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 constructionof the Project Highway as described in this Schedule-B and in Schedule-C.

2 Rehabilitation and augmentation

Rehabilitation and augmentation shall include Two-Laning andstrengthening of the Project Highway as described in Annex-I of thisSchedule-B and in Schedule-C.

3 Specifications and Standards

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

Annex - I
(Schedule-B)

Description of Two-Laning

1. WIDENING OF THE EXISTING HIGHWAY

1.1. The Project Highway shall follow the existing alignment unless otherwisespecified by the Authority and shown in the alignment plans specified inAnnex III of Schedule-A. Geometric deficiencies, if any, in the existinghorizontal and vertical profiles shall be corrected as per the prescribedstandards for hilly terrain to the extent land is available.

1.2 WIDTH OF CARRIAGEWAY

1.2.1 Construction of Two-Lane pavement without paved shoulders shall be undertaken. The paved carriageway shall be 7(seven) m wide with hard shoulders in accordance with the typical cross sections drawings.

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

2. GEOMETRIC DESIGN AND GENERAL FEATURES

2.1 General

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

2.2 Design speed

The design speed shall be the minimum design speed of 40 km per hrand rulingdesign speed of 50 km per hr for hilly terrain.

2.3 Improvement of the existing road geometrics

Improvement of the existing roadgeometrics shall be carried out as per Section-2 of Manual (IRC: SP73-2007).

2.4 Right of Way

Sl. No	Design Chainage (Km)		Proposed Length (Km)	Width (m)	Remarks
	From Km	to Km			
1	33.000	65.610	32.610	24.00	

2.5 Type of shoulders

The shoulder shall be hard shoulder on both sides of the carriageway as per para2.5 of the Manual.

2.6 Lateral and vertical clearances at underpasses

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

2.6.2 Lateral clearance: The width of the opening at the underpasses shall be asfollows:

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

2.7 Lateral and vertical clearances at overpasses

2.7.1 Lateral and vertical clearances at overpasses shall be as per paragraph 2.12 ofthe Manual.

2.7.2 Lateral clearance: The width of the opening at the overpasses shall be asfollows:

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

2.8 Service roads

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

Sl. No.	Existing Location of Service road (from Km to Km)	Proposed Location of service road (from Km to Km)	Right hand side(RHS)/Left hand (LHS)/or Both sides	Length of Service road (Km)
Nil				

2.9 Grade separated structures

2.9.1 Grade separated structures shall be provided as per paragraph 2.14 of theManual. The requisite particulars are given below and GADs are annexed at Annexure "D"

Sl. No.	Existing Chainage of the structure	Design Chainage of structure	Length (m)	Number and length of spans (m)	Approach gradient	Remarks, if any
Nil						

2.10 Cattle and pedestrian underpass /overpass

Cattle and pedestrian underpass/ overpass shall be constructed as follows:[Refer to paragraphs 2.14.3 of the Manual and specify the requirements ofcattle and pedestrian underpass/ overpass].

Sl. No.	Location	Span/opening (m)	Type of crossing
Nil			

2.11 Typical cross-sections of the Project Highway

Typeof cross-section shall be provided as per profile and site condition in accordance with the Manual.

3 INTERSECTIONS AND GRADE SEPARATORS

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

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

(a) At-grade intersections

Sl. No.	Existing Chainage (m)	Design Chainage (m)	Side	Type of intersection	Remarks
Nil					

(b) Grade separated intersection with/without ramps

Sl. No.	Existing Chainage (m)	Design Chainage (m)	Side	Type of intersection	Remarks
Nil					

4 ROAD EMBANKMENT AND CUT SECTION

4.1 Widening and improvement of the existing road embankment/cuttings andconstruction of new road embankment/ cuttings shall conform to theSpecifications and Standards given in section 4 of the Manual and thespecified cross sectional details. Deficiencies in the plan and profile of theexisting road shall be corrected.

4.2 The existing road including raising shall be reconstructed as per FRL mentioned inPlan & Profile as attached in annex 3 of schedule A.

The Formation cutting work shall be done asper following:

From	To	Length (m)	Remarks
39200	39600	400	Untouched
40800	40970	170	Untouched
41950	42000	50	Untouched
42290	42550	260	Untouched
43220	43450	230	Untouched
46250	46400	150	Untouched
46600	46800	200	Untouched
46970	47200	230	Untouched
57250	57300	50	Untouched
58600	60530	1930	Untouched
65000	65020	20	Untouched
65250	65400	150	Untouched
		3840	

The balance work of Formation cutting shall be done asper following:

From	To	Length	Remarks
39600	39620	20	Partially completed
40450	40500	50	Partially completed
42000	42050	50	Partially completed
42550	42600	50	Partially completed
43450	43500	50	Partially completed
47200	47250	50	Partially completed
47250	47350	100	Partially completed
47700	48000	300	Partially completed
48000	48300	300	Partially completed
53400	53500	100	Partially completed
57900	58000	100	Partially completed
62800	62850	50	Partially completed
62850	63080	230	Partially completed

65150	65190	40	Partially completed
		1490	

Sub-grade Profile correction/ Loosening &re-compaction shall be done asper following:

From	To	Length	Remarks
33700	33760	60	
34770	34850	80	
35020	35550	530	
35620	35720	100	
36420	37150	730	
37150	37220	70	
37220	37320	100	
37320	37620	300	
37620	37650	30	
37650	38300	650	
38300	39200	900	
39620	39720	100	
39720	39820	100	
39820	40370	550	
40500	40800	300	
40970	41100	130	
41100	41300	200	
41300	41630	330	
41630	41650	20	
41650	41840	190	
41840	41880	40	
41880	41950	70	
42050	42200	150	
42200	42290	90	
42600	42880	280	
42880	42900	20	
42900	43200	300	
43200	43220	20	

