National Highways & Infrastructure Development Corporation Limited

BUILDING INFRASTRUCTURE - BUILDING THE NATION

Ministry of Road Transport & Highways,
(Govt. of India)

SCHEDULES

For

"Restoration & Rehabilitation of Imphal-Jiribam Road from Km 103.00 to Km 133.00 (Length: 30 Km) on NH-37 in the state of Manipur in the year 2021-2022 on EPC."

September, 2021

National Highways & Infrastructure Development Corporation Ltd

Regional Office,Imphal, Manipur

Schedule-A

SCHEDULE- A

(SeeClauses 2.1 and 8.1)

SITE OFTHE PROJECT

1. The Site

(i) Site of the Two-Lane Project Highway shall include the land, buildings, structures and road works as described in Annex-I of this **Schedule-A**

(ii) The dates of handing over the Right of Way to the Contractor are specified in Annex-II of this Schedule-A.

(iii) An inventory of the Site including the land, buildings, structures, road works, trees and any other immovable property on, or attached to, the Site shall be prepared jointly by the Authority Representative and the Contractor, and such inventory shall form part of the memorandum referred to in Clause 8.2 (i) of this Agreement.

(iv) The alignment plans of the Project Highway are specified in Annex-III.

(v) The status of the environment clearances obtained or awaited is given in Annex IV.

Annex-I

(Schedule-A)

Site for the Project

1. Site

The Site of the two-lane Project Highway comprises the section of NH-53 commencing from existing Chainage km 103+000 to km 133+000 i.e., near Taobam Village in the state of Manipur.The land, carriageway and structures comprising the Site are described below.

2. Land

The Site of the Project Highway comprises the land (total of land already in possession) as described below:

