Schedules

SCHEDULE - A

(See Clauses 2.1 and 8.1)

SITE OF THE PROJECT

1. The Site

1.1 Project "Construction of 94 Box Culverts "shall include the land, buildings, structures and road works as described in Annex-I of this Schedule-A.

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

1.3 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 8.2.1 of this Agreement.

1.4 The alignment plans of the Project "Construction of 94 Box Culverts "are specified in Annex-III. In the case of sections where no modification in the existing alignment of the Project "Construction of 94 Box Culverts "is contemplated, the alignment plan has not been provided. Alignment plans have only been given for sections where the existing alignment is proposed to be upgraded. The proposed profile of the Project "Construction of 94 Box Culverts "shall be followed by the contractor with minimum FRL as indicated in the alignment plan. The contractor, however, improve/upgrade the Road Profile as indicated in Annexure-III based onsite/design requirement.

1.5 The status of the environment clearances obtained or awaited is given in Annex - IV.

Annexure -I

(Schedule-A)

Site

Note: Through suitable drawings and description in words, the land, buildings, structures and road works comprising the Site shall be specified briefly but precisely in this Annex-I. All the chainages/location referred to in Annex-I to Schedule A shall be existing chainages.

1. Site

The Site of the Project "Construction of 94 Box Culverts " comprises the section of National Highway – 223(New NH-4), Karala Village at Km 298.0 to Lamiya Bay at Km 330.662 in the Union Territory of Andaman & Nicobar Islands. The land details of Site are described below.

2. Land

The Site of Project "Construction of 94 Box Culverts "comprises the land (sum total of land already in possession and land to be possessed) as described below:

Land Details

Sr. No.	Chainage(km)	Existing ROW			Remark
		Left side (in m)	Right side (in m)	Total (in m)	
1	298.025	15	15	30	
2	298.100	15	15	30	
3	298.200	15	15	30	
4	298.300	15	15	30	
5	298.400	15	15	30	
6	298.500	15	15	30	
7	298.600	15	15	30	
8	298.700	15	15	30	
9	298.800	15	15	30	
10	298.900	15	15	30	
11	299.000	15	15	30	
12	299.100	15	15	30	
13	299.200	15	15	30	
14	299.300	15	15	30	
15	299.400	15	15	30	
16	299.500	15	15	30	
17	299.600	15	15	30	
18	299.700	15	15	30	
19	299.800	15	15	30	
20	299.900	15	15	30	
21	300.000	15	15	30	

Sr. No.	Chainage (km)	Existing ROW			Remark
		Left side (in m)	Right side (in m)	Total (in m)	
22	300.100	15	15	30	
23	300.200	15	15	30	
24	300.300	15	15	30	
25	300.400	15	15	30	
26	300.500	15	15	30	
27	300.600	15	15	30	
28	300.700	15	15	30	
29	300.800	15	15	30	
30	300.900	15	15	30	
31	301.000	15	15	30	
32	301.100	15	15	30	
33	301.200	15	15	30	
34	301.300	15	15	30	
35	301.400	15	15	30	
36	301.500	15	15	30	
37	301.600	15	15	30	
38	301.700	15	15	30	
39	301.800	15	15	30	
40	301.900	15	15	30	
41	302.000	15	15	30	
42	302.100	15	15	30	
43	302.200	15	15	30	
44	302.300	15	15	30	
45	302.400	15	15	30	
46	302.500	15	15	30	
47	302.600	15	15	30	
48	302.700	15	15	30	
49	302.800	15	15	30	
50	302.900	15	15	30	
51	303.000	15	15	30	
52	303.100	15	15	30	
53	303.200	15	15	30	
54	303.300	15	15	30	
55	303.400	15	15	30	
56	303.500	15	15	30	
57	303.600	15	15	30	
58	303.700	20	10	30	
59	303.800	15	15	30	
60	303.900	11	19	30	
61	304.000	15	15	30	
62	304.100	15	15	30	
63	304.200	15	15	30	

Sr. No.	Chainage (km)	Existing ROW			Remark
		Left side (in m)	Right side (in m)	Total (in m)	
64	304.300	13.95	16.05	30	
65	304.400	13.35	16.65	30	
66	304.500	12.75	17.25	30	
67	304.600	12.15	17.85	30	
68	304.700	11.55	18.45	30	
69	304.800	10.95	19.05	30	
70	304.900	10.4	19.6	30	
71	305.000	15	15	30	
72	305.100	15	15	30	
73	305.200	15	15	30	
74	305.300	15	15	30	
75	305.400	15	15	30	
76	305.500	15	15	30	
77	305.600	15	15	30	
78	305.700	15	15	30	
79	305.800	15	15	30	
80	305.900	15	15	30	
81	306.000	15	15	30	
82	306.100	15	15	30	
83	306.200	15	15	30	
84	306.300	15	15	30	
85	306.400	15	15	30	
86	306.500	15	15	30	
87	306.600	15	15	30	
88	306.700	15	15	30	
89	306.800	15	15	30	
90	306.900	15	15	30	
91	307.000	15	15	30	
92	307.100	15	15	30	
93	307.200	15	15	30	
94	307.300	15	15	30	
95	307.400	13.5	16.5	30	
96	307.500	12.9	17.1	30	
97	307.600	12.3	17.7	30	
98	307.700	15	15	30	
99	307.800	15	15	30	
100	307.900	14	16	30	
101	308.000	15	15	30	
102	308.100	15	15	30	
103	308.200	15	15	30	
104	308.300	15	15	30	
105	308.400	15	15	30	

Sr. No.	Chainage (km)	Existing ROW			Remark
		Left side (in m)	Right side (in m)	Total (in m)	
106	308.500	28.5	1.5	30	
107	308.600	26	4	30	
108	308.700	15	15	30	
109	308.800	15	15	30	
110	308.900	15	15	30	
111	309.000	15	15	30	
112	309.100	15	15	30	
113	309.200	15	15	30	
114	309.300	15	15	30	
115	309.400	15	15	30	
116	309.500	15	15	30	
117	309.600	15	15	30	
118	309.700	15	15	30	
119	309.800	15	15	30	
120	309.900	15	15	30	
121	310.000	15	15	30	
122	310.100	15	15	30	
123	310.200	15	15	30	
124	310.300	15	15	30	
125	310.400	15	15	30	
126	310.500	15	15	30	
127	310.600	15	15	30	
128	310.700	15	15	30	
129	310.800	15	15	30	
130	310.900	15	15	30	
131	311.000	15	15	30	
132	311.100	15	15	30	
133	311.200	15	15	30	
134	311.300	15	15	30	
135	311.400	15	15	30	
136	311.500	15	15	30	
137	311.600	15	15	30	
138	311.700	15	15	30	
139	311.800	15	15	30	
140	311.900	15	15	30	
141	312.000	15	15	30	
142	312.100	8	9	17	
143	312.200	11	10	21	
144	312.300	10	10	20	
145	312.400	10	10	20	
146	312.500	12	13	25	
147	312.600	10	13	23	

Sr. No.	Chainage (km)	Existing ROW			Remark
		Left side (in m)	Right side (in m)	Total (in m)	
148	312.700	10	12	22	
149	312.800	12	13	25	
150	312.900	17	18	35	
151	313.000	15	15	30	
152	313.100	12	13	25	
153	313.200	12	13	25	
154	313.300	13	14	27	
155	313.400	8	15	23	
156	313.500	15	15	30	
157	313.600	15	15	30	
158	313.700	15	15	30	
159	313.800	15	15	30	
160	313.900	15	15	30	
161	314.000	15	15	30	
162	314.100	15	15	30	
163	314.200	15	15	30	
164	314.300	15	15	30	
165	314.400	15	15	30	
166	314.500	14	14	28	
167	314.600	14	15	29	
168	314.700	13	14	27	
169	314.800	12	13	25	
170	314.900	13	13	26	
171	315.000	12	12	24	
172	315.100	10	10	20	
173	315.200	10	10	20	
174	315.300	9	10	19	
175	315.400	12	13	25	
176	315.500	15	15	30	
177	315.600	20	20	40	
178	315.700	13	13	26	
179	315.800	12	12	24	
180	315.900	12	13	25	
181	316.000	11	11	22	
182	316.100	11	11	22	
183	316.200	11	11	22	
184	316.300	11	11	22	
185	316.400	12	11	23	
186	316.500	10	10	20	
187	316.600	10	10	20	
188	316.700	8	8	16	
189	316.800	9	8	17	