43500	43620	120	
44220	44270	50	
44500	44540	40	
45160	45250	90	
45250	45400	150	
45400	45500	100	
45500	45780	280	
45780	45850	70	
45850	46040	190	
46040	46100	60	
46100	46200	100	
46200	46250	50	
46400	46500	100	
46500	46530	30	
46530	46600	70	
46800	46900	100	
46900	46970	70	
47350	47700	350	
48800	49000	200	
50380	50750	370	
51080	51200	120	
52280	52350	70	
52550	52780	230	
52830	53064	234	
53064	53400	336	
53500	53800	300	
53800	53900	100	
53900	54230	330	
54230	54560	330	
54800	54950	150	
54950	55300	350	
55830	56300	470	
56900	57000	100	
57000	57250	250	

57300	57570	270	
57570	57740	170	
57740	57900	160	
58000	58400	400	
58400	58600	200	
60530	60650	120	
60800	60880	80	
60880	61050	170	
61050	61700	650	
62000	62500	500	
62600	62660	60	
62660	62700	40	
62700	62800	100	
63080	63200	120	
64030	64050	20	
64050	64090	40	
64090	64290	200	
64290	64450	160	
64450	64630	180	
64900	64970	70	
64970	65000	30	
65020	65150	130	
65190	65250	60	
65400	65450	50	
		16380	

5 PAVEMENT DESIGN

5.1 Pavement design shall be carried out in accordance with Section 5 of theManual.Minimum Crust thickness as per the following shall be provided.

Items	**Thickness**
GSB (in Widening portion)	300 mm (Bottom 150 mm extended to full formation width)
WMM	250 mm

DBM	60 mm
BC with CRMB	40 mm

5.2 Type of pavement

Flexible pavement shall be adopted for Project Highway.

5.3 Design requirements

5.3.1 Design Period and strategy

The pavement shall be designed for a minimum design period of 15 years. Stage construction shall not be permitted.

5.3.2 Design Traffic

Notwithstanding anything to the contrary contained in this Agreement or theManual, the Contractor shall design the pavement for entire Project Highway for design traffic of not less than 10 million standard axles (msa).

5.4 Reconstruction of stretches

5.4.1 The following stretches of the existing road shall be realigned. Theseshall be designed as new pavement.

Sl. No.	ExistingChainage (m)		Design Chainage (m)		Design Length (m)	Remarks
	From	To	From	To		
1	As indicated in drawings.					

5.4.2 The existing road shall be reconstructed as per FRL mentioned in Plan &Profile (Annex III of Schedule A).

6 ROADSIDE DRAINAGE

Drainage system including surface and subsurface drains for the ProjectHighway shall be provided as per Section 6 of the Manual.However,Lined/unlined drainsshall be provided in the following stretches-

The Roadside Lined drain shall be constructed asper following:

From	To	Length (m)	Side
33+000	33+500	500	LHS
33+030	33+100	70	RHS
33+500	34+000	500	RHS
34+000	34+500	500	RHS

34+030	34+100	70	LHS
34+300	34+390	90	LHS
34+500	35+000	500	RHS
34+900	34+990	90	LHS
35+000	35+500	500	RHS
35+500	36+000	500	RHS
36+000	36+500	500	RHS
36+500	36+950	450	RHS
37+049	37+500	451	RHS
37+500	38+000	500	RHS
38+000	38+500	500	RHS
38+350	38+410	60	LHS
38+500	39+000	500	RHS
38+500	38+550	50	LHS
39+000	39+500	500	RHS
39+450	39+520	70	LHS
39+500	40+000	500	RHS
40+000	40+500	500	RHS
40+500	40+830	330	RHS
40+870	41+000	130	RHS
41+000	41+500	500	RHS
41+500	42+000	500	RHS
42+000	42+500	500	RHS
42+500	43+000	500	RHS
43+000	43+500	500	RHS
43+500	44+000	500	RHS
44+000	44+500	500	RHS
44+500	45+000	500	RHS
44+700	44+760	60	LHS
45+000	45+500	500	RHS
45+500	46+000	500	RHS
46+000	46+500	500	RHS
46+310	46+340	30	LHS
46+500	47+000	500	RHS

47+000	47+500	500	LHS
47+270	47+300	30	RHS
47+500	48+000	500	LHS
47+970	48+010	40	RHS
48+000	48+437	437	LHS
48+617	48+660	43	RHS
48+580	48+619	39	LHS
49+000	49+285	285	LHS
49+690	49+752	62	LHS
50+182	50+380	198	LHS
50+430	51+000	570	LHS
51+000	51+090	90	LHS
51+120	51+289	169	LHS
51+389	51+500	111	LHS
51+500	51+576	76	LHS
51+773	52+000	227	LHS
51+800	51+860	60	RHS
52+000	52+355	355	LHS
52+476	52+500	24	LHS
52+360	52+420	60	RHS
52+500	52+570	70	LHS
52+580	53+000	420	LHS
52+860	52+940	80	RHS
53+000	53+500	500	LHS
53+500	53+567	67	LHS
53+823	54+000	177	LHS
54+000	54+500	500	LHS
54+500	55+000	500	LHS
54+550	54+600	50	RHS
54+680	54+750	70	RHS
54+800	54+870	70	RHS
55+000	55+211	211	LHS
55+291	55+500	209	LHS
55+632	55+700	68	LHS