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
1	103.557	103.575	10.00	
2	103.575	103.600	10.00	
3	103.600	103.625	10.00	
4	103.625	103.650	10.00	
5	103.650	103.675	10.00	
6	103.675	103.700	10.00	
7	103.700	103.725	10.00	
8	103.725	103.750	10.00	
9	103.750	103.775	10.00	
10	103.775	103.800	10.00	
11	103.800	103.825	10.00	
12	103.825	103.850	10.00	
13	103.850	103.875	10.00	
14	103.875	103.900	10.00	
15	103.900	103.925	10.00	
16	103.925	103.950	10.00	
17	103.950	103.975	10.00	
18	103.975	104.000	10.00	
19	104.000	104.025	10.00	
20	104.025	104.050	10.00	
21	104.050	104.075	10.00	
22	104.075	104.100	10.00	
23	104.100	104.125	10.00	
24	104.125	104.150	10.00	
25	104.150	104.175	10.00	
26	104.175	104.200	10.00	
27	104.200	104.225	10.00	
28	104.225	104.250	10.00	
29	104.250	104.275	10.00	
30	104.275	104.300	10.00	
31	104.300	104.325	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
32	104.325	104.350	10.00	
33	104.350	104.375	10.00	
34	104.375	104.400	10.00	
35	104.400	104.425	10.00	
36	104.425	104.450	10.00	
37	104.450	104.475	10.00	
38	104.475	104.500	10.00	
39	104.500	104.525	10.00	
40	104.525	104.550	10.00	
41	104.550	104.575	10.00	
42	104.575	104.600	10.00	
43	104.600	104.625	10.00	
44	104.625	104.650	10.00	
45	104.650	104.675	10.00	
46	104.675	104.700	10.00	
47	104.700	104.725	10.00	
48	104.725	104.750	10.00	
49	104.750	104.775	10.00	
50	104.775	104.800	10.00	
51	104.800	104.825	10.00	
52	104.825	104.850	10.00	
53	104.850	104.875	10.00	
54	104.875	104.900	10.00	
55	104.900	104.925	10.00	
56	104.925	104.950	10.00	
57	104.950	104.975	10.00	
58	104.975	105.000	10.00	
59	105.000	105.025	10.00	
60	105.025	105.050	10.00	
61	105.050	105.075	10.00	
62	105.075	105.100	10.00	
63	105.100	105.125	10.00	
64	105.125	105.150	10.00	
65	105.150	105.175	10.00	
66	105.175	105.200	10.00	
67	105.200	105.225	10.00	
68	105.225	105.250	10.00	
69	105.250	105.275	10.00	
70	105.275	105.300	10.00	
71	105.300	105.325	10.00	
72	105.325	105.350	10.00	
73	105.350	105.375	10.00	
74	105.375	105.400	10.00	
75	105.400	105.425	10.00	
76	105.425	105.450	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
77	105.450	105.475	10.00	
78	105.475	105.500	10.00	
79	105.500	105.525	10.00	
80	105.525	105.550	10.00	
81	105.550	105.575	10.00	
82	105.575	105.600	10.00	
83	105.600	105.625	10.00	
84	105.625	105.650	10.00	
85	105.650	105.675	10.00	
86	105.675	105.700	10.00	
87	105.700	105.725	10.00	
88	105.725	105.750	10.00	
89	105.750	105.775	10.00	
90	105.775	105.800	10.00	
91	105.800	105.825	10.00	
92	105.825	105.850	10.00	
93	105.850	105.875	10.00	
94	105.875	105.900	10.00	
95	105.900	105.925	10.00	
96	105.925	105.950	10.00	
97	105.950	105.975	10.00	
98	105.975	106.000	10.00	
99	106.000	106.025	10.00	
100	106.025	106.050	10.00	
101	106.050	106.075	10.00	
102	106.075	106.100	10.00	
103	106.100	106.125	10.00	
104	106.125	106.150	10.00	
105	106.150	106.175	10.00	
106	106.175	106.200	10.00	
107	106.200	106.225	10.00	
108	106.225	106.250	10.00	
109	106.250	106.275	10.00	
110	106.275	106.300	10.00	
111	106.300	106.325	10.00	
112	106.325	106.350	10.00	
113	106.350	106.375	10.00	
114	106.375	106.400	10.00	
115	106.400	106.425	10.00	
116	106.425	106.450	10.00	
117	106.450	106.475	10.00	
118	106.475	106.500	10.00	
119	106.500	106.525	10.00	
120	106.525	106.550	10.00	
121	106.550	106.575	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
122	106.575	106.600	10.00	
123	106.600	106.625	10.00	
124	106.625	106.650	10.00	
125	106.650	106.675	10.00	
126	106.675	106.700	10.00	
127	106.700	106.725	10.00	
128	106.725	106.750	10.00	
129	106.750	106.775	10.00	
130	106.775	106.800	10.00	
131	106.800	106.825	10.00	
132	106.825	106.850	10.00	
133	106.850	106.875	10.00	
134	106.875	106.900	10.00	
135	106.900	106.925	10.00	
136	106.925	106.950	10.00	
137	106.950	106.975	10.00	
138	106.975	107.000	10.00	
139	107.000	107.025	10.00	
140	107.025	107.050	10.00	
141	107.050	107.075	10.00	
142	107.075	107.100	10.00	
143	107.100	107.125	10.00	
144	107.125	107.150	10.00	
145	107.150	107.175	10.00	
146	107.175	107.200	10.00	
147	107.200	107.225	10.00	
148	107.225	107.250	10.00	
149	107.250	107.275	10.00	
150	107.275	107.300	10.00	
151	107.300	107.325	10.00	
152	107.325	107.350	10.00	
153	107.350	107.375	10.00	
154	107.375	107.400	10.00	
155	107.400	107.425	10.00	
156	107.425	107.450	10.00	
157	107.450	107.475	10.00	
158	107.475	107.500	10.00	
159	107.500	107.525	10.00	
160	107.525	107.550	10.00	
161	107.550	107.575	10.00	
162	107.575	107.600	10.00	
163	107.600	107.625	10.00	
164	107.625	107.650	10.00	
165	107.650	107.675	10.00	
166	107.675	107.700	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
167	107.700	107.725	10.00	
168	107.725	107.750	10.00	
169	107.750	107.775	10.00	
170	107.775	107.800	10.00	
171	107.800	107.825	10.00	
172	107.825	107.850	10.00	
173	107.850	107.875	10.00	
174	107.875	107.900	10.00	
175	107.900	107.925	10.00	
176	107.925	107.950	10.00	
177	107.950	107.975	10.00	
178	107.975	108.000	10.00	
179	108.000	108.025	10.00	
180	108.025	108.050	10.00	
181	108.050	108.075	10.00	
182	108.075	108.100	10.00	
183	108.100	108.125	10.00	
184	108.125	108.150	10.00	
185	108.150	108.175	10.00	
186	108.175	108.200	10.00	
187	108.200	108.225	10.00	
188	108.225	108.250	10.00	
189	108.250	108.275	10.00	
190	108.275	108.300	10.00	
191	108.300	108.325	10.00	
192	108.325	108.350	10.00	
193	108.350	108.375	10.00	
194	108.375	108.400	10.00	
195	108.400	108.425	10.00	
196	108.425	108.450	10.00	
197	108.450	108.475	10.00	
198	108.475	108.500	10.00	
199	108.500	108.525	10.00	
200	108.525	108.550	10.00	
201	108.550	108.575	10.00	
202	108.575	108.600	10.00	
203	108.600	108.625	10.00	
204	108.625	108.650	10.00	
205	108.650	108.675	10.00	
206	108.675	108.700	10.00	
207	108.700	108.725	10.00	
208	108.725	108.750	10.00	
209	108.750	108.775	10.00	
210	108.775	108.800	10.00	
211	108.800	108.825	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
212	108.825	108.850	10.00	
213	108.850	108.875	10.00	
214	108.875	108.900	10.00	
215	108.900	108.925	10.00	
216	108.925	108.950	10.00	
217	108.950	108.975	10.00	
218	108.975	109.000	10.00	
219	109.000	109.025	10.00	
220	109.025	109.050	10.00	
221	109.050	109.075	10.00	
222	109.075	109.100	10.00	
223	109.100	109.125	10.00	
224	109.125	109.150	10.00	
225	109.150	109.175	10.00	
226	109.175	109.200	10.00	
227	109.200	109.225	10.00	
228	109.225	109.250	10.00	
229	109.250	109.275	10.00	
230	109.275	109.300	10.00	
231	109.300	109.325	10.00	
232	109.325	109.350	10.00	
233	109.350	109.375	10.00	
234	109.375	109.400	10.00	
235	109.400	109.425	10.00	
236	109.425	109.450	10.00	
237	109.450	109.475	10.00	
238	109.475	109.500	10.00	
239	109.500	109.525	10.00	
240	109.525	109.550	10.00	
241	109.550	109.575	10.00	
242	109.575	109.600	10.00	
243	109.600	109.625	10.00	
244	109.625	109.650	10.00	
245	109.650	109.675	10.00	
246	109.675	109.700	10.00	
247	109.700	109.725	10.00	
248	109.725	109.750	10.00	
249	109.750	109.775	10.00	
250	109.775	109.800	10.00	
251	109.800	109.825	10.00	
252	109.825	109.850	10.00	
253	109.850	109.875	10.00	
254	109.875	109.900	10.00	
255	109.900	109.925	10.00	
256	109.925	109.950	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
257	109.950	109.975	10.00	
258	109.975	110.000	10.00	
259	110.000	110.025	10.00	
260	110.025	110.050	10.00	
261	110.050	110.075	10.00	
262	110.075	110.100	10.00	
263	110.100	110.125	10.00	
264	110.125	110.150	10.00	
265	110.150	110.175	10.00	
266	110.175	110.200	10.00	
267	110.200	110.225	10.00	
268	110.225	110.250	10.00	
269	110.250	110.275	10.00	
270	110.275	110.300	10.00	
271	110.300	110.325	10.00	
272	110.325	110.350	10.00	
273	110.350	110.375	10.00	
274	110.375	110.400	10.00	
275	110.400	110.425	10.00	
276	110.425	110.450	10.00	
277	110.450	110.475	10.00	
278	110.475	110.500	10.00	
279	110.500	110.525	10.00	
280	110.525	110.550	10.00	
281	110.550	110.575	10.00	
282	110.575	110.600	10.00	
283	110.600	110.625	10.00	
284	110.625	110.650	10.00	
285	110.650	110.675	10.00	
286	110.675	110.700	10.00	
287	110.700	110.725	10.00	
288	110.725	110.750	10.00	
289	110.750	110.775	10.00	
290	110.775	110.800	10.00	
291	110.800	110.825	10.00	
292	110.825	110.850	10.00	
293	110.850	110.875	10.00	
294	110.875	110.900	10.00	
295	110.900	110.925	10.00	
296	110.925	110.950	10.00	
297	110.950	110.975	10.00	
298	110.975	111.000	10.00	
299	111.000	111.025	10.00	
300	111.025	111.050	10.00	
301	111.050	111.075	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
302	111.075	111.100	10.00	
303	111.100	111.125	10.00	
304	111.125	111.150	10.00	
305	111.150	111.175	10.00	
306	111.175	111.200	10.00	
307	111.200	111.225	10.00	
308	111.225	111.250	10.00	
309	111.250	111.275	10.00	
310	111.275	111.300	10.00	
311	111.300	111.325	10.00	
312	111.325	111.350	10.00	
313	111.350	111.375	10.00	
314	111.375	111.400	10.00	
315	111.400	111.425	10.00	
316	111.425	111.450	10.00	
317	111.450	111.475	10.00	
318	111.475	111.500	10.00	
319	111.500	111.525	10.00	
320	111.525	111.550	10.00	
321	111.550	111.575	10.00	
322	111.575	111.600	10.00	
323	111.600	111.625	10.00	
324	111.625	111.650	10.00	
325	111.650	111.675	10.00	
326	111.675	111.700	10.00	
327	111.700	111.725	10.00	
328	111.725	111.750	10.00	
329	111.750	111.775	10.00	
330	111.775	111.800	10.00	
331	111.800	111.825	10.00	
332	111.825	111.850	10.00	
333	111.850	111.875	10.00	
334	111.875	111.900	10.00	
335	111.900	111.925	10.00	
336	111.925	111.950	10.00	
337	111.950	111.975	10.00	
338	111.975	112.000	10.00	
339	112.000	112.025	10.00	
340	112.025	112.050	10.00	
341	112.050	112.075	10.00	
342	112.075	112.100	10.00	
343	112.100	112.125	10.00	
344	112.125	112.150	10.00	
345	112.150	112.175	10.00	
346	112.175	112.200	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
347	112.200	112.225	10.00	
348	112.225	112.250	10.00	
349	112.250	112.275	10.00	
350	112.275	112.300	10.00	
351	112.300	112.325	10.00	
352	112.325	112.350	10.00	
353	112.350	112.375	10.00	
354	112.375	112.400	10.00	
355	112.400	112.425	10.00	
356	112.425	112.450	10.00	
357	112.450	112.475	10.00	
358	112.475	112.500	10.00	
359	112.500	112.525	10.00	
360	112.525	112.550	10.00	
361	112.550	112.575	10.00	
362	112.575	112.600	10.00	
363	112.600	112.625	10.00	
364	112.625	112.650	10.00	
365	112.650	112.675	10.00	
366	112.675	112.700	10.00	
367	112.700	112.725	10.00	
368	112.725	112.750	10.00	
369	112.750	112.775	10.00	
370	112.775	112.800	10.00	
371	112.800	112.825	10.00	
372	112.825	112.850	10.00	
373	112.850	112.875	10.00	
374	112.875	112.900	10.00	
375	112.900	112.925	10.00	
376	112.925	112.950	10.00	
377	112.950	112.975	10.00	
378	112.975	113.000	10.00	
379	113.000	113.025	10.00	
380	113.025	113.050	10.00	
381	113.050	113.075	10.00	
382	113.075	113.100	10.00	
383	113.100	113.125	10.00	
384	113.125	113.150	10.00	
385	113.150	113.175	10.00	
386	113.175	113.200	10.00	
387	113.200	113.225	10.00	
388	113.225	113.250	10.00	
389	113.250	113.275	10.00	
390	113.275	113.300	10.00	
391	113.300	113.325	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
392	113.325	113.350	10.00	
393	113.350	113.375	10.00	
394	113.375	113.400	10.00	
395	113.400	113.425	10.00	
396	113.425	113.450	10.00	
397	113.450	113.475	10.00	
398	113.475	113.500	10.00	
399	113.500	113.525	10.00	
400	113.525	113.550	10.00	
401	113.550	113.575	10.00	
402	113.575	113.600	10.00	
403	113.600	113.625	10.00	
404	113.625	113.650	10.00	
405	113.650	113.675	10.00	
406	113.675	113.700	10.00	
407	113.700	113.725	10.00	
408	113.725	113.750	10.00	
409	113.750	113.775	10.00	
410	113.775	113.800	10.00	
411	113.800	113.825	10.00	
412	113.825	113.850	10.00	
413	113.850	113.875	10.00	
414	113.875	113.900	10.00	
415	113.900	113.925	10.00	
416	113.925	113.950	10.00	
417	113.950	113.975	10.00	
418	113.975	114.000	10.00	
419	114.000	114.025	10.00	
420	114.025	114.050	10.00	
421	114.050	114.075	10.00	
422	114.075	114.100	10.00	
423	114.100	114.125	10.00	
424	114.125	114.150	10.00	
425	114.150	114.175	10.00	
426	114.175	114.200	10.00	
427	114.200	114.225	10.00	
428	114.225	114.250	10.00	
429	114.250	114.275	10.00	
430	114.275	114.300	10.00	
431	114.300	114.325	10.00	
432	114.325	114.350	10.00	
433	114.350	114.375	10.00	
434	114.375	114.400	10.00	
435	114.400	114.425	10.00	
436	114.425	114.450	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
437	114.450	114.475	10.00	
438	114.475	114.500	10.00	
439	114.500	114.525	10.00	
440	114.525	114.550	10.00	
441	114.550	114.575	10.00	
442	114.575	114.600	10.00	
443	114.600	114.625	10.00	
444	114.625	114.650	10.00	
445	114.650	114.675	10.00	
446	114.675	114.700	10.00	
447	114.700	114.725	10.00	
448	114.725	114.750	10.00	
449	114.750	114.775	10.00	
450	114.775	114.800	10.00	
451	114.800	114.825	10.00	
452	114.825	114.850	10.00	
453	114.850	114.875	10.00	
454	114.875	114.900	10.00	
455	114.900	114.925	10.00	
456	114.925	114.950	10.00	
457	114.950	114.975	10.00	
458	114.975	115.000	10.00	
459	115.000	115.025	10.00	
460	115.025	115.050	10.00	
461	115.050	115.075	10.00	
462	115.075	115.100	10.00	
463	115.100	115.125	10.00	
464	115.125	115.150	10.00	
465	115.150	115.175	10.00	
466	115.175	115.200	10.00	
467	115.200	115.225	10.00	
468	115.225	115.250	10.00	
469	115.250	115.275	10.00	
470	115.275	115.300	10.00	
471	115.300	115.325	10.00	
472	115.325	115.350	10.00	
473	115.350	115.375	10.00	
474	115.375	115.400	10.00	
475	115.400	115.425	10.00	
476	115.425	115.450	10.00	
477	115.450	115.475	10.00	
478	115.475	115.500	10.00	
479	115.500	115.525	10.00	
480	115.525	115.550	10.00	
481	115.550	115.575	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
482	115.575	115.600	10.00	
483	115.600	115.625	10.00	
484	115.625	115.650	10.00	
485	115.650	115.675	10.00	
486	115.675	115.700	10.00	
487	115.700	115.725	10.00	
488	115.725	115.750	10.00	
489	115.750	115.775	10.00	
490	115.775	115.800	10.00	
491	115.800	115.825	10.00	
492	115.825	115.850	10.00	
493	115.850	115.875	10.00	
494	115.875	115.900	10.00	
495	115.900	115.925	10.00	
496	115.925	115.950	10.00	
497	115.950	115.975	10.00	
498	115.975	116.000	10.00	
499	116.000	116.025	10.00	
500	116.025	116.050	10.00	
501	116.050	116.075	10.00	
502	116.075	116.100	10.00	
503	116.100	116.125	10.00	
504	116.125	116.150	10.00	
505	116.150	116.175	10.00	
506	116.175	116.200	10.00	
507	116.200	116.225	10.00	
508	116.225	116.250	10.00	
509	116.250	116.275	10.00	
510	116.275	116.300	10.00	
511	116.300	116.325	10.00	
512	116.325	116.350	10.00	
513	116.350	116.375	10.00	
514	116.375	116.400	10.00	
515	116.400	116.425	10.00	
516	116.425	116.450	10.00	
517	116.450	116.475	10.00	
518	116.475	116.500	10.00	
519	116.500	116.525	10.00	
520	116.525	116.550	10.00	
521	116.550	116.575	10.00	
522	116.575	116.600	10.00	
523	116.600	116.625	10.00	
524	116.625	116.650	10.00	
525	116.650	116.675	10.00	
526	116.675	116.700	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
527	116.700	116.725	10.00	
528	116.725	116.750	10.00	
529	116.750	116.775	10.00	
530	116.775	116.800	10.00	
531	116.800	116.825	10.00	
532	116.825	116.850	10.00	
533	116.850	116.875	10.00	
534	116.875	116.900	10.00	
535	116.900	116.925	10.00	
536	116.925	116.950	10.00	
537	116.950	116.975	10.00	
538	116.975	117.000	10.00	
539	117.000	117.025	10.00	
540	117.025	117.050	10.00	
541	117.050	117.075	10.00	
542	117.075	117.100	10.00	
543	117.100	117.125	10.00	
544	117.125	117.150	10.00	
545	117.150	117.175	10.00	
546	117.175	117.200	10.00	
547	117.200	117.225	10.00	
548	117.225	117.250	10.00	
549	117.250	117.275	10.00	
550	117.275	117.300	10.00	
551	117.300	117.325	10.00	
552	117.325	117.350	10.00	
553	117.350	117.375	10.00	
554	117.375	117.400	10.00	
555	117.400	117.425	10.00	
556	117.425	117.450	10.00	
557	117.450	117.475	10.00	
558	117.475	117.500	10.00	
559	117.500	117.525	10.00	
560	117.525	117.550	10.00	
561	117.550	117.575	10.00	
562	117.575	117.600	10.00	
563	117.600	117.625	10.00	
564	117.625	117.650	10.00	
565	117.650	117.675	10.00	
566	117.675	117.700	10.00	
567	117.700	117.725	10.00	
568	117.725	117.750	10.00	
569	117.750	117.775	10.00	
570	117.775	117.800	10.00	
571	117.800	117.825	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
572	117.825	117.850	10.00	
573	117.850	117.875	10.00	
574	117.875	117.900	10.00	
575	117.900	117.925	10.00	
576	117.925	117.950	10.00	
577	117.950	117.975	10.00	
578	117.975	118.000	10.00	
579	118.000	118.025	10.00	
580	118.025	118.050	10.00	
581	118.050	118.075	10.00	
582	118.075	118.100	10.00	
583	118.100	118.125	10.00	
584	118.125	118.150	10.00	
585	118.150	118.175	10.00	
586	118.175	118.200	10.00	
587	118.200	118.225	10.00	
588	118.225	118.250	10.00	
589	118.250	118.275	10.00	
590	118.275	118.300	10.00	
591	118.300	118.325	10.00	
592	118.325	118.350	10.00	
593	118.350	118.375	10.00	
594	118.375	118.400	10.00	
595	118.400	118.425	10.00	
596	118.425	118.450	10.00	
597	118.450	118.475	10.00	
598	118.475	118.500	10.00	
599	118.500	118.525	10.00	
600	118.525	118.550	10.00	
601	118.550	118.575	10.00	
602	118.575	118.600	10.00	
603	118.600	118.625	10.00	
604	118.625	118.650	10.00	
605	118.650	118.675	10.00	
606	118.675	118.700	10.00	
607	118.700	118.725	10.00	
608	118.725	118.750	10.00	
609	118.750	118.775	10.00	
610	118.775	118.800	10.00	
611	118.800	118.825	10.00	
612	118.825	118.850	10.00	
613	118.850	118.875	10.00	
614	118.875	118.900	10.00	
615	118.900	118.925	10.00	
616	118.925	118.950	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
617	118.950	118.975	10.00	
618	118.975	119.000	10.00	
619	119.000	119.025	10.00	
620	119.025	119.050	10.00	
621	119.050	119.075	10.00	
622	119.075	119.100	10.00	
623	119.100	119.125	10.00	
624	119.125	119.150	10.00	
625	119.150	119.175	10.00	
626	119.175	119.200	10.00	
627	119.200	119.225	10.00	
628	119.225	119.250	10.00	
629	119.250	119.275	10.00	
630	119.275	119.300	10.00	
631	119.300	119.325	10.00	
632	119.325	119.350	10.00	
633	119.350	119.375	10.00	
634	119.375	119.400	10.00	
635	119.400	119.425	10.00	
636	119.425	119.450	10.00	
637	119.450	119.475	10.00	
638	119.475	119.500	10.00	
639	119.500	119.525	10.00	
640	119.525	119.550	10.00	
641	119.550	119.575	10.00	
642	119.575	119.600	10.00	
643	119.600	119.625	10.00	
644	119.625	119.650	10.00	
645	119.650	119.675	10.00	
646	119.675	119.700	10.00	
647	119.700	119.725	10.00	
648	119.725	119.750	10.00	
649	119.750	119.775	10.00	
650	119.775	119.800	10.00	
651	119.800	119.825	10.00	
652	119.825	119.850	10.00	
653	119.850	119.875	10.00	
654	119.875	119.900	10.00	
655	119.900	119.925	10.00	
656	119.925	119.950	10.00	
657	119.950	119.975	10.00	
658	119.975	120.000	10.00	
659	120.000	120.025	10.00	
660	120.025	120.050	10.00	
661	120.050	120.075	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
662	120.075	120.100	10.00	
663	120.100	120.125	10.00	
664	120.125	120.150	10.00	
665	120.150	120.175	10.00	
666	120.175	120.200	10.00	
667	120.200	120.225	10.00	
668	120.225	120.250	10.00	
669	120.250	120.275	10.00	
670	120.275	120.300	10.00	
671	120.300	120.325	10.00	
672	120.325	120.350	10.00	
673	120.350	120.375	10.00	
674	120.375	120.400	10.00	
675	120.400	120.425	10.00	
676	120.425	120.450	10.00	
677	120.450	120.475	10.00	
678	120.475	120.500	10.00	
679	120.500	120.525	10.00	
680	120.525	120.550	10.00	
681	120.550	120.575	10.00	
682	120.575	120.600	10.00	
683	120.600	120.625	10.00	
684	120.625	120.650	10.00	
685	120.650	120.675	10.00	
686	120.675	120.700	10.00	
687	120.700	120.725	10.00	
688	120.725	120.750	10.00	
689	120.750	120.775	10.00	
690	120.775	120.800	10.00	
691	120.800	120.825	10.00	
692	120.825	120.850	10.00	
693	120.850	120.875	10.00	
694	120.875	120.900	10.00	
695	120.900	120.925	10.00	
696	120.925	120.950	10.00	
697	120.950	120.975	10.00	
698	120.975	121.000	10.00	
699	121.000	121.025	10.00	
700	121.025	121.050	10.00	
701	121.050	121.075	10.00	
702	121.075	121.100	10.00	
703	121.100	121.125	10.00	
704	121.125	121.150	10.00	
705	121.150	121.175	10.00	
706	121.175	121.200	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
707	121.200	121.225	10.00	
708	121.225	121.250	10.00	
709	121.250	121.275	10.00	
710	121.275	121.300	10.00	
711	121.300	121.325	10.00	
712	121.325	121.350	10.00	
713	121.350	121.375	10.00	
714	121.375	121.400	10.00	
715	121.400	121.425	10.00	
716	121.425	121.450	10.00	
717	121.450	121.475	10.00	
718	121.475	121.500	10.00	
719	121.500	121.525	10.00	
720	121.525	121.550	10.00	
721	121.550	121.575	10.00	
722	121.575	121.600	10.00	
723	121.600	121.625	10.00	
724	121.625	121.650	10.00	
725	121.650	121.675	10.00	
726	121.675	121.700	10.00	
727	121.700	121.725	10.00	
728	121.725	121.750	10.00	
729	121.750	121.775	10.00	
730	121.775	121.800	10.00	
731	121.800	121.825	10.00	
732	121.825	121.850	10.00	
733	121.850	121.875	10.00	
734	121.875	121.900	10.00	
735	121.900	121.925	10.00	
736	121.925	121.950	10.00	
737	121.950	121.975	10.00	
738	121.975	122.000	10.00	
739	122.000	122.025	10.00	
740	122.025	122.050	10.00	
741	122.050	122.075	10.00	
742	122.075	122.100	10.00	
743	122.100	122.125	10.00	
744	122.125	122.150	10.00	
745	122.150	122.175	10.00	
746	122.175	122.200	10.00	
747	122.200	122.225	10.00	
748	122.225	122.250	10.00	
749	122.250	122.275	10.00	
750	122.275	122.300	10.00	
751	122.300	122.325	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
752	122.325	122.350	10.00	
753	122.350	122.375	10.00	
754	122.375	122.400	10.00	
755	122.400	122.425	10.00	
756	122.425	122.450	10.00	
757	122.450	122.475	10.00	
758	122.475	122.500	10.00	
759	122.500	122.525	10.00	
760	122.525	122.550	10.00	
761	122.550	122.575	10.00	
762	122.575	122.600	10.00	
763	122.600	122.625	10.00	
764	122.625	122.650	10.00	
765	122.650	122.675	10.00	
766	122.675	122.700	10.00	
767	122.700	122.725	10.00	
768	122.725	122.750	10.00	
769	122.750	122.775	10.00	
770	122.775	122.800	10.00	
771	122.800	122.825	10.00	
772	122.825	122.850	10.00	
773	122.850	122.875	10.00	
774	122.875	122.900	10.00	
775	122.900	122.925	10.00	
776	122.925	122.950	10.00	
777	122.950	122.975	10.00	
778	122.975	123.000	10.00	
779	123.000	123.025	10.00	
780	123.025	123.050	10.00	
781	123.050	123.075	10.00	
782	123.075	123.100	10.00	
783	123.100	123.125	10.00	
784	123.125	123.150	10.00	
785	123.150	123.175	10.00	
786	123.175	123.200	10.00	
787	123.200	123.225	10.00	
788	123.225	123.250	10.00	
789	123.250	123.275	10.00	
790	123.275	123.300	10.00	
791	123.300	123.325	10.00	
792	123.325	123.350	10.00	
793	123.350	123.375	10.00	
794	123.375	123.400	10.00	
795	123.400	123.425	10.00	
796	123.425	123.450	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
797	123.450	123.475	10.00	
798	123.475	123.500	10.00	
799	123.500	123.525	10.00	
800	123.525	123.550	10.00	
801	123.550	123.575	10.00	
802	123.575	123.600	10.00	
803	123.600	123.625	10.00	
804	123.625	123.650	10.00	
805	123.650	123.675	10.00	
806	123.675	123.700	10.00	
807	123.700	123.725	10.00	
808	123.725	123.750	10.00	
809	123.750	123.775	10.00	
810	123.775	123.800	10.00	
811	123.800	123.825	10.00	
812	123.825	123.850	10.00	
813	123.850	123.875	10.00	
814	123.875	123.900	10.00	
815	123.900	123.925	10.00	
816	123.925	123.950	10.00	
817	123.950	123.975	10.00	
818	123.975	124.000	10.00	
819	124.000	124.025	10.00	
820	124.025	124.050	10.00	
821	124.050	124.075	10.00	
822	124.075	124.100	10.00	
823	124.100	124.125	10.00	
824	124.125	124.150	10.00	
825	124.150	124.175	10.00	
826	124.175	124.200	10.00	
827	124.200	124.225	10.00	
828	124.225	124.250	10.00	
829	124.250	124.275	10.00	
830	124.275	124.300	10.00	
831	124.300	124.325	10.00	
832	124.325	124.350	10.00	
833	124.350	124.375	10.00	
834	124.375	124.400	10.00	
835	124.400	124.425	10.00	
836	124.425	124.450	10.00	
837	124.450	124.475	10.00	
838	124.475	124.500	10.00	
839	124.500	124.525	10.00	
840	124.525	124.550	10.00	
841	124.550	124.575	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
842	124.575	124.600	10.00	
843	124.600	124.625	10.00	
844	124.625	124.650	10.00	
845	124.650	124.675	10.00	
846	124.675	124.700	10.00	
847	124.700	124.725	10.00	
848	124.725	124.750	10.00	
849	124.750	124.775	10.00	
850	124.775	124.800	10.00	
851	124.800	124.825	10.00	
852	124.825	124.850	10.00	
853	124.850	124.875	10.00	
854	124.875	124.900	10.00	
855	124.900	124.925	10.00	
856	124.925	124.950	10.00	
857	124.950	124.975	10.00	
858	124.975	125.000	10.00	
859	125.000	125.025	10.00	
860	125.025	125.050	10.00	
861	125.050	125.075	10.00	
862	125.075	125.100	10.00	
863	125.100	125.125	10.00	
864	125.125	125.150	10.00	
865	125.150	125.175	10.00	
866	125.175	125.200	10.00	
867	125.200	125.225	10.00	
868	125.225	125.250	10.00	
869	125.250	125.275	10.00	
870	125.275	125.300	10.00	
871	125.300	125.325	10.00	
872	125.325	125.350	10.00	
873	125.350	125.375	10.00	
874	125.375	125.400	10.00	
875	125.400	125.425	10.00	
876	125.425	125.450	10.00	
877	125.450	125.475	10.00	
878	125.475	125.500	10.00	
879	125.500	125.525	10.00	
880	125.525	125.550	10.00	
881	125.550	125.575	10.00	
882	125.575	125.600	10.00	
883	125.600	125.625	10.00	
884	125.625	125.650	10.00	
885	125.650	125.675	10.00	
886	125.675	125.700	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
887	125.700	125.725	10.00	
888	125.725	125.750	10.00	
889	125.750	125.775	10.00	
890	125.775	125.800	10.00	
891	125.800	125.825	10.00	
892	125.825	125.850	10.00	
893	125.850	125.875	10.00	
894	125.875	125.900	10.00	
895	125.900	125.925	10.00	
896	125.925	125.950	10.00	
897	125.950	125.975	10.00	
898	125.975	126.000	10.00	
899	126.000	126.025	10.00	
900	126.025	126.050	10.00	
901	126.050	126.075	10.00	
902	126.075	126.100	10.00	
903	126.100	126.125	10.00	
904	126.125	126.150	10.00	
905	126.150	126.175	10.00	
906	126.175	126.200	10.00	
907	126.200	126.225	10.00	
908	126.225	126.250	10.00	
909	126.250	126.275	10.00	
910	126.275	126.300	10.00	
911	126.300	126.325	10.00	
912	126.325	126.350	10.00	
913	126.350	126.375	10.00	
914	126.375	126.400	10.00	
915	126.400	126.425	10.00	
916	126.425	126.450	10.00	
917	126.450	126.475	10.00	
918	126.475	126.500	10.00	
919	126.500	126.525	10.00	
920	126.525	126.550	10.00	
921	126.550	126.575	10.00	
922	126.575	126.600	10.00	
923	126.600	126.625	10.00	
924	126.625	126.650	10.00	
925	126.650	126.675	10.00	
926	126.675	126.700	10.00	
927	126.700	126.725	10.00	
928	126.725	126.750	10.00	
929	126.750	126.775	10.00	
930	126.775	126.800	10.00	
931	126.800	126.825	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
932	126.825	126.850	10.00	
933	126.850	126.875	10.00	
934	126.875	126.900	10.00	
935	126.900	126.925	10.00	
936	126.925	126.950	10.00	
937	126.950	126.975	10.00	
938	126.975	127.000	10.00	
939	127.000	127.025	10.00	
940	127.025	127.050	10.00	
941	127.050	127.075	10.00	
942	127.075	127.100	10.00	
943	127.100	127.125	10.00	
944	127.125	127.150	10.00	
945	127.150	127.175	10.00	
946	127.175	127.200	10.00	
947	127.200	127.225	10.00	
948	127.225	127.250	10.00	
949	127.250	127.275	10.00	
950	127.275	127.300	10.00	
951	127.300	127.325	10.00	
952	127.325	127.350	10.00	
953	127.350	127.375	10.00	
954	127.375	127.400	10.00	
955	127.400	127.425	10.00	
956	127.425	127.450	10.00	
957	127.450	127.475	10.00	
958	127.475	127.500	10.00	
959	127.500	127.525	10.00	
960	127.525	127.550	10.00	
961	127.550	127.575	10.00	
962	127.575	127.600	10.00	
963	127.600	127.625	10.00	
964	127.625	127.650	10.00	
965	127.650	127.675	10.00	
966	127.675	127.700	10.00	
967	127.700	127.725	10.00	
968	127.725	127.750	10.00	
969	127.750	127.775	10.00	
970	127.775	127.800	10.00	
971	127.800	127.825	10.00	
972	127.825	127.850	10.00	
973	127.850	127.875	10.00	
974	127.875	127.900	10.00	
975	127.900	127.925	10.00	
976	127.925	127.950	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
977	127.950	127.975	10.00	
978	127.975	128.000	10.00	
979	128.000	128.025	10.00	
980	128.025	128.050	10.00	
981	128.050	128.075	10.00	
982	128.075	128.100	10.00	
983	128.100	128.125	10.00	
984	128.125	128.150	10.00	
985	128.150	128.175	10.00	
986	128.175	128.200	10.00	
987	128.200	128.225	10.00	
988	128.225	128.250	10.00	
989	128.250	128.275	10.00	
990	128.275	128.300	10.00	
991	128.300	128.325	10.00	
992	128.325	128.350	10.00	
993	128.350	128.375	10.00	
994	128.375	128.400	10.00	
995	128.400	128.425	10.00	
996	128.425	128.450	10.00	
997	128.450	128.475	10.00	
998	128.475	128.500	10.00	
999	128.500	128.525	10.00	
1000	128.525	128.550	10.00	
1001	128.550	128.575	10.00	
1002	128.575	128.600	10.00	
1003	128.600	128.625	10.00	
1004	128.625	128.650	10.00	
1005	128.650	128.675	10.00	
1006	128.675	128.700	10.00	
1007	128.700	128.725	10.00	
1008	128.725	128.750	10.00	
1009	128.750	128.775	10.00	
1010	128.775	128.800	10.00	
1011	128.800	128.825	10.00	
1012	128.825	128.850	10.00	
1013	128.850	128.875	10.00	
1014	128.875	128.900	10.00	
1015	128.900	128.925	10.00	
1016	128.925	128.950	10.00	
1017	128.950	128.975	10.00	
1018	128.975	129.000	10.00	
1019	129.000	129.025	10.00	
1020	129.025	129.050	10.00	
1021	129.050	129.075	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
1022	129.075	129.100	10.00	
1023	129.100	129.125	10.00	
1024	129.125	129.150	10.00	
1025	129.150	129.175	10.00	
1026	129.175	129.200	10.00	
1027	129.200	129.225	10.00	
1028	129.225	129.250	10.00	
1029	129.250	129.275	10.00	
1030	129.275	129.300	10.00	
1031	129.300	129.325	10.00	
1032	129.325	129.350	10.00	
1033	129.350	129.375	10.00	
1034	129.375	129.400	10.00	
1035	129.400	129.425	10.00	
1036	129.425	129.450	10.00	
1037	129.450	129.475	10.00	
1038	129.475	129.500	10.00	
1039	129.500	129.525	10.00	
1040	129.525	129.550	10.00	
1041	129.550	129.575	10.00	
1042	129.575	129.600	10.00	
1043	129.600	129.625	10.00	
1044	129.625	129.650	10.00	
1045	129.650	129.675	10.00	
1046	129.675	129.700	10.00	
1047	129.700	129.725	10.00	
1048	129.725	129.750	10.00	
1049	129.750	129.775	10.00	
1050	129.775	129.800	10.00	
1051	129.800	129.825	10.00	
1052	129.825	129.850	10.00	
1053	129.850	129.875	10.00	
1054	129.875	129.900	10.00	
1055	129.900	129.925	10.00	
1056	129.925	129.950	10.00	
1057	129.950	129.975	10.00	
1058	129.975	130.000	10.00	
1059	130.000	130.025	10.00	
1060	130.025	130.050	10.00	
1061	130.050	130.075	10.00	
1062	130.075	130.100	10.00	
1063	130.100	130.125	10.00	
1064	130.125	130.150	10.00	
1065	130.150	130.175	10.00	
1066	130.175	130.200	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
1067	130.200	130.225	10.00	
1068	130.225	130.250	10.00	
1069	130.250	130.275	10.00	
1070	130.275	130.300	10.00	
1071	130.300	130.325	10.00	
1072	130.325	130.350	10.00	
1073	130.350	130.375	10.00	
1074	130.375	130.400	10.00	
1075	130.400	130.425	10.00	
1076	130.425	130.450	10.00	
1077	130.450	130.475	10.00	
1078	130.475	130.500	10.00	
1079	130.500	130.525	10.00	
1080	130.525	130.550	10.00	
1081	130.550	130.575	10.00	
1082	130.575	130.600	10.00	
1083	130.600	130.625	10.00	
1084	130.625	130.650	10.00	
1085	130.650	130.675	10.00	
1086	130.675	130.700	10.00	
1087	130.700	130.725	10.00	
1088	130.725	130.750	10.00	
1089	130.750	130.775	10.00	
1090	130.775	130.800	10.00	
1091	130.800	130.825	10.00	
1092	130.825	130.850	10.00	
1093	130.850	130.875	10.00	
1094	130.875	130.900	10.00	
1095	130.900	130.925	10.00	
1096	130.925	130.950	10.00	
1097	130.950	130.975	10.00	
1098	130.975	131.000	10.00	
1099	131.000	131.025	10.00	
1100	131.025	131.050	10.00	
1101	131.050	131.075	10.00	
1102	131.075	131.100	10.00	
1103	131.100	131.125	10.00	
1104	131.125	131.150	10.00	
1105	131.150	131.175	10.00	
1106	131.175	131.200	10.00	
1107	131.200	131.225	10.00	
1108	131.225	131.250	10.00	
1109	131.250	131.275	10.00	
1110	131.275	131.300	10.00	
1111	131.300	131.325	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
1112	131.325	131.350	10.00	
1113	131.350	131.375	10.00	
1114	131.375	131.400	10.00	
1115	131.400	131.425	10.00	
1116	131.425	131.450	10.00	
1117	131.450	131.475	10.00	
1118	131.475	131.500	10.00	
1119	131.500	131.525	10.00	
1120	131.525	131.550	10.00	
1121	131.550	131.575	10.00	
1122	131.575	131.600	10.00	
1123	131.600	131.625	10.00	
1124	131.625	131.650	10.00	
1125	131.650	131.675	10.00	
1126	131.675	131.700	10.00	
1127	131.700	131.725	10.00	
1128	131.725	131.750	10.00	
1129	131.750	131.775	10.00	
1130	131.775	131.800	10.00	
1131	131.800	131.825	10.00	
1132	131.825	131.850	10.00	
1133	131.850	131.875	10.00	
1134	131.875	131.900	10.00	
1135	131.900	131.925	10.00	
1136	131.925	131.950	10.00	
1137	131.950	131.975	10.00	
1138	131.975	132.000	10.00	
1139	132.000	132.025	10.00	
1140	132.025	132.050	10.00	
1141	132.050	132.075	10.00	
1142	132.075	132.100	10.00	
1143	132.100	132.125	10.00	
1144	132.125	132.150	10.00	
1145	132.150	132.175	10.00	
1146	132.175	132.200	10.00	
1147	132.200	132.225	10.00	
1148	132.225	132.250	10.00	
1149	132.250	132.275	10.00	
1150	132.275	132.300	10.00	
1151	132.300	132.325	10.00	
1152	132.325	132.350	10.00	
1153	132.350	132.375	10.00	
1154	132.375	132.400	10.00	
1155	132.400	132.425	10.00	
1156	132.425	132.450	10.00	

SL No.	Chainage (Km)		Existing Right of Way (m)	Remarks
	From	To		
1157	132.450	132.475	10.00	
1158	132.475	132.500	10.00	
1159	132.500	132.525	10.00	
1160	132.525	132.550	10.00	
1161	132.550	132.575	10.00	
1162	132.575	132.600	10.00	
1163	132.600	132.625	10.00	
1164	132.625	132.650	10.00	
1165	132.650	132.675	10.00	
1166	132.675	132.700	10.00	
1167	132.700	132.725	10.00	
1168	132.725	132.750	10.00	
1169	132.750	132.775	10.00	
1170	132.775	132.800	10.00	
1171	132.800	132.825	10.00	
1172	132.825	132.850	10.00	
1173	132.850	132.875	10.00	
1174	132.875	132.900	10.00	
1175	132.900	132.925	10.00	
1176	132.925	132.950	10.00	
1177	132.950	132.975	10.00	
1178	132.975	133.000	10.00	

3. Carriageway

The present carriageway of the Project Highway is Two Lane from km 103+000 to km 134+00. The type of the existing pavement is [flexible].

