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 reconstructed as new culverts:

S. No.	Existing chainage (km)	Design Chainage (km)	Proposal Details		
			Span/Opening (m)	Type of Culvert	Remarks, if any
NIL					

c) Widening and Repairing of existing culverts

S. No.	Existing chainage (km)	Design Chainage (km)	Proposal Details			TCS type
			Width (m)	Type of Culvert	Repairs to be carried out	
Nil						

d) New culverts shall be constructed as per Particulars given in the table below. Final chainage to be decided as per the site condition by the AE:

Sr. No.	Design Chainage (Km)	Span/Opening (m)	Type of Culvert
1	32+100	1X2	BOX/ SLAB
2	32+250	1X2	BOX/ SLAB
3	32+400	1X2	BOX/ SLAB
4	32+600	1X2	BOX/ SLAB
5	33+100	1X2	BOX/ SLAB
6	33+250	1X2	BOX/ SLAB
7	33+550	1X2	BOX/ SLAB
8	33+650	1X2	BOX/ SLAB
9	33+750	1X2	BOX/ SLAB
10	33+850	1X2	BOX/ SLAB
11	33+900	1X2	BOX/ SLAB
12	34+000	1X2	BOX/ SLAB
13	34+150	1X2	BOX/ SLAB
14	34+300	1X2	BOX/ SLAB
15	34+450	1X2	BOX/ SLAB
16	34+750	1X2	BOX/ SLAB
17	34+900	1X2	BOX/ SLAB
18	35+050	1X2	BOX/ SLAB
19	35+200	1X2	BOX/ SLAB
20	35+350	1X2	BOX/ SLAB
21	35+500	1X2	BOX/ SLAB

Sr. No.	Design Chainage (Km)	Span/Opening (m)	Type of Culvert
22	35+800	1X2	BOX/ SLAB
23	35+950	1X2	BOX/ SLAB
24	36+100	1X2	BOX/ SLAB
25	36+250	1X2	BOX/ SLAB
26	36+400	1X2	BOX/ SLAB
27	36+600	1X2	BOX/ SLAB
28	36+800	1X2	BOX/ SLAB
29	36+950	1X2	BOX/ SLAB
30	37+100	1X2	BOX/ SLAB
31	37+200	1X2	BOX/ SLAB
32	37+350	1X2	BOX/ SLAB
33	37+500	1X2	BOX/ SLAB
34	37+650	1X2	BOX/ SLAB
35	37+800	1X2	BOX/ SLAB
36	37+950	1X2	BOX/ SLAB
37	38+100	1X2	BOX/ SLAB
38	38+250	1X2	BOX/ SLAB
39	38+400	1X2	BOX/ SLAB
40	38+550	1X2	BOX/ SLAB
41	38+700	1X2	BOX/ SLAB
42	38+850	1X2	BOX/ SLAB
43	39+000	1X2	BOX/ SLAB
44	39+200	1X2	BOX/ SLAB
45	39+350	1X2	BOX/ SLAB
46	39+500	1X2	BOX/ SLAB
47	39+700	1X2	BOX/ SLAB
48	39+900	1X2	BOX/ SLAB
49	40+050	1X2	BOX/ SLAB
50	40+200	1X2	BOX/ SLAB
51	40+350	1X2	BOX/ SLAB
52	40+500	1X2	BOX/ SLAB
53	40+700	1X2	BOX/ SLAB
54	40+900	1X2	BOX/ SLAB
55	41+050	1X2	BOX/ SLAB
56	41+200	1X2	BOX/ SLAB
57	41+350	1X2	BOX/ SLAB
58	41+500	1X2	BOX/ SLAB
59	41+700	1X2	BOX/ SLAB