55+720	56+100	380	RHS
56+150	56+212	62	LHS
56+312	56+500	188	LHS
56+500	57+000	500	LHS
57+000	57+500	500	LHS
57+500	58+000	500	LHS
57+770	57+820	50	RHS
58+000	58+400	400	LHS
58+410	58+500	90	RHS
58+500	58+570	70	RHS
58+800	59+000	200	LHS
59+000	59+350	350	LHS
59+350	59+720	370	RHS
59+730	60+000	270	LHS
60+000	60+440	440	LHS
60+340	60+400	60	RHS
60+520	61+000	480	RHS
61+000	61+500	500	RHS
61+500	61+800	300	RHS
61+950	62+000	50	LHS
62+079	62+165	86	LHS
62+250	62+380	130	LHS
62+420	62+500	80	LHS
62+500	63+000	500	LHS
63+000	63+500	500	LHS
63+500	64+000	500	LHS
64+000	64+500	500	LHS
64+500	64+570	70	LHS
64+620	65+000	380	LHS
65+000	65+365	365	LHS
65+375	65+605	230	LHS
48+340	48+430	90	RHS
48+750	48+870	120	RHS
48+790	48+870	80	LHS

48+930	49+000	70	LHS
48+930	49+000	70	RHS
49+000	49+200	200	RHS
49+300	49+350	50	RHS
49+420	49+440	20	RHS
50+710	50+760	50	RHS
51+400	51+440	40	RHS
52+160	52+200	40	RHS
52+700	52+800	100	RHS
54+870	54+970	100	RHS
55+509	55+569	60	LHS
57+670	57+700	30	RHS
57+920	57+970	50	RHS
60+520	60+650	130	LHS
60+770	60+870	100	LHS
62+020	62+130	110	RHS
63+660	63+760	100	RHS
65+500	65+600	100	RHS
		32130	

Unlined drain to be provided as per site requirement other than Side-Lined drain locations.

7 DESIGN OF STRUCTURES

7.1 General

7.1.1 All bridges, culverts and structures shall be designed and constructed inaccordance with section 7 of the Manual and shall conform to the cross-sectionalfeatures and other details specified therein.

7.1.2 Width of the carriageway of new bridges and structures shall be as per figure 7.2 and figure 7.3 of the Manual.

7.1.3 The following structures shall be provided with footpaths:
NIL

7.1.4 All bridges shall be high-level bridges.

7.1.5 The following structures shall be designed to carry utility services specifiedin table below:
NIL

7.1.6 Cross-section of the new culverts and bridges at deck level for the ProjectHighway shall conform to the typical cross-sections given in section 7 of theManual.

7.2 Culverts

7.2.1 Overall width of all culverts shall be equal to the roadway width of theapproaches.

7.2.2 Reconstruction of existing/New culverts:

The culverts shall be constructed asper following:

Sl. No.	Culvert location	Span/Opening (m)	LHS	RHS
1	34+617	1.5 X 2.0	Not started	Not started
2	35+314	5.0 X 4.0	Not started	Not started
3	35+542	1.5 X 2.0	Not started	Not started
4	35+734	1.5 X 2.0	Not started	Not started
5	35+832	1.5 X 2.0	Not started	Not started
6	35+924	1.5 X 2.0	Not started	Not started
7	36+007	1.5 X 2.0	Not started	Not started
8	36+371	3.0 X 2.0	Not started	Not started
9	37+106	4.0 X 3.0	Not started	Not started
10	37+160	4.0 X 3.0	Not started	Not started
11	37+265	2.5 X 2.0	Not started	Not started
12	37+747	3.0 X 2.0	Not started	Not started
13	38+826	3.0 X 2.0	Not started	Not started
14	38+862	2.5 X 2.0	Not started	Not started
15	39+035	6.0 X 6.0	Not started	Not started
16	39+231	3.0 X 2.0	Not started	Not started
17	39+287	3.0 X 2.0	Not started	Not started
18	39+437	3.0 X 2.0	Not started	Not started
19	39+537	3.0 X 2.0	Not started	Not started
20	40+341	1.5 X 2.0	Not started	Not started

21	40+435	2.5 X 2.0	Not started	Not started
22	40+513	3.0 X 2.0	Not started	Not started
23	40+567	2.5 X 2.0	Not started	Not started
24	40+658	4.0 X 3.0	Not started	Not started
25	41+130	3.0 X 2.0	Not started	Not started
26	41+255	2.5 X 2.0	Not started	Not started
27	41+300	3.0 X 2.0	Not started	Not started
28	41+361	3.0 X 2.0	Not started	Not started
29	41+423	5.0 X 4.0	Not started	Not started
30	41+631	3.0 X 2.0	Not started	Not started
31	41+985	2.0 X 2.0	Not started	Not started
32	42+056	2.0 X 2.0	Not started	Not started
33	42+166	3.0 X 2.0	Not started	Not started
34	42+442	2.0 X 2.0	Not started	Not started
35	42+532	2.5 X 2.0	Not started	Not started
36	42+638	1.5 X 2.0	Not started	Not started
37	43+017	3.0 X 2.0	Not started	Not started
38	43+304	1.5 X 2.0	Not started	Not started
39	43+460	1.5 X 2.0	Not started	Not started
40	43+610	3.0 X 2.0	Not started	Not started
41	43+846	3.0 X 2.0	Not started	Not started
42	44+508	1.5 X 2.0	Not started	Not started
43	44+917	1.5 X 2.0	Not started	Not started
44	45+309	2.5 X 2.0	Not started	Not started
45	45+930	1.5 X 2.0	Not started	Not started
46	46+014	4.0 X 3.0	Not started	Not started
47	46+234	3.0 X 2.0	Not started	Not started
48	46+308	2.0 X 2.0	Not started	Not started
49	46+382	4.0 X 3.0	Not started	Not started
50	46+669	1.5 X 2.0	Not started	Not started
51	46+812	1.5 X 2.0	Not started	Not started