4. Major Bridges

The Site includes the following Major Bridges:

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

5. Road over-bridges (ROB)/ Road under-bridges (RUB)

The Site includes the following ROB (road over railway line)/RUB (road under railway line):

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

6. Grade separators

The Site includes the following grade separators:

S.No.	Chainage (km)	Type of Structure		No. of Spans with span length (m)	Width (m)
		Foundation	Superstructure		
NIL					

7. Minor bridges

The Site includes the following Minor bridges:

Sl. No.	Survey Chainage (Km)	Type of Structure			No. of Spans with span length (m)	Width (m)
		Foundation	Sub-structure	Super-structure		
1	113+559	Open	Wall	RCC SLAB BRIDGE	1X6.0M	12
2	132+709	Open	Wall	RCC SLAB BRIDGE	1X13.0M	12

8. Railway level crossings

The Site includes the following railway level crossings:

S. No.	Existing Chainage (km)	Name of the crossing	Leads to		Remarks
			On LHS	On RHS	
Nil					

9. Underpasses (vehicular, non-vehicular)

The Site includes the following underpasses:

S.No.	Existing Chainage (km)	TypeofStructure	No. of Spans withspanlength(m)	Width(m)
NIL				

10. Culverts

The Site has the following culverts:

Sl. No.	Chainage (km)	Type of Culvert	Span/Opening with Span Length	Width of Culvert (m)
1	103.719	R.C.C SLAB	1 X 5.40m	10
2	103.942	R.C.C SLAB	1 X 5.40m	12.5
3	104.191	R.C.C SLAB	1 X 1.50m	12.4
4	104.235	HP	1 X 0.30 Dia	18.6
5	104.352	HP	1 X 1.20 Dia	16.6
6	104.475	R.C.C SLAB	1 X 3.60m	11.3
7	104.592	R.C.C SLAB	1 X 3.40m	8.83
8	104.631	HP	1 X 0.90 Dia	10.1
9	105.031	HP	1 X 1.20 Dia	11.55
10	105.477	R.C.C SLAB	1 X 3.20m	11.55
11	105.627	HP	1 X 1.20 Dia	12.5
12	105.805	HP	1 X 0.90 Dia	12.5

Sl. No.	Chainage (km)	Type of Culvert	Span/Opening with Span Length	Width of Culvert (m)
13	105.896	R.C.C SLAB	1 X 4.50m	12.4
14	106.200	R.C.C SLAB	1 X 5.20m	18.6
15	106.224	HP	1 X 0.90 Dia	16.6
16	106.338	HP	1 X 0.60 Dia	11.3
17	106.388	HP	1 X 0.90 Dia	8.83
18	106.540	R.C.C SLAB	1 X 3.60m	10.1
19	106.778	R.C.C SLAB	1 X 3.70m	11.55
20	106.945	HP	1 X 1.20 Dia	11.55
21	107.038	HP	1 X 0.90 Dia	11.55
22	107.401	HP	1 X 0.90 Dia	11.55
23	107.517	HP	1 X 0.90 Dia	10.1
24	107.624	R.C.C SLAB	1 X 3.50m	11.55
25	107.736	HP	1 X 1.20 Dia	11.55
26	107.955	R.C.C SLAB	1 X 4.40m	12.5
27	108.063	HP	1 X 0.60 Dia	12.5
28	108.302	HP	1 X 0.90 Dia	12.4
29	108.501	HP	1 X 1.20 Dia	18.6
30	108.690	R.C.C SLAB	1 X 5.40m	16.6
31	108.762	HP	1 X 1.20 Dia	11.3
32	108.826	HP	1 X 1.20 Dia	8.83
33	108.945	HP	1 X 0.60 Dia	10.1
34	109.005	R.C.C SLAB	1 X 3.70 Dia	11.55
35	109.119	HP	1 X 0.90 Dia	11.55
36	109.404	HP	1 X 0.90 Dia	11.55
37	109.589	R.C.C SLAB	1 X 1.90m	11.55
38	109.834	R.C.C SLAB	1 X 5.20m	15.2
39	109.913	HP	1 X 0.30 Dia	15
40	109.980	HP	1 X 0.90 Dia	10
41	110.064	R.C.C SLAB	1 X 1.20m	10
42	110.306	HP	1 X 0.90 Dia	12
43	110.377	R.C.C SLAB	1 X 1.80m	13
44	110.466	HP	1 X 1.20 Dia	14
45	110.546	HP	1 X 1.00 Dia	11.3
46	110.613	HP	1 X 0.90 Dia	9.7
47	110.642	HP	1 X 1.20 Dia	10.8
48	110.874	R.C.C SLAB	1 X 4.80m	12
49	110.971	HP	1 X 0.90 Dia	15.8
50	111.220	HP	1 X 1.20 Dia	12.8
51	111.359	HP	1 X 1.20 Dia	13.7
52	111.562	HP	1 X 1.20 Dia	8
53	111.654	HP	1 X 1.00 Dia	12.5
54	111.716	R.C.C SLAB	1 X 1.70m	14.5
55	111.821	HP	1 X 1.30 Dia	9
56	111.916	R.C.C SLAB	1 X 4.90m	10
57	112.108	R.C.C SLAB	1 X 4.20m	11.3

Sl. No.	Chainage (km)	Type of Culvert	Span/Opening with Span Length	Width of Culvert (m)
58	112.495	HP	1 X 1.20 Dia	15.2
59	112.582	R.C.C SLAB	1 X 4.40m	15
60	112.610	HP	1 X 1.60 Dia	10
61	112.670	HP	1 X 0.90 Dia	12
62	112.946	HP	1 X 1.60 Dia	13
63	113.062	R.C.C SLAB	1 X 1.40m	14
64	113.274	R.C.C SLAB	1 X 5.20m	11.3
65	113.473	HP	1 X 0.90 Dia	9.7
66	113.759	HP	1 X 0.60 Dia	10.8
67	113.967	R.C.C SLAB	1 X 1.50m	12
68	114.129	R.C.C SLAB	1 X 1.60m	15.8
69	114.312	HP	1 X 0.90 Dia	15.8
70	114.808	HP	1 X 1.00 Dia	12.8
71	115.160	R.C.C SLAB	1 X 2.90m	13.7
72	115.448	R.C.C SLAB	1 X 1.50m	8
73	115.525	HP	1 X 0.60 Dia	12.5
74	115.818	R.C.C SLAB	1 X 1.50m	12.5
75	115.946	HP	1 X 1.50 Dia	14.5
76	116.074	HP	1 X 1.50 Dia	9
77	116.521	HP	2 X 1.20 Dia	10
78	116.676	R.C.C SLAB	1 X 4.50m	12
79	116.816	R.C.C SLAB	1 X 1.50m	15.8
80	117.048	R.C.C SLAB	1 X 2.90m	12.8
81	117.238	R.C.C SLAB	1 X 1.50m	13.7
82	117.345	R.C.C SLAB	1 X 1.50m	8
83	117.447	R.C.C SLAB	1 X 1.30m	12.5
84	117.615	HP	1 X 1.50 Dia	14.5
85	117.783	R.C.C SLAB	1 X 1.50m	9
86	117.968	R.C.C SLAB	1 X 1.60m	11.3
87	118.243	R.C.C SLAB	1 X 1.50m	15.2
88	118.473	R.C.C SLAB	1 X 1.50m	15
89	118.591	R.C.C SLAB	1 X 1.40m	10
90	118.725	HP	1 X 0.30 Dia	12
91	118.868	R.C.C SLAB	1 X 1.20m	13
92	119.074	R.C.C SLAB	1 X 1.40m	14
93	119.341	R.C.C SLAB	1 X 2.80m	14
94	119.674	R.C.C SLAB	1 X 1.50m	11.3
95	119.758	R.C.C SLAB	1 X 1.50m	11.3
96	119.907	R.C.C SLAB	1 X 1.60m	10.8
97	120.051	HP	1 X 1.20 Dia	12
98	120.499	HP	1 X 0.60 Dia	15.8
99	120.588	HP	1 X 1.20 Dia	12.8
100	120.890	HP	1 X 0.90 Dia	13.7
101	121.124	HP	1 X 1.20 Dia	8
102	121.700	HP	1 X 0.90 Dia	12.5

Sl. No.	Chainage (km)	Type of Culvert	Span/Opening with Span Length	Width of Culvert (m)
103	121.791	HP	1 X 0.90 Dia	14.5
104	122.157	HP	2 X 0.90 Dia	9
105	122.258	HP	1 X 0.90 Dia	10
106	122.457	HP	1 X 0.90 Dia	12
107	122.640	HP	1 X 0.90 Dia	15.8
108	122.846	HP	1 X 1.20 Dia	12.8
109	122.997	HP	1 X 1.20 Dia	13.7
110	123.174	HP	1 X 1.20 Dia	8
111	123.218	HP	1 X 1.20 Dia	12.5
112	123.261	HP	1 X 1.20 Dia	14.5
113	123.317	HP	1 X 0.90 Dia	9
114	123.520	HP	1 X 0.30 Dia	10
115	123.582	HP	1 X 0.90 Dia	11.3
116	123.712	HP	1 X 1.20 Dia	15.2
117	123.854	HP	1 X 1.20 Dia	15
118	123.937	HP	1 X 0.90 Dia	10
119	124.100	HP	1 X 0.90 Dia	12
120	124.123	R.C.C SLAB	1 X 2.00m	13.7
121	124.179	HP	1 X 0.90 Dia	12.8
122	124.297	HP	1 X 0.60 Dia	13
123	124.486	HP	1 X 0.90 Dia	14
124	124.570	R.C.C SLAB	1 X 3.20m	14
125	124.821	R.C.C SLAB	1 X 1.40m	11.3
126	124.917	R.C.C SLAB	1 X 1.50m	11.3
127	125.023	HP	1 X 0.90 Dia	10.8
128	125.178	HP	1 X 0.60 Dia	12
129	125.374	R.C.C SLAB	1 X 1.00m	15.8
130	125.529	R.C.C SLAB	1 X 1.00m	12.8
131	125.642	HP	1 X 0.60 Dia	13.7
132	125.820	R.C.C SLAB	1 X 2.00m	8
133	125.906	HP	2 X 0.90 Dia	12.5
134	126.495	HP	1 X 1.00 Dia	14.5
135	126.601	R.C.C SLAB	1 X 5.46m	10.9
136	126.841	HP	1 X 0.60 Dia	12.2
137	127.000	HP	1 X 0.60 Dia	12.5
138	127.293	HP	2 X 0.90 Dia	14.5
139	127.549	HP	1 X 0.90 Dia	9
140	127.745	R.C.C SLAB	1 X 1.58m	10
141	127.796	HP	1 X 0.90 Dia	11.3
142	127.969	HP	1 X 0.90 Dia	15.2
143	128.124	R.C.C SLAB	1 X 2.23m	15
144	128.459	HP	1 X 1.20 Dia	10
145	128.619	HP	1 X 0.90 Dia	10.8
146	128.759	HP	1 X 0.90 Dia	12
147	129.172	HP	1 X 0.90 Dia	15.8

Sl. No.	Chainage (km)	Type of Culvert	Span/Opening with Span Length	Width of Culvert (m)
148	129.242	HP	1 X 0.60 Dia	15.8
149	129.445	HP	1 X 1.20 Dia	12.8
150	129.520	HP	1 X 0.60 Dia	13.7
151	129.593	HP	1 X 0.30 Dia	8
152	130.080	HP	1 X 1.20 Dia	12.5
153	130.289	R.C.C SLAB	1 X 1.67m	12.5
154	130.323	HP	1 X 0.90 Dia	14.5
155	130.403	HP	1 X 2.80 Dia	9
156	130.496	HP	1 X 0.90 Dia	10
157	130.637	R.C.C SLAB	1 X 1.60m	12
158	130.850	HP	1 X 0.90 Dia	15.8
159	130.974	HP	1 X 0.90 Dia	12.8
160	131.009	R.C.C SLAB	1 X 3.10m	13.7
161	131.248	HP	1 X 0.90 Dia	8
162	131.300	R.C.C SLAB	1 X 2.97m	12.5
163	131.606	HP	1 X 0.90 Dia	14.5
164	131.852	HP	1 X 0.90 Dia	9
165	131.916	R.C.C SLAB	1 X 2.91m	10
166	132.160	HP	1 X 1.50 Dia	11.3
167	132.250	HP	1 X 0.90 Dia	15.2
168	132.530	HP	1 X 1.00 Dia	15
169	132.556	HP	1 X 0.90 Dia	10
170	132.773	R.C.C SLAB	1 X 2.95m	12
171	132.900	R.C.C SLAB	1 X 5.83m	13
172	132.959	HP	1 X 0.90 Dia	14
173	132.998	R.C.C SLAB	1 X 2.95m	14

11. Bus bay:

The details of bus shelters on the Site are as follows:

Sl. No.	Existing Chainage (km)	Length (m)	Left Hand Side	Right Hand side
NIL				

12. Truck Lay byes

The details of truck lay byes are as follows:

Sl. No.	Existing Chainage (km)	Length (m)	Left Hand Side	Right Hand side
NIL				

13. Roadside drains

The details of the roadside drains are as follows:

Sl. No.	Location		Length (km)	Type	
	From km	To km		Masonry/cc (Pucca)	Earthen (Kutcha)
1	103.485	103.610	0.125		Kachha (Single Side)
2	103.623	103.825	0.202		Kachha (Single Side)
3	103.875	103.940	0.065		Kachha (Single Side)
4	103.947	103.966	0.019	Pucca (Single Side)	
5	103.966	104.035	0.069		Kachha (Single Side)
6	104.035	104.085	0.050	Pucca (Single Side)	
7	104.085	104.143	0.058		Kachha (Single Side)
8	104.143	104.175	0.032	Pucca (Single Side)	
9	104.193	104.235	0.042	Pucca (Single Side)	
10	104.239	104.351	0.112		Kachha (Single Side)
11	104.367	104.448	0.081		Kachha (Single Side)
12	104.478	104.512	0.034		Kachha (Single Side)
13	104.555	104.581	0.026		Kachha (Single Side)
14	104.638	105.022	0.384		Kachha (Single Side)
15	105.070	105.150	0.080		Kachha (Single Side)
16	105.194	105.473	0.279		Kachha (Single Side)
17	105.481	105.520	0.039		Kachha (Single Side)
18	105.520	105.620	0.100	Pucca (Single Side)	
19	105.635	105.775	0.140	Pucca (Single Side)	
20	105.775	106.944	1.169		Kachha (Single Side)
21	107.016	107.190	0.174		Kachha (Single Side)
22	107.239	108.121	0.882		Kachha (Single Side)
23	108.210	108.301	0.091		Kachha (Single Side)
24	108.320	108.686	0.366		Kachha (Single Side)
25	108.765	108.818	0.053		Kachha (Single Side)
26	108.880	109.453	0.573		Kachha (Single Side)
27	109.453	109.503	0.050	Pucca (Single Side)	
28	109.518	109.830	0.312		Kachha (Single Side)
29	109.842	110.089	0.247	Pucca (Single Side)	
30	110.089	110.875	0.786		Kachha (Single Side)
31	110.890	111.191	0.301		Kachha (Single Side)
32	111.218	111.901	0.683		Kachha (Single Side)
33	111.927	112.068	0.141		Kachha (Single Side)
34	112.142	112.185	0.043		Kachha (Single Side)
35	112.201	112.480	0.279		Kachha (Single Side)
36	112.539	112.585	0.046		Kachha (Single Side)
37	112.616	112.684	0.068	Pucca (Single Side)	
38	112.684	113.551	0.867		Kachha (Single Side)
39	113.572	113.646	0.074	Pucca (Single Side)	
40	113.704	114.016	0.312	Pucca (Single Side)	
41	114.016	114.054	0.038		Kachha (Single Side)
42	114.118	114.236	0.118	Pucca (Single Side)	
43	114.273	114.306	0.033		Kachha (Single Side)
44	114.306	114.317	0.011	Pucca (Single Side)	
45	114.602	114.675	0.073		Kachha (Single Side)

Sl. No.	Location		Length (km)	Type	
	From km	To km		Masonry/cc (Pucca)	Earthen (Kutcha)
46	114.675	114.717	0.042	Pucca (Single Side)	
47	114.717	115.431	0.714		Kachha (Single Side)
48	115.501	116.155	0.654		Kachha (Single Side)
49	116.240	116.425	0.185		Kachha (Single Side)
50	116.678	116.967	0.289		Kachha (Single Side)
51	117.051	117.393	0.342		Kachha (Single Side)
52	117.450	118.542	1.092		Kachha (Single Side)
53	118.622	118.783	0.161		Kachha (Single Side)
54	118.882	119.211	0.329		Kachha (Single Side)
55	119.254	119.720	0.466		Kachha (Single Side)
56	119.720	119.754	0.034	Pucca (Single Side)	
57	119.716	121.115	1.399		Kachha (Single Side)
58	121.208	121.347	0.139		Kachha (Single Side)
59	121.475	121.555	0.080	Pucca (Both Side)	
60	121.555	121.791	0.236	Pucca (Single Side)	
61	121.795	122.244	0.449		Kachha (Single Side)
62	122.315	122.638	0.323		Kachha (Single Side)
63	122.693	123.113	0.420	Pucca (Single Side)	
64	123.218	123.348	0.130		Kachha (Single Side)
65	123.401	125.367	1.966		Kachha (Single Side)
66	125.484	127.754	2.270		Kachha (Single Side)
67	131.462	134.821	3.359		Kachha (Single Side)

14. Major Junctions

Details of major junctions are as follow.

Sl. No.	Location		At Grade	Category of crossroad	Remarks
	Ex. Chainage	Name of junction			
NIL					

(NH: National Highway, SH: State Highway, MDR: Major District Road)

15. Minor Junctions

The details of the minor junctions are as follows:

Sl. No.	Location		Type of intersection	
	From Km	To Km	T-Junction	Cross Road
1	109.504		Y	3-legged
2	121.454		X	4-legged
3	121.555		Y	3-legged
4	131.655		Y	3-legged

16. Bypasses

The details of the bypasses are as follows:

S. No.	Name of bypass (town)	Existing Chainage (km)	Design Length (km)	Carriageway	
				Width (m)	Type
NIL					

17. Other Structures

Existing Retaining Wall:

SL. No.	Chainage (m)		Length (m)
	From	To	
1	104675	104700	25
2	105485	105502	17
3	107627	107650	23
4	108275	108295	20
5	108996	109056	60
6	110375	110405	30
7	110535	110555	20
8	111898	111932	34
9	112159	112193	34
10	113265	113305	40
11	115527	115549	22
12	119168	119221	53
13	119315	119333	18
14	120032	120148	116
15	120328	120364	36
16	120525	120596	71
17	120708	120723	15
18	120747	120767	20
19	120887	120947	60
20	120992	121025	33
21	121105	121129	24
22	121303	121319	16
23	121788	121813	25
24	121913	121942	29
25	122345	122375	30
26	122552	122586	34
27	122893	122939	46
28	123251	123265	14
29	123303	123329	26
30	123460	123484	24
31	123703	123735	32
32	125262	125297	35
33	125661	125698	37
34	125921	125962	41
35	126842	126866	24
36	127252	127308	56
37	128611	128629	18

SL. No.	Chainage (m)		Length (m)
	From	To	
38	128927	128946	19
39	129001	129050	49
40	129836	129859	23

Annex-II

(As per Clause 8.3 (i))

(Schedule-A)

Datesfor providing Rightof Way.

ThedatesonwhichtheAuthorityshallprovideRightofWaytotheContractoron differentstretchesof theSite arestated below:

Sr. No.	From Km to Km	Specifications (km)	Description	Date Details of ROW
1	Km 103 to km 133	30 km	Two Lane	100% of ROW shall be handed over on Appointed Date

Annex - III

(Schedule-A)

Alignment Plans

The existing road is proposed only for restoration and rehabilitation work. Hence, the existing alignment of this road is not required for any modification.