Sr. No.	Design Chainage (Km)	Span/Opening (m)	Type of Culvert
60	41+900	1X2	BOX/ SLAB
61	42+100	1X2	BOX/ SLAB
62	42+300	1X2	BOX/ SLAB
63	42+500	1X2	BOX/ SLAB
64	42+700	1X2	BOX/ SLAB
65	42+850	1X2	BOX/ SLAB
66	43+100	1X2	BOX/ SLAB
67	43+350	1X2	BOX/ SLAB

The numbers of culvert above are minimum, to be provided and it may increase as per site condition. In case of increase in numbers of culvert, no positive change of scope will be payable

e) Repairs/ Replacement of Railing/Parapets, flooring and protection works of the existing culverts shall be undertaken as follows:

Sr. No.	Location (km)	Type of Repair required
NIL		

f) Floor Protection works of culverts shall be as specified in the relevant IRC codes and Technical Specifications.

iii. Bridges

a) Existing Bridges to be re-constructed / widened

i. The existing bridges at the following locations shall be re-constructed as new structures

Major Bridges:

Sl. No.	Existing Chainage (Km)	Design Chainage (Km)	Design No. of Spans with span length (m)	Remarks
NIL				

Minor Bridges:

Sl. No.	Chainage		Silent Details of Existing Bridges	Adequacy or otherwise of the existing waterway, vertical clearance	Remarks
	Existing	Design			
Nil					

(ii) The following narrow bridges shall be widened:

Sr. No.	Location (Km)	Existing Width (m)	Extent of Widening (m)	Cross-section at deck level for widening
Nil				

b) 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:

Major Bridge:

Sr. No.	Location (Km)		Total length (m)	Remarks
	Existing	Design		
1	-	35+635	90	2 Lane New Bridge as per section 7 of IRC SP 73:2018

Minor Bridge:

Sr. No.	Location (Km)		Total length (m)	Remarks
	Existing	Design		
1	-	33+415	24	2 Lane New Bridge as per section 7 of IRC SP 73:2018

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

Sr. No.	Location (km)	Remarks
Nil		

d) Repairs/ replacements of railing/parapets of the existing bridges shall be undertaken as follows:

Sl. No.	Existing Chainage (Km)	Design Chainage (Km)	Existing no. of Spans with span length (m)	Remarks
Nil				

e) Drainage system for bridge decks

An effective drainage system for bridge decks shall be provided as specified in paragraph 7.20 of IRC: SP: 73-2018.

f) Structures in marine environment

NA.

iv. Rail - Road Bridges

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

b) Road Over-Bridges

Road over-bridges (road over railway line) shall be provided at the following level crossings, as per manual:

RE Wall shall be provided with full height in approaches of ROB.

Sl. No.	Location of Level crossing (Design Chainage km)	Length of bridge (m)
Nil		

c) Road under-Bridges

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

Sl. No.	Location of Level crossings(km)	Number and length of Span (m)
Nil		

v. 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.

Sr. No.	Location		Span Arrangement	Total length (m)	Remarks
	Existing Chainage (Km)	Design Chainage (Km)			
Nil					

vi. Repairs and strengthening of bridges and structures

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

A. Bridges

Sl. No.	Location / Design Chainage (In km)/Span	Side (LHS/RHS)	Nature and Extent of Repairs / Strengthening to be carried out
Nil			

B. ROB / RUB

Sl. No.	Location / Design Chainage (In km)	Side (LHS/RHS)	Nature and Extent of Repairs / Strengthening to be carried out
Nil			

C. Overpass / Underpass and Other structures

Sr. No.	Location / Design Chainage (In km)	Side (LHS/RHS)	Nature and Extent of Repairs/ Strengthening to be carried out
Nil			

vii. List of Major bridges and structures

The following is the list the list of major bridges and structures

Sr. No.	Location (In km)
1	35+635

8 TRAFFIC CONTROL DEVICES AND ROAD SAFETY WORKS

i. Traffic control devices and road safety works shall be provided in accordance with Section 9 of IRC: SP:73-2018.