Sr. No.	Chainage(km)	Existing ROW			Remark
		Left side (in m)	Right side (in m)	Total (in m)	
190	316.900	9	8	17	
191	317.000	10	10	20	
192	317.100	8	9	17	
193	317.200	12	13	25	
194	317.300	11	12	23	
195	317.400	10	10	20	
196	317.500	10	10	20	
197	317.600	9	9	18	
198	317.700	12	12	24	
199	317.800	15	15	30	
200	317.900	14	14	28	
201	318.000	14	14	28	
202	318.100	12	13	25	
203	318.200	12	12	24	
204	318.300	11	11	22	
205	318.400	10	10	20	
206	318.500	10	20	30	
207	318.600	10	20	30	
208	318.700	11	11	22	
209	318.800	8	17	25	
210	318.900	10	17	27	
211	319.000	7	16	23	
212	319.100	8	14	22	
213	319.200	7	12	19	
214	319.700	15	15	30	
215	319.800	15	15	30	
216	319.900	15	15	30	
217	320.000	13	12	25	
218	320.100	15	15	30	
219	320.200	11	11	22	
220	320.300	13	12	25	
221	320.400	8	7	15	
222	320.500	8	7	15	
223	320.600	8	7	15	
224	320.700	8	7	15	
225	320.800	9	9	18	
226	320.900	8	8	16	
227	321.000	8	7	15	
228	321.100	9	8	17	
229	321.200	11	11	22	
230	321.300	7	7	14	
231	321.400	6	5	11	

Sr. No.	Chainage (km)	Existing ROW			Remark
		Left side (in m)	Right side (in m)	Total (in m)	
232	321.500	8	8	16	
233	321.600	8	7	15	
234	321.700	6	6	12	
235	321.800	5	5	10	
236	321.900	4	5	9	
237	322.000	6	6	12	
238	322.100	6	6	12	
239	322.200	7	7	14	
240	322.300	6	6	12	
241	322.400	6	6	12	
242	322.500	5	6	11	
243	322.600	11	11	22	
244	322.700	7.5	7.5	15	
245	322.800	20	10	30	
246	322.900	6	6	12	
247	323.000	9	9	18	
248	323.100	10	10	20	
249	323.200	15	12	27	
250	323.300	5	6	11	
251	323.400	8	7	15	
252	323.500	13	12	25	
253	323.600	0	4	4	
254	323.700	6	6	12	
255	323.800	8	9	17	
256	323.900	12	12	24	
257	324.000	9	9	18	
258	324.100	7	8	15	
259	324.200	13	10	23	
260	324.300	6	6	12	
261	324.400	8	7	15	
262	324.500	9	8	17	
263	324.600	10	10	20	
264	324.700	8	7	15	
265	324.800	8	7	15	
266	324.900	9	9	18	
267	325.000	7	6	13	
268	325.100	8	7	15	
269	325.200	9	9	18	
270	325.300	10	9	19	
271	325.400	10	11	21	
272	325.500	10	10	20	
273	325.600	10	10	20	

Sr. No.	Chainage (km)	Existing ROW			Remark
		Left side (in m)	Right side (in m)	Total (in m)	
274	325.700	12	12	24	
275	325.800	10	10	20	
276	325.900	15	15	30	
277	326.000	13	14	27	
278	326.100	12	12	24	
279	326.200	10	13	23	
280	326.300	10	13	23	
281	326.400	10	10	20	
282	326.500	8	8	16	
283	326.600	9	10	19	
284	326.700	10	10	20	
285	326.800	13	13	26	
286	326.900	10	11	21	
287	327.000	11	11	22	
288	327.100	15	13	28	
289	327.200	13	13	26	
290	327.300	13	14	27	
291	327.400	12	11	23	
292	327.500	12	11	23	
293	327.600	12	13	25	
294	327.700	14	14	28	
295	327.800	13	13	26	
296	327.900	15	15	30	
297	328.000	15	15	30	
298	328.100	15	15	30	
299	328.200	11	11	22	
300	328.300	10	10	20	
301	328.750	7	7	14	
302	328.800	7	7	14	
303	328.900	4	4	8	
304	329.000	4	4	8	
305	329.100	4	4	8	
306	329.200	4	4	8	
307	329.300	4	4	8	
308	329.400	4	4	8	
309	329.500	4	4	8	
310	329.600	4	4	8	
311	329.700	4	4	8	
312	329.800	4	4	8	
313	329.900	4	4	8	
314	330.000	4	4	8	
315	330.100	4	4	8	

Sr. No.	Chainage (km)	Existing ROW			Remark
		Left side (in m)	Right side (in m)	Total (in m)	
316	330.200	4	4	8	
317	330.300	4	4	8	
318	330.400	4	4	8	
319	330.500	4	4	8	
320	330.600	4	4	8	
321	330.650	4	4	8	
Note :- Minimum encumbrances free RoW is 7.5m available all along the road.					

3. Carriageway

The present carriageway of the Project "Construction of 94 Box Culverts " is of Single Lane carriageway flexible pavement having carriageway varying from 3.0m to 3.5m.

4. Major Bridges

The Site includes the following Major Bridges:

S. No.	Existing Chainage (km)	Type of Structure			No. of Spans with span length (m)	Width (m)
		Foundation	Sub-Structure	Super-Structure		
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):

Sr. No.	Existing Chainage (km)	Type of Structure		No. of Spans with span length (m)	Width (m)	ROB/ RUB
		Foundation	Super Structure			
NIL						

6. Grade separators

The Site includes the following grade separators:

Sr. No	Existing 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

Sr. No.	Existing Chainage (km)	Type of Structure			No. of Spans with span length (c/c of exp gap)	Total Width (m)
		Foundation	Sub-Structure	Super-Structure		
1	298.473	Open	RC WALL	RC SOLID SLAB	2x6.5	8.4
2	310.591	Balley Bridge			27.5+24.4	4.9
3	311.900	Open	RC WALL	RC SOLID SLAB	3x6.1	4.5
4	314.490	Open	RC WALL	RC SOLID SLAB	2x7.0	7.5
5	320.34	Open	RC WALL	RC SOLID SLAB	2x7.2	6.7

8. Railway level crossings

The Site includes the following level crossing:

Sr. No.	Existing Chainage (km)	Remarks
NIL		

9. Underpasses (Vehicular, Non-Vehicular)

The Site includes the following underpasses:

Sr. No.	Existing Chainage (Km)	Type of Structure	No. of Spans with span length (m)	Width (m)
NIL				

10. Culverts

The Site has the following culverts:

Sr. No.	Existing chainage	Type of structures (Pipe. Slab Box, Arch)	Span Arrangement (No.x Length(m))
1	298.087	RCC SLAB	1X1.8
2	298.205	RCC SLAB	1X1.7
3	298.597	HP	1X1.0
4	298.66	HP	1X0.9

Sr. No.	Existing chainage	Type of structures (Pipe. Slab	Span Arrangement (No. x
5	298.928	HP	1X1.2
6	299.052	HP	1X0.9
7	299.09	HP	1X1.2
8	299.384	HP	2X0.9
9	299.555	HP	2X0.9
10	299.772	HP	2X0.9
11	300.016	HP	2X0.9
12	300.167	RCC SLAB	1X6.0
13	300.435	HP	2x0.9
14	300.595	HP	2X0.9
15	300.795	HP	2X0.9
16	301.231	RCC SLAB	1X2.6
17	301.39	RCC SLAB	1X2.2
18	301.75	RCC SLAB	BLOCKED
19	302.064	RCC SLAB	1X5.7
20	302.212	RCC SLAB	1X2.7
21	302.428	RCC SLAB	1X3.1
22	302.605	RCC SLAB	1X2.3
23	302.917	RCC SLAB	1X4.5
24	303.022	RCC SLAB	1X4.8
25	303.267	HP	1X0.8
26	303.345	RCC SLAB	1X6.0
27	303.65	HP	1X0.90
28	303.762	RCC SLAB	1X1.9
29	304.084	RCC SLAB	1x2.5
30	304.22	RCC SLAB	1x2.5
31	304.595	RCC SLAB	1X3.6
32	304.723	HP	1X0.9
33	304.855	HP	1X0.9
34	305.219	HP	1X0.9
35	305.428	HP	1X0.9
36	305.589	HP	1X0.9
37	305.734	HP	1X0.9
38	306.075	RCC SLAB	1X2.3
39	306.274	RCC SLAB	1X4.7
40	306.913	RCC SLAB	1X4.5
41	307.513	RCC SLAB	BLOCKED
42	307.779	RCC SLAB	1X4.70
43	308.005	RCC SLAB	1X2.4
44	308.256	RCC SLAB	1X1.7
45	308.802	RCC SLAB	1X2.6
46	309.071	RCC SLAB	1X5.5