Annex - IV

(Schedule-A)

Environment Clearances

The existing road is proposed only for restoration and rehabilitation work on existing road. Hence, the environmental clearance is not required.

Schedule-B

SCHEDULE - B

(See Clause 2.1)

Development of the Project Highway

1 Development oftheProject Highway

DevelopmentoftheProjectHighwayshallincludedesignandconstruction of theProject Highwayasdescribed in this Schedule-Band in Schedule-C.

2 Rehabilitation and augmentation

Rehabilitation and augmentation shall include Two-Lanning and Strengthening of the Project Highway as described in Annex-I of this Schedule-B and in Schedule-C.

3 Specifications and Standards

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

Annex-I

(Schedule-B)

Descriptionof Project Road (Two-Laning)

1. WIDENING OFTHE EXISTINGHIGHWAY

(i) There is no requirement of widening of carriageway as the scope of work pertains to restoration and rehabilitation of the existing highway only and the Project shall follow existing alignment. The road stretch is to be rehabilitated and strengthened to sustain traffic at least for 5 years.

(ii) WIDTH OF CARRIAGEWAY

The width of the carriageway is 7.0mand shall be rehabilitated to 7m width.

Provided that in the built-up areas [refer to paragraphs 2.1 (ii) (a) of the Manual and provide necessary details]: the width of the carriageway shall be as specified in the following table:

Sl. No.	Built-up stretch (Township)	Location (km to km)	Width(m)	Typical cross section (Ref.to Manual)
NIL				

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-84-2019.

(ii) Design Speed

The design speed given in table 2.1 of IRC: SP: 84-2019 shall be adopted.

(iii) Improvements 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.

Also, if any, in the existing horizontal and vertical profiles shall be corrected as per the prescribed standards for Mountainous / Hill terrain to the extent land is available.

(iv) **Right of Way** - Details of the Right of Way are given in Annex II of Schedule A.

(v) **Deleted.**

(vi) **Lateral and Vertical Clearances at Underpasses/Flyovers**

Lateral and vertical clearances at Underpasses/Flyovers and provision of guardrails/crash barriers shall be as per the paragraph 2.10 of IRC SP 84-2019.

a) Lateral clearance: The size of the opening at the Underpasses shall be as follows:

S. No.	Location (Km)	Span arrangement and Vertical clearance	Remarks
NIL			

b) Vertical clearance: Vertical Clearance at Underpasses shall not be less than 4.0 m (urban area).

(vii) **Laterals and Vertical Clearance at Overpasses**

a) Lateral and Vertical clearances at over passes shall be as per paragraph 2.11 of theIRC SP 84-2019.

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

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

c) Vertical clearance: The vertical clearance at the underpass shall be as follows.

S. No.	Location (Km)	Span arrangement and Vertical clearance	Remarks
NIL			

(viii) **Service roads /Slip Road**

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

Details of Service Road/Slip Road

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

Note:

(i) The above length of slip/service road is excluding the tapering length/merging length of acceleration/deceleration lane. The entry and exit of slip road should be constructed as per Fig 2.1 C and service road

as per Fig 2.1 A of IRC: SP: 84: 2019.

(ii) Length of service road and slip road given in above table excludes length across the Project Highway for proper connectivity of crossroad on either side of Project Highway as given in the alignment plan enclosed at **Annex-III, Schedule-A** which shall be deemed to be included in the scope of work.

(iii) The length of slip/service road shown in above table is minimum and may increase as per actual site conditions and No Change of Scope shall be admissible on this account.

(iv) Width and locations of service road/slip road shown above are minimum and may vary as per site condition/as per design. Change in locations of slip/service road, if required, shall be deemed to be part of project.

(ix) Grade Separated Structures

a) Grade separated structures shall be provided as per paragraph 2.13 of the IRC SP 84-2019. The requisite particulars are given below:

Sl. No	Location of Structure	Length (m)	Number and length of clear 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 crossroads shall be as follows:

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

X. Cattle and pedestrian underpass /overpass

Cattle and pedestrian underpass/ overpass shall be constructed as follows:

Sl. No.	Location	Type of crossing
Nil		

XI. Deleted

XII. Work Description. The under mentioned work is to be executed as per MoRTH guidelines and standard Engineering practice.

Details of WBM				
Sl. No.	Location (km)		Dimension	
	From	To	Length (metre)	Layer Thickness (metre)
1	103+300	103+350	50.0	0.100
2	103+500	103+550	50.0	0.075
3	103+900	103+960	60.0	0.100
4	104+100	104+150	50.0	0.150
5	104+200	104+300	100.0	0.075
6	104+400	104+460	60.0	0.150
7	104+600	104+650	50.0	0.150
8	104+800	104+850	50.0	0.075
9	104+900	104+950	50.0	0.150
10	105+500	105+550	50.0	0.100
11	105+800	105+850	50.0	0.100
12	106+100	106+180	80.0	0.075
13	106+300	106+400	100.0	0.100
14	106+400	106+600	200.0	0.100
15	106+600	106+650	50.0	0.100
16	106+800	106+850	50.0	0.100
17	107+500	107+550	50.0	0.075
101	107+700	107+750	50.0	0.100
102	108+000	108+050	50.0	0.075
103	108+200	108+250	50.0	0.100
104	108+400	108+450	50.0	0.075
105	108+500	108+550	50.0	0.075
106	108+900	109+000	100.0	0.100
107	109+100	109+150	50.0	0.100
108	109+400	109+450	50.0	0.075
109	109+600	109+650	50.0	0.075
110	110+100	110+150	50.0	0.100
111	110+200	110+250	50.0	0.075
112	111+200	111+250	50.0	0.075

113	111+300	112+300	1000.0	0.200
114	112+500	112+550	50.0	0.100
115	113+200	113+260	60.0	0.100
116	114+600	114+650	50.0	0.100
117	115+100	115+150	50.0	0.100
118	115+600	115+650	50.0	0.100
119	116+330	116+380	50.0	0.100
120	116+600	116+650	50.0	0.100
121	117+000	117+050	50.0	0.100
122	117+800	117+850	50.0	0.075
123	118+600	118+650	50.0	0.100
124	119+200	119+250	50.0	0.100
125	119+600	119+650	50.0	0.100
126	120+000	120+050	50.0	0.100
127	120+100	120+150	50.0	0.075
128	120+500	120+550	50.0	0.100
129	122+100	122+150	50.0	0.100
130	122+400	122+450	50.0	0.100
131	122+600	122+650	50.0	0.100
132	123+500	123+650	150.0	0.100
133	123+800	123+850	50.0	0.100
134	124+100	124+150	50.0	0.100
135	124+300	124+350	50.0	0.075
136	124+800	124+850	50.0	0.100
137	125+000	125+050	50.0	0.075
138	125+500	125+550	50.0	0.075
139	125+600	125+650	50.0	0.075
140	125+800	125+850	50.0	0.100
141	126+100	126+150	50.0	0.100
142	126+300	126+350	50.0	0.075
143	126+700	126+750	50.0	0.075
144	127+100	127+150	50.0	0.075
145	128+000	128+050	50.0	0.075
146	129+000	129+050	50.0	0.075
147	129+500	129+550	50.0	0.075
148	130+500	130+550	50.0	0.075
149	130+600	130+650	50.0	0.075
150	130+700	130+750	50.0	0.075

151	131+400	131+450	50.0	0.075
152	131+700	131+750	50.0	0.075
153	131+900	131+950	50.0	0.075
154	132+100	132+150	50.0	0.075
155	132+800	132+850	50.0	0.075

Details of GSB				
Sl. No.	Location (km)		Dimension	
	From	To	Length (metre)	Layer Thickness (metre)
1	104+200	104+300	100.0	0.100
2	104+800	104+850	50.0	0.100
3	104+900	104+950	50.0	0.200
4	106+100	106+180	80.0	0.100
5	106+300	106+400	100.0	0.100
6	106+400	106+600	200.0	0.200
7	106+600	106+800	200.0	0.400
8	107+500	107+550	50.0	0.100
9	107+700	107+750	50.0	0.200
10	108+400	108+450	50.0	0.200
11	110+100	110+150	50.0	0.200
12	110+200	110+250	50.0	0.100
13	111+300	112+300	1000.0	0.300
14	112+500	112+550	50.0	0.200
15	113+200	113+260	60.0	0.100
16	115+600	115+650	50.0	0.200
17	116+330	116+380	50.0	0.200
18	117+800	117+850	50.0	0.100
19	119+600	119+650	50.0	0.200
20	120+100	120+250	150.0	0.200
21	120+500	120+550	50.0	0.100
22	124+300	124+350	50.0	0.100
23	125+500	125+550	50.0	0.100
24	125+600	125+650	50.0	0.100
25	125+800	125+850	50.0	0.100
26	131+700	131+750	50.0	0.100
27	132+100	132+150	50.0	0.200

Details of Prime Coat And Tack Coat as per MORTH Guidelines			
Sl. No.	Location (km)		Dimension
	From	To	Length (metre)
1	103+000	133+000	30000.0

Details of Hillside Drain Clearance			
Sl. No.	Location (km)		Dimension
	From	To	Length (metre)
1	103+000	133+000	30000.0

Scarifying of Existing Bituminous Layer			
Sl.No.	From	To	Length (metre)
1	103+000	103+100	100.0
2	103+100	103+200	100.0
3	103+200	103+300	100.0
4	103+350	103+500	150.0
5	103+550	103+650	100.0
6	103+650	103+750	100.0
7	103+750	103+850	100.0
8	103+850	103+900	50.0
9	103+960	104+100	140.0
10	104+150	104+200	50.0
11	104+300	104+400	100.0
12	104+460	104+560	100.0
13	104+560	104+600	40.0
14	104+650	104+750	100.0
15	104+750	104+800	50.0
16	104+850	104+900	50.0
17	104+950	105+050	100.0
18	105+050	105+150	100.0
19	105+150	105+250	100.0
20	105+250	105+350	100.0
21	105+350	105+450	100.0
22	105+450	105+500	50.0
23	105+550	105+650	100.0

24	105+650	105+750	100.0
25	105+750	105+800	50.0
26	105+850	105+950	100.0
27	105+950	106+050	100.0
28	106+050	106+100	50.0
29	106+180	106+280	100.0
30	106+280	106+300	20.0
31	106+850	106+950	100.0
32	106+950	107+050	100.0
33	107+050	107+150	100.0
34	107+150	107+250	100.0
35	107+250	107+350	100.0
36	107+350	107+450	100.0
37	107+450	107+500	50.0
38	107+550	107+650	100.0
39	107+650	107+700	50.0
40	107+750	107+850	100.0
41	107+850	107+950	100.0
42	107+950	108+000	50.0
43	108+050	108+150	100.0
44	108+150	108+200	50.0
45	108+250	108+350	100.0
46	108+350	108+400	50.0
47	108+450	108+500	50.0
48	108+550	108+650	100.0
49	108+650	108+750	100.0
50	108+750	108+850	100.0
51	108+850	108+900	50.0
52	109+000	109+100	100.0
53	109+150	109+250	100.0
54	109+250	109+350	100.0
55	109+350	109+400	50.0
56	109+450	109+550	100.0
57	109+550	109+600	50.0
58	109+650	109+750	100.0
59	109+750	109+850	100.0
60	109+850	109+950	100.0
61	109+950	110+050	100.0
62	110+050	110+100	50.0
63	110+150	110+200	50.0

64	110+250	110+350	100.0
65	110+350	110+450	100.0
66	110+450	110+550	100.0
67	110+550	110+650	100.0
68	110+650	110+750	100.0
69	110+750	110+850	100.0
70	110+850	110+950	100.0
71	110+950	111+050	100.0
72	111+050	111+150	100.0
73	111+150	111+200	50.0
74	111+250	111+300	50.0
75	112+300	112+400	100.0
76	112+400	112+500	100.0
77	112+550	112+650	100.0
78	112+650	112+750	100.0
79	112+750	112+850	100.0
80	112+850	112+950	100.0
81	112+950	113+050	100.0
82	113+050	113+150	100.0
83	113+150	113+200	50.0
84	113+260	113+360	100.0
85	113+360	113+460	100.0
86	113+460	113+560	100.0
87	113+560	113+660	100.0
88	113+660	113+760	100.0
89	113+760	113+860	100.0
90	113+860	113+960	100.0
91	113+960	114+060	100.0
92	114+060	114+160	100.0
93	114+160	114+260	100.0
94	114+260	114+360	100.0
95	114+360	114+460	100.0
96	114+460	114+560	100.0
97	114+560	114+600	40.0
98	114+650	114+750	100.0
99	114+750	114+850	100.0
100	114+850	114+950	100.0
101	114+950	115+050	100.0
102	115+050	115+100	50.0
103	115+150	115+250	100.0

104	115+250	115+350	100.0
105	115+350	115+450	100.0
106	115+450	115+550	100.0
107	115+550	115+600	50.0
108	115+650	115+750	100.0
109	115+750	115+850	100.0
110	115+850	115+950	100.0
111	115+950	116+050	100.0
112	116+050	116+150	100.0
113	116+150	116+250	100.0
114	116+250	116+330	80.0
115	116+380	116+480	100.0
116	116+480	116+580	100.0
117	116+580	116+600	20.0
118	116+650	116+750	100.0
119	116+750	116+850	100.0
120	116+850	116+950	100.0
121	116+950	117+000	50.0
122	117+050	117+150	100.0
123	117+150	117+250	100.0
124	117+250	117+350	100.0
125	117+350	117+450	100.0
126	117+450	117+550	100.0
127	117+550	117+650	100.0
128	117+650	117+750	100.0
129	117+750	117+800	50.0
130	117+850	117+950	100.0
131	117+950	118+050	100.0
132	118+050	118+150	100.0
133	118+150	118+250	100.0
134	118+250	118+350	100.0
135	118+350	118+450	100.0
136	118+450	118+550	100.0
137	118+550	118+600	50.0
138	118+650	118+750	100.0
139	118+750	118+850	100.0
140	118+850	118+950	100.0
141	118+950	119+050	100.0
142	119+050	119+150	100.0
143	119+150	119+200	50.0

144	119+250	119+350	100.0
145	119+350	119+450	100.0
146	119+450	119+550	100.0
147	119+650	119+750	100.0
148	119+750	119+850	100.0
149	119+850	119+950	100.0
150	119+950	120+000	50.0
151	120+050	120+100	50.0
152	120+150	120+250	100.0
153	120+250	120+350	100.0
154	120+350	120+450	100.0
155	120+450	120+500	50.0
156	120+550	120+650	100.0
157	120+650	120+750	100.0
158	120+750	120+850	100.0
159	120+850	120+950	100.0
160	120+950	121+050	100.0
161	121+050	121+150	100.0
162	121+150	121+250	100.0
163	121+250	121+350	100.0
164	121+350	121+450	100.0
165	121+450	121+550	100.0
166	121+550	121+650	100.0
167	121+650	121+750	100.0
168	121+750	121+850	100.0
169	121+850	121+950	100.0
170	121+950	122+050	100.0
171	122+050	122+100	50.0
172	122+150	122+250	100.0
173	122+250	122+350	100.0
174	122+350	122+400	50.0
175	122+450	122+550	100.0
176	122+550	122+600	50.0
177	122+650	122+750	100.0
178	122+750	122+850	100.0
179	122+850	122+950	100.0
180	122+950	123+050	100.0
181	123+050	123+150	100.0
182	123+150	123+250	100.0
183	123+250	123+350	100.0

184	123+350	123+450	100.0
185	123+450	123+500	50.0
186	123+650	123+750	100.0
187	123+750	123+800	50.0
188	123+850	123+950	100.0
189	123+950	124+050	100.0
190	124+050	124+100	50.0
191	124+150	124+250	100.0
192	124+250	124+300	50.0
193	124+350	124+450	100.0
194	124+450	124+550	100.0
195	124+550	124+650	100.0
196	124+650	124+750	100.0
197	124+750	124+800	50.0
198	124+850	124+950	100.0
199	124+950	125+000	50.0
200	125+050	125+150	100.0
201	125+150	125+250	100.0
202	125+250	125+350	100.0
203	125+350	125+450	100.0
204	125+450	125+500	50.0
205	125+550	125+600	50.0
206	125+650	125+750	100.0
207	125+750	125+800	50.0
208	125+850	125+950	100.0
209	125+950	126+050	100.0
210	126+050	126+100	50.0
211	126+150	126+250	100.0
212	126+250	126+300	50.0
213	126+350	126+450	100.0
214	126+450	126+550	100.0
215	126+550	126+650	100.0
216	126+650	126+700	50.0
217	126+750	126+850	100.0
218	126+850	126+950	100.0
219	126+950	127+050	100.0
220	127+050	127+100	50.0
221	127+150	127+250	100.0
222	127+250	127+350	100.0
223	127+350	127+450	100.0

224	127+450	127+550	100.0
225	127+550	127+650	100.0
226	127+650	127+750	100.0
227	127+750	127+850	100.0
228	127+850	127+950	100.0
229	127+950	128+000	50.0
230	128+050	128+150	100.0
231	128+150	128+250	100.0
232	128+250	128+350	100.0
233	128+350	128+450	100.0
234	128+450	128+550	100.0
235	128+550	128+650	100.0
236	128+650	128+750	100.0
237	128+750	128+850	100.0
238	128+850	128+950	100.0
239	128+950	129+000	50.0
240	129+050	129+150	100.0
241	129+150	129+250	100.0
242	129+250	129+350	100.0
243	129+350	129+450	100.0
244	129+450	129+500	50.0
245	129+550	129+650	100.0
246	129+650	129+750	100.0
247	129+750	129+850	100.0
248	129+850	129+950	100.0
249	129+950	130+050	100.0
250	130+050	130+150	100.0
251	130+150	130+250	100.0
252	130+250	130+350	100.0
253	130+350	130+450	100.0
254	130+450	130+500	50.0
255	130+550	130+600	50.0
256	130+650	130+700	50.0
257	130+750	130+850	100.0
258	130+850	130+950	100.0
259	130+950	131+050	100.0
260	131+050	131+150	100.0
261	131+150	131+250	100.0
262	131+250	131+350	100.0
263	131+350	131+400	50.0

264	131+450	131+550	100.0
265	131+550	131+650	100.0
266	131+650	131+700	50.0
267	131+750	131+850	100.0
268	131+850	131+900	50.0
269	131+950	132+050	100.0
270	132+050	132+100	50.0
271	132+150	132+250	100.0
272	132+250	132+350	100.0
273	132+350	132+450	100.0
274	132+450	132+550	100.0
275	132+550	132+650	100.0
276	132+650	132+750	100.0
277	132+750	132+800	50.0
278	132+850	132+950	100.0
279	132+950	133+050	100.0

Details of DBM and BC					
Sl. No.	Location (km)		Dimension		
	From	To	Length (metre)	Layer Thickness (DBM) in metre	Thickness (BC) in metre
1	103+000	133+000	30000.0	0.070	0.040

3. INTERSECTIONS AND GRADE SEPARATORS

All intersections and grade separators shall be as per Section 3of the IRC SP 84-2019.Existing intersections which are deficient shall be improved to the prescribed standards.

All intersections as per the site requirement shall be designed and constructed in accordance with the manual. List of intersections is given in below table. Draft layout of major junctions is given in indicative Plan & Profile drawings.

(i) At-gradeintersections

(a) Major Junction

Sl. No.	Location		Type ofintersection	Type of Road (SH/ MDR/ ODR/ VR)	Remarks
	Design Chainage	Existing Chainage			
NIL					

(b) Minor Junction:

Sl. No.	Location		Type ofinters ection	Type of Road (SH/ MDR/ ODR/ VR)	Remarks
	Design Chainage	Existing Chainage			
NIL					

Note: *It is clarified that if any other junction is identified during development of the project highway in addition to those mentioned above shall also be improved with proper drainage facilities as per standards. It shall be covered within the scope of work. The Number, location & type of junction shown in above table are minimum and it may increase as per actual site condition and increase in number will not attract change of Scope on this account.*

(ii) Grade separated intersection with/without ramps.

Sl. No.	Location	Salient features	Minimum length of viaduct to be provided	Road to becarried 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 the IRC SP 84-2019 and MoRTH manual. Deficiencies in the plan and profile of the existing road shall be corrected.

(ii) Raising of the existing road

[Refer to provision of the relevant Manual and specify sections to be raised]

The existing road shall be raised in the following sections:

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

5. PAVEMENT DESIGN

(i) Pavement design shall be carried out in accordance with Section 5 of the IRC SP 84-2019 and IRC SP: 59-2019.

(ii) Type of pavement

Type of pavement to be provided is Flexible pavement from km 103.00 to km 133.00.

(iii) Design requirements

NIL

(iv) Reconstruction of stretches

The following stretches of the existing road shall be restored and rehabilitated.

Sl. No.	From (Km)	TO (Km)	Length (Km)
1.	103+000	133+000	30

6. ROADSIDE DRAINAGE

Unlined Drain: The drained shall be cleared of all debris and rehabilitated to proper shape and slope.

Sl. No.	From (Km)	TO (Km)	Length (Km)
1.	103+000	133+000	30

Note: The above locations are minimum. Additional locations if any required as per site condition shall be provided as per manual. It shall not be treated as change in scope of work.

7. DESIGN OF STRUCTURES

(i) General

Deleted.

(ii) Culverts

Deleted.

(iii) Bridges

Deleted.

(iv) Rail-road bridges

Deleted.

(v) Grade separated structures.

Deleted.

(vi) Repairs and strengthening of bridges and structures.

Deleted.