(a) Traffic Signs: Traffic signs include roadside signs, overhead signs and curb mounted signs along the entire Project Highway shall be provided conforming to IRC 67 and section 800 of MoRTH specification.

(b) Pavement Marking: Pavement markings shall cover road marking for the entire Project Highway and shall be provided conforming to IRC 35-2015.

(c) Safety Barrier: W-beam crash barrier along the project highway at all locations shall be provided as specified in section 9 of IRC: SP: 73-2018.

ii. Specifications of the reflecting sheeting.

Retro reflective sheeting should be of high intensity grade with encapsulated lens or with micro prismatic retro reflective element in accordance with ASTM Standard D 4956-04 shall be provided conforming to section 800 of MoRTH specification.

9. ROADSIDE FURNITURE (SECTION 9 of IRC: SP: 73-2018)

i. Roadside furniture shall be provided in accordance with the provisions of section 11 of IRC: SP:73-2018.

(a) Road Boundary Stone: For the entire Project Highway.

(b) Pedestrian Guard Rail: The pedestrian facilities shall include the provision of the;

(i) Pedestrian guardrail: Provide pedestrian guardrail at each bus stop location.

(ii) Pedestrian Crossings: Provide pedestrian crossing facilities on Junctions.

ii. Overhead traffic signs: Location and Size

(a) Full width Overhead signs: Full width Overhead signs shall be provided as below:

Sl. No.	Design Chainage	Remarks
1	32.00	
2	43.454	

(b) Cantilever Overhead signs: Overhead signs shall be provided as below:

Sl. No.	Design Chainage	Remarks
1	35.00	
2	38.00	

(c) Delineators: Delineators for the entire Project Highway at the locations as per section 9.4 of IRC SP 73:2018

10 COMPENSATORY AFFORESTATION

Minimum 1146 nos. trees are required to be planted as compensatory afforestation.

11. HAZARDOUS LOCATIONS

Metal Beam crash barrier of minimum length of 3000 m (single runner, heavy duty and W-shape) shall be provided at the locations of bridge approaches and high embankments (3.0m and more), at sharp curves on both sides on the project by the Contractor at the locations finalized in consultation with AE. Typical details of metal crash barrier are given in as per manual. Increase in length if any as per site requirement will not constitute change of scope

12. SPECIAL REQUIREMENTS FOR HILL ROADS

Refer to section 13 of IRC: SP: 73-2018.

(i) The following minimum length of protection works have been made for tabulated below:

Sr. No.	Items	Length (m)
2	Breast wall (3 m height)	2890

3	Retaining wall (Average 5 m high)	100
4	Seeding & mulching	21020 sq m

(ii) Landslide Mitigation:

Landslide Mitigation has to be provided at the specified chainages mentioned below in accordance with the drawing attached. The following are the Landslide Mitigation measures to be adopted with the technical specification mentioned below:

(a) For Sinking Zone between Km 37.450 to Km 39.990

System for reinforcing the earth

It includes reinforcing and strengthening of the unstable slopes while doing the excavation in a topdown manner by in-situ soil reinforcement of the excavated slope surface based on the detail soil investigation and slope stability analysis.

System for reinforcing the earth shall consist of reinforced earth wall structure as per the specification below and soil nailing/ ground anchors. The backfilled reinforced earth wall is to be mechanically connected with the soil nailed/ ground anchored stabilized slope.

(i) **Fascia** : The fascia element shall be of prefabricated and hot deep galvanized mild steel bar steel mesh having minimum bar diameter of 8mm and minimum galvanization thickness in accordance with BS 729: 1971 (1994).

(ii) **Soil Reinforcing Element**: High Adherence Geosynthetic Straps with grooves on both sides to generate high friction and having coating for better durability as soil reinforcing element. Any other similar material for **Soil Reinforcement** can be used after the approval from AE.

(iii) **Connection between fascia and soil reinforcing element**: mechanical connection system shall be used, using rust/corrosion resistant steel meeting the long term strength criteria.