Sr. No.	Existing chainage	Type of structures (Pipe. Slab	Span Arrangement (No.x
47	309.225	HP	BLOCKED
48	309.315	HP	1 X 0.9
49	309.366	HP	2 X 1.2
50	309.439	HP	2 X 1.2
51	309.637	RCC SLAB	1 X 2.5
52	310.98	RCC SLAB	1X5.9
53	311.715	RCC SLAB	1X2.7
54	312.107	RCC SLAB	1X1.8
55	312.232	RCC SLAB	1X1.3
56	312.314	RCC SLAB	1X1.5
57	312.475	RCC SLAB	1 X 2.1
58	312.608	RCC SLAB	1X2.8
59	313.163	RCC SLAB	1X2.6
60	313.294	RCC SLAB	1X1.2
61	313.323	RCC SLAB	1X1.85
62	313.435	RCC SLAB	1X1.3
63	313.536	RCC SLAB	1X5.4
64	313.857	RCC SLAB	1X1.70
65	314.614	RCC SLAB	1X2.1
66	315.138	RCC SLAB	1X1
67	315.507	RCC SLAB	1X1.2
68	315.601	RCC SLAB	1X2.9
69	315.842	RCC SLAB	1X1.5
70	316.032	RCC SLAB	1X.5
71	316.322	RCC SLAB	1X1.5
72	316.355	RCC SLAB	1X2
73	316.566	HP	1X0.6
74	316.708	RCC SLAB	1X1.5
75	316.767	RCC SLAB	1X0.8
76	316.897	RCC SLAB	1X1.1
77	316.966	RCC SLAB	1X0.8
78	317.104	RCC SLAB	1X0.65
79	317.313	RCC SLAB	1X0.91
80	317.36	RCC SLAB	1X1.7
81	317.684	RCC SLAB	1X0.9
82	317.768	RCC SLAB	1X0.8
83	317.825	RCC SLAB	1X1.1
84	318.035	RCC SLAB	1X1
85	318.234	RCC SLAB	1X1.15
86	318.37	RCC SLAB	1X1.7
87	318.445	RCC SLAB	1X0.8
88	318.543	RCC SLAB	1X0.8

Sr. No.	Existing chainage	Type of structures (Pipe. Slab	Span Arrangement (No. x
89	318.58	RCC SLAB	1X0.83
90	318.717	HP	1X0.9
91	318.943	HP	1X0.6
92	319.153	HP	1X0.9
93	319.334	HP	1X0.6
94	319.46	HP	1X0.6
95	319.571	HP	1X0.6
96	319.651	HP	1X0.9
97	319.767	HP	2X0.6
98	319.915	HP	2X0.9
99	320.036	HP	2X0.9
100	320.571	HP	1X0.9
101	321.187	HP	1X0.6
102	321.308	RCC SLAB	1X1.8
103	321.312	HP	2X0.9
104	321.525	HP	1X0.9
105	321.952	HP	1X0.9
106	321.995	HP	1X0.9
107	322.133	HP	1X0.6
108	322.301	HP	1X0.9
109	322.372	HP	2X0.9
110	322.496	HP	1X1.2
111	322.683	HP	2X0.9
112	323.022	HP	1X0.9
113	323.14	HP	2X1.2
114	323.247	HP	2X0.9
115	323.325	HP	2X0.6
116	323.395	RCC SLAB	1X2.18
117	323.61	HP	1X0.6
118	323.84	HP	1X0.6
119	324.06	HP	1X0.6
120	324.135	HP	1X0.6
121	324.307	RCC SLAB	1X4.1
122	324.412	HP	1X0.6
123	324.525	HP	1X0.6
124	324.675	HP	1X0.6
125	324.739	HP	1X0.6
126	325.131	HP	2 X 0.9
127	325.754	RCC SLAB	1X6
128	326.437	HP	1X1.2
129	326.645	HP	2x1.2
130	326.792	HP	1X1.2

Sr. No.	Existing chainage	Type of structures (Pipe. Slab	Span Arrangement (No. x
131	327.147	HP	1X1.2
132	327.295	RCC SLAB	1X3
133	327.897	RCC SLAB	1X3
134	328.192	RCC SLAB	1X4
135	328.549	RCC SLAB	1X2
136	328.61	RCC SLAB	1X1
137	329.181	RCC SLAB	1X5.8
138	329.276	RCC SLAB	1X1
139	329.511	RCC SLAB	1X1.7
140	329.709	RCC SLAB	1X1.4
141	329.799	RCC SLAB	1X1.2
142	329.849	RCC SLAB	1X2
143	329.963	RCC SLAB	1X1.2
144	330.115	RCC SLAB	1X1.2
145	330.198	RCC SLAB	1X1.2
146	330.319	RCC SLAB	1X1.2
147	330.417	RCC SLAB	1X1.2
148	330.525	RCC SLAB	1X1.2
149	330.663	RCC SLAB	1X1.2

11. Bus bays/Bus Shelters

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

Sr. no	Existing CH	Side
1	303.500	LHS
2	303.700	RHS
3	304.100	RHS
4	304.400	LHS
5	304.400	LHS
6	305.000	RHS
7	305.300	LHS
8	306.173	LHS
9	306.473	RHS
10	306.900	LHS
11	307.350	RHS
12	307.900	LHS
13	308.600	LHS
14	309.200	RHS
15	310.700	LHS
16	310.900	RHS
17	311.700	RHS
18	312.100	LHS
19	312.573	LHS

20	312.800	RHS
21	313.400	LHS
22	314.073	RHS
23	314.673	RHS
24	315.000	RHS
25	315.500	LHS
26	316.173	RHS
27	316.673	LHS
28	318.073	RHS
29	320.073	RHS
30	320.573	RHS
31	320.873	RHS
32	322.473	LHS
33	323.273	LHS
34	324.600	RHS
35	325.000	LHS
36	325.973	LHS
37	326.473	LHS
38	327.173	RHS
39	328.073	RHS
40	328.673	RHS

12. Truck Lay byes

The details of truck lay byes are as follows:

Sr. No.	Existing Chainage (Km)	Length (m)	Left Hand Side	Right Hand Side
NIL				

13. Road side drains

The details of the roadside drains are as follows:

Sr. No.	Existing Chainage (km)		Side
	From	To	
1	298.631	299.554	Right
2	299.77	299.824	Right
3	300.237	300.256	Right

4	300.256	300.377	Both Side
5	300.377	301.224	Right
6	301.53	302.012	Left
7	302.091	302.116	Right
8	302.215	302.241	Right

S.No.	Existing Chainage (km)		Side
	From	To	
9	302.481	302.894	Right
10	303.044	303.106	Right
11	303.352	303.528	Right
12	303.658	303.758	Right
13	303.853	304.079	Right
14	305.441	305.554	Right
15	306.39	306.411	Right
16	307.417	307.513	Right
17	308.034	308.177	Right
18	309.25	309.488	Right
19	309.488	309.697	Both Side
20	309.697	309.712	Right
21	310.62	310.764	Right
22	310.99	311.091	Right
23	312.107	312.45	Right
24	312.681	312.819	Right
25	313.044	313.135	Right
26	313.201	313.325	Right
27	313.325	313.36	Both Side
28	313.36	313.492	Right
29	315.203	315.445	Both Side
30	315.445	315.507	Left

14. Major junctions

The details of major junctions are as follows:

Sr. No	Existing Chainage (km)	At Grade	Grade Separated	Category of Cross Road+			
				NH	SH	MDR	Others
1	309.875	At Grade	-	-	-	MDR-Y	-

+ NH= National Highway, SH= State Highway, MDR= Major District Road.