(vii) List of Major Bridges and Structures

The following is the list of the Major Bridges andStructures:

Sl. No.	Location
NIL	

8. TRAFFIC CONTROL DEVICES AND ROAD SAFETY WORKS

Road safety works shall be ensured in accordance with provisions of relevant Manual.

9. ROADSIDE FURNITURE

Deleted.

10. COMPULSORY AFFORESTATION

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

11. HAZARDOUS LOCATIONS

Roadside safety barriers shall be provided at all locations of hazards such as high embankment, roadside obstacles, sharp curves, Flyover and bridge approaches, overpasses, ROB and any other locations identified in consultation with Authority Engineer during the execution of the project highway.

12. Special Requirement for Hill Roads

[Refer to the provision of relevant manual and provide details where relevant and required.]

13. Change of Scope

The number, length and height/width of Structures and bridges specified hereinabove shall be treated as an approximate assessment. The actual numbers, lengths and sizes as required on the basis of detailed investigations shall be determined by the Contractor in accordance with the Specifications and Standards. Any variations in the lengths specified in this Schedule- B shall not constitute a Change of Scope, save and except any variations in the length arising out of a Change of Scope expressly undertaken in accordance with the provisions of Article 13.

14. RAINWATER HARVESTING

(i) As per Ministry of Environment and Forests Notification, New Delhi dated 14.01.1997 (as amended on 13.01.1998, 05.01.1999 & 6.11.2000), the construction of Rainwater, harvesting structure is mandatory in and around Water Crisis area, notified by the Central Ground Water Board.

(ii) Rainwater harvesting structures shall be provided at every 1000m on either side.

(iii) Rainwater harvesting structure shall be provided as per IRC: SP:42-2014 (Guideline for road drainage) and IRC: SP:50-2013 (Guidelines on Urban Drainage)

15. Utility Shifting

Deleted.

NOTE: Only the relevant clauses of Schedule-B in respect of subject work is to be considered.

Schedule B

Schedule-C

SCHEDULE - C

(SeeClause2.1)

PROJECT FACILITIES

1 ProjectFacilities

This schedule indicates the minimum spatial and functional requirements of the facilities to be provided on the Project Highway Package No. NHIDCL/RO-Imphal/I-J/R&R/km103.00-km133.00/2021-22 starting from chainage km 103.00 to km 133.00 with an aim to cater to the envisaged demand till the end of the maintenance period.

The Contractor shall construct the Project Facilities in accordance with the provisions of this Agreement. Such Project Facilities shall include:

NIL.

2 Description of Project Facilities

Each of the Project Facilities is described below:

NIL.

Schedule-D

SCHEDULE- D

(SeeClause2.1)

SPECIFICATIONSAND STANDARDS

1 Construction

The Contractor shall comply with the Specifications and Standards set forth in Annex-I of this Schedule-D for construction of the Project Highway.

2 Design Standards

The Project Highway including Project Facilities shall conform to design requirements set out in the following documents:

Manual of Specifications and Standards for Two Laning of Highways (IRC: SP: 73: 2015 or latest) referred to herein as a Manual.

IRC-37-2018 or latest: Guidelines for the design of flexible pavement.

Code for Practice of Road Signage- IRC 67: 2001 or latest

Hill Road Manual IRC SP 48:1998 or latest should be referred.

The NGT ordered dated 01.11.2018 should be followed for disposal of muck.

Annex-I

(Schedule-D)

Specificationsand Standardsfor Construction

1 Specifications and Standards

All Materials, works and construction operations shall conform to the manual of Specifications and Standards for Two Laning of Highways (IRC: SP: 73: 2015 or latest), referred to as the manual, and MORTH Specifications for Road and Bridge Works. Where the specification for a work is not given, Good Industry Practice shall be adopted to the satisfaction of the Authority's Engineer.

2 Deviations from the Specifications and Standards

(i) The terms "Contractor", "Independent Engineer" and "Concession Agreement" used in the manual shall be deemed to be substituted by the terms "Contractor", "Authority's Engineer" and "Agreement" respectively.

Schedule-E

Schedule – E

(See Clause 2.1 and 14.2)

MAINTENANCE REQUIREMENTS

1 Maintenance Requirements

i. The Contractor shall, at all-time maintain the Project Highway in accordance with the provisions of this Agreement, Applicable Laws and Applicable Permits.

ii. The Contractor shall repair or rectify any Defect or deficiency set forth in Paragraph 2 of this Schedule-E within the time limit specified therein and any failure in this behalf shall constitute non-fulfillment of the Maintenance obligations by the Contractor. Upon occurrence of any breach hereunder, the Authority shall be entitled to effect reduction in monthly lump sum payment as set forth in Clause 14.6 of this Agreement, without prejudice to the rights of the Authority under this Agreement, including Termination thereof.

iii. All Materials, works and construction operations shall conform to the "SPECIFICATIONS FOR ROAD AND BRIDGE WORKS (FIFTH REVISION, April 2013)", including latest corrections slips, issued by the Ministry of Surface Transport & Highways, Government of India and published by the Indian Roads Congress.

Where the specifications for a work are not given, Good Industry Practice shall be adopted to the satisfaction of the Authority's Engineer.

2 Repair/rectification of Defects and deficiencies

The obligations of the Contractor in respect of Maintenance Requirements shall include repair and rectification of the Defects and deficiencies specified in Annex-I of this Schedule-E within the time limit set forth therein.

3 Other Defects and deficiencies

In respect of any Defect or deficiency not specified in Annex-I of this Schedule-E, the Authority's Engineer may, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards, and any deviation or deterioration beyond the permissible limit shall be repaired or rectified by the Contractor within the time limit specified by the Authority's Engineer.

4 Extension of time limit

Notwithstanding anything to the contrary specified in this Schedule-E, if the nature and extent of any Defect or deficiency justifies more time for its repair or rectification than the time specified herein, the Contractor shall be entitled to additional time in conformity with Good Industry Practice. Such additional time shall be determined by the Authority's Engineer and conveyed to the Contractor and the Authority with reasons thereof;

5 Emergency repairs/restoration

Notwithstanding anything to the contrary contained in this Schedule-E, if any Defect, deficiency or deterioration in the Project Highway poses a hazard to safety or risk of

damage to property, the Contractor shall promptly take all reasonable measures for eliminating or minimizing such danger.

6 Daily inspection by the Contractor

The Contractor shall, through its engineer, undertake a daily visual inspection of the Project Highway and maintain a record thereof in a register to be kept in such form and manner as the Authority's Engineer may specify. Such record shall be kept in safe custody of the Contractor and shall be open to inspection by the Authority and the Authority's Engineer at any time during office hours.

7 Pre-monsoon inspection / Post-monsoon inspection

The Contractor shall carry out a detailed pre-monsoon inspection of all bridges, culverts and drainage system before [1st June] every year in accordance with the guidelines contained in IRC: SP:35. Report of this inspection together with details of proposed maintenance works as required on the basis of this inspection shall be sent to the Authority's Engineer before the [10th June] every year. The Contractor shall complete the required repairs before the onset of the monsoon and send to the Authority's Engineer a compliance report. Post monsoon inspection shall be done by the [30th September] and the inspection report together with details of any damages observed and proposed action to remedy the same shall be sent to the Authority's Engineer.

8 Repairs on account of natural calamities

All damages occurring to the Project Highway on account of torrential rains, floods, earthquake or other natural disasters shall be undertaken by the Contractor at its own cost and/or out of the proceeds of insurance.

Annex -I

(Schedule-E)

Annex –I Repair/rectification of Defects and deficiencies

The Contractor shall repair and rectify the Defects and deficiencies specified in this Annex-I of Schedule-E within the time limit set forth in the table below.

Table -1: Maintenance Criteria for Pavements:

Asset Type	Performance Parameter	Level of Service (LOS)		Frequency of Inspection	Tools/ Equipment	Standards and References for Inspection and Data Analysis	Time limit for Rectification/Repair	Maintenance Specifications
		Desirable	Acceptable					
Flexible Pavement (Pavement of MCW, Service Road, approaches of Grade structure, approaches of connecting roads, slip roads, lay byes etc. as applicable)	Potholes	Nil	< 0.1 % of area and subject to limit of 10 mm in depth	Daily	Length Measurement Unit like Scale, Tape, odometer etc.	IRC 82: 2015 and Distress Identification Manual for Long Term Pavement Performance Program, FHWA 2003 (http://www.tfhrc.com/pavement/ltp/reports/03031/)	24-48 hours	MORT&H Specification 3004.2
	Cracking	Nil	< 5 % subject to limit of 0.5 sqm for any 50 m length	Daily			7-15 days	MORT&H Specification 3004.3
	Rutting	Nil	< 5 mm	Daily	Straight Edge		15 -30 days	MORT&H Specification 3004.2
	Corrugations and Shoving	Nil	< 0.1 % of area	Daily	Length Measurement Unit like Scale, Tape, odometer etc.		2-7 days	IRC:82-2015
	Bleeding	Nil	< 1 % of area	Daily			3-7 days	MORT&H Specification 3004.4
	Ravelling/ Stripping	Nil	< 1 % of area	Daily			7-15 days	IRC:82-2015 read with IRC SP 81
	Edge Deformation/ Breaking	Nil	< 1 m for any 100 m section and width < 0.1 m at any location, restricted to 30 cm from the edge	Daily			7- 15 days	IRC:82-2015
	Roughness BI	2000 mm/km	2400 mm/km	Bi-Annually	Class I Profilometer SCRIM (Sideway-force Coefficient Routine Investigation Machine or equivalent)	Class I Profilometer : ASTM E950 (98) :2004 –Standard Test Method for measuring Longitudinal Profile of Travelled Surfaces with Accelerometer Established Inertial Profiling Reference ASTM E1656 -94: 2000- Standard Guide for Classification of Automatic Pavement Condition Survey Equipment	180 days	IRC:82-2015
	Skid Number	60SN	50SN	Bi-Annually			180 days	BS: 7941-1: 2006
	Pavement Condition Index	3	2.1	Bi-Annually			180 days	IRC:82-2015
	Other Pavement Distresses			Bi-Annually			2-7 days	IRC:82-2015

<table>
<tr><th rowspan="2">Asset Type</th><th rowspan="2">Performance Parameter</th><th colspan="2">Level of Service (LOS)</th><th rowspan="2">Frequency of Inspection</th><th rowspan="2">Tools/ Equipment</th><th rowspan="2">Standards and References for Inspection and Data Analysis</th><th rowspan="2">Time limit for Rectification/Repair</th><th rowspan="2">Maintenance Specifications</th></tr>
<tr><th>Desirable</th><th>Acceptable</th></tr>
<tr><td></td><td>Deflection/ Remaining Life</td><td></td><td></td><td>Annually</td><td>Falling Weight Deflectometer</td><td>IRC 115: 2014</td><td>180 days</td><td>IRC:115-2014</td></tr>
<tr><td rowspan="2">Rigid Pavement (Pavement of MCW, Service Road, Grade structure, approaches of connecting roads, slip roads, lay byes etc. as applicable)</td><td>Roughness BI</td><td>2200mm/km</td><td>2400mm/km</td><td>Bi-Annually</td><td>Class I Profilometer</td><td>ASTM E950 (98) :2004 and ASTM E1656 -94: 2000</td><td>180 days</td><td>IRC:SP:83-2008</td></tr>
<tr><td>Skid</td><td colspan="2">Skid Resistance no. at different speed of vehicles
<table><tr><th>Minimum SN</th><th>Traffic Speed (Km/h)</th></tr><tr><td>36</td><td>50</td></tr><tr><td>33</td><td>65</td></tr><tr><td>32</td><td>80</td></tr><tr><td>31</td><td>95</td></tr><tr><td>31</td><td>110</td></tr></table></td><td>Bi-Annually</td><td>SCRIM (Sideway-force Coefficient Routine Investigation Machine or equivalent)</td><td>IRC:SP:83-2008</td><td>180 days</td><td>IRC:SP:83-2008</td></tr>
<tr><td rowspan="5">Embankment/ Slope</td><td>Edge drop at shoulders</td><td>Nil</td><td>40mm</td><td>Daily</td><td rowspan="3">Length Measurement Unit like Scale, Tape, odometer etc.</td><td rowspan="5">IRC</td><td>7-15 days</td><td>MORT&H Specification 408.4</td></tr>
<tr><td>Slope of camber/cross fall</td><td>Nil</td><td><2% variation in prescribed slope of camber /cross fall</td><td>Daily</td><td>7-15 days</td><td>MORT&H Specification 408.4</td></tr>
<tr><td>Embankment Slopes</td><td>Nil</td><td><15 % variation in prescribe side slope</td><td>Daily</td><td>7-15 days</td><td>MORT&H Specification 408.4</td></tr>
<tr><td>Embankment Protection</td><td>Nil</td><td>Nil</td><td>Daily</td><td>NA</td><td>7-15 days</td><td>MORT&H Specification</td></tr>
<tr><td>Rain Cuts/ Gullies in slope</td><td>Nil</td><td>Nil</td><td>Daily Specially During Rainy Season</td><td>NA</td><td>7-15 days</td><td>MORT&H Specification</td></tr>
</table>

In addition to the above performance criterion, the contractor shall strictly maintain the rigid pavements as per requirements in the following table

Table -2:Maintenance Criteria for Rigid Pavements:

Sr. No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
CRACKING						

Sr. No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
1	**Single Discrete Cracks Not intersecting with any joint**	w = width of crack L = length of crack d = depth of crack D = depth of slab	0	Nil, not discernible	No Action	Not applicable
			1	w < 0.2 mm. hair cracks		
			2	w = 0.2 - 0.5 mm, discernible from slow-moving car	Seal without delay	Seal, and stitch if L >lm. Within 7days
			3	w = 0.5 - 1.5 mm, discernible from fast-moving car		
			4	w = 1.5 - 3.0 mm	Seal, and stitch if L > l m. Within 7 days	Staple or Dowel Bar Retrofit, FDR for affected portion. Within 15days
			5	w > 3 mm.		
2	**Single Transverse (or Diagonal) Crack intersecting with one or more joints**	w = width of crack L = length of crack d = depth of crack D = depth of slab	0	Nil, not discernible	No Action	
			1	w < 0.2 mm, hair cracks	Route and seal with epoxy. Within 7 days	Staple or Dowel Bar Retrofit. Within 15days
			2	w = 0.2 - 0.5 mm, discernible from slow vehicle		
			3	w = 0.5 - 3.0 mm, discernible from fast vehicle	Route, seal and stitch, if L > 1 m. Within 7 days	
			4	w = 3.0 - 6.0 mm	Dowel Bar Retrofit. Within 15 days	Full Depth Repair Dismantle and reconstruct affected. Portion with norms and specifications - See Para 5.5 & 9.2 Within 15days
			5	w > 6 mm, usually associated with spalling, and/or slab rocking under traffic	Not Applicable, as it may be full depth	
3	**Single Longitudinal Crack intersecting with one or more joints**	w = width of crack L = length of crack d = depth of crack D = depth of slab	0	Nil, not discernible	No Action	
			1	w < 0.5 mm, discernable from slow moving vehicle	Seal with epoxy, if L > 1 m. Within 7 days	Staple or dowel bar retrofit. Within 15days
			2	w = 0.5 - 3.0 mm, discernible from fast vehicle	Route seal and stitch, if L > l m. Within 15 days	-
			3	w = 3.0 - 6.0 mm	Staple, if L > 1 m. Within 15 days	Partial Depth Repair with stapling. Within 15 days
			4	w = 6.0 - 12.0 mm, usually associated with spalling	Not Applicable, as it may be full depth	
			5	w > 12 mm, usually associated with spalling, and/or slab rocking under traffic		Full Depth Repair Dismantle and reconstruct affected portion as per norms and specifications - See Para 5.6.4 Within 15 days
4	**Multiple Cracks intersecting with one or more joints**	**w = width of crack**	0	Nil, not discernible	No Action	-
			1	w < 0.2 mm, hair cracks	Seal, and stitch if L > l m. Within 15 days	
			2	w = 0.2 - 0.5 mm. discernible from slow vehicle		
			3	w = 0.5 - 3.0 mm, discernible from fast vehicle	Full depth repair within 15 days	Dismantle, Reinstate subbase, Reconstruct whole slab as per
			4	w = 3.0 - 6.0 mm panel broken into 2 or 3 pieces		

Sr. No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
			5	w > 6 mm and/or panel broken into more than 4 pieces		specifications within 30 days
5	**Corner Break**	w = width of crack L = length of crack	0	Nil, not discernible	No Action	-
			1	w < 0.5 mm; only 1 corner broken	Seal with low viscosity epoxy to secure broken parts Within 7 days	Seal with epoxy seal with epoxy Within 7days
			2	w < 1.5 mm; L < 0.6 m, only one corner broken		
			3	w < 1.5 mm; L < 0.6 m, two corners broken	Partial Depth (Refer Figure 8.3 of IRC:SP: 83-2008) Within 15 days	Full depth repair
			4	w > 1.5 mm; L > 0.6 m or three corners broken		
			5	three or four corners broken		Reinstate sub-base, and reconstruct the slab as per norms and specifications within 30days
6	**Punchout (Applicable to Continuous Reinforced Concrete Pavement (CRCP) only)**	w = width of crack L = length (m/m2)	0	Nil, not discernible		No Action
			1	w < 0.5 mm; L < 3 m/m^2	Not Applicable, as it may be full depth	Seal with low viscosity epoxy to secure broken parts. Within 15days
			2	either w > 0.5 mm or L < 3 m/m^2		
			3	w > 1.5 mm and L < 3 m/m^2		
			4	w > 3 mm, L < 3 m/m^2 and deformation		Full depth repair - Cut out and replace damaged area taking care not to damage reinforcement. Within 30days
			5	w > 3 mm, L > 3 m/m^2 and deformation		
Surface Defects						
7	Ravelling or Honeycomb type surface	r = area damaged surface/total surface of slab (%) h = maximum depth of damage	0	Nil, not discernible	**Short Term**	**Long Term**
					No action.	Not Applicable
			1	r < 2 %	Local repair of areas damaged and liable to be damaged. Within 15 days	
			2	r = 2 - 10 %		
			3	r = 10-25%	Bonded Inlay, 2 or 3 slabs if affecting. Within 30 days	
			4	r = 25 - 50 %		
			5	r > 50% and h > 25 mm	Reconstruct slabs, 4 or more slabs if affecting. Within 30 days	
8	**Scaling**	r = damaged surface/total surface of slab (%) h = maximum depth of damage	0	Nil, not discernible	**Short Term**	**Long Term**
					No action.	Not Applicable
			1	r <**2 %**	Local repair of areas damaged and liable to be damaged. Within 7days	
			2	r = 2 - 10 %		
			3	r = 10 - 20%	Bonded Inlay within 15 days	

Sr. No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
			4	r = 20 - 30 %		
			5	r > 30 % and h > 25 mm	Reconstruct slab within 30 days	
9	**Polished Surface/Glazing**	t = texture depth, sand patch test	0		No action.	Not Applicable
			1	t > 1 mm		
			2 '	t = 1 - 0.6 mm	Monitor rate of deterioration	
			3	t = 0.6 - 0.3 mm		
			4	t = 0.3 - 0.1 mm		
			5	t < 0.1 mm	Diamond Grinding if affecting 50% or more slabs in a continuous stretch of minimum 5 km. Within 30 days	
10	**Popout (Small Hole), Pothole Refer Para 8.4**	n = number/m^2 d = diameter h = maximum depth	0	d < 50 mm; h < 25 mm; n < 1 per 5 m^2	No action.	Not Applicable
			1	d = 50 - 100 mm; h < 50 mm; n < 1 per 5 m^2	Partial depth repair 65 mm deep. Within 15 days	
			2	d = 50 - 100 mm; h > 50 mm; n < 1 per 5 m^2		
			3	d = 100 - 300 mm; h < 100 mm n < 1 per 5 m^2	Partial depth repair 110mm i.e.10 mm more than the depth of the hole. Within 30 days	
			4	d = 100 - 300 mm; h > 100 mm; n < 1 per 5 m^2		
			5	d > 300 mm; h > 100 mm: n > 1 per 5 m^2	Full depth repair. Within 30 days	
Joint Defects						
11	**Joint Seal Defects**	loss or damage L = Length as % total joint length	0	Difficult to discern.	**Short Term**	**Long Term**
					No action.	Not Applicable
			1	Discernible, L< 25% but of little immediate consequence with regard to ingress of water or trapping incompressible material.	Clean joint, inspect later.	
			3	Notable. L > 25% insufficient protection against ingress of water and trapping incompressible material.	Clean and reapply sealant in selected locations. Within 7 days	
			5	Severe; w > 3 mm negligible protection against ingress of water and trapping incompressible material.	Clean, widen and reseal the joint. Within 7 days	
12	**Spalling of Joints**	w = width on either side of the joint L = length of spalled portion (as %	0	Nil, not discernible	No action.	Not Applicable
			1	w < 10 mm	Apply low viscosity epoxy resin/ mortar in cracked portion.	
			2	w = 10 - 20 mm, L < 25%		

Sr. No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
		joint length)			Within 7 days	
			3	w = 20 - 40 mm, L > 25%	Partial Depth Repair. Within 15 days	
			4	w = 40 - 80 mm, L > 25%	30 - 50 mm deep, h = w + 20% of w, within 30 days	
			5	w > 80 mm, and L > 25%	50 - 100 mm deep repair. H = w + 20% of w. Within 30 days	
13	**Faulting (or Stepping) in Cracks or Joints**	f = difference of level	0	not discernible, < 1 mm	No action.	No action.
			1	f < 3 mm		
			2	f = 3 - 6 mm	Determine cause and observe, take action for diamond grinding	Replace the slab as appropriate. Within 30days
			3	f = 6 - 12 mm	Diamond Grinding	
			4	f= 12 - 18 mm	Raise sunken slab.	Replace the slab as appropriate. Within 30days
			5	f> 18 mm	Strengthen subgrade and sub-base by grouting and raising sunken slab	
14	**Blowup or Buckling**	h = vertical displacement from normal profile			**Short Term**	**Long Term**
			0	Nil, not discernible	No Action	
			1	h < 6 mm		
			2	h = 6 - 12 mm	Install Signs to Warn Traffic within 7 days	
			3	h = 12 - 25 mm		
			4	h > 25 mm	Full Depth Repair. Within 30 days	
			5	shattered slabs, ie 4 or more pieces	Replace broken slabs. Within 30 days	
15	**Depression**	h = negative vertical displacement from normal profile L =length	0	Not discernible, h < 5 mm	No action.	Not Applicable
			1	h = 5 - 15 mm		
			2	h = 15-30 mm, Nos <20% joints	Install Signs to Warn Traffic within 7 days	
			3	h = 30 - 50 mm		
			4	h > 50 mm or > 20% joints	Strengthen sub-grade. Reinstate pavement at normal level if L < 20 m. Within 30 days	
			5	h > 100 mm		

Sr. No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
16	**Heave**	h = positive vertical displacement from normal profile. L = length	0	Not discernible. h < 5 mm	**Short Term**	**Long Term**
					No action.	scrabble
			1	h = 5 - 15 mm	Follow up.	
			2	h = 15 - 30 mm, Nos <20% joints	Install Signs to Warn Traffic within 7 days	
			3	h = 30 - 50 mm		
			4	h > 50 mm or > 20% joints	Stabilise subgrade. Reinstate pavement at normal level if length < 20 m. Within 30 days	
			5	h > 100 mm		
17	**Bump**	h = vertical displacement from normal profile	0	h < 4 mm	No action	
			1	h = 4 - 7 mm	Grind, in case of new construction within 7 days	Construction Limit for New Construction.
			3	h = 7 - 15 mm	Grind, in case of ongoing Maintenance within 15 days	Replace in case of new construction. Within 30days
			5	h > 15 mm	Full Depth Repair. Within 30 days	Full Depth Repair. Within 30days
18	**Lane to Shoulder Dropoff**	f = difference of level	0	Nil, not discernible < 3mm	**Short Term**	**Long Term**
					No action.	
			1	f = 3 - 10 mm	Spot repair of shoulder within 7 days	
			2	f = 10 - 25 mm		
			3	f = 25 - 50 mm	Fill up shoulder within 7 days	
			4	f = 50 - 75 mm		For any 100 m stretch Reconstruct shoulder, if affecting 25% or more of stretch. Within 30days
			5	f > 75 mm		
Drainage						
19	**Pumping**	quantity of fines and water expelled through open joints and cracks Nos	0	not discernible	No Action	
			1 to 2	slight/ occasional Nos < 10%	Repair cracks and joints Without delay.	Inspect and repair sub-drainage at distressed sections and upstream.
			3 to 4	appreciable/ Frequent 10 - 25%	Lift or jack slab within 30 days.	
		Nos/100 m stretch	5	abundant, crack development > 25%	Repair distressed pavement sections. Strengthen subgrade and subbase. Replace slab.	