(iv) **Fill material**: Backfill material shall be reasonably free from organic or other deleterious material confirming to MoRTH "Specification of Road and Bridges Works", Fifth Revision or IRC: SP: 102-2014.

(v) **Drainage:** Drainage gallery minimum 600mm wide having 20mm down aggregates as per MoRTH specification.

(vi) **Soil Nailing**: To be done as per AS 4678:2002 or any other relevant code as per site condition with approval of AE.

(vii) **Ground Anchors**: Depending on the soil strata, height of the structure and slope stability design, the excavated slope surface to be strengthened by Permanent Ground Anchors.

(viii) **Connection System**: The connection between the reinforced soil slope and soil nail and/ or ground anchors shall be mechanical in nature for full load transfer mechanism. All steel components of the connection shall be hot-dip galvanized to BS 729:1971 requirements or IS 4759:1996.

The typical drawings for the above for tender purpose are attached. However, the drawing specification is tentative and may change as per site requirement. The Contractor shall be responsible for accurate assessment of the actual requirement as per site situation & prepare designs for slope protection & stabilization as per the specifications & standards stipulated in schedule 'D' and submit the same to the AE for review through the proof consultant and implement it accordingly thereafter.*Further the proof and Safety for the above work will only be done through IIT/CBRI/CSIR*

(b) **Landslide between Km 41.500 to Km 41.900**

The following minimum length of protection works have to be made as tabulated below:

Sr. No.	Items	Unit	Quantity
1	Gabion retaining wall	cu. m.	39375
2	Catch water drain (lined) and Chute drain	Rm	2000
3	Geotextile Fascia for Gabion wall	sqm	14000
4	Breast wall (2 m height)	Rm	600

Note- (i) *The Contractor shall be responsible for accurate assessment of the actual requirement as per site situation & prepare designs for slope protection & stabilization as well as Landslide Mitigation as per the specifications & standards stipulated in schedule 'D' and submit the same to the AE for review through the proof consultant and implement it accordingly thereafter.*

(ii) Any increase in quantity over and above the minimum qty. *as mentioned in both the tables above or through change in specifications 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.***

(iii) **The length of Retaining Wall shown above is minimum, to be constructed at site for proper geometrics and will not be converted to Breast Wall. Any reduction in the total length of Retaining Wall constructed at site shall constitute of negative change of scope.**

