



**GOVERNMENT OF HIMACHAL PRADESH**  
**PUBLIC WORKS DEPARTMENT**



**ANALYSIS OF RATES**  
**2021**  
**PMGSY**  
**BRIDGE WORKS**

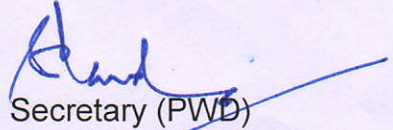
## FOREWORD

Roads are the lifeline of any economy and a very vital infrastructure for the rapid economic growth of any State. In fact, the development of important sectors of economy such as Agriculture, Horticulture, Industry, Mining, Forestry and Tourism depends upon the availability of a good extensive road network. Activities of social development such as education, health, food security etc. also depend upon an efficient road network. So the primary objective and aim of the Public Works Department is to provide connectivity by way of providing good all weather roads to all the habitations in the State in addition to meeting adequate standards of comforts to the road users.

Himachal Pradesh is a hill state and given its difficult terrain, to provide road connectivity to its people is a challenging task. As per the guidelines of PMGSY, Himachal Pradesh Public Works Department has taken up this challenge boldly to provide connectivity to the villages by way of constructing good quality of rural roads connecting distant habitations to the mainstream.

Till now, Schedule of Rates 2016 was in operation in HPPWD for PMGSY road and bridge works. However, it was decided in the year 2019 to revise the PMGSY Schedule of Rates by Ministry of Rural Roads Development, Govt. of India. Accordingly, a technical committee of PWD officers was constituted and accordingly Standard Schedule of Rates for PMGSY works has been prepared. This document will also be extensively used by all the branches of HPPWD and other Govt. agencies in the State. The basic rates of labour, material and machinery, as applicable in Himachal Pradesh, have been taken into consideration for the analysis of different items in this Schedule of Rates.

I wish to place on record the efforts made by HPPWD officers and officials in bringing out this document in the present form.

  
Principal Secretary (PWD)  
to the Govt. of Himachal Pradesh.  
Shimla 171002



## ACKNOWLEDGMENT

I take this as an opportunity to place on record the untiring efforts put in by designated committee of this department for coordinating all the activities associated with bringing out this updated Schedule of Rates 2021 for PMGSY Road & Bridge Works. Sincere and dedicated work of all members of the committee constituted for finalizing and recommending the data input, all staff involved in collection, compilation of market rates, preparation of input data and carrying out the job of comparison of printing material are sincerely acknowledged.

At last, I acknowledge my specific thanks to Sh. Sewak Ram Sharma Circle Head Draughtsman (Retd.) for his sincere and hard work to prepare the schedule of rates in a time bound manner.

I hope the user agencies shall find HP Schedule of Rates-2021 for PMGSY works a useful document in the pursuit of their professional activities.



(Er. Ajay Gupta)  
Engineer-in-chief (Project)  
HP.PWD. Shimla-2.

## PREFACE

Schedule of rates for PMGSY road works was made applicable in Himachal Pradesh Public Works Department in the year 2016. Since then, there has been considerable increase in labour wages and cost of materials. This escalation in prices has been responsible in the ever widening gap between estimated cost and the actual cost of construction.

It was decided at Government level to revise the PMGSY Schedule of Rates in the year 2019 and a technical committee of following officers was constituted:-

- |     |   |              |
|-----|---|--------------|
| 1.  | Engineer-in-Chief (Project) HP.PWD. Shimla-2.     | Chairman.    |
| 2.  | Chief Architect, HP.PWD. Shimla-2.                | Member.      |
| 3.  | Superintending Engineer (PMGSY)HP.PWD. Shimla-2.  | Member.      |
| 4.  | Superintending Engineer (D-III) HP.PWD. Shimla-2. | Member.      |
| 5.  | Superintending Engineer (QC&D) HP.PWD. Shimla-2.  | Member Secy. |
| 6.  | Executive Engineer (R & B) HP.PWD. Shimla-2.      | Member.      |
| 7.  | Executive Engineer (QC&D)HP.PWD. Shimla-2.        | Member.      |
| 8.  | Joint Controller (F&A HPPWD Shimla-2.             | Member.      |
| 9.  | Planning Officer (R & B) HP.PWD. Shimla-2.        | Member.      |
| 10. | Assistant Engineer (QC&D) HP.PWD. Shimla-2.       | Member.      |

Accordingly, SOR for PMGSY Road and Bridge works was prepared and submitted to the Director (Project-1) NRIDA New Delhi during 2/2020 for scrutiny /approval. Thereafter, observations as raised by NRIDA from time to time have been attended by the department. Now, the Joint Director (PROJECT-I) NRIDA vide letter No. P-17023/5/2005-P-I/2324/2344 dated 03-12-2021 has intimated that the justification worked out for schedule of rates has been summarily examined and found to be in order. It has further been advised to use bitumen DURAPAVE EMULSION CSS1 (H) OR CSS2 to reduce the rate of bitumen emulsion and to amend the proposal of SOR 2021 and finalize the same at State end. It has specifically been apprised that the State Government being the executing agency of PMGSY, is competent and responsible for fixation of rates. As such, the competent authority

may prepare SOR for 2021 based on Standard Data Book using the rates of Labour, Material and Machinery provided to NRIDA.

Accordingly, the document has been amended and approved by the designated committee of the department.

The new schedule of rates 2021 is compatible with Book of specification (BOS) for Rural Roads & Standard Data Book Published by Indian Road Congress.

Though every care has been taken to include all relevant items of the works of roads and bridges (PMGSY works), however, in case rates for some additional items of work are required; the same may be derived / analyzed on the basis of Standard Data Book for PMGSY works and same may be adopted after approval from the competent authority.

## CONTENTS

<b>Chapter</b>	<b>Description</b>	<b>Page</b>
A	Basic Rates of Labour	1
B	Usage of Plant & Machinery	2 - 4
C	Basic Rates of Material	5 - 10.
1	Carriage of Materials	11 - 18.
2	Foundation	19 - 224
3	Substructure	225 - 255
4	Super structure	256 - 315
5	River Training and Protection works	316 - 324
6	Repair and Rehabilitation	325 - 338

## CHAPTER - A

## BASIC RATES OF LABOUR

Sr. No.	Description of Labour	Unit	Rate including 1/6th Paid Holiday (Rs.)
1	Bhisti	day	350.00
2	Bitumen Sprayer	day	350.00
3	Blacksmith	day	403.67
4	Blaster	day	403.67
5	Carpenter 1st Class	day	505.17
6	Chips spreader	day	350.00
7	Chiseller	day	421.17
8	Dresser (Skilled)	day	350.00
9	Driller	day	350.00
10	Electrician	day	403.67
11	Fitter	day	403.67
12	Mason (1st class)	day	505.17
13	Mason (2nd Class)	day	421.17
14	Mate	day	350.00
15	Mazdoor (Unskilled)	day	350.00
16	Mazdoor (Semi skilled)	day	350.00
17	Mazdoor (Skilled)	day	350.00
18	Painter (1st class)	day	403.67
19	Plumber	day	365.17
20	Surveyor	day	505.17
21	White Washer	day	369.83
22	Driver	day	421.17

Rates approved by the Government of Himachal Pradesh vide notification No. Fin-(PR)B(7)-33/2010 dated 16-04-2021.

## ANNEXURE-B

### USAGE RATES OF PLANT & MACHINERY

Sr.No.	Description of machinery		Output of Machine		Unit	Av. Rate 2021
	Machine	Activity	Unit	Output		
1	Air Compressor 210 cfm	Supplying compressed air	cfm	210	per hour	488.00
2	Batch mix HMP 40-60 TPH	BM, DBM, SDBC, PM	t/h	50	per hour	15000.00
3	Batch type HMP 30/40 TPH	BM, DBM, SDBC, PM	t/h	35	per hour	14488.00
4	Bitumen boiler oil fired	Heating of bitumen				
	200 litre		litre / h	400	per hour	445.00
	1000 litre		litre / h	2000	per hour	1408.00
5	Bitumen emulsion pressure distributor	Applying bitumen tack coat	sqm/h	1750	per hour	1569.00
6	Concrete mixer 0.28/0.4 cum	Mixing of ingredients	cum/h	2.50	per hour	350.00
7	Crane upto 8T	Lifting of materials			per hour	680.00
8	Dozer D 50	Dozing cutting	cum/h	200.00	per hour	3142.00
			cum/h	100.00		1740.00
9	Electric generator set, 125 KVA	Electricity generation	KVA	100.00	per hour	1160.00
10	Emulsion Sprayer with Tractor	Spraying of Emulsion			per hour	1296.00
11	Front end-loader 1 cum bucket capacity @ 45 cum/hour	Loading Aggregates	cum/h	45.00	per hour	1281.00
		Loading Soil	cum/h	100.00		1321.00
12	Hydraulic broom with tractor	Surface cleaning	sqm/h	1250	per hour	528.00
13	Hydraulic Excavator 0.9 cum	Excavation	cum/h	100.00	per hour	1080.00
14	Hydraulic self propelled chip spreader	Surface Dressing	sqm/h	1500	per hour	1200.00
15	Jack Hammer with tractor	Pavement breaking & rock drilling	cum/h	05. to 1	per hour	700.00
16	Joint Cutting Machine with 2-3 blades	Cutting of Joints	h		per hour	1227.00
17	Mixall 6-10 t capacity	Mixing of bituminous materials	t/h	8.00	per hour	1776.00
18	Motor Grader	Scarifier & levelling	cum/h	200.00	per hour	3513.00
				50.00		2318.00
19	Needle vibrator	Vibrating cement concrete mix	cum/h	3.50	per hour	100.00
20	Paver finisher	Laying/spreading	t/h	75.00	per hour	4300.00
21	Plate compactor	Compaction	cum/h		per hour	100.00
22	Plate vibrator	Compaction	cum/h		per hour	100.00



Sr.No.	Description of machinery		Output of Machine		Unit	Av. Rate 2021
	Machine	Activity	Unit	Output		
23	Screed vibrator	Compaction	cum/h		per hour	100.00
24	Smooth wheeled 80-100 kN tandem roller	Compaction of Sub-base/ Asphalt	cum/h	30.00	per hour	1432.00
25	Stone crusher (Integrated) of 200 TPH	Crushing of Spalls	t/h	200.00	per hour	4780.00
26	Three wheel 80-100 kN Static Roller	Compaction/ Rolling			per hour	1100.00
		Earth:- Embankment or sub-grade	cum/h	80/70		1100.00
		Sub-base G-I	cum/h	10.00		1100.00
		Sub-base G-II/G-III	cum/h	8.00		1100.00
		WMM	cum/h	16.00		1100.00
		BUSG	cum/h	10.00		1100.00
		BM 50/75 mm	cum/h	12.00		1100.00
		Premix 20 mm	sqm/h	250.00		1100.00
		Seal Coat	sqm/h	500.00		1100.00
		Surface Dressing 1st Coat	sqm/h	400.00		1100.00
		Surface Dressing 2nd Coat	sqm/h	500.00		1100.00
27	Tipper 5.5 cum/10 t	Carriage	cum/trip	5.50	per hour	570.00
28	Tractor with Disc Harrows	Pulverisation of soil	cum/h	80.00	per hour	431.00
29	Tractor with ripper @ 60 cum per hour	Ripping Pavements, uprooting trees	cum/h	60.00	per hour	687.00
30	Tractor with trolley	Transportation of materials	t/trip	3 to 5	per hour	581.00
31	Tractor with Rotavator	Scarifier	cum/h	25.00	per hour	688.00
32	Tractor Mount Grader	Spreading	cum/h	26.00	per hour	700.00
33	Truck 10 t capacity	Carriage	cum/trip	5.50	per hour	589.00
34	Vibratory roller 80-100 kN	Compaction of soil WMM	cum/h	100.00	per hour	1800.00
		Compaction of BM	cum/h	60.00		1800.00
35	Water tanker 6 kl capacity (Truck Mounted)	Carriage of water	litre / h	12000	per hour	500.00
36	Wet mix plant (Pug Mill)	Wet Mix	cum/h	25	per hour	1500.00
37	Grout pump with agitator and accessories		hour	0	0	682.00
38	Concrete Pump		hour	0	0	240.00
39	Epoxy Injection gun		hour	0	0	809.00
40	Stressing jack with pump		hour	0	0	328.00
41	Grouting pump with agitator		hour	0	0	680.00

Sr.No.	Description of machinery		Output of Machine		Unit	Av. Rate 2021
	Machine	Activity	Unit	Output		
42	i) Hire charges for jack of 40 tonne lifting capacity.		Day	0	0	546.00
43	Mastic cooker 1 tonne capacity		hour	0	0	109.00
44	Trailer 35 tonne capacity for transporting to site.		tonne.km	0	0	2202.00
45	Trailer 30 tonne capacity during placement.		hour	0	0	2224.00
46	Transit Mixer 4.0/4.5 cum		hour	0	0	1601.00
47	Transit Mixer 30 cum		hour	0	0	1464.00
48	Integrated Stone Crusher 100THP	100 TPH	hour	0	0	15044.00
49	Integrated Stone Crusher 200 HP	200 TPH	hour	0	0	20872.00
50	Hire and running charges of hydraulic piling rig with power unit and complete accessories including shifting from one bore location to another.		hour	0	0	8327.00
51	Batch mix HMP @ 75 tonne per hour				Per hour	16800.00
52	Generator 250 KVA				Per hour	1850.00
53	Air compressor 250 cfm				Per hour	500.00
54	Drum mix plant for cold mixes of appropriate capacity but not less than 75 tonnes/hour.				Per hour	1888.00
55	Pneumatic tyred roller 12-15 tonnes				Per hour	960.00
56	Road marking machine @ 60 sqm per hour				Per hour	105.00

57	Generator 33 KVA	Electricity generation	KVA	35	per hour	630.00
58	Generator 63 KVA	Electricity generation	KVA	63	per hour	707.00
59	Crane 10 t capacity	Lifting of materials	T	10	per hour	1096.00
60	Crane 20 t capacity	Lifting of materials	T	20	per hour	1100.00
61	Crane upto 35t	Lifting of materials	T	35	per hour	1250.00
62	Crane upto 40 t capacity	Lifting of materials	T	40	per hour	1350.00
63	Crane upto 50 t capacity	Lifting of materials	T	50	per hour	1800.00
64	Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	Lifting of materials			per hour	1096.00
65	Pneumatic Sinking Plant				per hour	6290.00
66	Motorised barge of 20 tonne capacity				per hour	545.00
67	Boat to carry atleast 20 persons				per hour	545.00
68	Vibrating Pile driving hammer complete with power unit and accessories.				per hour	2500.00

**ANNEXURE-C**  
**BASIC RATES OF MATERIAL**

Sr. No.	Description	Unit	Av. Rate
1	Aggregate - Grading I (40 mm nominal Size) 37.25 mm - 25 mm	cum	1298.00
2	Aggregate - Grading I (40 mm nominal Size) 5 mm and below	cum	1227.00
3	Aggregate - Grading II (19 mm nominal Size) 10 mm - 5 mm	cum	1298.00
4	Aggregate - Grading II (19 mm nominal Size) 25 mm – 10 mm	cum	1298.00
5	Aggregate - Grading II (19 mm nominal Size) 5 mm and below	cum	1298.00
6	Aggregate 10 mm	cum	1298.00
7	Aggregate 20 mm	cum	1298.00
8	Aggregate 40 mm	cum	954.00
9	Aggregate- Crushable type such as moorum or Gravel for Grading I	cum	952.00
10	Aggregate- Crushable type such as moorum or Gravel for Grading II	cum	952.00
11	Aggregate- Crushable type such as moorum or Gravel for Grading III	cum	952.00
12	Aggregate-Grading I 90 mm to 45 mm	cum	900.00
13	Aggregate-Grading II 63 mm to 45 mm	cum	1000.00
14	Aggregate-Grading III 53 mm to 22.4 mm	cum	1000.00
15	Aggregates 22.4 mm to 2.36 mm for wet mix macadam	cum	1000.00
16	Aggregates 45 mm to 22.4 mm for wet mix macadam	cum	1000.00
17	Aluminium sheeting (1.5 mm thick)	sqm	400.00
18	Angle Iron 50 mm x 50 mm x 6 mm	Kg	70.00
19	Binding Material for road	cum	500.00
20	Binding wire	kg	80.00
21	Bitumen (Crumb Rubber Modified)	tonne	52305.00
22	Bitumen (VG-10)	t	40159.00
23	Bitumen Emulsion (RS-1)	t	46453.00
24	Bitumen Emulsion (Durapave EmulsionCSS-1(H))	t	48356.00
25	Bitumen emulsion (MS)	t	46239.00
26	Bond stone (400 mm x 150 mm x 150 mm)	No.	25.00
27	Brick 1st Class	No.	7.00
28	Cement	t	6875.00
29	Crushed Sand or Grit Passing 2.36 mm and retained on 180 micron	cum	1093.00

Sr. No.	Description	Unit	Av. Rate
30	Crushed Stone Aggregate 26.5 mm to 75 micron	cum	1145.00
31	Crushed Stone chipping 13.2 mm nominal size	cum	1220.00
32	Crushed Stone Chipping 6.7 mm size 100% passing 11.2 mm and retained on 2.36 mm	cum	1231.00
33	Crushed Stone Chipping 6.7 mm size 100% passing 9.5 mm and retained on 2.36 mm	cum	1231.00
34	Crushed Stone chipping 9.5 mm nominal size	cum	1227.00
35	Crushed Stone Coarse Aggregate Passing 53 mm and retained on 2.8 mm	cum	1130.00
36	Electric Detonator	each	16.00
37	Filter media	cum	600.00
38	Fine aggregate/Crushed sand 2.36 mm to 75 micron	cum	900.00
39	Fuel wood	Qtl	550.00
40	Gelatine 80 per cent	kg	98.00
41	Graded stone aggregate	cum	1029.00
42	Hand Broken Metal 40 mm size	cum	1022.00
43	Key Aggregates passing 22.4 mm and retained on 2.8 mm	cum	1117.00
44	Lime	t	11793.00
45	Loose stone for filling	cum	600.00
46	RCC Pipe NP2 (1200 mm dia) i/c collars	m	4596.00
47	RCC Pipe NP2 (1000 mm dia) i/c collars	m	3242.00
48	RCC Pipe NP2 (900 mm dia) i/c collars	m	2625.00
49	RCC Pipe NP3 (900 mm dia) i/c collars	m	5141.00
50	Road marking paint	litre	300.00
51	Sand (Coarse)	cum	1156.00
52	Sand (Fine)	cum	1167.00
53	Steel Reinforcement (HYSD Bars)	t	59875.00
54	Steel Reinforcement (MS Round Bars)	t	58000.00
55	Steel Reinforcement (TMT Bars)	t	59875.00
56	Stone Boulder of size 150 mm and below (minimum 25 kg net)	cum	700.00
57	Stone Chips 12 mm size	cum	1268.00
58	Stone Chips 13.2 mm to 5.6 mm	cum	1277.00
59	Stone Crushed Aggregate 11.2 mm to 0.09 mm	cum	1345.00
60	Stone for Coarse Rubble Masonry 1st Sort	cum	800.00
61	Stone for Coarse Rubble Masonry 2nd Sort	cum	800.00

Sr. No.	Description	Unit	Av. Rate
62	Stone for Random Rubble Masonry	cum	700.00
63	Stone for Stone Set Pavement (300 mm x 200 mm x 150 mm)	No.	21.00
64	Stone Screening - Type A 13.2 mm for Grading-1	cum	1274.00
65	Stone Screening - Type A 13.2 mm for Grading-2	cum	1274.00
66	Steel (ISMC) 100 mm	t	55110.00
67	Stone Screening - Type B 11.2 mm for Grading-2	cum	1274.00
68	Stone Screening - Type B 11.2 mm for Grading-3	cum	1274.00
69	Water	kl	102.00
70	Well graded Granular Base Material - Grading A 2.36 mm below	cum	1004.00
71	Well graded Granular Base Material - Grading A 26.5 mm to 4.75 mm	cum	959.00
72	Well graded Granular Base Material - Grading A 53 mm to 26.5 mm	cum	916.00
73	Well graded Granular Base Material - Grading B 2.36 mm below	cum	932.00
74	Well graded Granular Base Material - Grading B 26.5 mm to 4.75 mm	cum	924.00
75	Well graded Granular Base Material - Grading C 2.36 mm below	cum	906.00
76	Well graded Granular Base Material - Grading C 2.36 mm below	cum	927.00
77	Well Graded Material for Sub-Base - Grading I 2.36 mm below	cum	899.00
78	Well Graded Granular sub-base material of Grading-I as per table 400.1 of Specification.	cum	985.00
79	Well Graded Granular sub-base material of Grading-II as per table 400.1 of Specification.	cum	924.00
80	Well Graded Granular sub-base material of Grading-III as per table 400.1 of Specification.	cum	914.00
81	Well Graded Gravel/Soil aggregate base material of Grading-A as per table 400.2 of Specification.	cum	920.00
82	Well Graded Gravel/Soil aggregate base material of Grading-B as per table 400.2 of Specification.	cum	938.00
83	Well Graded Gravel/Soil aggregate base material of Grading-C as per table 400.2 of Specification.	cum	946.00
84	Well Graded Gravel/Soil aggregate surface course material as per table 400.3 of Specification.	cum	922.00
85	Well Graded Gravel/Soil aggregate base material of nominal maximum size 80 mm as per table 2.3 of IRC SP 77-2008.	cum	929.00
86	Well Graded Gravel/Soil aggregate base material of nominal maximum size 40 mm as per table 2.3 of IRC SP 77-2008.	cum	935.00
87	Well Graded Gravel/Soil aggregate base material of nominal maximum size 20 mm as per table 2.3 of IRC SP 77-2008.	cum	936.00
88	Well Graded Gravel/Soil aggregate base material of nominal maximum size 10 mm as per table 2.3 of IRC SP 77-2008.	cum	910.00
89	Well Graded Gravel/Soil aggregate base material of nominal maximum size 5 mm as per table 2.3 of IRC SP 77-2008.	cum	958.00

Sr. No.	Description	Unit	Av. Rate
90	Apoxy Primer	Ltr.	206.00
91	Apoxy Paint	Ltr.	374.00
92	Steel paint	Ltr.	293.00
93	1.6 mm thick MS Sheet strengthened by 25mmX5mm MS flat iron on logo and middle plate angle iron 25mm X 25 mm X 5 mm on bottom plate painting with stove enameled paint on both sides as per MORD specification.	Per Sqm	1451.00
94	PVC pipe 100 mm dia.	Per rmt.	200.00
95	G.I.Wire		82.00
96	Granular material (Natural occurring, soil gravel mixture / quarry waste, Kankar, laterite, dhandla.		376.00
97	1.5 mm thick M.S. Sheet duly painted with stove enamelled paint including lettering, signs, border, message with reflective tape of engineering grade required size, shade and colour as per Technical Specifications	Per Sqm	1554.00
98	Cement Primer as per specifications	Ltr.	149.00
99	Paint conforming to requirement of Clause 1701.3.8	Ltr.	312.00
100	Compensation for earth taken from private land	Cum	63.00
101	Corrosion resistant structural steel grating.	Kg	151.00
102	G I pipe 100 mm dia	Mtr.	837.00
103	MS tubes	Kg	91.00
104	Angle iron	kg	70.00
105	Wire mesh 50mm x 50mm size of 3mm wire	kg	155.00
106	Epoxy	kg	213.00
107	Accelerator compound for guniting @ 4 per cent of weight of cement	kg	156.00
108	Nipples	each	155.00
109	Pre-packed polymer concrete based on epoxy system complete with curing compound, initiator and promoter.	kg	17.00
110	Epoxy resin-hardener mix for prime coat	kg	1804.00
111	Epoxy mortar	kg	2738.00
112	Epoxy resin -hardener mix for seal coat.	kg	1784.00
113	Quick setting compound	kg	106.00
114	Acrylic polymer bonding coat	Litre	289.00
115	pre-packed cement based polymer mortar of strength 45 Mpa at 28 days	kg	17.00
116	Epoxy resin with pot life not less than 60-90 minutes and satisfying testing as per clause 2803.9	kg	1796.00
117	HTS strand including 5 per cent wastage and extra length for jacking	tonne	138583.00
118	HDPE pipes 90 mm dia including 5 per cent wastage	metre	264.00



Sr. No.	Description	Unit	Av. Rate
119	HDPE pipes 75mm dia including 5 per cent wastage	metre	218.00
120	Tube anchorage set complete with bearing plate, permanent wedges etc	each	481.00
121	MS plates for deviator (where deviator blocks are not provided)	tonne	58919.00
122	v) Wooden packing	cum	60000.00
123	MS Bolt and nuts	kg	85.00
124	Polyester trinagular synthetic fibres	kg	427.00
125	Galvanised steel wire crates of mesh size 100 mm x 100 mm woven with 4mm dia. GI wire in rolls of required size.	sqm	190.00
126	Permeable synthetic geotextile.	sqm	180.00
127	4mm GI wire crates woven in mesh size of 100 mm x 100 mm.	sqm	190.00
128	Admixture @ 0.4 per cent of cement	kg	160.00
129	H.T. Strand for jacking	tonne	138583.00
130	Sheathing duct.	metre	245.00
131	i) Bitumen 80/100 or 60/70 or 30/40	tonne	40159.00
132	ii) Crusher stone dust	cum	1156.00
133	Lime stone dust filler with calcium carbonate content.	tonne	7725.00
134	Pre-coated stone chips of 9.5 mm nominal size.	cum	1100.00
135	Corrosion resistant Structural steel including 5 per cent wastage	Kg	115.00
136	GI pipe 100mm dia	metre	800.00
137	GI bolt 10 mm Dia	each	10.00
138	Galvanised MS flat clamp	each	180.00
139	LDO for steam curing	Litre	60.00
140	Helical pipes 600mm diameter	metre	7000.00
141	Tie rods 20mm diameter	each	120.00
142	Galvanised M.S plate 200 mm wide,12 mm thick @ 94.20 kg/sqm including 5 per cent wastage	kg	80.00
143	Copper plate -	kg	900.00
144	20 mm thick compressible fibre board 12 m long x 25 cm deep.	sqm	500.00
145	Premoulded joint filler 12 m long,20 mm thick and 300 mm deep.	sqm	1900.00
147	Polymer modified bitumen	kg	61.26
148	Galvanised structural steel plate .	kg	110.00
149	Supply of elastomeric slab seal expansion joint assembly manufactured by using chloroprene, elastomer for elastomeric slab unit conforming to clause 915.1 of IRC: 83 (part II), complete as per approved drawings and standard specification conforming to clause 2606 of MoRT&H Specification	metre	8500.00
150	Galvanised angle sections 100mm x 100mm of 12mm thickness weldable structural steel as per IS: 2062, 2 nos. of 12 m length each @ 17.7 kg/m and 5 per cent wastage.	kg	105.00
151	Preformed continuous chloroprene elastomer or closed cell foam sealing element with high tear strength, vulcanised in a single operation for the full length of a joint to ensure water tightness.	metre	19300.00

Sr. No.	Description	Unit	Av. Rate
152	Supply of complete assembly of strip seal expansion joint comprising of edge beams, anchorage, strip seal element and complete accessories as per approved specifications and drawings.	metre	22000.00
153	Supply of a modular strip/box seal joint assembly comprising of edge beams, central beam, 2 modules chloroprene seal, anchorage elements, support and control system, all steel sections protected against corrosion and installed by the manufacturer or his authorised representative.	metre	25000.00
154	Supply of a modular box/box seal joint assembly containing 3 modules/cells and comprising of edge beams, two central beams, chloroprene seal, anchorage elements, support and control system, all steel sections protected against corrosion and installed by the manufacturer or his authorised representative.	metre	30000.00
155	Cast steel rocker bearing assembly of 250 tonne design load capacity duly painted complete with all its components as per drawing and specifications	each.	75000.00
156	Forged steel roller bearing of 250 tonne design load capacity duly painted complete with all its components as per drawing and specifications	each.	110000.00
157	PTFE sliding plate bearing assembly of 80 tonnes design load capacity duly painted complete with all its components as per drawing and Technical Specifications	each.	180000.00
158	Elastomeric bearing assembly consisting of 7 layers of elastomer bonded to 6 nos. internal reinforcing steel laminates by the process of vulcanisation, complete with all components as per drawing and Technical Specifications.	each.	90000.00
159	Supply of sliding plate bearing of 80 tonne design capacity complete as per drawings and Technical Specifications.	each.	55000.00
160	Pot type bearing assembly consisting of a metal piston supported by a disc, PTFE pads providing sliding surfaces against stainless steel mating together with cast steel assemblies/fabricated structural steel assemblies duly painted with all components as per clause 2006 and complete as per drawings and Technical Specifications.	each.	180000.00
161	Bitumen VG-10	t	40159.00
162	Bitumen VG-30	t	40960.00
163	Bitumen (Durapave Emulsion CSS-2)	t	48688.00

164	Wooden ballies 8" Dia and 9 m long	Each	550.00
165	Wooden ballies 2" Dia for bracing	Metre	135.00
166	Bentonite	Kg	55.00
167	Steel helmet and cushion block on top of pile head during driving.	Kg	114.00
168	M.S. Clamps	Kg	85.00
169	M.S.shoes @ 35 Kg per pile of 15 m	Kg	135.00
170	C.I.shoes for the pile	Kg	85.00
171	AC pipe 100 mm dia	Metre	150.00
172	HTS strand	Tonne	85060.00
173	Water based cement paint	Litres	410.00

## Chapter-I: Carriage of Materials

### Preamble:

1. The provision of tipper has been made in hours where lead is known like disposal of the materials up to 1000 m. In case where lead is variable like carriage of hot mix or concrete mix from plant or earth from borrow areas, provision has been made in term soft tone-kilometer (t-km), which can be adopted as per actual conditions.
2. Provision has been made for a tractor trolley instead of tipper where dismantled materials of sorts or material having more volume as compared with weight are required to be transported. This arrangement will be economical.
3. The cost of carriage will vary depending upon the riding surface of the road. Provision has accordingly been made considering surface road, unsurfaced gravel roads and kutcha tracks.
4. Analysis for loading has been done both for manual and mechanical means for adoption as per actual situations.
5. Where loading is done by mechanical plant like H.M.P. or batching plant and there is automatic loading in tipper, provision of loading and un-loading has been made at the rate of 10 percent of cost of carriage to account for time by the tipper for getting loaded at the plant and un-loaded in the paver or otherwise at the site.
6. Although the market rates for supply of aggregate at site are generally taken for estimation purpose, rate for crushing of aggregate have also been analysed as most of the contractors prefer to crush their own aggregates in case of large projects exceeding Rs 50 crore in value.
7. The cost of material shall be evaluated considering the cost at crushing plants and cost of carriage including loading and unloading or the rates for supply at site depending upon system being followed at particular locations. These rates should be compared with the rates for own crushing and carriage by the construction agency.

**CHAPTER-1**  
**CARRIAGE OF MATERIALS**

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
1.1		<b>Loading and Unloading of Stone Boulder/Stone aggregates / Sand/Kanker / Moorum.</b>	cum			
		Placing tipper at loading point, loading with front end loader, dumping, turning for return trip, excluding time for haulage and return trip				
		<b>Unit = cum</b>				
		<b>Taking output = 5.5 cum</b>				
		<b>Time required for</b>				
		i) Positioning of tipper at loading point		1 Min		
		ii) Loading by front end loader 1 cum bucket capacity @ 25 cum per hour		13 Min		
		iii) Maneuvering, reversing, dumping and turning for return		2 Min		
		iv) Waiting time, unforeseen contingencies etc		4 Min		
		Total		<b>20 Min</b>		
		<b>a) Machinery</b>				
		Tipper 5.5 tonnes capacity	hour	0.330	570.00	188.10
		Front end-loader 1 cum bucket capacity @ 25 cum/hour	hour	0.330	1321.00	435.93
		<b>b) Overhead charges @ 2.5 % on (a)</b>				15.60
		<b>c) Contractor's profit @ 10 % on (a+b)</b>				63.96
						703.59
		Add 1% labour cess				7.04
		Cost for 5.5 cum = a+b+c				710.63
		<b>Rate per cum = (a+b+c)/ 5.5</b>				129.21
		Add 12% GST				15.50
		Rate per cum				144.71
		<b>Note Unloading will be by tipping.</b>			<b>say</b>	<b><u>145.00</u></b>
1.2		<b>Loading and Unloading of Boulders by Manual Means</b>				
		<b>Unit = cum</b>				
		<b>Taking output = 5.5 cum</b>				
		<b>a) Labour</b>				
		Mate	day	0.110	350.00	38.50
		Mazdoor for loading and unloading	day	0.750	350.00	262.50
		<b>b) Machinery</b>				
		Tipper 5.5 tonne capacity	hour	0.750	570.00	427.50
		<b>c) Overhead charges @ 2.5 % on (a+b)</b>				18.21
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				74.67
						821.38
		Add 1% labour cess				8.21

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Cost for 5.5 cum = a+b+c+d				829.60
		<b>Rate per cum = (a+b+c+d)/5.5</b>				150.84
		Add 12% GST				18.10
		Rate per cum				168.94
		<b>Note Unloading will be by tipping.</b>			<b>say</b>	<b><u>169.00</u></b>
1.3		<b>Loading and Unloading of Cement or Steel by Manual Means and Stacking.</b>				
		<b>Unit = tonne</b>				
		<b>Taking output = 10 tonnes</b>				
		<b>a) Labour</b>				
		Mate	day	0.080	350.00	28.00
		Mazdoor for loading and unloading	day	2.000	350.00	700.00
		<b>b) Machinery</b>				
		Truck 10 tonne capacity	hour	2.000	589.00	1178.00
		<b>c) Overhead charges @ 2.5 % on (a+b)</b>				47.65
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				195.37
						2149.02
		Add 1% labour cess				21.49
		Cost for 10 tonnes = a+b+c+d				2170.51
		<b>Rate per tonnes = (a+b+c+d)/10</b>				217.05
		Add 12% GST				26.05
		Rate per Tonnes				243.10
					<b>say</b>	<b><u>243.00</u></b>
1.4		<b>Cost of Haulage Excluding Loading and Unloading</b>				
		Haulage of materials by tipper excluding cost of loading, unloading and stacking.				
		<b>Unit = t.km</b>				
		<b>Taking output 10 tonnes load and lead 10 km = 100 t.km</b>				
		<b>(i) Surfaced Road</b>				
		Speed with load : 25 km / hour.				
		Speed while Returning empty : 35 km / hour.				
		<b>a) Machinery.</b>				
		<b>Tipper 10 tonne capacity</b>				
		Time taken for onward haulage with load	hour	0.400	570.00	228.00
		Time taken for empty return trip.	hour	0.290	570.00	165.30
		<b>b) Overhead charges @ 2.5 % on (a)</b>				9.83
		<b>c) Contractor's profit @ 10 % on (a+b)</b>				40.31
						443.45
		Add 1% labour cess				4.43
		cost for 100 t km = a+b+c				447.88
		<b>Rate per t.km = (a+b+c)/100</b>				4.48
		Add 12% GST				0.54
		Rate per t.km				5.02
					<b>say</b>	<b><u>5.00</u></b>

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
1.4		(ii)	<b>Unsurfaced Graveled Road</b>				
			Speed with load: 20 km / hour				
			Speed for empty return trip :30 km / hour				
			<b>a) Machinery</b>				
			<b>Tipper 10 tonnes capacity</b>				
			Time taken for onward haulage with load	hour	0.500	570.00	285.00
			Time taken for empty return trip	hour	0.330	570.00	188.10
			<b>b) Overhead charges @ 2.5 % on (a)</b>				11.83
			<b>c) Contractor's profit @ 10 % on (a+b)</b>				48.49
							533.42
			Add 1% labour cess				5.33
			Cost for 100 t .km = a+b+c				538.75
			Rate per t.Km = (a+b+c)/100				5.39
			Add 12% GST				0.65
			Rate per t.km				6.03
						<b>say</b>	<b><u>6.00</u></b>
1.4		(iii)	<b>Katcha Track and Track in River Bed/Nallah Bed and Choe Bed.</b>				
			Speed with load :10 km / hour				
			Speed while returning empty:15 km / hour				
			<b>a) Machinery</b>				
			<b>Tipper 10 tonnes capacity</b>				
			Time taken for onward haulage	hour	1.000	570.00	570.00
			Time taken for empty return trip	hour	0.670	570.00	381.90
			<b>b) Overhead charges @ 2.5 % on (a)</b>				23.80
			<b>c) Contractor's profit @ 10 % on (a+b)</b>				97.57
							1073.27
			Add 1% labour cess				10.73
			Cost for 100 t .km = a+b+c				1084.00
			<b>Rate per t.Km = (a+b+c)/100</b>				10.84
			Add 12% GST				1.30
			Rate per t.km				12.14
						<b>say</b>	<b><u>12.10</u></b>
1.5			<b>Hand Broken Stone Aggregates 63 mm Nominal Size</b>				
			Supply of quarried stone, hand breaking into coarse aggregate 63 mm nominal size (passing 80 mm and retained on 50 mm sieve) and stacking as directed				
			<b>Unit = cum</b>				
			<b>Taking output = 1 cum</b>				
			<b>a) Labour</b>				
			Mate	day	0.060	350.00	21.00



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Mazdoor	day	1.500	350.00	525.00
		<b>b) Material</b>				
		Supply of quarried stone 150 - 200 mm size	cum	1.100	700.00	770.00
		<b>c) Overhead charges @ 2.5 % on (a+b)</b>				32.90
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				134.89
						1483.79
		Add 1% labour cess				14.84
		<b>Rate per cum = a+b+c+d</b>				1498.63
		Add 12% GST				179.84
		Rate per cum.				1678.46
					<b>say</b>	<b><u>1678.00</u></b>
		<b>Labour Rate</b>				546.00
		<b>Overhead charges 2.5 %</b>				13.65
		<b>Contractor's profit @ 10%</b>				55.97
						615.62
		Add 1% labour cess				6.16
		<b>Rate per cum</b>				621.77
		Add 12% GST				74.61
		Rate per cum				696.38
					<b>say</b>	<b><u>696.00</u></b>
1.6		<b>Crushing of Stone Aggregates 13.2 mm Nominal Size.</b>				
		Crushing of stone boulders of 150 mm size in an integrated stone crushing unit of 200 tonnes per hour capacity comprising of primary and secondary crushing units, belt conveyor and vibrating screens to obtain stone aggregates of 13.2 mm nominal size.				
		<b>Unit = cum</b>				
		<b>Taking Output = 600 cum at crusher location.</b>				
		<b>a) Labour</b>				
		Mate	day	0.760	350.00	266.00
		Mazdoor Skilled	day	2.000	350.00	700.00
		Mazdoor including breaking of any oversize boulder.	day	17.000	350.00	5950.00
		<b>b) Material</b>				
		Stone Boulder of size 150 mm and below	cum	800.000	700.00	560000.00
		<b>c) Machinery</b>				
		Integrated stone crusher of 200 TPH including belt conveyor and vibrating screens	Hour	6.000	20872.00	125232.00
		Front end loader 1 cum bucket capacity	Hour	20.000	1321.00	26420.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Tipper 5.5 cum capacity	Hour	20.000	570.00	11400.00
		d) Overhead charges @ 2.5 % on (a+b+c)				18249.20
		e) Contractor's profit @ 10 % on (a+b+c+d)				74821.72
						823038.92
		Add 1% labour cess				8230.39
		Cost for 600 cum = a+b+c+d+e				831269.31
		<b>Rate per cum = (a+b+c+d+e)*0.95/600</b>				<b>1316.18</b>
		Add 12% GST				157.94
		Rate per cum				1474.12
					<b>say</b>	<b><u>1474.00</u></b>
		<b>Labour Rate</b>				6916.00
		<b>Overhead charges 2.5 %</b>				172.90
		<b>Contractor's profit @ 10%</b>				708.89
						7797.79
		Add 1% labour cess				77.98
		<b>Rate per 600cum</b>				7875.77
		<b>Rate per cum</b>				<b>12.47</b>
		Add 12% GST				1.50
		Rate per cum				13.97
					<b>say</b>	<b><u>14.00</u></b>
		<b>Note</b> 1. 800 cum of stone boulders are needed to get 600 cum of stone chips of size 13.2 mm.				
		2. 95 per cent of above cost will be attributed to the production of 600 cum of stone chips of 13.2 mm size and balance 5 per cent to the production of stone dust which comes out as a by-product.				
		3. The integrated stone crusher includes primary and secondary crushing units.				
1.7		<b>Crushing of Stone Aggregates 20 mm Nominal Size</b>				
		Crushing of stone boulders of 150 mm size in an integrated stone crushing unit of 200 tonnes per hour capacity comprising of primary and secondary crushing units, belt conveyor and vibrating screens to obtain stone aggregates of 20 mm nominal size.				
		<b>Unit = cum</b>				
		<b>Taking Output = 670 cum at crusher location.</b>				
		<b>a) Labour</b>				
		Mate	day	0.760	350.00	266.00
		Mazdoor Skilled	day	2.000	350.00	700.00
		Mazdoor including breaking of any size boulder.	day	17.000	350.00	5950.00
		<b>b) Material</b>				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Stone Boulder of size 150 mm and below	cum	800.000	700.00	560000.00
		<b>c) Machinery</b>				
		Integrated stone crusher of 200 TPH including belt conveyor and vibrating screens	Hour	6.000	20872.00	125232.00
		Front end loader 1 cum bucket capacity	Hour	20.000	1321.00	26420.00
		Tipper 5.5 cum capacity	Hour	20.000	570.00	11400.00
		<b>d) Overhead charges @ 2.5 % on (a+b+c)</b>				18249.20
		<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				74821.72
						823038.92
		Add 1% labour cess				8230.39
		Cost for 670 cum = a+b+c+d+e				831269.31
		<b>Rate per cum = (a+b+c+d+e)*0.90/670</b>				<b>1116.63</b>
		Add 12% GST				134.00
		Rate per cum				1250.63
					<b>say</b>	<b><u>1251.00</u></b>
		<b>Labour Rate</b>				6916.00
		<b>Overhead charges 2.5 %</b>				172.90
		<b>Contractor's profit @ 10%</b>				708.89
						7797.79
		Add 1% labour cess				77.98
		Cost for 750 cum =				<b>7875.77</b>
		<b>Rate per cum /750</b>				<b><u>10.50</u></b>
		Add 12% GST				1.26
		Rate per cum				11.76
					<b>say</b>	<b><u>12.00</u></b>
		<b>Note</b>				
		1. 800 cum of stone boulders are needed to get 600 cum of stone chips of size 20 and 40 mm.				
		2. 90 per cent of above cost will be attributed to the production of 670 cum of stone aggregates of 20mm size and balance 10 per cent will be for smaller size aggregates and stone dust which comes out as a by-product.				
		3. The integrated stone crusher includes primary and secondary crushing units.				
<b>1.8</b>		<b>Crushing of Stone Aggregates 40 mm Nominal Size</b>				
		Crushing of stone boulders of 150 mm size in an integrated stone crushing unit of 200 tonnes per hour capacity comprising of primary and secondary crushing units, belt conveyor and vibrating screens to obtain stone aggregates of 40 mm nominal size.				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<b>Unit = cum</b>				
		<b>Taking Output = 750 cum at crusher location.</b>				
		<b>a) Labour</b>				
		Mate	day	0.760	350.00	266.00
		Mazdoor Skilled	day	2.000	350.00	700.00
		Mazdoor	day	17.000	350.00	5950.00
		<b>b) Material</b>				
		Stone Boulder of size 150 mm and below	cum	800.000	700.00	560000.00
		<b>c) Machinery</b>				
		Integrated stone crusher of 200 TPH including belt conveyor and vibrating screens	Hour	6.000	20872.00	125232.00
		Front end loader 1 cum bucket capacity	Hour	20.000	1321.00	26420.00
		Tipper 5.5 cum capacity	Hour	20.000	570.00	11400.00
		<b>d) Overhead charges @ 2.5 % on (a+b+c)</b>				18249.20
		<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				74821.72
						823038.92
		Add 1% labour cess				8230.39
		Cost for 750 cum = (a+b+c+d+e)x0.85				831269.31
		<b>Rate per cum = (a+b+c+d+e)x0.85/750</b>				<b>1108.36</b>
		Add 12% GST				133.00
		Rate per cum				1241.36
					<b>say</b>	<b><u>1241.00</u></b>
		<b>Labour Rate</b>				6916.00
		<b>Overhead charges 2.5 %</b>				172.90
		<b>Contractor's profit @ 10%</b>				708.89
						7797.79
		Add 1% labour cess				77.98
		Cost for 750 cum =				7875.77
		<b>Rate per cum /750</b>				10.50
		Add 12% GST				1.26
		Rate per cum				11.76
					<b>say</b>	<b><u>12.00</u></b>
		<b>Note</b>				
		1. 800 cum of stone boulders are needed to get 600 cum of stone chips of size 13.2 mm.				
		2. 85 per cent of above cost will be attributed to the production of 750 cum of stone aggregates of 40mm size and balance 15 per cent will be for smaller size aggregates and stone dust which comes out as a by-product.				
		3. The integrated stone crusher includes primary and secondary crushing units.				

## Chapter-2:

### Foundation

#### Preamble:

1. Excavation for structure has been provided both by manual and mechanical means. The rate relevant to a particular situation may be adopted.
2. The earth excavated from foundation has been proposed to be backfilled and balance quantity utilized for road work locally except for marshy soil where disposal has been provided.
3. The rock foundations are required to be prepared which has been analysed.
4. In case rocks excavation has been considered up to a depth of 3 m only.
5. Embedment of foundation in soft and hard rocks has been provided as required by the specifications.
6. Dewatering has been provided in excavations for foundations. In case dewatering is not required for a particular site condition, the same may be omitted.
7. Mixing of cement concrete has been considered both by using concrete mixer and batching plant. The rate can be adopted depending upon availability of equipment as approved by the Engineer.
8. Concrete batching plant is generally placed within one km of the bridge site. In case of longer lead, transportation cost may be worked out based on tone km.
9. The coarse and fine aggregate for cement concrete shall be as per IS : 383.
10. Description of item has been given very briefly. Relevant clauses of MORT & H Specifications may be referred for detailed specifications.
11. The rate analysis for well foundation has been included for diameter varying from 6 m to 12 m. Well for twin D-type has also been included.
12. Pneumatic sinking is a specialized job. All safety precautions as per IS : 4138 are required to be taken. Medical supervision for such work is considered very essential. Depth of pneumatic sinking has been restricted to 30 m below normal water level.
13. Rate analysis for various types of piles like bored cast-in-situ, driven precast, RCC & steel piles of H-section have been included. If the steel casing in case of driven piles is required to be retained, the same is required to be priced separately.
14. Pipe driving rigs including vibratory hammers are assumed to be self-contained with power units and necessary accessories required for driving.

15. The quantity of concrete which is required to be stripped off up to a minimum height of 600 mm above the designed top level of the pile has been taken into account in the rate analysis
16. The amount indicated for testing of piles is for the base year 2001-2002. For subsequent years these are required to be escalated depending upon market situation.
17. The leveling course below the pile cap is proposed with M 15 grade concrete.
18. Steel reinforcement for cement concrete works is required to be provided separately. The rate for the same has been analysed.
19. Appendix-4 of IRC : 78-2000 may be referred regarding precautions to be taken during sinking of wells
20. In case of blasting, during sinking of wells, the inner face of the curb is required to be protected with the steel plates of thickness not less than 10 mm up to top level of well curb. For height above top of curb, the thickness of steel plate may be reduced to 6 mm. This extra height of steel lining should be limited to 3 m.
21. The concrete mix used in bottom plug shall have minimum cement content of 330 kg/cum and a slump of about 150 mm to permit easy flow of concrete through tremie to fill-up all cavities
22. Necessary safety precautions shall be taken for excavation on open foundation for which guidance may be taken from IS : 3764.
23. A leveling course of 100 mm thickness in M 10 (1 : 3 : 6) shall be provided before laying open foundations
24. In case of open foundations in rock, dewatering shall not be permitted from the time of placing of concrete up to 24 hours after placement.
25. In case of open foundation in rock, the trenches around the footing shall be filled-up with concrete of M 15 grade up to a level of 0.6m for hard rock and 1.5 m for soft rock above the foundation level. The portion above this may be filled by boulders grouted with cement.
26. When there are two or more compartments in a well, the lower edge of the cutting edge of the middle stem of such wells shall be kept about 300 mm above that of outer stems to prevent rocking.
27. The well curb shall be in RCC of mix not leaner than M 25 grade with minimum steel reinforcement of 72 kg/cum excluding bond rods
28. The top of the bottom plug shall be at least 300 mm above top of curb.
29. No dewatering shall be carried out within 7 days of casting of bottom plug.



30. In case of cement concrete piles, the minimum grade of concrete shall be M 35 with minimum cement concrete of 400 kg/cum.
31. The top of the pile shall project 50 mm into the pile cap and reinforcement of pile shall be fully anchored in pile cap.
32. The minimum thickness of pile cap should be at least 0.6 m or 1.5 times the diameter of the pile whichever is more.
33. Guidance for piles is to be obtained from IS : 2911.
34. Concrete in driven cast-in-situ piles shall be cast up to a minimum height of 600 mm above the designed top level of piles, which shall be stripped off to obtain sound concrete either before final set or after 3 days.

**CHAPTER-2**  
**FOUNDATIONS**

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
2.1	304		<b>Excavation for Structures</b>				
			Earth work in excavation of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.				
		I	Ordinary soil				
			<i>Unit = cum</i>				
			<i>Taking output = 10 cum</i>				
		A	Manual Means				
		(i)	Depth upto 3 m				
			a) Labour				
			Mate	day	0.14	350.00	49.00
			Mazdoor	day	3.50	350.00	1225.00
			b) Overhead charges @ 10 % on (a)				127.40
			c) Contractor's profit @ 10 % on (a+b)				140.14
							1541.54
			Add 1% labour cess				15.42
			Cost for 10 cum = a+b+c				1556.96
			Rate per cum = (a+b+c)/10				155.70
			Add 12% GST				18.68
			Rate per Cum.				174.38
						<b>say</b>	<b><u>174.00</u></b>
			Labour Rate				
			Labour				1274.00
			Overhead charges @ 10%				127.40
			Contractors Profit @10%				140.14
							1541.54
			Add 1% labour cess				15.42
			Cost for 10 cum				1556.96
			Rate per cum				155.70
			Add 12% GST				18.68
			Rate per Cum.				174.38
						<b>say</b>	<b><u>174.00</u></b>

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		Note	1. Cost of dewatering may be added where required upto, 10 per cent of labour cost Assessment for dewatering shall be made as per site conditions.				
			2.The excavated earth can be used partially for backfilling of foundation pit and partly for road work except for marshy soil. Hence cost of disposal has not been added except for marshy soil. This remark is common to all cases of item 12.1 excluding marshy soil.				
			3.The cost of shoring and shuttering, where needed, may be added @ 1 per cent on cost of excavation for open foundation.				
2.1 (I) A		(ii)	Depth 3 m to 6 m				
			a) Labour				
			Mate/Supervisor	day	0.18	350.00	63.00
			Mazdoor	day	4.50	350.00	1575.00
			b) Overhead charges @ 10 % on (a)				163.80
			c) Contractor's profit @ 10 % on (a+b)				180.18
							1981.98
			Add 1% labour cess				19.82
			Cost for 10 cum = a+b+c				2001.80
			Rate per cum = (a+b+c)/10				200.18
			Add 12% GST				24.02
			Rate per Cum.				224.20
						<b>say</b>	<b><u>224.00</u></b>
		Note	Cost of dewatering may be added where required upto 15 per cent of labour cost. Assessment for dewatering shall be done as per actual ground conditions.				
			Labour Rate				
			Labour				1638.00
			Overhead charges @ 10%				163.80
			Contractors Profit @10%				180.18
							1981.98
			Add 1% labour cess				19.82
			Cost for 10 cum				2001.80
			Rate per cum				200.18
			Add 12% GST				24.02

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Rate per Cum.				224.20
						<b>say</b>	<b><u>224.00</u></b>
2.1 (I) A		(iii)	Depth above 6 m				
			a) Labour				
			Mate/Supervisor	day	0.24	350.00	84.00
			Mazdoor	day	6.00	350.00	2100.00
			b) Overhead charges @ 10 % on (a)				218.40
			c) Contractor's profit @ 10 % on (a+b)				240.24
							2642.64
			Add 1% labour cess				26.43
			Cost for 10 cum = a+b+c				2669.07
			Rate per cum = (a+b+c)/10				266.91
			Add 12% GST				32.03
			Rate per Cum.				298.94
						<b>say</b>	<b><u>299.00</u></b>
		Note	1. Cost of dewatering may be added where required upto 20 per cent of labour cost. Assessment for dewatering shall be made as per site conditions..				
			Labour Rate				
			Labour				2184.00
			Overhead charges @ 10%				218.40
			Contractors Profit @10%				240.24
							2642.64
			Add 1% labour cess				26.43
			Cost for 10 cum				2669.07
			Rate per cum				266.91
			Add 12% GST				32.03
			Rate per Cum.				298.94
						<b>say</b>	<b><u>299.00</u></b>
2.1 (I)		B	Mechanical Means				
		(i)	Depth upto 3 m				
			Unit = cum				
			Taking output = 240 cum				
			a) Labour				
			Mate	day	0.32	350.00	112.00
			Mazdoor	day	8.00	350.00	2800.00
			b) Machinery				
			Hydraulic excavator 1.0 cum bucket capacity	hour	6.00	1080.00	6480.00

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			c) Overhead charges @ 10 % on (a+b)				939.20
			d) Contractor's profit @ 10 % on (a+b+c)				1033.12
							11364.32
			Add 1% labour cess				113.64
			Cost for 240 cum = a+b+c+d				11477.96
			Rate per cum = (a+b+c+d)/240				47.82
			Add 12% GST				5.74
			Rate per Cum.				53.56
						<b>say</b>	<b><u>54.00</u></b>
			e) Labour Rate				
			Labour				2912.00
			Overhead charges @ 10%				291.20
			Contractors Profit @10%				101.92
							3466.25
			Add 1% labour cess				34.66
			Cost for 240cum				3500.91
			Rate per cum = e/240				14.59
			Add 12% GST				1.75
			Rate per Cum.				16.34
						<b>say</b>	<b><u>16.00</u></b>
			Cost of dewatering upto 5 per cent of (a+b) may be added, where required. Assessment for dewatering shall be made as per site conditions..				
2.1 (I) B		Note	Depth 3 m to 6 m				
		(ii)	Unit = cum				
			Taking output = 210 cum				
			a) Labour				
			Mate	day	0.32	350.00	112.00
			Mazdoor	day	8.00	350.00	2800.00
			b) Machinery				
			Hydraulic excavator 1.0 cum bucket capacity	hour	6.00	1080.00	6480.00
			c) Overhead charges @ 10 % on (a+b)				939.20
			d) Contractor's profit @ 10 % on (a+b+c)				1033.12
							11364.32
			Add 1% labour cess				113.64
			Cost for 210 cum = a+b+c+d				11477.96
			Rate per cum = (a+b+c+d)/210				54.66
			Add 12% GST				6.56
			Rate per Cum.				61.22

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
						say	<u>61.00</u>
			e) Labour Rate				
			Labour				2912.00
			Overhead charges @ 10%				291.20
			Contractors Profit @10%				320.32
							3523.52
			Add 1% labour cess				35.24
			Cost for 210cum				3558.76
			Rate per cum = e/210				16.95
			Add 12% GST				2.03
			Rate per Cum.				18.98
						say	<u>19.00</u>
			Cost of dewatering upto 7.5 per cent of (a+b) may be added, where required. Assessment for dewatering shall be made as per site conditions..				
2.1 (I) B		Note	Depth above 6m				
		(iii)	Unit = cum				
			Taking output = 180 cum				
			a) Labour				
			Mate	day	0.40	350.00	140.00
			Mazdoor	day	10.00	350.00	3500.00
			b) Machinery				
			Hydraulic excavator 1.0 cum bucket capacity	hour	6.00	1080.00	6480.00
			c) Overhead charges @ 10 % on (a+b)				1012.00
			d) Contractor's profit @ 10 % on (a+b+c)				1113.20
							12245.20
			Add 1% labour cess				122.45
			Cost for 180 cum = a+b+c+d				12367.65
			Rate per cum = (a+b+c+d)/180				68.71
			Add 12% GST				8.25
			Rate per Cum.				76.95
						say	<u>77.00</u>
			e) Labour Rate				
			Labour				3640.00
			Overhead charges @ 10%				364.00
			Contractors Profit @10%				400.40
							4404.40
			Add 1% labour cess				44.04
			Cost for180cum				4448.44
			Rate per cum = e/180				24.71

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 12% GST				2.97
			Rate per Cum.				27.68
						<b>say</b>	<b><u>28.00</u></b>
		Note	2.Labour provided for excavation by mechanical means includes that required for trimming of bottom and side slopes.				
2.1			Ordinary Rock (not requiring blasting)				
		II	Manual Means				
		A	Depth upto 3 m				
		(i)	Unit = cum				
			Taking output = 10 cum				
			a) Labour				
			Mate	day	0.20	350.00	70.00
			Mazdoor	day	5.00	350.00	1750.00
			b) Overhead charges @ 10 % on (a)				182.00
			c) Contractor's profit @ 10 % on (a+b)				200.20
							2202.20
			Add 1% labour cess				22.02
			Cost for 10 cum = a+b+c				2224.22
			Labour Rate per cum = (a+b+c)/10				222.42
			Add 12% GST				26.69
			Rate per Cum.				249.11
						<b>say</b>	<b><u>249.00</u></b>
			Cost of dewatering upto 10 per cent of labour cost may be added, where required. Assessment for dewatering shall be made as per site conditions..				
2.1(II)		Note	Mechanical Means				
		B	Unit = cum				
			Taking output = 180 cum				
			a) Labour				
			Mate	day	0.24	350.00	84.00
			Mazdoor	day	6.00	350.00	2100.00
			b) Machinery				
			Hydraulic excavator 1.0 cum bucket capacity	hour	6.00	1080.00	6480.00
			c) Overhead charges @ 10 % on (a+b)				866.40
			d) Contractor's profit @ 10 % on (a+b+c)				953.04

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
						10483.44
		Add 1% labour cess				104.83
		Cost for 180 cum = a+b+c+d				10588.27
		Rate per cum = (a+b+c+d)/180				58.82
		Add 12% GST				7.06
		Rate per Cum.				65.88
					<b>say</b>	<b><u>66.00</u></b>
		e) Labour Rate				
		Labour				2184.00
		Overhead charges @ 10%				218.40
		Contractors Profit @10%				240.24
						2642.64
		Add 1% labour cess				26.43
		Cost for180cum				2669.07
		Rate per cum = e/180				14.83
		Add 12% GST				1.78
		Rate per Cum.				16.61
					<b>say</b>	<b><u>17.00</u></b>
		1.Cost of dewatering upto 10 per cent of (a+b), may be added, where required Assessment for dewatering shall be made as per site conditions.				
	Note	2.In case of rock, foundation beyond3 m is not dug and hence not included.				
2.1		Hard Rock ( requiring blasting )				
	III	Manual Means				
	A	Unit = cum				
		Taking output = 10 cum				
		a) Labour				
		Mate	day	0.35	350.00	122.50
		Driller	day	0.50	350.00	175.00
		Blaster	day	0.25	403.67	100.92
		Mazdoor	day	8.00	350.00	2800.00
		b) Machinery				
		Air Compressor 250 cfm with 2 jack hammer for drilling.	hour	1.00	488.00	488.00
		c) Material				
		Blasting Material	kg	3.50	98.00	343.00
		Detonator electric	each	14.00	16.00	224.00
		d) Overhead charges @ 10 % on (a+b+c)				425.34
		e) Contractor's profit @ 10 % on (a+b+c+d)				467.88



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
							5146.63
			Add 1% labour cess				51.47
			Cost for 10 cum = a+b+c+d+e				5198.10
			Rate per cum = (a+b+c+d+e)/10				519.81
			Add 12% GST				62.38
			Rate per Cum.				582.19
						<b>say</b>	<b><u>582.00</u></b>
			e) Labour Rate				
			Labour				3198.42
			Overhead charges @ 10%				319.84
			Contractors Profit @10%				351.83
							3870.08
			Add 1% labour cess				38.70
			Cost for10cum				3908.79
			Rate per cum = e/10				<u>390.88</u>
			Add 12% GST				46.91
			Rate per Cum.				437.78
						<b>say</b>	<b><u>438.00</u></b>
			Cost of dewatering @ 10 per cent of (a+b) may be added, where required Assessment for dewatering shall be made as per site conditions.				
2.1		Note	Hard Rock ( blasting prohibited )				
		IV	Unit = cum				
			Taking output = 10 cum				
			Mechanical Means				
		A	a) Labour				
			Mate	day	0.20	350.00	70.00
			Mazdoor	day	5.00	350.00	1750.00
			b) Machinery				
			Air Compressor 250 cfm with 2 leads of pneumatic breaker	hour	6.00	488.00	2928.00
			c) Overhead charges @ 10 % on (a+b)				474.80
			d) Contractor's profit @ 10 % on (a+b+c)				522.28
							5745.08
			Add 1% labour cess				57.45
			Cost for 10 cum = a+b+c+d				5802.53
			Rate per cum = (a+b+c+d)/10				580.25
			Add 12% GST				69.63
			Rate per Cum.				649.88
						<b>say</b>	<b><u>650.00</u></b>
			e) Labour Rate				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Labour				1820.00
		Overhead charges @ 10%				182.00
		Contractors Profit @10%				200.20
						2202.20
		Add 1% labour cess				22.02
		Cost for 10cum				2224.22
		Rate per cum = e/10				<u>222.42</u>
		Add 12% GST				26.69
		Rate per Cum.				249.11
					<b>say</b>	<b><u>249.00</u></b>
		1. Cost of dewatering upto 10 per cent of (a+b), may be added, where required Assessment for dewatering shall be made as per site conditions.				
	Note	2. In case of rock, foundation beyond 3 m is not dug and hence not included.				
2.1		Marshy Soil				
	V	Unit = cum				
		Taking output = 10 cum				
		Depth upto 3 m				
		Manual means				
	A	a) Labour				
		Mate/Supervisor	day	0.40	350.00	140.00
		Mazdoor	day	10.00	350.00	3500.00
		b) Machinery				
		Tractor-trolley for removal.	hour	2.67	581.00	1551.27
		c) Overhead charges @ 10 % on (a+b)				519.13
		d) Contractor's profit @ 10 % on (a+b+c)				571.04
						6281.44
		Add 1% labour cess				62.81
		Cost for 10 cum = a+b+c+d				6344.25
		Rate per cum = ( a+b+c+d)/ 10				634.43
		Add 12% GST				76.13
		Rate per Cum.				710.56
					<b>say</b>	<b><u>711.00</u></b>
		e) Labour Rate				
		Labour				3640.00
		Overhead charges @ 10%				364.00
		Contractors Profit @10%				400.40
						4404.40
		Add 1% labour cess				44.04