Sr. No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
					Within 30 days	
20	**Ponding**	Ponding on slabs due to blockage of drains	0-2	No discernible problem	No action.	
			3 to 4	Blockages observed in drains, but water flowing	Clean drains etc within 7 days, Follow up	Action required to stop water damaging foundation within 30 days.
			5	Ponding, accumulation of water observed	-do-	

Table -3:Maintenance Criteria for Safety Related Items and Other Furniture Items:

<table>
<tr><th>Asset Type</th><th>Performance Parameter</th><th>Level of Service (LOS)</th><th>Frequency of Measurement</th><th>Testing Method</th><th>Recommended Remedial measures</th><th>Time limit for Rectification</th><th>Specifications and Standards</th></tr>
<tr><td>Highway</td><td>Availability of Safe Sight Distance</td><td>As per IRC SP: 84-2014, a minimum of safe stopping sight distance shall be available throughout.
<table><tr><th>Design Speed, kmph</th><th>Desirable Minimum Sight Distance (m)</th><th>Safe Stopping Sight Distance (m)</th></tr><tr><td>100</td><td>360</td><td>180</td></tr><tr><td>80</td><td>260</td><td>130</td></tr></table></td><td>Monthly</td><td>Manual Measurements with Odometer along with video/ image backup</td><td colspan="2">Removal of obstruction within 24 hours, in case of sight line affected by temporary objects such as trees, temporary encroachments.
In case of permanent structure or design deficiency:
Removal of obstruction/improvement of deficiency at the earliest
Speed Restriction boards and suitable traffic calming measures such as transverse bar marking, blinkers, etc. shall be applied during the period of rectification.</td><td>IRC:SP 84-2014</td></tr>
<tr><td rowspan="3">Pavement Marking</td><td>Wear</td><td><70% of marking remaining</td><td>Bi-Annually</td><td>Visual Assessment as per Annexure-F of IRC:35-2015</td><td>Re - painting</td><td>Cat-1 Defect – within 24 hours
Cat-2 Defect - within 2 months</td><td>IRC:35-2015</td></tr>
<tr><td>Day time Visibility</td><td>During expected life Service Time
Cement Road - 130mcd/m^2/lux
Bituminous Road - 100mcd/m^2/lux</td><td>Monthly</td><td>As per Annexure-D of IRC:35-2015</td><td>Re - painting</td><td>Cat-1 Defect – within 24 hours
Cat-2 Defect – within 2 months</td><td>IRC:35-2015</td></tr>
<tr><td>Night Time Visibility</td><td><u>Initial and Minimum Performance for Dry Retro reflectivity during night time:</u>
<table><tr><td>Design Speed</td><td colspan="2">(RL) Retro Reflectivity (mcd/m^2/lux)</td></tr><tr><td></td><td>Initial (7 days)</td><td>Minimum Threshold level (TL) & warranty period required up to 2 years</td></tr><tr><td>Up to 65</td><td>200</td><td>80</td></tr><tr><td>65 - 100</td><td>250</td><td>120</td></tr><tr><td>Above 100</td><td>350</td><td>150</td></tr></table><u>Initial and Minimum Performance for Night Visibility under wet condition (Retro reflectivity):</u>
Initial 7 days Retro reflectivity: 100</td><td>Bi-Annually</td><td>As per Annexure-E of IRC:35-2015</td><td>Re - painting</td><td>Cat-1 Defect – within 24 hours
Cat-2 Defect – within 2 months</td><td>IRC:35-2015</td></tr>
</table>

Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
		mcd/m^2/lux Minimum Threshold Level: 50 mcd/m^2/lux					
	Skid Resistance	Initial and Minimum performance for Skid Resistance: Initial (7days): 55BPN Min. Threshold: 44BPN *Note: shall be considered under urban/city traffic condition encompassing the locations like pedestrian crossings, bus bay, bus stop, cycle track intersection delineation, transverse bar markings etc	Bi-Annually	As per Annexure-G of IRC:35-2015		Within 24 hours	IRC:35-2015
Road Signs	Shape and Position	Shape and Position as per IRC:67-2012. Signboard should be clearly visible for the design speed of the section.	Daily	Visual with video/image backup	Improvement of shape, in case if shape is damaged. Relocation as per requirement	48 hours in case of Mandatory Signs, Cautionary and Informatory Signs (Single and Dual post signs) 15 Days in case of Gantry/Cantilever Sign boards	IRC:67-2012
	Retro reflectivity	As per specifications in IRC:67-2012	Bi-Annually	Testing of each signboard using Retro Reflectivity Measuring Device. In accordance with ASTM D 4956-09.	hange of signboard	48 hours in case of Mandatory Signs, Cautionary and Informatory Signs (Single and Dual post signs) 1 Month in case of Gantry/Cantilever Sign boards	RC:67-2012
Kerb	Kerb Height	As per IRC 86:1983 depending upon type of Kerb	Bi-Annually	Use of distance measuring tape	Raising Kerb Height	Within 1 Month	RC 86:1983
	Kerb Painting	Functionality: Functioning of Kerb painting as intended	Daily	Visual with video/image backup	Kerb Repainting	Within 7-days	RC 35:2015
Other Road Furniture	Reflective Pavement Markers (Road Studs)	Numbers and Functionality as per specifications in IRC:SP:84-2014 and IRC:35-2015, unless specified in Schedule-B.	Daily	Counting	New Installation	Within 2 months	IRC:SP:84-2014, IRC:35-2015

Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
	Pedestrian Guardrail	Functionality: Functioning of guardrail as intended	Daily	Visual with video/image backup	Rectification	Within 15 days	IRC:SP:84-2014
	Traffic Safety Barriers	Functionality: Functioning of Safety Barriers as intended	Daily	Visual with video/image backup	Rectification	Within 7 days	IRC:SP:84-2014, IRC:119-2015
	End Treatment of Traffic Safety Barriers	Functionality: Functioning of End Treatment as intended	Daily	Visual with video/image backup	Rectification	Within 7 days	IRC:SP:84-2014, IRC:119-2015
	Attenuators	Functionality: Functioning of Attenuators as intended	Daily	Visual with video/image backup	Rectification	Within 7 days	IRC:SP-2014, IRC:119-2015
	Guard Posts and Delineators	Functionality: Functioning of Guard Posts and Delineators as intended	Daily	Visual with video/image backup	Rectification	Within 15 days	IRC: 79 - 1981
	Overhead Sign Structure	Overhead sign structure shall be structurally adequate	Daily	Visual with video/image backup	Rectification	Within 15 days	IRC:67-2012
	Traffic Blinkers	Functionality: Functioning of Traffic Blinkers as intended	Daily	Visual with video/image backup	Rectification	Within 7 days	IRC:SP:84-2014
Highway Lighting System	Highway Lights	Illumination: Minimum 40 Lux illumination on the road surface	Daily	The illumination level shall be measured with luxmeter	Improvement in Lighting System	24 hours	IRC:SP:84-2014
		No major failure in the lighting system	Daily	-	Rectification of failure	24 hours	IRC:SP:84-2014
		No minor failure in the lighting system	Monthly	-	Rectification of failure	8 hours	IRC:SP:84-2014
	Toll Plaza Canopy Lights	Minimum 40 Lux illumination on the road surface	Daily	The illumination level shall be measured with luxmeter	Improvement in Lighting System	24 hours	IRC:SP:84-2014
		No major/minor failure in the lighting system	Daily	-	Rectification of failure	8 hours	IRC:SP:84-2014

Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
Trees and Plantation including median plantation	Obstruction in a minimum head-room of 5.5 m above carriageway or obstruction in visibility of road signs	No obstruction due to trees	Monthly	Visual with video/image backup	Removal of trees	Immediate	IRC:SP:84-2014
	Deterioration in health of trees and bushes	Health of plantation shall be as per requirement of specifications & instructions issued by Authority from time to time	Daily	Visual with video/image backup	Timely watering and treatment. Or Replacement of Trees and Bushes.	Within 90 days	IRC:SP:84-2014
	Vegetation affecting sight line and road structures	Sight line shall be free from obstruction by vegetation	Daily	Visual with video/image backup	Removal of Trees	Immediate	IRC:SP 84-2014
Rest Areas	Cleaning of toilets	-	Daily	-	-	Every 4 hours	
	Defects in electrical, water and sanitary installations	-	Daily	-	Rectification	24 hours	
Other Project Facilities and Approach roads	Damage or deterioration in Approach Roads, pedestrian facilities, truck lay-bys, bus-bays, bus- shelters, cattle crossings, Traffic Aid Posts, Medical Aid Posts and other works		Daily	-	Rectification	15 days	IRC:SP 84-2014

Table 4: Maintenance Criteria for Structures and Culverts:

Pipe/box/ slab culverts	Free waterway/ unobstructed flow	85% of culvert normal flow area to available.	2 times in a year (before	Inspection by Bridge Engineer as per IRC	Cleaning silt up soils and debris in culvert	15 days before onset of monsoon and within 30	IRC 5-2015, IRC SP:40-1993 and IRC

Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
	section		and after rainy season)	SP: 35-1990 and recording of depth of silting and area of vegetation.	barrel after rainy season, removal of bushes and vegetation, U/s of barrel, under barrel and D/s of barrel before rainy season.	days after end of rainy season.	SP:13-2004
	Leak-proof expansion joints if any	No leakage through expansion joints	Bi-Annually	Physical inspection of expansion joints as per IRC SP: 35-1990 if any, for leakage strains on walls at joints.	Fixing with sealant suitably	30 days or before onset of rains whichever comes earlier	IRC SP:40-1993 and IRC SP:69-2011
	Structurally sound	Spalling of concrete not more than 0.25 sqm Delamination of concrete not more than 0.25 sq.m. Cracks wider than 0.3 mm not more than 1m aggregate length	Bi-Annually	Detailed inspection of all components of culvert as per IRC SP:35-1990 and recording the defects	Repairs to spalling, cracking, delamination, rusting shall be followed as per IRC: SP: 40-1993.	15 days	IRC SP 40-1993 and MORTH Specifications clause 2800
	Protection works in good condition	Damaged of rough stone apron or bank revetment not more than 3 sqm, damage to solid apron (concrete apron) not more than 1 sqm	2 times in a year (before and after rainy season)	Condition survey as per IRC SP:35-1990	Repairs to damaged aprons and pitching	30 days after defect observation or 2 weeks before onset of rainy season whichever is earlier.	IRC: SP 40-1993 and IRC:SP:13-2004.
Bridges including ROBs Flyover etc. as applicable	Riding quality or user comfort	No pothole in wearing coat on bridge deck	Daily	Visual inspection as per IRC SP:35-1990	Repairs to BC or wearing coat	15 days	MORT&H Specification 2811
Bridge - Super Structure	Bumps	No bump at expansion joint	Daily	Visual inspection as per IRC SP:35-1990	Repairs to BC on either side of expansion joints, profile correction course on approach slab in case of settlement to approach	15 days	MORT&H Specification 3004.2 & 2811.

Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
					embankment		
	User safety (condition of crash barrier and guard rail)	No damaged or missing stretch of crash barrier or pedestrian hand railing	Daily	Visual inspection and detailed condition survey as per IRC SP: 35-1990.	Repairs and replacement of safety barriers as the case may be	3days	IRC: 5-1998, IRC SP: 84-2014 and IRC SP: 40-1993.
	Rusted reinforcement	Not more than 0.25 sqm	Bi-Annually	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	All the corroded reinforcement shall need to be thoroughly cleaned from rusting and applied with anti-corrosive coating before carrying out the repairs to affected concrete portion with epoxy mortar / concrete.	15 days	IRC SP: 40-1993 and MORTH Specification 1600.
	Spalling of concrete	Not more than 0.50 sqm					
	Delamination	Not more than 0.50 sq.m					
	Cracks wider than 0.30 mm	Not more than 1m total length	Bi-Annually	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	Grouting with epoxy mortar, investigating causes for cracks development and carry out necessary rehabilitation.	48 Hours	IRC SP: 40-1993 and MORTH Specification 2800.
	Rainwater seepage through deck slab	Leakage - nil	Quarterly	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	Grouting of deck slab at leakage areas, waterproofing, repairs to drainage spouts	1 months	MORTH specifications 2600 & 2700.
	Deflection due to permanent loads and live loads	Within design limits.	Once in every 10 years for spans more than 40 m	Load test method	Carry out major rehabilitation works on bridge to retain original design loads capacity	6 months	IRC SP: 51-1999.
	Vibrations in bridge deck due to moving trucks	Frequency of vibrations shall not be more than 5 Hz	Once in every 5 years for spans more than 30m and every 10 years for spans between 15 to	Laser displacement sensors or laser vibro-meters	Strengthening of super structure	4 months	AASHTO LRFD specifications

Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
			30 m				
	Leakage in Expansion joints	No damage to elastomeric sealant compound in strip seal expansion joint, no leakage of rain water through expansion joint in case of buried and asphalt plug and copper strip joint.	Bi-Annually	Detailed condition survey as per IRC SP:35-1990 using Mobile Bridge Inspection Unit	Replace of seal in expansion joint	15 days	MORTH specifications 2600 and IRC SP: 40-1993.
	Debris and dust in strip seal expansion joint	No dust or debris in expansion joint gap.	Monthly	Detailed condition survey as per IRC SP:35-1990 using Mobile Bridge Inspection Unit	Cleaning of expansion joint gaps thoroughly	3 days	MORTH specifications 2600 and IRC SP: 40-1993.
	Drainage spouts	No down take pipe missing/broken below soffit of the deck slab. No silt, debris, clogging of drainage spout collection chamber.	Monthly	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	Cleaning of drainage spouts thoroughly. Replacement of missing/broken down take pipes with a minimum pipe extension of 500mm below soffit of slab. Providing sealant around the drainage spout if any leakages observed.	3 days	MORTH specification 2700.
Bridge-substructure	Cracks/spalling of concrete/rusted steel	No cracks, spalling of concrete and rusted steel	Bi-Annually	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	All the corroded reinforcement shall need to be thoroughly cleaned from rusting and applied with anti-corrosive coating before carrying out repairs to substructure by grouting/guniting and micro concreting depending on type	30 days	IRC SP: 40-1993 and MORTH specification 2800.

Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
					of defect noticed		
	Bearings	Delamination of bearing reinforcement not more than 5%, cracking or tearing of rubber not more than 2 locations per side, no rupture of reinforcement or rubber	Bi-Annually	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	In case of failure of even one bearing on any pier/abutment, all the bearings on that pier/abutment shall be replaced, in order to get uniform load transfer on to bearings.	3 months	MORTH specification 2810 and IRC SP: 40-199.
Bridge Foundations	Scouring around foundations	Scouring shall not be lower than maximum scour level for the bridge	Bi-Annually	Condition survey and visual inspection as per IRC SP:35-1990 using Mobile Bridge Inspection Unit. In case of doubt, use Underwater camera for inspection of deep wells in major Rivers.	Suitable protection works around pier/abutment	1 month	IRC SP: 40-1993, IRC 83-2014, MORTH specification 2500
	Protection works in good condition	Damaged of rough stone apron or bank revetment not more than 3 sq.m, damage to solid apron (concrete apron) not more than 1 sq.m	2 times in a year (before and after rainy season)	Condition survey as per IRC SP:35-1990	Repairs to damaged aprons and pitching.	30 days after defect observation or 2 weeks before onset of rainy season whichever is earlier.	IRC: SP 40-1993 and IRC:SP:13-2004.
Note: Any Structure during the entire contract period which is found that does not complies with all requirements of this Table will be prepared, rehabilitated or even reconstructed under the scope of the contractor.							

Table 5: Maintenance Criteria for Hill Roads

In addition to above, for hill roads the following provisions for maintenance is also to done.

Hill Roads		
(i)	Damage to Retaining wall/ Breast wall	**7 (Seven) days**
(ii)	Landslides requiring clearance	**12 (Twelve) hours**
(iii)	Snow requiring clearance	**24 (Twenty Four) hours**

Note: For all tables 1 to 5 above, latest BIS & IRC standards (even those not indicated herewith) along with MoRTH specifications shall be binding for all maintenance activities.

A. Flexible Pavement

Nature of Defect or deficiency		Time limit for repair/ rectification
(b)	**Granular earth shoulders, side slopes, drains and culverts**	
(i)	Variation by more than 1 % in the prescribed slope of camber/cross fall (shall not be less than the camber on the main carriageway)	7 (seven) days
(ii)	Edge drop at shoulders exceeding 40 mm	7 (seven) days
(iii)	Variation by more than 15% in the prescribed side (embankment) slopes	30 (thirty) days
(iv)	Rain cuts/gullies in slope	7 (seven) days
(v)	Damage to or silting of culverts and side drains	7 (seven) days
(vi)	Desilting of drains in urban/semi- urban areas	24 (twenty four) hours
(vii)	Railing, parapets, crash barriers	7 (seven) days (Restore immediately if causing safety hazard)
(c)	**Road side furniture including road sign and pavement marking**	
(i)	Damage to shape or position, poor visibility or loss of retro- reflectivity	48 (forty eight) hours
(ii)	Painting of km stone, railing, parapets, crash barriers	As and when required/ Once every year
(iii)	Damaged/missing signs road requiring replacement	7 (seven) days
(iv)	Damage to road mark ups	7 (seven) days
(d)	**Road lighting**	
(i)	Any major failure of the system	24 (twenty four) hours
(ii)	Faults and minor failures	8 (eight) hours
(e)	**Trees and plantation**	
(i)	Obstruction in a minimum head- room of 5 m above carriageway or obstruction in visibility of road signs	24 (twenty four)hours
(ii)	Removal of fallen trees from carriageway	4 (four) hours
(iii)	Deterioration in health of trees and bushes	Timely watering and treatment
(iv)	Trees and bushes requiring replacement	30 (thirty) days
(v)	Removal of vegetation affecting sight line and road structures	15 (fifteen) days
(f)	**Rest area**	
(i)	Cleaning of toilets	Every 4 (four) hours
(ii)	Defects in electrical, water and sanitary installations	24 (twenty four) hours

Nature of Defect or deficiency		Time limit for repair/ rectification
(g)	**[Toll Plaza]**	
(h)	**Other Project Facilities and Approach roads**	
(i)	Damage in approach roads, pedestrian facilities, truck lay- byes, bus-bays, bus-shelters, cattle crossings, [Traffic Aid Posts, Medical Aid Posts] and service roads	15 (fifteen) days
(ii)	Damaged vehicles or debris on the road	4 (four) hours
(iii)	Malfunctioning of the mobile crane	4 (four) hours
Bridges		
(a)	**Superstructure**	
(i)	Any damage, cracks, spalling/ scaling Temporary measures	within 48 (forty eight) hours
	Permanent measures	within15 (fifteen) days or as specified by the Authority's Engineer
(b)	**Foundations**	
(i)	Scouring and/or cavitation	15 (fifteen) days
(c)	**Piers, abutments, return walls and wing walls**	
(i)	Cracks and damages including settlement and tilting, spalling, scaling	30 (thirty) days
(d)	**Bearings (metallic) of bridges**	
(i)	Deformation, damages, tilting or shifting of bearings	15 (fifteen) days Greasing of metallic bearings once in a year
(e)	**Joints**	
(i)	Malfunctioning of joints	15 (fifteen) days
(f)	**Other items**	
(i)	Deforming of pads in elastomeric bearings	7 (seven) days
(ii)	Gathering of dirt in bearings and joints; or clogging of spouts, weep holes and vent-holes	3 (three) days
(iii)	Damage or deterioration in kerbs, parapets, handrails and crash barriers	3 (three) days (immediately within 24 hours if posing danger to safety)
(iv)	Rain-cuts or erosion of banks of the side slopes of approaches	7 (seven) days
(v)	Damage to wearing coat	15 (fifteen) days
(vi)	Damage or deterioration in approach slabs, pitching, apron, toes, floor or guide bunds	30 (thirty) days
(vii)	Growth of vegetation affecting the structure or obstructing the waterway	15 (fifteen) days
(g)	**Hill Roads**	
(i)	Damage to retaining wall/breast wall	7 (seven) days

Nature of Defect or deficiency		Time limit for repair/ rectification
(ii)	Landslides requiring clearance	12 (twelve) hours
(iii)	Snow requiring clearance	24 (twenty four) hours

[Note: Where necessary, the Authority may modify the time limit for repair/rectification, or add to the nature of Defect or deficiency before issuing the bidding document, with the approval of the competent authority.]