15. Minorjunctions

The details of the minor junctions are as follows:

Sr. No	Existing Chainage (km)	Village Name	Side	Type of Junction

S. No	Existing Chainage (km)	Village Name	Side	Type of Junction
1	304.127	TO SCHOOL	RIGHT	T
2	304.965	TO VILLAGE	LEFT	T
3	305.202	TO SITANAGAR	RIGHT	Y
4	305.575	TO VILLAGE	LEFT	y
5	306.416	TO MORDEN TIKRI	RIGHT	T
6	307.406	TO SITANAGAR VILLAGE	LEFT	Y
7	307.483	TO SITANAGAR VILLAGE	RIGHT	Y
8	307.802	TO SITANAGAR VILLAGE	RIGHT	T
9	308.958	TO SUBHAS GRAM	RIGHT	T
10	309.346	TO SUBHAS GRAM	LEFT	Y
11	309.719	TO KUDHIRAMPUR	RIGHT	Y
12	309.875	TO RADHANAGAR	LEFT	Y
13	309.878	TO GOVT.PRIMARY SCHOOL	RIGHT	Y
14	310.175	TO KALIPUR	RIGHT	Y
15	310.346	TO DIGLIPUR MARKET	RIGHT	T
16	310.775	TO DIGLIPUR MARKET	RIGHT	Y
17	311.094	TO R.K VILLAGE	RIGHT	Y
18	311.934	TO MADHUPUR	LEFT	Y
19	312.050	TO R.K VILLAGE	RIGHT	Y
20	312.478	TO R.K VILLAGE	RIGHT	T
21	312.492	TO R.K VILLAGE	RIGHT	T
22	312.677	TO PANCHABOTI	RIGHT	Y
23	313.23	TO VILLAGE	LEFT	Y
24	313.840	TO V.S PALLY	LEFT	Y
25	313.938	TO VILLAGE	RIGHT	Y
26	314.473	TO V.S PALLY(2)	RIGHT	T
27	314.475	TO V.S PALLY(3)	LEFT	Y
28	314.723	TO KARALAPURAM	LEFT	T
29	315.021	TO KARALAPURAM	RIGHT	T
30	315.025	TO KARALAPURAM	LEFT	T
31	315.369	TO KARALAPURAM	RIGHT	Y
32	316.266	TO KARALAPURAM	LEFT	T
33	318.059	TO ARIAL BAY	RIGHT	Y

34	318.2	TO A.B.W.D STORE	RIGHT	Y
35	318.338	TO VILLAGE	RIGHT	T

Sr. No	Existing Chainage (km)	Village Name	Side	Type of Junction
36	318.515	TO PANCHYAT	RIGHT	T
37	320.159	TO VILLAGE	RIGHT	Y
38	320.325	TO FISHER COLONY	LEFT	Y
39	320.615	TO FISHER COLONY	RIGHT	T
40	320.615	TO DURGAPUR VILLAGE	LEFT	T
41	321.218	TO DURGAPUR VILLAGE	LEFT	Y
42	321.35	TO DURGAPUR VILLAGE	RIGHT	T
43	324.321	TO VILLAGE	LEFT	Y
44	325.087	TO GOVT. SECONDARY SCHOOL	RIGHT	Y
45	326.2	TO SHIVPUR SCHOOL	RIGHT	Y
46	326.298	TO NAVAL AIR STATION	LEFT	Y
47	326.53	TO SHIVPUR VILLAGE	LEFT	Y
48	327.125	TO TURTLE NESTING SITE	LEFT	Y
49	327.888	TO KALIPUR VILLAGE	RIGHT	Y
50	328.418	TO KALIPUR VILLAGE	RIGHT	Y
51	328.59	TO VILLAGE	RIGHT	T
52	328.666	TO VILLAGE	LEFT	T

16. Bypasses

The details of the existing road sections proposed to be bypasses are as follows:

Sr. No	Name of bypass (Town)	Existing Chainage (Km)		Length (Km)
		From	To	
NIL				

17. Other Structures : Following are the details of existing causeways:

Sr. No	Existing Chainage (km)	Structure Type	Openings / Spans X Length	Width (m)
NIL				

Annex - II

(Schedule-A)

Dates for providing Right of Way

The dates on which the Authority shall provide Right of Way to the Contractor on different stretches of the Site are stated below:

Sr. No.	Design Chainage (Km)		Design Length (Km)	Width (In Meter)	Dates of Providing ROW
	From	To			
1	2	3	4	5	6
	Part Right of Way				
	Width of Land as per Clause 2 of Annexure-I of Schedule A				On Appointed Date

Annex-III

(Schedule-A)

Alignment Plans

The existing alignment of the Project Highway shall be followed for the Project "Reconstruction of 94 Box Culverts "

Annex - IV

(Schedule-A)

Environment Clearances

Not Applicable for this section.

SCHEDULE -B

(See Clause2.1)

Development of the Project "Reconstruction of 94 Box Culverts"

1. Development of the Project "Reconstruction of 94 Box Culverts "

Development of the Project "Reconstruction of 94 Box Culverts " shall include design and construction of the Project as described in Annex-I of Schedule-B and in Schedule-C.

2. Rehabilitation and Upgradation

There is no provision for Rehabilitation and Upgradation of the existing culverts. The Project shall comprise 'Reconstruction of 94 Box Culverts' between km 298+000 to km 330+662 of National Highway – 223(New NH-4) as described in Schedule-B and in Schedule-C.

3. Specifications and Standards

The Project "Reconstruction of 94 Box Culverts " shall be designed and constructed in conformity with the Specifications and Standards specified in Annex-I of Schedule-D.

4. Availability of the aggregates in the A&N Island

Although local aggregates are available but time to time restriction on quarrying the aggregate is imposed by the A&N administration. The arrangement of stones/aggregates to be planned by the contractor including its import from mainland/Asian countries. The estimation has been done accordingly. Bidders need to carry out due diligence while quoting financial quote. Bidders should explore the alternate technologies as per IRC to optimize the cost of work.

Annex - I
(Schedule-B)

Description of Two-Laning

Project Description:-

Rehabilitation and Upgradation of NH-4 (Old NH-223) popularly known as Andaman Trunk Road (ATR) has been entrusted to NHIDCL for the entire stretch of 330.7 Km distributed in South Andaman and North & Middle Andaman. In North Andaman the Project "Reconstruction of 94 Box Culverts "between km 298.00 (karala junction) to km 330.662 (Lamiya Bay) is proposed to be implemented. The Project is to be constructed on the existing alignment only. There is no realignment.

1.1 WIDTH OFCARRIAGEWAY

1.1.1 The Project "Reconstruction of 94 Box Culverts " shall be constructed in between km 298+0 to km 330+662 and the carriageway shall be 5.5m wide with both side 0.5m hard shoulders in conformation with the typical cross sections drawings in theManual.*

* Exact location to be decided at site

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

2. GEOMETRIC DESIGN AND GENERALFEATURES

2.1 General

Geometric design and general features of the Project "Construction of 94 Box Culverts " shall be in accordance with section 2 of the manual.

2.2 Design Speed

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

2.3 Improvement of the existing road geometry

The Project "Reconstruction of 94 Box Culverts "will be implemented on the same alignment approved for construction of intermediate lane between km 298.000 to km 330.662

Bypasses

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

2.4 Right ofWay

The Site of the Project "Reconstruction of 94 Box Culverts " comprises the land as described in Annexure-I of Schedule-A.

2.5 Type of Shoulders

NIL.

2.6 Lateral and vertical clearances at underpasses

2.6.1 Lateral and vertical clearances at underpasses and provision of guardrails/crashbarriers shall be as per paragraph 2.11 of the Manual.