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Cost for 10 cum				4448.44
		Rate per cum = e/10				<u>444.84</u>
		Add 12% GST				53.38
		Rate per Cum.				498.23
					<b>say</b>	<b><u>498.00</u></b>
		1. Cost of dewatering @ 30 per cent of (a), may be added, where required Assessment for dewatering shall be made as per site conditions.				
	Note	2. Shoring & strutting 15 per cent of (a), where required may be added				
		3. It is assumed that Marshy Soil will be available upto 3 m depth only. For deeper excavation below 3 m depth, refer analysis in item 12.1 (i) to (iv) for ordinary soil				
2.1 (V)		Mechanical Means				
	B	a) Labour				
		Mate	day	0.08	350.00	28.00
		Mazdoor for dressing sides, bottom and backfilling	day	2.00	350.00	700.00
		b) Machinery				
		Hydraulic excavator 1.0 cum bucket capacity @ 60 cum per hour	hour	0.17	1080.00	183.60
		Tipper 5.5 cum capacity, 4 trips per hour.	hour	0.45	570.00	256.50
		c) Overhead charges @ 10 % on (a+b)				116.81
		d) Contractor's profit @ 10 % on (a+b+c)				128.49
						1413.40
		Add 1% labour cess				14.13
		Cost for 10 cum = a+b+c+d				1427.54
		Rate per cum = (a+b+c+d)/10				142.75
		Add 12% GST				17.13
		Rate per Cum.				159.88
					<b>say</b>	<b><u>160.00</u></b>
		e) Labour Rate				
		Labour				728.00
		Overhead charges @ 10%=				72.80
		Contractors Profit @10%				80.08
						880.88
		Add 1% labour cess				8.81
		Cost for 10 cum				889.69
		Rate per cum = e/10				<u>88.97</u>

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 12% GST				10.68
		Rate per Cum.				99.65
					<b>say</b>	<b><u>100.00</u></b>
		1. Cost of dewatering @ 20 per cent of (a+b) may be added, where required				
	Note	2. Shoring & strutting @ 10 per cent of (a+b), where required may be added				
		3. It is assumed that Marshy Soil will be available upto 3 m depth only. For deeper excavation below 3 m depth, refer analysis in item 12.1 (i) to (iv) for ordinary soil				
		Back Filling in Marshy Foundation Pits				
	VI	Unit : Cum				
		Taking Output : 6 cum				
		a) Labour				
		Mate	day	0.12	350.00	42.00
		Mazdoor for dressing sides, bottom and backfilling	day	3.00	350.00	1050.00
		b) Machinery				
		Tractor-trolley for transportation	hour	2.00	581.00	1162.00
		c) Overhead charges @ 10 % on (a+b)				225.40
		d) Contractor's profit @ 10 % on (a+b+c)				247.94
						2727.34
		Add 1% labour cess				27.27
		Cost for 6 cum = a+b+c+d				2754.61
		Rate per cum = (a+b+c+d)/6				459.10
		Add 12% GST				55.09
		Rate per Cum.				514.19
					<b>say</b>	<b><u>514.00</u></b>
		Labour Rate				
		Labour				1092.00
		Overhead charges @ 10%=				109.20
		Contractors Profit @10%=				120.12
						1321.32
		Add 1% labour cess				13.21
		Cost for 6 cum				1334.53
		Rate per cum				<u>222.42</u>
		Add 12% GST				26.69
		Rate per Cum.				249.11

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
					say	<u>249.00</u>
2.2	304	Filling Annular Space Around Footing in Rock				
		Unit = cum				
		Taking out put = 1 cum				
		Lean cement concrete 1:3:6 nominal mix. Rate may be taken as per item 2.4.				
2.3	304	Sand Filling in Foundation Trenches as per Drawing & Technical Specification				
		Unit = cum				
		Taking output = 1 cum				
		a) Labour				
		Mate	day	0.01	350.00	3.50
		Mazdoor	day	0.30	350.00	105.00
		b) Material				
		Sand (assuming 20 per cent voids)	cum	1.20	1167.00	1400.40
		c) Overhead charges @ 10 % on (a+b)				150.89
		d) Contractor's profit @ 10 % on (a+b+c)				165.98
						1825.77
		Add 1% labour cess				18.26
		Rate per cum = a+b+c+d				1844.03
		Add 12% GST				221.28
		Rate per Cum.				2065.31
					say	<u>2065.00</u>
		Labour Rate				
		Labour				108.50
		Overhead charges @ 10%=				10.85
		Contractors Profit @10%=				11.94
						131.29
		Add 1% labour cess				1.31
		Cost for 1cum				132.60
		Rate per cum =				<u>132.60</u>
		Add 12% GST				15.91
		Rate per Cum.				148.51
					say	<u>149.00</u>
2.4	2100	PCC 1:3:6 in Foundation				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.				
		<i>Unit = cum</i>				
		<i>Taking output = 15 cum</i>				
		a) Labour				
		Mate	day	0.64	350.00	224.00
		Mason	day	1.00	505.17	505.17
		Mazdoor	day	15.00	350.00	5250.00
		b) Material				
		40 mm Aggregate	cum	13.50	954.00	12879.00
		coarse Sand	cum	6.75	1156.00	7803.00
		cement	tonne	3.45	6875.00	23718.75
		Cost of water	KL	18.00	102.00	1836.00
		c) Machinery				
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
		Generator 33 KVA	hour	6.00	630.00	3780.00
		Water tanker 6 KL capacity	hour	2.00	500.00	1000.00
		d) Overhead charges @ 10 % on (a+b+c)				5909.59
		e) Contractor's profit @ 10 % on (a+b+c+d)				6500.55
						71506.06
		Add 1% labour cess				715.06
		Cost for 15 cum = a+b+c+d+e				72221.12
		Rate per cum = (a+b+c+d+e)/15				4814.74
		Add 12% GST				577.77
		Rate per Cum.				5392.51
					<b>say</b>	<b><u>5393.00</u></b>
		Labour Rate				
		Labour				5979.17
		Overhead charges @ 10%=				597.92
		Contractors Profit @10%=				657.71
						7234.79
		Add 1% labour cess				72.35
		Cost for 15cum				7307.14
		Rate per cum				<u>487.14</u>
		Add 12% GST				58.46
		Rate per Cum.				545.60
					<b>say</b>	<b><u>546.00</u></b>

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Vibrator is a part of minor T & P which is already included in overhead charges of the contractor.				
2.5	1300	Note	Brick Masonry Work in Cement Mortar 1:3 in Foundation complete excluding Pointing and Plastering, as per Drawing and Technical Specifications.				
			<i>Unit = cum</i>				
			<i>Taking output = 5 cum</i>				
			a) Material				
			Bricks 1st class	each	2500.00	7.00	17500.00
			Cement mortar 1:3 (Rate as in Item 12.6 A sub-analysis)	cum	1.20	5049.00	6058.80
			b) Labour				
			Mate	day	0.48	350.00	168.00
			Mason	day	4.00	505.17	2020.67
			Mazdoor	day	8.00	350.00	2800.00
			c) Overhead charges @ 10 % on (a+b)				2854.75
			d) Contractor's profit @ 10 % on (a+b+c)				3140.22
							34542.43
			Add 1% labour cess				345.42
			Cost for 5 cum = a+b+c+d				34887.86
			Rate per cum (a+b+c+d)/5				6977.57
			Add 12% GST				837.31
			Rate per Cum.				7814.88
						<b>say</b>	<b><u>7815.00</u></b>
			Labour Rate				
			Labour				23558.80
			Overhead charges @ 10%=				2355.88
			Contractors Profit @10%=				2591.47
							28506.15
			Add 1% labour cess				285.06
			Cost for 5cum				28791.21
			Rate per cum				<u>5758.24</u>
			Add 12% GST				690.99
			Rate per Cum.				6449.23
						<b>say</b>	<b><u>6449.00</u></b>
2.6	Sub-analysis		Cement Mortar 1:3 (1 cement : 3 sand)				
		(A)	<i>Unit = 1 cum</i>				
			<i>Taking output = 1 cum</i>				
			a) Materials				
			Cement	tonne	0.51	6875.00	3506.25

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Sand	cum	1.05	1156.00	1213.80
			b) Labour				
			Mate	day	0.04	350.00	14.00
			Mazdoor	day	0.90	350.00	315.00
			Total Material and Labour = (a+b)			<b>say</b>	<b>5049.00</b>
	Sub-analysis		Cement Mortar1:2 (1cement :2 sand)				
		(B)	<i>Unit = 1 cum</i>				
			<i>Taking output = 1 cum</i>				
			a) Materials				
			Cement	tonne	0.67	6875.00	4620.00
			Sand	cum	0.93	1156.00	1075.08
			b) Labour				
			Mate	day	0.04	350.00	14.00
			Mazdoor	day	0.90	350.00	315.00
			Total Material and Labour = (a+b)			<i>say</i>	6024.00
	Sub-analysis (Addl.)		Cement Mortar1:4 (1cement :4 sand)				
		(C)	<i>Unit = 1 cum</i>				
			<i>Taking output = 1 cum</i>				
			a) Materials				
			Cement	tonne	0.40	6875.00	2772.00
			Sand	cum	1.12	1156.00	1294.72
			b) Labour				
			Mate	day	0.04	350.00	14.00
			Mazdoor	day	0.90	350.00	315.00
			Total Material and Labour = (a+b)			<i>say</i>	4396.00
	Sub-analysis (Addl.)		Cement Mortar1:6 (1cement :6 sand)				
		(D)	<i>Unit = 1 cum</i>				
			<i>Taking output = 1 cum</i>				
			a) Materials				
			Cement	tonne	0.29	6875.00	1980.00
			Sand	cum	1.34	1156.00	1545.74
			b) Labour				
			Mate	day	0.04	350.00	14.00
			Mazdoor	day	0.90	350.00	315.00
			Total Material and Labour = (a+b)			<i>say</i>	3855.00



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
2.7	1400		Stone Masonry Work in Cement Mortar 1:3 in Foundation complete as per Drawing and Technical Specifications.				
			<i>Unit = cum</i>				
			<i>Taking output = 5 cum</i>				
	1405.4		Square Rubble Coursed Rubble Masonry (first sort)				
		(A)	a) Material				
			Stone	cum	5.50	1368.00	7524.00
			Through and bond stone	each	35.00	25.00	875.00
			(35no.x0.24mx0.24mx0.39m = 0.79 cu.m)				
			Cement mortar 1:3 (Rate as in Item 12.6 A sub-analysis)	cum	1.50	5049.00	7573.50
			b) Labour				
			Mason	day	7.50	505.17	1583.78
			Mate	day	0.66	350.00	231.00
			Mazdoor	day	9.00	350.00	3150.00
			c) Overhead charges @ 10 % on (a+b)				2093.73
			d) Contractor's profit @ 10 % on (a+b+c)				2303.10
							25334.11
			Add 1% labour cess				253.34
			Cost for 5 cum = a+b+c+d				25587.45
			Rate per cum (a+b+c+d)/5				5117.49
			Add 12% GST				614.10
			Rate per Cum.				5731.59
						<b>say</b>	<b><u>5732.00</u></b>
			Labour Rate				
			Labour				4964.78
			Overhead charges @ 10%				496.48
			Contractors Profit @10%				546.13
							6007.38
			Add 1% labour cess				60.07
			Cost for 5cum				6067.46
			Rate per cum				<u>1213.49</u>
			Add 12% GST				145.62
			Rate per Cum.				1359.11
						<b>say</b>	<b><u>1359.00</u></b>
	1405.3		Random Rubble Masonry				
		(B)	( coursed/uncoursed )				
			<i>Unit = cum</i>				
			<i>Taking output = 5 cum</i>				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			a) Material				
			Stone	cum	5.50	700.00	3850.00
			Through and bond stone	each	35.00	25.00	875.00
			(35nos.x0.24mx0.24mx0.39m = 0.79 cu.m)				
			Cement mortar 1:3 (Rate as in Item 12.6 A sub-analysis)	cum	1.55	5049.00	7825.95
			b) Labour				
			Mate	day	0.62	350.00	217.00
			Mason	day	6.00	505.17	3031.00
			Mazdoor	day	9.00	350.00	3150.00
							18948.95
			c) Overhead charges @ 10 % on (a+b)				1894.90
			d) Contractor's profit @ 10 % on (a+b+c)				2084.38
							22928.23
			Add 1% labour cess				229.28
			Cost for 5 cum = a+b+c+d				23157.51
			Rate per cum (a+b+c+d)/5				4631.50
			Add 12% GST				555.78
			Rate per Cum.				5187.28
						<b>say</b>	<b><u>5187.00</u></b>
			The labour already considered in cement mortar has been taken into account while proposing labour for masonry works.				
			Labour Rate				
			Labour				6398.00
			Overhead charges @ 10%				639.80
			Contractors Profit @10%				703.78
							7741.58
			Add 1% labour cess				77.42
			Cost for 5cum				7819.00
			Rate per cum				<u>1563.80</u>
			Add 12% GST				187.66
			Rate per Cum.				1751.46
						<b>say</b>	<b><u>1751.00</u></b>
2.8	1500, 1700 & 2100	Note	Plain/Reinforced Cement Concrete in Open Foundation complete as per Drawing and Technical Specifications.				
			PCC Grade M15				
		A	Unit = cum				
			Taking output = 15 cum				
			a) Material				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Cement	tonne	4.13	6875.00	28393.75
		Coarse sand	cum	6.75	1156.00	7803.00
		40 mm Aggregate	cum	8.10	954.00	7727.40
		20 mm Aggregate	cum	4.05	1298.00	5256.90
		10 mm Aggregate	cum	1.35	1298.00	1752.30
		b) Labour				
		Mate	day	0.86	350.00	301.00
		Mason	day	1.50	505.17	757.75
		Mazdoor	day	20.00	350.00	7000.00
		c) Machinery				
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
		Generator 63 KVA	hour	6.00	707.00	4242.00
		<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		4356.00		
		d) Formwork @ 4 per cent on cost of concrete i.e. cost of material, labour and machinery				2613.36
		e) Overhead charges @ 10 % on (a+b+c+d)				6794.75
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				7474.22
						82216.43
		Add 1% labour cess				822.16
		Cost for 15 cum = a+b+c+d+e+f				83038.60
		Rate per cum = (a+b+c+d+e+f)/15				5535.91
		Add 12% GST				664.31
		Rate per Cum.				6200.22
					<b>say</b>	<b><u>6200.00</u></b>
		Needle Vibrator is an item of minor T & P which is already included in overhead charges. Hence not added in rate analysis of cement concrete works.				
		Labour Rate				
		Labour				8058.75
		Overhead charges @ 10%				805.88
		Contractors Profit @10%				886.46
						9751.09
		Add 1% labour cess				97.51
		Cost for 15cum				9848.60
		Rate per cum				<u>656.57</u>
		Add 12% GST				78.79
		Rate per Cum.				735.36

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
						<b>say</b>	<b><u>735.00</u></b>
2.8		Note	PCC Grade M20				
		B	Unit : cum				
			Taking output = 15 cum				
			a) Material				
			Cement	tonne	5.16	6875.00	35475.00
			Coarse sand	cum	6.75	1156.00	7803.00
			40 mm Aggregate	cum	5.40	954.00	5151.60
			20 mm Aggregate	cum	5.40	1298.00	7009.20
			10 mm Aggregate	cum	2.70	1298.00	3504.60
			b) Labour				
			Mate	day	0.86	350.00	301.00
			Mason	day	1.50	505.17	757.75
			Mazdoor	day	20.00	350.00	7000.00
			c) Machinery				
			Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
			Generator 33 KVA	hour	6.00	630.00	3780.00
			<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		<i>4859.00</i>		
			d) Formwork @ 4 per cent on cost of concrete i.e. cost of material, labour and machinery				2915.29
			e) Overhead charges @ 10 % on (a+b+c+d)				7579.74
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				8337.72
							91714.90
			Add 1% labour cess				917.15
			Cost for 15 cum = a+b+c+d+e+f				92632.05
			Rate per cum = (a+b+c+d+e+f)/15				6175.47
			Add 12% GST				741.06
			Rate per Cum.				6916.53
						<b>say</b>	<b><u>6917.00</u></b>
			Labour Rate				
			Labour				8058.75
			Overhead charges @ 10%				805.88
			Contractors Profit @10%				886.46
							9751.09
			Add 1% labour cess				97.51
			Cost for 15cum				9751.09
			Rate per cum				<u>650.07</u>
			Add 12% GST				78.01
			Rate per Cum.				728.08
						<b>say</b>	<b><u>728.00</u></b>

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
2.8			RCC Grade M20				
		C	Using Concrete Mixer				
		Case I	Unit = cum				
			Taking output = 15 cum				
			a) Material				
			Cement	tonne	5.21	6875.00	35818.75
			Coarse sand	cum	6.75	1156.00	7803.00
			20 mm Aggregate	cum	8.10	1298.00	10513.80
			10 mm Aggregate	cum	5.40	1298.00	7009.20
			b) Labour				
			Mate	day	0.86	350.00	301.00
			Mason	day	1.50	505.17	757.75
			Mazdoor	day	20.00	350.00	7000.00
			c) Machinery				
			Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
			Generator 33 KVA	hour	6.00	630.00	3780.00
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)		5006.00		
			d) Formwork @ 4 per cent on (a+b+c)				3003.34
			e) Overhead charges @ 10 % on (a+b+c+d)				7808.68
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				8589.55
							94485.08
			Add 1% labour cess				944.85
			Cost for 15 cum = a+b+c+d+e+f				95429.93
			Rate per cum = ( a+b+c+d+e+f )/15				6362.00
			Add 12% GST				763.44
			Rate per Cum.				7125.43
						<b>say</b>	<b><u>7125.00</u></b>
			Labour Rate				
			Labour				8058.75
			Overhead charges @ 10%				805.88
			Contractors Profit @10%				886.46
							9751.09
			Add 1% labour cess				97.51
			Cost for 15cum				9751.09
			Rate per cum				<u>650.07</u>
			Add 12% GST				78.01
			Rate per Cum.				728.08
						<b>say</b>	<b><u>728.00</u></b>
2.8 C			With Batching Plant, Transit Mixer and Concrete Pump				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		Case II	<i>Unit : cum</i>				
			<i>Taking Output = 120 cum</i>				
			a) Material				
			Cement	tonne	41.66	6875.00	286412.50
			Coarse Sand	cum	54.00	1214.00	65556.00
			20 mm Aggregate	cum	64.80	1298.00	84110.40
			10 mm Aggregate	cum	43.20	1298.00	56073.60
			b) Labour				
			Mate	day	0.84	350.00	294.00
			Mason	day	3.00	505.17	1515.50
			Mazdoor	day	18.00	350.00	6300.00
			c) Machinery				
			Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
			Generator 100 KVA	hour	6.00	1160.00	6960.00
			Loader 1 cum capacity	hour	6.00	1321.00	7926.00
			Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
			Lead beyond 1 km, L-lead in km	tonne.k m	300L	1601.00	480300.00
			Concrete Pump	hour	6	240.00	1440.00
			<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		9232.00		
			d) Formwork @ 4 per cent on cost of concrete i.e. cost of material, labour and machinery				44313.24
			e) Overhead charges @ 10 % on (a+b+c+d)				115214.42
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				126735.87
							1394094.53
			Add 1% labour cess				13940.95
			Cost for 120 cum = a+b+c+d+e+f				1408035.48
			Rate per cum = ( a+b+c+d+e+f )/120				11733.63
			Add 12% GST				1408.04
			Rate per Cum.				13141.66
						<b>say</b>	<b><u>13142.00</u></b>
			<b>Labour Rate</b>				
			Labour				8109.50
			Overhead charges @ 10%				810.95
			Contractors Profit @10%				892.05
							9812.50
			Add 1% labour cess				98.12
			Cost for 120cum				9910.62

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Rate per cum				<u>82.59</u>
		Add 12% GST				9.91
		Rate per Cum.				92.50
					<b>say</b>	<b><u>92.00</u></b>
2.8		With Batching Plant, Transit Mixer and Concrete Pump				
	D	Using Concrete Mixer				
	Case I	Unit = cum				
		Taking output = 15 cum				
		a) Material				
		Cement	tonne	5.99	6875.00	41181.25
		Coarse sand	cum	6.75	1156.00	7803.00
		40 mm Aggregate	cum	5.40	954.00	5151.60
		20 mm Aggregate	cum	5.40	1298.00	7009.20
		10 mm Aggregate	cum	2.70	1298.00	3504.60
		b) Labour				
		Mate	day	0.86	350.00	301.00
		Mason	day	1.50	505.17	757.75
		Mazdoor	day	20.00	350.00	7000.00
		c) Machinery				
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
		Generator 33 KVA	hour	6.00	630.00	3780.00
		<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		5240.00		
		d) Formwork @ 3.75 per cent of (a+b+c)				2947.07
		e) Overhead charges @ 10 % on (a+b+c+d)				8153.55
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				8968.90
						98657.91
		Add 1% labour cess				986.58
		Cost for 15 cum = a+b+c+d+e+f				99644.49
		Rate per cum = ( a+b+c+d+e+f )/15				6642.97
		Add 12% GST				797.16
		Rate per Cum.				7440.12
					<b>say</b>	<b><u>7440.00</u></b>
		Labour Rate				
		Labour				8058.75
		Overhead charges @ 10%				805.88
		Contractors Profit @10%				886.46
		Cost for 15cum				9751.09
		Rate per cum				<u>650.07</u>
		Add 12% GST				78.01

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Rate per Cum.				728.08
						<b>say</b>	<b><u>728.00</u></b>
2.8 D			With Batching Plant, Transit Mixer and Concrete Pump				
		Case II	Unit : cum				
			Taking Output = 120 cum				
			a) Material				
			Cement	tonne	47.95	6875.00	329656.25
			Coarse sand	cum	54.00	1214.00	65556.00
			40 mm Aggregate	cum	43.20	954.00	41212.80
			20 mm Aggregate	cum	43.20	1298.00	56073.60
			10 mm Aggregate	cum	21.60	1298.00	28036.80
			b) Labour				
			Mate	day	0.84	350.00	294.00
			Mason	day	3.00	505.17	1515.50
			Mazdoor	day	18.00	350.00	6300.00
			c) Machinery				
			Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
			Generator 100 KVA	hour	6.00	1160.00	6960.00
			Loader 1 cum capacity	hour	6.00	1321.00	7926.00
			Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
			Transit Mixer 4 cum capacity lead beyond 1 Km, L - lead in Kilometer	tonne.k m	300L	1601.00	480300.00
			Concrete Pump	hour	6	240.00	1440.00
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)		9469.00		
			d) Formwork @ 3.75 per cent of cost of concrete i.e. cost of material, labour and machinery				42608.02
			e) Overhead charges @ 10 % on (a+b+c+d)				117882.20
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				129670.42
							1426374.59
			Add 1% labour cess				14263.75
			cost of 120 cum = a+b+c+d+e+f				1440638.33
			Rate per cum = (a+b+c+d+e+f)/120				12005.32
			Add 12% GST				1440.64
			Rate per Cum.				13445.96
						<b>say</b>	<b><u>13446.00</u></b>
			Labour Rate				
			Labour				8109.50



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Overhead charges @ 10%				810.95
			Contractors Profit @10%				892.05
							9812.50
			Add 1% labour cess				98.12
			Cost for 120cum				9910.62
			Rate per cum				<u>82.59</u>
			Add 12% GST				9.91
			Rate per Cum.				92.50
2.8						<b>say</b>	<b><u>92.00</u></b>
		E	Using Concrete Mixer				
		Case I	<i>Unit = cum</i>				
			<i>Taking output = 15 cum</i>				
			a) Material				
			Cement	tonne	6.05	6875.00	41593.75
			Coarse sand	cum	6.75	1156.00	7803.00
			20 mm Aggregate	cum	8.10	1298.00	10513.80
			10 mm Aggregate	cum	5.40	1298.00	7009.20
			b) Labour				
			Mate	day	0.86	350.00	301.00
			Mason	day	1.50	505.17	757.75
			Mazdoor	day	20.00	350.00	7000.00
			c) Machinery				
			Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
			Generator 33 KVA	hour	6.00	630.00	3780.00
			<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		<i>5391.00</i>		
			d) Formwork @ 3.75 per cent of a+b+c.				3032.19
			e) Overhead charges @ 10 % on (a+b+c+d)				8389.07
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				9227.98
							101599.74
			Add 1% labour cess				1016.00
			cost of 15 cum = a+b+c+d+e+f				102615.74
			Rate per cum (a+b+c+d+e+f)/15				6841.05
			Add 12% GST				820.93
			Rate per Cum.				7661.98
						<b>say</b>	<b><u>7662.00</u></b>
			Labour Rate				
			Labour				8058.75
			Overhead charges @ 10 %				805.88
			Contractors Profit @10%				886.46
							9751.09

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 1% labour cess				97.51
		Cost for 15cum				9848.60
		Rate per cum				<u>656.57</u>
		Add 12% GST				78.79
		Rate per Cum.				735.36
					<b>say</b>	<b><u>735.00</u></b>
2.8 E		With Batching Plant, Transit Mixer and Concrete Pump				
	Case II	Unit: cum				
		Taking Output = 120 cum				
		a) Material				
		Cement	tonne	48.38	6875.00	332612.50
		Coarse sand	cum	54.00	1214.00	65556.00
		20 mm Aggregate	cum	64.80	1298.00	84110.40
		10 mm Aggregate	cum	43.20	1298.00	56073.60
		b) Labour				
		Mate	day	0.84	350.00	294.00
		Mason	day	3.00	505.17	1515.50
		Mazdoor	day	18.00	350.00	6300.00
		c) Machinery				
		Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
		Generator 100 KVA	hour	6.00	1160.00	6960.00
		Loader 1 cum capacity 1 cum	hour	6.00	1321.00	7926.00
		Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
		Transit Mixer 4 cum capacity lead beyond 1 Km, L - lead in Kilometer	tonne.k m	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		9617.00		
		d) Formwork @ 3.75 per cent on cost of concrete i.e. cost of material, labour and machinery				43276.16
		e) Overhead charges @ 10 % on (a+b+c+d)				119730.72
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				131703.79
						1448741.67
		Add 1% labour cess				14487.42
		cost of 120 cum = a+b+c+d+e+f				1463229.08
		Rate per cum (a+b+c+d+e+f)/120				12193.58
		Add 12% GST				1463.23
		Rate per Cum.				13656.80
					<b>say</b>	<b><u>13657.00</u></b>

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Labour Rate				
			Labour				8109.50
			Overhead charges @ 10%				810.95
			Contractors Profit @10%				892.05
							9812.50
			Add 1% labour cess				98.12
			Cost for 120cum				9910.62
			Rate per cum				<u>82.59</u>
			Add 12% GST				9.91
			Rate per Cum.				92.50
						<b>say</b>	<b><u>92.00</u></b>
2.8			PCC Grade M30				
		F	Using Concrete Mixer				
		Case I	Unit = cum				
			Taking output = 15 cum				
			a) Material				
			Cement	tonne	6.08	6875.00	41800.00
			Coarse sand	cum	6.75	1156.00	7803.00
			40 mm Aggregate	cum	5.40	954.00	5151.60
			20 mm Aggregate	cum	5.40	1298.00	7009.20
			10 mm Aggregate	cum	2.70	1298.00	3504.60
			b) Labour				
			Mate	day	0.86	350.00	301.00
			Mason	day	1.50	505.17	757.75
			Mazdoor	day	20.00	350.00	7000.00
			c) Machinery				
			Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
			Generator 33 KVA	hour	6.00	630.00	3780.00
			<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		<i>5281.00</i>		
			d) Formwork @ 3.50 per cent of cost of concrete i.e. cost of material, labour and machinery				2772.25
			e) Overhead charges @ 10 % on (a+b+c+d)				8197.94
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				9017.73
							99195.07
			Add 1% labour cess				991.95
			cost of 15 cum = a+b+c+d+e+f				100187.03
			Rate per cum (a+b+c+d+e+f)/15				6679.14
			Add 12% GST				801.50
			Rate per Cum.				7480.63
						<b>say</b>	<b><u>7481.00</u></b>

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Labour Rate				
		Labour				8058.75
		Overhead charges @ 10%				805.88
		Contractors Profit @10%				886.46
						9751.09
		Add 1% labour cess				97.51
		Cost for 15cum				9848.60
		Rate per cum				<u>656.57</u>
		Add 12% GST				78.79
		Rate per Cum.				735.36
					<b>say</b>	<b><u>735.00</u></b>
2.8 F		Using Batching Plant, Transit Mixer and Concrete Pump				
	Case II	Unit : cum				
		Taking Output = 120 cum				
		a) Material				
		Cement	tonne	48.60	6875.00	334125.00
		Coarse sand	cum	54.00	1214.00	65556.00
		40 mm Aggregate	cum	43.20	954.00	41212.80
		20 mm Aggregate	cum	43.20	1298.00	56073.60
		10 mm Aggregate	cum	21.60	1298.00	28036.80
		b) Labour				
		Mate	day	0.84	350.00	294.00
		Mason	day	3.00	505.17	1515.50
		Mazdoor	day	18.00	350.00	6300.00
		c) Machinery				
		Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
		Generator 100 KVA	hour	6.00	1160.00	6960.00
		Loader 1 cum capacity	hour	6.00	1321.00	7926.00
		Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
		Transit Mixer 4 cum capacity lead beyond 1 Km, L - lead in Kilometer	tonne.k m	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		9506.00		
		d) Formwork @ 3.50 per cent of cost of concrete i.e. cost of material, labour and machinery				39923.89
		e) Overhead charges @ 10 % on (a+b+c+d)				118060.66
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				129866.73
						1428533.98

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 1% labour cess				14285.34
		cost of 120 cum = a+b+c+d+e+f				1442819.32
		Rate per cum (a+b+c+d+e+f)/120				12023.49
		Add 12% GST				1442.82
		Rate per Cum.				13466.31
					<b>say</b>	<b><u>13466.00</u></b>
		Labour Rate				
		Labour				8109.50
		Overhead charges @ 10%				810.95
		Contractors Profit @10%				892.05
						9812.50
		Add 1% labour cess				98.12
		Cost for 120cum				9910.62
		Rate per cum				<u>82.59</u>
		Add 12% GST				9.91
		Rate per Cum.				92.50
					<b>say</b>	<b><u>92.00</u></b>
2.8		RCC Grade M30				
	G	Using Concrete Mixer				
	Case I	Unit = cum				
		Taking output = 15 cum				
		a) Material				
		Cement	tonne	6.10	6875.00	41937.50
		Coarse sand	cum	6.75	1156.00	7803.00
		20 mm Aggregate	cum	8.10	1298.00	10513.80
		10 mm Aggregate	cum	5.40	1298.00	7009.20
		b) Labour				
		Mate	day	0.86	350.00	301.00
		Mason	day	1.50	505.17	757.75
		Mazdoor	day	20.00	350.00	7000.00
		c) Machinery				
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
		Generator 33 KVA	hour	6.00	630.00	3780.00
		<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		5414.00		
		d) Formwork @ 3.5 per cent on cost of concrete i.e. cost of material, labour and machinery				2842.08
		e) Overhead charges @ 10 % on (a+b+c+d)				8404.43
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				9244.88
						101693.64

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 1% labour cess				1016.94
		cost of 15 cum = a+b+c+d+e+f				102710.57
		Rate per cum = (a+b+c+d+e+f)/15				6847.37
		Add 12% GST				821.68
		Rate per Cum.				7669.06
					<b>say</b>	<b><u>7669.00</u></b>
		Labour Rate				
		Labour				8058.75
		Overhead charges @ 10%				805.88
		Contractors Profit @10%				886.46
						9751.09
		Add 1% labour cess				97.51
		Cost for 15cum				9848.60
		Rate per cum				<u>656.57</u>
		Add 12% GST				78.79
		Rate per Cum.				735.36
					<b>say</b>	<b><u>735.00</u></b>
2.8 G		Using Batching Plant, Transit Mixer and Concrete Pump				
	Case II	<i>Unit = cum</i>				
		<i>Taking output = 120 cum</i>				
		a) Material				
		Cement	tonne	48.80	6875.00	335500.00
		Coarse sand	cum	54.00	1214.00	65556.00
		20 mm Aggregate	cum	64.80	1298.00	84110.40
		10 mm Aggregate	cum	43.20	1298.00	56073.60
		b) Labour				
		Mate	day	0.84	350.00	294.00
		Mason	day	3.00	505.17	1515.50
		Mazdoor	day	18.00	350.00	6300.00
		c) Machinery				
		Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
		Generator 100 KVA	hour	6.00	1160.00	6960.00
		Loader 1 cum capacity	hour	6.00	1321.00	7926.00
		Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
		Transit Mixer 4 cum capacity lead beyond 1 Km, L - lead in Kilometer	tonne.k m	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		<i>9641.00</i>		
		d) Formwork @ 3.5 per cent of cost of concrete i.e. cost of material, labour and machinery				40492.15

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		e) Overhead charges @ 10 % on (a+b+c+d)				119741.06
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				131715.17
						1448866.88
		Add 1% labour cess				14488.67
		cost of 120 cum = a+b+c+d+e+f				1463355.55
		Rate per cum (a+b+c+d+e+f)/120				12194.63
		Add 12% GST				1463.36
		Rate per Cum.				13657.99
					<b>say</b>	<b><u>13658.00</u></b>
		Labour Rate				
		Labour				8109.50
		Overhead charges @ 10%				851.50
		Contractors Profit @10%				896.10
						9857.10
		Add 1% labour cess				98.57
		Cost for 120cum				9857.10
		Rate per cum				<u>82.14</u>
		Add 12% GST				9.86
		Rate per Cum.				92.00
					<b>say</b>	<b><u>92.00</u></b>
2.8		RCC Grade M35				
	H	Using Concrete Mixer				
	Case I	Unit = cum				
		Taking output = 15 cum				
		a) Material				
		Cement	tonne	6.33	6875.00	43518.75
		Coarse sand	cum	6.75	1156.00	7803.00
		20 mm Aggregate	cum	8.10	1298.00	10513.80
		10 mm Aggregate	cum	5.40	1298.00	7009.20
		b) Labour				
		Mate	day	0.86	350.00	301.00
		Mason	day	1.50	505.17	757.75
		Mazdoor	day	20.00	350.00	7000.00
		c) Machinery				
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
		Generator 33 KVA	hour	6.00	630.00	3780.00
		Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)		5519.00		
		d) Formwork @ 3 per cent on a+b+c				2483.51

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		e) Overhead charges @ 10 % on (a+b+c+d)				8526.70
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				9379.37
						103173.08
		Add 1% labour cess				1031.73
		cost of 15 cum = a+b+c+d+e+f				104204.81
		Rate per cum = (a+b+c+d+e+f)/15				6946.99
		Add 12% GST				833.64
		Rate per Cum.				7780.63
					<b>say</b>	<b><u>7781.00</u></b>
		Labour Rate				
		Labour				8058.75
		Overhead charges @ 10%				805.88
		Contractors Profit @10%				886.46
						9751.09
		Add 1% labour cess				97.51
		Cost for 15cum				9848.60
		Rate per cum				<u>656.57</u>
		Add 12% GST				78.79
		Rate per Cum.				735.36
					<b>say</b>	<b><u>735.00</u></b>
2.8 H		Using Batching Plant, Transit Mixer and Concrete Pump				
	Case II	Unit ; cum				
		Taking Output = 120 cum				
		a) Material				
		Cement	tonne	50.64	6875.00	348150.00
		Coarse sand	cum	54.00	1214.00	65556.00
		20 mm Aggregate	cum	64.80	1298.00	84110.40
		10 mm Aggregate	cum	43.20	1298.00	56073.60
		b) Labour				
		Mate	day	0.84	350.00	294.00
		Mason	day	3.00	505.17	1515.50
		Mazdoor	day	18.00	350.00	6300.00
		c) Machinery				
		Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
		Generator 100 KVA	hour	6.00	1160.00	6960.00
		Loader 1 cum capacity	hour	6.00	1321.00	7926.00
		Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
		Transit Mixer 4 cum capacity lead beyond 1 Km, L - lead in Kilometer	tonne.k m	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		9747.00		
		d) Formwork @ 3 per cent on cost of concrete i.e. cost of material, labour and machinery				35087.06
		e) Overhead charges @ 10 % on (a+b+c+d)				120465.56
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				132512.11
						1457633.22
		Add 1% labour cess				14576.33
		cost of 120 cum = a+b+c+d+e+f				1472209.55
		Rate per cum = (a+b+c+d+e+f)/120				12268.41
		Add 12% GST				1472.21
		Rate per Cum.				13740.62
					<b>say</b>	<b><u>13741.00</u></b>
		Where ever concrete is carried out using batching plant, transit mixer, concrete pump, Admixtures @ 0.4 per cent of weight of cement may be added for achieving desired slump of concrete.				
		Labour Rate				
		Labour				8109.50
		Overhead charges @ 10%				810.95
		Contractors Profit @10%				892.05
						9812.50
		Add 1% labour cess				98.12
		Cost for 120cum				9910.62
		Rate per cum				<u>82.59</u>
		Add 12% GST				9.91
		Rate per Cum.				92.50
					<b>say</b>	<b><u>92.00</u></b>
		Note: WELL FOUNDATION				
2.9	1200	Providing and Constructing Temporary Island 16 m diameter for Construction of Well Foundation for 8m dia. Well.				
		Assuming depth of water 1.0 m and height of island to be 1.25 m.				
		A Unit = 1 No				
		Taking output = 1 No.				
		a) Material				
		Earth (compacted)	cum	251.20	63.00	15825.60
		Sand bags	each	750.00	8.00	6000.00

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			b) Labour				
			Mate	day	0.40	350.00	140.00
			Mazdoor for filling sand bags, stitching and placing	day	15.00	350.00	5250.00
			c) Machinery				
			Crane with grab 1 cum capacity	hour	20.00	1250.00	25000.00
			Consumables @ 2.5 per cent of (c) above				625.00
			d) Overhead charges @ 10 % on (a+b+c)				5284.06
			e) Contractor's profit @ 10 % on (a+b+c+d)				5812.47
							63937.13
			Add 1% labour cess				639.37
			Rate per No. (a+b+c+d+e)				64576.50
			Add 12% GST				7749.18
			Rate per No.				72325.68
						<b>say</b>	<b><u>72326.00</u></b>
			It is assumed that earth will be available within the working space of crane with grab bucket.				
			Labour Rate				
			Labour				5390.00
			Overhead charges @ 10%				539.00
			Contractors Profit @10%				592.90
							6521.90
			Add 1% labour cess				65.22
			Cost for 1No.				6587.12
			Rate per Unit				6587.12
			Add 12% GST				790.45
			Rate per No.				7377.57
						<b>say</b>	<b><u>7378.00</u></b>
2.9		Note	Assuming depth of water 4.0 m and height of island 4.5 m.				
		B	Unit = 1No				
			Taking output = 1 No				
			a) Material				
			Earth (compacted)	cum	904.32	63.00	56972.16
			Sand bags	each	6000.00	8.00	48000.00
			Wooden ballies 8" Dia and 9 m long	each	95.00	550.00	52250.00
			Wooden ballies 2" Dia for bracing	metre	190.00	135.00	25650.00
			b) Labour				
			Mate	day	5.60	350.00	1960.00

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Mazdoor for piling 8" dia ballies for piling 8" dia ballies	day	18.00	350.00	6300.00
			Mazdoor for bracing with 2" dia ballies	day	12.00	350.00	4200.00
			Mazdoor for filling sand bags, stitching and placing	day	110.00	350.00	38500.00
			c) Machinery				
			Crane with grab 1 cum capacity	hour	50.00	1250.00	62500.00
			Consumables and other arrangements for piling ballies @ 2.5 per cent of (a+b+c).				7408.30
			d) Overhead charges @ 10 % on (a+b+c)				30374.05
			e) Contractor's profit @ 10 % on (a+b+c+d)				33411.45
							367525.96
			Add 1% labour cess				3675.26
			Rate per No. (a+b+c+d+e)				371201.22
			Add 12% GST				44544.15
			Rate per No.				415745.37
						<b>say</b>	<b><u>415745.00</u></b>
			For other well diameters rate can be worked out on the basis of cross-sectional area of well. The diameter of the island shall be in the conformity with clause 1203.2 of MoRTH specifications.				
			Labour Rate				
			Labour				50960.00
			Overhead charges @ 10%				5096.00
			Contractors Profit @10%				5605.60
							61661.60
			Add 1% labour cess				616.62
			Cost for 1No.				62278.22
			Rate per Unit				62278.22
			Add 12% GST				7473.39
			Rate per No.				69751.60
						<b>say</b>	<b><u>69752.00</u></b>
2.9	C	Note	Providing and constructing one span service road to reach island location from one pier location to another pier location				
			Assuming span length 30 m, width of service road 10m and depth of water 1m				
			Unit = 1 meter				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<i>Taking output = 30 metre</i>				
		a) Material				
		Earth	cum	450.00	63.00	28350.00
		Sand bags	each	300.00	8.00	2400.00
		b) Labour				
		Mate	day	0.24	350.00	84.00
		Mazdoor for filling sand bags, stitching and placing	day	6.00	350.00	2100.00
		c) Machinery				
		Front end Loader 1 cum capacity	hour	27.00	1321.00	35667.00
		Tipper 5.5 cum capacity	hour	28.00	570.00	15960.00
		d) Overhead charges @ 10 % on (a+b+c)				8456.10
		e) Contractor's profit @ 10 % on (a+b+c+d)				9301.71
						102318.81
		Add 1% labour cess				1023.19
		Cost for 30 m (a+b+c+d+e)				102318.81
		Rate per m (a+b+c+d+e)/30				3410.63
		Add 12% GST				409.28
		Rate per m.				3819.90
					<b>say</b>	<b><u>3820.00</u></b>
		Labour Rate				
		Labour				2184.00
		Overhead charges @ 10%				218.40
		Contractors Profit @10%				240.24
						2642.64
		Add 1% labour cess				26.43
		Cost for 30 Mtr..				2669.07
		Rate per Mtr.				88.97
		Add 12% GST				10.68
		Rate per m.				99.65
					<b>say</b>	<b><u>100.00</u></b>
2.10	1200 & 1900	Providing and Laying Cutting Edge of Mild Steel weighing 40 kg per metre for Well Foundation complete as per Drawing and Technical Specification.				
		<i>Unit = 1 MT</i>				
		<i>Taking output = 1 MT</i>				
		a) Material				
		Structural steel in plates, angles, etc including 5 per cent wastage	tonne	1.05	55110.00	57865.50

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Nuts & bolts	Kg	20.00	0.85	17.00
		b) Labour (for cutting, bending, making holes, joining, welding and erecting in position)				
		Mate	day	1.32	350.00	462.00
		Fitter	day	5.50	403.67	2220.17
		Blacksmith	day	5.50	505.17	2778.42
		Welder	day	5.50	505.17	2778.42
		Mazdoor	day	16.50	350.00	5775.00
		Electrodes, cutting gas and other consumables @ 10 per cent of cost of (a) above				5788.25
		c) Overhead charges @ 10 % on (a+b)				7768.48
		d) Contractor's profit @ 10 % on (a+b+c)				8545.32
						93998.55
		Add 1% labour cess				939.99
		Rate per MT (a+b+c+d)				94938.53
		Add 12% GST				11392.62
		Rate per MT.				106331.16
					<b>say</b>	<b><u>106331.00</u></b>
		Labour Rate				
		Labour				14014.00
		Overhead charges @ 10%				1401.40
		Contractors Profit @10%				1541.54
						16956.94
		Add 1% labour cess				169.57
		Cost for 1 MT.				17126.51
		Rate per MT.				17126.51
		Add 12% GST				2055.18
		Rate per MT.				19181.69
					<b>say</b>	<b><u>19182.00</u></b>
2.11	1200, 1500 & 1700	Plain/Reinforced Cement Concrete, in Well Foundation complete as per Drawing and Technical Specification.				
		Unit = 1 cum				
		Taking output = 1 cum				
		Well curb				
		A RCC M20 Grade				
		(i) Same as for 12.8 (C) except for formwork which shall be @ 20 per cent of the cost of concrete instead of 4 per cent.				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Using Concrete Mixer				
	Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				5006.00
		d) formwork @ 20 per cent of the cost of concrete				1001.20
		e) Overhead charges @ 10 % on (a+b+c+d)				600.72
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				660.79
						7268.71
		Add 1% labour cess				72.69
		Rate per cum (a+b+c+d+e+f)				7341.40
		Add 12% GST				880.97
		Rate per cum.				8222.37
					<b>say</b>	<b><u>8222.00</u></b>
		Labour Rate				
		Labour				3986.50
		Overhead charges @ 10%				398.65
		Contractors Profit @10%				438.52
						4823.67
		Add 1% labour cess				48.24
		Cost for 15 cum				4871.90
		Rate per cum				324.79
		Add 12% GST				38.98
		Rate per cum.				363.77
					<b>say</b>	<b><u>364.00</u></b>
2.11 A (i)		With Batching Plant, Transit Mixer and Concrete Pump				
	Case II	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				9232.00
		d) formwork @ 20 per cent of the cost of concrete				1846.40
		e) Overhead charges @ 10 % on (a+b+c+d)				1107.84
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				1218.62
						13404.86
		Add 1% labour cess				134.05
		Rate per cum (a+b+c+d+e+f)				13538.91
		Add 12% GST				1624.67
		Rate per cum.				15163.58
					<b>say</b>	<b><u>15164.00</u></b>
		Labour Rate				
		Labour				3969.00
		Overhead charges @ 10%				396.90

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Contractors Profit @10%				436.59
						4802.49
		Add 1% labour cess				48.02
		Cost for 120 cum				4850.51
		Rate per cum				<u>40.42</u>
		Add 12% GST				4.85
		Rate per cum.				45.27
					<b>say</b>	<b><u>45.00</u></b>
2.11 A		RCC M25 Grade				
	(ii)	Same as for 12.8 (E) except for formwork which shall be @ 20 per cent of the cost of concrete instead of 3.75 per cent.				
		Using Concrete Mixer				
	Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				5391.00
		d) formwork @ 20 per cent of the cost of concrete				1078.20
		e) Overhead charges @ 10 % on (a+b+c+d)				646.92
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				711.61
						7827.73
		Add 1% labour cess				78.28
		Rate per cum (a+b+c+d+e+f)				7906.01
		Add 12% GST				948.72
		Rate per cum.				8854.73
					<b>say</b>	<b><u>8855.00</u></b>
		Labour Rate				
		Labour				3986.50
		Overhead charges @ 5%				199.33
		Contractors Profit @10%				418.58
						4604.41
		Add 1% labour cess				46.04
		Cost for 15 cum				4650.45
		Rate per cum				<u>310.03</u>
		Add 12% GST				37.20
		Rate per cum.				347.23
					<b>say</b>	<b><u>347.00</u></b>
2.11 A (ii)		RCC M25 Grade				
	Case II	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				9875.00
		d) formwork @ 20 per cent of the cost of concrete				1975.00
		e) Overhead charges @ 10 % on (a+b+c+d)				1185.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				1303.50
						14338.50
		Add 1% labour cess				143.39
		Rate per cum (a+b+c+d+e+f)				14481.89
		Add 12% GST				1737.83
		Rate per cum.				16219.71
					<b>say</b>	<b><u>16220.00</u></b>
		Labour Rate				
		Labour				3969.00
		Overhead charges @ 10%				396.90
		Contractors Profit @10%				436.59
						4802.49
		Add 1% labour cess				48.02
		Cost for 120 cum				4850.51
		Rate per cum				<u>40.42</u>
		Add 12% GST				4.85
		Rate per cum.				45.27
					<b>say</b>	<b><u>45.00</u></b>
2.11 A		RCC M35 Grade				
	(iii)	Same as for 12.8 (H) except for formwork which shall be @ 20 per cent of the cost of concrete instead of 3.0 per cent.				
		Using Concrete Mixer				
	Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				5519.00
		d) formwork @ 20 per cent of the cost of concrete				1103.80
		e) Overhead charges @ 10 % on (a+b+c+d)				662.28
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				728.51
						8013.59
		Add 1% labour cess				80.14
		Rate per cum (a+b+c+d+e+f)				8093.72
		Add 12% GST				971.25
		Rate per cum.				9064.97
					<b>say</b>	<b><u>9065.00</u></b>
		Labour Rate				
		Labour				3986.50
		Overhead charges @ 10%				398.65
		Contractors Profit @10%				438.52
						4823.67
		Add 1% labour cess				48.24
		Cost for 15 cum				4871.90



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Rate per cum				<u>324.79</u>
		Add 12% GST				38.98
		Rate per cum.				363.77
					<b>say</b>	<b><u>364.00</u></b>
2.11 A (iii)		With Batching Plant, Transit Mixer and Concrete Pump				
	Case II	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				10017.00
		d) formwork @ 20 per cent of the cost of concrete				2003.40
		e) Overhead charges @ 10 % on (a+b+c+d)				1202.04
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				1322.24
		Rate per cum (a+b+c+d+e+f)				14544.68
		Add 12% GST				1745.36
		Rate per cum.				16290.05
					<b>say</b>	<b><u>16290.00</u></b>
	Note.	If curb concrete is carried out within steel liner, cost of formwork shall be excluded.				
		Labour				3969.00
		Overhead charges @ 10%				396.90
		Contractors Profit @10%				436.59
						4802.49
		Add 1% labour cess				48.02
		Cost for 120 cum				4850.51
		Rate per cum				<u>40.42</u>
		Add 12% GST				4.85
		Rate per cum.				45.27
					<b>say</b>	<b><u>45.00</u></b>
2.11		Well steining				
	B	PCC M15 Grade				
	(I)	Same as for 12.8 (A) except for formwork which shall be @ 10 per cent of the cost of concrete instead of 4 per cent.				
		Using Concrete Mixer				
	Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				4356.00
		d) formwork @ 10 per cent of the cost of concrete				435.60
		e) Overhead charges @ 10 % on (a+b+c+d)				479.16
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				527.08

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
						5797.84
		Add 1% labour cess				57.98
		Rate per cum (a+b+c+d+e+f)				5855.81
		Add 12% GST				702.70
		Rate per cum.				6558.51
					<b>say</b>	<b><u>6559.00</u></b>
		Labour				3986.50
		Overhead charges @ 10%				438.52
		Contractors Profit @10%				442.50
						4867.52
		Add 1% labour cess				48.68
		Cost for 15 cum				4916.19
		Rate per cum				<u>327.75</u>
		Add 12% GST				39.33
		Rate per cum.				367.08
					<b>say</b>	<b><u>367.00</u></b>
2.11 B		PCC M20 Grade				
	(ii)	Same as for 12.8 (B) except for formwork which shall be @ 10 per cent of the cost of concrete instead of 4 per cent.				
		Using Concrete Mixer				
	Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				4859.00
		d) formwork @ 10 per cent of the cost of concrete				485.90
		e) Overhead charges @ 10 % on (a+b+c+d)				534.49
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				587.94
						6467.33
		Add 1% labour cess				64.67
		Rate per cum (a+b+c+d+e+f)				6532.00
		Add 12% GST				783.84
		Rate per cum.				7315.84
					<b>say</b>	<b><u>7316.00</u></b>
		Labour				3986.50
		Overhead charges @ 10%				398.65
		Contractors Profit @10%				438.52
						4823.67
		Add 1% labour cess				48.24
		Cost for 15 cum				4871.90
		Rate per cum				<u>324.79</u>
		Add 12% GST				38.98
		Rate per cum.				363.77

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
						say	<u>364.00</u>
2.11 B			RCC M20 Grade				
		(iii)	Same as for 12.8 (C) except for formwork which shall be @ 10 per cent of the cost of concrete instead of 4 per cent.				
			Using Concrete Mixer				
		Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				5006.00
			d) formwork @ 10 per cent of the cost of concrete				500.60
			e) Overhead charges @ 10 % on (a+b+c+d)				550.66
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				605.73
							6662.99
			Add 1% labour cess				66.63
			Rate per cum (a+b+c+d+e+f)				6729.62
			Add 12% GST				807.55
			Rate per cum.				7537.17
						say	<u>7537.00</u>
			Labour				3986.50
			Overhead charges @ 10%				398.65
			Contractors Profit @10%				438.52
							4823.67
			Add 1% labour cess				48.24
			Cost for 15 cum				4871.90
			Rate per cum				<u>324.79</u>
			Add 12% GST				38.98
			Rate per cum.				363.77
						say	<u>364.00</u>
2.11 B (iii)			With Batching Plant, Transit Mixer and Concrete Pump				
		Case II	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				9232.00
			d) formwork @ 10 per cent of the cost of concrete				923.20
			e) Overhead charges @ 10 % on (a+b+c+d)				1015.52
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				1117.07
							12287.79
			Add 1% labour cess				122.88
			Rate per cum (a+b+c+d+e+f)				12410.67
			Add 12% GST				1489.28
			Rate per cum.				13899.95

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
						say	<u>13900.00</u>
			Labour				3969.00
			Overhead charges @ 10%				396.90
			Contractors Profit @10%				436.59
							4802.49
			Add 1% labour cess				48.02
			Cost for 120 cum				4850.51
			Rate per cum				<u>40.42</u>
			Add 12% GST				4.85
			Rate per cum.				45.27
						say	<u>45.00</u>
2.11 B			PCC M25 Grade				
		(iv)	Same as for 12.8 (D) except for formwork which shall be @ 10 per cent of the cost of concrete instead of 4 per cent.				
			Using Concrete Mixer				
		Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				5240.00
			d) formwork @ 10 per cent of the cost of concrete				524.00
			e) Overhead charges @ 10 % on (a+b+c+d)				576.40
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				634.04
							6974.44
			Add 1% labour cess				69.74
			Rate per cum (a+b+c+d+e+f)				7044.18
			Add 12% GST				845.30
			Rate per cum.				7889.49
						say	<u>7889.00</u>
			Labour				3986.50
			Overhead charges @ 10%				398.65
			Contractors Profit @10%				438.52
							4823.67
			Add 1% labour cess				48.24
			Cost for 15 cum				4871.90
			Rate per cum				<u>324.79</u>
			Add 12% GST				38.98
			Rate per cum.				363.77
						say	<u>364.00</u>
2.11 B (iv)			With Batching Plant, Transit Mixer and Concrete Pump				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		Case II	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				9469.00
			d) formwork @ 10 per cent of the cost of concrete				946.90
			e) Overhead charges @ 10 % on (a+b+c+d)				1041.59
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				1145.75
							12603.24
			Add 1% labour cess				126.03
			Rate per cum (a+b+c+d+e+f)				12729.27
			Add 12% GST				1527.51
			Rate per cum.				14256.78
						<b>say</b>	<b><u>14257.00</u></b>
			Labour Rate				
			Labour				3969.00
			Overhead charges @ 10%				396.90
			Contractors Profit @10%				436.59
							4802.49
			Add 1% labour cess				48.02
			Cost for 120 cum				4850.51
			Rate per cum				<u>40.42</u>
			Add 12% GST				4.85
			Rate per cum.				45.27
						<b>say</b>	<b><u>45.00</u></b>
2.11 B			RCC M25 Grade				
		(v)	Same as for 12.8 (E) except for formwork which shall be @ 10 per cent of the cost of concrete instead of 3.5 per cent.				
			Using Concrete Mixer				
		Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				5391.00
			d) formwork @ 10 per cent of the cost of concrete				539.10
			e) Overhead charges @ 10 % on (a+b+c+d)				593.01
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				652.31
							7175.42
			Add 1% labour cess				71.75
			Rate per cum (a+b+c+d+e+f)				7247.18
			Add 12% GST				869.66
			Rate per cum.				8116.84
						<b>say</b>	<b><u>8117.00</u></b>
			Labour				3986.50

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Overhead charges @ 5%				199.33
			Contractors Profit @10%				418.58
							4604.41
			Add 1% labour cess				46.04
			Cost for 15 cum				4650.45
			Rate per cum				<u>310.03</u>
			Add 12% GST				37.20
			Rate per cum.				347.23
						<b>say</b>	<b><u>347.00</u></b>
2.11 B (v)			With Batching Plant, Transit Mixer and Concrete Pump				
		Case II	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				9875.00
			d) formwork @ 10 per cent of the cost of concrete				987.50
			e) Overhead charges @ 10 % on (a+b+c+d)				1086.25
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				1194.88
			Rate per cum (a+b+c+d+e+f)				13143.63
			Add 12% GST				1577.24
			Rate per cum.				14720.86
						<b>say</b>	<b><u>14721.00</u></b>
			Labour Rate				
			Labour				3969.00
			Overhead charges @ 10%				396.90
			Contractors Profit @10%				436.59
							4802.49
			Add 1% labour cess				48.02
			Cost for 120 cum				4850.51
			Rate per cum				<u>40.42</u>
			Add 12% GST				4.85
			Rate per cum.				45.27
						<b>say</b>	<b><u>45.00</u></b>
2.11 B			PCC M30 Grade				
		(vi)	Same as for 12.8 (F) except for formwork which shall be @ 10 per cent of the cost of concrete instead of 3.5 per cent.				
			Using Concrete Mixer				
		Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				5281.00
			d) formwork @ 10 per cent of the cost of concrete				528.10

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		e) Overhead charges @ 10 % on (a+b+c+d)				580.91
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				639.00
						7029.01
		Add 1% labour cess				70.29
		Rate per cum (a+b+c+d+e+f)				7099.30
		Add 12% GST				851.92
		Rate per cum.				7951.22
					<b>say</b>	<b><u>7951.00</u></b>
		Labour Rate				
		Labour				3986.50
		Overhead charges @ 10%				398.65
		Contractors Profit @10%				438.52
						4823.67
		Add 1% labour cess				48.24
		Cost for 15 cum				4871.90
		Rate per cum				<u>324.79</u>
		Add 12% GST				38.98
		Rate per cum.				363.77
					<b>say</b>	<b><u>364.00</u></b>
2.11 B (vi)		With Batching Plant, Transit Mixer and Concrete Pump				
	Case II	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				9506.00
		d) formwork @ 10 per cent of the cost of concrete				950.60
		e) Overhead charges @ 10 % on (a+b+c+d)				1045.66
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				1150.23
						12652.49
		Add 1% labour cess				126.52
		Rate per cum (a+b+c+d+e+f)				12779.01
		Add 12% GST				1533.48
		Rate per cum.				14312.49
					<b>say</b>	<b><u>14312.00</u></b>
		Labour Rate				
		Labour				3969.00
		Overhead charges @ 10%				396.90
		Contractors Profit @10%				436.59
						4802.49
		Add 1% labour cess				48.02
		Cost for 120 cum				4850.51
		Rate per cum				<u>40.42</u>
		Add 12% GST				4.85

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Rate per cum.				45.27
						<b>say</b>	<b><u>45.00</u></b>
2.11 B			RCC M30 Grade				
		(vii)	Same as for 12.8 (G) except for formwork which shall be @ 10 per cent of the cost of concrete instead of 3.5 per cent.				
			Using Concrete Mixer				
		Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				5414.00
			d) formwork @ 10 per cent of the cost of concrete				541.40
			e) Overhead charges @ 10 % on (a+b+c+d)				595.54
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				655.09
							7206.03
			Add 1% labour cess				72.06
			Rate per cum (a+b+c+d+e+f)				7278.09
			Add 12% GST				873.37
			Rate per cum.				8151.47
						<b>say</b>	<b><u>8151.00</u></b>
			Labour Rate				
			Labour				3986.50
			Overhead charges @ 10%				398.65
			Contractors Profit @10%				438.52
							4823.67
			Add 1% labour cess				48.24
			Cost for 15 cum				4871.90
			Rate per cum				<u>324.79</u>
			Add 12% GST				38.98
			Rate per cum.				363.77
						<b>say</b>	<b><u>364.00</u></b>
2.11 B (vii)			With Batching Plant, Transit Mixer and Concrete Pump				
		Case II	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				9641.00
			d) formwork @ 10 per cent of the cost of concrete				964.10
			e) Overhead charges @ 10 % on (a+b+c+d)				1060.51
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				1166.56
							12832.17
			Add 1% labour cess				128.32
			Rate per cum (a+b+c+d+e+f)				12960.49
			Add 12% GST				1555.26