Schedule-F

Schedule-F

(See Clause 4.1 (vii)(a))

APPLICABLE PERMITS

1 Applicable Permits

(i) The Contractor shall obtain, as required under the Applicable Laws, the following Applicable Permits:

(a) Permission of the State Government for extraction of boulders from quarry;

(b) Permission of Village Panchayat and Pollution Control Board for installation of crushers;

(c) License for use of explosives;

(d) Permission of the State Government for drawing water from river/reservoir;

(e) License from inspector of factories or other competent Authority for setting up batching plant;

(f) Clearance of Pollution Control Board for setting up batching plant;

(g) Clearance of Village Panchayats and Pollution Control Board for setting up asphalt plant;

(h) Permission of Village Panchayats and State Government for borrow earth; and

(i) Any other permits, clearances or approvals required under Applicable Laws.

(ii) Applicable permits, as required, relating to environmental protection and conservation shall have been produced by the Authority in accordance with the provisions of this Agreement

Schedule-G

Schedule-G

(See Clauses 7.1 and 19.2)

Annex-I : Form of Bank Guarantee

(See Clause 7.1)

[Performance Security /Additional Performance Security]

To
National Highways & Infrastructure Development Corporation Ltd
Regional Office, Imphal, Manipur

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**"[1]).

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.

[1] Guarantee Amount for Performance Security and Additional Performance Security shall be calculated as per Contract.

2. A letter from the Authority, under the hand of an officer not below the rank of [General Manager 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 its obligations 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.

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 sentby 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 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.

13. This guarantee shall also be operatable at our…….Branch at Imphal, 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.

14. The guarantor/bank hereby confirms that it is on the SFMS (Structural Finance Messaging System) platform & shall invariably send an advice of this Bank Guarantee to the designated bank of NHIDCL, details of which is as under:

[$] Insert date atleast 2 (two) years from the date of issuance of this Guarantee (in accordance with Clause 2.21 of the RFP). The Contractors can submit the BG for periods of two years at one time and keep on renewing the same till the DLP is over if they have problems in getting the BG in one go for the entire DLP.

S.No.	Particulars	Details
1	Name of Beneficiary	NHIDCL, RO-Imphal
2	Beneficiary Bank Account No.	79513210000015
3	Beneficiary Bank Branch IFSC	CNRB0017951
4	Beneficiary Bank Branch Name	Canara Bank (erstwhile Syndicate Bank)
5	Beneficiary Bank Address	RIMS Road, Imphal

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)

NOTES:

(i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.

(ii) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

Annex - II

(Schedule - G)

(See Clause 19.2)

Annex – II: Form for Guarantee for Advance Payment

To

National Highways & Infrastructure Development Corporation Ltd
Regional Office, Imphal, Manipur

WHEREAS:

(A) [name and address of contractor] (hereinafter called the "**Contractor**") has executed an agreement (hereinafter called the "**Agreement**") with the [name and address of the authority], (hereinafter called the "**Authority**") for the construction of the ***** section of [National Highway No. **] on Engineering, Procurement and Construction (the "**EPC**") basis, subject to and in accordance with the provisions of the Agreement

(B) In accordance with Clause 19.2 of the Agreement, the Authority shall make to the Contractor an interest bearing @Bank Rate + 3% advance payment (herein after called "**Advance Payment**") equal to 10% (ten per cent) of the Contract Price; and that the Advance Payment shall be made in two installments subject to the Contractor furnishing an irrevocable and unconditional guarantee by a scheduled bank for an amount equivalent to 110% (one hundred and ten percent) of such installment to remain effective till the complete and full repayment of the installment of the Advance Payment as security for compliance with its obligations in accordance with the Agreement. The amount of {first/second} installment of the Advance Payment is Rs._____cr. (Rupees_____crore) and the amount of this Guarantee is Rs._____cr. (Rupees_____crore) (the "**Guarantee Amount**")[2].

(C) We, through our branch at (the "Bank") have agreed to furnish this bank guarantee (hereinafter called the "Guarantee") for the Guarantee Amount.

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 repayment on time of the aforesaid instalment of the Advance Payment under and in accordance with the Agreement, 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.

A letter from the Authority, under the hand of an officer not below the rank of [General Manager in the National Highways Authority of India], that the Contractor has committed default in the due and faithful performance of all or any of its obligations for the repayment of the instalment of the Advance Payment under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The

2 The Guarantee Amount should be equivalent to 110% of the value of the applicable instalment

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 its obligations during and under the Agreement 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

2. 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.

3. 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.

4. 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 Advance Payment or to extend the time or period of its repayment 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 Agreement 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.

5. 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 Advance Payment.

6. 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.

7. The Guarantee shall cease to be in force and effect on ****[3] Unless a demand or claim under this Guarantee is made in writing on or before the aforesaid date, the Bank shall be discharged from its liabilities hereunder.

3 Insert a date being 90 (ninety) days after the end of one year from the date of payment of the Advance payment to the Contractor (in accordance with Clause 19.2 of the Agreement).

8. 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.

9. 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 authorised 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.

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

11. 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.

12. This guarantee shall also be operatable at our…….Branch at Imphal, 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. The guarantor/bank hereby confirms that it is on the SFMS (Structural Finance Messaging System) platform & shall invariably send an advice of this Bank Guarantee to the designated bank of NHIDCL, details of which is as under:

S.No.	Particulars	Details
1	Name of Beneficiary	NHIDCL, RO-Imphal
2	Beneficiary Bank Account No.	79513210000015
3	Beneficiary Bank Branch IFSC	CNRB0017951
4	Beneficiary Bank Branch Name	Canara Bank (erstwhile Syndicate Bank)
5	Beneficiary Bank Address	RIMS Road, Imphal

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)

NOTES:

(i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.

The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter on the covering letter of issuing branch.

Schedule-H

Schedule-H

(See Clauses10.1 (iv) and 19.3)

1. Contract Price Weightages

1.1 The Contract Price for this Agreement is Rs. .....

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

Item	Weightage in % of CP	Stage for Payment	Percentage
1	2	3	4
Restoration and Rehabilitation of Existing Road	100 %	**Repairing of existing road**	
		(1) Scarifying Existing Bituminous Layer	1.95%
		(2) Granular Sub- Base	5.94%
		(3) Water Bound Macadam	7.83%
		(4) Dense Bituminous Macadam	48.02%
		(5) Bituminous Concrete	31.46%
		(6) Prime Coat	3.37%
		(7) Tack Coat	0.99%
		(8) Hill Side Drain Clearance	0.44%
		B.1-Reconstruction/New 2-Lane Realignment /Bypass (Flexible Pavement)	-
		(1) Earthwork up to top of the sub- grade	[Nil]
		(2) Sub-base Course	[Nil]
		(3) Non bituminous Base course	[Nil]
		(4) Dense Bituminous Macadam	[Nil]
		Bituminous Concrete	[Nil]
		B.2-Reconstruction/New 8-Lane Realignment/ Bypass (Rigid Pavement)	
		(1) Earthwork up to top of the sub- grade	[Nil]
		(2) Sub-base Course	[Nil]
		(3) Dry Lean Concrete (DLC) Course	[Nil]
		(4) Pavement Quality Control (PQC) Course	[Nil]
		C.1-Reconstruction/ New Service Road (Flexible Pavement)(	
		(1) Earthwork up to top of the sub- grade	[Nil]
		(2) Sub-base Course	[Nil]
		(3) Non bituminous Base course	[Nil]
		(4) Bituminous Basecourse	[Nil]
		(5) Wearing Coat	[Nil]
		C.2- Reconstruction/New Service road (Rigid Pavement)	
		(1) Earthwork up to top of the sub- grade	[Nil]
		(2) Sub-base Course	[Nil]
		(3) Dry Lean Concrete (DLC) Course	[Nil]

		(4) Pavement Quality Control (PQC) Course	[Nil]
		D- Reconstruction & New Culverts on existing road, realignments, bypasses Culverts (length <6m)	[]

1.3 Procedure of estimating the value of work done

1.3.1 Road works

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

Table 1.3.1

Stage of Payment	Percentage weightage	Payment Procedure
Repairing of existing road		Unit of measurement is linear length. Payment of each stage shall be made on pro-rata basis on completion of a stage in a length of not less than 5 (five) percent of the total length.
(1) Scarifying Existing Bituminous Layer	1.95%	
(2) Granular Sub- Base	5.94%	
(3) Water Bound Macadam	7.83%	
(4) Dense Bituminous Macadam	48.02%	
(5) Bituminous Concrete	31.46%	
(6) Prime Coat	3.37%	
(7) Tack Coat	0.99%	
(8) Hill Side Drain Clearance	0.44%	
B.1- Reconstruction/New2-Lane Realignment/Bypass(Flexible Pavement)		-
(1)Earthwork up to top of the sub-grade	[Nil]	
(2) Sub-base Course	[Nil]	
(3) Non bituminous Base course	[Nil]	
(4) Bituminous Base course	[Nil]	
(5) Wearing Coat	[Nil]	
B.2- Reconstruction/New 8-Lane Realignment/Bypass (Rigid Pavement)		-
(1)Earthwork up to top of the sub-grade	[Nil]	
(2) Sub-base Course	[Nil]	
(3) Dry Lean Concrete (DLC) Course	[Nil]	
(4) Pavement Quality Control (PQC) Course	[Nil]	
C.1- Reconstruction/New Service Road/ Slip Road (Flexible Pavement)		-
(1)Earthwork up to top of the sub-grade	[Nil]	
(2) Sub-base Course	[Nil]	
(3) Non bituminous Base course	[Nil]	
(4) Bituminous Basecourse	[Nil]	
(5) Wearing Coat	[Nil]	
C.2- Reconstruction/New Service road (Rigid Pavement)		-
(1)Earthwork up to top of the sub-grade	[Nil]	
(2) Sub-base Course	[Nil]	
(3) Dry Lean Concrete (DLC)Course	[Nil]	
(4) Pavement Quality Control (PQC) Course	[Nil]	
D-Reconstruction & New Culverts on		-

Stage of Payment	Percentage weightage	Payment Procedure
existing road, realignments, bypasses		
Culverts (length <6m)	[Nil]	

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

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

Where,

P = Contract Price

L = Total length in km

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

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

1.3.2 Minor Bridges and Underpasses/Overpasses.

Procedure for estimating the value of Minor bridge and Underpasses/Overpasses shall be as stated in table 1.3.2:

1.3.3 Major Bridge works, ROB/RUB and Structures.

Procedure for estimating the value of Major Bridge works, ROB/RUB and Structures shall be as stated in table 1.3.3:

1.3.4 Other works.

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

Table 1.3.4

Stage of Payment	Weightage	Payment Procedure
1	2	3
(1) Toll Plaza	[Nil]	
(2) Roadside drains	[Nil]	-
(3) Road signs, markings, km stones, safety devices etc.	[Nil]	
(4) Project Facilities	[Nil]	-
a) Bus Bays	[Nil]	
b) Truck Lay-byes	[Nil]	
c) Passenger Shelter	[Nil]	
d) Rest Area	[Nil]	
e) Diversion Works	[Nil]	

Stage of Payment	Weightage	Payment Procedure
(5) Road side Plantation including Horticulture in Wayside Amenities	[Nil]	-
(6) Repair of Protection Works other than approaches to the bridges, elevated sections/flyover/grade separators and ROBs/ RUBs	[Nil]	-
(7) Safety and traffic management during construction	[Nil]	-
(8) Protection Works	[Nil]	-
(a) Breast Wall	[Nil]	
(b) Toe Wall	[Nil]	
(c)Retaining Wall	[Nil]	
(c) Crash Barrier	[Nil]	
(9) Site Clearance & Dismantling	[Nil]	-
(10) Protection Works	[Nil]	-
(11) Tunnel	[Nil]	-

2. Procedure for payment for Maintenance

2.1 The cost for maintenance shall be as stated in Clause 14.1.1.

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

Schedule-I

Schedule - I

(See Clause 10.2 (iv))

1 Drawings

Drawings In compliance of the obligations set forth in Clause 10.2 of this Agreement, the Contractor shall furnish to the Authority's Engineer, free of cost, all Drawings listed in Annex-I of this Schedule-I.

2 Additional Drawings

If the Authority's Engineer determines that for discharging its duties and functions under this Agreement, it requires any drawings other than those listed in Annex-I, it may by notice require the Contractor to prepare and furnish such drawings forthwith. Upon receiving a requisition to this effect, the Contractor shall promptly prepare and furnish such drawings to the Authority's Engineer, as if such drawings formed part of Annex-I of this Schedule-I.

Annex – I

(Schedule - I)

List of Drawings

1 A minimum list of the drawings of the various components/elements of the project highway and project facility required to be submitted by the Contractor is given below:

a. Drawing of horizontal alignment, vertical profile and typical cross sections.

b. Drawings of cross drainage works, i.e. Bridges/Culverts/Flyovers and Other Structures;

c. Drawings of interchanges, major intersections and underpasses.

d. Drawing of control center.

e. Drawings of road furniture items including traffic signage, marking, safety barriers, etc.;

f. Drawings of traffic diversions plans and traffic control measures.

g. Drawings of road drainage measures.

h. Drawings of typical details slope protection measures.

i. Drawings of landscaping and horticulture.

j. Drawings of pedestrian crossing.

k. Drawings of street lighting.

l. General Arrangement showing Base Camp and Administrative Block.

m. Any other drawings as per instruction of Authority Engineer.

Schedule-J

Schedule-J

(See Clause 10.3 (ii))

PROJECT COMPLETION SCHEDULE

1 Project Completion Schedule

During Construction period, the Contractor shall comply with the requirements set forth in this Schedule J for each of the Project Milestones and the **Scheduled Completion Date.** Within 15 (fifteen) days of the date of each Project Milestone, the Contractor shall notify the Authority of such compliance along with necessary particulars thereof.

2 Project Milestone-I

i) Project Milestone-I shall occur on the date falling on the [**35% of the Scheduled Construction Period**] day from the Appointed Date (the "**Project Milestone-I**").

ii) Prior to the occurrence of Project Milestone-I, the Contractor shall have commenced construction of the Project Highway and submitted to the Authority duly and validly prepared Stage Payment Statements for an amount not less than 10% (ten per cent) of the Contract Price.

3 Project Milestone-II

i) Project Milestone-II shall occur on the date falling on the **[60% of the Scheduled Construction Period]** day from the Appointed Date (the "**Project Milestone-II**").

ii) Prior to the occurrence of Project Milestone-II, the Contractor shall have continued with construction of the Project Highway and submitted to the Authority duly and validly prepared Stage Payment Statements for an amount not less than 35% (thirty five per cent) of the Contract Price.

4 Project Milestone-III

i) Project Milestone-III shall occur on the date falling on the **[85% of the Scheduled Construction Period]** day from the Appointed Date (the "**Project Milestone-III**").

ii) Prior to the occurrence of Project Milestone-III, the Contractor shall have continued with construction of the Project Highway and submitted to the Authority duly and validly prepared Stage Payment Statements for an amount not less than 70% (seventy per cent) of the Contract Price and should have started construction of all project facilities.

5 Schedule Completion Date

i) The Scheduled Completion Date shall occur on the **183th**(One Hundred Eighty Three) day from the Appointed Date.

ii) On or before the Scheduled Completion Date, the Contractor shall have completed construction in accordance with this Agreement.

6 Extension of time

Upon extension of any or all of the aforesaid Project Milestones or the Scheduled Completion Date, as the case may be, under and in accordance with the provisions of this Agreement, the Project Completion Schedule shall be deemed to have been amended accordingly

Schedule-K

Schedule-K

(See Clause 12.1 (ii))

Tests on Completion

1 Schedule for Tests

i) The Contractor shall, no later than 30 (thirty) days prior to the likely completion of construction, notify the Authority's Engineer and the Authority of its intent to subject the Project Highway to Tests, and no later than 10 (ten) days prior to the actual date of Tests, furnish to the Authority's Engineer and the Authority detailed inventory and particulars of all works and equipment forming part of Works.

ii) The Contractor shall notify the Authority's Engineer of its readiness to subject the Project Highway to Tests at any time after 10 (ten) days from the date of such notice, and upon receipt of such notice, the Authority's Engineer shall, in consultation with the Contractor, determine the date and time for each Test and notify the same to the Authority who may designate its representative to witness the Tests. The Authority's Engineer shall thereupon conduct the Tests itself or cause any of the Tests to be conducted in accordance with Article 12 and this Schedule K.

2 Tests

i) Visual and physical test: The Authority's Engineer shall conduct a visual and physical check of construction to determine that all works and equipment forming part thereof conform to the provisions of this Agreement. The physical tests shall include all the tests specified in IRC code, manual and MORTH specifications for the road and Bridge works, 5th revision, 2013.

ii) Riding quality test: Riding quality of each lane of the carriageway shall be checked with the help of a calibrated bump integrator and the maximum permissible roughness for purposes of this Test shall be [2,000 (two thousand)] mm for each kilometer.

iii) Tests for bridges: All major and minor bridges shall be subjected to the rebound hammer and ultrasonic pulse velocity tests, to be conducted in accordance with the procedure described in Special Report No. 17: 1996 of the IRC Highway Research Board on Nondestructive Testing Techniques, at two spots in every span, to be chosen at random by the Authority's Engineer. Bridges with a span of 15 (fifteen) meters or more shall also be subjected to load testing.

iv) Other tests: The Authority's Engineer may require the Contractor to carry out or cause to be carried additional tests, in accordance with Good Industry Practice, for determining the compliance of the Project Highway with Specifications and

Standards.

v) Environmental audit: The Authority's Engineer shall carry out a check to determine conformity of the Project Highway with the environmental requirements set forth in Applicable Laws and Applicable Permits.

vi) Safety Audit: The Authority's Engineer shall carry out or cause to be carried out, a safety audit to determine conformity of the Project Highway with the safety requirements and Good Industry Practice.

3 Agency for conducting Tests

All Tests set forth in this Schedule-K shall be conducted by the Authority's Engineer or such other agency or person as it may specify in consultation with the Authority.

4 Completion Certificate

Upon successful completion of Tests, the Authority's Engineer shall issue the Completion Certificate in accordance with the provisions of Article 12.

5 The Authority Engineer will carry out tests with following equipment at his own cost in the presence of contractor's representative.

Sr. No.	Key metrics of Asset	Equipmenttobeused	Frequency of condition survey
1	Surface defects of pavement	Network Vehicle Survey (NSV)	At least twice a year (As per survey months defined for the state basis rainy season)
2	Roughness of pavement	Network Vehicle Survey (NSV)	At least twice a year (As per survey months defined for the state basis rainy season)
3	Strength of pavement	Falling Weight Deflectometer(FWD)	At least once a year
4	Bridges	Mobile Bridge Inspection Unit(MBU)	At least twice a year (As per survey months defined for the state basis rainy season)
5	Road signs	Retro-reflectometer	At least twice a year (As per survey months defined for the state basis rainy season)

The first testing with the help of NSV shall be conducted at the time of issue of Completion Certificate.

Schedule-L

Schedule-L

(See Clause 12.2)

COMPLETION CERTIFICATE

1 I, ……(Name of the Authority's Engineer), acting as Authority's Engineer, under and in accordance with the Agreement dated ……..(the "Agreement"), for construction of the "**Restoration & Rehabilitation of Imphal-Jiribam Road from Km 103.00 to Km 133.00 (Length: 30 Km) on NH-37 in the state of Manipur in the year 2021-2022 on EPC**" through ……. (Name of Contractor), hereby certify that the Tests in accordance with Article 12 of the Agreement have been successfully undertaken to determine compliance of the Project Highway with the provisions of the Agreement, and I am satisfied that the Project Highway can be safety and reliably placed in service of the Users thereof.

2 It is certified that, in terms of the aforesaid Agreement, all works forming part of Project Highway have been completed, and the Project Highway is hereby declared fit for entry into operation on this the……day of…… 20……..