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

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

2.7 Lateral and vertical clearances at overpasses

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

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

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

2.8 Service roads

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

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

2.9 Grade separated structures

2.9.1 Grade separated structures shall be provided as per paragraph 2.14 of the Manual. The requisite particulars are givenbelow:

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

2.9.2 In the case of grade separated structures, the type of structure and the level of the

Project Highway and the cross roads shall be as follows:

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

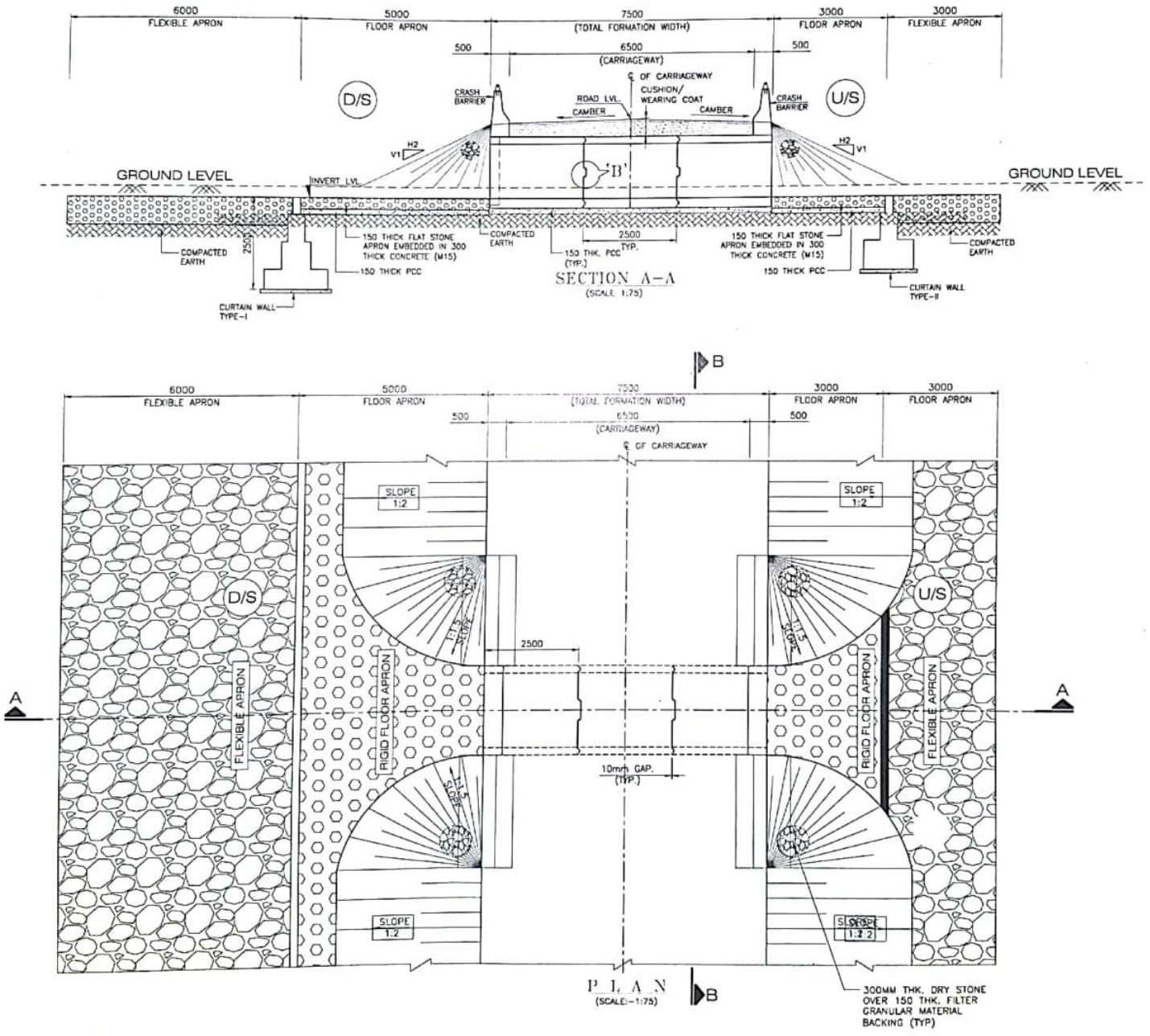
2.10 Cattle and pedestrian under pass / over pass

Cattle and pedestrian underpass shall be constructed as follows:

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

2.11 Typical cross-sections of the Project Highway

Indicative typical cross sections for the different span of culverts are indicated in Appendix B-I. Cross Section schedule for the project is as follows:



3. INTERSECTIONS AND GRADESEPARATORS

All intersections and grade separators shall be as per section 3 of the Manual. Existing intersections which are deficient shall be improved to the prescribed standards within the available road width only. Junction road to be developed upto 50 m length only.

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

a) At-grade intersections (Major Junctions)

Sr. No.	Design Chainage (Km)	Type of Intersection	Side	Remarks
1	NIL			

b) At-grade intersections (MinorJunctions)

NIL

c) Grade separated intersection withoutramps

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

4. DESIGN OFSTRUCTURES

4.1 General

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

4.2 Culverts

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

4.2.2 ***Reconstruction of existing culverts***: The following box culverts shall be constructed in place of existing structures

EXISTING					PROPOSED		
Sl. No.	Existing chainage	Type of structures (Pipe. Slab Box, Arch)	Span Arrangement No.X Length(m) / BoXDia	Existing Width	Type of structures	Span Arrangement No.X Length(m)	Width of Culvert
1	298.597	PIPE CULVERT	1 X 1.0	7	BOX CULVERT	1 X 1.5	7.5
2	298.660	PIPE CULVERT	1 X 0.9	7	BOX CULVERT	1 X 1.5	7.5
3	298.928	PIPE CULVERT	1 X 1.2	8.4	BOX CULVERT	1 X 1.5	8
4	299.052	PIPE CULVERT	1 X 0.9	8	BOX CULVERT	1 X 1.5	8
5	299.090	PIPE CULVERT	1 X 1.2	8.4	BOX CULVERT	1 X 1.5	8
6	299.384	PIPE CULVERT	2 X 0.9	9.9	BOX CULVERT	1 X 2.5	10
7	299.555	PIPE CULVERT	2 X 0.9	7	BOX CULVERT	1 X 2.5	7.5
8	299.772	PIPE CULVERT	2 X 0.9	6.7	BOX CULVERT	1 X 2.5	7.5
9	300.016	PIPE CULVERT	2 X 0.9	9.7	BOX CULVERT	1 X 2.5	10
10	300.167	SLAB CULVERT	1 X 6.0	7	BOX CULVERT	1 X 6.0	7.5
11	300.435	PIPE CULVERT	2 X 0.9	8.8	BOX CULVERT	1 X 2.5	8
12	300.595	PIPE CULVERT	2 X 0.9	10.1	BOX CULVERT	1 X 2.5	10
13	300.795	PIPE CULVERT	2 X 0.9	5.8	BOX CULVERT	1 X 2.5	7.5
14	301.231	SLAB CULVERT	1 X 2.6	6.5	BOX CULVERT	1 X 3	7.5
15	301.390	SLAB CULVERT	1 X 2.2	6.5	BOX CULVERT	1 X 2.5	7.5