52	47+459	4.0 X 3.0	Not started	Not started
53	47+604	4.0 X 3.0	Not started	Not started
54	47+804	1.5 X 2.0	Not started	Not started
55	48+014	4.0 X 3.0	Not started	Not started
56	48+059	2.0 X 2.0	Not started	Not started
57	48+133	1.5 X 2.0	Not started	Not started
58	48+334	2.0 X 2.0	Not started	Not started
59	48+890	4.0 X 3.0	Not started	Not started
60	49+078	1.5 X 2.0	Not started	Not started
61	53+171	1.5 X 2.0	Not started	Not started
62	53+364	5.0 X 4.0	Not started	Not started
63	54+188	4.0 X 3.0	Not started	Not started
64	54+280	1.5 X 2.0	Not started	Not started
65	55+858	1.5 X 2.0	Not started	Not started
66	56+151	4.0 X 3.0	Not started	Not started
67	56+914	2.5 X 2.0	Not started	Not started
68	57+004	2.5 X 2.0	Not started	Not started
69	57+314	2.0 X 2.0	Not started	Not started
70	57+726	2.5 X 2.0	Not started	Not started
71	57+889	2.5 X 2.0	Not started	Not started
72	58+008	2.5 X 2.0	Not started	Not started
73	58+108	1.5 X 2.0	Not started	Not started
74	58+200	2.0 X 2.0	Not started	Not started
75	58+457	1.5 X 2.0	Not started	Not started
76	58+511	3.0 X 2.0	Not started	Not started
77	58+623	6.0 X 5.0	Not started	Not started
78	58+647	3.0 X 2.0	Not started	Not started
79	59+165	4.0 X 3.0	Not started	Not started
80	59+234	4.0 X 3.0	Not started	Not started
81	59+321	3.0 X 2.0	Not started	Not started
82	59+391	1.5 X 2.0	Not started	Not started

83	59+519	6.0 X 6.0	Not started	Not started
84	59+764	6.0 X 6.0	Not started	Not started
85	59+954	3.0 X 2.0	Not started	Not started
86	60+154	2.5 X 2.0	Not started	Not started
87	60+254	1.5 X 2.0	Not started	Not started
88	60+327	1.5 X 2.0	Not started	Not started
89	60+420	2.5 X 2.0	Not started	Not started
90	60+754	1.5 X 2.0	Not started	Not started
91	60+888	1.5 X 2.0	Not started	Not started
92	60+999	3.0 X 2.0	Not started	Not started
93	61+088	3.0 X 2.0	Not started	Not started
94	61+224	2.5 X 2.0	Not started	Not started
95	62+004	1.5 X 2.0	Not started	Not started
96	62+164	3.0 X 2.0	Not started	Not started
97	62+226	3.0 X 2.0	Not started	Not started
98	62+407	4.0 X 3.0	Not started	Not started
99	62+754	3.0 X 2.0	Not started	Not started
100	62+854	1.5 X 2.0	Not started	Not started
101	63+009	2.0 X 2.0	Not started	Not started
102	63+199	3.0 X 2.0	Not started	Not started
103	63+304	5.0 X 5.0	Not started	Not started
104	63+419	4.0 X 3.0	Not started	Not started
105	63+505	2.5 X 2.0	Not started	Not started
106	63+804	2.0 X 2.0	Not started	Not started
107	64+023	5.0 X 4.0	Not started	Not started
108	64+214	2.5 X 2.0	Not started	Not started
109	64+349	3.0 X 2.0	Not started	Not started
110	64+690	3.0 X 2.0	Not started	Not started
111	64+836	3.0 X 2.0	Not started	Not started
112	64+908	2.5 X 2.0	Not started	Not started
113	64+967	1.5 X 2.0	Not started	Not started

114	65+022	1.5 X 2.0	Not started	Not started
115	65+158	4.0 X 3.0	Not started	Not started
116	65+258	1.5 X 2.0	Not started	Not started
117	65+370	3.0 X 2.0	Not started	Not started
118	65+554	1.5 X 2.0	Not started	Not started
		118 No's		

Catch pit, Guide wall works at upstream side and Floor protection, curtain walls works at downstream side and Crash barrier to be constructed as per following:

Sl. No.	**Culvert location**	**Span/Opening (m)**	**LHS**	**RHS**
1	33+105	2.0 X 2.0	Top slab completed	Top slab completed
2	33+271	2.0 X 2.0	Top slab completed	Top slab completed
3	33+390	2.0 X 2.0	Top slab completed	Top slab completed
4	33+530	2.0 X 2.0	Top slab completed	Top slab completed
5	34+010	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
6	34+210	2.0 X 2.0	Top slab completed	Top slab completed
7	34+310	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
8	34+925	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
9	35+130	2.0 X 2.0	Top slab completed	Top slab completed
10	35+412	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
11	35+669	2.0 X 2.0	Top slab completed	Top slab completed
12	36+130	2.0 X 2.0	Top Slab with Crash barrier completed	Top slab completed
13	36+282	2.0 X 2.0	Top slab completed	Top slab completed
14	36+552	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
15	36+726	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
16	36+882	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
17	37+050	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed

18	37+464	2.0 X 2.0	Top slab completed	Top Slab with Crash barrier completed
19	37+818	3.0 X 2.0	Top Slab with Crash barrier completed	Top slab completed
20	38+152	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
21	38+220	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
22	38+283	2.0 X 2.0	Top Slab with Crash barrier completed	Top slab completed
23	38+562	2.0 X 2.0	Top slab completed	Top slab completed
24	38+610	2.0 X 2.0	Top slab completed	Top slab completed
25	38+726	2.0 X 2.0	Top slab completed	Top slab completed
26	38+952	2.0 X 2.0	Top slab completed	Top slab completed
27	39+702	2.0 X 2.0	Top slab completed	Top slab completed
28	39+955	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
29	40+230	3.0 X 2.0	Top slab completed	Top slab completed
30	41+806	2.0 X 2.0	Top slab completed	Top slab completed
31	41+927	2.0 X 2.0	Top slab completed	Top slab completed
32	42+130	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
33	43+163	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
34	43+570	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
35	43+672	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
36	43+724	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
37	43+785	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
38	44+060	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
39	44+177	2.0 X 2.0	Top slab completed	Top Slab with Crash barrier completed
40	44+244	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
41	44+368	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
42	45+164	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed

43	45+394	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
44	45+561	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
45	48+436	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
46	48+618	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
47	48+788	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
48	49+007	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
49	49+284	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
50	49+414	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
51	49+637	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
52	49+691	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
53	49+751	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
54	49+851	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
55	49+934	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
56	49+998	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
57	50+183	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
58	50+644	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
59	50+810	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
60	50+946	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
61	51+028	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
62	51+237	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
63	51+380	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
64	51+575	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
65	51+736	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed

66	51+774	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
67	51+939	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
68	52+037	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
69	52+286	2.0 X 2.0	Top Slab with Crash barrier completed	Top slab completed
70	52+353	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
71	52+477	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
72	52+684	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
73	52+837	2.0 X 2.0	Top slab completed	Top Slab with Crash barrier completed
74	52+966	3.0 X 2.0	Top Slab with Crash barrier completed	Top slab completed
75	53+064	2.0 X 2.0	Top Slab with Crash barrier completed	Top slab completed
76	53+566	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
77	53+724	2.0 X 2.0	Top slab completed	Top slab completed
78	53+824	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
79	54+066	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
80	54+650	2.0 X 2.0	Top slab completed	Top slab completed
81	55+209	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
82	55+508	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
83	55+633	2.0 X 2.0	Top Slab with Crash barrier completed	Top slab completed
84	56+211	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
85	56+390	2.0 X 2.0	Top slab completed	Top slab completed
86	56+622	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
87	56+824	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
88	57+173	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
89	57+395	2.0 X 2.0	Top Slab with Crash	Top Slab with Crash

			barrier completed	barrier completed
90	57+501	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
91	61+657	2.0 X 2.0	Top slab completed	Top slab completed
92	61+711	2.0 X 2.0	Top slab completed	Top slab completed
93	62+079	2.0 X 2.0	Top slab completed	Top slab completed
94	62+337	2.0 X 2.0	Top Slab with Crash barrier completed	Top slab completed
95	62+588	2.0 X 2.0	Top Slab with Crash barrier completed	Top Slab with Crash barrier completed
96	62+679	2.0 X 2.0	Top slab completed	Top slab completed
		96 No's		

The Balance works of culverts shall be constructed asper following:

Sl. No.	**Culvert location**	**Span/Opening (m)**	**LHS**	**RHS**
1	33+819	2.0 X 2.0	Not Started	Top slab completed
2	33+908	2.0 X 2.0	Top slab completed	Not Started
3	34+560	2.0 X 2.0	Top slab completed	Not Started
4	35+048	2.0 X 2.0	Raft completed	Top slab completed
5	36+472	2.0 X 2.0	Top slab completed	Not Started
6	38+028	2.0 X 2.0	Top slab completed	Raft reinforcement
7	40+160	2.0 X 2.0	Wall reinforcement	Wall reinforcement
8	42+297	2.0 X 2.0	Not Started	Top slab completed
9	44+300	2.0 X 2.0	Not Started	Raft completed
10	45+040	2.0 X 2.0	Not Started	Top slab completed
11	45+481	2.0 X 2.0	Not Started	PCC completed
12	45+691	2.0 X 2.0	Wall reinforcement	Not Started
13	45+716	2.0 X 2.0	Wall completed	Top Slab with Crash barrier completed
14	49+188	3.0 X 2.0	Top slab completed	Not Started
15	51+480	2.0 X 2.0	Top Slab with Crash barrier completed	Raft completed

16	54+988	3.0 X 2.0	Not Started	Top Slab with Crash barrier completed
17	55+292	2.0 X 2.0	Top slab completed	Not Started
18	55+951	2.0 X 2.0	Not Started	Raft completed
19	57+071	2.0 X 2.0	Top slab completed	Not Started
20	57+254	2.0 X 2.0	PCC completed	PCC completed
21	61+339	4.0 X 3.0	Not Started	PCC completed
22	61+457	2.0 X 2.0	Not Started	PCC completed
23	61+547	2.0 X 2.0	Not Started	PCC completed

7.2.3 Widening of existing culverts
NIL

7.2.4 Additional new culverts shall be constructed as per particulars given in para 7.2.2 above.

7.2.5 Repairs/replacements of railing/parapets, flooring and protection works ofthe existing culverts shall be undertaken as follows:
NIL

7.2.6 Floor protection works shall be as specified in the relevant IRC Codes andSpecifications.

7.3 Bridges

7.3.1 Existing bridges to be re- constructed/Additional New Minor Bridges

Sl. No.	**Bridge location (Km)**	**Span of the Bridge (m)**	**Remarks**
1	40+831	10.00	Minor Bridge
2	48+910	10.00	10 m span New Minor Bridge constructed at Ch: 48.910. **Retaining wall on both sides, RCC Parapet wall with Crash Barrier above the Top slab for Earth cushion, Upstream & Downstream floor protection work with river training work and Approach Slab work to be done.**
3	51+106	7.00	Minor Bridge
4	64+605	8.00	Minor Bridge

5	50+407	18.00	Minor Bridge
6	52+580	7.00	Minor Bridge

GAD is attached at Annex B of annex 1 of this Schedule.