SIGNED, SEALED AND DELIVERED

For and on behalf of

The Authority's Engineer by:

(Signature)

(Name)

(Designation)

(Address)

Schedule-M

Schedule-M

(See Clauses 14.6., 15.2 and 19.7)

PAYMENT REDUCTION FOR NON-COMPLIANCE

1 Payment reduction for non-compliance with the Maintenance Requirements

i) Monthly lump sum payments for maintenance shall be reduced in the case of non-compliance with the Maintenance Requirements set forth in Schedule-E.

ii) Any deduction made on account of non-compliance with the maintenance Requirements shall not be paid even after compliance subsequently. The deduction shall continue to be made every month until compliance is done.

iii) The Authority's Engineer shall calculate the amount of payment reduction on the basis of weightage in percentage assigned to non-conforming items as given in Paragraph 2.

2 Percentage reductions in lump sum payments

i) The following percentages shall govern the payment reduction:

S. No.	Item/Defect/Deficiency	Percentage
(a)	**Carriageway/Pavement**	
(i)	Potholes, cracks, other surface defects	15%
(ii)	Repairs of Edges, Rutting	5%
(b)	**Road, Embankment, Cuttings, Shoulders**	
(i)	Edge drop, inadequate crossfall, undulations, settlement, potholes, ponding, obstructions	10%
(ii)	Deficient slopes, raincuts, disturbed pitching, vegetation growth, pruning of trees	5%
(c)	**Bridges and Culverts**	
(i)	Desilting, cleaning. vegetation growth, damaged pitching, flooring, parapets, wearing course, footpaths, any damage to foundations	20%
(ii)	Any Defects in superstructures, bearings and sub-structures	10%
(iii)	Painting, repairs/replacement kerbs, railings, parapets, guideposts/crash barriers	5%
(d)	**Roadside Drains**	
(i)	Cleaning and repair of drains	5%

(e)	**Road Furniture**	
(i)	Cleaning, painting, replacement of road signs, delineators, road markings, 200 m/km/5th km stones	5%
(f)	**Miscellaneous Items**	
(i)	Removal of dead animals, broken down/accidented vehicles, fallen trees, road blockades or malfunctioning of mobile crane	10%
(ii)	Any other Defects in accordance with paragraph 1.	5%
(g)	**Defects in Other Project Facilities**	5%

ii) The amount to be deducted from monthly lump-sum payment for non-compliance of particular item shall be calculated as under:

R=P/100 x M xL1/L

Where: P = Percentage of particular item//Defect/deficiency for deduction

M = Monthly lump-sum payment in accordance with the Bid

L1 = Non-complying length

L = Total length of the road,

R = Reduction (the amount to be deducted for noncompliance for a particular item/Defect/deficiency)

The total amount of reduction shall be arrived at by summation of reductions for such items/Defects/deficiency or noncompliance.

For any Defect in a part of one kilometer, the non-conforming length shall be taken as one kilometer.

Schedule-N

Schedule-N

(See Clause 18.1(i))

SELECTION OF AUTHORITY'S ENGINEER

1 Selection of Authority's Engineer

i) The provisions of the Model Request for Proposal for Selection of Technical Consultants, issued by the Ministry of Finance in May 2009, or any substitute thereof or 'Guidelines for Employment of Consultants under Japanese ODA Loans' or a combination of certain provisions thereof shall apply for selection of an experienced firm to discharge the functions and duties of an Authority's Engineer.

ii) In the event of termination of the Technical Consultants appointed in accordance with the provisions of above Paragraphs 1.1 to 1.3, the Authority shall appoint another firm of Technical Consultants forthwith and may engage a government-owned entity in accordance with the provisions of Paragraph 3 of this Schedule-N.

2 Terms of Reference

The Terms of Reference for the Authority's Engineer (the "**TOR**") shall substantially conform with Annex 1 to this Schedule N.

3 Appointment of Government entity as Authority's Engineer

Notwithstanding anything to the contrary contained in this Schedule, the Authority may in its discretion appoint a government-owned entity as the Authority's Engineer; provided that such entity shall be a body corporate having as one of its primary functions the provision of consulting, advisory and supervisory services for engineering projects; provided further that a government-owned entity which is owned or controlled by the Authority shall not be eligible for appointment as Authority's Engineer.

Annex – I

(Schedule - N)

TERMS OF REFERENCE FOR AUTHORITY'S ENGINEER

1 Scope

i) These Terms of Reference (the "**TOR**") for the Authority's Engineer are being specified pursuant to the EPC Agreement dated..... (the "**Agreement**), which has been entered into between the NHIDCL (the "**Authority**") and ..... (the "**Contractor**") for **"Restoration & Rehabilitation of Imphal-Jiribam Road from Km 103.00 to Km 133.00 (Length: 30 Km) on NH-37 in the state of Manipur in the year 2021-2022 on EPC.."** and a copy of which is annexed hereto and marked as Annex-A to form part of this TOR.

ii) The TOR shall apply to construction and maintenance of the Project Highway.

2 Definitions and interpretation

i) The words and expressions beginning with or in capital letters and not defined herein but defined in the Agreement shall have, unless repugnant to the context, the meaning respectively assigned to them in the Agreement.

ii) References to Articles, Clauses and Schedules in this TOR shall, except where the context otherwise requires, be deemed to be references to the Articles, Clauses and Schedules of the Agreement, and references to Paragraphs shall be deemed to be references to Paragraphs of this TOR.

iii) The rules of interpretation stated in Clauses 1.2, 1.3 and 1.4 of the Agreement shall apply, mutatis mutandis, to this TOR.

3 General

i) The Authority's Engineer shall discharge its duties in a fair, impartial and efficient manner, consistent with the highest standards of professional integrity and Good Industry Practice.

ii) The Authority's Engineer shall perform the duties and exercise the authority in accordance with the provisions of this Agreement, but subject to obtaining prior written approval of the Authority before determining:

(a) any Time extension;
(b) any additional cost to be paid by the Authority to the Contractor;
(c) the Termination Payment; or
(d) any other matter which is not specified in (a), (b) or (c) above and which creates an obligation or liability on either Party for a sum exceeding 0.2% of Contract Price.

iii) The Authority's Engineer shall submit regular periodic reports, at least once every month, to the Authority in respect of its duties and functions under this Agreement. Such reports shall be submitted by the Authority's Engineer within 10 (ten) days of the beginning of every month.

iv) The Authority's Engineer shall inform the Contractor of any delegation of its duties and responsibilities to its suitably qualified and experienced personnel; provided, however, that it shall not delegate the authority to refer any matter for the Authority's prior approval in accordance with the provisions of Clause 18.2.

v) The Authority's Engineer shall aid and advise the Authority on any proposal for Change of Scope under Article 13.

vi) In the event of any disagreement between the Parties regarding the meaning, scope and nature of Good Industry Practice, as set forth in any provision of the Agreement, the authority's Engineer shall specify such meaning, scope and nature by issuing a reasoned written statement relying on good industry practice and authentic literature.

4 Construction Period

i) During the Construction Period, the Authority's Engineer shall review the Drawings furnished by the Contractor along with supporting data, including the geo-technical and hydrological investigations, characteristics of materials from borrow areas and quarry sites, topographical surveys, and the recommendations of the Safety Consultant in accordance with the provisions of Clause 10.1.6. The Authority's Engineer shall complete such review and send its observations to the Authority and the Contractor within 15 (fifteen) days of receipt of such Drawings; provided, however that in case of a Major Bridge or Structure, the aforesaid period of 15 (fifteen) days may be extended upto 30 (thirty) days. In particular, such comments shall specify the conformity or otherwise of such Drawings with the Scope of the Project and Specifications and Standards.

ii) The Authority's Engineer shall review any revised Drawings sent to it by the Contractor and furnish its comments within 10 (ten) days of receiving such Drawings.

iii) The Authority's Engineer shall review the Quality Assurance Plan submitted by the Contractor and shall convey its comments to the Contractor within a period of 21 (twenty-one) days stating the modifications, if any, required thereto.

iv) The Authority's Engineer shall complete the review of the methodology proposed to be adopted by the Contractor for executing the Works, and convey its comments to the Contractor within a period of 10 (ten) days from the date of receipt of the proposed methodology from the Contractor.

v) The Authority's Engineer shall grant written approval to the Contractor, where necessary, for interruption and diversion of the flow of traffic in the existing lane(s) of the Project Highway for purposes of maintenance during the Construction Period in accordance with the provisions of Clause 10.4.

vi) The Authority's Engineer shall review the monthly progress report furnished by the Contractor and send its comments thereon to the Authority and the Contractor within 7 (seven) days of receipt of such report.

vii) The Authority's Engineer shall inspect the Construction Works and the Project Highway and shall submit a monthly Inspection Report bringing out the results of inspections and the remedial action taken by the Contractor in respect of Defects or deficiencies. In

particular, the Authority's Engineer shall include in its Inspection Report, the compliance of the recommendations made by the Safety Consultant.

viii) The Authority's Engineer shall conduct the pre-construction review of manufacturer's test reports and standard samples of manufactured Materials, and such other Materials as the Authority's Engineer may require.

ix) For determining that the Works conform to Specifications and Standards, the Authority's Engineer shall require the Contractor to carry out, or cause to be carried out, tests at such time and frequency and in such manner as specified in the Agreement and in accordance with Good Industry Practice for quality assurance. For purposes of this Paragraph 4.9, the tests specified in the IRC Special Publication-11 (Handbook of Quality Control for Construction of Roads and Runways) and the Specifications for Road and Bridge Works issued by MORTH (the "Quality Control Manuals") or any modification/substitution thereof shall be deemed to be tests conforming to Good Industry Practice for quality assurance.

x) The Authority's Engineer shall test check at least 50 (Fifty) percent of the quantity or number of tests prescribed for each category or type of test for quality control by the Contractor.

xi) The timing of tests referred to in Paragraph 4.9, and the criteria for acceptance/ rejection of their results shall be determined by the Authority's Engineer in accordance with the Quality Control Manuals. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Contractor for its own quality assurance in accordance with Good Industry Practice.

xii) In the event that results of any tests conducted under Clause 11.10 establish any Defects or deficiencies in the Works, the Authority's Engineer shall require the Contractor to carry out remedial measures.

xiii) The Authority's Engineer may instruct the Contractor to execute any work which is urgently required for the safety of the Project Highway, whether because of an accident, unforeseeable event or otherwise; provided that in case of any work required on account of a Force Majeure Event, the provisions of Clause 21.6 shall apply.

xiv) In the event that the Contractor fails to achieve any of the Project Milestones, the Authority's Engineer shall undertake a review of the progress of construction and identify potential delays, if any. If the Authority's Engineer shall determine that completion of the Project Highway is not feasible within the time specified in the Agreement, it shall require the Contractor to indicate within 15 (fifteen) days the steps proposed to be taken to expedite progress, and the period within which the Project Completion Date shall be achieved. Upon receipt of a report from the Contractor, the Authority's Engineer shall review the same and send its comments to the Authority and the Contractor forthwith.

xv) The Authority's Engineer shall obtain from the Contractor a copy of all the Contractor's quality control records and documents before the Completion Certificate is issued pursuant to Clause 12.4.

xvi) Authority's Engineer may recommend to the Authority suspension of the whole or part of

the Works if the work threatens the safety of the Users and pedestrians. After the Contractor has carried out remedial measure, the Authority's Engineer shall inspect such remedial measures forthwith and make a report to the Authority recommending whether or not the suspension hereunder may be revoked.

xvii) In the event that the Contractor carries out any remedial measures to secure the safety of suspended works and Users, and requires the Authority's Engineer to inspect such works, the Authority's Engineer shall inspect the suspended works within 3 (three) days of receiving such notice, and make a report to the Authority forthwith, recommending whether or not such suspension may be revoked by the Authority.

xviii) The Authority's Engineer shall carry out, or cause to be carried out, all the Tests specified in Schedule-K and issue a Completion Certificate or Provisional Certificate, as the case may be. For carrying out its functions under this Paragraph 4.18 and all matters incidental thereto, the Authority's Engineer shall act under and in accordance with the provisions of Article 12 and Schedule-K.

5 Maintenance Period

i) The Authority's Engineer shall aid and advise the Contractor in the preparation of its monthly Maintenance Programme and for this purpose carry out a joint monthly inspection with the Contractor.

ii) The Authority's Engineer shall undertake regular inspections, at least once every month, to evaluate compliance with the Maintenance Requirements and submit a Maintenance Inspection Report to the Authority and the Contractor.

iii) The Authority's Engineer shall specify the tests, if any, that the Contractor shall carry out, or cause to be carried out, for the purpose of determining that the Project Highway is in conformity with the Maintenance Requirements. It shall monitor and review the results of such tests and the remedial measures, if any, taken by the Contractor in this behalf.

iv) In respect of any defect or deficiency referred to in Paragraph 3 of Schedule- E, the Authority's Engineer shall, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards and shall also specify the time limit for repair or rectification of any deviation or deterioration beyond the permissible limit.

v) The Authority's Engineer shall examine the request of the Contractor for closure of any lane(s) of the Project Highway for undertaking maintenance/repair thereof, and shall grant permission with such modifications, as it may deem necessary, within 5 (five) days of receiving a request from the Contractor. Upon expiry of the permitted period of closure, the Authority's Engineer shall monitor the reopening of such lane(s), and in case of delay, determine the Damages payable by the Contractor to the Authority under Clause 14.5.

6 Determination of costs and time

(i) The Authority's Engineer shall determine the costs, and/or their reasonableness, that are required to be determined by it under the Agreement.

(ii) The Authority's Engineer shall determine the period of Time Extension that is required to be determined by it under the Agreement.

(iii) The Authority's Engineer shall consult each Party in every case of determination in accordance with the provisions of Clause 18.5.

7 Payments

(i) The Authority's Engineer shall withhold payments for the affected works for which the Contractor fails to revise and resubmit the Drawings to the Authority's Engineer in accordance with the provisions of Clause 10.2.4 (d).

(ii) Authority's Engineer shall -

(a) within 10 (ten) days of receipt of the Stage Payment Statement from the Contractor pursuant to Clause 19.4, determine the amount due to the Contractor and recommend the release of 90 (ninety) percent of the amount so determined as part payment, pending issue of the Interim Payment Certificate; and

(b) within 15 (fifteen) days of the receipt of the Stage Payment Statement referred to in Clause 19.4, deliver to the Authority and the Contractor an Interim Payment Certificate certifying the amount due and payable to the Contractor, after adjustments in accordance with the provisions of Clause 19.10.

(iii) The Authority's Engineer shall, within 15 (fifteen) days of receipt of the Monthly Maintenance Statement from the Contractor pursuant to Clause 19.6, verify the Contractor's monthly statement and certify the amount to be paid to the Contractor in accordance with the provisions of the Agreement.

(iv) The Authority's Engineer shall certify final payment within 30 (thirty) days of the receipt of the final payment statement of Maintenance in accordance with the provisions of Clause 19.16.

8 Other duties and functions

The Authority's Engineer shall perform all other duties and functions as specified in the Agreement.

9 Miscellaneous

(i) A copy of all communications, comments, instructions, Drawings or Documents sent by the Authority's Engineer to the Contractor pursuant to this TOR, and a copy of all the test results with comments of the Authority's Engineer thereon, shall be furnished by the Authority's Engineer to the Authority forthwith.

(ii) The Authority's Engineer shall retain at least one copy each of all Drawings and Documents received by it, including 'as-built' Drawings, and keep them in its safe custody.

(iii) Within 90 (ninety) days of the Project Completion Date, the Authority's Engineer shall obtain a complete set of as-built Drawings, in 2 (two) hard copies and in micro film form or in such other medium as may be acceptable to the Authority, reflecting the Project

Highway as actually designed, engineered and constructed, including an as-built survey illustrating the layout of the Project Highway and setback lines, if any, of the buildings and structures forming part of Project Facilities; and shall hand them over to the Authority against receipt thereof.

(iv) The Authority's Engineer, if called upon by the Authority or the Contractor or both, shall mediate and assist the Parties in arriving at an amicable settlement of any Dispute between the Parties.

(v) The Authority's Engineer shall inform the Authority and the Contractor of any event of Contractor's Default within one week of its occurrence.

Schedule-O

SCHEDULE - O

(See Clauses 19.4 (i), 19.6 (i), and 19.8 (i))

Forms of Payment Statements

1 Stage Payment Statement for Works

The Stage Payment Statement for Works shall state:

(a) The estimated amount for the Works executed in accordance with Clause 19.3.1 subsequent to the last claim;

(b) Amounts reflecting adjustments in price for the aforesaid claim;

(c) The estimated amount of each Change of Scope Order executed subsequent to the last claim;

(d) Amounts reflecting adjustment in price, if any, for (c) above in accordance with the provisions of Clause 13.2.3 (a);

(e) Total of (a), (b), (c) and (d) above;

(f) Deductions:

(i) Any amount to be deducted in accordance with the provisions of the Agreement except taxes;

(ii) Any amount towards deduction of taxes; and

(iii) Total of (i) and (ii) above.

(g) Net claim: (e) – (f) (iii);

(h) The amounts received by the Contractor upto the last claim:

(i) For the Works executed (excluding Change of Scope orders);

(ii) For Change of Scope Orders, and

(iii) Taxes deducted

2 Monthly Maintenance Payment Statement

The monthly Statement for Maintenance Payment shall state:

(a) the monthly payment admissible in accordance with the provisions of the agreement;

(b) the deductions for maintenance work not done;

(c) net payment for maintenance due, (a) minus (b);

(d) amounts reflecting adjustments in price under Clause 19.12; and

(e) amount towards deduction of taxes

3 Contractor's claim for Damages

Note: The Contractor shall submit its claims in a form acceptable to the Authority.

Monthly Maintenance Payment Statement

The monthly Statement for Maintenance Payment shall state:

(f) the monthly payment admissible in accordance with the provisions of the agreement;

(g) the deductions for maintenance work not done;

(h) net payment for maintenance due, (a) minus (b);

(i) amounts reflecting adjustments in price under Clause 19.12; and

(j) amount towards deduction of taxes

4 Contractor's claim for Damages

Note: The Contractor shall submit its claims in a form acceptable to the Authority.

Schedule-P

Schedule-P

(See Clause 20.1)

INSURANCE

1 Insurance during Construction Period

(i) The Contractor shall effect and maintain at its own cost, from the Appointed Date till the date of issue of the last Completion Certificate, the following insurances for any loss or damage occurring on account of Non Political Event of Force Majeure, malicious act, accidental damage, explosion, fire and terrorism:

(a) insurance of Works, Plant and Materials and an additional sum of [15 (fifteen)] per cent of such replacement cost to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of demolishing and removing any part of the Works and of removing debris of whatsoever nature; and

(b) Insurance for the Contractor's equipment and Documents brought onto the Site by the Contractor, for a sum sufficient to provide for their replacement at the Site.

(ii) The insurance under paragraph 1.1 (a) and (b) above shall cover the authority and the Contractor against all loss or damage from whatsoever cause arising under paragraph 1.1 other than risks which are not insurable at commercial terms.

2 Insurance for Contractor's Defects Liability

The Contractor shall effect and maintain insurance cover for the works from the date of issue of the Completion Certificate until the end of the Defects Liability Period for any loss or damage for which the Contractor is liable and arises from a cause occurring prior to the issue of Completion Certificate. The Contractor shall also maintain other insurances for maximum sums as may be required under the Applicable Laws and in accordance with Good Industry Practice.

3 Insurance against injury to persons and damage to property

(i) The Contractor shall insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under Paragraph l and 2 of this Schedule or to any person (except persons insured under Clause 20.9), which may arise out of the Contractor's performance of this Agreement.This insurance shall be for a limit per occurrence of not less than the amount stated below with no limit on the number of occurrences.

The insurance cover shall be not less than the Contract Price.

(ii) The insurance shall be extended to cover liability for all loss and damage to the Authority's property arising out of the Contractor's performance of this Agreement excluding:

(a) the Authority's right to have the construction works executed on, over, under, in or through any land, and to occupy this land for the Works; and

(b) Damage which is and unavoidable result of the Contractor's obligations to execute the Works.

4 Insurance to be in joint names

The insurance under paragraphs 1 to 3 above shall be in the joint names of the Contractor and the Authority.

Schedule-Q

SCHEDULE-Q

(See Clause 14.10)

Tests on Completion of Maintenance Period

1 Riding Quality test:

Riding quality test: Riding quality of each lane of the carriageway shall be checked with the help of a calibrated bump integrator and the maximum permissible roughness for purposes of this Test shall be 2,500 (two thousand five hundred) mm for each kilometer.

2 Visual and physical test:

The Authority's Engineer shall conduct a visual and physical check of construction to determine that all works and equipment forming part thereof conform to the provisions of this Agreement. The physical tests shall include measurement of cracking, rutting, stripping and potholes and shall be as per the requirement of maintenance mentioned in Schedule-E.

Schedule-R

SCHEDULE-R

(See Clause 14.10)

Taking Over Certificate

I, …….. (Name and designation of the Authority's representative) under and in accordance with the Agreement dated …… (the "Agreement"), for **"Restoration & Rehabilitation of Imphal-Jiribam Road from Km 103.00 to Km 133.00 (Length: 30 Km) on NH-37 in the state of Manipur in the year 2021-2022 on EPC."**……. (Name of Contractor), hereby certify that the Tests on completion of Maintenance Period in accordance with Article 14 of the Agreement have been successfully undertaken to determine compliance of the Project Highway with the provisions of the Agreement and I hereby certify that the Authority has Taken over the Project Highway from the Contractor on this day .....

SIGNED, SEALED AND DELIVERED

(Signature)
(Name and designation of Authority's Representative)
(Address)