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Rate per cum.				14515.75
					<b>say</b>	<b><u>14516.00</u></b>
		Labour Rate				
		Labour				3969.00
		Overhead charges @ 10%				396.90
		Contractors Profit @10%				436.59
						4802.49
		Add 1% labour cess				48.02
		Cost for 120 cum				4850.51
		Rate per cum				<u>40.42</u>
		Add 12% GST				4.85
		Rate per cum.				45.27
					<b>say</b>	<b><u>45.00</u></b>
2.11 B		RCC M35 Grade				
	(viii)	Same as for 12.8 (H) except for formwork which shall be @ 10 per cent of the cost of concrete instead of 3 per cent.				
		Using Concrete Mixer				
	Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				5519.00
		d) formwork @ 10 per cent of the cost of concrete				551.90
		e) Overhead charges @ 10 % on (a+b+c+d)				607.09
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				667.80
						7345.79
		Add 1% labour cess				73.46
		Rate per cum (a+b+c+d+e+f)				7419.25
		Add 12% GST				890.31
		Rate per cum.				8309.56
					<b>say</b>	<b><u>8310.00</u></b>
		Labour Rate				
		Labour				3986.50
		Overhead charges @ 5%				199.33
		Contractors Profit @10%				418.58
						4604.41
		Add 1% labour cess				46.04
		Cost for 15 cum				4650.45
		Rate per cum				<u>310.03</u>
		Add 12% GST				37.20
		Rate per cum.				347.23
					<b>say</b>	<b><u>347.00</u></b>
2.11 B (viii)		With Batching Plant, Transit Mixer and Concrete Pump				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		Case II	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				10017.00
			d) formwork @ 10 per cent of the cost of concrete				1001.70
			e) Overhead charges @ 10 % on (a+b+c+d)				1101.87
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				1212.06
							13332.63
			Add 1% labour cess				133.33
			Rate per cum (a+b+c+d+e+f)				13465.95
			Add 12% GST				1615.91
			Rate per cum.				15081.87
						<b>say</b>	<b><u>15082.00</u></b>
			Labour Rate				
			Labour				3969.00
			Overhead charges @ 10%				396.90
			Contractors Profit @10%				436.59
							4802.49
			Add 1% labour cess				48.02
			Cost for 120 cum				4850.51
			Rate per cum				<u>40.42</u>
			Add 12% GST				4.85
			Rate per cum.				45.27
						<b>say</b>	<b><u>45.00</u></b>
2.11 B			RCC M40 Grade				
		(ix)	Using Batching Plant, Transit Mixer and Concrete Pump				
			Unit = cum				
			Taking output = 120 cum				
			a) Material				
			Cement	tonne	51.60	6875.00	354750.00
			Coarse Sand	cum	54.00	1214.00	65556.00
			20 mm Aggregate	cum	64.80	1298.00	84110.40
			10 mm Aggregate	cum	43.20	1298.00	56073.60
			Admixture	kg	206.00	160.00	32960.00
			b) Labour				
			Mate	day	0.84	350.00	294.00
			Meson	day	3.00	505.17	1515.50
			Mazdoor	day	18.00	350.00	6300.00
			c) Machinery				
			Batching Plant	hour	6.00	14488.00	86928.00
			Generator 100 KVA	hour	6.00	1160.00	6960.00
			Loader 1 cum capacity	hour	6.00	1321.00	7926.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
		Transit Mixer 4 cum capacity for lead beyond 1 km.	tonne.k m	300xL	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		80609		
		d) Formwork @ 10 per cent on cost of concrete i.e. cost of material, labour and machinery				120912.85
		e) Overhead charges @ 10 % on (a+b+c+d)				133004.14
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				146304.55
						1609350.03
		Add 1% labour cess				16093.50
		cost of 120 cum = a+b+c+d+e+f				1625443.53
		Rate per cum = (a+b+c+d+e+f)/120				13545.36
		Add 12% GST				1625.44
		Rate per cum.				15170.81
					<b>say</b>	<b><u>15171.00</u></b>
		Labour Rate				
		Labour				3969.00
		Overhead charges @ 10%				396.90
		Contractors Profit @10%				436.59
						4802.49
		Add 1% labour cess				48.02
		Cost for 120 cum				4850.51
		Rate per cum				<u>40.42</u>
		Add 12% GST				4.85
		Rate per cum.				45.27
					<b>say</b>	<b><u>45.00</u></b>
2.11 C		Bottom Plug				
	C	Concrete to be placed using tremie pipe				
		Note: 10% extra cement to be added where under water concreting is involved				
		PCC Grade M20				
	(i)	Using Concrete Mixer				
	Case I	Unit = cum				
		Taking output = 15 cum				
		a) Material				
		Cement	tonne	5.55	6875.00	38156.25
		Coarse sand	cum	6.75	1156.00	7803.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		40 mm Aggregate	cum	5.40	954.00	5151.60
		20 mm Aggregate	cum	5.40	1298.00	7009.20
		10 mm Aggregate	cum	2.70	1298.00	3504.60
		Admixture	Kg	18.60	160.00	2976.00
		b) Labour				
		Mate	day	0.90	350.00	315.00
		Mason	day	1.50	505.17	757.75
		Mazdoor	day	20.00	350.00	7000.00
		c) Machinery				
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
		Generator 33 KVA	hour	6.00	630.00	3780.00
		Light Crane 3 tonnes capacity for handling tremie pipe	hour	6.00	680.00	4080.00
		<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		5509.00		
		Add 5 per cent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe..				3633.67
		d) Overhead charges @ 10 % on (a+b+c)				8626.71
		e) Contractor's profit @ 10 % on (a+b+c+d)				9489.38
						104383.15
		Add 1% labour cess				1043.83
		cost of 15 cum = a+b+c+d+e				105426.99
		Rate per cum = (a+b+c+d+e)/15				7028.47
		Add 12% GST				843.42
		Rate per cum.				7871.88
					<b>say</b>	<b><u>7872.00</u></b>
		Labour Rate				
		Labour				8072.75
		Overhead charges @ 10%				807.28
		Contractors Profit @10%				888.00
						9768.03
		Add 1% labour cess				97.68
		Cost for 15 cum				9865.71
		Rate per cum				<u>657.71</u>
		Add 12% GST				78.93
		Rate per cum.				736.64
					<b>say</b>	<b><u>737.00</u></b>
2.11 C (i)		Using Batching Plant, Transit Mixer and Crane/concrete pump				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		Case II	<i>Unit ; cum</i>				
			<i>Taking Output = 120 cum</i>				
			a) Material				
			Cement	tonne	44.40	6875.00	305250.00
			Coarse sand	cum	54.00	1214.00	65556.00
			20 mm Aggregate	cum	64.80	1298.00	84110.40
			10 mm Aggregate	cum	43.20	1298.00	56073.60
			Admixture	Kg	148.80	160.00	23808.00
			b) Labour				
			Mate	day	0.88	350.00	308.00
			Mason	day	3.00	505.17	1515.50
			Mazdoor	day	18.00	350.00	6300.00
			c) Machinery				
			Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
			Generator 100 KVA	hour	6.00	1160.00	6960.00
			Loader 1 cum capacity	hour	6.00	1321.00	7926.00
			Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
			Transit Mixer 4 cum capacity, lead beyond 1 Km, L - lead in Kilometer	tonne.k m	300L	1601.00	480300.00
			Concrete Pump	hour	6.00	240.00	1440.00
			<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		<i>9588.00</i>		
			Add 5 per cent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe..				27146.08
			d) Overhead charges @ 10 % on (a+b+c)				117763.66
			e) Contractor's profit @ 10 % on (a+b+c+d)				129540.02
							1424940.26
			Add 1% labour cess				14249.40
			cost of 120 cum = a+b+c+d+e				1439189.66
			Rate per cum = (a+b+c+d+e)/120				11993.25
			Add 12% GST				1439.19
			Rate per cum.				13432.44
						<b>say</b>	<b><u>13432.00</u></b>
			Labour Rate				
			Labour				8123.50

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Overhead charges @ 10%				812.35
		Contractors Profit @10%				893.59
						9829.44
		Add 1% labour cess				98.29
		Cost for 120 cum				9927.73
		Rate per cum				<u>82.73</u>
		Add 12% GST				9.93
		Rate per cum.				92.66
					<b>say</b>	<b><u>93.00</u></b>
2.11 C		PCC Grade M25				
	(ii)	Using Concrete Mixer				
	Case I	Unit = cum				
		Taking output = 15 cum				
		a) Material				
		Cement	tonne	5.99	6875.00	41181.25
		Coarse sand	cum	6.75	1156.00	7803.00
		40 mm Aggregate	cum	5.40	954.00	5151.60
		20 mm Aggregate	cum	5.40	1298.00	7009.20
		10 mm Aggregate	cum	2.70	1298.00	3504.60
		Admixture	Kg	21.60	160.00	3456.00
		b) Labour				
		Mate	day	0.90	350.00	315.00
		Mason	day	1.50	505.17	757.75
		Mazdoor	day	20.00	350.00	7000.00
		c) Machinery				
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
		Generator 33 KVA	hour	6.00	630.00	3780.00
		Light Crane of 3 tonnes capacity for handling tremie pipe	hour	6.00	680.00	4080.00
		<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		5743.00		
		Add 5 per cent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe..				3808.92
		d) Overhead charges @ 10 % on (a+b+c)				8994.73
		e) Contractor's profit @ 10 % on (a+b+c+d)				9894.21
						108836.26

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 1% labour cess				1088.36
		cost of 15 cum = a+b+c+d+e				109924.62
		Rate per cum = (a+b+c+d+e)/15				7328.31
		Add 12% GST				879.40
		Rate per cum.				8207.70
					<b>say</b>	<b><u>8208.00</u></b>
		Labour Rate				
		Labour				8072.75
		Overhead charges @ 10%				807.28
		Contractors Profit @10%				888.00
						9768.03
		Add 1% labour cess				97.68
		Cost for 15 cum				9865.71
		Rate per cum				<u>657.71</u>
		Add 12% GST				78.93
		Rate per cum.				736.64
					<b>say</b>	<b><u>737.00</u></b>
2.11 C (ii)		Using Batching Plant, Transit Mixer and Crane/concrete pump				
	Case II	Unit = cum				
		Taking output = 120 cum				
		a) Material				
		Cement	tonne	47.88	6875.00	329175.00
		Coarse sand	cum	54.00	1214.00	65556.00
		20 mm Aggregate	cum	64.80	1298.00	84110.40
		10 mm Aggregate	cum	43.20	1298.00	56073.60
		Admixture	Kg	172.80	160.00	27648.00
		b) Labour				
		Mate	day	0.88	350.00	308.00
		Mason	day	3.00	505.17	1515.50
		Mazdoor	day	18.00	350.00	6300.00
		c) Machinery				
		Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
		Generator 100 KVA	hour	6.00	1160.00	6960.00
		Loader 1 cum capacity	hour	6.00	1321.00	7926.00
		Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
		Transit Mixer 4 cum capacity, lead beyond 1 Km, L - lead in Kilometer	tonne.k m	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		9819.00		
		Add 5 per cent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe..				28534.33
		d) Overhead charges @ 10 % on (a+b+c)				120678.98
		e) Contractor's profit @ 10 % on (a+b+c+d)				132746.88
						1460215.69
		Add 1% labour cess				14602.16
		cost of 120 cum = a+b+c+d+e				1474817.85
		Rate per cum = (a+b+c+d+e)/120				12290.15
		Add 12% GST				1474.82
		Rate per cum.				13764.97
					<b>say</b>	<b><u>13765.00</u></b>
		Labour Rate				
		Labour				8123.50
		Overhead charges @ 5%				812.35
		Contractors Profit @10%				893.59
						9829.44
		Add 1% labour cess				98.29
		Cost for 120 cum				9927.73
		Rate per cum				<u>82.73</u>
		Add 12% GST				9.93
		Rate per cum.				92.66
					<b>say</b>	<b><u>93.00</u></b>
2.11 C		PCC Grade M30				
	(iii)	Using Concrete Mixer				
	Case I	Unit = 1 cum				
		Taking output = 15 cum				
		a) Material				
		Cement	tonne	6.08	6875.00	41800.00
		Coarse sand	cum	6.75	1156.00	7803.00
		40 mm Aggregate	cum	5.40	954.00	5151.60
		20 mm Aggregate	cum	5.40	1298.00	7009.20
		10 mm Aggregate	cum	2.70	1298.00	3504.60
		Admixture	Kg	21.60	160.00	3456.00
		b) Labour				
		Mate	day	0.90	350.00	315.00
		Mason	day	1.50	505.17	757.75



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Mazdoor	day	20.00	350.00	7000.00
		c) Machinery				
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
		Generator 33 KVA	hour	6.00	630.00	3780.00
		Light Crane of 3 tonnes capacity for handling tremie pipe	hour	6.00	680.00	4080.00
		<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		5784.00		
		Add 5 per cent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe..				3839.86
		d) Overhead charges @ 10 % on (a+b+c)				9059.70
		e) Contractor's profit @ 10 % on (a+b+c+d)				9965.67
						109622.38
		Add 1% labour cess				1096.22
		cost of 15 cum = a+b+c+d+e				110718.60
		Rate per cum = (a+b+c+d+e)/15				7381.24
		Add 12% GST				885.75
		Rate per cum.				8266.99
					<b>say</b>	<b><u>8267.00</u></b>
		Labour Rate				
		Labour				8072.75
		Overhead charges @ 10%				807.28
		Contractors Profit @10%				888.00
						9768.03
		Add 1% labour cess				97.68
		Cost for 15 cum				9865.71
		Rate per cum				<u>657.71</u>
		Add 12% GST				78.93
		Rate per cum.				736.64
					<b>say</b>	<b><u>737.00</u></b>
2.11 C (iii)		Using Batching Plant, Transit Mixer and Crane/concrete pump				
	Case II	<i>Unit = cum</i>				
		<i>Taking output = 120 cum</i>				
		a) Material				
		Cement	tonne	48.64	6875.00	334400.00
		Coarse sand	cum	54.00	1214.00	65556.00
		20 mm Aggregate	cum	64.80	1298.00	84110.40

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		10 mm Aggregate	cum	43.20	1298.00	56073.60
		Admixture	Kg	172.80	160.00	27648.00
		b) Labour				
		Mate	day	0.88	350.00	308.00
		Mason	day	3.00	505.17	1515.50
		Mazdoor	day	18.00	350.00	6300.00
		c) Machinery				
		Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
		Generator 100 KVA	hour	6.00	1160.00	6960.00
		Loader 1 cum capacity	hour	6.00	1321.00	7926.00
		Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
		Transit Mixer 4 cum capacity, lead beyond 1 Km, L - lead in Kilometer	tonne.k m	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		9863.00		
		Add 5 per cent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe..				28795.58
		d) Overhead charges @ 10 % on (a+b+c)				121227.61
		e) Contractor's profit @ 10 % on (a+b+c+d)				133350.37
						1466854.05
		Add 1% labour cess				14668.54
		cost of 120 cum = a+b+c+d+e				1481522.59
		Rate per cum = (a+b+c+d+e)/120				12346.02
		Add 12% GST				1481.52
		Rate per cum.				13827.54
					<b>say</b>	<b><u>13828.00</u></b>
		Labour Rate				
		Labour				8123.50
		Overhead charges @ 10%				812.35
		Contractors Profit @10%				893.59
						9829.44
		Add 1% labour cess				98.29
		Cost for 120 cum				9927.73
		Rate per cum				<u>82.73</u>
		Add 12% GST				9.93
		Rate per cum.				92.66

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
						<b>say</b>	<b><u>93.00</u></b>
2.11 C			PCC Grade M35				
		(iv)	Using Concrete Mixer				
		Case I	Unit = 1 cum				
			Taking output = 15 cum				
			a) Material				
			Cement	tonne	6.29	6875.00	43243.75
			Coarse sand	cum	6.75	1156.00	7803.00
			40 mm Aggregate	cum	5.40	954.00	5151.60
			20 mm Aggregate	cum	5.40	1298.00	7009.20
			10 mm Aggregate	cum	2.70	1298.00	3504.60
			Admixture	Kg	21.60	160.00	3456.00
			b) Labour				
			Mate	day	0.90	350.00	315.00
			Mason	day	1.50	505.17	757.75
			Mazdoor	day	20.00	350.00	7000.00
			c) Machinery				
			Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
			Generator 33 KVA	hour	6.00	630.00	3780.00
			Light Crane of 3 tonnes capacity for handling tremie pipe	hour	6.00	680.00	4080.00
			<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		5881.00		
			Add 5 per cent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe..				3912.05
			d) Overhead charges @ 10 % on (a+b+c)				9211.29
			e) Contractor's profit @ 10 % on (a+b+c+d)				10132.42
							111456.66
			Add 1% labour cess				1114.57
			cost of 15 cum = a+b+c+d+e				112571.23
			Rate per cum = (a+b+c+d+e)/15				7504.75
			Add 12% GST				900.57
			Rate per cum.				8405.32
						<b>say</b>	<b><u>8405.00</u></b>
			Labour Rate				
			Labour				8072.75
			Overhead charges @ 10%				807.28

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Contractors Profit @10%				888.00
						9768.03
		Add 1% labour cess				97.68
		Cost for 15 cum				9865.71
		Rate per cum				<u>657.71</u>
		Add 12% GST				78.93
		Rate per cum.				736.64
					<b>say</b>	<b><u>737.00</u></b>
2.11 C (iv)		Using Batching Plant, Transit Mixer and Crane/concrete pump				
	Case II	Unit = cum				
		Taking output = 120 cum				
		a) Material				
		Cement	tonne	50.28	6875.00	345675.00
		Coarse sand	cum	54.00	1214.00	65556.00
		20 mm Aggregate	cum	64.80	1298.00	84110.40
		10 mm Aggregate	cum	43.20	1298.00	56073.60
		Admixture	Kg	172.80	160.00	27648.00
		b) Labour				
		Mate	day	0.88	350.00	308.00
		Mason	day	3.00	505.17	1515.50
		Mazdoor	day	18.00	350.00	6300.00
		c) Machinery				
		Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
		Generator 100 KVA	hour	6.00	1160.00	6960.00
		Loader 1 cum capacity	hour	6.00	1321.00	7926.00
		Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
		Transit Mixer 4 cum capacity, lead beyond 1 Km, L - lead in Kilometer	tonne.k m	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		<i>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c)</i>		<i>9957.00</i>		
		Add 5 per cent of cost of material and labour towards cost of forming sump, protective bunds, chiselling and making arrangements for under water concreting with tremie pipe..				29359.33
		d) Overhead charges @ 10 % on (a+b+c)				122411.48
		e) Contractor's profit @ 10 % on (a+b+c+d)				134652.63
						1481178.94
		Add 1% labour cess				14811.79

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		cost of 120 cum = a+b+c+d+e				1495990.73
		Rate per cum = (a+b+c+d+e)/120				12466.59
		Add 12% GST				1495.99
		Rate per cum.				13962.58
					<b>say</b>	<b><u>13963.00</u></b>
		Labour Rate				
		Labour				8123.50
		Overhead charges @ 10%				812.35
		Contractors Profit @10%				893.59
						9829.44
		Add 1% labour cess				98.29
		Cost for 120 cum				9927.73
		Rate per cum				<u>82.73</u>
		Add 12% GST				9.93
		Rate per cum.				92.66
					<b>say</b>	<b><u>93.00</u></b>
2.11		Intermediate plug				
	D	Grade M20 PCC				
	(i)	Same as in bottom plug concrete, excluding cost of forming sump, protective bunds, chiseling etc.				
		Using Concrete Mixer				
	Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				5509.00
		d) Overhead charges @ 10 % on (a+b+c)				550.90
		e) Contractor's profit @ 10 % on (a+b+c+d)				605.99
		Rate per cum = (a+b+c+d+e)				6665.89
		Add 12% GST				799.91
		Rate per cum.				7465.80
					<b>say</b>	<b><u>7466.00</u></b>
		Labour Rate				
		Labour				3993.50
		Overhead charges @ 10%				399.35
		Contractors Profit @10%				439.29
		Cost for 15 cum				4832.14
		Rate per cum				<u>322.14</u>
		Add 12% GST				38.66
		Rate per cum.				360.80
					<b>say</b>	<b><u>361.00</u></b>
2.11 D (i)		Using Batching Plant, Transit Mixer and Crane/concrete pump				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		Case II	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				9588.00
			d) Overhead charges @ 10 % on (a+b+c)				958.80
			e) Contractor's profit @ 10 % on (a+b+c+d)				1054.68
							11601.48
			Add 1% labour cess				116.01
			Rate per cum = (a+b+c+d+e)				11717.49
			Add 12% GST				1406.10
			Rate per cum.				13123.59
						<b>say</b>	<b><u>13124.00</u></b>
			Labour Rate				
			Labour				3976.00
			Overhead charges @ 10%				397.60
			Contractors Profit @10%				437.36
							4810.96
			Add 1% labour cess				48.11
			Cost for 120 cum				4859.07
			Rate per cum				<u>40.49</u>
			Add 12% GST				4.86
			Rate per cum.				45.35
						<b>say</b>	<b><u>45.00</u></b>
2.11 D			Grade M25 PCC				
		(ii)	Same as in bottom plug concrete, excluding cost of forming sump, protective bunds, chiseling etc.				
			Using Concrete Mixer				
		Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				5743.00
			d) Overhead charges @ 10 % on (a+b+c)				574.30
			e) Contractor's profit @ 10 % on (a+b+c+d)				631.73
							6949.03
			Add 1% labour cess				69.49
			Rate per cum = (a+b+c+d+e)				7018.52
			Add 12% GST				842.22
			Rate per cum.				7860.74
						<b>say</b>	<b><u>7861.00</u></b>
			Labour Rate				
			Labour				3993.50
			Overhead charges @ 10%				399.35
			Contractors Profit @10%				439.29
							4832.14
			Add 1% labour cess				48.32

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Cost for 15 cum				4880.46
			Rate per cum				<u>325.36</u>
			Add 12% GST				39.04
			Rate per cum.				364.41
						<b>say</b>	<b><u>364.00</u></b>
2.11 D (ii)			Using Batching Plant, Transit Mixer and Crane/concrete pump				
		Case II	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				9819.00
			d) Overhead charges @ 10 % on (a+b+c)				981.90
			e) Contractor's profit @ 10 % on (a+b+c+d)				1080.09
							11880.99
			Add 1% labour cess				118.81
			Rate per cum = (a+b+c+d+e)				11999.80
			Add 12% GST				1439.98
			Rate per cum.				13439.78
						<b>say</b>	<b><u>13440.00</u></b>
			Labour Rate				
			Labour				3976.00
			Overhead charges @ 10%				397.60
			Contractors Profit @10%				437.36
							4810.96
			Add 1% labour cess				48.11
			Cost for 120 cum				4859.07
			Rate per cum				<u>40.49</u>
			Add 12% GST				4.86
			Rate per cum.				45.35
						<b>say</b>	<b><u>45.00</u></b>
2.11 D			Grade M30 PCC				
		(iii)	Same as in bottom plug concrete, excluding cost of forming sump, protective bunds, chiseling etc.				
			Using Concrete Mixer				
		Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				5784.00
			d) Overhead charges @ 10 % on (a+b+c)				578.40
			e) Contractor's profit @ 10 % on (a+b+c+d)				636.24
							6998.64
			Add 1% labour cess				69.99
			Rate per cum = (a+b+c+d+e)				7068.63
			Add 12% GST				848.24
			Rate per cum.				7916.86

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
						say	<u>7917.00</u>
			Labour Rate				
			Labour				3993.50
			Overhead charges @ 10%				399.35
			Contractors Profit @10%				439.29
							4832.14
			Add 1% labour cess				48.32
			Cost for 15 cum				4880.46
			Rate per cum				<u>325.36</u>
			Add 12% GST				39.04
			Rate per cum.				364.41
						say	<u>364.00</u>
2.11 D (iii)			Using Batching Plant, Transit Mixer and Crane/concrete pump				
		Case II	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				9863.00
			d) Overhead charges @ 10 % on (a+b+c)				986.30
			e) Contractor's profit @ 10 % on (a+b+c+d)				1084.93
							11934.23
			Add 1% labour cess				119.34
			Rate per cum = (a+b+c+d+e)				12053.57
			Add 12% GST				1446.43
			Rate per cum.				13500.00
						say	<u>13500.00</u>
			Labour Rate				
			Labour				3976.00
			Overhead charges @ 10%				397.60
			Contractors Profit @10%				437.36
							4810.96
			Add 1% labour cess				48.11
			Cost for 120 cum				4859.07
			Rate per cum				<u>40.49</u>
			Add 12% GST				4.86
			Rate per cum.				45.35
						say	<u>45.00</u>
2.11			Top plug				
		E	Grade M15 PCC				
		(i)	Same as Item 12.8(a) excluding formwork				
			Using Concrete Mixer				
		Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				4356.00
			d) Overhead charges @ 10 % on (a+b+c)				435.60



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		e) Contractor's profit @ 10 % on (a+b+c+d)				479.16
						5270.76
		Add 1% labour cess				52.71
		Rate per cum = (a+b+c+d+e)				5323.47
		Add 12% GST				638.82
		Rate per cum.				5962.28
					<b>say</b>	<b><u>5962.00</u></b>
		Labour Rate				
		Labour				3986.50
		Overhead charges @ 10%				398.65
		Contractors Profit @10%				438.52
						4823.67
		Add 1% labour cess				48.24
		Cost for 15 cum				4871.90
		Rate per cum				<u>324.79</u>
		Add 12% GST				38.98
		Rate per cum.				363.77
					<b>say</b>	<b><u>364.00</u></b>
2.11 E		Grade M20 PCC				
	(ii)	Same as Item 12.8(b) excluding formwork				
		Using Concrete Mixer				
	Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				4859.00
		d) Overhead charges @ 10 % on (a+b+c)				485.90
		e) Contractor's profit @ 10 % on (a+b+c+d)				534.49
						5879.39
		Add 1% labour cess				58.79
		Rate per cum = (a+b+c+d+e)				5938.18
		Add 12% GST				712.58
		Rate per cum.				6650.77
					<b>say</b>	<b><u>6651.00</u></b>
		Labour Rate				
		Labour				3986.50
		Overhead charges @ 10%				398.65
		Contractors Profit @10%				438.52
						4823.67
		Add 1% labour cess				48.24
		Cost for 15 cum				4871.90
		Rate per cum				<u>324.79</u>
		Add 12% GST				38.98
		Rate per cum.				363.77

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
						say	<u>364.00</u>
2.11 E			Grade M25 PCC				
		(iii)	Same as Item 12.8 (d) excluding formwork				
			Using Concrete Mixer				
		Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				5240.00
			d) Overhead charges @ 10 % on (a+b+c)				524.00
			e) Contractor's profit @ 10 % on (a+b+c+d)				576.40
							6340.40
			Add 1% labour cess				63.40
			Rate per cum = (a+b+c+d+e)				6403.80
			Add 12% GST				768.46
			Rate per cum.				7172.26
						say	<u>7172.00</u>
			Labour Rate				
			Labour				3986.50
			Overhead charges @ 10%				398.65
			Contractors Profit @10%				438.52
							4823.67
			Add 1% labour cess				48.24
			Cost for 15 cum				4871.90
			Rate per cum				<u>324.79</u>
			Add 12% GST				38.98
			Rate per cum.				363.77
						say	<u>364.00</u>
2.11 E (iii)			Using Batching Plant, Transit Mixer and Crane/concrete pump				
		Case II	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				9469.00
			d) Overhead charges @ 10 % on (a+b+c)				946.90
			e) Contractor's profit @ 10 % on (a+b+c+d)				1041.59
							11457.49
			Add 1% labour cess				114.57
			Rate per cum = (a+b+c+d+e)				11572.06
			Add 12% GST				1388.65
			Rate per cum.				12960.71
						say	<u>12961.00</u>
			Labour Rate				
			Labour				3969.00
			Overhead charges @ 10%				396.90
			Contractors Profit @10%				436.59

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
							4802.49
			Add 1% labour cess				48.02
			Cost for 120 cum				4850.51
			Rate per cum				<u>40.42</u>
			Add 12% GST				4.85
			Rate per cum.				45.27
						<b>say</b>	<b><u>45.00</u></b>
2.11 E			Grade M30 PCC				
		(iv)	Same as Item 12.8(f) excluding formwork				
			Using Concrete Mixer				
		Case I	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				5281.00
			d) Overhead charges @ 10 % on (a+b+c)				528.10
			e) Contractor's profit @ 10 % on (a+b+c+d)				580.91
							6390.01
			Add 1% labour cess				63.90
			Rate per cum = (a+b+c+d+e)				6453.91
			Add 12% GST				774.47
			Rate per cum.				7228.38
						<b>say</b>	<b><u>7228.00</u></b>
			Labour Rate				
			Labour				3986.50
			Overhead charges @ 10%				398.65
			Contractors Profit @10%				438.52
							4823.67
			Add 1% labour cess				48.24
			Cost for 15 cum				4871.90
			Rate per cum				<u>324.79</u>
			Add 12% GST				38.98
			Rate per cum.				363.77
						<b>say</b>	<b><u>364.00</u></b>
2.11 E (iv)			Using Batching Plant, Transit Mixer and Crane/concrete pump				
		Case II	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				9506.00
			d) Overhead charges @ 10 % on (a+b+c)				950.60
			e) Contractor's profit @ 10 % on (a+b+c+d)				1045.66
							11502.26
			Add 1% labour cess				115.02
			Rate per cum = (a+b+c+d+e)				11617.28
			Add 12% GST				1394.07

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Rate per cum.				13011.36
					<b>say</b>	<b><u>13011.00</u></b>
		Labour Rate				
		Labour				3969.00
		Overhead charges @ 10%				396.90
		Contractors Profit @10%				436.59
						4802.49
		Add 1% labour cess				48.02
		Cost for 120 cum				4850.51
		Rate per cum				<u>40.42</u>
		Add 12% GST				4.85
		Rate per cum.				45.27
					<b>say</b>	<b><u>45.00</u></b>
2.11		Well cap				
	F	RCC Grade M20				
	(i)	Using Concrete Mixer				
	Case I	Unit = cum				
		Taking output = 15 cum				
		a) Material				
		Cement	tonne	5.12	6875.00	35200.00
		Coarse sand	cum	6.75	1156.00	7803.00
		20 mm Aggregate	cum	8.10	1298.00	10513.80
		10 mm Aggregate	cum	5.40	1298.00	7009.20
		b) Labour				
		Mate	day	0.86	350.00	301.00
		Mason	day	1.50	505.17	757.75
		Mazdoor	day	20.00	350.00	7000.00
		c) Machinery				
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
		Generator 33 KVA	hour	6.00	630.00	3780.00
		Form Work @ 4 per cent of a+b+c				2978.59
		d) Overhead charges @ 10 % on (a+b+c)				7744.33
		e) Contractor's profit @ 10 % on (a+b+c+d)				8518.77
						93706.44
		Add 1% labour cess				937.06
		cost of 15 cum = a+b+c+d+e				94643.51
		Rate per cum = (a+b+c+d+e)/15				6309.57
		Add 12% GST				757.15
		Rate per cum.				7066.72
					<b>say</b>	<b><u>7067.00</u></b>
		Labour Rate				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Labour				3986.50
		Overhead charges @ 10%				398.65
		Contractors Profit @10%				438.52
						4823.67
		Add 1% labour cess				48.24
		Cost for 15 cum				4871.90
		Rate per cum				<u>324.79</u>
		Add 12% GST				38.98
		Rate per cum.				363.77
					<b>say</b>	<b><u>364.00</u></b>
2.11 F (i)		Using Batching Plant, Transit Mixer and Concrete Pump				
	Case II	Unit = cum				
		Taking output = 120 cum				
		a) Material				
		Cement	tonne	40.92	6875.00	281325.00
		Coarse sand	cum	54.00	1214.00	65556.00
		20 mm Aggregate	cum	64.80	1298.00	84110.40
		10 mm Aggregate	cum	43.20	1298.00	56073.60
		b) Labour				
		Mate	day	0.84	350.00	294.00
		Mason	day	3.00	505.17	1515.50
		Mazdoor	day	18.00	350.00	6300.00
		c) Machinery				
		Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
		Generator 100 KVA	hour	6.00	1160.00	6960.00
		Loader (capacity 1 cum)	hour	6.00	1321.00	7926.00
		Transit Mixer ( capacity 4.0 cu.m )				
		Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
		Lead beyond 1 Km, L - lead in Kilometer	tonne.k m	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		Formwork @ 4 per cent of (a+b+c)				44109.74
		d) Overhead charges @ 10 % on (a+b+c)				114685.32
		e) Contractor's profit @ 10 % on (a+b+c+d)				126153.86
						1387692.42
		Add 1% labour cess				13876.92
		cost of 120 cum = a+b+c+d+e				1401569.34
		Rate per cum = (a+b+c+d+e)/120				11679.74
		Add 12% GST				1401.57

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Rate per cum.				13081.31
					<b>say</b>	<b><u>13081.00</u></b>
		Labour Rate				
		Labour				3969.00
		Overhead charges @ 10%				396.90
		Contractors Profit @10%				436.59
						4802.49
		Add 1% labour cess				48.02
		Cost for 120 cum				4850.51
		Rate per cum				<u>40.42</u>
		Add 12% GST				4.85
		Rate per cum.				45.27
					<b>say</b>	<b><u>45.00</u></b>
2.11 F		RCC Grade M25				
	(ii)	Using Concrete Mixer				
	Case I	Unit = cum				
		Taking output = 15 cum				
		a) Material				
		Cement	tonne	6.05	6875.00	41593.75
		Coarse sand	cum	6.75	1156.00	7803.00
		20 mm Aggregate	cum	8.10	1298.00	10513.80
		10 mm Aggregate	cum	5.40	1298.00	7009.20
		b) Labour				
		Mate	day	0.86	350.00	301.00
		Mason	day	1.50	505.17	757.75
		Mazdoor	day	20.00	350.00	7000.00
		c) Machinery				
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
		Generator 33 KVA	hour	6.00	630.00	3780.00
		Form Work @ 3.75 per cent of a+b+c				3032.19
		d) Overhead charges @ 10 % on (a+b+c)				8389.07
		e) Contractor's profit @ 10 % on (a+b+c+d)				9227.98
						101507.74
		Add 1% labour cess				1015.08
		cost of 15 cum = a+b+c+d+e				102522.82
		Rate per cum = (a+b+c+d+e)/15				6834.85
		Add 12% GST				820.18
		Rate per cum.				7655.04
					<b>say</b>	<b><u>7655.00</u></b>
		Labour Rate				
		Labour				3986.50

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Overhead charges @ 10%				398.65
		Contractors Profit @10%				438.52
						4823.67
		Add 1% labour cess				48.24
		Cost for 15 cum				4871.90
		Rate per cum				<u>324.79</u>
		Add 12% GST				38.98
		Rate per cum.				363.77
					<b>say</b>	<b><u>364.00</u></b>
2.11 F (ii)		Using Batching Plant, Transit Mixer and Concrete Pump				
	Case II	Unit = cum				
		Taking output = 120 cum				
		a) Material				
		Cement	tonne	48.40	6875.00	332750.00
		Coarse sand	cum	54.00	1214.00	65556.00
		20 mm Aggregate	cum	64.80	1298.00	84110.40
		10 mm Aggregate	cum	43.20	1298.00	56073.60
		b) Labour				
		Mate	day	0.84	350.00	294.00
		Mason	day	3.00	505.17	1515.50
		Mazdoor	day	18.00	350.00	6300.00
		c) Machinery				
		Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
		Generator 100 KVA	hour	6.00	1160.00	6960.00
		Loader (capacity 1 cum)	hour	6.00	1321.00	7926.00
		Transit Mixer ( capacity 4.0 cu.m )				
		Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
		Lead beyond 1 Km, L - lead in Kilometer	tonne.k m	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		Formwork @ 3.75 per cent of ( a+b+c)				43281.32
		d) Overhead charges @ 10 % on (a+b+c)				119744.98
		e) Contractor's profit @ 10 % on (a+b+c+d)				131719.48
						1448914.28
		Add 1% labour cess				14489.14
		cost of 120 cum = a+b+c+d+e				1463403.42
		Rate per cum = (a+b+c+d+e)/120				12195.03
		Add 12% GST				1463.40
		Rate per cum.				13658.43

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
					<b>say</b>	<b><u>13658.00</u></b>
		Labour Rate				
		Labour				3969.00
		Overhead charges @ 10%				396.90
		Contractors Profit @10%				436.59
						4802.49
		Add 1% labour cess				48.02
		Cost for 120 cum				4850.51
		Rate per cum				<u>40.42</u>
		Add 12% GST				4.85
		Rate per cum.				45.27
					<b>say</b>	<b><u>45.00</u></b>
2.11 F		RCC Grade M30				
	(iii)	Using Concrete Mixer				
	Case I	Unit = cum				
		Taking output = 15 cum				
		a) Material				
		Cement	tonne	6.10	6875.00	41937.50
		Coarse sand	cum	6.75	1156.00	7803.00
		20 mm Aggregate	cum	8.10	1298.00	10513.80
		10 mm Aggregate	cum	5.40	1298.00	7009.20
		b) Labour				
		Mate	day	0.86	350.00	301.00
		Mason	day	1.50	505.17	757.75
		Mazdoor	day	20.00	350.00	7000.00
		c) Machinery				
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
		Generator 33 KVA	hour	6.00	630.00	3780.00
		Formwork @ 3.5 per cent of (a+b+c)				2842.08
		d) Overhead charges @ 10 % on (a+b+c)				8404.43
		e) Contractor's profit @ 10 % on (a+b+c+d)				9244.88
						101693.64
		Add 1% labour cess				1016.94
		cost of 15 cum = a+b+c+d+e				102710.57
		Rate per cum = (a+b+c+d+e)/15				6847.37
		Add 12% GST				821.68
		Rate per cum.				7669.06
					<b>say</b>	<b><u>7669.00</u></b>
		Labour Rate				
		Labour				3986.50



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Overhead charges @ 10%				398.65
			Contractors Profit @10%				438.52
							4823.67
			Add 1% labour cess				48.24
			Cost for 15 cum				4871.90
			Rate per cum				<u>211.78</u>
			Add 12% GST				25.41
			Rate per cum.				237.19
						<b>say</b>	<b><u>237.00</u></b>
2.11 F (iii)			Using Batching Plant, Transit Mixer and Concrete Pump				
		Case II	Unit = cum				
			Taking output = 120 cum				
			a) Material				
			Cement	tonne	48.79	6875.00	335431.25
			Coarse sand	cum	54.00	1214.00	65556.00
			20 mm Aggregate	cum	64.80	1298.00	84110.40
			10 mm Aggregate	cum	43.20	1298.00	56073.60
			b) Labour				
			Mate	day	0.84	350.00	294.00
			Mason	day	3.00	505.17	1515.50
			Mazdoor	day	18.00	350.00	6300.00
			c) Machinery				
			Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
			Generator 100 KVA	hour	6.00	1160.00	6960.00
			Loader (capacity 1 cum)	hour	6.00	1321.00	7926.00
			Transit Mixer ( capacity 4.0 cu.m )				
			Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
			Lead beyond 1 Km, L - lead in Kilometer	tonne.k m	300L	1601.00	480300.00
			Concrete Pump	hour	6.00	240.00	1440.00
			Formwork @ 3.5 per cent of (a+b+c)				40489.74
			d) Overhead charges @ 10 % on (a+b+c)				119733.95
			e) Contractor's profit @ 10 % on (a+b+c+d)				131707.34
							1448780.78
			Add 1% labour cess				14487.81
			cost of 120 cum = a+b+c+d+e				1463268.59
			Rate per cum = (a+b+c+d+e)/120				12193.90
			Add 12% GST				1463.27

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Rate per cum.				13657.17
					<b>say</b>	<b><u>13657.00</u></b>
		Labour Rate				
		Labour				3969.00
		Overhead charges @ 10%				396.90
		Contractors Profit @10%				436.59
						4802.49
		Add 1% labour cess				48.02
		Cost for 120 cum				4850.51
		Rate per cum				<u>40.42</u>
		Add 12% GST				4.85
		Rate per cum.				45.27
					<b>say</b>	<b><u>45.00</u></b>
2.11 F		RCC Grade M35				
	(iv)	Using Concrete Mixer				
	Case I	Unit = cum				
		Taking output = 15 cum				
		a) Material				
		Cement	tonne	6.33	6875.00	43518.75
		Coarse sand	cum	6.75	1156.00	7803.00
		20 mm Aggregate	cum	8.10	1298.00	10513.80
		10 mm Aggregate	cum	5.40	1298.00	7009.20
		b) Labour				
		Mate	day	0.86	350.00	301.00
		Mason	day	1.50	505.17	757.75
		Mazdoor	day	20.00	350.00	7000.00
		c) Machinery				
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
		Generator 33 KVA	hour	6.00	630.00	3780.00
		Formwork @ 3 per cent of (a+b+c)				2483.51
		d) Overhead charges @ 10 % on (a+b+c)				8526.70
		e) Contractor's profit @ 10 % on (a+b+c+d)				9379.37
						103173.08
		Add 1% labour cess				1031.73
		cost of 15 cum = a+b+c+d+e				104204.81
		Rate per cum = (a+b+c+d+e)/15				6946.99
		Add 12% GST				833.64
		Rate per cum.				7780.63
					<b>say</b>	<b><u>7781.00</u></b>
		Labour Rate				
		Labour				3986.50

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Overhead charges @ 10%				398.65
		Contractors Profit @10%				438.52
						4823.67
		Add 1% labour cess				48.24
		Cost for 15 cum				4871.90
		Rate per cum				<u>324.79</u>
		Add 12% GST				38.98
		Rate per cum.				363.77
					<b>say</b>	<b><u>364.00</u></b>
2.11 F (iv)		Using Batching Plant, Transit Mixer and Concrete Pump				
	Case II	Unit = cum				
		Taking output = 120 cum				
		a) Material				
		Cement	tonne	50.64	6875.00	348150.00
		Coarse sand	cum	54.00	1214.00	65556.00
		20 mm Aggregate	cum	64.80	1298.00	84110.40
		10 mm Aggregate	cum	43.20	1298.00	56073.60
		b) Labour				
		Mate	day	0.84	350.00	294.00
		Mason	day	3.00	505.17	1515.50
		Mazdoor	day	18.00	350.00	6300.00
		c) Machinery				
		Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
		Generator 100 KVA	hour	6.00	1160.00	6960.00
		Loader (capacity 1 cum)	hour	6.00	1321.00	7926.00
		Transit Mixer ( capacity 4.0 cu.m )				
		Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
		Lead beyond 1 Km, L - lead in Kilometer	tonne.k m	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		Formwork @ 3 per cent of (a+b+c)				35087.06
		d) Overhead charges @ 10 % on (a+b+c)				120465.56
		e) Contractor's profit @ 10 % on (a+b+c+d)				132512.11
						1457633.22
		Add 1% labour cess				14576.33
		cost of 120 cum = a+b+c+d+e				1472209.55
		Rate per cum = (a+b+c+d+e)/120				12268.41
		Add 12% GST				1472.21
		Rate per cum.				13740.62

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
						<b>say</b>	<b><u>13741.00</u></b>
			Where ever concrete is carried out using batching plant, transit mixer, concrete pump, Admixtures @ 0.4 per cent of weight of cement may be added for achieving desired slump of concrete.				
			Labour Rate				
			Labour				3969.00
			Overhead charges @ 10%				396.90
			Contractors Profit @10%				436.59
							4802.49
			Add 1% labour cess				48.02
			Cost for 120 cum				4850.51
			Rate per cum				<u>40.42</u>
			Add 12% GST				4.85
			Rate per cum.				45.27
						<b>say</b>	<b><u>45.00</u></b>
2.11 F		Note	RCC M40 Grade				
		(v)	Using Batching Plant, Transit Mixer and Concrete Pump				
			Unit = cum				
			Taking output = 120 cum				
			a) Material				
			Cement	tonne	52.20	6875.00	358875.00
			Coarse Sand	cum	54.00	1214.00	65556.00
			20 mm Aggregate	cum	64.80	1298.00	84110.40
			10 mm Aggregate	cum	43.20	1298.00	56073.60
			Admixture	kg	206.00	160.00	32960.00
			b) Labour				
			Mate	day	0.84	350.00	294.00
			Mason	day	3.00	505.17	1515.50
			Mazdoor	day	18.00	350.00	6300.00
			c) Machinery				
			Batching Plant	hour	6.00	14488.00	86928.00
			Generator 100 KVA	hour	6.00	1160.00	6960.00
			Loader 1 cum capacity	hour	6.00	1321.00	7926.00
			Transit Mixer 4 cum capacity for lead upto 1 km.	hour	15.00	1601.00	24015.00
			Transit Mixer 4 cum capacity for lead beyond 1 km.	tonne.k m	300.L	1601.00	480300.00
			Concrete Pump	hour	6.00	240.00	1440.00
			Formwork @ 3 per cent on cost of concrete i.e. cost of material, labour and machinery				36397.61

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			d) Overhead charges @ 10 % on (a+b+c)				124965.11
			e) Contractor's profit @ 10 % on (a+b+c+d)				137461.62
							1512077.84
			Add 1% labour cess				15120.78
			cost of 120 cum = a+b+c+d+e				1527198.62
			Rate per cum = (a+b+c+d+e)/120				12726.66
			Add 12% GST				1527.20
			Rate per cum.				14253.85
						<b>say</b>	<b><u>14254.00</u></b>
			Labour Rate				
			Labour				3969.00
			Overhead charges @ 10%				396.90
			Contractors Profit @10%				436.59
							4802.49
			Add 1% labour cess				48.02
			Cost for 120 cum				4850.51
			Rate per cum				<u>40.42</u>
			Add 12% GST				4.85
			Rate per cum.				45.27
						<b>say</b>	<b><u>45.00</u></b>
2.12	Section 1200		Sinking of 6 m external diameter well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.				
			<i>Unit = Running Meter.</i>				
			<i>Taking output = 1 m</i>				
			Diameter of well - 6 m.				
			Sandy Soil				
		A	Depth below bed level upto 3.0 M				
		(i)	Rate of sinking = 0.50 m per hour.				
			a) Labour				
			Mate	day	0.12	350.00	42.00
			Sinker ( skilled )	day	1.00	350.00	350.00
			Sinking helper ( semi-skilled )	day	2.00	350.00	700.00
			b) Machinery				
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	2.00	1096.00	2192.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Consumables in sinking @10 per cent of (b)				219.20
		c) Overhead charges @ 10 % on (a+b)				350.32
		d) Contractor's profit @ 10 % on (a+b+c)				385.35
						4238.87
		Add 1% labour cess				42.39
		Rate per metre = (a+b+c+d)				4281.26
		Add 12% GST				513.75
		Rate per m.				4795.01
					<b>say</b>	<b><u>4795.00</u></b>
		Labour Rate				
		Labour				1092.00
		Overhead charges @ 10%				109.20
		Contractors Profit @10%				120.12
						1321.32
		Add 1% labour cess				13.21
		Cost for 1 m				1321.32
		Rate per m				<u>1321.32</u>
		Add 12% GST				158.56
		Rate per m.				1479.88
					<b>say</b>	<b><u>1480.00</u></b>
2.12 A		Beyond 3m upto 10m depth				
	(ii)	Rate of sinking = 0.33 m per hour.				
		a) Labour				
		Mate	day	0.15	350.00	52.50
		Sinker	day	1.25	350.00	437.50
		Sinking helper ( semi-skilled )	day	2.50	350.00	875.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories	hour	3.00	1096.00	3288.00
		Consumables in sinking @10 per cent of (b)				328.80
		c) Overhead charges @ 10 % on (a+b)				498.18
		d) Contractor's profit @ 10 % on (a+b+c)				548.00
						6027.98
		Add 1% labour cess				60.28
		Rate per metre = (a+b+c+d)				6088.26
		Add 12% GST				730.59
		Rate per m.				6818.85
					<b>say</b>	<b><u>6819.00</u></b>
		Labour Rate				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Labour				1365.00
		Overhead charges @ 10%				136.50
		Contractors Profit @10%				150.15
						1651.65
		Add 1% labour cess				16.52
		Cost for 1 m				1668.17
		Rate per m				<u>1668.17</u>
		Add 12% GST				200.18
		Rate per m.				1868.35
					<b>say</b>	<b><u>1868.00</u></b>
2.12 A		Beyond 10m upto 20m				
	(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
	a	11th m	5%	7160.00		
		12th m	5%	7518.00		
		13th m	5%	7894.00		
		14th m	5%	8289.00		
		15th m	5%	8703.00		
		16th m	5%	9138.00		
		17th m	5%	9595.00		
		18th m	5%	10075.00		
		19th m	5%	10579.00		
		20th m	5%	11108.00		
		Total Cost from 10m upto 20m		90059.00		
		<i>Avg Rate per metre</i>		<u>9006.00</u>		
		Labour Rate				
		Beyond 10m upto 20m				
		Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		11th m	5%	1752.00		
		12th m	5%	1840.00		
		13th m	5%	1932.00		
		14th m	5%	2029.00		
		15th m	5%	2130.00		
		16th m	5%	2237.00		
		17th m	5%	2349.00		
		18th m	5%	2466.00		
		19th m	5%	2589.00		
		20th m	5%	2718.00		
		Total Cost from 10m upto 20m		22042.00		
		<i>Avg Rate per metre</i>		<u>2204.00</u>		

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
2.12 A			Beyond 20m upto 30 m				
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
		b	21st m	7.5%	11941.00	14329.00	
			22nd m	7.5%	12837.00	15404.00	
			23rd m	7.5%	13800.00	16560.00	
			24th m	7.5%	14835.00	17802.00	
			25th m	7.5%	15948.00	19138.00	
			26th m	7.5%	17144.00	20573.00	
			27th m	7.5%	18430.00	22116.00	
			28th m	7.5%	19812.00	23774.00	
			29th m	7.5%	21298.00	25558.00	
			30th m	7.5%	22895.00	27474.00	
			Total Cost from 20m upto 30m		168940.00	202728.00	
			<i>Avg Rate per metre</i>		<u>16894.00</u>	<u>20273.00</u>	
			Labour Rate				
			Beyond 20m upto 30 m				
			Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
			21st m	7.5%	2922.00	3506.00	
			22nd m	7.5%	3141.00	3769.00	
			23rd m	7.5%	3377.00	4052.00	
			24th m	7.5%	3630.00	4356.00	
			25th m	7.5%	3902.00	4682.00	
			26th m	7.5%	4195.00	5034.00	
			27th m	7.5%	4510.00	5412.00	
			28th m	7.5%	4848.00	5818.00	
			29th m	7.5%	5212.00	6254.00	
			30th m	7.5%	5603.00	6724.00	
			Total Cost from 20m upto 30m		41340.00	49607.00	
			<i>Avg Rate per metre</i>		<u>4134.00</u>	<u>4961.00</u>	



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
2.12 A			Beyond 30m upto 40 m				
		(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
		b	31st m	10%	25185.00	30222.00	
			32nd	10%	27704.00	33245.00	
			33rd m	10%	30474.00	36569.00	
			34th m	10%	33521.00	40225.00	
			35th m	10%	36873.00	44248.00	
			36th m	10%	40560.00	48672.00	
			37th m	10%	44616.00	53539.00	
			38th m	10%	49078.00	58894.00	
			39th m	10%	53986.00	64783.00	
			40th m	10%	59385.00	71262.00	
			Total Cost from 30m upto 40m		401382	481659.00	
			<i>Avg Rate per metre</i>		<u>40138</u>	<u>48166.00</u>	
			Labour Rate				
			Beyond 30m upto 40 m				
			Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
			31st m	10%	6163.00	7396.00	
			32nd	10%	6779.00	8135.00	
			33rd m	10%	7457.00	8948.00	
			34th m	10%	8203.00	9844.00	
			35th m	10%	9023.00	10828.00	
			36th m	10%	9925.00	11910.00	
			37th m	10%	10918.00	13102.00	
			38th m	10%	12010.00	14412.00	
			39th m	10%	13211.00	15853.00	
			40th m	10%	14532.00	17438.00	
			Total Cost from 30m upto 40m		98221.00	117866.00	

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<i>Avg Rate per metre</i>		<u>9822.00</u>	<u>11787.00</u>	
2.12		Clayey Soil ( 6m dia. Well )				
	B	Unit = Running Meter.				
		Taking output = 1 meter				
		Depth below bed level upto 3.0 M				
	(i)	Rate of sinking = 0.33 m per hour.				
		a) Labour				
		Mate	day	0.15	350.00	52.50
		Sinker ( skilled )	day	1.50	350.00	525.00
		Sinking helper ( semi-skilled )	day	2.25	350.00	787.50
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories	hour	3.00	1096.00	3288.00
		Consumables in sinking @ 10 per cent of (b)				328.80
		c) Overhead charges @ 10 % on (a+b)				498.18
		d) Contractor's profit @ 10 % on (a+b+c)				548.00
						6027.98
		Add 1% labour cess				60.28
		Rate per metre = (a+b+c+d)				6088.26
		Add 12% GST				730.59
		Rate per m.				6818.85
					<b>say</b>	<b><u>6819.00</u></b>
		Labour Rate				
		Labour				1365.00
		Overhead charges @ 10%				136.50
		Contractors Profit @10%				150.15
						1651.65
		Add 1% labour cess				16.52
		Cost for 1 m				1668.17
		Rate per m				<u>1668.17</u>
		Add 12% GST				200.18
		Rate per m.				1868.35
					<b>say</b>	<b><u>1868.00</u></b>
2.12 B		Beyond 3m upto 10m depth				
	(ii)	Rate of sinking = 0.17 m per hour.				
		a) Labour				
		Mate	day	0.30	350.00	105.00
		Sinker	day	3.00	350.00	1050.00
		Sinking helper ( semi-skilled )	day	4.50	350.00	1575.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.00	1096.00	6576.00
		Air compressor with pneumatic chisel attachment for cutting hard clay.	hour	2.00	488.00	976.00
		Consumables in sinking @ 10 per cent of (b)				755.20
		c) Overhead charges @ 10 % on (a+b)				1103.72
		d) Contractor's profit @ 10 % on (a+b+c)				1214.09
						13355.01
		Add 1% labour cess				133.55
		Rate per metre = (a+b+c+d)				13488.56
		Add 12% GST				1618.63
		Rate per m.				15107.19
					<b>say</b>	<b><u>15107.00</u></b>
		Labour Rate				
		Labour				2730.00
		Overhead charges @ 10%				273.00
		Contractors Profit @10%				300.30
						3303.30
		Add 1% labour cess				33.03
		Cost for 1 m				3336.33
		Rate per m				<u>3336.33</u>
		Add 12% GST				400.36
		Rate per m.				3736.69
					<b>say</b>	<b><u>3737.00</u></b>
2.12 B		Beyond 10 m upto 20 m				
	(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
	a	Add for dewatering @ 5 per cent of cost, if required.				Including for dewatering @ 5% of cost, if required
	b	11th m	5%	15862.00	16655.00	
		12th m	5%	16655.00	17488.00	
		13th m	5%	17488.00	18362.00	
		14th m	5%	18362.00	19280.00	
		15th m	5%	19280.00	20244.00	
		16th m	5%	20244.00	21256.00	
		17th m	5%	21256.00	22319.00	
		18th m	5%	22319.00	23435.00	

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			19th m	5%	23435.00	24607.00	
			20th m	5%	24607.00	25837.00	
			Total Cost from 10m upto 20m		199508.00	209483.00	
			<i>Avg Rate per metre</i>		<u>19951.00</u>	<u>20948.00</u>	
			Labour Rate				
			Beyond 10 m upto 20 m				
			Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add for dewatering @ 5 per cent of cost, if required.			Including for dewatering @ 5% of cost, if required	
			11th m	5%	3503.00	3678.00	
			12th m	5%	3678.00	3862.00	
			13th m	5%	3862.00	4055.00	
			14th m	5%	4055.00	4258.00	
			15th m	5%	4258.00	4471.00	
			16th m	5%	4471.00	4695.00	
			17th m	5%	4695.00	4930.00	
			18th m	5%	4930.00	5177.00	
			19th m	5%	5177.00	5436.00	
			20th m	5%	5436.00	5708.00	
			Total Cost from 10m upto 20m		44065.00	46270.00	
			<i>Avg Rate per metre</i>		<u>4407.00</u>	<u>4627.00</u>	
2.12 B			Beyond 20m upto 30 m				
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering of the cost, if required				
		b	Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
		c	21st m	7.5%	47370.00	59213.00	62174.00
			22nd m	7.5%	50923.00	63654.00	66837.00
			23rd m	7.5%	54742.00	68428.00	71849.00
			24th m	7.5%	58848.00	73560.00	77238.00
			25th m	7.5%	63262.00	79078.00	83032.00
			26th m	7.5%	68007.00	85009.00	89259.00

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			27th m	7.5%	73108.00	91385.00	95954.00
			28th m	7.5%	78591.00	98239.00	103151.00
			29th m	7.5%	84485.00	105606.00	110886.00
			30th m	7.5%	90821.00	113526.00	119202.00
			Total Cost from 20m upto 30m		670157.00	837698.00	879582.00
			<i>Avg Rate per metre</i>		<u>67016.00</u>	<u>83770.00</u>	<u>87958.00</u>
			Labour Rate				
			Beyond 20m upto 30 m				
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering of the cost, if required				
		b	Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
		c	21st m	7.5%	5844.00	7305.00	7670.00
			22nd m	7.5%	6282.00	7853.00	8246.00
			23rd m	7.5%	6753.00	8441.00	8863.00
			24th m	7.5%	7259.00	9074.00	9528.00
			25th m	7.5%	7803.00	9754.00	10242.00
			26th m	7.5%	8388.00	10485.00	11009.00
			27th m	7.5%	9017.00	11271.00	11835.00
			28th m	7.5%	9693.00	12116.00	12722.00
			29th m	7.5%	10420.00	13025.00	13676.00
			30th m	7.5%	11202.00	14003.00	14703.00
			Total Cost from 20m upto 30m		82661.00	103327.00	108494.00
			<i>Avg Rate per metre</i>		<u>8266.00</u>	<u>10333.00</u>	<u>10849.00</u>
2.12 B			Beyond 30m upto 40 m				
		(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering, if required				
		b	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required
		c	31st m	10%	99903.00	119884.00	125878.00
			32nd	10%	109893.00	131872.00	138466.00
			33rd m	10%	120882.00	145058.00	152311.00
			34th m	10%	132970.00	159564.00	167542.00

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			35th m	10%	146267.00	175520.00	184296.00
			36th m	10%	160894.00	193073.00	202727.00
			37th m	10%	176983.00	212380.00	222999.00
			38th m	10%	194681.00	233617.00	245298.00
			39th m	10%	214149.00	256979.00	269828.00
			40th m	10%	235564.00	282677.00	296811.00
			Total Cost from 30m upto 40m		1592186.00	1910624.00	2006156.00
			<i>Avg Rate per metre</i>		<u>159219.00</u>	<u>191062.00</u>	<u>200616.00</u>
			Labour Rate				
			Beyond 30m upto 40 m				
			Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 5 per cent of cost for dewatering, if required				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required
			31st m	10%	12322.00	14786.00	15525.00
			32nd	10%	13554.00	16265.00	17078.00
			33rd m	10%	14909.00	17891.00	18786.00
			34th m	10%	16400.00	19680.00	20664.00
			35th m	10%	18040.00	21648.00	22730.00
			36th m	10%	19844.00	23813.00	25004.00
			37th m	10%	21828.00	26194.00	27504.00
			38th m	10%	24011.00	28813.00	30254.00
			39th m	10%	26412.00	31694.00	33279.00
			40th m	10%	29053.00	34864	36607.00
			Total Cost from 30m upto 40m		196373.00	235648	247431.00
			<i>Avg Rate per metre</i>		<u>19637.00</u>	<u>23565</u>	<u>24743.00</u>
2.12		C	Soft Rock				
			<i>Taking output = 1 m</i>				
			Depth in Soft rock strata up to 3m				
			Rate of sinking = 0.25 m per hour.				
			a) Labour				
			Mate	day	0.92	350.00	322.00
			Sinker ( skilled )	day	3.00	350.00	1050.00
			Sinking helper ( semi-skilled )	day	20.00	350.00	7000.00
			Diver	day	0.50	421.17	210.58
			b) Machinery				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	4.00	1096.00	4384.00
		Air compressor with pneumatic breakers	hour	3.50	488.00	1708.00
		Consumables in sinking @ 10 per cent of (b)				609.20
		Add for dewatering @ of 5 per cent of (a+b), if required				764.19
		c) Overhead charges @ 10 % on (a+b)				1604.80
		d) Contractor's profit @ 10 % on (a+b+c)				1765.28
						19418.05
		Add 1% labour cess				194.18
		Rate per metre = (a+b+c+d)				19612.23
		Add 12% GST				2353.47
		Rate per m.				21965.69
					<b>say</b>	<b><u>21966.00</u></b>
		Labour Rate				
		Labour				8582.58
		Overhead charges @ 10%				858.26
		Contractors Profit @10%				944.08
						10384.93
		Add 1% labour cess				103.85
		Cost for 1 m				10488.78
		Rate per m				<u>10488.78</u>
		Add 12% GST				1258.65
		Rate per m.				11747.43
					<b>say</b>	<b><u>11747.00</u></b>
2.12		Hard Rock (6m dia well )				
	D	Unit = Running Meter				
		Taking output = 1 m				
		Depth in hard rock strata upto 3 m				
		Rate of sinking = 0.17 m per hour.				
		a) Material				
		Gelatine 80 per cent	Kg	4.00	98.00	392.00
		Electric Detonators	each	18.00	16.00	288.00
		b) Labour				
		Mate	day	1.56	350.00	546.00
		Driller	day	2.00	350.00	700.00
		Blaster	day	0.25	403.67	100.92
		Mazdoor	day	12.00	350.00	4200.00
		Mazdoor (Skilled)	day	4.00	350.00	1400.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		c) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.00	1096.00	6576.00
		Hire & running charges of compressor with pneumatic breaker/Jack hammer for drilling.	hour	2.00	488.00	976.00
		Dewatering @ 5 per cent of cost of (b+c), if required.				724.95
		Consumables in sinking @ 10 per cent of cost of (b).				755.20
		d) Overhead charges @ 10 % on (a+b+c)				1665.91
		e) Contractor's profit @ 10 % on (a+b+c+d)				1832.50
						20157.47
		Add 1% labour cess				201.57
		Rate per metre = (a+b+c+d+e)				20359.04
		Add 12% GST				2443.08
		Rate per m.				22802.13
					<b>say</b>	<b><u>22802.00</u></b>
		Labour Rate				
		Labour				7626.92
		Overhead charges @ 10%				762.69
		Contractors Profit @10%				838.96
						9228.57
		Add 1% labour cess				92.29
		Cost for 1 m				9320.85
		Rate per m				<u>9320.85</u>
		Add 12% GST				1118.50
		Rate per m.				10439.36
					<b>say</b>	<b><u>10439.00</u></b>
2.13	Section 1200	Sinking of 7 m external diameter well ( other than pneumatic method of sinking ) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.				
		<i>Unit = Running Meter.</i>				
		<i>Taking output = 1 m</i>				
		Diameter of well - 7 m.				
		Sandy Soil				