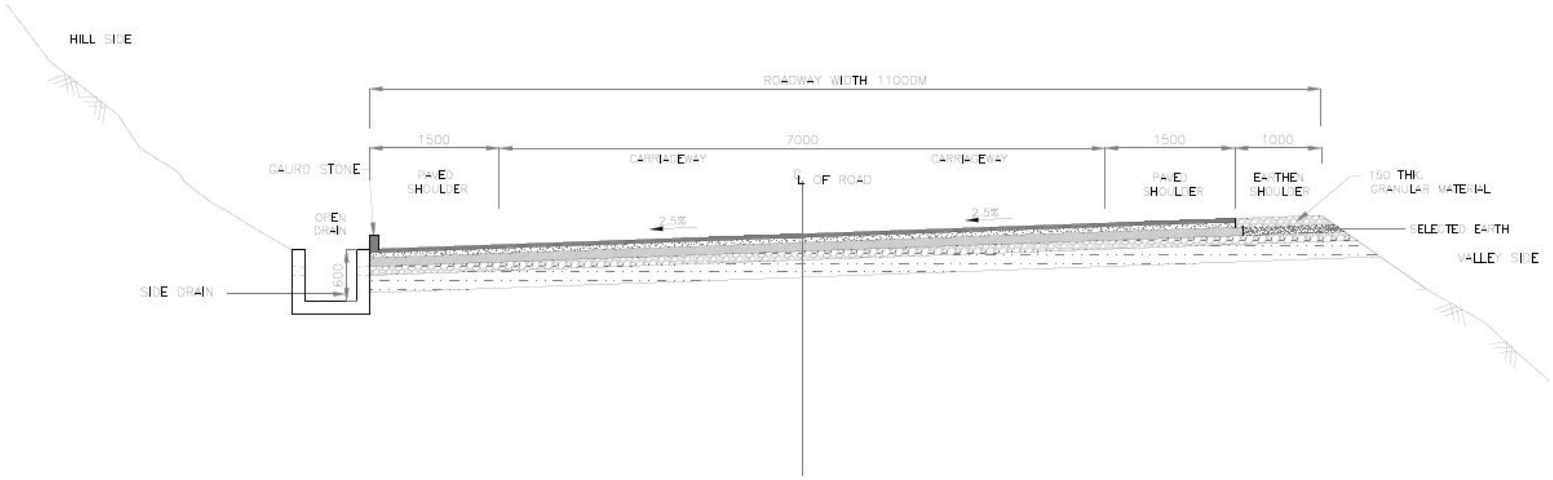
13 CHANGE OF SCOPE

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

14. INDICATIVE CHAINAGES WITH APPLICABLE TYPICAL CROSS SECTION:

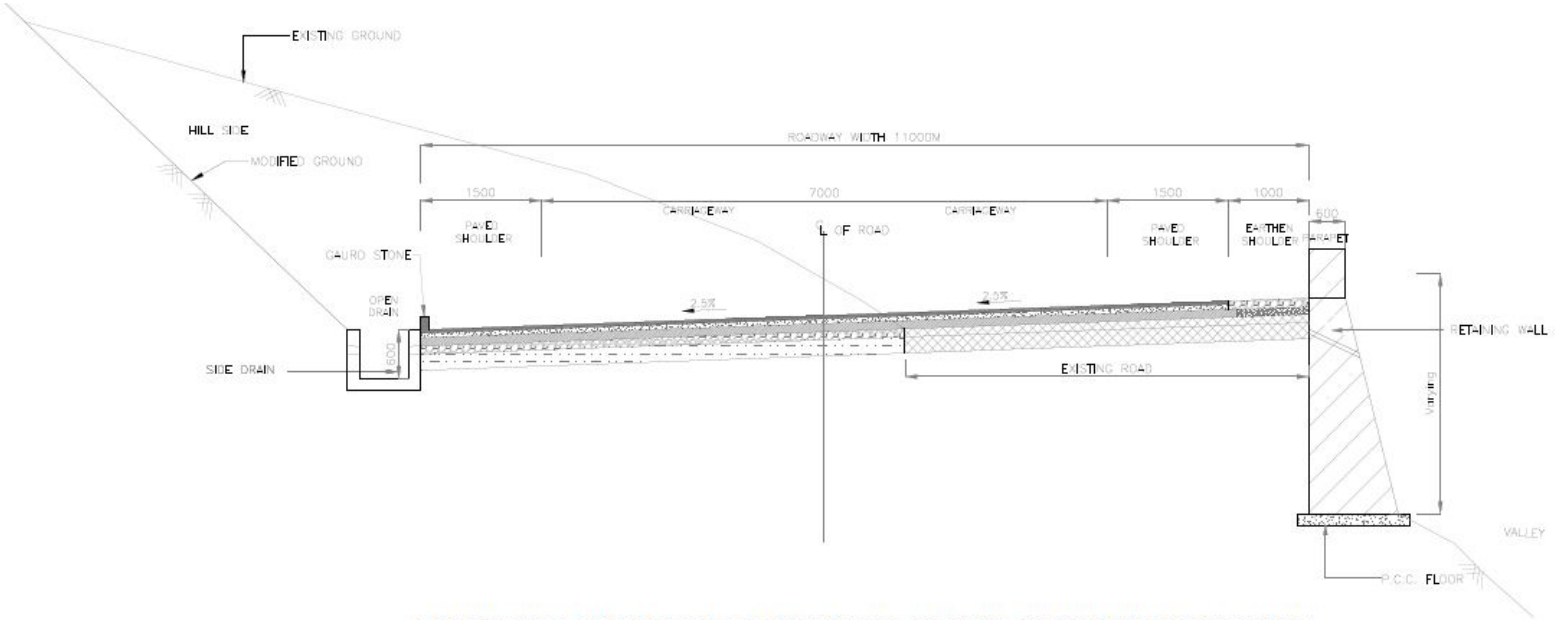
S.No	Design Chainage		Length	Type of TCS
	From	To		
1	32+000	32+900	900	TCS-V
2	32+900	33+000	100	TCS-IV
3	33+000	35+750	2750	TCS-V
4	35+750	35+900	150	TCS-VI
5	35+900	36+900	1000	TCS-V
6	36+900	39+200	2300	TCS-II
7	39+200	39+900	700	TCS-V
8	39+900	41+200	1300	TCS-II
9	41+200	41+300	100	TCS-VI
10	41+300	43+454	2154	TCS-II
	Total length (m)		**11454**	