(ii) The following Bridges shall be widened:
NIL

7.3.2 Deleted

7.3.3 The railings of existing bridges shall be replaced by crash barriers at thefollowing locations:

Sl. No.	Location at km	Remarks
Nil		

7.3.4 Repairs/replacements of railing/parapets of the existing bridges shall beundertaken as follows:

Sl. No.	Location at km	Remarks
Routine Maintenance of Existing Bridge to be done as and when required		

7.3.5 Drainage system for bridge decks
An effective drainage system for bridge decks shall be provided as specifiedin paragraph 7.21 of the Manual.

7.3.6 Structures in marine environment
NIL

7.4. Rail-road bridges

7.4.1 Design, construction and detailing of ROB/RUB shall be as specified insection 7 of the Manual.
NIL

7.4.2 Road over-bridges

Road over-bridges (road over rail) shall be provided at the following levelcrossings, as per GAD drawings attached at Annexure “C” to this Schedule:

Sl. No.	Existing Location of Level crossing Railway Track (Chainage Km)	Proposed Location of Level crossing / Railway Track (Chainage Km)	Length of bridge (m)
Nil			

7.4.3 Road under-bridges

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

Sl. No.	Existing Location of Level crossing Railway Track (Chainage Km)	Proposed Location of Level crossing / Railway Track (Chainage Km)	Length of bridge (m)
Nil			

7.5 Grade separated structures

NIL

7.6 Repairs and strengthening of bridges and structures

A. Bridges

The existing bridges and structures to be repaired/strengthened are given below:
NIL

B. ROB / RUB

NIL

C. Overpasses/Underpasses and other structures

NIL

7.7 List of Major Bridges and Structures

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

Sl. No.	Proposed Chainage	Proposed Span in (m)	Proposed Width in (m)	Proposed Centre Line	EXISTING RL
1	60+479	62.00	12.00		

8 TRAFFIC CONTROL DEVICES AND ROAD SAFETY WORKS

8.1 Traffic control devices and road safety works shall be provided inaccordance with Section 9 of the Manual.

8.2 Specifications of the reflective sheeting. As per Clause 9.3 of the Manual of specifications and standards.

9 ROADSIDE FURNITURE

9.1 Roadside furniture shall be provided in accordance with the provisions ofSection 11 of the Manual.

9.2 The Overhead traffic signs: location and size

Full width overhead sign: 1 no. (Start of the Project)

Cantilever overhead signs: 2 nos. (Locations to be finalized in consultation withAuthority's Engineer).

10 COMPULSORY AFFORESTATION

The number of trees which are required to be planted by the Contractor as compulsory Afforestation shall be as per Forest Conservation Act and as per the Manual.

11 HAZARDOUS LOCATIONS

The safety barriers shall also be provided at the following hazardouslocations**:**

Sl. No.	Location stretch from (km) to (km)	LHS/RHS
The Project highway passes through mountainous and steep terrain. Metal Beam Crash Barrier of aggregate length of 5.32 Km (minimum) shall be provided at high embankment and at sharp curve locations. Additional Metal Beam Crash Barrier / parapet wall shall be provided from safety considerations, if required. No change of scope shall be considered for the additional length of metal beam/parapet wall, so provided.		

12 SPECIAL REQUIREMENT FOR HILL ROADS

All special features shall be provided as per Manual.

TI1e side slope shall be protected by using suitable slope protection measures allalong the highway on Hill side and Valley side. The details of the protection workare listed in "Annex B" and the typical sections for the protection works are givenin "Annex A".

Contractor shall identify areas and provide the suitable protection measures tostabilize all the landslide zones. A report on the land slide zones shall be furnishedalong with the design for the review of the Authority Engineer. No change of scopeshall be considered for the additional protection measures, if any.

13 Utilities

Provision of accommodating utilities shall be made both over as well asunderground wherever required.

14 CHANGE OF SCOPE

The length of Structures and bridges specified hereinabove shall be treated asan approximate assessment. The actual lengths as required on the basis ofdetailed investigations shall be determined by the Contractor in accordancewith the Specifications and Standards. Any variations in the lengths specifiedin this Schedule-B shall not constitute a Change of Scope, save and exceptany variations in the length arising out of a Change of Scope expresslyundertaken in accordance with the provisions of Article 13.