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		A	Depth below bed level upto 3.0 M				
		(i)	Rate of sinking = 0.30 m per hour.				
		a)	Labour				
			Mate	day	0.15	350.00	52.50
			Sinker ( skilled )	day	1.25	350.00	437.50
			Sinking helper ( semi-skilled )	day	2.50	350.00	875.00
		b)	Machinery				
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	3.25	1096.00	3562.00
			Consumables in sinking @10 per cent of (b)				356.20
		c)	Overhead charges @ 10 % on (a+b)				528.32
		d)	Contractor's profit @ 10 % on (a+b+c)				528.32
							6339.84
			Add 1% labour cess				63.40
			Rate per metre = (a+b+c+d)				6403.24
			Labour Rate				
			Labour				1365.00
			Overhead charges @ 10%				136.50
			Contractors Profit @10%				150.15
							1651.65
			Add 1% labour cess				16.52
			Cost for 1 m				1668.17
			Rate per m				<u>525.55</u>
			Add 12% GST				63.07
			Rate per m.				588.62
						<b>say</b>	<b><u>589.00</u></b>
2.13 A			Beyond 3m upto 10m depth				
		(ii)	Rate of sinking = 0.22 m per hour.				
		a)	Labour				
			Mate	day	0.18	350.00	63.00
			Sinker	day	1.50	350.00	525.00
			Sinking helper ( semi-skilled )	day	3.00	350.00	1050.00
		b)	Machinery				
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	4.50	1096.00	4932.00
			Consumables in sinking @10 per cent of (b)				493.20
		c)	Overhead charges @ 10 % on (a+b)				706.32

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			d) Contractor's profit @ 10 % on (a+b+c)				776.95
							8546.47
			Add 1% labour cess				85.46
			Rate per metre = (a+b+c+d)				8631.94
			Add 12% GST				1035.83
			Rate per m.				9667.77
						<b>say</b>	<b><u>9668.00</u></b>
			Labour Rate				
			Labour				1638.00
			Overhead charges @ 10%				163.80
			Contractors Profit @10%				180.18
							1981.98
			Add 1% labour cess				19.82
			Cost for 1 m				2001.80
			Rate per m				<u>2001.80</u>
			Add 12% GST				240.22
			Rate per m.				2242.02
						<b>say</b>	<b><u>2242.00</u></b>
2.13 A			Beyond 10m upto 20m				
		(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	11th m	5%	10151.00		
			12th m	5%	10659.00		
			13th m	5%	11192.00		
			14th m	5%	11752.00		
	0.165		15th m	5%	12340.00		
			16th m	5%	12957.00		
			17th m	5%	13605.00		
			18th m	5%	14285.00		
			19th m	5%	14999.00		
			20th m	5%	15749.00		
			Total Cost from 10m upto 20m			127689.00	
			<i>Avg Rate per metre</i>			<u>12769.00</u>	
			Labour Rate				
			Beyond 10m upto 20m				
			Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			11th m	5%	2354.00		
			12th m	5%	2472.00		
			13th m	5%	2596.00		
			14th m	5%	2726.00		

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			15th m	5%	2862.00		
			16th m	5%	3005.00		
			17th m	5%	3155.00		
			18th m	5%	3313.00		
			19th m	5%	3479.00		
			20th m	5%	3653.00		
			Total Cost from 10m upto 20m		29615.00		
			<i>Avg Rate per metre</i>		<u>2962.00</u>		
2.13 A			Beyond 20m upto 30 m				
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	
		b	21st m	7.5%	16930.00	20316.00	
			22nd m	7.5%	18200.00	21840.00	
			23rd m	7.5%	19565.00	23478.00	
			24th m	7.5%	21032.00	25238.00	
			25th m	7.5%	22609.00	27131.00	
			26th m	7.5%	24305.00	29166.00	
			27th m	7.5%	26128.00	31354.00	
			28th m	7.5%	28088.00	33706.00	
			29th m	7.5%	30195.00	36234.00	
			30th m	7.5%	32460.00	38952.00	
			Total Cost from 20m upto 30m		239512.00	287415.00	
			<i>Avg Rate per metre</i>		<u>23951.00</u>	<u>28742.00</u>	
			Labour Rate				
			Beyond 20m upto 30 m				
			Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	
			21st m	7.5%	3927.00	4712.00	
			22nd m	7.5%	4222.00	5066.00	
			23rd m	7.5%	4539.00	5447.00	
			24th m	7.5%	4879.00	5855.00	
			25th m	7.5%	5245.00	6294.00	

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			26th m	7.5%	5638.00	6766.00	
			27th m	7.5%	6061.00	7273.00	
			28th m	7.5%	6516.00	7819.00	
			29th m	7.5%	7005.00	8406.00	
			30th m	7.5%	7530.00	9036.00	
			Total Cost from 20m upto 30m		55562.00	66674.00	
			<i>Avg Rate per metre</i>		<u>5556.00</u>	<u>6667.00</u>	
2.13 A			Beyond 30m upto 40 m				
		(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 20 per cent of cost for Kentledge including supports, loading arrangement, and Labour etc.			Including 20% for Kentledge	
		b	31st m	10%	35706.00	42847.00	
			32nd	10%	39277.00	47132.00	
			33rd m	10%	43205.00	51846.00	
			34th m	10%	47526.00	57031.00	
			35th m	10%	52279.00	62735.00	
			36th m	10%	57507.00	69008.00	
			37th m	10%	63258.00	75910.00	
			38th m	10%	69584.00	83501.00	
			39th m	10%	76542.00	91850.00	
			40th m	10%	84196.00	101035.00	
			Total Cost from 30m upto 40m		569080.00	682895.00	
			<i>Avg Rate per metre</i>		<u>56908.00</u>	<u>68290.00</u>	
			Labour Rate				
			Beyond 30m upto 40 m				
			Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement, and Labour etc.			Including 20% for Kentledge	
			31st m	10%	8283.00	9940.00	
			32nd	10%	9111.00	10933.00	
			33rd m	10%	10022.00	12026.00	
			34th m	10%	11024.00	13229.00	
			35th m	10%	12126.00	14551.00	
			36th m	10%	13339.00	16007.00	
			37th m	10%	14673.00	17608.00	

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		38th m	10%	16140.00	19368.00	
		39th m	10%	17754.00	21305.00	
		40th m	10%	19529.00	23435.00	
		Total Cost from 30m upto 40m		132001.00	158402.00	
		<i>Avg Rate per metre</i>		<u>13200.00</u>	<u>15840.00</u>	
2.13		Clayey Soil ( 7m dia. Well )				
	B	<i>Unit = Running Meter.</i>				
		<i>Taking output = 1 cum</i>				
		Depth below bed level upto 3.0 M				
	(I)	Rate of sinking = 0.22 m per hour.				
		a) Labour				
		Mate	day	0.18	350.00	63.00
		Sinker ( skilled )	day	1.50	350.00	525.00
		Sinking helper ( semi-skilled )	day	3.00	350.00	1050.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	4.50	1096.00	4932.00
		Consumables in sinking @ 10 per cent of (b)				493.20
		d) Overhead charges @ 10 % on (a+b)				706.32
		e) Contractor's profit @ 10 % on (a+b+c)				776.95
						8546.47
		Add 1% labour cess				85.46
		Rate per metre = (a+b+c+d)				8631.94
		Add 12% GST				1035.83
		Rate per m.				9667.77
					<b>say</b>	<b><u>9668.00</u></b>
		Labour Rate				
		Labour				1638.00
		Overhead charges @ 10%				163.80
		Contractors Profit @10%				180.18
						1981.98
		Add 1% labour cess				19.82
		Cost for 1 m				2001.80
		Rate per m				<u>2001.80</u>
		Add 12% GST				240.22
		Rate per m.				2242.02
					<b>say</b>	<b><u>2242.00</u></b>
2.13 B		Beyond 3m upto 10m depth				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		(ii)	Rate of sinking = 0.17 m per hour.				
		a)	Labour				
			Mate	day	0.26	350.00	91.00
			Sinker	day	2.00	350.00	700.00
			Sinking helper ( semi-skilled )	day	4.00	350.00	1400.00
		b)	Machinery				
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.00	1096.00	6576.00
			Air compressor with pneumatic chisel attachment for cutting hard clay.	hour	3.25	488.00	657.60
			Consumables in sinking @ 10 per cent of (b)				723.36
		c)	Overhead charges @ 10 % on (a+b)				1014.80
		d)	Contractor's profit @ 10 % on (a+b+c)				1116.28
							12279.03
			Add 1% labour cess				122.79
			Rate per metre = (a+b+c+d)				12401.82
			Add 12% GST				1488.22
			Rate per m.				13890.04
						<b>say</b>	<b><u>13890.00</u></b>
			Labour Rate				
			Labour				2191.00
			Overhead charges @ 10%				219.10
			Contractors Profit @10%				241.01
							2651.11
			Add 1% labour cess				26.51
			Cost for 1 m				2677.62
			Rate per m				<u>2677.62</u>
			Add 12% GST				321.31
			Rate per m.				2998.94
						<b>say</b>	<b><u>2999.00</u></b>
2.13 B			Beyond 10 m upto 20 m				
		(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add for dewatering @ 5 per cent of cost, if required.			Including for dewatering @ 5% of cost, if required	
		b	11th m	5%	13022.00	13673.00	
			12th m	5%	13673.00	14357.00	

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			13th m	5%	14357.00	15075.00	
			14th m	5%	15075.00	15829.00	
			15th m	5%	15829.00	16620.00	
			16th m	5%	16620.00	17451.00	
			17th m	5%	17451.00	18324.00	
			18th m	5%	18324.00	19240.00	
			19th m	5%	19240.00	20202.00	
			20th m	5%	20202.00	21212.00	
			Total Cost from 10m upto 20m		163793.00	171983.00	
			<i>Avg Rate per metre</i>		<u>16379.00</u>	<u>17198.00</u>	
			Labour Rate				
			Beyond 10 m upto 20 m				
			Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add for dewatering @ 5 per cent of cost, if required.			Including for dewatering @ 5% of cost, if required	
			11th m	5%	3149.00	3306.00	
			12th m	5%	3306.00	3471.00	
			13th m	5%	3471.00	3645.00	
			14th m	5%	3645.00	3827.00	
			15th m	5%	3827.00	4018.00	
			16th m	5%	4018.00	4219.00	
			17th m	5%	4219.00	4430.00	
			18th m	5%	4430.00	4652.00	
			19th m	5%	4652.00	4885.00	
			20th m	5%	4885.00	5129.00	
			Total Cost from 10m upto 20m		39602.00	41582.00	
			<i>Avg Rate per metre</i>		<u>3960.00</u>	<u>4158.00</u>	
2.13 B			Beyond 20m upto 30 m				
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering on the cost, if required				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		b	Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
		c	21st m	7.5%	21717.00	27146.00	28503.00
			22nd	7.5%	23346.00	29183.00	30642.00
			23rd m	7.5%	25097.00	31371.00	32940.00
			24th m	7.5%	26979.00	33724.00	35410.00
			25th m	7.5%	29002.00	36253.00	38066.00
			26th m	7.5%	31177.00	38971.00	40920.00
			27th m	7.5%	33515.00	41894.00	43989.00
			28th m	7.5%	36029.00	45036.00	47288.00
			29th m	7.5%	38731.00	48414.00	50835.00
			30th m	7.5%	41636.00	52045.00	54647.00
			Total Cost from 30m upto 40m		307229.00	384037.00	403240.00
			<i>Avg Rate per metre</i>		<u>30723.00</u>	<u>38404.00</u>	<u>40324.00</u>
			Labour Rate				
			Beyond 20m upto 30 m				
			Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 5 per cent of cost for dewatering on the cost, if required				
			Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
			21st m	7.5%	5251.00	6564.00	6892.00
			22nd	7.5%	5645.00	7056.00	7409.00
			23rd m	7.5%	6068.00	7585.00	7964.00
			24th m	7.5%	6523.00	8154.00	8562.00
			25th m	7.5%	7012.00	8765.00	9203.00
			26th m	7.5%	7538.00	9423.00	9894.00
			27th m	7.5%	8103.00	10129.00	10635.00
			28th m	7.5%	8711.00	10889.00	11433.00
			29th m	7.5%	9364.00	11705.00	12290.00
			30th m	7.5%	10066.00	12583.00	13212.00
			Total Cost from 30m upto 40m		74281.00	92853.00	97494.00
			<i>Avg Rate per metre</i>		<u>7428.00</u>	<u>9285.00</u>	<u>9749.00</u>
2.13 B			Beyond 30m upto 40 m				



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering, if required				
		b	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required
		c	31st m	10%	45800.00	54960.00	57708.00
			32nd	10%	50380.00	60456.00	63479.00
			33rd m	10%	55418.00	66502.00	69827.00
			34th m	10%	60960.00	73152.00	76810.00
			35th m	10%	67056.00	80467.00	84490.00
			36th m	10%	73762.00	88514.00	92940.00
			37th m	10%	81138.00	97366.00	102234.00
			38th m	10%	89252.00	107102.00	112457.00
			39th m	10%	98177.00	117812.00	123703.00
			40th m	10%	107995.00	129594.00	136074.00
			Total Cost from 30m upto 40m		729938.00	875925.00	919722.00
			<i>Avg Rate per metre</i>		<u>72994.00</u>	<u>87593.00</u>	<u>91972.00</u>
			Beyond 30m upto 40 m				
			Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 5 per cent of cost for dewatering, if required				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required
			31st m	10%	11073.00	13288.00	13952.00
			32nd	10%	12180.00	14616.00	15347.00
			33rd m	10%	13398.00	16078.00	16882.00
			34th m	10%	14738.00	17686.00	18570.00
			35th m	10%	16212.00	19454.00	20427.00
			36th m	10%	17833.00	21400.00	22470.00
			37th m	10%	19616.00	23539.00	24716.00
			38th m	10%	21578.00	25894.00	27189.00
			39th m	10%	23736.00	28483.00	29907.00
			40th m	10%	26110.00	31332.00	32899.00
			Total Cost from 30m upto 40m		176474.00	211770.00	222359.00
			<i>Avg Rate per metre</i>		<u>17647.00</u>	<u>21177.00</u>	<u>22236.00</u>

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
2.13		Soft Rock ( 7m dia well )				
	C	Unit = Running Meter.				
		Taking output = 1 m				
		Depth in soft rock strata upto 3m				
		Rate of sinking = 0.22 m per hour.				
		a) Labour				
		Mate	day	0.58	350.00	203.00
		Sinker ( skilled )	day	4.00	350.00	1400.00
		Sinking helper ( semi-skilled )	day	10.00	350.00	3500.00
		Diver	day	0.75	421.17	315.88
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	4.50	1096.00	4932.00
		Air compressor with pneumatic breakers	hour	3.75	488.00	1830.00
		Consumables in sinking @ 10 per cent of (b)				676.20
		Add for dewatering @ of 5 per cent of (a+b), if required				609.04
		c) Overhead charges @ 10 % on (a+b)				1346.61
		d) Contractor's profit @ 10 % on (a+b+c)				1481.27
						16294.00
		Add 1% labour cess				162.94
		Rate per metre = (a+b+c+d)				16456.94
		Add 12% GST				1974.83
		Rate per m.				18431.78
					<b>say</b>	<b><u>18432.00</u></b>
		Labour Rate				
		Labour				1820.05
		Overhead charges @ 10%				182.01
		Contractors Profit @10%				200.21
						2202.26
		Add 1% labour cess				22.02
		Cost for 1 m				2224.28
		Rate per m				<u>2224.28</u>
		Add 12% GST				266.91
		Rate per m.				2491.20
					<b>say</b>	<b><u>2491.00</u></b>
2.13		Hard Rock ( 7m dia well )				
	D	Unit = Running Meter				
		Taking output = 1 m				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Depth in Hard rock strata up to 3 m				
		Rate of sinking = 0.17 m per hour.				
		a) Material				
		Gelatine 80 per cent	Kg	7.00	98.00	686.00
		Electric Detonators	each	30.00	16.00	480.00
		b) Labour				
		Mate	day	1.60	350.00	560.00
		Driller	day	2.00	350.00	700.00
		Blaster	day	0.25	403.67	100.92
		Mazdoor	day	18.00	350.00	6300.00
		Mazdoor (Skilled)	day	4.00	350.00	1400.00
		Diver	day	0.50	421.17	210.58
		c) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.00	1096.00	6576.00
		Hire & running charges of compressor with pneumatic breaker/Jack hammer for drilling.	hour	2.00	488.00	976.00
		Dewatering @ 5 per cent of cost of (b+c), if required.				841.18
		Consumables in sinking @ 10 per cent of cost of (b).				839.32
		d) Overhead charges @ 10 % on (a+b+c)				1967.00
		e) Contractor's profit @ 10 % on (a+b+c+d)				2163.70
						23800.69
		Add 1% labour cess				238.01
		Rate per metre = (a+b+c+d+e)				24038.70
		Add 12% GST				2884.64
		Rate per m.				26923.34
					<b>say</b>	<b><u>26923.00</u></b>
		Labour Rate				
		Labour				9271.50
		Overhead charges @ 10%				927.15
		Contractors Profit @10%				1019.87
						11218.52
		Add 1% labour cess				112.19
		Cost for 1 m				11330.70
		Rate per m				<u>11330.70</u>
		Add 12% GST				1359.68
		Rate per m.				12690.38
					<b>say</b>	<b><u>12690.00</u></b>

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
2.14	Section 1200		Sinking of 8 m external diameter well ( other than pneumatic method of sinking ) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.				
			<i>Unit = Running Meter.</i>				
			<i>Taking output = 1 m</i>				
			Diameter of well - 8 m.				
			Sandy Soil				
		A	Depth below bed level upto 3.0 M				
		(i)	Rate of sinking @ 0.25 m/hour				
			a) Labour				
			Mate	day	0.18	350.00	63.00
			Sinker ( skilled )	day	1.50	350.00	525.00
			Sinking helper ( semi-skilled )	day	3.00	350.00	1050.00
			b) Machinery				
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	4.00	1096.00	4384.00
			Consumables in sinking @10 per cent of (b)				438.40
			c) Overhead charges @ 10 % on (a+b)				646.04
			d) Contractor's profit @ 10 % on (a+b+c)				710.64
							7817.08
			Add 1% labour cess				78.17
			Rate per metre = (a+b+c+d)				7895.25
			Add 12% GST				947.43
			Rate per m.				8842.69
						<b>say</b>	<b><u>8843.00</u></b>
			Labour Rate				
			Labour				2746.02
			Overhead charges @ 10%				274.60
			Contractors Profit @10%				302.06
							3322.68
			Add 1% labour cess				33.23
			Cost for 1 m				3355.91
			Rate per m				3355.91
			Add 12% GST				402.71
			Rate per m.				3758.62

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
					<b>say</b>	<b><u>3759.00</u></b>
2.14 A		Beyond 3m upto 10m depth				
	(ii)	Rate of sinking @ 0.20 m/hour				
		a) Labour				
		Mate	day	0.25	350.00	87.50
		Sinker	day	1.75	350.00	612.50
		Sinking helper ( semi-skilled )	day	3.50	350.00	1225.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.00	1096.00	5480.00
		Consumables in sinking @10 per cent of (b)				548.00
		c) Overhead charges @ 10 % on (a+b)				795.30
		d) Contractor's profit @ 10 % on (a+b+c)				874.83
						9623.13
		Add 1% labour cess				96.23
		Rate per metre = (a+b+c+d)				9719.36
		Add 12% GST				1166.32
		Rate per m.				10885.68
					<b>say</b>	<b><u>10886.00</u></b>
		Labour Rate				
		Labour				1925.00
		Overhead charges @ 5%				96.25
		Contractors Profit @10%				202.13
						2223.38
		Add 1% labour cess				22.23
		Cost for 1 m				2223.38
		Rate per m				2223.38
		Add 12% GST				266.81
		Rate per m.				2490.18
					<b>say</b>	<b><u>2490.00</u></b>
2.14 A		Beyond 10m upto 20m				
	(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
	a	11th m	5%	10205.00		
		12th m	5%	10715.00		
		13th m	5%	11251.00		
		14th m	5%	11814.00		
		15th m	5%	12405.00		
		16th m	5%	13025.00		
		17th m	5%	13676.00		

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		18th m	5%	14360.00		
		19th m	5%	15078.00		
		20th m	5%	15832.00		
		Total Cost from 10m upto 20m		128361.00		
		<i>Avg Rate per metre</i>		<u>12836.00</u>		
		Labour Rate				
		Beyond 10m upto 20m				
		Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		11th m	5%	2615.00		
		12th m	5%	2746.00		
		13th m	5%	2883.00		
		14th m	5%	3027.00		
		15th m	5%	3178.00		
		16th m	5%	3337.00		
		17th m	5%	3504.00		
		18th m	5%	3679.00		
		19th m	5%	3863.00		
		20th m	5%	4056.00		
		Total Cost from 10m upto 20m		32888.00		
		<i>Avg Rate per metre</i>		<u>3289.00</u>		
2.14 A		Beyond 20m upto 30 m				
	(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
	a	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
	b	21st m	7.5%	17019.00	20423.00	
		22nd m	7.5%	18295.00	21954.00	
		23rd m	7.5%	19667.00	23600.00	
		24th m	7.5%	21142.00	25370.00	
		25th m	7.5%	22728.00	27274.00	
		26th m	7.5%	24433.00	29320.00	
		27th m	7.5%	26265.00	31518.00	
		28th m	7.5%	28235.00	33882.00	
		29th m	7.5%	30353.00	36424.00	

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			30th m	7.5%	32629.00	39155.00	
			Total Cost from 20m upto 30m		240766.00	288920.00	
			<i>Avg Rate per metre</i>		<u>24077.00</u>	<u>28892.00</u>	
			Labour Rate				
			Beyond 20m upto 30 m				
			Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
			21st m	7.5%	3536.00	4243.00	
			22nd m	7.5%	3801.00	4561.00	
			23rd m	7.5%	4086.00	4903.00	
			24th m	7.5%	4392.00	5270.00	
			25th m	7.5%	4721.00	5665.00	
			26th m	7.5%	5075.00	6090.00	
			27th m	7.5%	5456.00	6547.00	
			28th m	7.5%	5865.00	7038.00	
			29th m	7.5%	6305.00	7566.00	
			30th m	7.5%	6778.00	8134.00	
			Total Cost from 20m upto 30m		50015.00	60017.00	
			<i>Avg Rate per metre</i>		<u>5002.00</u>	<u>6002.00</u>	
2.14 A			Beyond 30m upto 40 m				
		(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 20 per cent of cost for Kentledge including supports, loading arrangement, and Labour etc.			Including 20% for Kentledge	
		b	31st m	10%	35892.00	43070.00	
			32nd	10%	39481.00	47377.00	
			33rd m	10%	43429.00	52115.00	
			34th m	10%	47772.00	57326.00	
			35th m	10%	52549.00	63059.00	
			36th m	10%	57804.00	69365.00	
			37th m	10%	63584.00	76301.00	
			38th m	10%	69942.00	83930.00	
			39th m	10%	76936.00	92323.00	

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		40th m	10%	84630.00	101556.00	
		Total Cost from 30m upto 40m		57201.90	68642.00	
		Beyond 30m upto 40 m				
		Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		Add 20 per cent of cost for Kentledge including supports, loading arrangement, and Labour etc.			Including 20% for Kentledge	
		31st m	10%	7456.00	8947.00	
		32nd	10%	8202.00	9842.00	
		33rd m	10%	9022.00	10826.00	
		34th m	10%	9924.00	11909.00	
		35th m	10%	10916.00	13099.00	
		36th m	10%	12008.00	14410.00	
		37th m	10%	13209.00	15851.00	
		38th m	10%	14530.00	17436.00	
		39th m	10%	15983.00	19180.00	
		40th m	10%	17581.00	21097.00	
		Total Cost from 30m upto 40m		118831.00	142597.00	
		<i>Avg Rate per metre</i>		<u>11883.00</u>	<u>14260.00</u>	
2.14		Clayey Soil ( 8m dia. Well )				
	B	<i>Unit = Running Meter.</i>				
		<i>Taking output = 1 meter</i>				
		Depth from bed level upto 3.0 M				
	(i)	Rate of sinking @ 0.18 m/hour				
		a) Labour				
		Mate	day	0.22	350.00	77.00
		Sinker ( skilled )	day	2.00	350.00	700.00
		Sinking helper ( semi-skilled )	hour	3.50	350.00	1225.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.		5.50	1096.00	6028.00
		Consumables in sinking @ 10 per cent of (b)				602.80
		c) Overhead charges @ 10 % on (a+b)				863.28



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		d) Contractor's profit @ 10 % on (a+b+c)				949.61
						10445.69
		Add 1% labour cess				104.46
		Rate per metre = (a+b+c+d)				10550.14
		Add 12% GST				1266.02
		Rate per m.				11816.16
					<b>say</b>	<b><u>11816.00</u></b>
		Labour Rate				
		Labour				2002.00
		Overhead charges @ 10%				200.20
		Contractors Profit @10%				220.22
						2422.42
		Add 1% labour cess				24.22
		Cost for 1 m				2446.64
		Rate per m				2446.64
		Add 12% GST				293.60
		Rate per m.				2740.24
					<b>say</b>	<b><u>2740.00</u></b>
2.14 B		Beyond 3m upto 10m depth				
	(ii)	Rate of sinking @ 0.17 m/hour				
		a) Labour				
		Mate	day	0.32	350.00	112.00
		Sinker	day	2.50	350.00	875.00
		Sinking helper ( semi-skilled )	day	4.50	350.00	1575.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.00	1096.00	6576.00
		Air compressor with pneumatic chisel attachment for cutting hard clay.	hour	3.50	488.00	1708.00
		Consumables in sinking @ 10 per cent of (b)				828.40
		c) Overhead charges @ 10 % on (a+b)				1167.44
		d) Contractor's profit @ 10 % on (a+b+c)				1284.18
						14126.02
		Add 1% labour cess				141.26
		Rate per metre = (a+b+c+d)				14267.28
		Add 12% GST				1712.07
		Rate per m.				15979.36
					<b>say</b>	<b><u>15979.00</u></b>
		Labour Rate				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Labour				2562.00
			Overhead charges @ 10%				256.20
			Contractors Profit @10%				281.82
							3100.02
			Add 1% labour cess				31.00
			Cost for 1 m				3131.02
			Rate per m				3131.02
			Add 12% GST				375.72
			Rate per m.				3506.74
						<b>say</b>	<b><u>3507.00</u></b>
2.14 B			Beyond 10 m upto 20 m				
		(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add for dewatering @ 5 per cent of cost, if required.			Including for dewatering @ 5% of cost, if required	
		b	11th m	5%	14981.00	15730.00	
			12th m	5%	15730.00	16517.00	
			13th m	5%	16517.00	17343.00	
			14th m	5%	17343.00	18210.00	
			15th m	5%	18210.00	19121.00	
			16th m	5%	19121.00	20077.00	
			17th m	5%	20077.00	21081.00	
			18th m	5%	21081.00	22135.00	
			19th m	5%	22135.00	23242.00	
			20th m	5%	23242.00	24404.00	
			Total Cost from 10m upto 20m		188437.00	197860.00	
			<i>Avg Rate per metre</i>		<u>18844.00</u>	<u>19786.00</u>	
			Labour Rate				
			Beyond 10 m upto 20 m				
			Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add for dewatering @ 5 per cent of cost, if required.			Including for dewatering @ 5% of cost, if required	
			11th m	5%	3682.00	3866.00	
			12th m	5%	3866.00	4059.00	
			13th m	5%	4059.00	4262.00	

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			14th m	5%	4262.00	4475.00	
			15th m	5%	4475.00	4699.00	
			16th m	5%	4699.00	4934.00	
			17th m	5%	4934.00	5181.00	
			18th m	5%	5181.00	5440.00	
			19th m	5%	5440.00	5712.00	
			20th m	5%	5712.00	5998.00	
			Total Cost from 10m upto 20m		46310.00	48626.00	
			<i>Avg Rate per metre</i>		<u>4631.00</u>	<u>4863.00</u>	
2.14 B			Beyond 20m upto 30 m				
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering on the cost, if required				
		b	Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
		c	21st m	7.5%	24985.00	31231.00	32793.00
			22nd m	7.5%	26859.00	33574.00	35253.00
			23rd m	7.5%	28873.00	36091.00	37896.00
			24th m	7.5%	31038.00	38798.00	40738.00
			25th m	7.5%	33366.00	41708.00	43793.00
			26th m	7.5%	35868.00	44835.00	47077.00
			27th m	7.5%	38558.00	48198.00	50608.00
			28th m	7.5%	41450.00	51813.00	54404.00
			29th m	7.5%	44559.00	55699.00	58484.00
			30th m	7.5%	47901.00	59876.00	62870.00
			Total Cost from 30m upto 40m		353457.00	441823.00	463916.00
			<i>Avg Rate per metre</i>		<u>35346.00</u>	<u>44182.00</u>	<u>46392.00</u>
			Labour Rate				
			Beyond 20m upto 30 m				
			Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 5 per cent of cost for dewatering on the cost, if required				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
			21st m	7.5%	6140.00	7675.00	8059.00
			22nd m	7.5%	6601.00	8251.00	8664.00
			23rd m	7.5%	7096.00	8870.00	9314.00
			24th m	7.5%	7628.00	9535.00	10012.00
			25th m	7.5%	8200.00	10250.00	10763.00
			26th m	7.5%	8815.00	11019.00	11570.00
			27th m	7.5%	9476.00	11845.00	12437.00
			28th m	7.5%	10187.00	12734.00	13371.00
			29th m	7.5%	10951.00	13689.00	14373.00
			30th m	7.5%	11772.00	14715.00	15451.00
			Total Cost from 30m upto 40m		86866.00	108583.00	114014.00
			<i>Avg Rate per metre</i>		<u>8687.00</u>	<u>10858.00</u>	<u>11401.00</u>
2.14 B			Beyond 30m upto 40 m				
		(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering, if required				
		b	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required
		c	31st m	10%	52691.00	63229.00	66390.00
			32nd	10%	57960.00	69552.00	73030.00
			33rd m	10%	63756.00	76507.00	80332.00
			34th m	10%	70132.00	84158.00	88366.00
			35th m	10%	77145.00	92574.00	97203.00
			36th m	10%	84860.00	101832.00	106924.00
			37th m	10%	93346.00	112015.00	117616.00
			38th m	10%	102681.00	123217.00	129378.00
			39th m	10%	112949.00	135539.00	142316.00
			40th m	10%	124244.00	149093.00	156548.00
			Total Cost from 30m upto 40m		839764.00	1007716.00	1058103.00
			<i>Avg Rate per metre</i>		<u>83976.00</u>	<u>100772.00</u>	<u>105810.00</u>
			Labour Rate				
			Beyond 30m upto 40 m				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		Add 5 per cent of cost for dewatering, if required				
		Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required
		31st m	10%	12949.00	15539.00	16316.00
		32nd	10%	14244.00	17093.00	17948.00
		33rd m	10%	15668.00	18802.00	19742.00
		34th m	10%	17235.00	20682.00	21716.00
		35th m	10%	18959.00	22751.00	23889.00
		36th m	10%	20855.00	25026.00	26277.00
		37th m	10%	22941.00	27529.00	28905.00
		38th m	10%	25235.00	30282.00	31796.00
		39th m	10%	27759.00	33311.00	34977.00
		40th m	10%	30535.00	36642.00	38474.00
		Total Cost from 30m upto 40m		206380.00	247657.00	260040.00
		<i>Avg Rate per metre</i>		<u>20638.00</u>	<u>24766.00</u>	<u>26004.00</u>
2.14		Soft Rock ( 8m dia well )				
	C	Unit = Running Meter.				
		Taking output = 1 m				
		Depth in soft rock strata upto 3m				
		Rate of sinking @ 0.20 m/hour				
		a) Labour				
		Mate	day	0.68	350.00	238.00
		Sinker ( skilled )	day	4.00	350.00	1400.00
		Sinking helper ( semi-skilled )	day	12.00	350.00	4200.00
		Diver	day	1.00	421.17	421.17
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.00	1096.00	5480.00
		Air compressor with pneumatic breakers	hour	3.75	488.00	1830.00
		Consumables in sinking @ 10 per cent of (b)				731.00
		Add for dewatering @ of 5 per cent of (a+b), if required				715.01
		c) Overhead charges @ 10 % on (a+b)				1501.52

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		d) Contractor's profit @ 10 % on (a+b+c)				1651.67
						18168.36
		Add 1% labour cess				181.68
		Rate per metre = (a+b+c+d)				18350.05
		Add 12% GST				2202.01
		Rate per m.				20552.05
					<b>say</b>	<b><u>20552.00</u></b>
		Labour Rate				
		Labour				6259.17
		Overhead charges @ 10%				625.92
		Contractors Profit @10%				688.51
						7573.59
		Add 1% labour cess				75.74
		Cost for 1 m				7649.33
		Rate per m				7649.33
		Add 12% GST				917.92
		Rate per m.				8567.25
					<b>say</b>	<b><u>8567.00</u></b>
2.14		Hard Rock ( 8m dia well )				
	D	Unit = Running Meter				
		Taking output = 1 m				
		Depth in hard rock strata upto 3 m				
		Rate of sinking @ 0.17 m/hour				
		a) Material				
		Gelatine 80 per cent	Kg	8.00	98.00	784.00
		Electric Detonators	each	32.00	16.00	512.00
		b) Labour				
		Mate	day	1.09	350.00	381.50
		Driller	day	2.00	350.00	700.00
		Blaster	day	0.25	403.67	100.92
		Mazdoor	day	20.00	350.00	7000.00
		Mazdoor (Skilled)	day	4.00	350.00	1400.00
		c) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.00	1096.00	6576.00
		Hire & running charges of compressor with pneumatic breaker/Jack hammer for drilling.	hour	2.00	488.00	976.00
		Dewatering @ 5 per cent of cost of (b+c), if required.				856.72

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Consumables in sinking @ 10 per cent of cost of (b).				958.24
		d) Overhead charges @ 10 % on (a+b+c)				2024.54
		e) Contractor's profit @ 10 % on (a+b+c+d)				2226.99
						24496.91
		Add 1% labour cess				244.97
		Rate per metre = (a+b+c+d+e)				24741.88
		Add 12% GST				2969.03
		Rate per m.				27710.90
					<b>say</b>	<b><u>27711.00</u></b>
		Labour Rate				
		Labour				3200.26
		Overhead charges @ 10%				320.03
		Contractors Profit @10%				352.03
						3872.31
		Add 1% labour cess				38.72
		Cost for 1 m				3911.04
		Rate per m				3911.04
		Add 12% GST				469.32
		Rate per m.				4380.36
					<b>say</b>	<b><u>4380.00</u></b>
2.15	Section 1200	Sinking of 9 m external diameter well ( other than pneumatic method of sinking ) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.				
		<i>Unit = Running Meter.</i>				
		<i>Taking output = 1 m</i>				
		Diameter of well - 9 m.				
		Sandy Soil				
		A Depth below bed level upto 3.0 M				
		(i) Rate of sinking @ 0.25 m/hour				
		a) Labour				
		Mate	day	0.19	350.00	66.50
		Sinker ( skilled )	day	1.50	350.00	525.00
		Sinking helper ( semi-skilled )	day	3.25	350.00	1137.50
		b) Machinery				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	4.00	1096.00	4384.00
		Consumables in sinking @10 per cent of (b)				438.40
		c) Overhead charges @ 10 % on (a+b)				655.14
		d) Contractor's profit @ 10 % on (a+b+c)				720.65
						7927.19
		Add 1% labour cess				79.27
		Rate per metre = (a+b+c+d)				8006.47
		Add 12% GST				960.78
		Rate per m.				8967.24
					<b>say</b>	<b><u>8967.00</u></b>
		Labour Rate				
		Labour				1729.00
		Overhead charges @ 10%				172.90
		Contractors Profit @10%				190.19
						2092.09
		Add 1% labour cess				20.92
		Cost for 1 m				2113.01
		Rate per m				2113.01
		Add 12% GST				253.56
		Rate per m.				2366.57
					<b>say</b>	<b><u>2367.00</u></b>
2.15 A		Beyond 3m upto 10m depth				
	(ii)	Rate of sinking @ 0.18 m/hour				
		a) Labour				
		Mate	day	0.27	350.00	94.50
		Sinker	day	1.75	350.00	612.50
		Sinking helper ( semi-skilled )	day	4.00	350.00	1400.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.50	1096.00	6028.00
		Consumables in sinking @10 per cent of (b)				602.80
		c) Overhead charges @ 10 % on (a+b)				873.78
		d) Contractor's profit @ 10 % on (a+b+c)				961.16
						10572.74
		Add 1% labour cess				105.73
		Rate per metre = (a+b+c+d)				10678.47
		Add 12% GST				1281.42



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Rate per m.				11959.88
					<b>say</b>	<b><u>11960.00</u></b>
		Labour Rate				
		Labour				702.35
		Overhead charges @ 10%				70.24
		Contractors Profit @10%				77.26
						849.84
		Add 1% labour cess				8.50
		Cost for 1 m				858.34
		Rate per m				858.34
		Add 12% GST				103.00
		Rate per m.				961.34
					<b>say</b>	<b><u>961.00</u></b>
2.15 A		Beyond 10m upto 20m				
	(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
	a	11th m	5%	11212.00		
		12th m	5%	11773.00		
		13th m	5%	12362.00		
		14th m	5%	12980.00		
		15th m	5%	13629.00		
		16th m	5%	14310.00		
		17th m	5%	15026.00		
		18th m	5%	15777.00		
		19th m	5%	16566.00		
		20th m	5%	17394.00		
		Total Cost from 10m upto 20m		141029.00		
		<i>Avg Rate per metre</i>		<u>14103.00</u>		
		Labour Rate				
		Beyond 10m upto 20m				
		Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		11th m	5%	1009.00		
		12th m	5%	1059.00		
		13th m	5%	1112.00		
		14th m	5%	1168.00		
		15th m	5%	1226.00		
		16th m	5%	1287.00		
		17th m	5%	1351.00		
		18th m	5%	1419.00		
		19th m	5%	1490.00		

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			20th m	5%	1565.00		
			Total Cost from 10m upto 20m		12686.00		
			<i>Avg Rate per metre</i>		<u>1269.00</u>		
2.15 A			Beyond 20m upto 30 m				
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
		b	21st m	7.5%	18699.00	22439.00	
			22nd m	7.5%	20101.00	24121.00	
			23rd m	7.5%	21609.00	25931.00	
			24th m	7.5%	23230.00	27876.00	
			25th m	7.5%	24972.00	29966.00	
			26th m	7.5%	26845.00	32214.00	
			27th m	7.5%	28858.00	34630.00	
			28th m	7.5%	31022.00	37226.00	
			29th m	7.5%	33349.00	40019.00	
			30th m	7.5%	35850.00	43020.00	
			Total Cost from 20m upto 30m		264535.00	317442.00	
			<i>Avg Rate per metre</i>		<u>26454.00</u>	<u>31744.00</u>	
			Labour Rate				
			Beyond 20m upto 30 m				
			Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
			21st m	7.5%	1682.00	2018.00	
			22nd m	7.5%	1808.00	2170.00	
			23rd m	7.5%	1944.00	2333.00	
			24th m	7.5%	2090.00	2508.00	
			25th m	7.5%	2247.00	2696.00	
			26th m	7.5%	2416.00	2899.00	
			27th m	7.5%	2597.00	3116.00	
			28th m	7.5%	2792.00	3350.00	

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			29th m	7.5%	3001.00	3601.00	
			30th m	7.5%	3226.00	3871.00	
			Total Cost from 20m upto 30m		23803.00	28562.00	
			<i>Avg Rate per metre</i>		<u>2380.00</u>	<u>2856.00</u>	
2.15 A			Beyond 30m upto 40 m				
		(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 20 per cent of cost for Kentledge including supports, loading arrangement, and Labour etc.			Including 20% for Kentledge	
		b	31st m	10%	39435.00	47322.00	
			32nd	10%	43379.00	52055.00	
			33rd m	10%	47717.00	57260.00	
			34th m	10%	52489.00	62987.00	
			35th m	10%	57738.00	69286.00	
			36th m	10%	63512.00	76214.00	
			37th m	10%	69863.00	83836.00	
			38th m	10%	76849.00	92219.00	
			39th m	10%	84534.00	101441.00	
			40th m	10%	92987.00	111584.00	
			Total Cost from 30m upto 40m		628503.00	754204.00	
			<i>Avg Rate per metre</i>		<u>62850.00</u>	<u>75420.00</u>	
			Labour Rate				
			Beyond 30m upto 40 m				
			Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement, and Labour etc.			Including 20% for Kentledge	
			31st m	10%	3549.00	4259.00	
			32nd	10%	3904.00	4685.00	
			33rd m	10%	4294.00	5153.00	
			34th m	10%	4723.00	5668.00	
			35th m	10%	5195.00	6234.00	

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		36th m	10%	5715.00	6858.00	
		37th m	10%	6287.00	7544.00	
		38th m	10%	6916.00	8299.00	
		39th m	10%	7608.00	9130.00	
		40th m	10%	8369.00	10043.00	
		Total Cost from 30m upto 40m		56560.00	67873.00	
		<i>Avg Rate per metre</i>		<u>5656.00</u>	<u>6787.00</u>	
2.15		Clayey Soil ( 9m dia. Well )				
	B	Unit = Running Meter.				
		Taking output = 1 cum				
		Depth below bed level upto 3.0 M				
	(i)	Rate of sinking 0.17 m / hour				
		a) Labour				
		Mate	day	0.24	350.00	84.00
		Sinker ( skilled )	day	2.25	350.00	787.50
		Sinking helper ( semi-skilled )	day	3.75	350.00	1312.50
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.75	1096.00	6302.00
		Consumables in sinking @ 10 per cent of (b)				630.20
		c) Overhead charges @ 10 % on (a+b)				911.62
		d) Contractor's profit @ 10 % on (a+b+c)				1002.78
						11030.60
		Add 1% labour cess				110.31
		Rate per metre = (a+b+c+d)				11140.91
		Add 12% GST				1336.91
		Rate per m.				12477.82
					<b>say</b>	<b><u>12478.00</u></b>
		Labour Rate				
		Labour				2184.00
		Overhead charges @ 10%				218.40
		Contractors Profit @10%				240.24
						2642.64
		Add 1% labour cess				26.43

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Cost for 1 m				2669.07
		Rate per m				2669.07
		Add 12% GST				320.29
		Rate per m.				2989.36
					<b>say</b>	<b><u>2989.00</u></b>
2.15 B		Beyond 3m upto 10m depth				
	(ii)	Rate of sinking 0.15 m / hour				
		a) Labour				
		Mate	day	0.34	350.00	119.00
		Sinker	day	2.50	350.00	875.00
		Sinking helper ( semi-skilled )	day	5.00	350.00	1750.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.50	1096.00	7124.00
		Air compressor with pneumatic chisel attachment for cutting hard clay.	hour	3.75	488.00	1830.00
		Consumables in sinking @ 10 per cent of (b)				895.40
		c) Overhead charges @ 10 % on (a+b)				1259.34
		d) Contractor's profit @ 10 % on (a+b+c)				1385.27
						15238.01
		Add 1% labour cess				152.38
		Rate per metre = (a+b+c+d)				15390.39
		Add 12% GST				1846.85
		Rate per m.				17237.24
					<b>say</b>	<b><u>17237.00</u></b>
		Labour Rate				
		Labour				2744.00
		Overhead charges @ 10%				274.40
		Contractors Profit @10%				301.84
						3320.24
		Add 1% labour cess				33.20
		Cost for 1 m				3353.44
		Rate per m				3353.44
		Add 12% GST				402.41
		Rate per m.				3755.85
					<b>say</b>	<b><u>3756.00</u></b>
2.15 B		Beyond 10 m upto 20 m				
	(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		a	Add for dewatering @ 5 per cent of cost, if required.			Including for dewatering @ 5% of cost, if required	
		b	11th m	5%	18099.00	19004.00	
			12th m	5%	19004.00	19954.00	
			13th m	5%	19954.00	20952.00	
			14th m	5%	20952.00	22000.00	
			15th m	5%	22000.00	23100.00	
			16th m	5%	23100.00	24255.00	
			17th m	5%	24255.00	25468.00	
			18th m	5%	25468.00	26741.00	
			19th m	5%	26741.00	28078.00	
			20th m	5%	28078.00	29482.00	
			Total Cost from 10m upto 20m		227651.00	239034.00	
			<i>Avg Rate per metre</i>		<u>22765.00</u>	<u>23903.00</u>	
			Labour Rate				
			Beyond 10 m upto 20 m				
			Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add for dewatering @ 5 per cent of cost, if required.			Including for dewatering @ 5% of cost, if required	
			11th m	5%	3944.00	4141.00	
			12th m	5%	4141.00	4348.00	
			13th m	5%	4348.00	4565.00	
			14th m	5%	4565.00	4793.00	
			15th m	5%	4793.00	5033.00	
			16th m	5%	5033.00	5285.00	
			17th m	5%	5285.00	5549.00	
			18th m	5%	5549.00	5826.00	
			19th m	5%	5826.00	6117.00	
			20th m	5%	6117.00	6423.00	
			Total Cost from 10m upto 20m		49601.00	52080.00	
			<i>Avg Rate per metre</i>		<u>4960.00</u>	<u>5208.00</u>	
2.15 B			Beyond 20m upto 30 m				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering on the cost, if required				
		b	Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
		c	21st m	7.5%	30184.00	37730.00	39617.00
			22nd m	7.5%	32448.00	40560.00	42588.00
			23rd m	7.5%	34882.00	43603.00	45783.00
			24th m	7.5%	37498.00	46873.00	49217.00
			25th m	7.5%	40310.00	50388.00	52907.00
			26th m	7.5%	43333.00	54166.00	56874.00
			27th m	7.5%	46583.00	58229.00	61140.00
			28th m	7.5%	50077.00	62596.00	65726.00
			29th m	7.5%	53833.00	67291.00	70656.00
			30th m	7.5%	57870.00	72338.00	75955.00
			Total Cost from 30m upto 40m		427018.00	533774.00	560463.00
			<i>Avg Rate per metre</i>		<u>42702.00</u>	<u>53377.00</u>	<u>56046.00</u>
			Labour Rate				
			Beyond 20m upto 30 m				
			Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 5 per cent of cost for dewatering on the cost, if required				
			Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
			21st m	7.5%	6576.00	8220.00	8631.00
			22nd m	7.5%	7069.00	8836.00	9278.00
			23rd m	7.5%	7599.00	9499.00	9974.00
			24th m	7.5%	8169.00	10211.00	10722.00
			25th m	7.5%	8782.00	10978.00	11527.00
			26th m	7.5%	9441.00	11801.00	12391.00
			27th m	7.5%	10149.00	12686.00	13320.00
			28th m	7.5%	10910.00	13638.00	14320.00
			29th m	7.5%	11728.00	14660.00	15393.00
			30th m	7.5%	12608.00	15760.00	16548.00
			Total Cost from 30m upto 40m		93031.00	116289.00	122104.00

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			<i>Avg Rate per metre</i>		<u>9303.00</u>	<u>11629.00</u>	<u>12210.00</u>
2.15 B			Beyond 30m upto 40 m				
		(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering, if required				
		b	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required
		c	31st m	10%	63657.00	76388.00	80207.00
			32nd	10%	70023.00	84028.00	88229.00
			33rd m	10%	77025.00	92430.00	97052.00
			34th m	10%	84728.00	101674.00	106758.00
			35th m	10%	93201.00	111841.00	117433.00
			36th m	10%	102521.00	123025.00	129176.00
			37th m	10%	112773.00	135328.00	142094.00
			38th m	10%	124050.00	148860.00	156303.00
			39th m	10%	136455.00	163746.00	171933.00
			40th m	10%	150101.00	180121.00	189127.00
			Total Cost from 30m upto 40m		1014534.00	1217441.00	1278312.00
			<i>Avg Rate per metre</i>		<u>101453.00</u>	<u>121744.00</u>	<u>127831.00</u>
			Labour Rate				
			Beyond 30m upto 40 m				
			Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 5 per cent of cost for dewatering, if required				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required
			31st m	10%	13869.00	16643.00	17475.00
			32nd	10%	15256.00	18307.00	19222.00
			33rd m	10%	16782.00	20138.00	21145.00
			34th m	10%	18460.00	22152.00	23260.00
			35th m	10%	20306.00	24367.00	25585.00
			36th m	10%	22337.00	26804.00	28144.00
			37th m	10%	24571.00	29485.00	30959.00
			38th m	10%	27028.00	32434.00	34056.00
			39th m	10%	29731.00	35677.00	37461.00



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		40th m	10%	32704.00	39245.00	41207.00
		Total Cost from 30m upto 40m		221044.00	265252.00	278514.00
		<i>Avg Rate per metre</i>		<u>22104.00</u>	<u>26525.00</u>	<u>27851.00</u>
2.15		Soft Rock ( 9m dia well )				
	C	Unit = Running Meter.				
		Taking output = 1 m				
		Depth in soft rock strata up to 3m				
		Rate of sinking 0.15 m / hour				
		a) Labour				
		Mate	day	0.76	350.00	266.00
		Sinker ( skilled )	day	4.00	350.00	1400.00
		Sinking helper ( semi-skilled )	day	14.00	350.00	4900.00
		Diver	day	1.20	421.17	505.40
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.50	1096.00	7124.00
		Air compressor with pneumatic breakers	hour	4.00	488.00	1952.00
		Consumables in sinking @ 10 per cent of (b)				907.60
		Add for dewatering @ of 5 per cent of (a+b), if required				1705.50
		c) Overhead charges @ 10 % on (a+b)				1876.05
		d) Contractor's profit @ 10 % on (a+b+c)				2063.66
						22700.21
		Add 1% labour cess				227.00
		Rate per metre = (a+b+c+d)				22927.21
		Add 12% GST				2751.26
		Rate per m.				25678.47
					<b>say</b>	<b><u>25678.00</u></b>
		Labour Rate				
		Labour				7071.40
		Overhead charges @ 10%				707.14
		Contractors Profit @10%				777.85
						8556.39
		Add 1% labour cess				85.56
		Cost for 1 m				8641.96
		Rate per m				8641.96

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 12% GST				1037.04
		Rate per m.				9679.00
					<b>say</b>	<b><u>9679.00</u></b>
2.15		Hard Rock ( 9m dia well )				
	D	Unit = Running Meter				
		Taking output = 1 m				
		Depth in hard rock strata upto 3 m				
		Rate of sinking 0.15 m / hour				
		a) Material				
		Gelatine 80 per cent	Kg	10.00	98.00	980.00
		Electric Detonators	each	40.00	16.00	640.00
		b) Labour				
		Mate	day	1.17	350.00	409.50
		Driller	day	2.00	350.00	700.00
		Blaster	day	0.25	403.67	100.92
		Mazdoor	day	22.00	350.00	7700.00
		Mazdoor (Skilled)	day	4.00	350.00	1400.00
		Diver	day	1.00	421.17	421.17
		c) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	7.00	1096.00	7672.00
		Hire & running charges of compressor with pneumatic breaker/Jack hammer for drilling.	hour	2.50	488.00	1220.00
		Dewatering @ 5 per cent of cost of (b+c), if required.				981.18
		Consumables in sinking @ 10 per cent of cost of (b).				1073.16
		d) Overhead charges @ 10 % on (a+b+c)				2329.79
		e) Contractor's profit @ 10 % on (a+b+c+d)				2562.77
						28190.48
		Add 1% labour cess				281.90
		Rate per metre = (a+b+c+d+e)				28472.39
		Add 12% GST				3416.69
		Rate per m.				31889.08
					<b>say</b>	<b><u>31889.00</u></b>
		Labour Rate				
		Labour				10731.58
		Overhead charges @ 10%				1073.16
		Contractors Profit @10%				1180.47
						12985.22

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 1% labour cess				129.85
		Cost for 1 m				13115.07
		Rate per m				13115.07
		Add 12% GST				1573.81
		Rate per m.				14688.88
					<b>say</b>	<b><u>14689.00</u></b>
2.16	1200	Sinking of 10 m external diameter well ( other than pneumatic method of sinking ) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.				
		<i>Unit = Running Meter</i>				
		<i>Taking output = 1 m</i>				
		Diameter of well - 10 m.				
		Sandy Soil				
		A				
		(i)				
		Depth below bed level upto 3.0 M				
		Rate of sinking 0.20 m / hour				
		a) Labour				
		Mate	day	0.20	350.00	70.00
		Sinker ( skilled )	day	1.50	350.00	525.00
		Sinking helper ( semi-skilled )	day	3.50	350.00	1225.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.00	1096.00	5480.00
		Consumables in sinking @10 per cent of (b)				548.00
		c) Overhead charges @ 10 % on (a+b)				784.80
		d) Contractor's profit @ 10 % on (a+b+c)				863.28
						9496.08
		Add 1% labour cess				94.96
		Rate per metre = (a+b+c+d)				9591.04
		Add 12% GST				1150.92
		Rate per m.				10741.97
					<b>say</b>	<b><u>10742.00</u></b>
		Labour Rate				
		Labour				1820.00
		Overhead charges @ 10%				182.00
		Contractors Profit @10%				200.20

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
						2202.20
		Add 1% labour cess				22.02
		Cost for 1 m				2224.22
		Rate per m				2224.22
		Add 12% GST				266.91
		Rate per m.				2491.13
					<b>say</b>	<b><u>2491.00</u></b>
2.16 A		Beyond 3m upto 10m depth				
	(ii)	Rate of sinking 0.17 m / hour				
		a) Labour				
		Mate	day	0.31	350.00	108.50
		Sinker	day	2.00	350.00	700.00
		Sinking helper ( semi-skilled )	day	4.25	350.00	1487.50
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.75	1096.00	6302.00
		Consumables in sinking @10 per cent of (b)				630.20
		c) Overhead charges @ 10 % on (a+b)				922.82
		d) Contractor's profit @ 10 % on (a+b+c)				1015.10
						11166.12
		Add 1% labour cess				111.66
		Rate per metre = (a+b+c+d)				11277.78
		Add 12% GST				1353.33
		Rate per m.				12631.12
					<b>say</b>	<b><u>12631.00</u></b>
		Labour Rate				
		Labour				2296.00
		Overhead charges @ 10%				229.60
		Contractors Profit @10%				252.56
						2778.16
		Add 1% labour cess				27.78
		Cost for 1 m				2805.94
		Rate per m				2805.94
		Add 12% GST				336.71
		Rate per m.				3142.65
					<b>say</b>	<b><u>3143.00</u></b>
2.16 A		Beyond 10m upto 20m				
	(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
	a	11th m	5%	11842.00		

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			12th m	5%	12434.00		
			13th m	5%	13056.00		
			14th m	5%	13709.00		
			15th m	5%	14394.00		
			16th m	5%	15114.00		
			17th m	5%	15870.00		
			18th m	5%	16664.00		
			19th m	5%	17497.00		
			20th m	5%	18372.00		
			Total Cost from 10m upto 20m		148952.00		
			<i>Avg Rate per metre</i>		<u>14895.00</u>		
			Labour Rate				
			Beyond 10m upto 20m				
			Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			11th m	5%	3300.00		
			12th m	5%	3465.00		
			13th m	5%	3638.00		
			14th m	5%	3820.00		
			15th m	5%	4011.00		
			16th m	5%	4212.00		
			17th m	5%	4423.00		
			18th m	5%	4644.00		
			19th m	5%	4876.00		
			20th m	5%	5120.00		
			Total Cost from 10m upto 20m		41509.00		
			<i>Avg Rate per metre</i>		<u>4151.00</u>		
2.16 A			Beyond 20m upto 30 m				
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
		b	21st m	7.5%	19750.00	23700.00	
			22nd m	7.5%	21231.00	25477.00	
			23rd m	7.5%	22823.00	27388.00	
			24th m	7.5%	24535.00	29442.00	
			25th m	7.5%	26375.00	31650.00	

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			26th m	7.5%	28353.00	34024.00	
			27th m	7.5%	30479.00	36575.00	
			28th m	7.5%	32765.00	39318.00	
			29th m	7.5%	35222.00	42266.00	
			30th m	7.5%	37864.00	45437.00	
			Total Cost from 20m upto 30m		279397.00	335277.00	
			<i>Avg Rate per metre</i>		<u>27940.00</u>	<u>33528.00</u>	
			Labour Rate				
			Beyond 20m upto 30 m				
			Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
			21st m	7.5%	5504.00	6605.00	
			22nd m	7.5%	5917.00	7100.00	
			23rd m	7.5%	6361.00	7633.00	
			24th m	7.5%	6838.00	8206.00	
			25th m	7.5%	7351.00	8821.00	
			26th m	7.5%	7902.00	9482.00	
			27th m	7.5%	8495.00	10194.00	
			28th m	7.5%	9132.00	10958.00	
			29th m	7.5%	9817.00	11780.00	
			30th m	7.5%	10553.00	12664.00	
			Total Cost from 20m upto 30m		77870.00	93443.00	
			<i>Avg Rate per metre</i>		<u>7787.00</u>	<u>9344.00</u>	
2.16 A			Beyond 30m upto 40 m				
		(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 20 per cent of cost for Kentledge including supports, loading arrangement, and Labour etc.			Including 20% for Kentledge	
		b	31st m	10%	41650.00	49980.00	
			32nd	10%	45815.00	54978.00	
			33rd m	10%	50397.00	60476.00	
			34th m	10%	55437.00	66524.00	
			35th m	10%	60981.00	73177.00	
			36th m	10%	67079.00	80495.00	
			37th m	10%	73787.00	88544.00	

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		38th m	10%	81166.00	97399.00	
		39th m	10%	89283.00	107140.00	
		40th m	10%	98211.00	117853.00	
		Total Cost from 30m upto 40m		663806.00	796566.00	
		<i>Avg Rate per metre</i>		<u>66381.00</u>	<u>79657.00</u>	
		Labour Rate				
		Beyond 30m upto 40 m				
		Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		Add 20 per cent of cost for Kentledge including supports, loading arrangement, and Labour etc.			Including 20% for Kentledge	
		31st m	10%	11608.00	13930.00	
		32nd	10%	12769.00	15323.00	
		33rd m	10%	14046.00	16855.00	
		34th m	10%	15451.00	18541.00	
		35th m	10%	16996.00	20395.00	
		36th m	10%	18696.00	22435.00	
		37th m	10%	20566.00	24679.00	
		38th m	10%	22623.00	27148.00	
		39th m	10%	24885.00	29862.00	
		40th m	10%	27374.00	32849.00	
		Total Cost from 30m upto 40m		185014.00	222017.00	
		<i>Avg Rate per metre</i>		<u>18501.00</u>	<u>22202.00</u>	
2.16		Clayey Soil (10m dia. Well )				
	B	<i>Unit = Running Meter</i>				
		<i>Taking output = 1 cum</i>				
		Depth below bed level upto 3.0 M				
	(i)	Rate of sinking 0.18m/hour.				
		a) Labour				
		Mate	day	0.25	350.00	87.50
		Sinker ( skilled )	day	2.50	350.00	875.00
		Sinking helper ( semi-skilled )	day	5.50	350.00	1925.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.00	1096.00	6576.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Consumables in sinking @ 10 per cent of (b)				657.60
		c) Overhead charges @ 10 % on (a+b)				1012.11
		d) Contractor's profit @ 10 % on (a+b+c)				1113.32
						12246.53
		Add 1% labour cess				122.47
		Rate per metre = (a+b+c+d)				12369.00
		Add 12% GST				1484.28
		Rate per m.				13853.28
					<b>say</b>	<b><u>13853.00</u></b>
		Labour Rate				
		Labour				2887.50
		Overhead charges @ 10%				288.75
		Contractors Profit @10%				317.63
						3493.88
		Add 1% labour cess				34.94
		Cost for 1 m				3528.81
		Rate per m				3528.81
		Add 12% GST				423.46
		Rate per m.				3952.27
					<b>say</b>	<b><u>3952.00</u></b>
2.16 B		Beyond 3m upto 10m depth				
	(ii)	Rate of sinking 0.15m/hour.				
		a) Labour				
		Mate	day	0.40	350.00	140.00
		Sinker	day	3.00	350.00	1050.00
		Sinking helper ( semi-skilled )	day	5.50	350.00	1925.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.00	1096.00	6576.00
		Air compressor with pneumatic chisel attachment for cutting hard clay	hour	4.00	488.00	1952.00
		Consumables in sinking @ 10 per cent of (b)				852.80
		c) Overhead charges @ 10 % on (a+b)				1249.58
		d) Contractor's profit @ 10 % on (a+b+c)				1374.54
						15119.92
		Add 1% labour cess				151.20
		Rate per metre = (a+b+c+d)				15271.12
		Add 12% GST				1832.53



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Rate per m.				17103.65
					<b>say</b>	<b><u>17104.00</u></b>
		Labour Rate				
		Labour				3115.00
		Overhead charges @ 10%				311.50
		Contractors Profit @10%				342.65
						3769.15
		Add 1% labour cess				37.69
		Cost for 1 m				3806.84
		Rate per m				3806.84
		Add 12% GST				456.82
		Rate per m.				4263.66
					<b>say</b>	<b><u>4264.00</u></b>
2.16 B		Beyond 10 m upto 20 m				
	(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
	a	Add for dewatering @ 5 per cent of cost, if required.				Including for dewatering @ 5% of cost, if required
	b	11th m	5%	16035.00	16837.00	
		12th m	5%	16837.00	17679.00	
		13th m	5%	17679.00	18563.00	
		14th m	5%	18563.00	19491.00	
		15th m	5%	19491.00	20466.00	
		16th m	5%	20466.00	21489.00	
		17th m	5%	21489.00	22563.00	
		18th m	5%	22563.00	23691.00	
		19th m	5%	23691.00	24876.00	
		20th m	5%	24876.00	26120.00	
		Total Cost from 10m upto 20m		201690.00	211775.00	
		<i>Avg Rate per metre</i>		<u>20169.00</u>	<u>21178.00</u>	
		Labour Rate				
		Beyond 10 m upto 20 m				
		Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		Add for dewatering @ 5 per cent of cost, if required.				Including for dewatering @ 5% of cost, if required
		11th m	5%	4477.00	4701.00	
		12th m	5%	4701.00	4936.00	