Typical Cross Section (TCS):



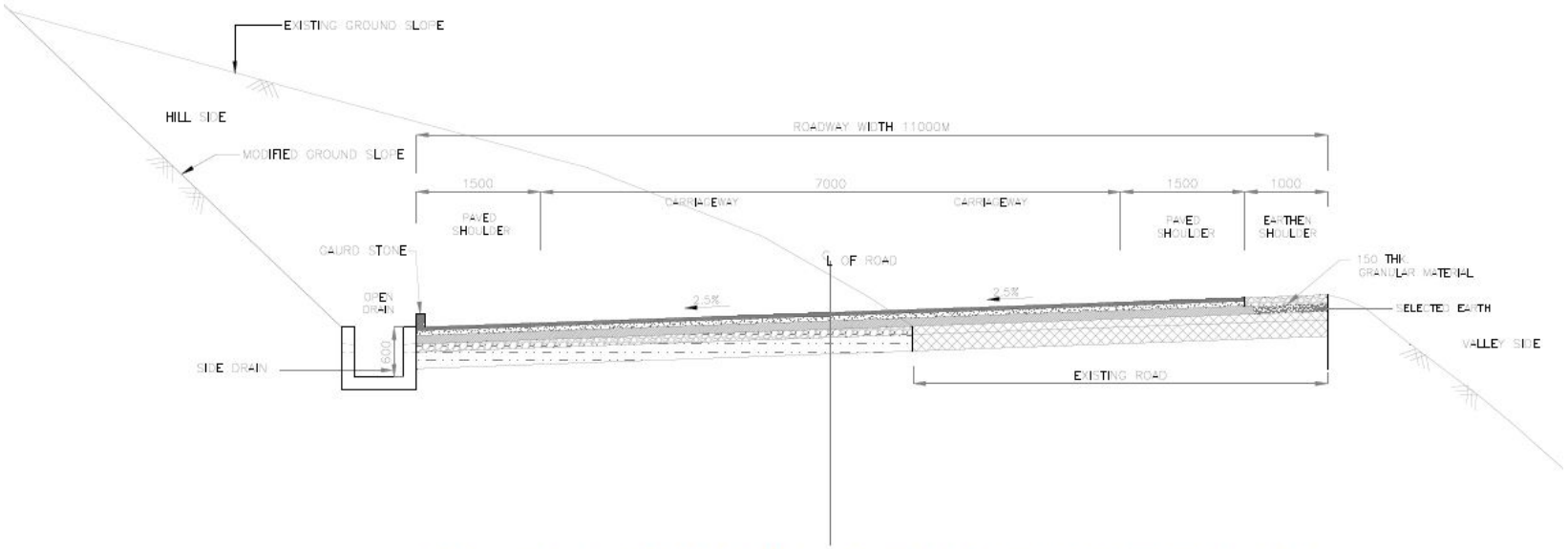
TCS-II TWO LANE CARRIAGEWAY, (OPEN COUNTRY - MOUNTAINOUS/STEEP TERRAIN) WITHOUT RETAINING WALL ON NEW ALIGNMENT