GSB shall be constructed asper following:

Design Chainage		Length(m)
From	To	
33700	33760	60
34770	34850	80
35020	35550	530
35620	35720	100
36420	37150	730
37150	37220	70
37220	37320	100
37320	37620	300
37620	37650	30
37650	38300	650
38300	39200	900
39200	39600	400
39600	39620	20
39620	39720	100
39720	39820	100
39820	40370	550
40450	40500	50
40500	40800	300
40800	40970	170
40970	41100	130
41100	41300	200
41300	41630	330
41630	41650	20
41650	41840	190
41840	41880	40
41880	41950	70
41950	42000	50
42000	42050	50

42050	42200	150
42200	42290	90
42290	42550	260
42550	42600	50
42600	42880	280
42880	42900	20
42900	43200	300
43200	43220	20
43220	43450	230
43450	43500	50
43500	43620	120
44220	44270	50
44500	44540	40
45160	45250	90
45250	45400	150
45400	45500	100
45500	45780	280
45780	45850	70
45850	46040	190
46040	46100	60
46100	46200	100
46200	46250	50
46250	46400	150
46400	46500	100
46500	46530	30
46530	46600	70
46600	46800	200
46800	46900	100
46900	46970	70
46970	47200	230
47200	47250	50

47250	47350	100
47350	47700	350
47700	48000	300
48000	48300	300
48800	49000	200
50300	50380	80
50380	50750	370
51080	51200	120
52280	52350	70
52550	52780	230
52780	52830	50
52830	53064	234
53064	53400	336
53400	53500	100
53500	53800	300
53800	53900	100
53900	54230	330
54230	54560	330
54800	54950	150
54950	55300	350
55830	56300	470
56900	57000	100
57000	57250	250
57250	57300	50
57300	57570	270
57570	57740	170
57740	57900	160
57900	58000	100
58000	58400	400
58400	58600	200
58600	60530	1930

60530	60650	120
60800	60880	80
60880	61050	170
61050	61700	650
62000	62500	500
62600	62660	60
62660	62700	40
62700	62800	100
62800	62850	50
62850	63080	230
63080	63200	120
64030	64050	20
64050	64090	40
64090	64290	200
64290	64450	160
64450	64630	180
64900	64970	70
64970	65000	30
65000	65020	20
65020	65150	130
65150	65190	40
65190	65250	60
65250	65400	150
65400	65450	50
		21840

Profile correctioncourse for the GSB shall be done asper following:

Design Chainage		**Length(m)**
From	**To**	
33820	33920	100
34400	34450	50

34500	34660	160
34850	35020	170
35550	35620	70
35720	36350	630
36350	36420	70
40370	40450	80
44320	44500	180
44540	44700	160
44900	45070	170
48300	48400	100
48700	48800	100
49000	49120	120
50180	50300	120
50750	50800	50
50800	51080	280
51200	52280	1080
52350	52550	200
54560	54600	40
54600	54800	200
55300	55400	100
55400	55430	30
55430	55830	400
56300	56900	600
60650	60800	150
61700	62000	300
62500	62600	100
63200	64030	830
64630	64900	270
65450	65610	160
		7070

WMM shall be constructed asper following:

Design Chainage		Length(m)
From	To	
33700	33760	60
33820	33920	100
34400	34450	50
34500	34660	160
34770	34850	80
34850	35020	170
35020	35550	530
35550	35620	70
35620	35720	100
35720	36350	630
36350	36420	70
36420	37150	730
37150	37220	70
37220	37320	100
37320	37620	300
37620	37650	30
37650	38300	650
38300	39200	900
39200	39600	400
39600	39620	20
39620	39720	100
39720	39820	100
39820	40370	550
40370	40450	80
40450	40500	50
40500	40800	300
40800	40970	170
40970	41100	130

41100	41300	200
41300	41630	330
41630	41650	20
41650	41840	190
41840	41880	40
41880	41950	70
41950	42000	50
42000	42050	50
42050	42200	150
42200	42290	90
42290	42550	260
42550	42600	50
42600	42880	280
42880	42900	20
42900	43200	300
43200	43220	20
43220	43450	230
43450	43500	50
43500	43620	120
44220	44270	50
44320	44500	180
44500	44540	40
44540	44700	160
44900	45070	170
45160	45250	90
45250	45400	150
45400	45500	100
45500	45780	280
45780	45850	70
45850	46040	190
46040	46100	60

46100	46200	100
46200	46250	50
46250	46400	150
46400	46500	100
46500	46530	30
46530	46600	70
46600	46800	200
46800	46900	100
46900	46970	70
46970	47200	230
47200	47250	50
47250	47350	100
47350	47700	350
47700	48000	300
48000	48300	300
48300	48400	100
48700	48800	100
48800	49000	200
49000	49120	120
50180	50300	120
50300	50380	80
50380	50750	370
50750	50800	50
50800	51080	280
51080	51200	120
51200	52280	1080
52280	52350	70
52350	52550	200
52550	52780	230
52780	52830	50
52830	53064	234

53064	53400	336
53400	53500	100
53500	53800	300
53800	53900	100
53900	54230	330
54230	54560	330
54560	54600	40
54600	54800	200
54800	54950	150
54950	55300	350
55300	55400	100
55400	55430	30
55430	55830	400
55830	56300	470
56300	56900	600
56900	57000	100
57000	57250	250
57250	57300	50
57300	57570	270
57570	57740	170
57740	57900	160
57900	58000	100
58000	58400	400
58400	58600	200
58600	60530	1930
60530	60650	120
60650	60800	150
60800	60880	80
60880	61050	170
61050	61700	650
61700	62000	300

62000	62500	500
62500	62600	100
62600	62660	60
62660	62700	40
62700	62800	100
62800	62850	50
62850	63080	230
63080	63200	120
63200	64030	830
64030	64050	20
64050	64090	40
64090	64290	200
64290	64450	160
64450	64630	180
64630	64900	270
64900	64970	70
64970	65000	30
65000	65020	20
65020	65150	130
65150	65190	40
65190	65250	60
65250	65400	150
65400	65450	50
65450	65610	160
		28910