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			13th m	5%	4936.00	5183.00	
			14th m	5%	5183.00	5442.00	
			15th m	5%	5442.00	5714.00	
			16th m	5%	5714.00	6000.00	
			17th m	5%	6000.00	6300.00	
			18th m	5%	6300.00	6615.00	
			19th m	5%	6615.00	6946.00	
			20th m	5%	6946.00	7293.00	
			Total Cost from 10m upto 20m		56314.00	59130.00	
			<i>Avg Rate per metre</i>		<u>5631.00</u>	<u>5913.00</u>	
2.16 B			Beyond 20m upto 30 m				
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering on the cost, if required				
		b	Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
		c	21st m	7.5%	26742.00	33428.00	35099.00
			22nd m	7.5%	28748.00	35935.00	37732.00
			23rd m	7.5%	30904.00	38630.00	40562.00
			24th m	7.5%	33222.00	41528.00	43604.00
			25th m	7.5%	35714.00	44643.00	46875.00
			26th m	7.5%	38393.00	47991.00	50391.00
			27th m	7.5%	41272.00	51590.00	54170.00
			28th m	7.5%	44367.00	55459.00	58232.00
			29th m	7.5%	47695.00	59619.00	62600.00
			30th m	7.5%	51272.00	64090.00	67295.00
			Total Cost from 30m upto 40m		378329.00	472913.00	496560.00
			<i>Avg Rate per metre</i>		<u>37833.00</u>	<u>47291.00</u>	<u>49656.00</u>
			Labour Rate				
			Beyond 20m upto 30 m				
			Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 5 per cent of cost for dewatering on the cost, if required				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
			21st m	7.5%	7467.00	9334.00	9801.00
			22nd m	7.5%	8027.00	10034.00	10536.00
			23rd m	7.5%	8629.00	10786.00	11325.00
			24th m	7.5%	9276.00	11595.00	12175.00
			25th m	7.5%	9972.00	12465.00	13088.00
			26th m	7.5%	10720.00	13400.00	14070.00
			27th m	7.5%	11524.00	14405.00	15125.00
			28th m	7.5%	12388.00	15485.00	16259.00
			29th m	7.5%	13317.00	16646.00	17478.00
			30th m	7.5%	14316.00	17895.00	18790.00
			Total Cost from 30m upto 40m		105636.00	132045.00	138647.00
			<i>Avg Rate per metre</i>		<u>10564.00</u>	<u>13205.00</u>	<u>13865.00</u>
2.16 B			Beyond 30m upto 40 m				
		(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering, if required				
		b	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required
		c	31st m	10%	56399.00	67679.00	71063.00
			32nd	10%	62039.00	74447.00	78169.00
			33rd m	10%	68243.00	81892.00	85986.60
			34th m	10%	75067.00	90080.00	94584.00
			35th m	10%	82574.00	99089.00	104043.45
			36th m	10%	90831.00	108997.00	114446.85
			37th m	10%	99914.00	119897.00	125891.85
			38th m	10%	109905.00	131886.00	138480.30
			39th m	10%	120896.00	145075.00	152328.75
			40th m	10%	132986.00	159583.00	167562.15
			Total Cost from 30m upto 40m		898854.00	1078625.00	1132555.95
			<i>Avg Rate per metre</i>		<u>89885.00</u>	<u>107863.00</u>	<u>113256.00</u>
			Labour Rate				
			Beyond 30m upto 40 m				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		Add 5 per cent of cost for dewatering, if required				
		Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required
		31st m	10%	15748.00	18898.00	19843.00
		32nd	10%	17323.00	20788.00	21827.00
		33rd m	10%	19055.00	22866.00	24009.30
		34th m	10%	20961.00	25153.00	26410.65
		35th m	10%	23057.00	27668.00	29051.40
		36th m	10%	25363.00	30436.00	31957.80
		37th m	10%	27899.00	33479.00	35152.95
		38th m	10%	30689.00	36827.00	38668.35
		39th m	10%	33758.00	40510.00	42535.50
		40th m	10%	37134.00	44561.00	46789.05
		Total Cost from 30m upto 40m		250987.00	301186.00	316245.00
		<i>Avg Rate per metre</i>		<u>25099.00</u>	<u>30119.00</u>	<u>31625.00</u>
2.16		Soft Rock (10m dia well )				
	C	Unit = Running Meter.				
		Taking output = 1 m				
		Depth in soft rock strata upto 3m				
		Rate of sinking 0.14m/hour.				
		a) Labour				
		Mate	day	0.86	350.00	301.00
		Sinker ( skilled )	day	4.00	350.00	1400.00
		Sinking helper ( semi-skilled )	day	16.00	350.00	5600.00
		Diver	day	1.40	421.17	589.63
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	7.00	1096.00	7672.00
		Air compressor with pneumatic breakers	hour	4.25	488.00	2074.00
		Consumables in sinking @ 10 per cent of (b)				974.60
		Add for dewatering @ 5 per cent of cost, if required				536.03
		c) Overhead charges @ 10 % on (a+b)				1914.73

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		d) Contractor's profit @ 10 % on (a+b+c)				2106.20
						23168.19
		Add 1% labour cess				231.68
		Rate per metre = (a+b+c+d)				23399.87
		Add 12% GST				2807.98
		Rate per m.				26207.85
					<b>say</b>	<b><u>26208.00</u></b>
		Labour Rate				
		Labour				7890.63
		Overhead charges @ 10%				789.06
		Contractors Profit @10%				867.97
						9547.67
		Add 1% labour cess				95.48
		Cost for 1 m				9643.14
		Rate per m				9643.14
		Add 12% GST				1157.18
		Rate per m.				10800.32
					<b>say</b>	<b><u>10800.00</u></b>
2.16		Hard Rock (10m dia well )				
	D	Unit = Running Meter.				
		Taking output = 1 m				
		Depth in hard rock strata upto 3 m				
		Rate of sinking 0.12 m/ hour.				
		a) Material				
		Gelatine 80 per cent	Kg	11.00	98.00	1078.00
		Electric Detonators	each.	44.00	16.00	704.00
		b) Labour				
		Mate	day	1.27	350.00	444.50
		Driller	day	2.00	350.00	700.00
		Blaster	day	0.25	403.67	100.92
		Mazdoor	day	24.00	350.00	8400.00
		Mazdoor (Skilled)	day	4.00	350.00	1400.00
		c) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	8.50	1096.00	9316.00
		Hire & running charges of compressor with pneumatic breaker/Jack hammer or drill	hour	3.00	488.00	1464.00
		Dewatering @ 5 per cent of cost (c), if required.				539.00
		Consumables in sinking @ 10 per cent of cost of (b+c).				2236.44

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		d) Overhead charges @ 10 % on (a+b+c)				2638.29
		e) Contractor's profit @ 10 % on (a+b+c+d)				2902.11
						31923.26
		Add 1% labour cess				319.23
		Rate per metre = (a+b+c+d+e)				32242.49
		Add 12% GST				3869.10
		Rate per m.				36111.59
					<b>say</b>	<b><u>36112.00</u></b>
		Labour Rate				
		Labour				11045.42
		Overhead charges @ 10%				1104.54
		Contractors Profit @10%				1215.00
						13364.95
		Add 1% labour cess				133.65
		Cost for 1 m				13498.60
		Rate per m				13498.60
		Add 12% GST				1619.83
		Rate per m.				15118.43
					<b>say</b>	<b><u>15118.00</u></b>
2.17	1200	Sinking of 11 m external diameter well ( other than pneumatic method of sinking ) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.				
		<i>Unit = Running Meter</i>				
		<i>Taking output = 0.50 m</i>				
		Diameter of well - 11 m.				
		Sandy Soil				
	A	Depth from bed level upto 3.0 M				
	(i)	Rate of sinking @ 0.15 m/hour				
		a) Labour				
		Mate	day	0.21	350.00	73.50
		Sinker ( skilled )	day	1.50	350.00	525.00
		Sinking helper (semi-skilled)	day	3.30	350.00	1155.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.00	1096.00	6576.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Consumables in sinking @10 per cent of (b)				657.60
		d) Overhead charges @ 10 % on (a+b+c)				898.71
		e) Contractor's profit @ 10 % on (a+b+c+d)				988.58
						10874.39
		Add 1% labour cess				108.74
		Cost for 0.5m = a+b+c+d				10983.13
		Rate per metre = (a+b+c+d)/0.50				21966.27
		Add 12% GST				2635.95
		Rate per m.				24602.22
					<b>say</b>	<b><u>24602.00</u></b>
		Labour Rate				
		Labour				1753.50
		Overhead charges @ 10%				175.35
		Contractors Profit @10%				192.89
						2121.74
		Add 1% labour cess				21.22
		Cost for 1 m				2142.95
		Rate per m				2142.95
		Add 12% GST				257.15
		Rate per m.				2400.10
					<b>say</b>	<b><u>2400.00</u></b>
2.17 A		Beyond 3m upto 10m depth				
	(ii)	Rate of sinking @ 0.13 m/hour				
		a) Labour				
		Mate	day	0.32	350.00	112.00
		Sinker	day	2.00	350.00	700.00
		Sinking helper (semi-skilled)	day	4.50	350.00	1575.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	4.00	1096.00	4384.00
		Consumables in sinking @10 per cent of (b)				438.40
		c) Overhead charges @ 10 % on (a+b+c)				720.94
		d) Contractor's profit @ 10 % on (a+b+c+d)				793.03
						8723.37
		Add 1% labour cess				87.23
		Cost for 0.5m = a+b+c+d				8810.61
		Rate per metre = (a+b+c+d)/0.50				17621.22
		Add 12% GST				2114.55

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Rate per m.				19735.76
						<b>say</b>	<b><u>19736.00</u></b>
			Labour Rate				
			Labour				2387.00
			Overhead charges @ 10%				238.70
			Contractors Profit @10%				262.57
							2888.27
			Add 1% labour cess				28.88
			Cost for 1 m				2917.15
			Rate per m				2917.15
			Add 12% GST				350.06
			Rate per m.				3267.21
						<b>say</b>	<b><u>3267.00</u></b>
2.17 A			Beyond 10m upto 20m				
		(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	11th m	5%	18502.00		
			12th m	5%	19427.00		
			13th m	5%	20398.00		
			14th m	5%	21418.00		
			15th m	5%	22489.00		
			16th m	5%	23613.00		
			17th m	5%	24794.00		
			18th m	5%	26034.00		
			19th m	5%	27336.00		
			20th m	5%	28703.00		
			Total Cost from 10m upto 20m		232714.00		
			<i>Avg Rate per metre</i>		<u>23271.00</u>		
			Labour Rate				
			Beyond 10m upto 20m				
			Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			11th m	5%	3430.00		
			12th m	5%	3602.00		
			13th m	5%	3782.00		
			14th m	5%	3971.00		
			15th m	5%	4170.00		
			16th m	5%	4379.00		
			17th m	5%	4598.00		



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			18th m	5%	4828.00		
			19th m	5%	5069.00		
			20th m	5%	5322.00		
			Total Cost from 10m upto 20m		43151.00		
			<i>Avg Rate per metre</i>		<u>4315.00</u>		
2.17 A			Beyond 20m upto 30 m				
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
		b	21st m	7.5%	30856.00	37027.00	
			22nd m	7.5%	33170.00	39804.00	
			23rd m	7.5%	35658.00	42790.00	
			24th m	7.5%	38332.00	45998.00	
			25th m	7.5%	41207.00	49448.00	
			26th m	7.5%	44298.00	53158.00	
			27th m	7.5%	47620.00	57144.00	
			28th m	7.5%	51192.00	61430.00	
			29th m	7.5%	55031.00	66037.00	
			30th m	7.5%	59158.00	70990.00	
			Total Cost from 20m upto 30m		436522.00	523826.00	
			<i>Avg Rate per metre</i>		<u>43652.00</u>	<u>52383.00</u>	
			Labour Rate				
			Beyond 20m upto 30 m				
			Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
			21st m	7.5%	5721.00	6865.00	
			22nd m	7.5%	6150.00	7380.00	
			23rd m	7.5%	6611.00	7933.00	
			24th m	7.5%	7107.00	8528.00	
			25th m	7.5%	7640.00	9168.00	
			26th m	7.5%	8213.00	9856.00	

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			27th m	7.5%	8829.00	10595.00	
			28th m	7.5%	9491.00	11389.00	
			29th m	7.5%	10203.00	12244.00	
			30th m	7.5%	10968.00	13162.00	
			Total Cost from 20m upto 30m		80933.00	97120.00	
			<i>Avg Rate per metre</i>		<u>8093.00</u>	<u>9712.00</u>	
2.17 A			Beyond 30m upto 40 m				
		(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 20 per cent of cost for Kentledge including supports, loading arrangement, and Labour etc.			Including 20% for Kentledge	
		b	31st m	10%	65074.00	78089.00	
			32nd	10%	71581.00	85897.00	
			33rd m	10%	78739.00	94487.00	
			34th m	10%	86613.00	103936.00	
			35th m	10%	95274.00	114329.00	
			36th m	10%	104801.00	125761.00	
			37th m	10%	115281.00	138337.00	
			38th m	10%	126809.00	152171.00	
			39th m	10%	139490.00	167388.00	
			40th m	10%	153439.00	184127.00	
			Total Cost from 30m upto 40m		1037101.00	1244522.00	
			<i>Avg Rate per metre</i>		<u>103710.00</u>	<u>124452.00</u>	
			Labour Rate				
			Beyond 30m upto 40 m				
			Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement, and Labour etc.			Including 20% for Kentledge	
			31st m	10%	12065.00	14478.00	
			32nd	10%	13272.00	15926.00	
			33rd m	10%	14599.00	17519.00	
			34th m	10%	16059.00	19271.00	
			35th m	10%	17665.00	21198.00	

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		36th m	10%	19432.00	23318.00	
		37th m	10%	21375.00	25650.00	
		38th m	10%	23513.00	28216.00	
		39th m	10%	25864.00	31037.00	
		40th m	10%	28450.00	34140.00	
		Total Cost from 30m upto 40m		192294.00	230753.00	
		<i>Avg Rate per metre</i>		<u>19229.00</u>	<u>23075.00</u>	
2.17		Clayey Soil (11 m dia. Well )				
	B	Unit = Running Meter				
		Taking output = 0.50 meter				
		Depth from bed level upto 3.0 M				
	(i)	Rate of sinking @ 0.10 m/hour				
		a) Labour				
		Mate	day	0.26	350.00	91.00
		Sinker ( skilled )	day	2.50	350.00	875.00
		Sinking helper (semi-skilled)	day	4.00	350.00	1400.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.00	1096.00	5480.00
		Consumables in sinking @ 10 per cent of (b)				548.00
		c) Overhead charges @ 10 % on (a+b)				839.40
		d) Contractor's profit @ 10 % on (a+b+c)				923.34
						10156.74
		Add 1% labour cess				101.57
		Cost for 0.5m = a+b+c+d				10258.31
		Rate per metre = (a+b+c+d)/0.50				20516.61
		Add 12% GST				2461.99
		Rate per m.				22978.61
					<b>say</b>	<b><u>22979.00</u></b>
		Labour Rate				
		Labour				2366.00
		Overhead charges @ 10%				236.60
		Contractors Profit @10%				260.26
						2862.86
		Add 1% labour cess				28.63

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Cost for 1 m				2891.49
		Rate per m				2891.49
		Add 12% GST				346.98
		Rate per m.				3238.47
					<b>say</b>	<b><u>3238.00</u></b>
2.17 B		Beyond 3m upto 10m depth				
	(ii)	Rate of sinking @ 0.08 m/hour				
		a) Labour				
		Mate	day	0.43	350.00	150.50
		Sinker	day	3.50	350.00	1225.00
		Sinking helper (semi-skilled)	day	5.75	350.00	2012.50
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.00	1096.00	6576.00
		Air compressor with pneumatic chisel attachment for cutting hard clay	hour	4.25	488.00	2074.00
		Consumables in sinking @ 10 per cent of (b)				865.00
		c) Overhead charges @ 10 % on (a+b)				1290.30
		d) Contractor's profit @ 10 % on (a+b+c)				1419.33
						15612.63
		Add 1% labour cess				156.13
		Cost for 0.5m = a+b+c+d				15768.76
		Rate per metre = (a+b+c+d)/0.50				31537.51
		Add 12% GST				3784.50
		Rate per m.				35322.01
					<b>say</b>	<b><u>35322.00</u></b>
		Labour Rate				
		Labour				3388.00
		Overhead charges @ 10%				338.80
		Contractors Profit @10%				372.68
						4099.48
		Add 1% labour cess				40.99
		Cost for 1 m				4140.47
		Rate per m				4140.47
		Add 12% GST				496.86
		Rate per m.				4637.33
					<b>say</b>	<b><u>4637.00</u></b>
2.17 B		Beyond 10 m upto 20 m				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add for dewatering @ 5 per cent of cost, if required.			Including for dewatering @ 5% of cost, if required	
		b	11th m	5%	33114.00	34770.00	
			12th m	5%	34770.00	36509.00	
			13th m	5%	36509.00	38334.00	
			14th m	5%	38334.00	40251.00	
			15th m	5%	40251.00	42264.00	
			16th m	5%	42264.00	44377.00	
			17th m	5%	44377.00	46596.00	
			18th m	5%	46596.00	48926.00	
			19th m	5%	48926.00	51372.00	
			20th m	5%	51372.00	53941.00	
			Total Cost from 10m upto 20m		416513.00	437339.00	
			<i>Avg Rate per metre</i>		<u>41651.00</u>	<u>43734.00</u>	
			Labour Rate				
			Beyond 10 m upto 20 m				
			Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add for dewatering @ 5 per cent of cost, if required.			Including for dewatering @ 5% of cost, if required	
			11th m	5%	4869.00	5112.00	
			12th m	5%	5112.00	5368.00	
			13th m	5%	5368.00	5636.00	
			14th m	5%	5636.00	5918.00	
			15th m	5%	5918.00	6214.00	
			16th m	5%	6214.00	6525.00	
			17th m	5%	6525.00	6851.00	
			18th m	5%	6851.00	7194.00	
			19th m	5%	7194.00	7554.00	
			20th m	5%	7554.00	7932.00	
			Total Cost from 10m upto 20m		61241.00	64303.00	
			<i>Avg Rate per metre</i>		<u>6124.00</u>	<u>6430.00</u>	

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
2.17 B			Beyond 20m upto 30 m				
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering on the cost, if required				
		b	Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
		c	21st m	7.5%	55225.00	69031.00	72483.00
			22nd m	7.5%	59367.00	74209.00	77919.00
			23rd m	7.5%	63820.00	79775.00	83764.00
			24th m	7.5%	68607.00	85759.00	90047.00
			25th m	7.5%	73753.00	92191.00	96801.00
			26th m	7.5%	79284.00	99105.00	104060.00
			27th m	7.5%	85230.00	106538.00	111865.00
			28th m	7.5%	91622.00	114528.00	120254.00
			29th m	7.5%	98494.00	123118.00	129274.00
			30th m	7.5%	105881.00	132351.00	138969.00
			Total Cost from 30m upto 40m		781283.00	976605.00	1025435.00
			<i>Avg Rate per metre</i>		<u>78128.00</u>	<u>97661.00</u>	<u>102544.00</u>
			Labour Rate				
			Beyond 20m upto 30 m				
			Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 5 per cent of cost for dewatering on the cost, if required				
			Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
			21st m	7.5%	8121.00	10151.00	10659.00
			22nd m	7.5%	8730.00	10913.00	11459.00
			23rd m	7.5%	9385.00	11731.00	12318.00
			24th m	7.5%	10089.00	12611.00	13242.00
			25th m	7.5%	10846.00	13558.00	14236.00
			26th m	7.5%	11659.00	14574.00	15303.00
			27th m	7.5%	12533.00	15666.00	16449.00
			28th m	7.5%	13473.00	16841.00	17683.00
			29th m	7.5%	14483.00	18104.00	19009.00

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			30th m	7.5%	15569.00	19461.00	20434.00
			Total Cost from 30m upto 40m		114888.00	143610.00	150791.00
			<i>Avg Rate per metre</i>		<u>11489.00</u>	<u>14361.00</u>	<u>15079.00</u>
2.17 B			Beyond 30m upto 40 m				
		(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering, if required				
		b	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required
		c	31st m	10%	116469.00	139763.00	146751.00
			32nd	10%	128116.00	153739.00	161426.00
			33rd m	10%	140928.00	169114.00	177570.00
			34th m	10%	155021.00	186025.00	195326.00
			35th m	10%	170523.00	204628.00	214859.00
			36th m	10%	187575.00	225090.00	236345.00
			37th m	10%	206333.00	247600.00	259980.00
			38th m	10%	226966.00	272359.00	285977.00
			39th m	10%	249663.00	299596.00	314576.00
			40th m	10%	274629.00	329555.00	346033.00
			Total Cost from 30m upto 40m		1856223	2227469	2338843
			<i>Avg Rate per metre</i>		<u>185622</u>	<u>222747.00</u>	<u>233884.00</u>
			Labour Rate				
			Beyond 30m upto 40 m				
			Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 5 per cent of cost for dewatering, if required				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required
			31st m	10%	17126.00	20551.00	21579.00
			32nd	10%	18839.00	22607.00	23737.00
			33rd m	10%	20723.00	24868.00	26111.00
			34th m	10%	22795.00	27354.00	28722.00
			35th m	10%	25075.00	30090.00	31595.00
			36th m	10%	27583.00	33100.00	34755.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		37th m	10%	30341.00	36409.00	38229.00
		38th m	10%	33375.00	40050.00	42053.00
		39th m	10%	36713.00	44056.00	46259.00
		40th m	10%	40384.00	48461.00	50884.00
		Total Cost from 30m upto 40m		272954	327546	343924
		<i>Avg Rate per metre</i>		<u>27295.00</u>	<u>32755.00</u>	<u>34392.00</u>
2.17		Soft Rock (11m dia well )				
	C	Unit = Running Meter.				
		Taking output = 0.50 m				
		Depth in soft rock strata upto 3m				
		Rate of sinking @ 0.06 m/hour				
		a) Labour				
		Mate	day	0.95	350.00	332.50
		Sinker ( skilled )	day	4.25	350.00	1487.50
		Sinking helper (semi-skilled)	day	18.00	350.00	6300.00
		Diver	day	1.50	421.17	631.75
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	8.00	1096.00	8768.00
		Air compressor with pneumatic breakers	hour	4.50	488.00	2196.00
		Consumables in sinking @ 10 per cent of (b)				1096.40
		Add for dewatering @ 5 per cent of cost, if required				603.02
		c) Overhead charges @ 10 % on (a+b)				2141.52
		d) Contractor's profit @ 10 % on (a+b+c)				2355.67
						25912.36
		Add 1% labour cess				259.12
		Cost for 0.5m = a+b+c+d				26171.48
		Rate per metre = (a+b+c+d)/0.50				52342.96
		Add 12% GST				6281.16
		Rate per m.				58624.11
					<b>say</b>	<b><u>58624.00</u></b>
		Labour Rate				
		Labour				8751.75
		Overhead charges @ 10%				875.18
		Contractors Profit @10%				962.69
						10589.62



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 1% labour cess				105.90
		Cost for 1 m				10695.51
		Rate per m				10695.51
		Add 12% GST				1283.46
		Rate per m.				11978.97
					<b>say</b>	<b><u>11979.00</u></b>
2.17		Hard Rock (11m dia well )				
	D	Unit = Running Meter.				
		Taking output = 0.50 m				
		Depth in hard rock upto 3 m				
		Rate of sinking @ 0.05 m/hour				
		a) Material				
		Gelatine 80 per cent	Kg	12.00	98.00	1176.00
		Electric Detonators	each.	48.00	16.00	768.00
		b) Labour				
		Mate	day	1.35	350.00	472.50
		Driller	day	2.00	350.00	700.00
		Blaster	day	0.25	403.67	100.92
		Mazdoor	day	26.00	350.00	9100.00
		Mazdoor (Skilled)	day	4.00	350.00	1400.00
		c) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	10.00	1096.00	10960.00
		Hire & running charges of compressor with pneumatic breaker/Jack hammer or drill	hour	3.50	488.00	1708.00
		Dewatering @ 5 per cent of cost (c), if required.				633.40
		Consumables in sinking @ 10 per cent of cost of (b+c).				2444.14
		d) Overhead charges @ 10 % on (a+b+c)				2946.30
		e) Contractor's profit @ 10 % on (a+b+c+d)				3240.93
						35650.18
		Add 1% labour cess				356.50
		Cost for 0.5m = a+b+c+d				36006.68
		Rate per metre = (a+b+c+d)/0.50				72013.36
		Add 12% GST				8641.60
		Rate per m.				80654.97
					<b>say</b>	<b><u>80655.00</u></b>
		Labour Rate				
		Labour				11773.42

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Overhead charges @ 10%				1177.34
			Contractors Profit @10%				1295.08
							14245.83
			Add 1% labour cess				142.46
			Cost for 1 m				14388.29
			Rate per m				14388.29
			Add 12% GST				1726.59
			Rate per m.				16114.88
						<b>say</b>	<b><u>16115.00</u></b>
2.18	1200		Sinking of 12 m external diameter well ( other than pneumatic method of sinking ) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.				
			<i>Unit = Running Meter</i>				
			<i>Taking output = 0.25 m</i>				
			Diameter of well - 12 m.				
			Sandy Soil				
		A	l) Depth below bed level upto 3.0 M				
		(i)	Rate of sinking @ 0.05 m/hour				
			a) Labour				
			Mate	day	0.22	350.00	77.00
			Sinker ( skilled )	day	1.75	350.00	612.50
			Sinking helper (semi-skilled)	day	4.00	350.00	1400.00
			b) Machinery				
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.00	1096.00	6576.00
			Consumables in sinking @10 per cent of (b)				657.60
			c) Overhead charges @ 10 % on (a+b)				932.31
			d) Contractor's profit @ 10 % on (a+b+c)				1025.54
							11280.95
			Add 1% labour cess				112.81
			Cost for 0.25m = a+b+c+d				11393.76
			Rate per metre = (a+b+c+d)/0.25				45575.04
			Add 12% GST				5469.01

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Rate per m.				51044.05
					<b>say</b>	<b><u>51044.00</u></b>
		Labour Rate				
		Labour				2089.50
		Overhead charges @ 10%				208.95
		Contractors Profit @10%				229.85
						2528.30
		Add 1% labour cess				25.28
		Cost for 1 m				2553.58
		Rate per m				2553.58
		Add 12% GST				306.43
		Rate per m.				2860.01
					<b>say</b>	<b><u>2860.00</u></b>
2.18 A		Beyond 3m upto 10m depth				
	(ii)	Rate of sinking @ 0.038 m/hour				
		a) Labour				
		Mate	day	0.37	350.00	129.50
		Sinker	day	2.50	350.00	875.00
		Sinking helper (semi-skilled)	day	4.75	350.00	1662.50
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.50	1096.00	7124.00
		Consumables in sinking @10 per cent of (b)				712.40
		c) Overhead charges @ 10 % on (a+b)				1050.34
		d) Contractor's profit @ 10 % on (a+b+c)				1155.37
						12709.11
		Add 1% labour cess				127.09
		Cost for 0.25m = a+b+c+d				12836.21
		Rate per metre = (a+b+c+d)/0.25				51344.82
		Add 12% GST				6161.38
		Rate per m.				57506.20
					<b>say</b>	<b><u>57506.00</u></b>
		Labour Rate				
		Labour				2667.00
		Overhead charges @ 10%				266.70
		Contractors Profit @10%				293.37
						3227.07
		Add 1% labour cess				32.27
		Cost for 1 m				3259.34
		Rate per m				3259.34

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 12% GST				391.12
			Rate per m.				3650.46
						<b>say</b>	<b><u>3650.00</u></b>
2.18 A			Beyond 10m upto 20m				
		(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	11th m	5%	60381.00		
			12th m	5%	63400.00		
			13th m	5%	66570.00		
			14th m	5%	69898.50		
			15th m	5%	73393.43		
			16th m	5%	77063.10		
			17th m	5%	80916.25		
			18th m	5%	84962.06		
			19th m	5%	89210.17		
			20th m	5%	93670.68		
			Total Cost from 10m upto 20m		759465.18		
			<i>Avg Rate per metre</i>		<u>75947.00</u>		
			Labour Rate				
			Beyond 10m upto 20m				
			Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			11th m	5%	3833.00		
			12th m	5%	4025.00		
			13th m	5%	4226.25		
			14th m	5%	4437.56		
			15th m	5%	4659.44		
			16th m	5%	4892.41		
			17th m	5%	5137.03		
			18th m	5%	5393.88		
			19th m	5%	5663.58		
			20th m	5%	5946.76		
			Total Cost from 10m upto 20m		48214.92		
			<i>Avg Rate per metre</i>		<u>4821.00</u>		
2.18 A			Beyond 20m upto 30 m				
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		a	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
		b	21st m	7.5%	100696.00	120835.00	
			22nd m	7.5%	108248.00	129898.00	
			23rd m	7.5%	116367.00	139640.00	
			24th m	7.5%	125095.00	150114.00	
			25th m	7.5%	134477.00	161372.00	
			26th m	7.5%	144563.00	173476.00	
			27th m	7.5%	155405.00	186486.00	
			28th m	7.5%	167060.00	200472.00	
			29th m	7.5%	179590.00	215508.00	
			30th m	7.5%	193059.00	231671.00	
			Total Cost from 20m upto 30m		1424560.00	1709472.00	
			<i>Avg Rate per metre</i>		<u>142456.00</u>	<u>170947.00</u>	
			Labour Rate				
			Beyond 20m upto 30 m				
			Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
			21st m	7.5%	6393.00	7672.00	
			22nd m	7.5%	6872.00	8246.00	
			23rd m	7.5%	7387.00	8864.00	
			24th m	7.5%	7941.00	9529.00	
			25th m	7.5%	8537.00	10244.00	
			26th m	7.5%	9177.00	11012.00	
			27th m	7.5%	9865.00	11838.00	
			28th m	7.5%	10605.00	12726.00	
			29th m	7.5%	11400.00	13680.00	
			30th m	7.5%	12255.00	14706.00	
			Total Cost from 20m upto 30m		90432.00	108517.00	
			<i>Avg Rate per metre</i>		<u>9043.00</u>	<u>10852.00</u>	
2.18 A			Beyond 30m upto 40 m				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 20 per cent of cost for Kentledge including supports, loading arrangement, and Labour etc.			Including 20% for Kentledge	
		b	31st m	10%	212365.00	254838.00	
			32nd	10%	233602.00	280322.00	
			33rd m	10%	256962.00	308354.00	
			34th m	10%	282658.00	339190.00	
			35th m	10%	310924.00	373109.00	
			36th m	10%	342016.00	410419.00	
			37th m	10%	376218.00	451462.00	
			38th m	10%	413840.00	496608.00	
			39th m	10%	455224.00	546269.00	
			40th m	10%	500746.00	600895.00	
			Total Cost from 30m upto 40m		3384555	4061466	
			<i>Avg Rate per metre</i>		<u>338456.00</u>	<u>406147.00</u>	
			Labour Rate				
			Beyond 30m upto 40 m				
			Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement, and Labour etc.			Including 20% for Kentledge	
			31st m	10%	13481.00	16177.00	
			32nd	10%	14829.00	17795.00	
			33rd m	10%	16312.00	19574.00	
			34th m	10%	17943.00	21532.00	
			35th m	10%	19737.00	23684.00	
			36th m	10%	21711.00	26053.00	
			37th m	10%	23882.00	28658.00	
			38th m	10%	26270.00	31524.00	
			39th m	10%	28897.00	34676.00	
			40th m	10%	31787.00	38144.00	
			Total Cost from 30m upto 40m		214849	257817	
			<i>Avg Rate per metre</i>		<u>21485.00</u>	<u>25782.00</u>	

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
2.18		Clayey Soil (12 m dia. Well )				
	B	Unit = Running Meter.				
		Taking output = 0.25 meter.				
		Depth below bed level upto 3.0 M				
	(i)	Rate of sinking @ 0.04 m/hour				
		a) Labour				
		Mate	day	0.30	350.00	105.00
		Sinker ( skilled )	day	3.00	350.00	1050.00
		Sinking helper (semi-skilled)	day	4.50	350.00	1575.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.25	1096.00	6850.00
		Consumables in sinking @ 10 per cent of (b)				685.00
		c) Overhead charges @ 10 % on (a+b)				1026.50
		d) Contractor's profit @ 10 % on (a+b+c)				1129.15
						12420.65
		Add 1% labour cess				124.21
		Cost for 0.25m = a+b+c+d				12544.86
		Rate per metre = (a+b+c+d)/0.25				50179.43
		Add 12% GST				6021.53
		Rate per m.				56200.96
					say	<b><u>56201.00</u></b>
		Labour Rate				
		Labour				2730.00
		Overhead charges @ 10%				273.00
		Contractors Profit @10%				300.30
						3303.30
		Add 1% labour cess				33.03
		Cost for 1 m				3336.33
		Rate per m				3336.33
		Add 12% GST				400.36
		Rate per m.				3736.69
					say	<b><u>3737.00</u></b>
2.18 B		Beyond 3m upto 10m depth				
	(ii)	Rate of sinking @ 0.03 m/hour				
		a) Labour				
		Mate	day	0.48	350.00	168.00
		Sinker	day	3.75	350.00	1312.50
		Sinking helper (semi-skilled)	day	6.00	350.00	2100.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	8.33	1096.00	9129.68
		Air compressor with pneumatic chisel attachment for cutting hard clay.	hour	4.50	488.00	2196.00
		Consumables in sinking @ 10 per cent of (b)				1132.57
		c) Overhead charges @ 10 % on (a+b)				1603.87
		d) Contractor's profit @ 10 % on (a+b+c)				1764.26
						19406.89
		Add 1% labour cess				194.07
		Cost for 0.25m = a+b+c+d				19600.95
		Rate per metre = (a+b+c+d)/0.25				78403.82
		Add 12% GST				9408.46
		Rate per m.				87812.27
					<b>say</b>	<b><u>87812.00</u></b>
		Labour Rate				
		Labour				3580.50
		Overhead charges @ 10%				358.05
		Contractors Profit @10%				393.86
						4332.41
		Add 1% labour cess				43.32
		Cost for 1 m				4375.73
		Rate per m				4375.73
		Add 12% GST				525.09
		Rate per m.				4900.82
					<b>say</b>	<b><u>4901.00</u></b>
2.18 B		Beyond 10 m upto 20 m				
	(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
	a	Add for dewatering @ 5 per cent of cost, if required.			Including for dewatering @ 5% of cost, if required	
	b	11th m	5%	82324.00	86440.00	
		12th m	5%	86440.00	90762.00	
		13th m	5%	90762.00	95300.00	
		14th m	5%	95300.00	100065.00	
		15th m	5%	100065.00	105068.00	



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			16th m	5%	105068.00	110321.00	
			17th m	5%	110321.00	115837.00	
			18th m	5%	115837.00	121629.00	
			19th m	5%	121629.00	127710.00	
			20th m	5%	127710.00	134096.00	
			Total Cost from 10m upto 20m		1035456.00	1087228.00	
			<i>Avg Rate per metre</i>		<u>103546.00</u>	<u>108723.00</u>	
			Labour Rate				
			Beyond 10 m upto 20 m				
			Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add for dewatering @ 5 per cent of cost, if required.			Including for dewatering @ 5% of cost, if required	
			11th m	5%	5146.00	5403.00	
			12th m	5%	5403.00	5673.00	
			13th m	5%	5673.00	5957.00	
			14th m	5%	5957.00	6255.00	
			15th m	5%	6255.00	6568.00	
			16th m	5%	6568.00	6896.00	
			17th m	5%	6896.00	7241.00	
			18th m	5%	7241.00	7603.00	
			19th m	5%	7603.00	7983.00	
			20th m	5%	7983.00	8382.00	
			Total Cost from 10m upto 20m		64725.00	67961.00	
			<i>Avg Rate per metre</i>		<u>6473.00</u>	<u>6796.00</u>	
2.18 B			Beyond 20m upto 30 m				
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering on the cost, if required				
		b	Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
		c	21st m	7.5%	137288.00	171610.00	180191.00
			22nd m	7.5%	147585.00	184481.00	193705.00
			23rd m	7.5%	158654.00	198318.00	208234.00

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			24th m	7.5%	170553.00	213191.00	223851.00
			25th m	7.5%	183344.00	229180.00	240639.00
			26th m	7.5%	197095.00	246369.00	258687.00
			27th m	7.5%	211877.00	264846.00	278088.00
			28th m	7.5%	227768.00	284710.00	298946.00
			29th m	7.5%	244851.00	306064.00	321367.00
			30th m	7.5%	263215.00	329019.00	345470.00
			Total Cost from 30m upto 40m		1942230	2427788	2549178
			<i>Avg Rate per metre</i>		<u>194223</u>	<u>242779.00</u>	<u>254918.00</u>
			Labour Rate				
			Beyond 20m upto 30 m				
			Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 5 per cent of cost for dewatering on the cost, if required				
			Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
			21st m	7.5%	8582.00	10728.00	11264.00
			22nd m	7.5%	9226.00	11533.00	12110.00
			23rd m	7.5%	9918.00	12398.00	13018.00
			24th m	7.5%	10662.00	13328.00	13994.00
			25th m	7.5%	11462.00	14328.00	15044.00
			26th m	7.5%	12322.00	15403.00	16173.00
			27th m	7.5%	13246.00	16558.00	17386.00
			28th m	7.5%	14239.00	17799.00	18689.00
			29th m	7.5%	15307.00	19134.00	20091.00
			30th m	7.5%	16455.00	20569.00	21597.00
			Total Cost from 30m upto 40m		121419	151778	159366
			<i>Avg Rate per metre</i>		<u>12142.00</u>	<u>15178.00</u>	<u>15937.00</u>
2.18 B			Beyond 30m upto 40 m				
		(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering, if required				
		b	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		c	31st m	10%	289537.00	347444.00	364816.00
			32nd	10%	318491.00	382189.00	401298.00
			33rd m	10%	350340.00	420408.00	441428.00
			34th m	10%	385374.00	462449.00	485571.00
			35th m	10%	423911.00	508693.00	534128.00
			36th m	10%	466302.00	559562.00	587540.00
			37th m	10%	512932.00	615518.00	646294.00
			38th m	10%	564225.00	677070.00	710924.00
			39th m	10%	620648.00	744778.00	782017.00
			40th m	10%	682713.00	819256.00	860219.00
			Total Cost from 30m upto 40m		4614473	5537367	5814235
			<i>Avg Rate per metre</i>		<u>461447</u>	<u>553737.00</u>	<u>581424.00</u>
			Labour Rate				
			Beyond 30m upto 40 m				
			Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 5 per cent of cost for dewatering, if required				
			Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required
			31st m	10%	18101.00	21721.00	22807.00
			32nd	10%	19911.00	23893.00	25088.00
			33rd m	10%	21902.00	26282.00	27596.00
			34th m	10%	24092.00	28910.00	30356.00
			35th m	10%	26501.00	31801.00	33391.00
			36th m	10%	29151.00	34981.00	36730.00
			37th m	10%	32066.00	38479.00	40403.00
			38th m	10%	35273.00	42328.00	44444.00
			39th m	10%	38800.00	46560.00	48888.00
			40th m	10%	42680.00	51216.00	53777.00
			Total Cost from 30m upto 40m		288477	346171	363480
			<i>Avg Rate per metre</i>		<u>28848.00</u>	<u>34617.00</u>	<u>36348.00</u>
2.18			Soft Rock (12m dia well )				
		C	<i>Unit = Running Meter</i>				
			<i>Taking output = 0.25 m</i>				
			Depth in soft rock strata upto 3m				
			Rate of sinking @ 0.025 m/hour				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		a) Labour				
		Mate	day	1.06	350.00	371.00
		Sinker ( skilled )	day	4.50	350.00	1575.00
		Sinking helper (semi-skilled)	day	20.00	350.00	7000.00
		Diver	day	1.75	421.17	737.04
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	10.00	1096.00	10960.00
		Air compressor with pneumatic chisel attachment for cutting hard clay.	hour	4.75	488.00	2318.00
		Consumables in sinking @ 10 per cent of (b)				1327.80
		Add for dewatering @ 5 per cent, if required				730.29
		c) Overhead charges @ 10 % on (a+b)				2501.91
		d) Contractor's profit @ 10 % on (a+b+c)				2752.10
						30273.15
		Add 1% labour cess				302.73
		Cost for 0.25m = a+b+c+d				30575.88
		Rate per metre = (a+b+c+d)/0.25				122303.52
		Add 12% GST				14676.42
		Rate per m.				136979.95
					<b>say</b>	<b><u>136980.00</u></b>
		Labour Rate				
		Labour				9683.04
		Overhead charges @ 10%				968.30
		Contractors Profit @10%				1065.13
						11716.48
		Add 1% labour cess				117.16
		Cost for 1 m				11833.65
		Rate per m				11833.65
		Add 12% GST				1420.04
		Rate per m.				13253.69
					<b>say</b>	<b><u>13254.00</u></b>
2.18		Hard Rock (12m dia well )				
	D	Unit = Running Meter				
		Taking output = 0.25 m				
		Depth in hard rock strata upto 3 m				
	(i)	Rate of sinking @ 0.020 m/hour				
		a) Material				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Gelatine 80 per cent	Kg	14.00	98.00	1372.00
		Electric detonator	each.	56.00	16.00	896.00
		b) Labour				
		Mate	day	1.44	350.00	504.00
		Driller	day	2.00	350.00	700.00
		Blaster	day	0.25	403.67	100.92
		Mazdoor	day	28.00	350.00	9800.00
		Mazdoor (Skilled)	day	4.50	350.00	1575.00
		c) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	12.50	1096.00	13700.00
		Hire & running charges of compressor with pneumatic breaker/Jack hammer or drill	hour	4.00	488.00	1952.00
		Dewatering @ 5 per cent, if required.				782.60
		Consumables in sinking @ 10 per cent of (c).				1643.46
		d) Overhead charges @ 10 % on (a+b+c)				3302.60
		e) Contractor's profit @ 10 % on (a+b+c+d)				3632.86
						39961.43
		Add 1% labour cess				399.61
		Cost for 0.25m = a+b+c+d+e				40361.05
		Rate per metre = (a+b+c+d+e)/0.25				161444.18
		Add 12% GST				19373.30
		Rate per m.				180817.49
					<b>say</b>	<b><u>180817.00</u></b>
		Labour Rate				
		Labour				12679.92
		Overhead charges @ 10%				1267.99
		Contractors Profit @10%				1394.79
						15342.70
		Add 1% labour cess				153.43
		Cost for 1 m				15496.13
		Rate per m				15496.13
		Add 12% GST				1859.54
		Rate per m.				17355.67
					<b>say</b>	<b><u>17356.00</u></b>

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
2.19	1200		Sinking of Twin D Type well (other than pneumatic method of sinking) through all types of strata namely sandy soil, clayey soil and rock as shown against each case, complete as per drawing and technical specifications. Depth of sinking is reckoned from bed level.				
			<i>Unit = Running Meter</i>				
			<i>Taking output = 1 m</i>				
			Dimensions of well.				
			Overall length = 12 m				
			Overall width = 6 m				
			Sandy Soil				
		A	Depth from bed level upto 3.0 M				
		(i)	Rate of sinking @ 0.18 m/hour				
			a) Labour				
			Mate	day	0.20	350.00	70.00
			Sinker ( skilled )	day	1.25	350.00	437.50
			Sinking helper (semi-skilled)	day	3.75	350.00	1312.50
			b) Machinery				
			Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.50	1096.00	6028.00
			Consumables in sinking @10 per cent of (b)				602.80
			c) Overhead charges @ 10 % on (a+b)				845.08
			d) Contractor's profit @ 10 % on (a+b+c)				929.59
							10225.47
			Add 1% labour cess				102.25
			Rate per metre = (a+b+c+d)				10327.72
			Add 12% GST				1239.33
			Rate per m.				11567.05
						<b>say</b>	<b><u>11567.00</u></b>
			Labour Rate				
			Labour				1820.00
			Overhead charges @ 10%				182.00
			Contractors Profit @10%				200.20
							2202.20
			Add 1% labour cess				22.02
			Cost for 1 m				2224.22
			Rate per m				2224.22

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 12% GST				266.91
		Rate per m.				2491.13
					<b>say</b>	<b><u>2491.00</u></b>
2.19 A		Beyond 3m upto 10m depth				
	(ii)	Rate of sinking @ 0.17 m/hour				
		a) Labour				
		Mate	day	0.30	350.00	105.00
		Sinker	day	1.50	350.00	525.00
		Sinking helper (semi-skilled)	day	4.00	350.00	1400.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	5.88	1096.00	6444.48
		Consumables in sinking @10 per cent of (b)				644.45
		c) Overhead charges @ 10 % on (a+b)				911.89
		d) Contractor's profit @ 10 % on (a+b+c)				1003.08
						11033.90
		Add 1% labour cess				110.34
		Rate per metre = (a+b+c+d)				11144.24
		Add 12% GST				1337.31
		Rate per m.				12481.55
					<b>say</b>	<b><u>12482.00</u></b>
		Labour Rate				
		Labour				2030.00
		Overhead charges @ 5%				101.50
		Contractors Profit @10%				213.15
						2344.65
		Add 1% labour cess				23.45
		Cost for 1 m				2368.10
		Rate per m				2368.10
		Add 12% GST				284.17
		Rate per m.				2652.27
2.19 A		Cost from 10m upto 20m			<b>say</b>	<b><u>2652.00</u></b>
	(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
	a	11th m	5%	11701.00		
		12th m	5%	12286.00		
		13th m	5%	12900.00		
		14th m	5%	13545.00		
		15th m	5%	14222.00		

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			16th m	5%	14933.00		
			17th m	5%	15680.00		
			18th m	5%	16464.00		
			19th m	5%	17287.00		
			20th m	5%	18151.00		
			Total Cost from 10m upto 20m		147169.00		
			<i>Avg Rate per metre</i>		<u>14717.00</u>		
			Labour Rate				
			Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			11th m	5%	2785.00		
			12th m	5%	2924.00		
			13th m	5%	3070.00		
			14th m	5%	3224.00		
			15th m	5%	3385.00		
			16th m	5%	3554.00		
			17th m	5%	3732.00		
			18th m	5%	3919.00		
			19th m	5%	4115.00		
			20th m	5%	4321.00		
			Total Cost from 10m upto 20m		35029.00		
			<i>Avg Rate per metre</i>		<u>3503.00</u>		
2.19 A			Beyond 20m upto 30 m				
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
		b	21st m	7.5%	19512.00	23414.00	
			22nd m	7.5%	20975.00	25170.00	
			23rd m	7.5%	22548.00	27058.00	
			24th m	7.5%	24239.00	29087.00	
			25th m	7.5%	26057.00	31268.00	
			26th m	7.5%	28011.00	33613.00	
			27th m	7.5%	30112.00	36134.00	
			28th m	7.5%	32370.00	38844.00	
			29th m	7.5%	34798.00	41758.00	



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		30th m	7.5%	37408.00	44890.00	
		Total Cost from 20m upto 30m		276030.00	331236.00	
		<i>Avg Rate per metre</i>		<u>27603.00</u>	<u>33124.00</u>	
		Labour Rate				
		Beyond 20m upto 30 m				
		Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour.			Including 20% for Kentledge	
		21st m	7.5%	4645.00	5574.00	
		22nd m	7.5%	4993.00	5992.00	
		23rd m	7.5%	5367.00	6440.00	
		24th m	7.5%	5770.00	6924.00	
		25th m	7.5%	6203.00	7444.00	
		26th m	7.5%	6668.00	8002.00	
		27th m	7.5%	7168.00	8602.00	
		28th m	7.5%	7706.00	9247.00	
		29th m	7.5%	8284.00	9941.00	
		30th m	7.5%	8905.00	10686.00	
		Total Cost from 20m upto 30m		65709.00	78852.00	
		<i>Avg Rate per metre</i>		<u>6571.00</u>	<u>7885.00</u>	
2.19 A		Beyond 30m upto 40 m				
	(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
	a	Add 20 per cent of cost for Kentledge including supports, loading arrangement, and Labour etc.			Including 20% for Kentledge	
	b	31st m	10%	41149.00	49379.00	
		32nd	10%	45264.00	54317.00	
		33rd m	10%	49790.00	59748.00	
		34th m	10%	54769.00	65723.00	
		35th m	10%	60246.00	72295.00	
		36th m	10%	66271.00	79525.00	
		37th m	10%	72898.00	87478.00	
		38th m	10%	80188.00	96226.00	

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		39th m	10%	88207.00	105848.00	
		40th m	10%	97028.00	116434.00	
		Total Cost from 30m upto 40m		655810.00	786973.00	
		<i>Avg Rate per metre</i>		<u>65581.00</u>	<u>78697.00</u>	
		Beyond 30m upto 40 m				
		Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		Add 20 per cent of cost for Kentledge including supports, loading arrangement, and Labour etc.			Including 20% for Kentledge	
		31st m	10%	9796.00	11755.00	
		32nd	10%	10776.00	12931.00	
		33rd m	10%	11854.00	14225.00	
		34th m	10%	13039.00	15647.00	
		35th m	10%	14343.00	17212.00	
		36th m	10%	15777.00	18932.00	
		37th m	10%	17355.00	20826.00	
		38th m	10%	19091.00	22909.00	
		39th m	10%	21000.00	25200.00	
		40th m	10%	23100.00	27720.00	
		Total Cost from 30m upto 40m		156131.00	187357.00	
		<i>Avg Rate per metre</i>		<u>15613.00</u>	<u>18736.00</u>	
2.19		Clayey Soil (Twin D Type Well )				
	B	<i>Unit = Running Meter</i>				
		<i>Taking output = 1 meter</i>				
		Depth below bed level upto 3.0 M				
	(i)	Rate of sinking @ 0.16 m/hour				
		a) Labour				
		Mate	day	0.26	350.00	91.00
		Sinker ( skilled )	day	2.50	350.00	875.00
		Sinking helper (semi-skilled)	day	4.00	350.00	1400.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.25	1096.00	6850.00
		Consumables in sinking @ 10 per cent of (b)				685.00
		c) Overhead charges @ 10 % on (a+b)				990.10

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		d) Contractor's profit @ 10 % on (a+b+c)				1089.11
						11980.21
		Add 1% labour cess				119.80
		Rate per metre = (a+b+c+d)				12100.01
		Add 12% GST				1452.00
		Rate per m.				13552.01
					<b>say</b>	<b><u>13552.00</u></b>
		Labour Rate				
		Labour				2366.00
		Overhead charges @ 10%				236.60
		Contractors Profit @10%				260.26
						2862.86
		Add 1% labour cess				28.63
		Cost for 1 m				2891.49
		Rate per m				2891.49
		Add 12% GST				346.98
		Rate per m.				3238.47
					<b>say</b>	<b><u>3238.00</u></b>
2.19 B		Beyond 3m upto 10m depth				
	(ii)	Rate of sinking @ 0.15 m/hour				
		a) Labour				
		Mate	day	0.45	350.00	157.50
		Sinker	day	3.25	350.00	1137.50
		Sinking helper (semi-skilled)	day	6.00	350.00	2100.00
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	6.67	1096.00	7310.32
		Air compressor with pneumatic chisel attachment for cutting hard clay.	hour	4.50	488.00	2196.00
		Consumables in sinking @ 10 per cent of (b)				950.63
		c) Overhead charges @ 10 % on (a+b)				1385.20
		d) Contractor's profit @ 10 % on (a+b+c)				1523.71
						16760.86
		Add 1% labour cess				167.61
		Rate per metre = (a+b+c+d)				16928.47
		Add 12% GST				2031.42
		Rate per m.				18959.89
					<b>say</b>	<b><u>18960.00</u></b>
		Labour Rate				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Labour				3395.00
			Overhead charges @ 10%				339.50
			Contractors Profit @10%				373.45
							4107.95
			Add 1% labour cess				41.08
			Cost for 1 m				4149.03
			Rate per m				4149.03
			Add 12% GST				497.88
			Rate per m.				4646.91
						<b>say</b>	<b><u>4647.00</u></b>
2.19 B			Beyond 10 m upto 20 m				
		(iii)	Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add for dewatering @ 5 per cent of cost, if required.			Including for dewatering @ 5% of cost, if required	
		b	11th m	5%	17775.00	18664.00	
			12th m	5%	18664.00	19597.00	
			13th m	5%	19597.00	20577.00	
			14th m	5%	20577.00	21606.00	
			15th m	5%	21606.00	22686.00	
			16th m	5%	22686.00	23820.00	
			17th m	5%	23820.00	25011.00	
			18th m	5%	25011.00	26262.00	
			19th m	5%	26262.00	27575.00	
			20th m	5%	27575.00	28954.00	
			Total Cost from 10m upto 20m		223573.00	234752.00	
			<i>Avg Rate per metre</i>		<u>22357.00</u>	<u>23475.00</u>	
			Labour Rate				
			Beyond 10 m upto 20 m				
			Add 5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add for dewatering @ 5 per cent of cost, if required.			Including for dewatering @ 5% of cost, if required	
			11th m	5%	4356.00	4574.00	
			12th m	5%	4574.00	4803.00	

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			13th m	5%	4803.00	5043.00	
			14th m	5%	5043.00	5295.00	
			15th m	5%	5295.00	5560.00	
			16th m	5%	5560.00	5838.00	
			17th m	5%	5838.00	6130.00	
			18th m	5%	6130.00	6437.00	
			19th m	5%	6437.00	6759.00	
			20th m	5%	6759.00	7097.00	
			Total Cost from 10m upto 20m		54795.00	57536.00	
			<i>Avg Rate per metre</i>		<u>5480.00</u>	<u>5754.00</u>	
2.19 B			Beyond 20m upto 30 m				
		(iv)	Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering on the cost, if required				
		b	Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
		c	21st m	7.5%	29643.00	37054.00	38907.00
			22nd m	7.5%	31866.00	39833.00	41825.00
			23rd m	7.5%	34256.00	42820.00	44961.00
			24th m	7.5%	36825.00	46031.00	48333.00
			25th m	7.5%	39587.00	49484.00	51958.00
			26th m	7.5%	42556.00	53195.00	55855.00
			27th m	7.5%	45748.00	57185.00	60044.00
			28th m	7.5%	49179.00	61474.00	64548.00
			29th m	7.5%	52867.00	66084.00	69388.00
			30th m	7.5%	56832.00	71040.00	74592.00
			Total Cost from 30m upto 40m		419359.00	524200.00	550411.00
			<i>Avg Rate per metre</i>		<u>41936.00</u>	<u>52420.00</u>	<u>55041.00</u>
			Labour Rate				
			Beyond 20m upto 30 m				
			Add 7.5 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
			Add 5 per cent of cost for dewatering on the cost, if required				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 25 per cent of cost for Kentledge including supports, loading arrangement and Labour ).			Including 25% for Kentledge	Including 5% for dewatering, if required
			21st m	7.5%	7266.00	9083.00	9537.00
			22nd m	7.5%	7811.00	9764.00	10252.00
			23rd m	7.5%	8397.00	10496.00	11021.00
			24th m	7.5%	9027.00	11284.00	11848.00
			25th m	7.5%	9704.00	12130.00	12737.00
			26th m	7.5%	10432.00	13040.00	13692.00
			27th m	7.5%	11214.00	14018.00	14719.00
			28th m	7.5%	12055.00	15069.00	15822.00
			29th m	7.5%	12959.00	16199.00	17009.00
			30th m	7.5%	13931.00	17414.00	18285.00
			Total Cost from 30m upto 40m		102796.00	128497.00	134922.00
			<i>Avg Rate per metre</i>		<u>10280.00</u>	<u>12850.00</u>	<u>13492.00</u>
2.19 B			Beyond 30m upto 40 m				
		(v)	Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		a	Add 5 per cent of cost for dewatering, if required				
		b	Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required
		c	31st m	10%	62515.00	75018.00	78769.00
			32nd	10%	68767.00	82520.00	86646.00
			33rd m	10%	75644.00	90773.00	95312.00
			34th m	10%	83208.00	99850.00	104843.00
			35th m	10%	91529.00	109835.00	115327.00
			36th m	10%	100682.00	120818.00	126859.00
			37th m	10%	110750.00	132900.00	139545.00
			38th m	10%	121825.00	146190.00	153500.00
			39th m	10%	134008.00	160810.00	168851.00
			40th m	10%	147409.00	176891.00	185736.00
			Total Cost from 30m upto 40m		996337.00	1195605.00	1255388.00
			<i>Avg Rate per metre</i>		<u>99634.00</u>	<u>119561.00</u>	<u>125539.00</u>
			Labour Rate				
			Beyond 30m upto 40 m				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 10 per cent for every additional meter depth of sinking over the rate of sinking for the previous meter				
		Add 5 per cent of cost for dewatering, if required				
		Add 20 per cent of cost for Kentledge including supports, loading arrangement and Labour).			Including 20% for Kentledge	Including 5% for dewatering, if required
		31st m	10%	15324.00	18389.00	19308.00
		32nd	10%	16856.00	20227.00	21238.00
		33rd m	10%	18542.00	22250.00	23363.00
		34th m	10%	20396.00	24475.00	25699.00
		35th m	10%	22436.00	26923.00	28269.00
		36th m	10%	24680.00	29616.00	31097.00
		37th m	10%	27148.00	32578.00	34207.00
		38th m	10%	29863.00	35836.00	37628.00
		39th m	10%	32849.00	39419.00	41390.00
		40th m	10%	36134.00	43361.00	45529.00
		Total Cost from 30m upto 40m		244228.00	293074.00	307728.00
		<i>Avg Rate per metre</i>		<u>24423.00</u>	<u>29307.00</u>	<u>30773.00</u>
2.19		Soft Rock (Twin D Type Well )				
	C	Unit = Running Meter				
		Taking output = 1 m				
		Depth in soft rock strata upto 3m				
		Rate of sinking @ 0.12 m/hour				
		a) Labour				
		Mate	day	0.86	350.00	301.00
		Sinker ( skilled )	day	4.50	350.00	1575.00
		Sinking helper (semi-skilled)	day	15.00	350.00	5250.00
		Diver	day	1.50	421.17	631.75
		b) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	8.33	1096.00	9129.68
		Air compressor with pneumatic breakers	hour	6.00	488.00	2928.00
		Consumables in sinking @ 10 per cent of (b)				1205.77
		Add for dewatering @ 5 per cent, if required				663.17
		c) Overhead charges @ 10 % on (a+b)				2168.44

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		d) Contractor's profit @ 10 % on (a+b+c)				2385.28
						26238.09
		Add 1% labour cess				262.38
		Rate per metre = (a+b+c+d)				26500.47
		Add 12% GST				3180.06
		Rate per m.				29680.53
					<b>say</b>	<b><u>29681.00</u></b>
		Labour Rate				
		Labour				7757.75
		Overhead charges @ 10%				775.78
		Contractors Profit @10%				853.35
						9386.88
		Add 1% labour cess				93.87
		Cost for 1 m				9480.75
		Rate per m				9480.75
		Add 12% GST				1137.69
		Rate per m.				10618.44
					<b>say</b>	<b><u>10618.00</u></b>
2.19		Hard Rock (Twin D Type Well )				
	D	Unit = Running Meter				
		Taking output = 1 m				
		Depth in hard rock strata upto 3 m				
		Rate of sinking @ 0.10 m/hour				
		a) Material				
		Geletine 80 per cent	Kg	10.00	98.00	980.00
		Electric detonators	each.	40.00	16.00	640.00
		b) Labour				
		Mate	day	1.34	350.00	469.00
		Driller	day	2.00	350.00	700.00
		Blaster	day	0.25	403.67	100.92
		Mazdoor	day	25.00	350.00	8750.00
		Mazdoor (Skilled)	day	4.25	350.00	1487.50
		c) Machinery				
		Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	hour	10.00	1096.00	10960.00
		Hire & running charges of compressor with pneumatic breaker/Jack hammer or drill	hour	3.00	488.00	1464.00
		Dewatering @ 5 per cent of cost of (b+c), if required.				1196.57
		Consumables in sinking @ 10 per cent of (b).				1362.06