(Fig. 2.9 As per Two Lane Manual 2018)



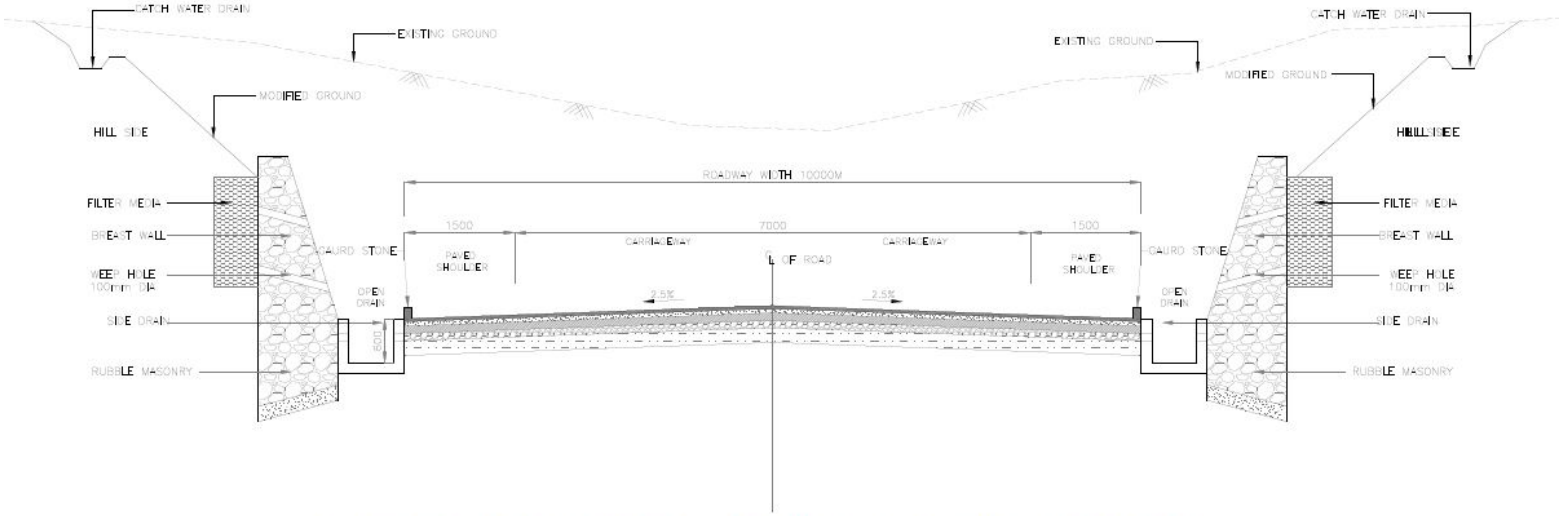
TCS-IV TWO LANE CARRIAGEWAY, (OPEN COUNTRY - MOUNTAINOUS TERRAIN) WITH RETAINING WALL AND PARAPET ON EXISTING ALIGNMENT

(Fig. 2.8 As per Two Lane Manual 2018)



TCS-V TWO LANE CARRIAGEWAY, (OPEN COUNTRY - MOUNTAINOUS TERRAIN) WITHOUT RETAINING WALL ON EXISTING ALIGNMENT

(Fig. 2.9 As per Two Lane Manual 2018)



TCS-VI TWO LANE CARRIAGEWAY, (OPEN COUNTRY - MOUNTAINOUS/STEEP TERRAIN)
BOX CUTTING WITH BOTH SIDE BREAST WALL ON NEW ALIGNMENT