16	301.750	SLAB CULVERT	1 X 4.0	6.5	BOX CULVERT	1 X 4.0	7.5
17	302.064	SLAB CULVERT	1 X 5.7	6.5	BOX CULVERT	1 X 6.0	7.5
18	302.212	SLAB CULVERT	1 X 2.7	6.5	BOX CULVERT	1 X 3	7.5
19	302.428	SLAB CULVERT	1 X 3.1	6.5	BOX CULVERT	1 X 3.5	7.5
20	302.605	SLAB CULVERT	1 X 2.3	6.5	BOX CULVERT	1 X 2.5	7.5
21	303.022	SLAB CULVERT	1 X 4.8	7	BOX CULVERT	1 X 5	7.5
22	303.267	PIPE CULVERT	1 X 0.8	9.8	BOX CULVERT	1 X 1.5	10
23	303.650	PIPE CULVERT	1 X 0.90	10.1	BOX CULVERT	1 X 1.5	10
24	304.723	PIPE CULVERT	1 X 0.9	10.1	BOX CULVERT	1 X 1.5	10
25	304.855	PIPE CULVERT	1 X 0.9	8.4	BOX CULVERT	1 X 1.5	8
26	305.219	PIPE CULVERT	1 X 0.9	10	BOX CULVERT	1 X 1.5	10
27	305.428	PIPE CULVERT	1 X 0.9	10.4	BOX CULVERT	1 X 1.5	10
28	305.589	PIPE CULVERT	1 X 0.9	9.7	BOX CULVERT	1 X 1.5	10
29	305.734	PIPE CULVERT	1 X 0.9	9.9	BOX CULVERT	1 X 1.5	10
30	307.779	SLAB CULVERT	1 X 4.70	6.3	BOX CULVERT	1 X 5	7.5
31	308.005	SLAB CULVERT	1 X 2.4	6.3	BOX CULVERT	1 X 2.5	7.5
32	308.256	SLAB CULVERT	1 X 1.7	6.3	BOX CULVERT	1 X 2	7.5
33	308.802	SLAB CULVERT	1 X 2.6	7.3	BOX CULVERT	1 X 3	7.5
34	309.071	SLAB CULVERT	1 X 5.5	7	BOX CULVERT	1 X 6.0	7.5
35	309.225	PIPE CULVERT	1 X 0.6	11	BOX CULVERT	1 X 1.5	10
36	309.315	PIPE CULVERT	1 X 0.9	12.5	BOX CULVERT	1 X 1.5	10
37	309.366	PIPE CULVERT	2 X 1.2	12.5	BOX CULVERT	1 X 3.0	10
38	309.439	PIPE CULVERT	2 X 1.2	7	BOX CULVERT	1 X 3.0	7.5
39	309.637	SLAB CULVERT	1 X 2.5	7	BOX CULVERT	1 X 2.5	7.5
40	310.980	SLAB CULVERT	1 X 5.9	6.9	BOX CULVERT	1 X 6.0	7.5
41	312.107	SLAB CULVERT	1 X 1.8	6.5	BOX CULVERT	1 X 2	7.5
42	312.232	SLAB CULVERT	1 X 1.3	6.5	BOX CULVERT	1 X 1.5	7.5
43	312.314	SLAB CULVERT	1 X 1.5	6.5	BOX CULVERT	1 X 1.5	7.5
44	312.475	SLAB CULVERT	1 X 2.1	6.5	BOX CULVERT	1 X 2.5	7.5
45	313.294	SLAB CULVERT	1 X 1.2	6.5	BOX CULVERT	1 X 1.5	7.5
46	313.323	SLAB CULVERT	1 X 1.85	6.5	BOX CULVERT	1 X 2	7.5
47	313.435	SLAB CULVERT	1 X 1.3	6.5	BOX CULVERT	1 X 1.5	7.5
48	313.536	SLAB CULVERT	1 X 5.4	6.5	BOX CULVERT	1 X 6.0	7.5
49	313.857	SLAB CULVERT	1 X 1.70	6.5	BOX CULVERT	1 X 2.0	7.5
50	314.614	SLAB CULVERT	1 X 2.1	6.5	BOX CULVERT	1 X 2.5	7.5
51	315.138	SLAB CULVERT	1 X 1.0	6.5	BOX CULVERT	1 X 1.5	7.5
52	315.507	SLAB CULVERT	1 X 1.2	6.5	BOX CULVERT	1 X 1.5	7.5
53	315.601	SLAB CULVERT	1 X 2.9	6.5	BOX CULVERT	1 X 3.0	7.5
54	315.842	SLAB CULVERT	1 X 1.5	6.5	BOX CULVERT	1 X 1.5	7.5
55	316.032	SLAB CULVERT	1 X 5.0	6.5	BOX CULVERT	1 X 5.0	7.5
56	316.322	SLAB CULVERT	1 X 1.5	6.5	BOX CULVERT	1 X 1.5	7.5
57	316.355	SLAB CULVERT	1 X 2.0	6.5	BOX CULVERT	1 X 2.0	7.5
58	316.566	PIPE CULVERT	1 X 0.6	9.2	BOX CULVERT	1 X 1.5	10
59	316.708	SLAB CULVERT	1 X 1.5	7	BOX CULVERT	1 X 1.5	7.5
60	316.767	SLAB CULVERT	1 X 0.8	8	BOX CULVERT	1 X 1.5	8
61	316.897	SLAB CULVERT	1 X 1.1	7	BOX CULVERT	1 X 1.5	7.5

62	316.966	SLAB CULVERT	1 X 0.8	7	BOX CULVERT	1 X 1.5	7.5
63	317.104	SLAB CULVERT	1 X 0.65	7	BOX CULVERT	1 X 1.5	7.5
64	317.313	SLAB CULVERT	1 X 0.91	8.1	BOX CULVERT	1 X 1.5	8
65	317.360	SLAB CULVERT	1 X 1.7	6.5	BOX CULVERT	1 X 2	7.5
66	317.684	SLAB CULVERT	1 X 0.9	6.5	BOX CULVERT	1 X 1.5	7.5
67	317.768	SLAB CULVERT	1 X 0.8	6.5	BOX CULVERT	1 X 1.5	7.5
68	317.825	SLAB CULVERT	1 X 1.1	5.5	BOX CULVERT	1 X 1.5	7.5
69	318.035	SLAB CULVERT	1 X 1.0	7	BOX CULVERT	1 X 1.5	7.5
70	318.234	SLAB CULVERT	1 X 1.15	7	BOX CULVERT	1 X 1.5	7.5
71	318.370	SLAB CULVERT	1 X 1.7	7.9	BOX CULVERT	1 X 2	8
72	318.445	SLAB CULVERT	1 X 0.8	6.5	BOX CULVERT	1 X 1.5	7.5
73	318.543	SLAB CULVERT	1 X 0.8	6.5	BOX CULVERT	1 X 1.5	7.5
74	318.580	SLAB CULVERT	1 X 0.83	6.5	BOX CULVERT	1 X 1.5	7.5
75	318.717	PIPE CULVERT	1 X 0.9	9.7	BOX CULVERT	1 X 1.5	10
76	319.334	PIPE CULVERT	1 X 0.6	5.3	BOX CULVERT	1 X 1.5	7.5
77	319.915	PIPE CULVERT	2 X 0.9	7.2	BOX CULVERT	1 X 1.5	7.5
78	321.308	SLAB CULVERT	1 X 1.8	7.45	BOX CULVERT	1 X 2.5	7.5
79	323.395	SLAB CULVERT	1 X 2.18	5.2	BOX CULVERT	1 X 2.	7.5
80	324.135	PIPE CULVERT	1 X 0.6	6	BOX CULVERT	1 X 2.5	7.5
81	324.525	PIPE CULVERT	1 X 0.6	5.4	BOX CULVERT	1 X 1.5	7.5
82	325.131	PIPE CULVERT	2 X 0.9	7.3	BOX CULVERT	1 X 1.5	7.5
83	325.754	SLAB CULVERT	1 X 6.0	6.5	BOX CULVERT	1 X 2.5	7.5
84	326.437	PIPE CULVERT	1 X 1.2	7.6	BOX CULVERT	1 X 6.0	7.5
85	326.645	PIPE CULVERT	2 X 1.2	7.4	BOX CULVERT	1 X 1.5	7.5
86	326.792	PIPE CULVERT	1 X 1.2	6.5	BOX CULVERT	1 X 3	7.5
87	327.147	PIPE CULVERT	1 X 1.2	6.9	BOX CULVERT	1 X 1.5	7.5
88	327.295	SLAB CULVERT	1 X 3.0	5.2	BOX CULVERT	1 X 1.5	7.5
89	327.897	SLAB CULVERT	1 X 3.0	5.2	BOX CULVERT	1 X 3.0	7.5
90	328.192	SLAB CULVERT	1 X 4.0	5.3	BOX CULVERT	1 X 3.0	7.5
91	328.549	SLAB CULVERT	1 X 2.0	5.5	BOX CULVERT	1 X 4.0	7.5
92	328.610	SLAB CULVERT	1 X 1.0	5.5	BOX CULVERT	1 X 2.0	7.5
93	329.181	SLAB CULVERT	1 X 5.8	6.4	BOX CULVERT	1 X 1.5	7.5
94	319.153	PIPE CULVERT	1 X 0.9	4.9	BOX CULVERT	1 X 6.0	7.5

- Any change in above chainages shall be decided as per site condition in consultation with Authority Engineer Reconstruction of 94 Nos. of culverts in the stretch from Km 298.00 to km 330.662 (Karala to Kalipur) of NH-04 in the Union Territory of Andaman & Nicobar Islands on EPC Mode

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

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

4.2.4 Repairs/replacements of railing/parapets, flooring and protection works of the existing

culverts shall be undertaken as required :

NIL

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

NIL

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

NIL

4.3 Bridges

4.3.1 Existing bridges to be re-constructed/widened:

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

S. No	Bridge Location (Design Chainage, in Km)	Salient Features of Existing Bridge		Features of Proposed Bridge	
		No. of Spans with Span Length (c/c of exp. Gap)	Total Width (m)	Proposed Length (m)	Total proposed Width
NIL					

(ii) The following narrow bridges shall be widened:

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

4.3.2 Additional new bridges

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

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

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

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

4.3.4 Drainage system for bridge deck

An effective drainage system for culverts shall be provided as specified in the Manual

735 Structures in marine environment

The Project Alignment does not lie in Marine Alignment.