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		d) Overhead charges @ 10 % on (a+b+c)				2811.00
		e) Contractor's profit @ 10 % on (a+b+c+d)				3092.10
						34013.15
		Add 1% labour cess				340.13
		Rate per metre = (a+b+c+d+e)				34353.29
		Add 12% GST				4122.39
		Rate per m.				38475.68
					<b>say</b>	<b><u>38476.00</u></b>
		Labour Rate				
		Labour				11507.42
		Overhead charges @ 10%				1150.74
		Contractors Profit @10%				1265.82
						13923.97
		Add 1% labour cess				139.24
		Cost for 1 m				14063.21
		Rate per m				14063.21
		Add 12% GST				1687.59
		Rate per m.				15750.80
					<b>say</b>	<b><u>15751.00</u></b>
2.20	1200	Pneumatic sinking of wells with equipment of approved design, drawing and specifications worked by competent and trained personnel and comprising of compression and decompression chambers, reducers, two air locks separately for men and plant & materials, arrangement for supply of fresh air to working chambers, check valves, exhaust valves, shafts made from steel plates of riveted construction not less than 6 mm thick to withstand an air pressure of 0.50 MPa, controlled blasting of hard rock where required, staircases and 1 m wide landing platforms with railing, arrangement for compression and decompression, electric lighting of 50 V maximum, proper rooms for rest and medical examinations and compliance with safety precautions as per IS:4138, all as per clause 1207.6 of MoRTH Specifications.				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<i>Unit - 1 cum</i>				
		<i>Taking output = 5 cum</i>				
		a) Material				
		M35 grade RCC corbel provided for supporting of equipment (Dimensions as per ground conditions). Rate may be adopted vide Item 12.8 (H)	Cum	8.00	12484.00	99872.00
		HYS D bar reinforcement in corbel	tonne	0.48	59875.00	28740.00
		Blasting material				
		Gelatine 80 per cent	Kg	1.50	98.00	147.00
		Electric detonators	each	6.00	16.00	96.00
		b) Labour				
		Medical Officer	day	0.50	0.00	0.00
		Para medical personnel	day	1.00	0.00	0.00
		Mate	day	1.86	350.00	651.00
		Driller	day	1.00	350.00	350.00
		Blaster	day	0.50	403.67	201.83
		Mazdoor (for cutting, blasting, cleaning, removal of Material etc.)	day	30.00	350.00	10500.00
		Mazdoor (Skilled) (for fixation and removal of adopter for air lock, carrying out mechanical and electrical operations and repairs and other skilled jobs.)	day	10.00	350.00	3500.00
		Diver	day	4.00	421.17	1684.67
		c) Machinery				
		(i) Induction, deinduction and erection of plant and equipment including all components and accessories for pneumatic method of well sinking.	hour	6.00	11100.00	66600.00
		Induction and deinduction	L.S			100000.00
		Erection at site and commissioning	L.S			150000.00
		Usage of plant and equipment for pneumatic method of well sinking	hour	6.00	6290.00	37740.00
		Air compressor 250 cfm, 2 nos.	hour	2 x 6	488.00	5856.00
		Hire and running charges of crane of 15 tonne capacity	hour	6.00	680.00	4080.00
		Motorised barge of 20 tonne capacity	hour	6.00	545.00	3270.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Boat to carry atleast 20 persons	hour	6.00	545.00	3270.00
		Electric generating set 33 KVA	hour	6.00	630.00	3780.00
		Tipper 10 tonne capacity	hour	6.00	570.00	3420.00
		d) Overhead charges @ 10 % on (a+b+c)				42388.65
		e) Contractor's profit @ 10 % on (a+b+c+d)				46627.52
						612774.67
		Add 1% labour cess				6127.75
		Cost for 5 cum = a+b+c+d+e (see notes below)				618902.41
		Rate per cum = (a+b+c+d+e)/5				<u>123780.00</u>
		Add 12% GST				14853.60
		Rate per m.			<b>say</b>	<b><u>138633.60</u></b>
		1.The cost of induction, deinduction and erection of equipment shall be divided by the total quantity of pneumatic sinking for all the wells of a particular bridge to arrive at the per cum rate on account of this item.				
	Note	2.Cost of pneumatic sinking per cum of individual wells will be added to the cost indicated at (1) above to arrive at the final rate of pneumatic sinking per cum.				
		3.The cost of induction and deinduction will depend upon the distance involved for shifting of equipment which may be assessed in individual cases as per actual ground conditions at the time of making of cost estimates.				
		4.In case pneumatic sinking is involved on a dry bed, the provision of barge and boat may be omitted.				
		5.The necessity and dimensions of the corbel will be as per actual ground conditions.				
		6.Small equipments like welding sets, pumps, vibrators, pneumatic tools, portable lamps, fire extinguishers, hose pipes etc., have not been included as the same are covered as items of minor T&P under overhead charges.				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		7.Depth of sinking shall be restricted to 30 m.				
		Labour Rate				
		Labour				16887.50
		Overhead charges @ 10%				1688.75
		Contractors Profit @10%				1857.63
						20433.88
		Add 1% labour cess				204.34
		Cost for 1 m				20638.21
		Rate per m				20638.21
		Add 12% GST				2476.59
		Rate per m				23114.80
					<b>say</b>	<b><u>4623.00</u></b>
2.21	1207	Sand Filling in Wells complete as per Drawing and Technical Specifications.				
		<i>Unit = 1 cum</i>				
		<i>Taking output = 1 cum</i>				
		a) Material				
		Sand (assuming 20 per cent voids )	cum	1.20	1167.00	1400.40
		b) Labour				
		Mate	day	0.01	350.00	3.50
		Mazdoor	day	0.30	350.00	105.00
		c) Overhead charges @ 10 % on (a+b)				150.89
		d) Contractor's profit @ 10 % on (a+b+c)				165.98
						1825.77
		Add 1% labour cess				18.26
		Rate per cum (a+b+c+d)				1844.03
		Add 12% GST				221.28
		Rate per cum				2065.31
					<b>say</b>	<b><u>2065.00</u></b>
		Labour Rate				
		Labour				108.50
		Overhead charges @ 5%				5.43
		Contractors Profit @10%				11.39
						125.32
		Add 1% labour cess				1.25
		Cost for 1 m				126.57
		Rate per m				126.57
		Add 12% GST				15.19
		Rate per m				141.76

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
					say	<u>142.00</u>
2.22	1200 & 1900	Providing Steel Liner 10 mm thick for Curbs and 6 mm thick for Steining of Wells including Fabricating and Setting out as per Detailed Drawing.				
		Unit = 1 MT				
		Taking output = 1 MT				
		a) Material				
		i) Structural steel including 5 per cent wastage	tonne	1.05	55110.00	57865.50
		b) Labour				
		Mate	day	1.24	350.00	434.00
		Fitter	day	6.00	403.67	2422.00
		Blacksmith	day	5.00	421.17	2105.83
		Welder	day	5.00	505.17	2525.83
		Mazdoor	day	10.00	350.00	3500.00
		Electrodes, cutting gas and other consumables @ 5 per cent on cost a (a) above.				2893.28
		c) Overhead charges @ 10 % on (a+b)				7174.64
		d) Contractor's profit @ 10 % on (a+b+c)				7892.11
						86813.19
		Add 1% labour cess				868.13
		Rate for per MT (a+b+c+d)				87681.33
		Add 12% GST				10521.76
		Rate per m				98203.09
					say	<u>98203.00</u>
		Labour Rate				
		Labour				10987.67
		Overhead charges @ 10%				1098.77
		Contractors Profit @10%				1208.64
						13295.08
		Add 1% labour cess				132.95
		Cost for 1 m				13428.03
		Rate per m				13428.03
		Add 12% GST				1611.36
		Rate per m				15039.39
					say	<u>15039.00</u>

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
2.23	1100 & 1700	Bored cast-in-situ M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specifications and removal of excavated earth with all lifts and lead upto 1000 m.				
		Pile diameter-750 mm				
		Unit = meter				
		Taking output = 15 m				
		a) Materials				
		PCC Grade M35	cum	6.62	12343.00	81710.66
		Rate for concrete may be adopted same as for bottom plug vide item no. 12.11( C ) (IV)				
		Concrete to be cast with a tremie pipe 200mm dia.				
		b) Machinery( for boring and construction )				
		Hire and running charges of hydraulic piling rig with power unit and complete accessories including shifting from one bore location to another.	hour	6.00	8327.00	49962.00
		Hire and running charges of light crane for lowering reinforcement cage	hour	0.50	680.00	340.00
		Hire and running charges of Bentonite pump	hour	6.00	Rate included in piling rig	
		Loader I cum bucket capacity.	hour	0.30	1321.00	396.30
		Tipper 5.5 cum capacity for disposal of muck from pile bore hole	hour	0.30	570.00	171.00
		Bentonite	kg	300.00	55.00	16500.00
		c) Labour				
		Mate/Supervisor	day	0.14	350.00	49.00
		Mazdoor	day	3.50	350.00	1225.00
		d) Overhead charges @ 10 % on (b+c)				6864.33
		e) Contractor's profit @ 10 % on (b+c+d)				7550.76
						164769.05
		Add 1% labour cess				1647.69
		Cost for 15 m = a+b+c+d+d+e				166416.74
		Rate per metre (a+b+c+d+e)/15				11094.45
		Add 12% GST				1331.33

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Rate per m				12425.78
					<b>say</b>	<b><u>12426.00</u></b>
		Labour Rate				
		Labour				1493.35
		Overhead charges @ 10%				149.34
		Contractors Profit @10%				164.27
						1806.95
		Add 1% labour cess				18.07
		Cost for 15 m				1825.02
		Rate per m				121.67
		Add 12% GST				14.60
		Rate per m				136.27
					<b>say</b>	<b><u>136.00</u></b>
2.24	1100,1600 & 1700	Bored cast-in-situ M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specifications and removal of excavated earth with all lifts and lead upto 1000 m.				
		Pile diameter-1000 mm				
		<i>Unit = meter</i>				
		<i>Taking output = 10 m</i>				
		a) Materials				
		PCC Grade M35	cum	7.85	12343.00	96892.55
		Rate for concrete may be adopted same as for bottom plug vide item no. 12.11( C ) (IV)				
		Concrete to be cast with a tremie pipe 200mm dia.				
		b) Machinery( for boring and construction )				
		Hire and running charges of hydraulic piling rig with power unit and complete accessories including shifting from one bore location to another.	hour	6.00	8327.00	49962.00
		Hire and running charges of light crane for lowering reinforcement cage	hour	0.50	680.00	340.00
		Hire and running charges of Bentonite pump	hour	6.00	Rate included in piling rig	
		Loader I cum bucket capacity.	hour	0.40	1321.00	528.40
		Tipper 5.5 cum capacity for disposal of muck from pile bore hole	hour	0.40	570.00	228.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Bentonite	kg	350.00	55.00	19250.00
		c) Labour				
		Mate/Supervisor	day	0.16	350.00	56.00
		Mazdoor	day	4.00	350.00	1400.00
		d) Overhead charges @ 10 % on (b+c)				7176.44
		e) Contractor's profit @ 10 % on (b+c+d)				7894.08
						183727.47
		Add 1% labour cess				1837.27
		Cost for 10 m = a+b+c+d+d+e				185564.75
		Rate per metre (a+b+c+d+e)/10				18556.47
		Add 12% GST				2226.78
		Rate per m				20783.25
					<b>say</b>	<b><u>20783.00</u></b>
		Labour Rate				
		Labour				1716.10
		Overhead charges @ 10%				171.61
		Contractors Profit @10%				188.77
						2076.48
		Add 1% labour cess				20.76
		Cost for 10 m				2097.25
		Rate per m				209.72
		Add 12% GST				25.17
		Rate per m				234.89
					<b>say</b>	<b><u>235.00</u></b>
2.25	1100 & 1700	Bored cast-in-situ M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specifications and removal of excavated earth with all lifts and lead upto 1000 m.				
		Pile diameter-1200 mm				
		<i>Unit = meter</i>				
		<i>Taking output = 9 m</i>				
		a) Materials				
		PCC Grade M35	cum	10.17	12343.00	125528.31
		Rate for concrete may be adopted same as for bottom plug vide item no. 12.11( C ) (IV)				
		Concrete to be cast with a tremie pipe 200mm dia.				
		b) Machinery( for boring and construction )				



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Hire and running charges of hydraulic piling rig with power unit and complete accessories including shifting from one bore location to another.	hour	6.00	8327.00	49962.00
		Hire and running charges of light crane for lowering reinforcement cage	hour	0.50	680.00	340.00
		Hire and running charges of Bentonite pump	hour	6.00	Rate included in piling rig	
		Loader I cum bucket capacity.	hour	0.50	1321.00	660.50
		Tipper 5.5 cum capacity for disposal of muck from pile bore hole	hour	0.50	570.00	285.00
		Bentonite	kg	385.00	55.00	21175.00
		c) Labour				
		Mate/Supervisor	day	0.18	350.00	63.00
		Mazdoor	day	4.50	350.00	1575.00
		d) Overhead charges @ 10 % on (b+c)				7406.05
		e) Contractor's profit @ 10 % on (b+c+d)				8146.66
						215141.52
		Add 1% labour cess				2151.42
		Cost for 9 m = a+b+c+d+d+e				217292.93
		Rate per metre (a+b+c+d+e)/9				24143.66
		Add 12% GST				2897.24
		Rate per m				27040.90
					<b>say</b>	<b><u>27041.00</u></b>
		Labour Rate				
		Labour				1974.97
		Overhead charges @ 10%				197.50
		Contractors Profit @10%				217.25
						2389.71
		Add 1% labour cess				23.90
		Cost for 9 m				2413.61
		Rate per m				268.18
		Add 12% GST				32.18
		Rate per m				300.36
					<b>say</b>	<b><u>300.00</u></b>
2.26	1100 & 1700	Driven cast-in-place vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and & Technical Specification				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Pile diameter - 750 mm				
		Unit = Running meter				
		Taking output = 40 metre				
		a) Materials				
		PCC Grade M35	cum	17.66	12343.00	217977.38
		Rate for concrete may be adopted same as for bottom plug vide item no. 12.11( C ) (IV)				
		b) Materials Pile shoes				
		i) C.I. shoes for the pile	Kg	160.00	85.00	13600.00
		ii) M.S. clamps for shoe @ 35 Kg per pile of 15 m	Kg	70.00	85.00	5950.00
		iii) Steel helmet and cushion block on top of casing head during driving	Kg	50.00	114.00	5700.00
		c) Machinery				
		Hire and running charges of piling rig Including double acting pile driving hammer complete with power unit and accessories..	hour	6.00	8327.00	49962.00
		Hiring and running charges for light crane 5 tonnes lifting capacity for lowering reinforcement and handling steel casing.	hour	0.50	680.00	340.00
		d) Labour				
		Mate/Supervisor	day	0.12	350.00	42.00
		Mazdoor	day	3.00	350.00	1050.00
		e) Overhead charges @ 10 % on (b+c+d)				7664.40
		f) Contractor's profit @ 10 % on (b+c+d+e)				8430.84
						310716.62
		Add 1% labour cess				3107.17
		Cost for 40 m = a+b+c+d+e				313823.79
		Rate per metre (a+b+c+d+e)/40				7845.59
		Add 12% GST				941.47
		Rate per m				8787.07
					<b>say</b>	<b><u>8787.00</u></b>
		1.The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		Note	2.In case steel lining is included in the design for driven cast-in-situ pile and is planned to be retained, the same may be included in the rate analysis. In case the temporary steel casing used during casting is planned to be removed, an additional cost @ 0.50 per cent of cost of concrete may be provided to cover its usage.				
			Labour Rate				
			Labour				1677.15
			Overhead charges @ 10%				167.72
			Contractors Profit @10%				184.49
							2029.35
			Add 1% labour cess				20.29
			Cost for 140m				2049.65
			Rate per m				51.24
			Add 12% GST				6.15
			Rate per m				57.39
						<b>say</b>	<b><u>57.00</u></b>
2.27	1100 & 1700		Driven cast-in-place vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and & Technical Specification				
			Pile diameter - 1000 mm				
			Unit = Running meter				
			Taking output = 30 metre				
			a) Materials				
			PCC Grade M35	cum	23.55	12343.00	290677.65
			Rate for concrete may be adopted same as for bottom plug vide item no. 12.11( C ) (IV)				
			b) Materials Pile shoes				
			i) C.I. shoes for the pile	Kg	160.00	85.00	13600.00
			ii) M.S. clamps for shoe @ 35 Kg per pile of 15 m	Kg	70.00	85.00	5950.00
			iii) Steel helmet and cushion block on top of casing head during driving	Kg	50.00	114.00	5700.00
			c) Machinery				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Hire and running charges of piling rig Including double acting pile driving hammer complete with power unit and accessories.	hour	6.00	8327.00	49962.00
		Hiring and running charges for light crane 5 tonnes lifting capacity for lowering reinforcement and handling steel casing.	hour	0.50	680.00	340.00
		Hire and running charges for light crane for lowering reinforcement cage.	hour	0.50	680.00	340.00
		d) Labour				
		Mate/Supervisor	day	0.16	350.00	56.00
		Mazdoor	day	4.00	350.00	1400.00
		e) Overhead charges @ 10 % on (b+c+d)				7734.80
		f) Contractor's profit @ 10 % on (b+c+d+e)				8508.28
						384268.73
		Add 1% labour cess				3842.69
		Cost for 30 m = a+b+c+d+e				388111.42
		Rate per metre (a+b+c+d+e)/30				12937.05
		Add 12% GST				1552.45
		Rate per m				14489.49
					<b>say</b>	<b><u>14489.00</u></b>
		1.The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.				
	Note	2.In case steel lining is included in the design for driven cast-in-situ pile and is planned to be retained, the same may be included in the rate analysis. In case the temporary steel casing used during casting is planned to be removed, an additional cost @ 0.50 per cent of cost of concrete may be provided to cover its usage.				
		Labour Rate				
		Labour				2236.29
		Overhead charges @ 10%				223.63
		Contractors Profit @10%				245.99
		Cost for 30 m				2705.91

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Rate per m				90.20
		Add 12% GST				10.82
		Rate per m				101.02
					<b>say</b>	<b><u>101.00</u></b>
2.28	1100 & 1700	Driven cast-in-place vertical M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and & Technical Specification				
		Pile diameter - 1200 mm				
		Unit = Running meter				
		Taking output = 20 metre				
		a) Materials				
		PCC Grade M35	cum	22.61	12343.00	279075.23
		Rate for concrete may be adopted same as for bottom plug vide item no. 12.11( C ) (IV)				
		b) Materials Pile shoes				
		i) C.I. shoes for the pile	Kg	160.00	85.00	13600.00
		ii) M.S. clamps for shoe @ 35 Kg per pile of 15 m	Kg	70.00	85.00	5950.00
		iii) Steel helmet on top of casing head during driving	Kg	50.00	114.00	5700.00
		c) Machinery				
		Hire and running charges of piling rig Including double acting pile driving hammer complete with power unit and accessories.	hour	6.00	8327.00	49962.00
		Hiring and running charges for light crane 5 tonnes lifting capacity for lowering reinforcement and handling steel casing.	hour	0.50	680.00	340.00
		d) Labour				
		Mate/Supervisor	day	0.18	350.00	63.00
		Mazdoor	day	4.50	350.00	1575.00
		e) Overhead charges @ 10 % on (b+c+d)				7719.00
		f) Contractor's profit @ 10 % on (b+c+d+e)				8490.90
						372475.13
		Add 1% labour cess				3724.75
		Cost for 20 m = a+b+c+d+e				376199.88
		Rate per metre (a+b+c+d+e)/20				18809.99

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 12% GST				2257.20
			Rate per m				21067.19
						<b>say</b>	<b><u>21067.00</u></b>
			1.The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.				
		Note	2.In case steel lining is included in the design for driven cast-in-situ pile and is planned to be retained, the same may be included in the rate analysis. In case the temporary steel casing used during casting is planned to be removed, an additional cost @ 0.50 per cent of cost of concrete may be provided to cover its usage.				
			Labour Rate				
			Labour				2387.15
			Overhead charges @ 10%				238.72
			Contractors Profit @10%				262.59
							2888.45
			Add 1% labour cess				28.88
			Cost for 20 m				2917.34
			Rate per m				97.24
			Add 12% GST				11.67
			Rate per m				108.91
						<b>say</b>	<b><u>109.00</u></b>
2.29	1100 & 1700		Driven precast vertical M35 grade R.C.C. Piles excluding Reinforcement complete as per Drawing and & Technical Specification				
			Pile Diameter = 500 mm				
			Unit = Running Meter				
			Taking output = 60 m				
			a) Materials				
			RCC Grade M35	cum	11.78	12147.00	143091.66
			Rate for concrete may be adopted same as for bottom plug vide item no. 12.11( F ) (IV)				
			b ) Material Pile shoes				
			a) C.I Shoes	Kg	240.00	85.00	20400.00
			b) M.S. shoes	Kg	105.00	135.00	14175.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		c) Steel helmet and cushion block on top of pile head during driving.	Kg	30.00	114.00	3420.00
		c) Machinery				
		Crane 20 t capacity	hour	6.00	1100.00	6600.00
		Vibrating Pile driving hammer complete with power unit and accessories.	hour	6.00	2500.00	15000.00
		d) Labour				
		Mate/Supervisor	day	0.12	350.00	42.00
		Mazdoor	day	3.00	350.00	1050.00
		Add 1 per cent of (a+b+c) for carriage of piles from casting yard to work site and stacking, and other imponderables during installation.				2037.79
		e) Overhead charges @ 10 % on (b+c+d)				6272.48
		f) Contractor's profit @ 10 % on (b+c+d+e)				6899.73
						218988.65
		Add 1% labour cess				2189.89
		Cost for 60 m = a+b+c+d+e+f				221178.54
		Rate per metre (a+b+c+d+e+f)/60				3686.31
		Add 12% GST				442.36
		Rate per m				4128.67
					<b>say</b>	<b><u>4129.00</u></b>
		The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.				
		Labour Rate				
		Labour				1481.62
		Overhead charges @ 10%				148.16
		Contractors Profit @10%				162.98
						1792.76
		Add 1% labour cess				17.93
		Cost for 60 m				1810.69
		Rate per m				30.18
		Add 12% GST				3.62
		Rate per m				33.80
					<b>say</b>	<b><u>34.00</u></b>

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
2.30	1100 & 1700	Note	Driven precast vertical M35 grade R.C.C. Piles excluding Reinforcement complete as per Drawing and & Technical Specification				
			Pile Diameter = 750 mm				
			Unit = Running Meter				
			Taking output = 50 m				
			a) Materials				
			RCC Grade M35	cum	22.08	12147.00	268205.76
			Rate for concrete may be adopted same as for bottom plug vide item no. 12.11( F ) (IV)				
			b ) Material Pile shoes				
			a) C.I. shoes	Kg	160.00	85.00	13600.00
			b) M.S. shoes	Kg	70.00	135.00	9450.00
			c) Steel helmet and cushion block on top of pile head during driving.	Kg	40.00	114.00	4560.00
			c) Machinery				
			Crane 40 T capacity	hour	6.00	1350.00	8100.00
			Vibrating Pile driving hammer complete with power unit and	hour	6.00	2500.00	15000.00
			d) Labour				
			Mate/Supervisor	day	0.16	350.00	56.00
			Mazdoor	day	4.00	350.00	1400.00
			Add 1 per cent of (a+b+c) for carriage of piles from casting yard to work site and stacking, and other imponderables during installation.				3203.72
			e) Overhead charges @ 10 % on (b+c+d)				5536.97
			f) Contractor's profit @ 10 % on (b+c+d+e)				6090.67
							335203.12
			Add 1% labour cess				3352.03
			Cost for 50 m = a+b+c+d+e+f				338555.15
			Rate per metre (a+b+c+d+e+f)/50				6771.10
			Add 12% GST				812.53
			Rate per m				7583.64
						say	<b><u>7584.00</u></b>



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.				
			Labour Rate				
			Labour				2186.30
			Overhead charges @ 10%				218.63
			Contractors Profit @10%				240.49
							2645.42
			Add 1% labour cess				26.45
			Cost for 50 m				2671.88
			Rate per m				53.44
			Add 12% GST				6.41
			Rate per m				59.85
						<b>say</b>	<b><u>60.00</u></b>
2.31	1100 & 1700	Note	Driven precast vertical M35 grade R.C.C. Piles excluding Reinforcement complete as per Drawing and & Technical Specification				
			Pile Diameter = 1000 mm				
			Unit = Running Meter				
			Taking output = 40 m				
			a) Materials				
			RCC Grade M35	cum	31.40	12147.00	381415.80
			Rate for concrete may be adopted same as for bottom plug vide item no. 12.11( F ) (IV)				
			b ) Material Pile shoes				
			a) C.I. shoes for the pile	Kg	160.00	85.00	13600.00
			b) M.S. shoes @ 35 Kg per pile of 15 m	Kg	70.00	135.00	9450.00
			c) Steel helmet and cushion block on top of pile head during driving.	Kg	50.00	114.00	5700.00
			c) Machinery				
			Crane 50 t capacity.	hour	6.00	1800.00	10800.00
			Vibrating Pile driving hammer complete with power unit and accessories.	hour	6.00	2500.00	15000.00
			d) Labour				
			Mate/Supervisor	day	0.20	350.00	70.00
			Mazdoor	day	5.00	350.00	1750.00

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 1 per cent of (a+b+c) for carriage of piles from casting yard to work site and stacking, and other imponderables during installation.				4377.86
			e) Overhead charges @ 10 % on (b+c+d)				6074.79
			f) Contractor's profit @ 10 % on (b+c+d+e)				6682.26
							454920.71
			Add 1% labour cess				4549.21
			Cost for 40 m = a+b+c+d+e+f				459469.92
			Rate per metre (a+b+c+d+e+f)/40				11486.75
			Add 12% GST				1378.41
			Rate per m				12865.16
						<b>say</b>	<b><u>12865.00</u></b>
			The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.				
			Labour Rate				
			Labour				2858.56
			Overhead charges @ 10%				285.86
			Contractors Profit @10%				314.44
							3458.86
			Add 1% labour cess				34.59
			Cost for 40 m				3493.45
			Rate per m				87.34
			Add 12% GST				10.48
			Rate per m				97.82
						<b>say</b>	<b><u>98.00</u></b>
2.32	1100&1700	Note	Driven precast vertical M35 grade R.C.C. Piles excluding Reinforcement complete as per Drawing and & Technical Specification				
			Size of pile - 300 mm x 300 mm				
			<i>Unit = Running Meter</i>				
			<i>Taking output = 60 m</i>				
			a) Materials				
			RCC Grade M-35				
			Rate for concrete may be adopted same as for bottom plug vide item no. 12.11( F ) (IV)	cum	5.40	12147.00	65593.80

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		b ) Material Pile shoes				
		a) C I shoes	kg	240.00	85.00	20400.00
		b) M. S shoes	kg	105.00	135.00	14175.00
		c) Steel helmet and cushion block on top of pile head during driving.	Kg	30.00	114.00	3420.00
		c) Machinery				
		Crane 10 tonne capacity	hour	6.00	1096.00	6576.00
		Vibrating Pile driving hammer complete with power unit and accessories.	hour	6.00	2500.00	15000.00
		d ) Labour				
		Mate/Supervisor	day	0.12	350.00	42.00
		Mazdoor	day	3.00	350.00	1050.00
		Add 1 per cent of (a+b+c) for carriage of piles from casting yard to work site and stacking, and other imponderables during installation.				1262.57
		e) Overhead charges @ 10 % on (b+c+d)				6192.56
		f) Contractor's profit @ 10 % on (b+c+d+e)				6811.81
						140523.74
		Add 1% labour cess				1405.24
		Cost for 60 m = a+b+c+d+e+f				141928.97
		Rate per metre (a+b+c+d+e+f)/60				2365.48
		Add 12% GST				283.86
		Rate per m				2649.34
					<b>say</b>	<b><u>2649.00</u></b>
		The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.				
		Labour Rate				
		Labour				2130.56
		Overhead charges @ 10%				213.06
		Contractors Profit @10%				234.36
						2577.98
		Add 1% labour cess				25.78
		Cost for 60 m				2603.76
		Rate per m				43.40
		Add 12% GST				5.21

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Rate per m				48.61
						<b>say</b>	<b><u>49.00</u></b>
2.33	1100 & 1700	Note	Driven precast vertical M35 grade R.C.C. Piles excluding Reinforcement complete as per Drawing and & Technical Specification				
			Size of pile - 500 mm x 500 mm				
			<i>Unit = Running Meter</i>				
			<i>Taking output = 50 m</i>				
			a) Materials				
			RCC Grade M-35				
			Rate for concrete may be adopted same as for bottom plug vide item no. 12.11( F ) (IV)	cum	12.50	12147.00	151837.50
			b ) Material Pile shoes				
			a) C I shoes	kg	160.00	85.00	13600.00
			b) M. S shoes	kg	70.00	135.00	9450.00
			c) Steel helmet and cushion block on top of pile head during driving.	Kg	30.00	114.00	3420.00
			c) Machinery				
			Crane 20 tonne capacity	hour	6.00	1100.00	6600.00
			Vibrating Pile driving hammer complete with power unit and accessories.	hour	6.00	2500.00	15000.00
			d ) Labour				
			Mate/Supervisor	day	0.16	350.00	56.00
			Mazdoor	day	4.00	350.00	1400.00
			Add 1 per cent of (a+b+c) for carriage of piles from casting yard to work site and stacking, and other imponderables during installation.				2013.64
			e) Overhead charges @ 10 % on (b+c+d)				5153.96
			f) Contractor's profit @ 10 % on (b+c+d+e)				5669.36
							214200.46
			Add 1% labour cess				2142.00
			Cost for 50 m = a+b+c+d+e+f				216342.46
			Rate per metre (a+b+c+d+e+f)/50				4326.85
			Add 12% GST				519.22

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Rate per m				4846.07
						<b>say</b>	<b><u>4846.00</u></b>
			The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.				
			Labour Rate				
			Labour				2494.56
			Overhead charges @ 5%				124.73
			Contractors Profit @10%				261.93
							2881.22
			Add 1% labour cess				28.81
			Cost for 50 m				2910.03
			Rate per m				58.20
			Add 12% GST				6.98
			Rate per m				65.18
						<b>say</b>	<b><u>65.00</u></b>
2.34	1100 & 1700	Note	Driven precast vertical M35 grade R.C.C. Piles excluding Reinforcement complete as per Drawing and & Technical Specification				
			Size of pile - 750 mm x 750 mm				
			<i>Unit = Running Meter</i>				
			<i>Taking output = 40 m</i>				
			a) Materials				
			RCC Grade M-35				
			Rate for concrete may be adopted same as for bottom plug vide item no. 13.11( F ) (IV)	cum	22.50	12147.00	273307.50
			b) Material				
			Pile shoes				
			a) C I shoes	kg	160.00	85.00	13600.00
			b) M. S shoes	kg	70.00	135.00	9450.00
			c) Steel helmet and cushion block on top of pile head during driving.	Kg	30.00	114.00	3420.00
			c) Machinery				
			Crane 20 tonne capacity	hour	6.00	1100.00	6600.00
			Vibrating Pile driving hammer complete with power unit and	hour	6.00	2500.00	15000.00
			d) Labour				
			Mate/Supervisor	day	0.18	350.00	63.00
			Mazdoor	day	4.50	350.00	1575.00

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 1 per cent of (a+b+c) for carriage of piles from casting yard to work site and stacking, and other imponderables during installation.				3230.16
			e) Overhead charges @ 10 % on (b+c+d)				5293.82
			f) Contractor's profit @ 10 % on (b+c+d+e)				5823.20
							337362.67
			Add 1% labour cess				3373.63
			Cost for 40 m = a+b+c+d+e+f				340736.29
			Rate per metre (a+b+c+d+e+f)/40				8518.41
			Add 12% GST				1022.21
			Rate per m				9540.62
						<b>say</b>	<b><u>9541.00</u></b>
			The quantity of concrete required to be removed above the designed top level of concrete, if any, will be provided for in the rate analysis.				
			Labour Rate				
			Labour				2676.56
			Overhead charges @ 10%				267.66
			Contractors Profit @10%				294.42
							3238.64
			Add 1% labour cess				32.39
			Cost for 40 m				3271.02
			Rate per m				81.78
			Add 12% GST				9.81
			Rate per m				91.59
						<b>say</b>	<b><u>92.00</u></b>
2.35	1100, 1900	Note	Driven Vertical Steel Piles complete as per Drawing and & Technical Specification				
			Section of the pile - H Section steel column 400 x 250 mm (ISHB Series)				
			<i>Unit = Running Meter</i>				
			<i>Taking output = 70 m</i>				
			a) Materials				
			Structural steel including 5 per cent wastage @ 82.20 kg/m	tonnes	6.04	55110.00	332864.40
			b) Machinery				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Crane 10 T capacity	hour	6.00	1096.00	6576.00
		Vibrating Pile driving hammer complete with power unit and other accessories.	hour	6.00	2500.00	15000.00
		c) Labour				
		Mate/Supervisor	day	0.12	350.00	42.00
		Mazdoor	day	3.00	350.00	1050.00
		Add 0.5 per cent of (a+b+c) for providing steel helmet on top of pile head during driving, stacking of piles at site, providing anti-corrosion treatment and other imponderables during installation.				1777.66
		d) Overhead charges @ 10 % on (a+b+c)				35731.01
		e) Contractor's profit @ 10 % on (a+b+c+d)				39304.11
						432345.18
		Add 1% labour cess				4323.45
		Cost for 70 m = a+b+c+d+e				436668.63
		Rate per metre (a+b+c+d+e)/70				6238.12
		Add 12% GST				748.57
		Rate per m				6986.70
					<b>say</b>	<b><u>6987.00</u></b>
		Labour Rate				
		Labour				2869.66
		Overhead charges @ 10%				286.97
		Contractors Profit @10%				315.66
						3472.29
		Add 1% labour cess				34.72
		Cost for 70 m				3507.01
		Rate per m				50.10
		Add 12% GST				6.01
		Rate per m				56.11
					<b>say</b>	<b><u>56.00</u></b>
2.36	1100 & 1900	Driven Vertical Steel Piles complete as per Drawing and & Technical Specification				
		Section of the pile - H Section steel column 450 x 250 mm (ISHB Series)				
		Unit = Running Meter				
		Taking output = 60 m				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		a) Materials				
		Structural steel including 5 per cent wastage @92.50 kg/m	tonnes	5.83	55110.00	321291.30
		b) Machinery				
		Crane 10 T capacity	hour	6.00	1096.00	6576.00
		Vibrating Pile driving hammer complete with power unit and accessories.	hour	6.00	2500.00	15000.00
		c) Labour				
		Mate/Supervisor	day	0.14	350.00	49.00
		Mazdoor	day	3.50	350.00	1225.00
		Add 0.5 per cent of (a+b+c) for providing steel helmet and cushion block on top of pile head during driving, stacking of piles at site, providing anti-corrosive treatment and other imponderables during installation.				1720.71
		d) Overhead charges @ 10 % on (a+b+c)				34586.20
		e) Contractor's profit @ 10 % on (a+b+c+d)				38044.82
						418493.03
		Add 1% labour cess				4184.93
		Cost for 60 m = a+b+c+d+e				422677.96
		Rate per metre (a+b+c+d+e)/60				7044.63
		Add 12% GST				845.36
		Rate per m				7889.99
					<b>say</b>	<b><u>7890.00</u></b>
		Labour Rate				
		Labour				2994.71
		Overhead charges @10%				299.47
		Contractors Profit @10%				329.42
						3623.59
		Add 1% labour cess				36.24
		Cost for 60 m				3659.83
		Rate per m				61.00
		Add 12% GST				7.32
		Rate per m				68.32
					<b>say</b>	<b><u>68.00</u></b>
2.37	1100	Pile Load Test on single Vertical Pile in accordance with IS:2911(Part-IV)				
		Unit = 1 MT				



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			<i>Taking output = 1 MT</i>				
			a) Initial and routine load test	tonne	1.00	500.00	300.00
			b) Lateral load test	tonne	1.00	7200.00	5000.00
			Although, this item is incidental to work and is not required to be included in BOQ of contract, the same is required to be added in the estimate to assess cost of work.				
2.38	1100, 1500 & 1700	Note	Cement Concrete for Reinforced Concrete in Pile Cap complete as per Drawing and Technical Specification				
			RCC Grade M20				
		A	<i>Unit = cum</i>				
			<i>Taking output = 15 cum</i>				
			Using Concrete Mixer				
		(i)	a) Material				
			Cement	tonne	5.12	6875.00	35200.00
			Coarse sand	cum	6.75	1156.00	7803.00
			20 mm Aggregate	cum	8.10	1298.00	10513.80
			10 mm Aggregate	cum	5.40	1298.00	7009.20
			b) Labour				
			Mate	day	0.90	350.00	315.00
			Mason	day	1.50	421.17	631.75
			Mazdoor for concreting	day	20.00	350.00	7000.00
			Mazdoor for breaking pile head, bending bars, cleaning etc.	day	1.00	350.00	350.00
			c) Machinery				
			Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
			Generator (capacity 33 KVA)	hour	6.00	630.00	3780.00
			Formwork @ 4 per cent on cost of concrete i.e. cost of a) Material, b) Labour and c) Machinery				2988.11
			d) Overhead charges @ 10 % on (a+b+c)				7769.09
			e) Contractor's profit @ 10 % on (a+b+c+d)				8545.99
							94005.94
			Add 1% labour cess				940.06
			Cost for 15 cum = a+b+c+d+e				94946.00
			Rate per metre (a+b+c+d+e)/15				6329.73
			Add 12% GST				759.57

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Rate per m				7089.30
					<b>say</b>	<b><u>7089.00</u></b>
		Labour Rate				
		Labour				8296.75
		Overhead charges @ 10%				829.68
		Contractors Profit @10%				912.64
						10039.07
		Add 1% labour cess				100.39
		Cost for 15cum				10139.46
		Rate per 1cum				675.96
		Add 12% GST				81.12
		Rate per cum				757.08
					<b>say</b>	<b><u>757.00</u></b>
2.38A		Using Batching Plant, Transit Mixer and Concrete Pump				
	(ii)	a) Material				
		Cement	tonne	5.12	6875.00	35200.00
		Coarse sand	cum	6.75	1214.00	8194.50
		20 mm Aggregate	cum	8.10	1298.00	10513.80
		10 mm Aggregate	cum	5.40	1298.00	7009.20
		b) Labour				
		Mate	day	0.16	350.00	56.00
		Mason	day	0.38	421.17	160.04
		Mazdoor for concreting	day	2.50	350.00	875.00
		Mazdoor for breaking pile head, bending bars, cleaning etc.	day	1.00	350.00	350.00
		c) Machinery				
		Batching Plant @ 20 cum/hour	hour	0.75	14488.00	10866.00
		Generator 100 KVA	hour	0.75	1160.00	870.00
		Loader (capacity 1 cum)	hour	0.75	1321.00	990.75
		Transit Mixer ( capacity 4.0 cu.m )				
		Lead upto 1 Km	hour	2.00	1601.00	3202.00
		Lead beyond 1 Km, L - lead in Kilometer	tonne.k m	37.5L	1601.00	60037.50
		Concrete Pump	hour	0.75	240.00	180.00
		Formwork @ 4 per cent on cost of concrete i.e. cost of a) Material, b) Labour and c) Machinery				5540.19
		d) Overhead charges @ 10 % on (a+b+c)				14404.50
		e) Contractor's profit @ 10 % on (a+b+c+d)				15844.95

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
							174294.43
			Add 1% labour cess				1742.94
			Cost for 15 cum = a+b+c+d+e				176037.38
			Rate per metre (a+b+c+d+e)/15				11735.83
			Add 12% GST				1408.30
			Rate per m				13144.12
						<b>say</b>	<b><u>13144.00</u></b>
			The value of a, b and c may be taken as applicable i.e. either using concrete mixer or batching plant.				
			Labour Rate				
			Labour				1441.04
			Overhead charges @ 10%				144.10
			Contractors Profit @10%				158.51
							1743.66
			Add 1% labour cess				17.44
			Cost for 15cum				1761.10
			Rate per 1cum				117.41
			Add 12% GST				14.09
			Rate per cum				131.50
						<b>say</b>	<b><u>131.00</u></b>
2.38		Note	RCC Grade M25				
		B	Unit = cum				
			Taking output = 15 cum				
			Using Concrete Mixer				
		(i)	a) Material				
			Cement	tonne	5.99	6875.00	41181.25
			Coarse sand	cum	6.75	1156.00	7803.00
			20 mm Aggregate	cum	8.10	1298.00	10513.80
			10 mm Aggregate	cum	5.40	1298.00	7009.20
			b) Labour				
			Mate	day	0.90	350.00	315.00
			Mason	day	1.50	421.17	631.75
			Mazdoor for concreting	day	20.00	350.00	7000.00
			Mazdoor for breaking pile head, bending bars, cleaning etc.	day	1.00	350.00	350.00
			c) Machinery				
			Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
			Generator (capacity 33 KVA)	hour	6.00	630.00	3780.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Formwork @ 4 per cent on cost of concrete i.e. cost of a) Material, b) Labour and c) Machinery				3227.36
		d) Overhead charges @ 10 % on (a+b+c)				8391.14
		e) Contractor's profit @ 10 % on (a+b+c+d)				9230.25
						101532.75
		Add 1% labour cess				1015.33
		Cost for 15 cum = a+b+c+d+e				102548.07
		Rate per metre (a+b+c+d+e)/15				6836.54
		Add 12% GST				820.38
		Rate per m				7656.92
					<b>say</b>	<b><u>7657.00</u></b>
		Labour Rate				
		Labour				8296.75
		Overhead charges @ 10%				829.68
		Contractors Profit @10%				912.64
						10039.07
		Add 1% labour cess				100.39
		Cost for 15cum				10139.46
		Rate per 1cum				675.96
		Add 12% GST				81.12
		Rate per cum				757.08
					<b>say</b>	<b><u>757.00</u></b>
2.38B		Using Batching Plant, Transit Mixer and Concrete Pump				
	(ii)	a) Material				
		Cement	tonne	5.99	6875.00	41181.25
		Coarse sand	cum	6.75	1214.00	8194.50
		20 mm Aggregate	cum	8.10	1298.00	10513.80
		10 mm Aggregate	cum	5.40	1298.00	7009.20
		b) Labour				
		Mate	day	0.16	350.00	56.00
		Mason	day	0.38	421.17	160.04
		Mazdoor for concreting	day	2.50	350.00	875.00
		Mazdoor for breaking pile head, bending bars, cleaning etc.	day	1.00	350.00	350.00
		c) Machinery				
		Batching Plant @ 20 cum/hour	hour	0.75	14488.00	10866.00
		Generator 125 KVA	hour	0.75	1160.00	870.00
		Loader (capacity 1 cum)	hour	0.75	1321.00	990.75

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Transit Mixer ( capacity 4.0 cu.m )				
			Lead upto 1 Km	hour	2.00	1601.00	3202.00
			Lead beyond 1 Km, L - lead in Kilometer	tonne.k m	37.5L	1601.00	60037.50
			Concrete Pump	hour	0.75	240.00	180.00
			Formwork @ 4 per cent on cost of concrete i.e. cost of a) Material, b) Labour and c) Machinery				5779.44
			d) Overhead charges @ 10 % on (a+b+c)				15026.55
			e) Contractor's profit @ 10 % on (a+b+c+d)				16529.20
							181821.24
			Add 1% labour cess				1818.21
			Cost for 15 cum = a+b+c+d+e				183639.45
			Rate per metre (a+b+c+d+e)/15				12242.63
			Add 12% GST				1469.12
			Rate per cum				13711.75
						<b>say</b>	<b><u>13712.00</u></b>
			The value of a, b and c may be taken as applicable i.e. either using concrete mixer or batching plant.				
			Labour Rate				
			Labour				1441.04
			Overhead charges @ 10%				144.10
			Contractors Profit @10%				158.51
							1743.66
			Add 1% labour cess				17.44
			Cost for 15cum				1761.10
			Rate per 1cum				117.41
			Add 12% GST				14.09
			Rate per cum				131.50
						<b>say</b>	<b><u>131.00</u></b>
2.38		Note	RCC Grade M30				
		C	Unit = cum				
			Taking output = 15 cum				
			Using Concrete Mixer				
		(i)	a) Material				
			Cement	tonne	6.10	6875.00	41937.50
			Coarse sand	cum	6.75	1156.00	7803.00
			20 mm Aggregate	cum	8.10	1298.00	10513.80
			10 mm Aggregate	cum	5.40	1298.00	7009.20

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		b) Labour				
		Mate	day	0.90	350.00	315.00
		Mason	day	1.50	421.17	631.75
		Mazdoor for concreting	day	20.00	350.00	7000.00
		Mazdoor for breaking pile head, bending bars, cleaning etc.	day	1.00	350.00	350.00
		c) Machinery				
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
		Generator (capacity 33 KVA)	hour	6.00	630.00	3780.00
		Formwork @ 4 per cent on cost of concrete i.e. cost of a) Material, b) Labour and c) Machinery				3257.61
		d) Overhead charges @ 10 % on (a+b+c)				8469.79
		e) Contractor's profit @ 10 % on (a+b+c+d)				9316.76
						102484.41
		Add 1% labour cess				1024.84
		Cost for 15 cum = a+b+c+d+e				103509.25
		Rate per c metre (a+b+c+d+e)/15				6900.62
		Add 12% GST				828.07
		Rate per cum				7728.69
					<b>say</b>	<b><u>7729.00</u></b>
		Labour Rate				
		Labour				8296.75
		Overhead charges @ 10%				829.68
		Contractors Profit @10%				912.64
						10039.07
		Add 1% labour cess				100.39
		Cost for 15cum				10039.07
		Rate per 1cum				669.27
		Add 12% GST				80.31
		Rate per cum				749.58
					<b>say</b>	<b><u>750.00</u></b>
'2.38C		Using Batching Plant, Transit Mixer and Concrete Pump				
	(ii)	a) Material				
		Cement	tonne	6.10	6875.00	41937.50
		Coarse sand	cum	6.75	1214.00	8194.50
		20 mm Aggregate	cum	8.10	1298.00	10513.80
		10 mm Aggregate	cum	5.40	1298.00	7009.20

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		b) Labour				
		Mate	day	0.16	350.00	56.00
		Mason	day	0.38	421.17	160.04
		Mazdoor for concreting	day	2.50	350.00	875.00
		Mazdoor for breaking pile head, bending bars, cleaning etc.	day	1.00	350.00	350.00
		c) Machinery				
		Batching Plant @ 20 cum/hour	hour	0.75	14488.00	10866.00
		Generator 100 KVA	hour	0.75	1160.00	870.00
		Loader (capacity 1 cum)	hour	0.75	1321.00	990.75
		Transit Mixer ( capacity 4.0 cu.m )				
		Lead upto 1 Km	hour	2.00	1601.00	3202.00
		Lead beyond 1 Km, L - lead in Kilometer	tonne.km	37.5L	1601.00	60037.50
		Concrete Pump	hour	0.75	240.00	180.00
		Formwork @ 4 per cent on cost of concrete i.e. cost of a) Material, b) Labour and c) Machinery				5809.69
		d) Overhead charges @ 10 % on (a+b+c)				15105.20
		e) Contractor's profit @ 10 % on (a+b+c+d)				16615.72
						182772.90
		Add 1% labour cess				1827.73
		Cost for 15 cum = a+b+c+d+e				184600.63
		Rate per metre (a+b+c+d+e)/15				12306.71
		Add 12% GST				1476.81
		Rate per cum				13783.51
					<b>say</b>	<b><u>13784.00</u></b>
		The value of a, b and c may be taken as applicable i.e. either using concrete mixer or batching plant.				
		Labour Rate				
		Labour				1441.04
		Overhead charges @ 10%				144.10
		Contractors Profit @10%				158.51
						1743.66
		Add 1% labour cess				17.44
		Cost for 15cum				1761.10
		Rate per 1cum				117.41
		Add 12% GST				14.09
		Rate per cum				131.50

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
						<b>say</b>	<b><u>131.00</u></b>
2.38		Note	RCC Grade M35				
		D	Unit = cum				
			Taking output = 15 cum				
			Using Concrete Mixer				
		(i)	a) Material				
			Cement	tonne	6.33	6875.00	43518.75
			Coarse sand	cum	6.75	1156.00	7803.00
			20 mm Aggregate	cum	8.10	1298.00	10513.80
			10 mm Aggregate	cum	5.40	1298.00	7009.20
			b) Labour				
			Mate	day	0.90	350.00	315.00
			Mason	day	1.50	421.17	631.75
			Mazdoor	day	20.00	350.00	7000.00
			Mazdoor for breaking pile head, bending bars, cleaning etc.	day	1.00	350.00	350.00
			c) Machinery				
			Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
			Generator (capacity 33 KVA)	hour	6.00	630.00	3780.00
			Formwork @ 4 per cent on cost of concrete i.e. cost of a) Material, b) Labour and c) Machinery				3320.86
			d) Overhead charges @ 10 % on (a+b+c)				8634.24
			e) Contractor's profit @ 10 % on (a+b+c+d)				9497.66
							104474.26
			Add 1% labour cess				1044.74
			Cost for 15 cum = a+b+c+d+e				105519.00
			Rate per metre (a+b+c+d+e)/15				7034.60
			Add 12% GST				844.15
			Rate per cum				7878.75
						<b>say</b>	<b><u>7879.00</u></b>
			Labour Rate				
			Labour				8296.75
			Overhead charges @ 10%				829.68
			Contractors Profit @10%				912.64
							10039.07
			Add 1% labour cess				100.39
			Cost for 15cum				10139.46
			Rate per 1cum				675.96



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 12% GST				81.12
		Rate per cum				757.08
					<b>say</b>	<b><u>757.00</u></b>
'2.38D		Using Batching Plant, Transit Mixer and Concrete Pump				
	(ii)	a) Material				
		Cement	tonne	6.33	6875.00	43518.75
		Coarse sand	cum	6.75	1214.00	8194.50
		20 mm Aggregate	cum	8.10	1298.00	10513.80
		10 mm Aggregate	cum	5.40	1298.00	7009.20
		b) Labour				
		Mate	day	0.16	350.00	56.00
		Mason	day	0.38	421.17	160.04
		Mazdoor for concreting	day	2.50	350.00	875.00
		Mazdoor for breaking pile head, bending bars, cleaning etc.	day	1.00	350.00	350.00
		c) Machinery				
		Batching Plant @ 20 cum/hour	hour	0.75	14488.00	10866.00
		Generator 125 KVA	hour	0.75	1160.00	870.00
		Loader (capacity 1 cum)	hour	0.75	1321.00	990.75
		Transit Mixer ( capacity 4.0 cu.m )				
		Lead upto 1 Km	hour	2.00	1601.00	3202.00
		Lead beyond 1 Km, L - lead in Kilometer	tonne.k m	37.5L	1601.00	60037.50
		Concrete Pump	hour	0.75	240.00	180.00
		Formwork @ 4 per cent on cost of concrete i.e. cost of a) Material, b) Labour and c) Machinery				5872.94
		d) Overhead charges @ 10 % on (a+b+c)				15269.65
		e) Contractor's profit @ 10 % on (a+b+c+d)				16796.61
						184762.75
		Add 1% labour cess				1847.63
		Cost for 15 cum = a+b+c+d+e				186610.37
		Rate per metre (a+b+c+d+e)/15				12440.69
		Add 12% GST				1492.88
		Rate per cum				13933.57
					<b>say</b>	<b><u>13934.00</u></b>
		Labour Rate				
		Labour				1441.04
		Overhead charges @ 10%				144.10

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Contractors Profit @10%				158.51
						1743.66
		Add 1% labour cess				17.44
		Cost for 15cum				1761.10
		Rate per 1cum				117.41
		Add 12% GST				14.09
		Rate per cum				131.50
					<b>say</b>	<b><u>131.00</u></b>
2.39	1100&1700	Levelling Course for Pile cap				
		Providing and laying of PCC M15 levelling course 100mm thick below the pile cap.				
		Unit = cum				
		Taking output = 15 cum				
		a) Material				
		Cement	tonne	4.13	6875.00	28393.75
		Coarse sand	cum	6.75	1156.00	7803.00
		40 mm aggregate	cum	8.10	954.00	7727.40
		20 mm Aggregate	cum	4.05	1298.00	5256.90
		10 mm Aggregate	cum	1.35	1298.00	1752.30
		b) Labour				
		Mate	day	0.86	350.00	301.00
		Mason	day	1.50	421.17	631.75
		Mazdoor	day	20.00	350.00	7000.00
		c) Machinery				
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
		Generator 33 KVA	hour	6.00	630.00	3780.00
		d) Overhead charges @ 10 % on (a+b+c)				6474.61
		e) Contractor's profit @ 10 % on (a+b+c+d)				7122.07
						78342.78
		Add 1% labour cess				783.43
		Cost for 15 cum = a+b+c+d+e				79126.21
		Rate per metre (a+b+c+d+e)/15				5275.08
		Add 12% GST				633.01
		Rate per cum				5908.09
					<b>say</b>	<b><u>5908.00</u></b>
		Labour Rate				
		Labour				7932.75
		Overhead charges @ 10%				793.28
		Contractors Profit @10%				872.60

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
						9598.63
		Add 1% labour cess				95.99
		Cost for 15cum				9694.61
		Rate per 1cum				646.31
		Add 12% GST				77.56
		Rate per cum				723.87
					<b>say</b>	<b><u>724.00</u></b>
2.40	1600	Supplying, Fitting and Placing un-coated HYSD bar Reinforcement in Foundation complete as per Drawing and Technical Specifications.				
		<i>Unit = 1 MT</i>				
		<i>Taking output = 1 MT</i>				
		a) Material				
		HYSD bars including 5 per cent overlaps and wastage	tonne	1.05	59875.00	62868.75
		Binding wire	Kg	6.00	80.00	480.00
		b) Labour for cutting, bending, shifting to site, tying and placing in position				
		Mate	day	0.40	350.00	140.00
		Blacksmith	day	2.00	505.17	1010.33
		Mazdoor	day	6.00	350.00	2100.00
		c) Overhead charges @ 10 % on (a+b)				6659.91
		d) Contractor's profit @ 10 % on (a+b+c)				7325.90
						80584.89
		Add 1% labour cess				805.85
		Rate for per MT (a+b+c+d)				81390.74
		Add 12% GST				9766.89
		Rate per MT				91157.63
					<b>say</b>	<b><u>91158.00</u></b>
		Labour Rate				
		Labour				3250.33
		Overhead charges @ 10%				325.03
		Contractors Profit @10%				357.54
						3932.90
		Add 1% labour cess				39.33
		Cost for 1MT				3972.23
		Rate per MT				3972.23
		Add 12% GST				476.67
		Rate per MT				4448.90
					<b>say</b>	<b><u>4449.00</u></b>

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
2.41	1600	Supplying, fitting and placing un-coated Mild steel reinforcement complete in foundation as per drawing and technical specification				
		<i>Unit = 1 MT</i>				
		<i>Taking output = 1 MT</i>				
		a) Material				
		MS bars including 5 per cent overlaps and wastage	tonne	1.05	58000.00	60900.00
		Binding wire	Kg	6.00	80.00	480.00
		b) Labour for straightening, cutting, bending, shifting to site, tying and placing in position				
		Mate	day	0.43	350.00	150.50
		Blacksmith	day	2.25	505.17	1136.63
		Mazdoor	day	6.50	350.00	2275.00
		c) Overhead charges @ 10 % on (a+b)				6494.21
		d) Contractor's profit @ 10 % on (a+b+c)				7143.63
						78579.97
		Add 1% labour cess				785.80
		Rate for per MT (a+b+c+d)				79365.77
		Add 12% GST				9523.89
		Rate per MT				88889.66
					<b>say</b>	<b><u>88890.00</u></b>
		Labour Rate				
		Labour				3562.13
		Overhead charges @ 10%				356.21
		Contractors Profit @10%				391.83
						4310.17
		Add 1% labour cess				43.10
		Cost for 1MT				4353.27
		Rate per MT				4353.27
		Add 12% GST				522.39
		Rate per MT				4875.66
					<b>say</b>	<b><u>4876.00</u></b>

## Chapter-3: Substructure

### Preamble:

1. Although, Substructure are generally constructed in cement concrete, the rate analysis for brick and stone masonry in CM 1:3 have also been included which can be adopted if permitted by design.
2. The cost of formwork will vary with the height of the substructure. Provision has accordingly been made.
3. As the higher grade of concrete is costlier, the provision made for formwork on percentage basis has been suitably adjusted to make it comparable with other grades.
4. Bridge bearings being commercial items produced by specialized firms with imported technology and parts, the rates for the same are required to be ascertained from the market for the approved design and technical specifications.
5. Filter media and backfilling behind abutments are required to be provided as per guidelines given in IRC: 78-2000.
6. Weep holes shall be provided as per clause 2706 of MORT & H Specification.
7. In case of roller-cum rocker bearings, only full circular rollers are to be provided.
8. All bearings shall be set truly level so as to have full and even seating.
9. For elastomeric bearings, the concrete surface shall be leveled such that the variation is not more than 1.5 mm from a straight edge placed in any direction across the area.
10. The bearing should be procured only from those manufacturers who have been pre-qualified by the Ministry of Road Transport and Highways.
11. The bottom of girders resting on the bearing shall be plane and truly horizontal.
12. For spans in grade, the bearing shall be placed horizontal by using sole plates for suitably designed RCC pedestals.