Profile correction course for the WMM shall be done asper following:

Design Chainage		**Length(m)**
From	**To**	
33500	33580	80
43620	44220	600

44270	44320	50
44700	44750	50
44750	44820	70
44820	44850	30
44850	44900	50
45070	45160	90
48400	48700	300
49120	49284	164
49400	49500	100
		1584

The Retaining wallshall be constructed asper following:

Location of Retaining walls				
Design Chainage		**Length Of Wall (m)**	**Height Of Wall (m)**	**Remarks**
From	**To**			
33+000	33+020	20	8	LHS
33+870	33+910	40	10	LHS
34+540	34+580	40	10	LHS
35+200	35+300	100	6	LHS
35+350	35+400	50	6	LHS
35+700	35+730	30	6	LHS
37+860	37+900	40	10	LHS
38+410	38+432	22	10	LHS
38+440	38+480	40	6	LHS
38+590	38+630	40	10	LHS
38+990	39+020	30	6	LHS
39+040	39+070	30	6	LHS
39+100	39+130	30	8	LHS
39+550	39+580	30	7	LHS
39+730	39+760	30	6	LHS

40+280	40+340	60	8	LHS
40+480	40+510	30	6	LHS
40+540	40+580	40	6	LHS
41+260	41+370	110	6	LHS
41+590	41+620	30	6	LHS
41+635	41+675	40	6	LHS
41+700	41+720	20	6	LHS
45+250	45+280	30	8	LHS
45+691	45+715	24	6	LHS
45+770	45+840	70	8	LHS
46+050	46+100	50	5	LHS
46+170	46+200	30	10	LHS
46+220	46+260	40	8	LHS
46+430	46+460	30	6	LHS
46+600	46+750	150	6	LHS
46+950	47+000	50	8	LHS
47+000	47+060	60	6	RHS
47+980	48+180	200	6	RHS
56+640	56+680	40	6	RHS
56+840	56+880	40	6	RHS
57+070	57+110	40	6	RHS
61+190	61+260	70	6	LHS
61+430	61+480	50	6	LHS
62+730	62+780	50	8	RHS
63+100	63+150	50	6	RHS
63+200	63+250	50	6	RHS
63+930	64+020	90	6	RHS
64+770	64+800	30	6	RHS
64+850	64+900	50	6	RHS
		2196		

Height of the Retaining wall shall be constructed as per site conditions.

DBM shall be constructed asper following:

Design Chainage		Length(m)	Remarks
From	**To**		
33500	33580	80	
33700	33760	60	
33820	33920	100	
34400	34450	50	
34450	34500	50	RHS completed
34500	34660	160	
34770	49284	14514	
49284	49400	116	LHS completed
49400	49500	100	
50150	50180	30	LHS completed
50180	65610	15430	
		30690	

BC to be constructed in entire project stretch from Km 33.000 to Km 65.610.

Hard shouldershall be constructed asper following:

Design Chainage		Length(m)	Remarks
From	**To**		
33000	33500	500	
33580	33600	20	
33600	33700	100	
33760	33820	60	
33920	34400	480	
34660	34770	110	
49500	50150	650	
		1920	

The Breast walls shall be constructed asper following:

Location of Breast walls			
Design Chainage		Length of B/Wall of 3m height (m)	Side
From	To		
34+930	34+980	50	RHS
34+930	34+960	30	LHS
35+190	35+205	15	RHS
38+420	38+450	30	RHS
40+260	40+370	110	RHS
40+480	40+520	40	RHS
41+120	41+150	30	RHS
41+260	41+370	110	RHS
43+750	43+780	30	RHS
43+790	43+840	50	RHS
45+244	45+300	56	RHS
44+960	45+040	80	RHS
45+770	45+830	60	RHS
47+700	47+901	201	LHS
48+330	48+400	70	LHS
49+190	49+270	80	LHS
49+286	49+390	104	LHS
49+300	49+390	90	LHS
49+420	49+424	4	LHS
49+465	49+530	65	LHS
49+540	49+630	90	LHS
49+720	49+790	70	LHS
49+870	49+880	10	LHS
49+910	49+920	10	LHS
49+920	49+940	20	LHS
50240	50310	70	LHS
50325	50+400	75	LHS

50+450	50+640	190	LHS
50+649	50+740	91	LHS
50+760	50+810	50	LHS
51+150	51+237	87	LHS
51+270	51+330	60	LHS
51+410	51+575	165	LHS
51+800	51+870	70	RHS
51+800	51+935	135	LHS
51+945	52+030	85	LHS
52+030	52+280	250	LHS
52+290	52+350	60	LHS
52+350	52+470	120	LHS
52+684	52+750	66	LHS
52+840	52+960	120	LHS
52+880	52+930	50	RHS
53+430	53+500	70	LHS
53+600	53+700	100	LHS
53+750	53+800	50	LHS
53+824	53+900	76	LHS
53+900	54+020	120	LHS
54+350	54+600	250	LHS
54+550	54+600	50	RHS
54+800	54+985	185	LHS
55+140	55+205	65	LHS
55+250	55+280	30	LHS
55+370	55+500	130	LHS
56+100	56+150	50	RHS
57+000	57+060	60	LHS
57+100	57+170	70	LHS
57+300	57+390	90	LHS
57+400	57+460	60	LHS

57+750	57+900	150	LHS
61+980	62+060	80	LHS
62+160	62+230	70	LHS
63+900	64+020	120	LHS
64+670	64+720	50	LHS
65+480	65+500	20	LHS
		5195	