4.4 Rail-road bridges

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

NIL

4.4.2 Road over-bridges

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

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

4.4.3 Road under-bridges

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

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

4.5 Grade separated structures

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

NIL

4.6 Repairs and strengthening of bridges and structures

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

A. Bridges

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

B. ROB / RUB

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

C. Overpasses/Underpasses and other structures

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

4.7 List of Major Bridges and Structures

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

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

8 TRAFFIC CONTROL DEVICES AND ROAD SAFETY WORK.

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

9 ROAD SIDEFURNITURE

NIL

.

10 COMPULSORYAFFORESTATION

NIL

11 HAZARDOUSLOCATIONS

The road side safety/Crash barriers shall be provided at following locations for minimum length as per the Manual of Specifications (IRC:SP:73-2015).

Length- NIL

12 SPECIAL REQUIREMENTS FOR HILLROAD

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

12.1 Slope Protection -NIL

CHANGE OFSCOPE

The length of Culverts specified hereinabove shall be treated as an approximate assessment. The Contractor in accordance with the Specifications and Standards shall determine the actual lengths as required on the basis of detailed investigations. Any variations in the lengths specified in this Schedule-B shall not constitute a Change of Scope, save and except any variations in the length arising out of a Change of Scope expressly undertaken in accordance with the provisions of Article13.

SCHEDULE - C

(See Clause 2.1)

PROJECT FACILITIES

1. Project Facilities

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

a) Road side furniture;

b) Pedestrian facilities

c) Bus shelter

d) Passing Places

e) Parking Spaces

f) Breast Wall & Retaining Wall

Other to be specified

2. Description of Project Facilities

Each of the Project Facilities is described below:

a) Road side furniture;

NIL

i. Traffic Signs:
NIL

ii. PavementMarkings:
NIL.

iii. LED Traffic Blinkers:
NIL.

iv. Crash barrier
NIL

v. Delineators
NIL

vi. Road Studs:
NIL.

vii) Hectometre / Kilometre stones:
NIL

b) Pedestrian facilities

NIL

c) Bus Shelter

NIL

a) Passing Places

NIL

b) **Parking Spaces**

NIL

c) Breast Wall & Retaining Wall

NIL

.

SCHEDULE – D

(See Clause 2.1)

SPECIFICATIONS AND STANDARDS

1. Construction

The Contractor shall comply with the Specifications and Standards set forth in Annex-I of this Schedule-D for construction of the Project "Construction of 94 Box Culverts "

2. Design Standards

The Project "Construction of 94 Box Culverts " 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), referred to herein as the Manual.

Annex - I

(Schedule-D)

Specifications and Standards for Construction

1. Specification and Standards

All Materials, works and construction operations shall conform to the Manual of Specifications and Standards for Two-Lanning of Highways (IRC:SP:73-2015), referred to as the Manual, and MORTH Specifications for Road and Bridge Works (Rev-5). Where the specification for a work is not given, Good Industry Practice shall be adopted to the satisfaction of the Engineer in charge.

SCHEDULE – E

(See Clause 2.1 and 14.2)

MAINTENANCE REQUIREMENTS

1. Maintenance Requirements

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

1.2 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.

1.3. All Materials, works and construction operations shall conform to the "SPECIFICATIONS FOR ROAD ANDBRIDGE 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.

This being not an item rate contract, the procedure for Measurement and Payment for the items of works shall be in accordance with provision of Article 19 of the Agreement. Therefore the Sub Clauses of measurement for payment and rates in above specifications stand deleted.

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 timelimit

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 Work 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 Work 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 work 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)

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.

Nature of Defect or deficiency		Time limit for repair/ rectification
Culverts		
(A)	**Foundations**	
(a)	Scouring and/or cavitation underneath	15 (fifteen) days
(b)	**Abutments and return walls**	
(i)	Cracks and damages including settlement and tilting, Spalling, scaling	30 (thirty) days
(ii)	Any other defects/deficiency not covered above (a) & (b) but pointed out by Engineer	3 (Three) days
(c)	**Other items**	
(iii)	Damage or deterioration in parapets and crash barriers	3 (three) days (immediately within 24 hours if posing danger of safety)
(iv)	Rain-cuts or erosion in slope pitching,	7 (seven) days

(vi)	Damage or deterioration in pitching, apron, toes, floor or guide bunds	30 (thirty) days
(vii)	Growth of vegetation affecting the structure or obstructing the waterway	15 (fifteen) days
(viii)	Any other defects/deficiency not covered above but pointed out by Engineer	3 (Three) days

The failure to address above measures for any of the defects/deficiency may attract reduction in payment as per schedule M

Schedule-F

(See Clause 3.1.5(a))

APPLICABLE PERMITS

1. Applicable Permits

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

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

(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.

1.2 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

(See Clause 7.1.1, 7.5.3 and 19.2)

FORM OF BANK GUARANTEE

Annex-I

(See Clause 7.1.1)

PERFORMANCE SECURITY

The Managing Director,
NHIDCL,3rd Floor,
PTI Building, Sansad Marg,
New Delhi

WHEREAS:

(A) [name and address of contractor] (hereinafter called "the Contractor") and [**NHIDCL**], (**"the Authority"**) have entered into an agreement (the **"Agreement"**) for "Reconstruction of 94 Nos. of culverts in the stretch from Km 298.00 to km 330.662 (Karala to Kalipur) of NH-04 in the Union Territory of Andaman & Nicobar Islands on EPC Mode (Re-tender) Contract", subject to and in accordance with the provisions of the Agreement.

(B) The Agreement requires the Contractor to furnish a Performance Security for due and faithful performance of its obligations, under and in accordance with the Agreement, during the Construction Period and Defects Liability Period and maintenance period (as defined in the Agreement) in a sum of Rs. …. Crore (Rupees …. Crore) (the "Guarantee Amount").

(C) 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 and 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.

2. A letter from the Authority, under the hand of an officer not below the rank of [Executive Director, NHIDCL], 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 Agreement 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 Agreement and its decision that the Contractor is in default shall be final, and binding on the Bank, notwithstanding any difference 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 Agreement 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 Agreement 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.

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 Agreement or for the fulfillment, compliance and/or performance of all or any of the obligations of the Contractor under the Agreement.

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 Performance Security shall cease to be in force and effect upto 90 (ninety) days after the end of the Defects Liability Period as set forth in Clauses 17.1 of EPC agreement.

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 sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.
[[[

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

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

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

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

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)

Form for Guarantee for Advance Payment

The Managing Director,
NHIDCL,3rd Floor,
PTI Building, SansadMarg,
New Delhi

WHEREAS:

(A) [name and address of contractor] (hereinafter called "**the Contractor**") has executed an agreement (hereinafter called the "Agreement") with the [**NHIDCL**], (hereinafter called "**the Authority**") for the "Reconstruction of 94 Nos. of culverts in the stretch from Km 298.00 to km 330.662 (Karala to Kalipur) of NH-04 in the Union Territory of Andaman & Nicobar Islands on EPC Mode Contract", 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 isRs. cr.(Rupees crore) (the "Guarantee Amount")

(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 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 AdvancePayment.

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 90 (ninety) days after the end of the one year from the date of payment of the installment of the Advance Payment, as set forth in 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 authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.