**CHAPTER-3  
SUB-STRUCTURE**

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
3.1	1300 & 2200	Brick masonry work in 1:3 in sub-structure complete excluding pointing and plastering, as per drawing and Technical Specifications				
		<i>Unit = cum</i>				
		<i>Taking output = 1 cum</i>				
		<b>a) Material</b>				
		Bricks 1st class	each	500.00	7.00	3500.00
		Cement mortar 1:3 (Rate as in Item 12.6 A sub-analysis)	cum	0.24	5049.00	1211.76
		<b>b) Labour</b>				
		Mate	day	0.06	350.00	21.00
		Mason	day	0.80	505.17	404.13
		Mazdoor	day	0.80	350.00	280.00
		Add for scaffolding @ 5 per cent of cost of material and labour				270.84
		<b>c) Overhead charges @ 10 % on (a+b)</b>				568.77
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				625.65
		<b>Rate per cum (a+b+c+d)</b>				6882.16
						13764.33
		Add 1% labour cess				137.64
						13901.97
		Add 12% GST				1668.24
		Rate per cum				15570.21
					<b>say</b>	<b><u>15570.00</u></b>
		Labour Rate				
		Labour				1034.13
		Add for scaffolding @ 5 per cent of cost labour				51.71
		<b>c) Overhead charges @ 10 % on (a+b)</b>				108.58
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				119.44
						1313.87
		Add 1% labour cess				13.14
		Cost for 1 cum				1327.01
		Rate per cum				1327.01
		Add 12% GST				159.24
		Rate per cum				1486.25
					<b>say</b>	<b><u>1486.00</u></b>
3.2	1300 & 2200	Pointing with cement mortar (1:3 ) on brick work in substructure as per Technical Specifications				
		<i>Unit = 10 sqm</i>				
		<i>Taking output = 10 sqm</i>				
		<b>a) Material</b>				
		Cement mortar 1:3 (Rate as in Item 12.6 )	cum	0.03	5049.00	151.47
		<b>b) Labour</b>				
		Mate	day	0.04	350.00	14.00
		Mason	day	0.50	505.17	252.58
		Mazdoor	day	0.50	350.00	175.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		c) Overhead charges @ 10 % on (a+b)				59.31
		d) Contractor's profit @ 10 % on (a+b+c)				65.24
						717.59
		Add 1% labour cess				7.18
		<b>Rate per 10 sqm (a+b+c+d)</b>				724.77
		Add 12% GST				86.97
		Rate per 10 sqm				811.74
		Rate per 1sqm				81.17
					<b>say</b>	<b><u>81.00</u></b>
	<b>Note</b>	Scaffolding is already included in item 13.1				
		Labour Rate				3290.00
		Labour				441.58
		Overhead charges @ 10%				44.16
		Contractors Profit @10%				48.57
						534.32
		Add 1% labour cess				5.34
		Cost for 10 Sqm				539.66
		Rate perSqm				53.97
		Add 12% GST				6.48
		Rate per sqm				60.45
					<b>say</b>	<b><u>60.00</u></b>
<b>3.3</b>	<b>1300 &amp; 2200</b>	<b>Plastering with cement mortar (1:3 ) on brick work in sub-structure as per Technical Specifications</b>				
		<b>Unit = 10 sqm</b>				
		<b>Taking output = 10 sqm</b>				
		<b>a) Material</b>				
		Cement mortar 1:3 (Rate as in Item 12.6)	cum	0.144	5049.00	727.06
		<b>b) Labour</b>				
		Mate	day	0.04	350.00	14.00
		Mason	day	0.50	505.17	252.58
		Mazdoor	day	0.50	350.00	175.00
		c) Overhead charges @ 10 % on (a+b)				116.86
		d) Contractor's profit @ 10 % on (a+b+c)				128.55
						1414.05
		Add 1% labour cess				14.14
		<b>Rate per 10 sqm (a+b+c+d)</b>				1428.19
		Add 12% GST				171.38
		Rate per 10 sqm				1599.58
		Rate per 1 sqm				159.96
					<b>say</b>	<b><u>160.00</u></b>

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
	<b>Note</b>	1.Scaffolding is already included in item no. 13.1				
		2.The number of masons and Mazdoors already catered in the cement mortar have been taken into account while providing these categories in brick masonry, pointing and plastering.				
		Labour Rate				3290.00
		Labour				168.60
		Overhead charges @ 10%				16.86
		Contractors Profit @10%				18.546
						204.01
		Add 1% labour cess				2.04
		Cost for 10 Sqm				206.05
		Rate perSqm				20.60
		Add 12% GST				2.47
		Rate per sqm				23.07
					<b>say</b>	<b><u>23.00</u></b>
3.4	1400 & 2200	Stone masonry work in cement mortar 1:3 for substructure complete as per drawing and Technical Specifications				
	<b>A</b>	<b>Random Rubble Masonry</b> ( coursed/uncoursed ) <b>Unit = cum</b> <b>Taking output = 1 cum</b>				
		<b>a) Material</b>				
		Stone	cum	1.00	700.00	700.00
		Through and bond stone (7no.x0.24mx0.24mx0.39m = 0.16 cu.m)	No	7.00	25.00	175.00
		Cement mortar 1:3 (Rate as in Item 12.6)	cum	0.33	5049.00	1666.17
		<b>b) Labour</b>				
		Mate	day	0.10	350.00	35.00
		Mason	day	1.20	505.17	606.20
		Mazdoor	day	1.20	350.00	420.00
		Add for scaffolding @ 5 per cent of cost of a) Material and b) Labour				180.12
		<b>c) Overhead charges @ 10 % on (a+b)</b>				378.25
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				416.07
						4576.81
		Add 1% labour cess				45.77
		<b>Rate per cum (a+b+c+d)</b>				4622.58
		Add 12% GST				554.71
		Rate per cum				5177.29
					<b>say</b>	<b><u>5177.00</u></b>
		Labour Rate				
		Labour				1061.20



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add for scaffolding @ 5 per cent of cost labour				53.06
		c) Overhead charges @ 10 % on (a+b)				111.43
		d) Contractor's profit @ 10 % on (a+b+c)				122.57
						1348.25
		Add 1% labour cess				13.48
		Cost for 1 cum				1361.74
		Rate per cum				1361.74
		Add 12% GST				163.41
		Rate per cum				1525.15
					<b>say</b>	<b><u>1525.00</u></b>
3.4	B	<b>Coursed rubble masonry (first sort )</b>				
		<i>Unit = cum</i>				
		<i>Taking output = 1 cum</i>				
		<b>a) Material</b>				
		Stone	cum	1.10	700.00	770.00
		Through and bond stone	each	7.00	25.00	175.00
		(7no.x0.24mx0.24mx0.39m = 0.16 cu.m)				
		Cement mortar 1:3 (Rate as in Item 12.6)	cum	0.30	5049.00	1514.70
		<b>b) Labour</b>				
		Mate	day	0.12	350.00	42.00
		Mason	day	1.50	505.17	757.75
		Mazdoor	day	1.50	350.00	525.00
		Add for scaffolding @ 5 per cent of cost of material and labour				189.22
		c) Overhead charges @ 10 % on (a+b)				397.37
		d) Contractor's profit @ 10 % on (a+b+c)				437.10
						1548.69
		Add 1% labour cess				15.49
		<b>Rate per cum (a+b+c+d)</b>				4808.14
		Add 12% GST				576.98
		Rate per cum				5385.12
					<b>say</b>	<b><u>5385.00</u></b>
3.4	C	<b>Ashlar masonry ( first sort )</b>				
		<b>Plain ashlar</b>				
		<i>Unit = cum</i>				
		<i>Taking output = 1 cum</i>				
		<b>a) Material</b>				
		Stone	cum	1.11	1368.00	1518.48
		Through and bond stone	each	7.00	25.00	175.00
		(7no.x0.24mx0.24mx0.39m = 0.16 cu.m)				
		Cement mortar 1:3 (Rate as in Item 12.6)	cum	0.33	5049.00	1666.17
		<b>b) Labour for masonry work</b>				
		Mate	day	0.20	350.00	70.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Mason	day	2.50	505.17	1262.92
		Mazdoor	day	2.50	350.00	875.00
		Add for scaffolding @ 5 per cent of cost of a) Material and b) Labour				278.38
		<b>c) Overhead charges @ 10 % on (a+b)</b>				584.59
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				643.05
						7073.59
		Add 1% labour cess				70.74
		<b>Rate per cum (a+b+c+d)</b>				7144.33
		Add 12% GST				857.32
		Rate per cum				8001.65
					<b>say</b>	<b><u>8002.00</u></b>
	<b>Note</b>	The labour already considered in the cement mortar have been taken into account while providing these categories in the stone masonry works.				
<b>3.5</b>	<b>1500, 1700 &amp; 2200</b>	<b>Plain/Reinforced cement concrete in sub-structure complete as per drawing and Technical Specifications</b>				
		<i>Unit = cum</i>				
		<i>Taking output = 1 cum</i>				
		<b>A</b>				
		<b>(p)</b>				
		<b>PCC Grade M15</b>				
		<b>Height upto 5m</b>				
		Same as Item 12.8 (A) upto 5 m height, except for formwork which shall be 10 per cent instead of 4 per cent of cost of material, labour and machinery.				
		<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (A)</b>				4356.00
		<b>d) formwork</b>				
		Add 10 per cent of cost of material, labour and machinery (a+b+c) for Formwork		10.00		435.60
		<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				479.16
		<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				527.08
						5797.84
		Add 1% labour cess				57.98
		<b>Rate per cum (a+b+c+d+e+f)</b>				5855.81
		Add 12% GST				702.70
		Rate per cum				6558.51
					<b>say</b>	<b><u>6559.00</u></b>
		Labour Rate				
		Labour				2750.50
		Overhead charges @ 10%				275.05
		Contractors Profit @10%				302.56

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
							3328.11
			Add 1% labour cess				33.28
			Cost for 15cum				3361.39
			Rate per cum				<u>224.09</u>
			Add 12% GST				26.89
			Rate per cum				250.98
						say	<u>251.00</u>
<b>3.5</b>		<b>B</b>	<b>PCC Grade M20</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Same as Item 12.8 (B) upto 5 m height, except for formwork which shall be 10 per cent instead of 4 per cent of cost of material, labour and machinery.				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (B)</b>				4859.00
			<b>d) formwork</b>				
			Add 10 per cent of cost of material, labour and machinery (a+b+c) for Formwork		10.00		485.90
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				534.49
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				587.94
							6467.33
			Add 1% labour cess				64.67
			<b>Rate per cum (a+b+c+d+e+f)</b>				6532.00
			Add 12% GST				783.84
			Rate per cum				7315.84
						say	<u>7316.00</u>
<b>3.5</b>		<b>C</b>	<b>PCC Grade M25</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Same as Item 12.8 (D) upto 5 m height with the only change that the provision of form work shall be 10 per cent instead of 3.75 per cent of cost of material, labour and machinery.				
		<b>Case I</b>	<b>Using concrete Mixer</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (D) Case I</b>				5240.00
			<b>d) formwork</b>				
			Add 10 per cent of cost of material, labour and machinery (a+b+c) for Formwork		10.00		524.00
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				576.40
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				634.04
							6974.44
			Add 1% labour cess				
			<b>Rate per cum (a+b+c+d+e+f)</b>				6974.44
			Add 12% GST				836.93

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Rate per cum				7811.37
						say	<u>7811.00</u>
3.5 C (p)		Case II	With Batching Plant, Transit Mixer and Concrete Pump				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (D) Case II				9469.00
			d) formwork				
			Add 10 per cent of cost of material, labour and machinery (a+b+c) for Formwork		10.00		946.90
			e) Overhead charges @ 10 % on (a+b+c+d)				1041.59
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				1145.75
							12603.24
			Add 1% labour cess				126.03
			Rate per cum (a+b+c+d+e+f)				12729.27
			Add 12% GST				1527.51
			Rate per cum				14256.78
						say	<u>14257.00</u>
3.5 C		(q)	Height 5m to 10m				
			Same as Item 12.8 (D) with the following changes: (i) Add 2 per cent of cost of material, Labour and machinery excluding form work to cater for extra lift. (ii) The provision of form work shall be 12 per cent instead of 3.75 per cent of cost of material, labour and machinery				
		Case I	Using concrete Mixer				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (D) Case I				5240.00
			d) formwork				
			Add 12 per cent of cost of material, labour and machinery (a+b+c) for Formwork		12.00		628.80
			Add 2 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		2.00		104.80
			e) Overhead charges @ 10 % on (a+b+c+d)				597.36
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				657.10
							7228.06
			Add 1% labour cess				72.28
			Rate per cum (a+b+c+d+e+f)				7300.34
			Add 12% GST				876.04
			Rate per cum				8176.38
						say	<u>8176.00</u>
3.5 C (q)		Case II	With Batching Plant, Transit Mixer and Concrete Pump				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (D) Case II</b>				9469.00
			<b>d) formwork</b>				
			Add 12 per cent of cost of material, labour and machinery (a+b+c) for Formwork		12.00		1136.28
			Add 2 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		2.00		189.38
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				1079.47
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				1187.41
							13061.54
			Add 1% labour cess				130.62
			<b>Rate per cum (a+b+c+d+e+f)</b>				13192.15
			Add 12% GST				1583.06
			Rate per cum				14775.21
						<b>say</b>	<b><u>14775.00</u></b>
<b>3.5 C</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Same as Item 12.8 (D) with the following changes: (i) Add 4 per cent of cost of material, labour and machinery excluding form work to cater for extra lift. (ii) The provision of form work shall be 15 per cent instead of 3.75 per cent of cost of material, labour and machinery.				
		<b>Case I</b>	<b>Using concrete Mixer</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (D) Case I</b>				5240.00
			<b>d) formwork</b>				
			Add 15 per cent of cost of material, labour and machinery (a+b+c) for Formwork		15.00		786.00
			Add 4 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		4.00		209.60
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				623.56
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				685.92
							7545.08
			Add 1% labour cess				75.45
			<b>Rate per cum (a+b+c+d+e+f)</b>				7620.53
			Add 12% GST				914.46
			Rate per cum				8534.99
						<b>say</b>	<b><u>8535.00</u></b>
<b>3.5 C (r)</b>		<b>Case II</b>	<b>With Batching Plant, Transit Mixer and Concrete Pump</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (D) Case II</b>				9469.00
			<b>d) formwork</b>				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 15 per cent of cost of material, labour and machinery (a+b+c) for Formwork		15.00		1420.35
		Add 4 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		4.00		378.76
		e) Overhead charges @ 10 % on (a+b+c+d)				1126.81
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				1239.49
						13634.41
		Add 1% labour cess				136.34
		<b>Rate per cum (a+b+c+d+e+f)</b>				13770.76
		Add 12% GST				1652.49
		Rate per cum				15423.25
					<b>say</b>	<b><u>15423.00</u></b>
<b>3.5</b>	<b>D</b>	<b>PCC Grade M30</b>				
	<b>(p)</b>	<b>Height upto 5m</b>				
		Same as Item 12.8 (F) upto 5 m height with the only change that the provision of form work shall be 10 per cent instead of 3.50 per cent of cost of material, labour and machinery.				
	<b>Case I</b>	<b>Using concrete Mixer</b>				
		<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (F) Case I</b>				5281.00
		<b>d) formwork</b>				
		Add 10 per cent of cost of material, labour and machinery (a+b+c) for Formwork		10.00		528.10
		e) Overhead charges @ 10 % on (a+b+c+d)				580.91
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				639.00
						7029.01
		Add 1% labour cess				70.29
		<b>Rate per cum (a+b+c+d+e+f)</b>				7099.30
		Add 12% GST				851.92
		Rate per cum				7951.22
					<b>say</b>	<b><u>7951.00</u></b>
<b>3.5 D (p)</b>	<b>Case II</b>	<b>With Batching Plant, Transit Mixer and Concrete Pump</b>				
		<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (F) Case II</b>				9506.00
		<b>d) formwork</b>				
		Add 10 per cent of cost of material, labour and machinery (a+b+c) for Formwork		10.00		950.60
		e) Overhead charges @ 10 % on (a+b+c+d)				1045.66
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				1150.23
						12652.49
		Add 1% labour cess				126.52

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			<b>Rate per cum (a+b+c+d+e+f)</b>				12779.01
			Add 12% GST				1533.48
			Rate per cum				14312.49
						<b>say</b>	<b><u>14312.00</u></b>
<b>3.5 D</b>		<b>(q)</b>	<b>Height 5m to 10m</b>				
			Same as Item 12.8 (F) with the following changes: (i) Add 2 per cent of cost of material, Labour and machinery excluding form work to cater for extra lift. (ii) The provision of form work shall be 12 per cent instead of 3.50 per cent of cost of material, labour and machinery.				
		<b>Case I</b>	<b>Using concrete Mixer</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (F) Case I</b>				5281.00
			<b>d) formwork</b>				
			Add 12 per cent of cost of material, labour and machinery (a+b+c) for Formwork		12.00		633.72
			Add 2 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		2.00		105.62
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				602.03
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				662.24
							7284.61
			Add 1% labour cess				72.85
			<b>Rate per cum (a+b+c+d+e+f)</b>				7357.46
			Add 12% GST				882.89
			Rate per cum				8240.35
						<b>say</b>	<b><u>8240.00</u></b>
<b>3.5 D (q)</b>		<b>Case II</b>	<b>With Batching Plant, Transit Mixer and Concrete Pump</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (F) Case II</b>				9506.00
			<b>d) formwork</b>				
			Add 12 per cent of cost of material, labour and machinery (a+b+c) for Formwork		12.00		1140.72
			Add 2 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		2.00		190.12
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				1083.68
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				1192.05
							13112.58
			Add 1% labour cess				131.13
			<b>Rate per cum (a+b+c+d+e+f)</b>				13243.70
			Add 12% GST				1589.24

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Rate per cum				14832.95
						say	<u>14833.00</u>
3.5 D		(r)	<b>Height above 10m</b>				
			Same as Item 12.8 (F) with the following changes: (i) Add 4 per cent of cost of material, labour and machinery excluding form work to cater for extra lift. (ii) The provision of form work shall be 15 per cent instead of 3.50 per cent of cost of material, labour and machinery				
		<b>Case I</b>	<b>Using concrete Mixer</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (F) Case I</b>				5281.00
			<b>d) formwork</b>				
			Add 15 per cent of cost of material, labour and machinery (a+b+c) for Formwork		15.00		792.15
			Add 4 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		4.00		211.24
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				628.44
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				691.28
							7604.11
			Add 1% labour cess				76.04
			<b>Rate per cum (a+b+c+d+e+f)</b>				7680.15
			Add 12% GST				921.62
			Rate per cum				8601.77
						say	<u>8602.00</u>
3.5 D (r)		<b>Case II</b>	<b>With Batching Plant, Transit Mixer and Concrete Pump</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (F) Case II</b>				9506.00
			<b>d) formwork</b>				
			Add 15 per cent of cost of material, labour and machinery (a+b+c) for Formwork		15.00		1425.90
			Add 4 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		4.00		380.24
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				1131.21
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				1244.34
							13687.69
			Add 1% labour cess				136.88
			<b>Rate per cum (a+b+c+d+e+f)</b>				13824.57
			Add 12% GST				1658.95
			Rate per cum				15483.51
						say	<u>15484.00</u>



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
3.5		E	RCC Grade M20				
		(p)	Height upto 5m				
			Same as Item 12.8 (C) upto 5 m height, except for formwork which shall be 10 per cent instead of 4 per cent of cost of material, labour and machinery.				
		Case I	Using concrete Mixer				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (C) Case I				5006.00
			d) formwork				
			Add 10 per cent of cost of material, labour and machinery (a+b+c) for Formwork		10.00		500.60
			e) Overhead charges @ 10 % on (a+b+c+d)				550.66
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				605.73
							6662.99
			Add 1% labour cess				66.63
			Rate per cum (a+b+c+d+e+f)				6729.62
			Add 12% GST				807.55
			Rate per cum				7537.17
						say	<u>7537.00</u>
3.5 E (p)		Case II	With Batching Plant, Transit Mixer and Concrete Pump				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (C) Case II				9232.00
			d) formwork				
			Add 10 per cent of cost of material, labour and machinery (a+b+c) for Formwork		10.00		923.20
			e) Overhead charges @ 10 % on (a+b+c+d)				1015.52
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				1117.07
							12287.79
			Add 1% labour cess				122.88
			Rate per cum (a+b+c+d+e+f)				12410.67
			Add 12% GST				1489.28
			Rate per cum				13899.95
						say	<u>13900.00</u>
3.5 E		(q)	Height 5m to 10m				
			For height, upto 10m, add 2 per cent of cost as above excluding formwork. For cost of formwork add 12 per cent of cost of material, labour and machinery instead of 4 per cent .				
		Case I	Using concrete Mixer				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (C) Case I				5006.00
			d) formwork				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 12 per cent of cost of material, labour and machinery (a+b+c) for Formwork		12.00		600.72
			Add 2 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		2.00		100.12
			e) Overhead charges @ 10 % on (a+b+c+d)				570.68
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				627.75
							6905.28
			Add 1% labour cess				69.05
			<b>Rate per cum (a+b+c+d+e+f)</b>				6974.33
			Add 12% GST				836.92
			Rate per cum				7811.25
						<b>say</b>	<b><u>7811.00</u></b>
<b>3.5 E (q)</b>		<b>Case II</b>	<b>With Batching Plant, Transit Mixer and Concrete Pump</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (C) Case II</b>				9232.00
			<b>d) formwork</b>				
			Add 12 per cent of cost of material, labour and machinery (a+b+c) for Formwork		12.00		1107.84
			Add 2 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		2.00		184.64
			e) Overhead charges @ 10 % on (a+b+c+d)				1052.45
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				1157.69
							12734.62
			Add 1% labour cess				127.35
			<b>Rate per cum (a+b+c+d+e+f)</b>				12861.97
			Add 12% GST				1543.44
			Rate per cum				14405.40
						<b>say</b>	<b><u>14405.00</u></b>
<b>3.5 E</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Same as Item 12.8 (C) with the following changes: (i) Add 4 per cent of cost of material, labour and machinery excluding form work to cater for extra lift. (ii) The provision of form work shall be 15 per cent instead of 4 per cent of cost of material, labour and machinery.				
		<b>Case I</b>	<b>Using concrete Mixer</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (C) Case I</b>				5006.00
			<b>d) formwork</b>				
			Add 15 per cent of cost of material, labour and machinery (a+b+c) for Formwork		15.00		750.90
			Add 4 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		4.00		200.24

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			e) Overhead charges @ 10 % on (a+b+c+d)				595.71
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				655.29
							7208.14
			Add 1% labour cess				72.08
			<b>Rate per cum (a+b+c+d+e+f)</b>				7280.22
			Add 12% GST				873.63
			Rate per cum				8153.85
						<b>say</b>	<b><u>8154.00</u></b>
3.5 E (r)		Case II	With Batching Plant, Transit Mixer and Concrete Pump				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (C) Case II				9232.00
			d) formwork				
			Add 15 per cent of cost of material, labour and machinery (a+b+c) for Formwork		15.00		1384.80
			Add 4 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		4.00		369.28
			e) Overhead charges @ 10 % on (a+b+c+d)				1098.61
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				1208.47
							13293.16
			Add 1% labour cess				132.93
			<b>Rate per cum (a+b+c+d+e+f)</b>				13426.09
			Add 12% GST				1611.13
			Rate per cum				15037.22
						<b>say</b>	<b><u>15037.00</u></b>
3.5		F	RCC Grade M25				
		(p)	Height upto 5m				
			Same as Item 12.8 (E) upto 5m height, excluding formwork. For cost of formwork, add 10 per cent of cost of material, labour and machinery instead of 3.75 per cent .				
		Case I	Using concrete Mixer				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (E) Case I				5391.00
			d) formwork				
			Add 10 per cent of cost of material, labour and machinery (a+b+c) for Formwork		10.00		539.10
			e) Overhead charges @ 10 % on (a+b+c+d)				593.01
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				652.31
							7175.42
			Add 1% labour cess				71.75
			<b>Rate per cum (a+b+c+d+e+f)</b>				7247.18
			Add 12% GST				869.66
			Rate per cum				8116.84

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
						say	<u>8117.00</u>
3.5 F (p)		Case II	With Batching Plant, Transit Mixer and Concrete Pump				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (E) Case II				9875.00
			d) formwork				
			Add 10 per cent of cost of material, labour and machinery (a+b+c) for Formwork		10.00		987.50
			e) Overhead charges @ 10 % on (a+b+c+d)				1086.25
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				1194.88
							13143.63
			Add 1% labour cess				131.44
			Rate per cum (a+b+c+d+e+f)				13275.06
			Add 12% GST				1593.01
			Rate per cum				14868.07
						say	<u>14868.00</u>
3.5 F		(q)	Height 5m to 10m				
			For height, upto 10m, add 1.8 per cent of cost as above excluding formwork. For cost of formwork add 11.8 per cent of cost of material, labour and machinery				
		Case I	Using concrete Mixer				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (E) Case I				5391.00
			d) formwork				
			Add 11.8 per cent of cost of material, labour and machinery (a+b+c) for Formwork		11.80		636.14
			Add 1.8 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		1.80		97.04
			e) Overhead charges @ 10 % on (a+b+c+d)				612.42
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				673.66
							7410.25
			Add 1% labour cess				74.10
			Rate per cum (a+b+c+d+e+f)				7484.36
			Add 12% GST				898.12
			Rate per cum				8382.48
						say	<u>8382.00</u>
3.5 F (q)		Case II	With Batching Plant, Transit Mixer and Concrete Pump				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (E) Case II				9875.00
			d) formwork				
			Add 11.8 per cent of cost of material, labour and machinery (a+b+c) for Formwork		11.80		1165.25

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 1.8 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		1.80		177.75
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				1121.80
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				1233.98
							13573.78
			Add 1% labour cess				135.74
			<b>Rate per cum (a+b+c+d+e+f)</b>				13709.52
			Add 12% GST				1645.14
			Rate per cum				15354.66
						<b>say</b>	<b><u>15355.00</u></b>
<b>3.5 F</b>		<b>(r)</b>	<b>Height above 10m</b>				
			For height, above 10m, add 4 per cent of cost as above excluding formwork. For cost of formwork add 15 per cent of cost of material, labour and machinery				
		<b>Case I</b>	<b>Using concrete Mixer</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (E) Case I</b>				5391.00
			<b>d) formwork</b>				
			Add 15 per cent of cost of material, labour and machinery (a+b+c) for Formwork		15.00		808.65
			Add 4 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		4.00		215.64
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				641.53
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				705.68
							7762.50
			Add 1% labour cess				77.63
			<b>Rate per cum (a+b+c+d+e+f)</b>				7840.13
			Add 12% GST				940.82
			Rate per cum				8780.94
						<b>say</b>	<b><u>8781.00</u></b>
<b>3.5 F (r)</b>		<b>Case II</b>	<b>With Batching Plant, Transit Mixer and Concrete Pump</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (E) Case II</b>				9875.00
			<b>d) formwork</b>				
			Add 15 per cent of cost of material, labour and machinery (a+b+c) for Formwork		15.00		1481.25
			Add 4 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		4.00		395.00
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				1175.13
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				1292.64

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
							14219.01
			Add 1% labour cess				142.19
			<b>Rate per cum (a+b+c+d+e+f)</b>				14361.20
			Add 12% GST				1723.34
			Rate per cum				16084.55
						<b>say</b>	<b><u>16085.00</u></b>
<b>3.5</b>		<b>G</b>	<b>RCC Grade M30</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Same as Item 12.8 (G) upto 5m height, excluding formwork. For cost of formwork, add 10 per cent of cost of material, labour and machinery instead of 3.5 per cent .				
		<b>Case I</b>	<b>Using concrete Mixer</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (G) Case I</b>				5414.00
			<b>d) formwork</b>				
			Add 10 per cent of cost of material, labour and machinery (a+b+c) for Formwork		10.00		541.40
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				595.54
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				655.09
							7206.03
			Add 1% labour cess				72.06
			<b>Rate perm (a+b+c+d+e+f)</b>				7278.09
			Add 12% GST				873.37
			Rate per cum				8151.47
						<b>say</b>	<b><u>8151.00</u></b>
<b>3.5 G (p)</b>		<b>Case II</b>	<b>With Batching Plant, Transit Mixer and Concrete Pump</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (G) Case II</b>				9641.00
			<b>d) formwork</b>				
			Add 10 per cent of cost of material, labour and machinery (a+b+c) for Formwork		10.00		964.10
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				1060.51
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				1166.56
							12832.17
			Add 1% labour cess				128.32
			<b>Rate perm (a+b+c+d+e+f)</b>				12960.49
			Add 12% GST				1555.26
			Rate per cum				14515.75
						<b>say</b>	<b><u>14516.00</u></b>
<b>3.5 G</b>		<b>(q)</b>	<b>Height 5m to 10m</b>				
			For height, upto 10m, add 1.6 per cent of cost as above excluding formwork. For cost of formwork add 11.5 per cent of cost of material, labour and machinery				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		Case I	Using concrete Mixer				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (G) Case I				5414.00
			d) formwork				
			Add 11.5 per cent of cost of material, labour and machinery (a+b+c) for Formwork		11.50		622.61
			Add 1.6 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		1.60		86.62
			e) Overhead charges @ 10 % on (a+b+c+d)				612.32
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				673.56
							7409.11
			Add 1% labour cess				74.09
			Rate perm (a+b+c+d+e+f)				7483.20
			Add 12% GST				897.98
			Rate per cum				8381.19
						say	<b><u>8381.00</u></b>
3.5 G (q)		Case II	With Batching Plant, Transit Mixer and Concrete Pump				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (G) Case II				9641.00
			d) formwork				
			Add 11.5 per cent of cost of material, labour and machinery (a+b+c) for Formwork		11.50		1108.72
			Add 1.6 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		1.60		154.26
			e) Overhead charges @ 10 % on (a+b+c+d)				1090.40
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				1199.44
							13193.80
			Add 1% labour cess				131.94
			Rate perm (a+b+c+d+e+f)				13325.74
			Add 12% GST				1599.09
			Rate per cum				14924.83
						say	<b><u>14925.00</u></b>
3.5 G		(r)	Height above 10m				
			For height, above 10m, add 3.5 per cent of cost as above excluding formwork. For cost of formwork add 14 per cent of cost of material, labour and machinery				
		Case I	Using concrete Mixer				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (G) Case I				5414.00
			d) formwork				
			Add 14 per cent of cost of material, labour and machinery (a+b+c) for Formwork		14.00		757.96

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 3.5 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		3.50		189.49
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				636.15
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				699.76
							7697.35
			Add 1% labour cess				76.97
			<b>Rate perm (a+b+c+d+e+f)</b>				7774.33
			Add 12% GST				932.92
			Rate per cum				8707.25
						<b>say</b>	<b><u>8707.00</u></b>
<b>3.5 G (r)</b>		<b>Case II</b>	<b>With Batching Plant, Transit Mixer and Concrete Pump</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (G) Case II</b>				9641.00
			<b>d) formwork</b>				
			Add 14 per cent of cost of material, labour and machinery (a+b+c) for Formwork		14.00		1349.74
			Add 3.5 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		3.50		337.44
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				1132.82
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				1246.10
							13707.09
			Add 1% labour cess				137.07
			<b>Rate perm (a+b+c+d+e+f)</b>				13844.16
			Add 12% GST				1661.30
			Rate per cum				15505.46
						<b>say</b>	<b><u>15505.00</u></b>
<b>3.5</b>		<b>H</b>	<b>RCC Grade M35</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Same as Item 12.8 (H) upto 5m height, excluding formwork. For cost of formwork, add 10 per cent of cost of material, labour and machinery instead of 3 per cent .				
		<b>Case I</b>	<b>Using concrete Mixer</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (H) Case I</b>				5519.00
			<b>d) formwork</b>				
			Add 10 per cent of cost of material, labour and machinery (a+b+c) for Formwork		10.00		551.90
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				607.09
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				667.80
							7345.79
			Add 1% labour cess				73.46



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Rate perm (a+b+c+d+e+f)				7419.25
			Add 12% GST				890.31
			Rate per cum				8309.56
						say	<b><u>8310.00</u></b>
3.5 H (p)		Case II	With Batching Plant, Transit Mixer and Concrete Pump				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (H) Case II				10017.00
			d) formwork				
			Add 10 per cent of cost of material, labour and machinery (a+b+c) for Formwork		10.00		1001.70
			e) Overhead charges @ 10 % on (a+b+c+d)				1101.87
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				1212.06
							13332.63
			Add 1% labour cess				133.33
			Rate perm (a+b+c+d+e+f)				13465.95
			Add 12% GST				1615.91
			Rate per cum				15081.87
						say	<b><u>15082.00</u></b>
3.5 H		(q)	Height 5m to 10m				
			For height, upto 10m, add 1.4 per cent of cost as above excluding formwork. For cost of formwork add 11 per cent of cost of material, labour and machinery .				
		Case I	Using concrete Mixer				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (H) Case I				5519.00
			d) formwork				
			Add 11 per cent of cost of material, labour and machinery (a+b+c) for Formwork		11.00		607.09
			Add 1.4 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		1.40		77.27
			e) Overhead charges @ 10 % on (a+b+c+d)				620.34
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				682.37
							7506.06
			Add 1% labour cess				75.06
			Rate perm (a+b+c+d+e+f)				7581.12
			Add 12% GST				909.73
			Rate per cum				8490.86
						say	<b><u>8491.00</u></b>
3.5 H (q)		Case II	With Batching Plant, Transit Mixer and Concrete Pump				
			Per Cum Basic Cost of Labour, Material & Machinery (a+b+c) of Item 12.8 (H) Case II				10017.00
			d) formwork				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 11 per cent of cost of material, labour and machinery (a+b+c) for Formwork		11.00		1101.87
			Add 1.4 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		1.40		140.24
			e) Overhead charges @ 10 % on (a+b+c+d)				1125.91
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				1238.50
							13623.52
			Add 1% labour cess				136.24
			<b>Rate perm (a+b+c+d+e+f)</b>				13759.76
			Add 12% GST				1651.17
			Rate per cum				15410.93
						<b>say</b>	<b><u>15411.00</u></b>
<b>3.5 H</b>		<b>(r)</b>	<b>Height above 10m</b>				
			For height, above 10m, add 3 per cent of cost as above excluding formwork. For cost of formwork add 13 per cent of cost of material, labour and machinery				
		<b>Case I</b>	<b>Using concrete Mixer</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (H) Case I d) formwork</b>				5519.00
			Add 13 per cent of cost of material, labour and machinery (a+b+c) for Formwork		13.00		717.47
			Add 3 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		3.00		165.57
			e) Overhead charges @ 10 % on (a+b+c+d)				640.20
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				704.22
							7746.47
			Add 1% labour cess				77.46
			<b>Rate perm (a+b+c+d+e+f)</b>				7823.93
			Add 12% GST				938.87
			Rate per cum				8762.81
						<b>say</b>	<b><u>8763.00</u></b>
<b>3.5 H (r)</b>		<b>Case II</b>	<b>With Batching Plant, Transit Mixer and Concrete Pump</b>				
			<b>Per Cum Basic Cost of Labour, Material &amp; Machinery (a+b+c) of Item 12.8 (H) Case II d) formwork</b>				10017.00
			Add 13 per cent of cost of material, labour and machinery (a+b+c) for Formwork		13.00		1302.21
			Add 3 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift		3.00		300.51
			e) Overhead charges @ 10 % on (a+b+c+d)				1161.97

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				1278.17
						14059.86
		Add 1% labour cess				140.60
		<b>Rate perm (a+b+c+d+e+f)</b>				14200.46
		Add 12% GST				1704.06
		Rate per cum				15904.51
					<b>say</b>	<b><u>15905.00</u></b>
	<b>Note</b>	The basic components of this analysis are the same as those of items 13.8 (A to H). The only changes are as under:				
		a) Ramps/Stairs: Extra expenditure on structures which are more than 5 m high @ 2 per cent of cost for height upto 10 m and 4 per cent for heights above 10 m will be involved for approaching the work spot by providing higher ramp/stair case for use by the working parties.				
		b) The above mentioned percentages have been suitably modified for different categories as cost for various categories varies, whereas effort for access for same height will be similar. As the cost of richer concrete is comparatively more, the percentage to be added has been reduced to maintain the same cost for extra efforts.				
3.6	<b>Section 1600 &amp; 2200</b>	<b>Supplying, fitting and placing HYSD bar reinforcement in sub-structure complete as per drawing and Technical Specifications</b>				
		<b>Output: MT</b>				
		<b>Taking output = 1 MT</b>				
		<b>a) Material</b>				
		HYSD bars including 5 per cent overlaps and wastage	tonne	1.05	59875.00	62868.75
		Binding wire	kg	6.00	80.00	480.00
		<b>b) Labour for cutting, bending, shifting to site, tying and placing in position</b>				
		Mate	day	0.34	350.00	119.00
		Blacksmith	day	2.00	505.17	1010.33
		Mazdoor	day	6.50	350.00	2275.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				6675.31
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				7342.84
						80771.23
		Add 1% labour cess				807.71
		<b>Rate for per MT (a+b+c+d)</b>				81578.94
		Add 12% GST				9789.47
		Rate per cum				91368.42
					<b>say</b>	<b><u>91368.00</u></b>
		<b>Labour f:-</b>				3404.33

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		c) Overhead charges @ 10 % on (a+b)				340.43
		d) Contractor's profit @ 10 % on (a+b+c)				374.48
						4119.24
		Add 1% labour cess				41.19
		<b>Rate for per MT (a+b+c+d)</b>				4160.44
		Add 12% GST				499.25
		Rate per MT				4659.69
					<b>say</b>	<b><u>4660.00</u></b>
3.7	1600 & 2200	Supplying, fitting and placing Mild steel reinforcement complete in sub-structure as per drawing and Technical Specification				
		<i>Unit = MT</i>				
		<i>Taking output = 1 MT</i>				
		a) Material				
		MS bars including 5 per cent overlaps and wastage	tonne	1.05	58000.00	60900.00
		Binding wire	kg	6.00	80.00	480.00
		b) Labour for straightening, cutting, bending, shifting to site, tying and placing in position				
		Mate	day	0.28	350.00	98.00
		Blacksmith	day	1.50	505.17	757.75
		Mazdoor	day	5.50	350.00	1925.00
		c) Overhead charges @ 10 % on (a+b)				6416.08
		d) Contractor's profit @ 10 % on (a+b+c)				7057.68
						77634.51
		Add 1% labour cess				776.35
		<b>Rate for per MT (a+b+c+d)</b>				78410.85
		Add 12% GST				9409.30
		Rate per MT				87820.15
					<b>say</b>	<b><u>78411.00</u></b>
3.8	2706 & 2200	Providing weep holes in Brick masonry / Plain / Reinforced concrete abutment, wing wall / return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing face. Complete as per drawing and Technical Specifications				
		<i>Unit = Nos.</i>				
		<i>Taking output = 30 Nos.</i>				
		a) Material				
		AC pipe 100 mm dia. (including wastage @ 5 per cent )	metre	31.50	150.00	4725.00
		Average length of weep hole is taken as one metre for the purpose of estimating.				
		MS clamp	each.	30.00	180.00	5400.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		collar for AC pipe (average) taking 10% of above pipe rate	each.	10.00	15.00	150.00
		Cement mortar 1:3 (Rate as in Item 12.6)	cum	0.05	5049.00	252.45
		<b>b) Labour</b>				
		Mate	day	0.03	350.00	10.50
		Mason	day	0.50	505.17	252.58
		Mazdoor	day	0.25	350.00	87.50
		<b>c) Overhead charges @ 10 % on (a+b)</b>				1087.80
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				1196.58
						13162.42
		Add 1% labour cess				131.62
		Cost for 30 m = a+b+c+d				13294.04
		<b>Rate per m (a+b+c+d)/30</b>				443.13
		Add 12% GST				53.18
		Rate per M				496.31
					<b>say</b>	<b><u>496.00</u></b>
	<b>Note</b>	1. In case of stone masonry, the size of the weep hole shall be 150 mm x 80 mm or circular with 150 mm diameter.				
		2. For structure in stone masonry, the weep holes shall be deemed to be included in the item of stone masonry work and shall not be paid separately.				
3.9	710.1.4.of IRC:78 & 2200	<b>Back filling behind abutment, wing wall and return wall complete as per drawing and Technical Specification</b>				
		<i>Unit = cum</i>				
		<i>Taking output = 10 cum</i>				
	<b>A</b>	<b>Granular material</b>				
		<b>a) Labour</b>				
		Mate	day	0.28	350.00	98.00
		Mazdoor	day	7.00	350.00	2450.00
		<b>b) Material</b>				
		Granular material	cum	12.00	376.00	4512.00
		<b>c) Machinery</b>				
		Plate compactor/power rammer	hour	2.50	100.00	250.00
		Water Tanker	hour	0.05	500.00	25.00
		<b>d) Overhead charges @ 10 % on (a+b+c)</b>				733.50
		<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				806.85
						8875.35
		Add 1% labour cess				88.75
		Cost for 10 cum of granular backfill = a+b+c+d+e				8964.10
		<b>Rate per cum = (a+b+c+d+e)/10</b>				896.41
		Add 12% GST				107.57
		Rate per Cum				1003.98

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
						say	<u>1004.00</u>
3.9		B	<b>Sandy material</b>				
			<b>a) Labour</b>				
			Mate	day	0.28	350.00	98.00
			Mazdoor for filling, watering, ramming etc.	day	7.00	350.00	2450.00
			<b>b) Material</b>				
			Sand	cum	12.00	1167.00	14004.00
			<b>c) Machinery</b>				
			Plate compactor/power rammer	hour	2.50	100.00	250.00
			Water Tanker	hour	0.06	500.00	30.00
			<b>d) Overhead charges @ 10 % on (a+b+c)</b>				1683.20
			<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				1851.52
							20366.72
			Add 1% labour cess				203.67
			Cost for 10 cum of sandy backfill = a+b+c+d+e				20570.39
			<b>Rate per cum = (a+b+c+d+e)/10</b>				2057.04
			Add 12% GST				246.84
			Rate per Cum				2303.88
						say	<u>2304.00</u>
3.10	710.1.4.of IRC:78 and 2200		<b>Providing and laying of Filter media with granular materials/stone crushed aggregates satisfying the requirements laid down in clause 2504.2.2. of MoRTH specifications to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment, wing wall and return wall to the full height compacted to a firm condition complete as per drawing and Technical Specification.</b>				
			<i>Unit = cum</i>				
			<i>Taking output = 10 cum.</i>				
			<b>a) Labour</b>				
			Mate	day	0.32	350.00	112.00
			Mazdoor for filling, watering, ramming etc.	day	7.00	350.00	2450.00
			Mazdoor (Skilled)	day	1.00	350.00	350.00
			<b>b) Material</b>				
			Filter media of stone aggregate conforming to clause 2504.2.2. of MoRTH specifications.	cum	12.00	600.00	7200.00
			<b>c) Machinery</b>				
			Water Tanker of 6 KL capacity	hour	0.06	500.00	30.00
			<b>d) Overhead charges @ 10 % on (a+b+c)</b>				1014.20
			<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				1115.62
							12271.82
			Add 1% labour cess				122.72

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		cost for 10 cum of Fiter Media = a+b+c+d+e				12394.54
		<b>Rate per cum = (a+b+c+d+e)/10</b>				1239.45
		Add 12% GST				148.73
		Rate per Cum				1388.19
					<b>say</b>	<b><u>1388.00</u></b>
3.11	2000, 1000 & 2200	<b>Supplying, fitting and fixing in position true to line and level cast steel rocker bearing conforming to IRC: 83(Pt.-1) section IX and clause 2003 of MoRTH specifications complete including all accessories as per drawing and Technical Specifications.</b>				
		Unit: one tonne capacity				
		Considering a 250 tonne capacity bearing for this analysis				
		<b>a) Labour</b>				
		Mate	day	0.06	350.00	21.00
		Mazdoor (Skilled)	day	0.50	350.00	175.00
		Mazdoor	day	1.00	350.00	350.00
		<b>b) Material</b>				
		Cast steel rocker bearing assembly of 250 tonne design load capacity duly painted complete with all its components as per drawing and specifications	each.	1.00	75000.00	75000.00
		Add 1 per cent of cost of bearing assembly for foundation anchorage bolts, lifting arrangements, grease and other consumables.				750.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				7629.60
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				8392.56
						92318.16
		Add 1% labour cess				923.18
		cost for 250 tonnes capacity bearing = a+b+c+d				93241.34
		<b>Rate per tonne capacity = (a+b+c+d)/250</b>				372.97
		Add 12% GST				44.76
		Rate per Tonne .				417.72
					<b>say</b>	<b><u>418.00</u></b>
3.12	2000 , 1000 & 2200	<b>Supplying, fitting and fixing in position true to line and level forged steel roller bearing conforming to IRC: 83(Pt.-1) section IX and clause 2003 of MoRTH specifications complete including all accessories as per drawing and Technical Specifications.</b>				
		Unit: one tonne capacity				
		Considering a 250 tonne capacity bearing for this analysis				
		<b>a) Labour</b>				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Mate	day	0.06	350.00	21.00
		Mazdoor	day	1.00	350.00	350.00
		Mazdoor (Skilled)	day	0.50	350.00	175.00
		<b>b) Material</b>				
		Forged steel roller bearing of 250 tonne design load capacity duly painted complete with all its components as per drawing and specifications	each.	1.00	110000.00	110000.00
		Add 1 per cent of cost of bearing assembly for foundation anchorage bolts, lifting arrangements, grease and other consumables.				1100.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				11164.60
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				12281.06
						135091.66
		Add 1% labour cess				1350.92
		cost for 250 tonnes capacity bearing = a+b+c+d				136442.58
		<b>Rate per tonne capacity = (a+b+c+d)/250</b>				545.77
		Add 12% GST				65.49
		Rate per Tonne .				611.26
					<b>say</b>	<b><u>611.00</u></b>
3.13	2000 & 2200	<b>Supplying, fitting and fixing in position true to line and level sliding plate bearing with PTFE surface sliding on stainless steel complete including all accessories as per drawing and Technical Specifications and BS: 5400, section 9.1 &amp; 9.2 (for PTFE) and clause 2004 of MoRTH Specifications.</b>				
		Unit: one tonne capacity				
		Considering a 80 tonne capacity bearing for this analysis				
		<b>a) Labour</b>				
		Mate	day	0.06	350.00	21.00
		Mazdoor	day	1.00	350.00	350.00
		Mazdoor (Skilled)	day	0.50	350.00	175.00
		<b>b) Material</b>				
		PTFE sliding plate bearing assembly of 80 tonnes design load capacity duly painted complete with all its components as per drawing and Technical Specifications	each.	1.00	180000.00	180000.00
		Add 1 per cent for foundation anchorage bolts and consumables.				1800.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				18234.60
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				20058.06
						220638.66
		Add 1% labour cess				2206.39
		cost for 80 tonnes capacity bearing = a+b+c+d				222845.05



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Rate per tonne capacity = $(a+b+c+d)/80$				2785.56
		Add 12% GST				334.27
		Rate per Tonne .				3119.83
					<b>say</b>	<b><u>3120.00</u></b>
3.14	2000 & 2200	<b>Supplying, fitting and fixing in position true to line and level elastomeric bearing conforming to IRC: 83 (Part-II) section IX and clause 2005 of MoRTH specifications complete including all accessories as per drawing and Technical Specifications.</b>				
		Unit: one cubic centimetre				
		Considering an elastomeric bearing of size 500 x 400 x 96 mm for this analysis.				
		Overall volume - 19200 cu.cm				
		Volume of 6 nos. 488 x 388 x 4 mm size reinforcing steel plates = 4545 cu.cm.				
		Hence volume of elastometer = 14655 cu.cm.				
		<b>a) Labour</b>				
		Mate	day	0.06	350.00	21.00
		Mazdoor	day	1.00	350.00	350.00
		Mazdoor (Skilled)	day	0.50	350.00	175.00
		<b>b) Material</b>				
		Elastomeric bearing assembly consisting of 7 layers of elastomer bonded to 6 nos. internal reinforcing steel laminates by the process of vulcanisation, complete with all components as per drawing and Technical Specifications.	each.	1.00	90000.00	90000.00
		Add 1 per cent of cost of bearing assembly for foundation anchorage bolts and consumables.				900.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				9144.60
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				10059.06
						110649.66
		Add 1% labour cess				1106.50
		cost for 19200cc of elastomeric bearing = a+b+c+d				111756.16
		<b>Rate per cc of elastomeric bearing = <math>(a+b+c+d)/19200</math></b>				5.82
		Add 12% GST				0.70
		Rate per cc of elastomeric bearing				6.52
					<b>say</b>	<b><u>7.00</u></b>
3.15	2000 & 2200	<b>Supplying, fitting and fixing in position true to line and level sliding plate bearing with stainless steel plate sliding on stainless steel plate with mild steel matrix complete including all accessories as per drawing and Technical Specifications.</b>				
		Unit: one tonne capacity				
		Considering the sliding bearing of 80 tonnes design capacity for this analysis.				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<b>a) Labour</b>				
		Mate	day	0.04	350.00	14.00
		Mazdoor	day	0.75	350.00	262.50
		Mazdoor (Skilled)	day	0.35	350.00	122.50
		<b>b) Material</b>				
		Supply of sliding plate bearing of 80 tonne design capacity complete as per drawings and Technical Specifications.	each.	1.00	55000.00	55000.00
		Add 1 per cent of cost of bearing assembly for foundation anchorage bolts and consumables.				550.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				5594.90
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				6154.39
						67698.29
		Add 1% labour cess				676.98
		cost for 80 tonnes of capacity bearing = a+b+c+d				68375.27
						854.69
		Add 12% GST				102.56
		Rate for 80 tonnes of capacity bearing				957.25
					<b>say</b>	<b><u>957.00</u></b>
3.16	2000 & 2200	<b>Supplying, fitting and fixing in position true to line and level POT-PTFE bearing consisting of a metal piston supported by a disc or unreinforced elastomer confined within a metal cylinder, sealing rings, dust seals, PTFE surface sliding against stainless steel mating surface, complete assembly to be of cast steel/fabricated structural steel, metal and elastomer elements to be as per IRC: 83 part-I &amp; II respectively and other parts conforming to BS: 5400, section 9.1 &amp; 9.2 and clause 2006 of MoRTH Specifications complete as per drawing and approved Technical Specifications.</b>				
		Unit: one tonne capacity			387.20	
		Considering a Pot bearing assembly of 250 tonne capacity for this analysis.				
		<b>a) Labour</b>				
		Mate	day	0.08	350.00	28.00
		Mazdoor	day	1.50	350.00	525.00
		Mazdoor (Skilled)	day	0.50	350.00	175.00
		<b>b) Material</b>				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Pot type bearing assembly consisting of a metal piston supported by a disc, PTFE pads providing sliding surfaces against stainless steel mating together with cast steel assemblies/fabricated structural steel assemblies duly painted with all components as per clause 2006 and complete as per drawings and Technical Specifications.	each.	1.00	180000.00	180000.00
		Add 1 per cent of cost of bearing assembly for foundation anchorage bolts and consumables.				1800.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				18252.80
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				20078.08
						220858.88
		Add 1% labour cess				2208.59
		cost for 250 tonnes capacity bearing = a+b+c+d				223067.47
		<b>Rate per tonne capacity = (a+b+c+d)/250</b>				892.27
		Add 12% GST				107.07
		Rate per tonne capacity				999.34
					<b>say</b>	<b><u>999.00</u></b>

## Chapter-4: Superstructure

Preamble:

1. The rate for the wearing coat has been analysed as under:
  - a) Cement concrete wearing coat.
  - b) Asphaltic concrete wearing coat.
  - c) Bitumen mastic wearing coat.

The item may be selected as per approved design. In case the thickness of wearing coat is different from that analysed, the rate for the desired thickness may be worked out on pro-rata basis

2. The rate analysis has been done both for RCC railing and M.S.R railing, which can be adopted as per approved design.
3. The length of drainage spout has been provided in such a way that it is connected to the drainage system on the ground in case of Flyovers and there is no splashing of water on the structure in case of bridges
4. The rate for anti-corrosive treatment is required to be ascertained from firm specialized in this concern Circular No. RW /NH-34041/44/91 S&R dated 21-03-2000 of Ministry of Road Transport and Highways may be referred for further details
5. Expansion joints involving movements exceeding 40 mm are specialized ready made items commercially produced by reputed firm with imported technology and parts The rates for such joints are required to be ascertained from the firm specialized by the Ministry.
6. The rate analysis for pre-cast and pre-tensioned girders has also been included.
7. The rate analysis for prestressed cement concrete of M -60 grade also been included which can be adopted for bridges with innovative design / construction.
8. M & T & H letter No. RW /NH-34059/1/96 S&R dated 1.1.2000 and subsequent corrigendum dated 25.1.2001 may be referred for detailed specifications and provisions for various types of expansion joints
9. Supply of new type of expansion joints may be obtained on the basis of competitive bidding from amongst the suppliers pre-qualified by the Ministry of Road Transport and Highways Further, a warranty of 10 years of trouble free performance may be insisted from the suppliers
10. For bridge, having wide deck/span length of more than 120 m or/and involving complex movements/ rotations in different directions/ planes provision of special type of modular expansion joints such as swivel joints are required for which specialized in this field may be consulted. Such cases will require prior approval of Ministry.

**CHAPTER-4**  
**SUPER-STRUCTURE**

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
4.1	1500 & 1600 1700		Furnishing and Placing Reinforced/ Prestressed cement concrete in super- structure as per drawing and Technical Specification				
		A	RCC Grade M20				
		Case I	Using Concrete Mixer				
			<i>Unit = 1 cum</i>				
			<i>Taking output = 15 cum</i>				
			a) <b>Material</b>				
			Cement	tonne	5.12	6875.00	35200.00
			Coarse sand	cum	6.75	1156.00	7803.00
			20 mm Aggregate	cum	8.10	1298.00	10513.80
			10 mm Aggregate	cum	5.40	1298.00	7009.20
			b) <b>Labour</b>				
			Mate	day	0.86	350.00	301.00
			Mason	day	1.50	505.17	757.75
			Mazdoor	day	20.00	350.00	7000.00
			c) <b>Machinery</b>				
			Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
			Generator 33 KVA	hour	6.00	630.00	3780.00
			<b>Basic Cost of Labour, Material &amp; Machinery (a+b+c) for 15 cum</b>		<b>74465.00</b>		
			For formwork and staging add the following:				
4.1A Case I		(i)	For solid slab super-structure, 20-30 per cent of (a+b+c)				
		(p)	Height upto 5m				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				74465.00
			d) <b>Formwork and staging 20 per cent of (a+b+c)</b>		20.00		14893.00
			e) <b>Overhead charges @ 10 % on (a+b+c+d)</b>				8935.80
			f) <b>Contractor's profit @ 10 % on (a+b+c+d+e)</b>				9829.38
							108123.18
			Add 1% labour cess				1081.23
			Cost for 15 cum = a+b+c+d+e+f				109204.41
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				7280.29
			Add 12% GST				873.64
			Rate per Cum				8153.93
						<b>say</b>	<b><u>8154.00</u></b>
4.1A Case I (i)		(q)	Height 5m to 10m				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				74465.00

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			d) Formwork and staging 25 per cent of (a+b+c)		25.00		18616.25
			e) Overhead charges @ 10 % on (a+b+c+d)				9308.13
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				10238.94
							112628.31
			Add 1% labour cess				1126.28
			Cost for 15 cum = a+b+c+d+e+f				113754.60
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				7583.64
			Add 12% GST				910.04
			Rate per Cum				8493.68
						<b>say</b>	<b><u>8494.00</u></b>
<b>4.1A Case I (i)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				74465.00
			d) Formwork and staging 30 per cent of (a+b+c)		30.00		22339.50
			e) Overhead charges @ 10 % on (a+b+c+d)				9680.45
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				10648.50
							117133.45
			Add 1% labour cess				1171.33
			Cost for 15 cum = a+b+c+d+e+f				118304.78
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				7886.99
			Add 12% GST				946.44
			Rate per Cum				8833.42
						<b>say</b>	<b><u>8833.00</u></b>
<b>4.1A Case I</b>		<b>(ii)</b>	<b>For T-beam &amp; slab, 25-35 per cent of (a+b+c)</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				74465.00
			d) Formwork and staging 25 per cent of (a+b+c)		25.00		18616.25
			e) Overhead charges @ 10 % on (a+b+c+d)				9308.13
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				10238.94
							112628.31
			Add 1% labour cess				1126.28
			Cost for 15 cum = a+b+c+d+e+f				113754.60
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				7583.64
			Add 12% GST				910.04
			Rate per Cum				8493.68
						<b>say</b>	<b><u>8494.00</u></b>
<b>4.1A Case I (ii)</b>		<b>(q)</b>	<b>Height 5m to 10m</b>				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				74465.00
			d) Formwork and staging 30 per cent of (a+b+c)		30.00		22339.50
			e) Overhead charges @ 10 % on (a+b+c+d)				9680.45
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				10648.50
							117133.45
			Add 1% labour cess				1171.33
			Cost for 15 cum = a+b+c+d+e+f				118304.78
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				7886.99
			Add 12% GST				946.44
			Rate per Cum				8833.42
						<b>say</b>	<b><u>8833.00</u></b>
<b>4.1A Case I (ii)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				74465.00
			d) Formwork and staging 35 per cent of (a+b+c)		35.00		26062.75
			e) Overhead charges @ 10 % on (a+b+c+d)				10052.78
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				11058.05
							121638.58
			Add 1% labour cess				1216.39
			Cost for 15 cum = a+b+c+d+e+f				122854.96
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				8190.33
			Add 12% GST				982.84
			Rate per Cum				9173.17
						<b>say</b>	<b><u>9173.00</u></b>
<b>4.1A</b>		<b>Case II</b>	<b>Using Batching Plant, Transit Mixer and Concrete Pump</b>				
			<b>Unit = cum</b>				
			<b>Taking output = 120 cum</b>				
			<b>a) Material</b>				
			Cement	tonne	40.92	6875.00	281325.00
			Coarse sand	cum	54.00	1214.00	65556.00
			20 mm Aggregate	cum	64.80	1298.00	84110.40
			10 mm Aggregate	cum	43.20	1298.00	56073.60
			<b>b) Labour</b>				
			Mate	day	0.84	350.00	294.00
			Mason	day	3.00	505.17	1515.50
			Mazdoor	day	18.00	350.00	6300.00
			<b>c) Machinery</b>				
			Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
			Generator 100 KVA	hour	6.00	1160.00	6960.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Loader	hour	6.00	1321.00	7926.00
		Transit Mixer ( capacity 4.0 cu.m )				
		Transit Mixer 4 cum capacity lead upto1 Km	hour	15.00	1601.00	24015.00
		Lead beyond 1 Km, L - lead in Kilometer	tonne.km	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		<b>Basic Cost of Labour, Material &amp; Machinery (a+b+c) for 120 cum</b>		<b>1102744</b>		
		<b>For formwork and staging add the following:</b>				
<b>4.1A Case II</b>	(i)	<b>For solid slab super-structure, 20-30 per cent of (a+b+c)</b>				
	(p)	<b>Height upto 5m</b>				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1102744.00
		<b>d) Formwork and staging 20 per cent of (a+b+c)</b>		20.00		220548.80
		<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				132329.28
		<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				145562.21
						1601184.29
		Add 1% labour cess				16011.84
		Cost for 120 cum = a+b+c+d+e+f				1617196.13
		<b>Rate per cum = (a+b+c+d+e+f)/120</b>				13476.63
		Add 12% GST				1617.20
		Rate per Cum				15093.83
					<b>say</b>	<b><u>15094.00</u></b>
<b>4.1A Case II (i)</b>	(q)	<b>Height 5m to 10m</b>				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1102744.00
		<b>d) Formwork and staging 25 per cent of (a+b+c)</b>		25.00		275686.00
		<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				137843.00
		<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				151627.30
						1667900.30
		Add 1% labour cess				16679.00
		Cost for 120 cum = a+b+c+d+e+f				1684579.30
		<b>Rate per cum = (a+b+c+d+e+f)/120</b>				14038.16
		Add 12% GST				1684.58
		Rate per Cum				15722.74
					<b>say</b>	<b><u>15723.00</u></b>
<b>4.1A Case II (i)</b>	(r)	<b>Height above 10m</b>				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1102744.00
		<b>d) Formwork and staging 30 per cent of (a+b+c)</b>		30.00		330823.20



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		e) Overhead charges @ 10 % on (a+b+c+d)				143356.72
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				157692.39
						1734616.31
		Add 1% labour cess				17346.16
		Cost for 120 cum = a+b+c+d+e+f				1751962.48
		<b>Rate per cum = (a+b+c+d+e+f)/120</b>				14599.69
		Add 12% GST				1751.96
		Rate per Cum				16351.65
					<b>say</b>	<b><u>16352.00</u></b>
<b>4.1A Case II</b>	<b>(ii)</b>	<b>For T-beam &amp; slab, 25-35 per cent of (a+b+c)</b>				
	<b>(p)</b>	<b>Height upto 5m</b>				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1102744.00
		d) Formwork and staging 25 per cent of (a+b+c)		25.00		275686.00
		e) Overhead charges @ 10 % on (a+b+c+d)				137843.00
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				151627.30
						1667900.30
		Add 1% labour cess				16679.00
		Cost for 120 cum = a+b+c+d+e+f				1684579.30
		<b>Rate per cum = (a+b+c+d+e+f)/120</b>				14038.16
		Add 12% GST				1684.58
		Rate per Cum				15722.74
					<b>say</b>	<b><u>15723.00</u></b>
<b>4.1A Case II (ii)</b>	<b>(q)</b>	<b>Height 5m to 10m</b>				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1102744.00
		d) Formwork and staging 30 per cent of (a+b+c)		30.00		330823.20
		e) Overhead charges @ 10 % on (a+b+c+d)				143356.72
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				157692.39
						1734616.31
		Add 1% labour cess				17346.16
		Cost for 120 cum = a+b+c+d+e+f				1751962.48
		<b>Rate per cum = (a+b+c+d+e+f)/120</b>				14599.69
		Add 12% GST				1751.96
		Rate per Cum				16351.65
					<b>say</b>	<b><u>16352.00</u></b>
<b>4.1A Case II (ii)</b>	<b>(r)</b>	<b>Height above 10m</b>				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1102744.00

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			d) Formwork and staging 35 per cent of (a+b+c)		35.00		385960.40
			e) Overhead charges @ 10 % on (a+b+c+d)				148870.44
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				163757.48
							1801332.32
			Add 1% labour cess				18013.32
			Cost for 120 cum = a+b+c+d+e+f				1819345.65
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15161.21
			Add 12% GST				1819.35
			Rate per Cum				16980.56
						<b>say</b>	<b><u>16981.00</u></b>
4.1		<b>B</b>	<b>RCC Grade M25</b>				
		<b>Case I</b>	<b>Using Concrete Mixer</b>				
			<b>Unit = 1 cum</b>				
			<b>Taking output = 15 cum</b>				
			<b>a) Material</b>				
			Cement	tonne	5.99	6875.00	41181.25
			Coarse sand	cum	6.75	1156.00	7803.00
			20 mm Aggregate	cum	8.10	1298.00	10513.80
			10 mm Aggregate	cum	5.40	1298.00	7009.20
			<b>b) Labour</b>				
			Mate	day	0.86	350.00	301.00
			Mason	day	1.50	505.17	757.75
			Mazdoor	day	20.00	350.00	7000.00
			<b>c) Machinery</b>				
			Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
			Generator 33 KVA	hour	6.00	630.00	3780.00
			<b>Basic Cost of Labour, Material &amp; Machinery (a+b+c) for 15 cum</b>		<b>80446.00</b>		
			<b>For formwork and staging add the following:</b>				
4.1B Case I		(i)	<b>For solid slab super-structure, 20-30 per cent of (a+b+c)</b>				
		(p)	<b>Height upto 5m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				80446.00
			d) Formwork and staging 20 per cent of (a+b+c)		20.00		16089.20
			e) Overhead charges @ 10 % on (a+b+c+d)				9653.52
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				10618.87
							116807.59
			Add 1% labour cess				1168.08
			Cost for 15 cum = a+b+c+d+e+f				117975.67

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Rate per cum = (a+b+c+d+e+f)/15				7865.04
			Add 12% GST				943.81
			Rate per Cum				8808.85
						<b>say</b>	<b><u>8809.00</u></b>
<b>4.1B Case I (i)</b>		<b>(q)</b>	<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				80446.00
			<b>d) Formwork and staging 25 per cent of (a+b+c)</b>		25.00		20111.50
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				10055.75
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				11061.33
							121674.58
			Add 1% labour cess				1216.75
			Cost for 15 cum = a+b+c+d+e+f				122891.32
			Rate per cum = (a+b+c+d+e+f)/15				8192.75
			Add 12% GST				983.13
			Rate per Cum				9175.89
						<b>say</b>	<b><u>9176.00</u></b>
<b>4.1B Case I (i)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				80446.00
			<b>d) Formwork and staging 30 per cent of (a+b+c)</b>		30.00		24133.80
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				10457.98
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				11503.78
							126541.56
			Add 1% labour cess				1265.42
			Cost for 15 cum = a+b+c+d+e+f				127806.97
			Rate per cum = (a+b+c+d+e+f)/15				8520.46
			Add 12% GST				1022.46
			Rate per Cum				9542.92
						<b>say</b>	<b><u>9543.00</u></b>
<b>4.1B Case I</b>		<b>(ii)</b>	<b>For T-beam &amp; slab, 25-35 per cent of (a+b+c)</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				80446.00
			<b>d) Formwork and staging 25 per cent of (a+b+c)</b>		25.00		20111.50
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				10055.75
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				11061.33
							121674.58
			Add 1% labour cess				1216.75