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

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

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

S.No.	Particulars	Details
1	Name of Beneficiary	National Highways & Infrastructure Development Corporation Limited
2	Beneficiary Bank Account No.	90621010002659
3	Beneficiary Bank Branch	IFSC SYNB0009062

4	Beneficiary Bank Branch Name	Transport Bhawan, New Delhi
5	Beneficiary Bank Address	Canara Bank (erstwhile Syndicate Bank) transport Bhawan, 1st Parliament Street, New Delhi-110001

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)

Schedule-H

(See Clauses 10.1.4 and19.3)

Contract Price Weightages

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

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

Item	Weightage in percentage to the Contract price	Stage for Payment	Percentage weightage
1	**Foundation**		
		a)Dismantling & Site Clearance,	2.46%
	23.89%	b) PCC	7.36%
		c) Construction of bottom slab, wall including backfilling and filter media	39.52%
		d) Construction of Retaining wall including backfilling and filter media	50.66%
2	**Superstructure**		
	27.41%	a) Construction of Slab including reinforcement	95.77%
		b) Construction of crash barrier	4.23%
3	**Other works**		
		a) Rigid apron	10.71%
		b) Flexible apron	38.94%
	48.70%	c) Slope pitching including filter media	3.24%
		d) Painting and numbering	0.13%
		e) Guard Stones	0.89%
		f) Curtain Wall	46.09%

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

Table 1.3.1

SL no	Item	Description	Percentage Weightage	Payment Procedure
1	**Foundation**			
	23.89%	a) Dismantling & Site Clearance	2.46%	Unit of measurement is in no and Cost of work will be with respect to total no of culverts. Payment of each stage shall be made on pro-rata basis on completion of a stage of not less than 5 nos of culvert.
		b) PCC	7.36%	Unit of measurement is in no and Cost of work will be with respect to total no of culverts. Payment of each stage shall be made on pro - rata basis on completion of a stage of not less than 5nos of culvert.
		c) Construction of bottom slab, wall including backfilling and filter media	39.52%	Unit of measurement is in no and Cost of work will be with respect to total no of culverts. Payment of each stage shall be made on pro rata basis on completion of a stage of not less than 5nos of culvert.
		e) Construction of Retaining wall including backfilling and filter media	50.66%	Unit of measurement is in no and Cost of work will be with respect to total no of culverts. Payment of each stage shall be made on pro rata basis on completion of a stage of not less than 5 nos of culvert.
2	**Superstructure**			
	27.41%	a) Construction of Slab including reinforcement	95.77%	Cost of construction of culvert shall be on pro rata basis with respect to the total number of culverts. Payment shall be made on the completion of at least five culverts
		b) Construction of crash barrier	4.23%	Cost of construction of culvert shall be on pro rata basis with respect to the total number of culverts. Payment shall be made on the completion of at least five culverts

3	**Other works**			
	48.70%	a) Rigid apron	10.71%	Unit of measurement is in no and Cost of work will be with respect to total no of culverts. Payment of each stage shall be made on pro rata basis on completion of a stage of not less than 5nos of culvert.
		b) Flexible apron	38.94%	Unit of measurement is in no and Cost of work will be with respect to total no of culverts. Payment of each stage shall be made on pro rata basis on completion of a stage of not less than 5nos of culvert.
		c) Slope pitching including filter media	3.24%	Unit of measurement is in no and Cost of work will be with respect to total no of culverts. Payment of each stage shall be made on pro rata basis on completion of a stage of not less than 5nos of culvert.
		d) Painting and numbering	0.13%	Unit of measurement is in no and Cost of work will be with respect to total no of culverts. Payment of each stage shall be made on pro rata basis on completion of a stage of not less than 10 nos of culvert.
		e) Guard Stones	0.89%	Unit of measurement is in no and Cost of work will be with respect to total no of culverts. Payment of each stage shall be made on pro rata basis on completion of a stage of not less than 10 nos of culvert.
		f) Curtain Wall	46.09%	Unit of measurement is in no and Cost of work will be with respect to total no of culverts. Payment of each stage shall be made on pro rata basis on completion of a stage of not less than 5nos of culvert.

SCHEDULE-I

(See Clause 10.2)

DRAWINGS

1. 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

The plan and detailed cross section including reinforcement of all the box culverts in Schedule- B to be submitted

Annex-I

[Note: The Authority shall describe in this Annex-I, all the Drawings that the Contractor is required to furnish under Clause 10.2.]

SCHEDULE-J

(See Clause 10.3.2)

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 70th (Seventy 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 'Reconstruction of 94 Box Culverts' and submitted to the Authority duly and validly prepared Stage Payment Statements completion schedule in reference to Schedule-H Items, Stages and Sub-stages 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 135th (One Hundred and Thirty Five) day from the Appointment Date (the "Project Milestone-II").

Prior to the occurrence of Project Milestone-II, the Contractor shall have commenced construction of the Project 'Reconstruction of 94 Box Culverts' and submitted to the Authority duly and validly prepared Stage Payment Statements completion schedule in reference to Schedule-H Items, Stages and Sub-stages payment statements for an amount not less than 50% (Fifty per cent) of the Contract Price and should have started construction of all project facilities.

4. Project Milestone-III

(i) Project Milestone-III shall occur on the date falling on the 200th (Two Hundred) 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 'Reconstruction of 94 Box Culverts' and submitted to the Authority duly and validly prepared payment Statements for an amount not less than 75% (sixty per cent) of the Contract Price and should have started construction of all project facilities.

5 Schedule Completion Date

(i) The Schedule Completion Date shall occur on the 270th (Two hundred and Seventy) 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

(See Clause 12.1.2)

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 'Construction of 94 Box Culverts' 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 'Construction of 94 Box Culverts' 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) 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 'Construction of 94 Box Culverts' with Specifications and Standards.

(iii) Environmental audit: The Authority's Engineer shall carry out a check to determine conformity of the Project 'Construction of 94 Box Culverts' with the environmental requirements set forth in Applicable Laws and Applicable Permits.

(iv) Safety Audit: The Authority's Engineer shall carry out or cause to be carried out, a safety audit to determine conformity of the Project 'Construction of 94 Box Culverts' 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.

SCHEDULE-L

(See Clause 12.2 and 12.4)

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 "Rehabilitation and up-gradation of section from Km 298.0 to 330.662 (Karala Village to Kalipur Village of NH-4 to Intermediate lane with hard shoulder in the Union Territory of Andaman & Nicobar Islands through Engineering, Procurement & Construction (EPC) Basis Contract 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

Authority's Engineer by:

(Signature)

(Name)

(Designation)

(Address)

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 Paragraph2.

2. Percentage reductions in lump sum payments

(i) The following percentages shall govern the payment reduction:

(c)	**Culverts**	
(i)	Desilting, cleaning. vegetation growth, damaged pitching, flooring, parapets, any damage to foundations	20%
(ii)	Any Defects in superstructures and sub-structures	10%
(iii)	Painting, repairs/replacement , railings, parapets, guideposts/crash barriers	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 asunder:

R = P/ 100 x (M1) x N1 / N

Where,
P= Percentage of particular item/Defect/deficiency for deduction
M1= Monthly lump-sum payment in accordance para 1.2 above of this Schedule M2= Monthly lump-sum payment in accordance para 1.2 above of this Schedule
N1= Non-complying No N = Total No of the Culvert,

R = Reduction (the amount to be deducted for noncompliance for a particular

item/Defect/deficiency

SCHEDULE-N

(See Clause18.1.1)

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 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 Paragraph 1.1, 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 Ministry of Road Transport and Highways (the "**Authority**") and ..... (the "**Contractor**") for "Reconstruction of 94 Nos. of culverts in the stretch from Km 298.00 to km 330.662 (Karala to Kalipur) of NH-04 in the Union Territory of Andaman & Nicobar Islands on EPC Mode Contract, 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 IndustryPractice.

(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)issuance of Completion Certificateor

(e)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 Rs. 5,000,000 (Rs. fifty lakh).

(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 ofeverymonth.

(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 Clause18.2.

(v) The Authority's Engineer shall aid and advise the Authority on any proposal for Change of Scope under Article13.

(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,

4 Construction Period

(i) During the Construction Period, the Authority's Engineer shall review and approve 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 (vi). The Authority's Engineer shall complete such review and approval 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 Clause10.4.

(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 teststhat

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 Clause12.4.

(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 berevoked.

(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,asthecasemaybe.ForcarryingoutitsfunctionsunderthisParagraph 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 Clause14.5.

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 Clause18.5.

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 Clause19.4,delivertotheAuthorityandtheContractoranInterimPayment

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 Clause19.16.

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

(See Clauses 19.4.1, 19.6.1, and 19.8.1)

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.

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 of not less than 15% of the Contract Price 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 which arises from a cause occurring prior totheissueoftheCompletionCertificate.TheContractorshallalsomaintain

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 and occurring before the issue of the Performance Certificate. 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 as per the applicable laws of government and procedure in vogue.

(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

(See Clause 14.10)

Tests on Completion of Maintenance Period

1. 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 Desilting, cleaning. Vegetation growth, damaged pitching, flooring, parapets, any damage to foundations, sub structure and super structure and shall be as per the requirement of maintenance mentioned in Schedule-E.

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 [construction of the ****section (km ** to km **) of

****] (the "**Project Highway**") on Engineering, Procurement and Construction (EPC) basis through.....(Name of Contractor), hereby certify that the Tests on completionof 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, SEALEDANDDELIVERED

(Signature

(Name and designation of Authority'sRepresentative)

(Address)

****** The End******