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Cost for 15 cum = a+b+c+d+e+f				122891.32
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				8192.75
			Add 12% GST				983.13
			Rate per Cum				9175.89
						<b>say</b>	<b><u>9176.00</u></b>
<b>4.1B</b>	<b>Case I (ii)</b>	<b>(q)</b>	<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				80446.00
			<b>d) Formwork and staging 30 per cent of (a+b+c)</b>		30.00		24133.80
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				10457.98
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				11503.78
							126541.56
			Add 1% labour cess				1265.42
			Cost for 15 cum = a+b+c+d+e+f				127806.97
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				8520.46
			Add 12% GST				1022.46
			Rate per Cum				9542.92
						<b>say</b>	<b><u>9543.00</u></b>
<b>4.1B</b>	<b>Case I (ii)</b>	<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				80446.00
			<b>d) Formwork and staging 35 per cent of (a+b+c)</b>		35.00		28156.10
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				10860.21
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				11946.23
							131408.54
			Add 1% labour cess				1314.09
			Cost for 15 cum = a+b+c+d+e+f				132722.63
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				8848.18
			Add 12% GST				1061.78
			Rate per Cum				9909.96
						<b>say</b>	<b><u>9910.00</u></b>
<b>4.1B</b>		<b>Case II</b>	<b>Using Batching Plant, Transit Mixer and Concrete Pump</b>				
			<b>Unit = cum</b>				
			<b>Taking output = 120 cum</b>				
			<b>a) Material</b>				
			Cement	tonne	47.95	6875.00	329656.25
			Coarse sand	cum	54.20	1214.00	65798.80
			20 mm Aggregate	cum	64.80	1298.00	84110.40
			10 mm Aggregate	cum	43.20	1298.00	56073.60
			<b>b) Labour</b>				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Mate	day	0.84	350.00	294.00
		Mason	day	3.00	505.17	1515.50
		Mazdoor	day	18.00	350.00	6300.00
		<b>c) Machinery</b>				
		Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
		Generator 100 KVA	hour	6.00	1160.00	6960.00
		Loader	hour	6.00	1321.00	7926.00
		Transit Mixer ( capacity 4.0 cu.m )				
		Transit Mixer 4 cum capacity lead upto1 Km	hour	15.00	1601.00	24015.00
		Lead beyond 1 Km, L - lead in Kilometer	tonne.km	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		<b>Basic Cost of Labour, Material &amp; Machinery (a+b+c) for 120 cum</b>		<b>1151318</b>		
		<b>For formwork and staging add the following:</b>				
<b>4.1B Case II</b>	<b>(i)</b>	<b>For solid slab super-structure, 20-30 per cent of (a+b+c)</b>				
	<b>(p)</b>	<b>Height upto 5m</b>				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1151318.00
		<b>d) Formwork and staging 20 per cent of (a+b+c)</b>		20.00		230263.60
		<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				138158.16
		<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				151973.98
						1671713.74
		Add 1% labour cess				16717.14
		Cost for 120 cum = a+b+c+d+e+f				1688430.87
		<b>Rate per cum = (a+b+c+d+e+f)/120</b>				14070.26
		Add 12% GST				1688.43
		Rate per Cum				15758.69
					<b>say</b>	<b><u>15759.00</u></b>
<b>4.1B Case II (i)</b>	<b>(q)</b>	<b>Height 5m to 10m</b>				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1151318.00
		<b>d) Formwork and staging 25 per cent of (a+b+c)</b>		25.00		287829.50
		<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				143914.75
		<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				158306.23
						1741368.48
		Add 1% labour cess				17413.68
		Cost for 120 cum = a+b+c+d+e+f				1758782.16
		<b>Rate per cum = (a+b+c+d+e+f)/120</b>				14656.52
		Add 12% GST				1758.78

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Rate per Cum				16415.30
						<b>say</b>	<b><u>16415.00</u></b>
<b>4.1B Case II (i)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1151318.00
			<b>d) Formwork and staging 30 per cent of (a+b+c)</b>		30.00		345395.40
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				149671.34
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				164638.47
							1811023.21
			Add 1% labour cess				18110.23
			Cost for 120 cum = a+b+c+d+e+f				1829133.45
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15242.78
			Add 12% GST				1829.13
			Rate per Cum				17071.91
						<b>say</b>	<b><u>17072.00</u></b>
<b>4.1B Case II</b>		<b>(ii)</b>	<b>For T-beam &amp; slab, 25-35 per cent of (a+b+c)</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1151318.00
			<b>d) Formwork and staging 25 per cent of (a+b+c)</b>		25.00		287829.50
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				143914.75
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				158306.23
							1741368.48
			Add 1% labour cess				17413.68
			Cost for 120 cum = a+b+c+d+e+f				1758782.16
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				14656.52
			Add 12% GST				1758.78
			Rate per Cum				16415.30
						<b>say</b>	<b><u>16415.00</u></b>
<b>4.1B Case II (ii)</b>		<b>(q)</b>	<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1151318.00
			<b>d) Formwork and staging 30 per cent of (a+b+c)</b>		30.00		345395.40
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				149671.34
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				164638.47
							1811023.21
			Add 1% labour cess				18110.23
			Cost for 120 cum = a+b+c+d+e+f				1829133.45
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15242.78

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 12% GST				1829.13
			Rate per Cum				17071.91
						<b>say</b>	<b><u>17072.00</u></b>
<b>4.1B Case II (ii)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1151318.00
			<b>d) Formwork and staging 35 per cent of (a+b+c)</b>		35.00		402961.30
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				155427.93
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				170970.72
							1880677.95
			Add 1% labour cess				18806.78
			Cost for 120 cum = a+b+c+d+e+f				1899484.73
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15829.04
			Add 12% GST				1899.48
			Rate per Cum				17728.52
						<b>say</b>	<b><u>17729.00</u></b>
<b>4.1</b>		<b>C</b>	<b>RCC Grade M 30</b>				
		<b>Case I</b>	<b>Using Concrete Mixer</b>				
			<b>Unit = 1 cum</b>				
			<b>Taking output = 15 cum</b>				
			<b>a) Material</b>				
			Cement	tonne	6.10	6875.00	41937.50
			Coarse sand	cum	6.75	1156.00	7803.00
			20 mm Aggregate	cum	8.10	1298.00	10513.80
			10 mm Aggregate	cum	5.40	1298.00	7009.20
			<b>b) Labour</b>				
			Mate	day	0.90	350.00	315.00
			Mason	day	1.50	505.17	757.75
			Mazdoor	day	21.00	350.00	7350.00
			<b>c) Machinery</b>				
			Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
			Generator 33 KVA	hour	6.00	630.00	3780.00
			<b>Basic Cost of Labour, Material &amp; Machinery (a+b+c) for 15 cum</b>		<b>81567.00</b>		
			<b>For formwork and staging add the following:</b>				
<b>4.1C Case I</b>		<b>(i)</b>	<b>For solid slab super-structure, 20-30 per cent of (a+b+c)</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				81567.00
			<b>d) Formwork and staging 20 per cent of (a+b+c)</b>		20.00		16313.40

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			e) Overhead charges @ 10 % on (a+b+c+d)				9788.04
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				10766.84
							118435.28
			Add 1% labour cess				1184.35
			Cost for 15 cum = a+b+c+d+e+f				119619.64
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				7974.64
			Add 12% GST				956.96
			Rate per Cum				8931.60
						<b>say</b>	<b><u>8932.00</u></b>
<b>4.1C Case I (i)</b>		<b>(q)</b>	<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				81567.00
			d) Formwork and staging 25 per cent of (a+b+c)		25.00		20391.75
			e) Overhead charges @ 10 % on (a+b+c+d)				10195.88
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				11215.46
							123370.09
			Add 1% labour cess				1233.70
			Cost for 15 cum = a+b+c+d+e+f				124603.79
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				8306.92
			Add 12% GST				996.83
			Rate per Cum				9303.75
						<b>say</b>	<b><u>9304.00</u></b>
<b>4.1C Case I (i)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				81567.00
			d) Formwork and staging 30 per cent of (a+b+c)		30.00		24470.10
			e) Overhead charges @ 10 % on (a+b+c+d)				10603.71
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				11664.08
							128304.89
			Add 1% labour cess				1283.05
			Cost for 15 cum = a+b+c+d+e+f				129587.94
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				8639.20
			Add 12% GST				1036.70
			Rate per Cum				9675.90
						<b>say</b>	<b><u>9676.00</u></b>
<b>4.1C Case I</b>		<b>(ii)</b>	<b>For T-beam &amp; slab, 25-35 per cent of (a+b+c)</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				81567.00



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			d) Formwork and staging 25 per cent of (a+b+c)		25.00		20391.75
			e) Overhead charges @ 10 % on (a+b+c+d)				10195.88
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				11215.46
							123370.09
			Add 1% labour cess				1233.70
			Cost for 15 cum = a+b+c+d+e+f				124603.79
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				8306.92
			Add 12% GST				996.83
			Rate per Cum				9303.75
						<b>say</b>	<b><u>9304.00</u></b>
<b>4.1C</b>	<b>Case I (ii)</b>	<b>(q)</b>	<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				81567.00
			d) Formwork and staging 30 per cent of (a+b+c)		30.00		24470.10
			e) Overhead charges @ 10 % on (a+b+c+d)				10603.71
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				11664.08
							128304.89
			Add 1% labour cess				1283.05
			Cost for 15 cum = a+b+c+d+e+f				129587.94
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				8639.20
			Add 12% GST				1036.70
			Rate per Cum				9675.90
						<b>say</b>	<b><u>9676.00</u></b>
<b>4.1C</b>	<b>Case I (ii)</b>	<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				81567.00
			d) Formwork and staging 35 per cent of (a+b+c)		35.00		28548.45
			e) Overhead charges @ 10 % on (a+b+c+d)				11011.55
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				12112.70
							133239.69
			Add 1% labour cess				1332.40
			Cost for 15 cum = a+b+c+d+e+f				134572.09
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				8971.47
			Add 12% GST				1076.58
			Rate per Cum				10048.05
						<b>say</b>	<b><u>10048.00</u></b>
<b>4.1C</b>		<b>Case II</b>	<b>Using Batching Plant, Transit Mixer and Concrete Pump.</b>				
			<b>Unit = cum</b>				
			<b>Taking output = 120 cum</b>				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<b>a) Material</b>				
		Cement	tonne	48.79	6875.00	335431.25
		Coarse sand	cum	54.60	1214.00	66284.40
		20 mm Aggregate	cum	64.80	1298.00	84110.40
		10 mm Aggregate	cum	43.20	1298.00	56073.60
		<b>b) Labour</b>				
		Mate	day	0.88	350.00	308.00
		Mason	day	3.00	505.17	1515.50
		Mazdoor	day	19.00	350.00	6650.00
		<b>c) Machinery</b>				
		Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
		Generator 100 KVA	hour	6.00	1160.00	6960.00
		Loader	hour	6.00	1321.00	7926.00
		Transit Mixer ( capacity 4.0 cu.m )				
		Transit Mixer 4 cum capacity lead upto1 Km	hour	15.00	1601.00	24015.00
		Lead beyond 1 Km, L - lead in Kilometer	tonne.km	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		<b>Basic Cost of Labour, Material &amp; Machinery (a+b+c) for 120 cum</b>		<b>1157943</b>		
		<b>For formwork and staging add the following:</b>				
4.1C Case II	(i)	<b>For solid slab super-structure, 20-30 per cent of (a+b+c)</b>				
	(p)	<b>Height upto 5m</b>				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1157943.00
		<b>d) Formwork and staging 20 per cent of (a+b+c)</b>		20.00		231588.60
		<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				138953.16
		<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				152848.48
						1681333.24
		Add 1% labour cess				16813.33
		Cost for 120 cum = a+b+c+d+e+f				1698146.57
		<b>Rate per cum = (a+b+c+d+e+f)/120</b>				14151.22
		Add 12% GST				1698.15
		Rate per Cum				15849.37
					<b>say</b>	<b><u>15849.00</u></b>
4.1C Case II (i)	(q)	<b>Height 5m to 10m</b>				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1157943.00
		<b>d) Formwork and staging 25 per cent of (a+b+c)</b>		25.00		289485.75
		<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				144742.88

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				159217.16
							1751388.79
			Add 1% labour cess				17513.89
			Cost for 120 cum = a+b+c+d+e+f				1768902.68
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				14740.86
			Add 12% GST				1768.90
			Rate per Cum				16509.76
						<b>say</b>	<b><u>16510.00</u></b>
<b>4.1C Case II (i)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1157943.00
			d) Formwork and staging 30 per cent of (a+b+c)		30.00		347382.90
			e) Overhead charges @ 10 % on (a+b+c+d)				150532.59
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				165585.85
							1821444.34
			Add 1% labour cess				18214.44
			Cost for 120 cum = a+b+c+d+e+f				1839658.78
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15330.49
			Add 12% GST				1839.66
			Rate per Cum				17170.15
						<b>say</b>	<b><u>17170.00</u></b>
<b>4.1C Case II</b>		<b>(ii)</b>	<b>For T-beam &amp; slab, 25-35 per cent of (a+b+c)</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1157943.00
			d) Formwork and staging 25 per cent of (a+b+c)		25.00		289485.75
			e) Overhead charges @ 10 % on (a+b+c+d)				144742.88
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				159217.16
							1751388.79
			Add 1% labour cess				17513.89
			Cost for 120 cum = a+b+c+d+e+f				1768902.68
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				14740.86
			Add 12% GST				1768.90
			Rate per Cum				16509.76
						<b>say</b>	<b><u>16510.00</u></b>
<b>4.1C Case II (ii)</b>		<b>(q)</b>	<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1157943.00
			d) Formwork and staging 30 per cent of (a+b+c)		30.00		347382.90

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			e) Overhead charges @ 10 % on (a+b+c+d)				150532.59
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				165585.85
							1821444.34
			Add 1% labour cess				18214.44
			Cost for 120 cum = a+b+c+d+e+f				1839658.78
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15330.49
			Add 12% GST				1839.66
			Rate per Cum				17170.15
						<b>say</b>	<b><u>17170.00</u></b>
<b>4.1C</b>	<b>Case II (ii)</b>	<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1157943.00
			d) Formwork and staging 35 per cent of (a+b+c)		35.00		405280.05
			e) Overhead charges @ 10 % on (a+b+c+d)				156322.31
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				171954.54
							1891499.89
			Add 1% labour cess				18915.00
			Cost for 120 cum = a+b+c+d+e+f				1910414.89
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15920.12
			Add 12% GST				1910.41
			Rate per Cum				17830.54
						<b>say</b>	<b><u>17831.00</u></b>
<b>4.1</b>	<b>D</b>	<b>RCC/PSC Grade M35</b>					
	<b>Case I</b>	<b>Using Concrete Mixer.</b>					
		<b>Unit = 1 cum</b>					
		<b>Taking output = 15 cum</b>					
		<b>a) Material</b>					
		Cement	tonne	6.33	6875.00	43518.75	
		Coarse sand	cum	6.75	1156.00	7803.00	
		20 mm Aggregate	cum	8.10	1298.00	10513.80	
		10 mm Aggregate	cum	5.40	1298.00	7009.20	
		<b>b) Labour</b>					
		Mate	day	0.90	350.00	315.00	
		Mason	day	1.50	505.17	757.75	
		Mazdoor	day	21.00	350.00	7350.00	
		<b>c) Machinery</b>					
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00	
		Generator 33 KVA	hour	6.00	630.00	3780.00	
		<b>Basic Cost of Labour, Material &amp; Machinery (a+b+c) for 15 cum</b>			<b>83148.00</b>		

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			For formwork and staging add the following:				
4.1D Case I	(i)		For solid slab super-structure, 18-28 per cent of (a+b+c)				
	(p)		Height upto 5m				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				83148.00
			d) Formwork and staging 18 per cent of (a+b+c)		18.00		14966.64
			e) Overhead charges @ 10 % on (a+b+c+d)				9811.46
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				10792.61
							118718.71
			Add 1% labour cess				1187.19
			Cost for 15 cum = a+b+c+d+e+f				119905.90
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				7993.73
			Add 12% GST				959.25
			Rate per Cum				8952.97
						<b>say</b>	<b><u>8953.00</u></b>
4.1D Case I (i)	(q)		Height 5m to 10m				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				83148.00
			d) Formwork and staging 23 per cent of (a+b+c)		23.00		19124.04
			e) Overhead charges @ 10 % on (a+b+c+d)				10227.20
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				11249.92
							123749.17
			Add 1% labour cess				1237.49
			Cost for 15 cum = a+b+c+d+e+f				124986.66
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				8332.44
			Add 12% GST				999.89
			Rate per Cum				9332.34
						<b>say</b>	<b><u>9332.00</u></b>
4.1D Case I (i)	(r)		Height above 10m				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				83148.00
			d) Formwork and staging 28 per cent of (a+b+c)		28.00		23281.44
			e) Overhead charges @ 10 % on (a+b+c+d)				10642.94
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				11707.24
							128779.62
			Add 1% labour cess				1287.80
			Cost for 15 cum = a+b+c+d+e+f				130067.42
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				8671.16

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 12% GST				1040.54
			Rate per Cum				9711.70
						<b>say</b>	<b><u>9712.00</u></b>
<b>4.1D Case I</b>		<b>(ii)</b>	<b>For T-beam &amp; slab, 23-33 per cent of (a+b+c)</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				83148.00
			<b>d) Formwork and staging 23 per cent of (a+b+c)</b>		23.00		19124.04
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				10227.20
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				11249.92
							123749.17
			Add 1% labour cess				1237.49
			Cost for 15 cum = a+b+c+d+e+f				124986.66
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				8332.44
			Add 12% GST				999.89
			Rate per Cum				9332.34
						<b>say</b>	<b><u>9332.00</u></b>
<b>4.1D Case I (ii)</b>		<b>(q)</b>	<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				83148.00
			<b>d) Formwork and staging 28 per cent of (a+b+c)</b>		28.00		23281.44
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				10642.94
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				11707.24
							128779.62
			Add 1% labour cess				1287.80
			Cost for 15 cum = a+b+c+d+e+f				130067.42
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				8671.16
			Add 12% GST				1040.54
			Rate per Cum				9711.70
						<b>say</b>	<b><u>9712.00</u></b>
<b>4.1D Case I (ii)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				83148.00
			<b>d) Formwork and staging 33 per cent of (a+b+c)</b>		33.00		27438.84
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				11058.68
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				12164.55
							133810.08
			Add 1% labour cess				1338.10
			Cost for 15 cum = a+b+c+d+e+f				135148.18

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Rate per cum = (a+b+c+d+e+f)/15				9009.88
			Add 12% GST				1081.19
			Rate per Cum				10091.06
						<b>say</b>	<b><u>10091.00</u></b>
<b>4.1D Case I</b>		<b>(iii)</b>	<b>For box girder and balanced cantilever, 38-58 per cent of cost of concrete.</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				83148.00
			<b>d) Formwork and staging 38 per cent of (a+b+c)</b>		38.00		31596.24
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				11474.42
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				12621.87
							138840.53
			Add 1% labour cess				1388.41
			Cost for 15 cum = a+b+c+d+e+f				140228.94
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				9348.60
			Add 12% GST				1121.83
			Rate per Cum				10470.43
						<b>say</b>	<b><u>10470.00</u></b>
<b>4.1D Case I (iii)</b>		<b>(q)</b>	<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				83148.00
			<b>d) Formwork and staging 48 per cent of (a+b+c)</b>		48.00		39911.04
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				12305.90
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				13536.49
							148901.44
			Add 1% labour cess				1489.01
			Cost for 15 cum = a+b+c+d+e+f				150390.45
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				10026.03
			Add 12% GST				1203.12
			Rate per Cum				11229.15
						<b>say</b>	<b><u>11229.00</u></b>
<b>4.1D Case I (iii)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				83148.00
			<b>d) Formwork and staging 58 per cent of (a+b+c)</b>		58.00		48225.84
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				13137.38
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				14451.12
							158962.35

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 1% labour cess				1589.62
		Cost for 15 cum = a+b+c+d+e+f				160551.97
		<b>Rate per cum = (a+b+c+d+e+f)/15</b>				10703.46
		Add 12% GST				1284.42
		Rate per Cum				11987.88
					<b>say</b>	<b><u>11988.00</u></b>
		<b>Case II Using Batching Plant, Transit Mixer and Concrete Pump</b>				
		<b>Unit = cum</b>				
		<b>Taking output = 120 cum</b>				
		<b>a) Material</b>				
		Cement	tonne	50.64	6875.00	348150.00
		Coarse sand	cum	54.00	1214.00	65556.00
		20 mm Aggregate	cum	64.80	1298.00	84110.40
		10 mm Aggregate	cum	43.20	1298.00	56073.60
		<b>b) Labour</b>				
		Mate	day	0.88	350.00	308.00
		Mason	day	3.00	505.17	1515.50
		Mazdoor	day	19.00	350.00	6650.00
		<b>c) Machinery</b>				
		Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
		Generator 100 KVA	hour	6.00	1160.00	6960.00
		Loader	hour	6.00	1321.00	7926.00
		Transit Mixer ( capacity 4.0 cu.m )				
		Transit Mixer 4 cum capacity lead upto1 Km	hour	15.00	1601.00	24015.00
		Lead beyond 1 Km, L - lead in Kilometer	tonne.km	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		<b>Basic Cost of Labour, Material &amp; Machinery (a+b+c) for 120 cum</b>		<b>1169933</b>		
		<b>For formwork and staging add the following:</b>				
4.1D	Case II	(i) For solid slab super-structure, 18-28 per cent of (a+b+c)				
		(p) Height upto 5m				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1169933.00
		<b>d) Formwork and staging 18 per cent of (a+b+c)</b>		18.00		210587.94
		<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				138052.09
		<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				151857.30
						1670430.34
		Add 1% labour cess				16704.30
		Cost for 120 cum = a+b+c+d+e+f				1687134.64



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				14059.46
			Add 12% GST				1687.13
			Rate per Cum				15746.59
						<b>say</b>	<b><u>15747.00</u></b>
<b>4.1D Case II (i)</b>		<b>(q)</b>	<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1169933.00
			<b>d) Formwork and staging 23 per cent of (a+b+c)</b>		23.00		269084.59
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				143901.76
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				158291.93
							1741211.28
			Add 1% labour cess				17412.11
			Cost for 120 cum = a+b+c+d+e+f				1758623.40
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				14655.19
			Add 12% GST				1758.62
			Rate per Cum				16413.82
						<b>say</b>	<b><u>16414.00</u></b>
<b>4.1D Case II (i)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1169933.00
			<b>d) Formwork and staging 28 per cent of (a+b+c)</b>		28.00		327581.24
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				149751.42
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				164726.57
							1811992.23
			Add 1% labour cess				18119.92
			Cost for 120 cum = a+b+c+d+e+f				1830112.15
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15250.93
			Add 12% GST				1830.11
			Rate per Cum				17081.05
						<b>say</b>	<b><u>17081.00</u></b>
<b>4.1D Case II</b>		<b>(ii)</b>	<b>For T-beam &amp; slab, 23-33 per cent of (a+b+c)</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1169933.00
			<b>d) Formwork and staging 23 per cent of (a+b+c)</b>		23.00		269084.59
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				143901.76
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				158291.93
							1741211.28
			Add 1% labour cess				17412.11

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Cost for 120 cum = a+b+c+d+e+f				1758623.40
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				14655.19
			Add 12% GST				1758.62
			Rate per Cum				16413.82
						<b>say</b>	<b><u>16414.00</u></b>
<b>4.1D Case II (ii)</b>	<b>(q)</b>		<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1169933.00
			<b>d) Formwork and staging 28 per cent of (a+b+c)</b>		28.00		327581.24
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				149751.42
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				164726.57
							1811992.23
			Add 1% labour cess				18119.92
			Cost for 120 cum = a+b+c+d+e+f				1830112.15
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15250.93
			Add 12% GST				1830.11
			Rate per Cum				17081.05
						<b>say</b>	<b><u>17081.00</u></b>
<b>4.1D Case II (ii)</b>	<b>(r)</b>		<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1169933.00
			<b>d) Formwork and staging 33 per cent of (a+b+c)</b>		33.00		386077.89
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				155601.09
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				171161.20
							1882773.18
			Add 1% labour cess				18827.73
			Cost for 120 cum = a+b+c+d+e+f				1901600.91
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15846.67
			Add 12% GST				1901.60
			Rate per Cum				17748.28
						<b>say</b>	<b><u>17748.00</u></b>
<b>4.1D Case II</b>	<b>(iii)</b>		<b>For box girder and balanced cantilever, 38-58 per cent of cost of concrete.</b>				
	<b>(p)</b>		<b>Height upto 5m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1169933.00
			<b>d) Formwork and staging 38 per cent of (a+b+c)</b>		38.00		444574.54
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				161450.75
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				177595.83

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
							1953554.12
			Add 1% labour cess				19535.54
			Cost for 120 cum = a+b+c+d+e+f				1973089.66
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				16442.41
			Add 12% GST				1973.09
			Rate per Cum				18415.50
						<b>say</b>	<b><u>18416.00</u></b>
<b>4.1D Case II (iii)</b>		<b>(q)</b>	<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1169933.00
			<b>d) Formwork and staging 48 per cent of (a+b+c)</b>		48.00		561567.84
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				173150.08
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				190465.09
							2095116.02
			Add 1% labour cess				20951.16
			Cost for 120 cum = a+b+c+d+e+f				2116067.18
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				17633.89
			Add 12% GST				2116.07
			Rate per Cum				19749.96
						<b>say</b>	<b><u>19750.00</u></b>
<b>4.1D Case II (iii)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1169933.00
			<b>d) Formwork and staging 58 per cent of (a+b+c)</b>		58.00		678561.14
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				184849.41
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				203334.36
							2236677.91
			Add 1% labour cess				22366.78
			Cost for 120 cum = a+b+c+d+e+f				2259044.69
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				18825.37
			Add 12% GST				2259.04
			Rate per Cum				21084.42
						<b>say</b>	<b><u>21084.00</u></b>
<b>4.1</b>		<b>E</b>	<b>PSC Grade M-40</b>				
		<b>Case 1</b>	<b>Using concrete mixer.</b>				
			<b>Unit = 1 cum</b>				
			<b>Taking output = 15 cum</b>				
			<b>a) Material</b>				
			Cement	tonne	6.45	6875.00	44343.75
			Coarse sand	cum	6.75	1156.00	7803.00
			20 mm Aggregate	cum	8.10	1298.00	10513.80

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		10 mm Aggregate	cum	5.40	1298.00	7009.20
		Admixture @ 0.4 per cent of cement	kg	25.80	160.00	4128.00
		<b>b) Labour</b>				
		Mate	day	0.96	350.00	336.00
		Mason	day	2.00	505.17	1010.33
		Mazdoor	day	22.00	350.00	7700.00
		<b>c) Machinery</b>				
		Concrete mixer (cap. 0.40/0.28 cum)	hour	6.00	350.00	2100.00
		Generator 33 KVA	hour	6.00	630.00	3780.00
		<b>Basic Cost of Labour, Material &amp; Machinery (a+b+c) for 15 cum</b>		<b>88725.00</b>		
		For formwork and staging add the following:				
4.1E Case I	(i)	For solid slab super-structure, 20-30 per cent of (a+b+c)				
	(p)	Height upto 5m				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				88725.00
		<b>d) Formwork and staging 20 per cent of (a+b+c)</b>		20.00		17745.00
		<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				10647.00
		<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				11711.70
						128828.70
		Add 1% labour cess				1288.29
		Cost for 15 cum = a+b+c+d+e+f				130116.99
		<b>Rate per cum = (a+b+c+d+e+f)/15</b>				8674.47
		Add 12% GST				1040.94
		Rate per Cum				9715.40
					<b>say</b>	<b><u>9715.00</u></b>
4.1E Case I (i)	(q)	Height 5m to 10m				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				88725.00
		<b>d) Formwork and staging 25 per cent of (a+b+c)</b>		25.00		22181.25
		<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				11090.63
		<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				12199.69
						134196.56
		Add 1% labour cess				1341.97
		Cost for 15 cum = a+b+c+d+e+f				135538.53
		<b>Rate per cum = (a+b+c+d+e+f)/15</b>				9035.90
		Add 12% GST				1084.31
		Rate per Cum				10120.21
					<b>say</b>	<b><u>10120.00</u></b>

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
4.1E Case I (i)		(r)	Height above 10m				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				88725.00
			d) Formwork and staging 30 per cent of (a+b+c)		30.00		26617.50
			e) Overhead charges @ 10 % on (a+b+c+d)				11534.25
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				12687.68
							139564.43
			Add 1% labour cess				1395.64
			Cost for 15 cum = a+b+c+d+e+f				140960.07
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				9397.34
			Add 12% GST				1127.68
			Rate per Cum				10525.02
						<b>say</b>	<b><u>10525.00</u></b>
4.1E Case I		(ii)	For T-beam & slab, 25-35 per cent of (a+b+c)				
		(p)	Height upto 5m				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				88725.00
			d) Formwork and staging 25 per cent of (a+b+c)		25.00		22181.25
			e) Overhead charges @ 10 % on (a+b+c+d)				11090.63
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				12199.69
							134196.56
			Add 1% labour cess				1341.97
			Cost for 15 cum = a+b+c+d+e+f				135538.53
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				9035.90
			Add 12% GST				1084.31
			Rate per Cum				10120.21
						<b>say</b>	<b><u>10120.00</u></b>
4.1E Case I (ii)		(q)	Height 5m to 10m				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				88725.00
			d) Formwork and staging 30 per cent of (a+b+c)		30.00		26617.50
			e) Overhead charges @ 10 % on (a+b+c+d)				11534.25
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				12687.68
							139564.43
			Add 1% labour cess				1395.64
			Cost for 15 cum = a+b+c+d+e+f				140960.07
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				9397.34
			Add 12% GST				1127.68
			Rate per Cum				10525.02

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
						say	<u>10525.00</u>
4.1E	Case I (ii)	(r)	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				88725.00
			<b>d) Formwork and staging 35 per cent of (a+b+c)</b>		35.00		31053.75
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				11977.88
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				13175.66
							144932.29
			Add 1% labour cess				1449.32
			Cost for 15 cum = a+b+c+d+e+f				146381.61
			<b>Rate per cum = (a+b+c+d+e+f)/15</b>				9758.77
			Add 12% GST				1171.05
			Rate per Cum				10929.83
						say	<u>10930.00</u>
4.1E		Case II	<b>Using Batching Plant, Transit Mixer and Concrete Pump</b>				
			<b>Unit = cum</b>				
			<b>Taking output = 120 cum</b>				
			<b>a) Material</b>				
			Cement	tonne	51.60	6875.00	354750.00
			Coarse sand	cum	54.00	1214.00	65556.00
			20 mm Aggregate	cum	64.80	1298.00	84110.40
			10 mm Aggregate	cum	43.20	1298.00	56073.60
			Admixture @ 0.4 per cent of cement	kg	206.40	160.00	33024.00
			<b>b) Labour</b>				
			Mate	day	0.94	350.00	329.00
			Mason	day	3.50	505.17	1768.08
			Mazdoor	day	20.00	350.00	7000.00
			<b>c) Machinery</b>				
			Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
			Generator 100 KVA	hour	6.00	1160.00	6960.00
			Loader	hour	6.00	1321.00	7926.00
			Transit Mixer ( capacity 4.0 cu.m )				
			Transit Mixer 4 cum capacity lead upto1 Km	hour	15.00	1601.00	24015.00
			Lead beyond 1 Km, L - lead in Kilometer	tonne.km	300L	1601.00	480300.00
			Concrete Pump	hour	6.00	240.00	1440.00
			<b>Basic Cost of Labour, Material &amp; Machinery (a+b+c) for 120 cum</b>		<b>1210181</b>		
			<b>For formwork and staging add the following:</b>				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
4.1E Case II		(i)	For solid/voided slab super-structure, 18-28 per cent of (a+b+c)				
		(p)	Height upto 5m				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1210181.00
		d)	Formwork and staging 18 per cent of (a+b+c)		18.00		217832.58
		e)	Overhead charges @ 10 % on (a+b+c+d)				142801.36
		f)	Contractor's profit @ 10 % on (a+b+c+d+e)				157081.49
							1727896.43
			Add 1% labour cess				17278.96
			Cost for 120 cum = a+b+c+d+e+f				1745175.40
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				14543.13
			Add 12% GST				1745.18
			Rate per Cum				16288.30
						<b>say</b>	<b><u>16288.00</u></b>
4.1E Case II (i)		(q)	Height 5m to 10m				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1210181.00
		d)	Formwork and staging 23 per cent of (a+b+c)		23.00		278341.63
		e)	Overhead charges @ 10 % on (a+b+c+d)				148852.26
		f)	Contractor's profit @ 10 % on (a+b+c+d+e)				163737.49
							1801112.38
			Add 1% labour cess				18011.12
			Cost for 120 cum = a+b+c+d+e+f				1819123.51
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15159.36
			Add 12% GST				1819.12
			Rate per Cum				16978.49
						<b>say</b>	<b><u>16978.00</u></b>
4.1E Case II (i)		(r)	Height above 10m				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1210181.00
		d)	Formwork and staging 28 per cent of (a+b+c)		28.00		338850.68
		e)	Overhead charges @ 10 % on (a+b+c+d)				154903.17
		f)	Contractor's profit @ 10 % on (a+b+c+d+e)				170393.48
							1874328.33
			Add 1% labour cess				18743.28
			Cost for 120 cum = a+b+c+d+e+f				1893071.62
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15775.60
			Add 12% GST				1893.07

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Rate per Cum				17668.67
						<b>say</b>	<b><u>17669.00</u></b>
<b>4.1E Case II</b>		<b>(ii)</b>	<b>For T-beam &amp; slab, 23-33 per cent of (a+b+c)</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1210181.00
			<b>d) Formwork and staging 23 per cent of (a+b+c)</b>		23.00		278341.63
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				148852.26
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				163737.49
							1801112.38
			Add 1% labour cess				18011.12
			Cost for 120 cum = a+b+c+d+e+f				1819123.51
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15159.36
			Add 12% GST				1819.12
			Rate per Cum				16978.49
						<b>say</b>	<b><u>16978.00</u></b>
<b>4.1E Case II (ii)</b>		<b>(q)</b>	<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1210181.00
			<b>d) Formwork and staging 28 per cent of (a+b+c)</b>		28.00		338850.68
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				154903.17
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				170393.48
							1874328.33
			Add 1% labour cess				18743.28
			Cost for 120 cum = a+b+c+d+e+f				1893071.62
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15775.60
			Add 12% GST				1893.07
			Rate per Cum				17668.67
						<b>say</b>	<b><u>17669.00</u></b>
<b>4.1E Case II (ii)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1210181.00
			<b>d) Formwork and staging 33 per cent of (a+b+c)</b>		33.00		399359.73
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				160954.07
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				177049.48
							1947544.28
			Add 1% labour cess				19475.44
			Cost for 120 cum = a+b+c+d+e+f				1967019.73
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				16391.83



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 12% GST				1967.02
			Rate per Cum				18358.85
						<b>say</b>	<b><u>18359.00</u></b>
<b>4.1E Case II</b>		<b>(iii)</b>	<b>For cast-in-situ box girder, segment construction and balanced cantilever, 38-58 per cent of cost of concrete.</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1210181.00
			<b>d) Formwork and staging 38 per cent of (a+b+c)</b>		38.00		459868.78
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				167004.98
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				183705.48
							2020760.23
			Add 1% labour cess				20207.60
			Cost for 120 cum = a+b+c+d+e+f				2040967.84
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				17008.07
			Add 12% GST				2040.97
			Rate per Cum				19049.03
						<b>say</b>	<b><u>19049.00</u></b>
<b>4.1E Case II (iii)</b>		<b>(q)</b>	<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1210181.00
			<b>d) Formwork and staging 48 per cent of (a+b+c)</b>		48.00		580886.88
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				179106.79
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				197017.47
							2167192.13
			Add 1% labour cess				21671.92
			Cost for 120 cum = a+b+c+d+e+f				2188864.06
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				18240.53
			Add 12% GST				2188.86
			Rate per Cum				20429.40
						<b>say</b>	<b><u>20429.00</u></b>
<b>4.1E Case II (iii)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1210181.00
			<b>d) Formwork and staging 58 per cent of (a+b+c)</b>		58.00		701904.98
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				191208.60
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				210329.46
							2313624.04
			Add 1% labour cess				23136.24

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Cost for 120 cum = a+b+c+d+e+f				2336760.28
		<b>Rate per cum = (a+b+c+d+e+f)/120</b>				19473.00
		Add 12% GST				2336.76
		Rate per Cum				21809.76
					<b>say</b>	<b><u>21810.00</u></b>
4.1F	F	<b>PSC Grade M-45</b>				
		<b>Unit = 1 cum</b>				
		<b>Taking output = 120 cum</b>				
		<b>a) Material</b>				
		Cement	tonne	55.80	6875.00	383625.00
		Coarse sand	cum	54.00	1214.00	65556.00
		20 mm Aggregate	cum	64.80	1298.00	84110.40
		10 mm Aggregate	cum	43.20	1298.00	56073.60
		Admixture @ 0.4 per cent of cement	kg	223.20	160.00	35712.00
		<b>b) Labour</b>				
		Mate	day	0.94	350.00	329.00
		Mason	day	3.50	505.17	1768.08
		Mazdoor	day	20.00	350.00	7000.00
		<b>c) Machinery</b>				
		Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
		Generator 100 KVA	hour	6.00	1160.00	6960.00
		Loader	hour	6.00	1321.00	7926.00
		Transit Mixer ( capacity 4.0 cu.m )				
		Transit Mixer 4 cum capacity lead upto1 Km	hour	15.00	1601.00	24015.00
		Lead beyond 1 Km, L - lead in Kilometer	tonne.km	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		<b>Basic Cost of Labour, Material &amp; Machinery (a+b+c) for 120 cum</b>		<b>1241744</b>		
		<b>For formwork and staging add the following:</b>				
4.1F	(i)	<b>For solid slab/voided slab super-structure, 16-26 per cent of cost of concrete (a+b+c)</b>				
	(p)	<b>Height upto 5m</b>				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1241744.00
		<b>d) Formwork and staging 16 per cent of (a+b+c)</b>		16.00		198679.04
		<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				144042.30
		<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				158446.53
						1742911.88
		Add 1% labour cess				17429.12
		Cost for 120 cum = a+b+c+d+e+f				1760341.00

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				14669.51
			Add 12% GST				1760.34
			Rate per Cum				16429.85
						<b>say</b>	<b><u>16430.00</u></b>
<b>4.1F</b>	<b>(i)</b>	<b>(q)</b>	<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1241744.00
			<b>d) Formwork and staging 21 per cent of (a+b+c)</b>		21.00		260766.24
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				150251.02
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				165276.13
							1818037.39
			Add 1% labour cess				18180.37
			Cost for 120 cum = a+b+c+d+e+f				1836217.76
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15301.81
			Add 12% GST				1836.22
			Rate per Cum				17138.03
						<b>say</b>	<b><u>17138.00</u></b>
<b>4.1F</b>	<b>(i)</b>	<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1241744.00
			<b>d) Formwork and staging 26 per cent of (a+b+c)</b>		26.00		322853.44
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				156459.74
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				172105.72
							1893162.90
			Add 1% labour cess				18931.63
			Cost for 120 cum = a+b+c+d+e+f				1912094.53
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15934.12
			Add 12% GST				1912.09
			Rate per Cum				17846.22
						<b>say</b>	<b><u>17846.00</u></b>
<b>4.1F</b>		<b>(ii)</b>	<b>For T-beam &amp; slab including launching of precast girders by launching truss upto 40 m span, 21-31 per cent of cost of concrete.</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1241744.00
			<b>d) Formwork and staging 21 per cent of (a+b+c)</b>		21.00		260766.24
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				150251.02
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				165276.13

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
							1818037.39
			Add 1% labour cess				18180.37
			Cost for 120 cum = a+b+c+d+e+f				1836217.76
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15301.81
			Add 12% GST				1836.22
			Rate per Cum				17138.03
						<b>say</b>	<b><u>17138.00</u></b>
<b>4.1F (ii)</b>		<b>(q)</b>	<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1241744.00
			<b>d) Formwork and staging 26 per cent of (a+b+c)</b>		26.00		322853.44
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				156459.74
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				172105.72
							1893162.90
			Add 1% labour cess				18931.63
			Cost for 120 cum = a+b+c+d+e+f				1912094.53
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				15934.12
			Add 12% GST				1912.09
			Rate per Cum				17846.22
						<b>say</b>	<b><u>17846.00</u></b>
<b>4.1F (ii)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1241744.00
			<b>d) Formwork and staging 31 per cent of (a+b+c)</b>		31.00		384940.64
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				162668.46
			<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				178935.31
							1968288.41
			Add 1% labour cess				19682.88
			Cost for 120 cum = a+b+c+d+e+f				1987971.30
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				16566.43
			Add 12% GST				1987.97
			Rate per Cum				18554.40
						<b>say</b>	<b><u>18554.00</u></b>
<b>4.1F</b>		<b>(iii)</b>	<b>For cast-in-situ box girder, segmental construction and balanced cantilever, 36-56 per cent of cost of concrete.</b>				
		<b>(p)</b>	<b>Height upto 5m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1241744.00
			<b>d) Formwork and staging 36 per cent of (a+b+c)</b>		36.00		447027.84
			<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				168877.18

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				185764.90
							2043413.93
			Add 1% labour cess				20434.14
			Cost for 120 cum = a+b+c+d+e+f				2063848.07
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				17198.73
			Add 12% GST				2063.85
			Rate per Cum				19262.58
						<b>say</b>	<b><u>19263.00</u></b>
<b>4.1F (iii)</b>		<b>(q)</b>	<b>Height 5m to 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1241744.00
			d) Formwork and staging 46 per cent of (a+b+c)		46.00		571202.24
			e) Overhead charges @ 10 % on (a+b+c+d)				181294.62
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				199424.09
							2193664.95
			Add 1% labour cess				21936.65
			Cost for 120 cum = a+b+c+d+e+f				2215601.60
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				18463.35
			Add 12% GST				2215.60
			Rate per Cum				20678.95
						<b>say</b>	<b><u>20679.00</u></b>
<b>4.1F (iii)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1241744.00
			d) Formwork and staging 56 per cent of (a+b+c)		56.00		695376.64
			e) Overhead charges @ 10 % on (a+b+c+d)				193712.06
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				213083.27
							2343915.97
			Add 1% labour cess				23439.16
			Cost for 120 cum = a+b+c+d+e+f				2367355.13
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				19727.96
			Add 12% GST				2367.36
			Rate per Cum				22095.31
						<b>say</b>	<b><u>22095.00</u></b>
<b>4.1</b>		<b>G</b>	<b>PSC Grade M-50</b>				
			<b>Unit = 1 cum</b>				
			<b>Taking output = 120 cum</b>				
			a) Material				
			Cement	tonne	58.80	6875.00	404250.00
			Coarse sand	cum	54.00	1214.00	65556.00
			20 mm Aggregate	cum	64.80	1298.00	84110.40

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		10 mm Aggregate	cum	43.20	1298.00	56073.60
		Admixture @ 0.4 per cent of cement	kg	235.20	160.00	37632.00
		<b>b) Labour</b>				
		Mate	day	0.94	350.00	329.00
		Mason	day	3.50	505.17	1768.08
		Mazdoor	day	20.00	350.00	7000.00
		<b>c) Machinery</b>				
		Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
		Generator 100 KVA	hour	6.00	1160.00	6960.00
		Loader	hour	6.00	1321.00	7926.00
		Transit Mixer ( capacity 4.0 cu.m )				
		Transit Mixer 4 cum capacity lead upto1 Km	hour	15.00	1601.00	24015.00
		Lead beyond 1 Km, L - lead in Kilometer	tonne.km	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		<b>Basic Cost of Labour, Material &amp; Machinery (a+b+c) for 120 cum</b>		<b>1264289</b>		
		<b>For formwork and staging add the following:</b>				
4.1G	(i)	<b>For cast-in-situ box girder, segmental construction and balanced cantilever, 35-55 per cent of cost of concrete</b>				
	(p)	<b>Height upto 5m</b>				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1264289.00
		<b>d) Formwork and staging 35 per cent of (a+b+c)</b>		35.00		442501.15
		<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				170679.02
		<b>f) Contractor's profit @ 10 % on (a+b+c+d+e)</b>				187746.92
						2065216.08
		Add 1% labour cess				20652.16
		Cost for 120 cum = a+b+c+d+e+f				2085868.24
		<b>Rate per cum = (a+b+c+d+e+f)/120</b>				17382.24
		Add 12% GST				2085.87
		Rate per Cum				19468.10
					<b>say</b>	<b>19468.00</b>
4.1G (i)	(q)	<b>Height 5m to 10m</b>				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1264289.00
		<b>d) Formwork and staging 45 per cent of (a+b+c)</b>		45.00		568930.05
		<b>e) Overhead charges @ 10 % on (a+b+c+d)</b>				183321.91

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				201654.10
							2218195.05
			Add 1% labour cess				22181.95
			Cost for 120 cum = a+b+c+d+e+f				2240377.00
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				18669.81
			Add 12% GST				2240.38
			Rate per Cum				20910.19
						<b>say</b>	<b><u>20910.00</u></b>
<b>4.1G (i)</b>		<b>(r)</b>	<b>Height above 10m</b>				
			Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1264289.00
			d) Formwork and staging 55 per cent of (a+b+c)		55.00		695358.95
			e) Overhead charges @ 10 % on (a+b+c+d)				195964.80
			f) Contractor's profit @ 10 % on (a+b+c+d+e)				215561.27
							2371174.02
			Add 1% labour cess				23711.74
			Cost for 120 cum = a+b+c+d+e+f				2394885.76
			<b>Rate per cum = (a+b+c+d+e+f)/120</b>				19957.38
			Add 12% GST				2394.89
			Rate per Cum				22352.27
						<b>say</b>	<b><u>22352.00</u></b>
<b>4.1</b>		<b>H</b>	<b>PSC Grade M- 55</b>				
			<b>Unit = 1 cum</b>				
			<b>Taking output = 120 cum</b>				
			<b>a) Material</b>				
			Cement	tonne	63.50	6875.00	436562.50
			Coarse sand	cum	54.00	1214.00	65556.00
			20 mm Aggregate	cum	64.80	1298.00	84110.40
			10 mm Aggregate	cum	43.20	1298.00	56073.60
			Admixture @ 0.4 per cent of cement	kg	254.00	160.00	40640.00
			<b>b) Labour</b>				
			Mate	day	0.94	350.00	329.00
			Mason	day	3.50	505.17	1768.08
			Mazdoor	day	20.00	350.00	7000.00
			<b>c) Machinery</b>				
			Batching Plant @ 20 cum/hour	hour	6.00	14488.00	86928.00
			Generator 100 KVA	hour	6.00	1160.00	6960.00
			Loader	hour	6.00	1321.00	7926.00
			Transit Mixer ( capacity 4.0 cu.m )				
			Transit Mixer 4 cum capacity lead upto1 Km	hour	15.00	1601.00	24015.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Lead beyond 1 Km, L - lead in Kilometer	tonne.km	300L	1601.00	480300.00
		Concrete Pump	hour	6.00	240.00	1440.00
		<b>Basic Cost of Labour, Material &amp; Machinery (a+b+c) for 120 cum</b>		<b>1299609</b>		
		For formwork and staging add the following:				
4.1H	(i)	For cast-in-situ box girder, segmental construction and balanced cantilever, 35-55 per cent of cost of concrete				
	(p)	Height upto 5m				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1299609.00
		d) Formwork and staging 35 per cent of (a+b+c)		35.00		454863.15
		e) Overhead charges @ 10 % on (a+b+c+d)				175447.22
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				192991.94
						2122911.30
		Add 1% labour cess				21229.11
		Cost for 120 cum = a+b+c+d+e+f				2144140.41
		<b>Rate per cum = (a+b+c+d+e+f)/120</b>				17867.84
		Add 12% GST				2144.14
		Rate per Cum				20011.98
					<b>say</b>	<b><u>20012.00</u></b>
4.1H (i)	(q)	Height 5m to 10m				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1299609.00
		d) Formwork and staging 45 per cent of (a+b+c)		45.00		584824.05
		e) Overhead charges @ 10 % on (a+b+c+d)				188443.31
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				207287.64
						2280163.99
		Add 1% labour cess				22801.64
		Cost for 120 cum = a+b+c+d+e+f				2302965.63
		<b>Rate per cum = (a+b+c+d+e+f)/120</b>				19191.38
		Add 12% GST				2302.97
		Rate per Cum				21494.35
					<b>say</b>	<b><u>21494.00</u></b>
4.1H (i)	(r)	Height above 10m				
		Basic Cost of Labour, Material & Machinery (a+b+c) for 120 cum				1299609.00
		d) Formwork and staging 55 per cent of (a+b+c)		55.00		714784.95
		e) Overhead charges @ 10 % on (a+b+c+d)				201439.40



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		f) Contractor's profit @ 10 % on (a+b+c+d+e)				221583.33
						2437416.68
		Add 1% labour cess				24374.17
		Cost for 120 cum = a+b+c+d+e+f				2461790.85
		<b>Rate per cum = (a+b+c+d+e+f)/120</b>				20514.92
		Add 12% GST				2461.79
		Rate per Cum				22976.71
					<b>say</b>	<b><u>22977.00</u></b>
		<b>Note</b>				
		1. Where ever concrete is carried out using batching plant, transit mixer, concrete pump, admixers conforming IS: 9103 @ 0.4 per cent of weight of cement may be added for achieving desired slump of concrete.				
		2. Cement provided for various components of the super structure is for estimating purpose only. Actual quantity of cement will be as per approved mix design. Similarly, the provision for coarse and fine aggregates is for estimating purpose and the exact quantity shall be as per the mix design.				
		3. The items like needle and surface vibrators are part of minor T & P which is already covered under the overhead charges. As such these items have not been added separately in the rate analysis.				
4.2	1600	<b>Supplying, fitting and placing HYSD bar reinforcement in super-structure complete as per drawing and technical specifications</b>				
		<b>Unit = 1 MT</b>				
		<b>Taking output = 1 MT</b>				
		<b>a) Material</b>				
		HYSD bars including 5 per cent for laps and wastage	tonne	1.05	59875.00	62868.75
		Binding wire	Kg	8.00	80.00	640.00
		<b>b) Labour for cutting, bending, tying and placing in position</b>				
		Mate	day	0.44	350.00	154.00
		Blacksmith	day	3.00	505.17	1515.50
		Mazdoor	day	8.00	350.00	2800.00
		<b>Basic Cost of Labour &amp; Material (a+b)</b>		<b>67979.00</b>		
		c) Overhead charges @ 10 % on (a+b)				6797.83
		d) Contractor's profit @ 10 % on (a+b+c)				7477.61
						82253.68
		Add 1% labour cess				822.54
		<b>Rate per MT = a+b+c+d</b>				83076.22

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 12% GST				9969.15
		Rate per Cum				93045.37
					<b>say</b>	<b><u>93045.00</u></b>
4.3	1800	<b>High tensile steel wires/strands including all accessories for stressing, stressing operations and grouting complete as per drawing and Technical Specifications</b>				
		<b>Unit = 1 MT</b>				
		<b>Taking output = 0.377 MT</b>				
		Details of cost for 12T13 strand 40 m long cable (weight = 0.377 MT)				
		<b>a) Material</b>				
		H.T. Strand @ 9.42 kg/m including 2 per cent for wastage and extra length for jacking	tonne	0.39	138583.00	53354.46
		Sheathing duct ID 66 mm along with 5 per cent extra length 40 x 1.05 = 42 m.	metre	42.00	245.00	10290.00
		Tube anchorage set complete with bearing plate, permanent wedges etc	each	2.00	481.00	962.00
		Cement for grouting including 3 per cent wastage @ 3.00 kg/m = 3 x 1.03 x 40 = 123.60 kg (say, = 125 kg)	tonne	0.125	6875.00	859.38
		Add 0.50 per cent cost of material for Spacers, Insulation tape and miscellaneous items				3273.29
		<b>b) Labour</b>				
		<b>i) For making and fixing cables, anchorages</b>				
		Mate	day	0.16	350.00	56.00
		Blacksmith	day	1.00	505.17	505.17
		Mazdoor	day	3.00	350.00	1050.00
		<b>ii) For prestressing</b>				
		Mate/Supervisor	day	0.05	350.00	17.50
		Prestressing operator / Fitter	day	0.25	403.67	100.92
		Mazdoor	day	1.00	350.00	350.00
		<b>iii) For grouting</b>				
		Mate/Supervisor	day	0.05	350.00	17.50
		Mason	day	0.25	505.17	126.29
		Mazdoor	day	1.00	350.00	350.00
		<b>c) Machinery</b>				
		Stressing jack with pump	hour	2.50	328.00	820.00
		Grouting pump with agitator	hour	1.00	682.00	682.00
		Generator 33 KVA.	hour	3.50	630.00	2205.00
		<b>d) Overhead charges @ 10 % on (a+b+c)</b>				628.04
		<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				690.84

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
						76338.38
		Add 1% labour cess				763.38
		Cost for 0.377 MT (a+b+c+d+e)				77101.76
		<b>Rate per MT = (a+b+c+d+e)/0.377</b>				204513.95
		Add 12% GST				24541.67
		Rate per Cum				229055.62
					<b>say</b>	<b><u>229056.00</u></b>
		<b>Note</b> Cost of HT steel has been taken for delivery at site. Hence carriage has not been considered.				
4.4	2702	<b>Providing and laying Cement concrete wearing coat M-30 grade including reinforcement complete as per drawing and Technical Specifications</b>				
		<b>Unit = 1 cum</b>				
		<b>Taking output = 1 cum</b>				
		<b>a) Material</b>				
		Cement concrete M30 Grade Refer relevant item of concrete in Item 14.1 excluding formwork	cum	1.00	9650.00	9650.00
		HYSD bar reinforcement Rate as per item No 14.2(Excluding OH & CP)	tonne	0.075	67979.00	5098.43
		<b>b) Labour</b>				
		Mazdoor for cleaning deck slab concrete surface.	day	0.15	350.00	52.50
		<b>c) Overhead charges @ 10 % on (a+b)</b>				1480.09
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				1628.10
						17909.12
		Add 1% labour cess				179.09
		<b>Rate per cum (a+b+c+d)</b>				18088.21
		Add 12% GST				2170.59
		Rate per Cum				20258.80
					<b>say</b>	<b><u>20259.00</u></b>
4.5	515 & 2702	<b>Mastic Asphalt</b>				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Providing and laying 12 mm thick mastic asphalt wearing course on top of deck slab excluding prime coat with paving grade bitumen meeting the requirements given in table 500-29, prepared by using mastic cooker and laid to required level and slope after cleaning the surface, including providing antiskid surface with bitumen precoated fine grained hard stone chipping of 9.5 mm nominal size at the rate of 0.005cum per 10 sqm and at an approximate spacing of 10 cm center to center in both directions, pressed into surface when the temperature of surfaces not less than 100 deg. C, protruding 1 mm to 4 mm over mastic surface, all complete as per clause 515.				
		<i>Unit = sqm</i>				
		<i>Taking output = 72.46 sqm (2 tonnes)(0.869 cum) assuming a density of 2.3 tonnes/cum.</i>				
		<b>a) Labour</b>				
		Mate	day	0.49	350.00	171.50
		Mazdoor	day	11.00	350.00	3850.00
		Mazdoor (Skilled)	day	1.25	350.00	437.50
		<b>b) Machinery</b>				
		Mechanical broom @ 1250 sqm per hour	hour	0.06	528.00	31.68
		Air compressor 250 cfm	hour	0.06	488.00	29.28
		Mastic cooker 1 tonne capacity	hour	6.00	109.00	654.00
		Bitumen boiler 1500 litres capacity	hour	6.00	1408.00	8448.00
		Tractor for towing and positioning of mastic cooker and bitumen boiler	hour	1.00	581.00	581.00
		<b>c) Material</b>				
		Base mastic (without coarse aggregates) = 60 per cent				
		Coarse aggregate(3.35mm to 9.5 mm size) = 40 per cent .				
		Proportion of material required for mastic asphalt with coarse aggregates (based on mix design done by CRRI for a specific case)				
		<b>i) Bitumen 80/100 or 60/70 or 30/40 @ 10.2 per cent by weight of mix. 2 x 10.2/100 = 0.204</b>	tonne	0.204	40159.00	8192.44
		<b>ii) Crusher stone dust @ 31.9 per cent by weight of mix = 2 x 31.9/100 = 0.638 tonnes = 0.638/1.625 = 0.39</b>	cum	0.39	1156.00	450.84

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		iii) Lime stone dust filler with calcium carbonate content not less than 80 per cent by weight @ 17.92 per cent by weight of mix = $2 \times 17.92/100 = 0.36$	tonne	0.36	7725.00	2781.00
		iv) Coarse aggregates 9.5 mm to 3.35 mm size @ 40 per cent by weight of mix = $2 \times 40/100 = 0.8$ MT = $0.8/1.456 = 0.55$	cum	0.55	1298.00	713.90
		v) Pre-coated stone chips of 9.5 mm nominal size for skid resistance = $72.46 \times 0.005/10 = 0.036$	cum	0.036	1100.00	39.60
		vi) Bitumen for coating of chips @ 2 per cent by weight = $0.036 \times 1.456 \times 2/100 = 0.001048$ MT = 1.05kg	kg	1.05	40.16	42.17
		d) Overhead charges @ 10 % on (a+b+c)				2642.29
		e) Contractor's profit @ 10 % on (a+b+c+d)				2906.52
						31971.71
		Add 1% labour cess				319.72
		Cost for 72.46 sqm = a+b+c+d+e				32291.43
		<b>Rate per sqm = (a+b+c+d+e)/72.46</b>				445.64
		Add 12% GST				53.48
		Rate per sqm				499.12
					<b>say</b>	<b><u>499.00</u></b>
	Note	1.The rates for 6 mm or any other thickness may be worked out on pro-rata basis.				
		2. Where tack coat is required to be provided before laying mastic asphalt, the same is required to be measured and paid separately.				
		3.The quantities of binder, filler and aggregates are for estimating purpose. Exact quantities shall be as per mix design.				
		4.This rate analysis is based on design made by CRRRI for a specific case and is meant for estimating purposes only. Actual design is required to be done for each case.				
		5.The quantity of bitumen works out 17 per cent of the mastic asphalt blocks without aggregates and falls within the standards laid down by MoRTH Specifications.				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
4.6	2703, 1500, 1600 & 1700	Construction of precast RCC railing of M30 Grade, aggregate size not exceeding 12 mm, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post for expansion, complete as per approved drawings and technical specifications.				
		<b>Unit = 1 RM</b>				
		<b>Taking output = 2 x 24 m span = 48 m</b>				
		<b>a) Material</b>				
		Cement concrete M30 Grade Refer relevant item of concrete in Item 14.1(C) by using batching plant, excluding formwork i.e. per cum basic cost (a+b+c)	cum	4.09	9650.00	39487.80
		No. of vertical posts = $(12 + 2)2 = 28$ Nos., External area of vertical post $0.25 \times 0.275 = 0.069$ sqm, Concrete in Vertical posts = $0.069 \times 28 = 1.932$ cum, Hand rail in 3 tiers = $3 \times 24 = 72$ m, External area = $0.170 \times 0.175 = 0.03$ sqm, Concrete in hand rails = $0.03 \times 72 = 2.16$ cum, Total Concrete = $1.932 + 2.16 = 4.092$ cum. (Refer MoRTH SD / 202).				
		Add 5 per cent of above cost for form work for casting in casting yard.				1974.39
		HYSD bar reinforcement Rate as per item No 14.2(Excluding OH & CP)	tonne	0.87	67979.00	58801.84
		Refer MoRTH SD / 202.				
		Add 5 per cent of (a) for handling and fixing of precast panels in position				5013.20
		<b>b) Overhead charges @ 10 % on (a)</b>				10527.72
		<b>c) Contractor's profit @ 10 % on (a+b)</b>				11580.49
						127385.44
		Add 1% labour cess				1273.85
		<b>Rate for 48 m (a+b+c)</b>				128659.30
		<b>Rate per metre (a+b+c)/48</b>				2680.40
		Add 12% GST				321.65
		Rate per m				3002.05
					<b>say</b>	<b><u>3002.00</u></b>
		<b>Note</b> 1.Quantities of material have been adopted from standard plans of MoRTH vide drawing no. SD/202.				
		2.48 m length is the total linear length adding both sides of 24 m span.				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
4.7	2703, 1500, 1600 & 1700		Construction of RCC railing of M30 Grade in-situ with 20 mm nominal size aggregate, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post for expansion, complete as per approved drawings and technical specifications.				
			<b>Unit = 1 RM</b>				
			<b>Taking output = 2 x 24 m span = 48 m.</b>				
			<b>a) Material</b>				
			Cement concrete M30 Grade Refer relevant item of concrete in Item 14.1(C) by using batching plant, excluding formwork i.e. per cum basic cost (a+b+c)	cum	4.092	9650.00	39487.80
			No. of vertical posts = $(12 + 2)2 = 28$ Nos., External area of vertical post $0.25 \times 0.275 = 0.069$ sqm, Concrete in vehicle posts = $0.069 \times 28 = 1.932$ cum, Hand rail in 3 tiers = $3 \times 24 = 72$ m, External area = $0.170 \times 0.175 = 0.03$ sqm, Concrete in hand rails = $0.03 \times 72 = 2.16$ cum, Total Concrete = $1.932 + 2.16 = 4.092$ cum. (Refer MoRTH SD / 202).				
			Add 12 per cent of above cost for form work.				4738.54
			HYSD bar reinforcement Rate as per item No 14.2(Excluding OH & CP)	tonne	0.87	67979.00	58801.84
			refer MoRTH SD / 202.				
			<b>b) Overhead charges @ 10 % on (a)</b>				10302.82
			<b>c) Contractor's profit @ 10 % on (a+b)</b>				11333.10
							124664.09
			Add 1% labour cess				1246.64
			<b>Rate for 48 m (a+b+c)</b>				125910.73
			<b>Rate per metre (a+b+c)/48</b>				2623.14
			Add 12% GST				314.78
			Rate per m				2937.92
						<b>say</b>	<b><u>2938.00</u></b>
		<b>Note</b>	<b>1. Quantities of material have been adopted from standard plans of MoRTH vide drawing no. SD/202.</b>				
			<b>2. 48 m length is the total linear length adding both sides of 24 m span.</b>				
4.8	2703.2 & 1900		Providing, fitting and fixing mild steel railing complete as per drawing and Technical Specification				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<b>Unit = 1 RM</b>				
		<b>Taking output = 2 x 50 m span = 100 m</b>				
		<b>a) Material:</b>				
		1) ISMC 100 = 2.806 x 1.05 = 2.946 MT	tonne	2.95	55110.00	162354.06
		2) MS Flat = 0.964 x 1.05 = 1.012 MT	tonne	1.01	55110.00	55771.32
		3) MS bars = 0.17 x 1.05 = 0.180 MT	tonne	0.18	55110.00	9919.80
		4) MS bolts, nuts and washers	tonne	0.15	850.00	127.50
		Add @ 5 per cent of cost of material for painting one shop coat with red oxide primer and three coats of synthetic enamel paint and consumables to safeguard against weathering and corrosion.				11408.63
		Add for cost of concrete for fixing vertical posts in the performed recess @ 1 per cent of cost of material.				2281.73
		Add for electricity charges, welding and drilling equipment, electrodes and other consumables @ 1 per cent of cost of material.				2281.73
		<b>b) Labour</b>				
		Mate	day	2.80	350.00	980.00
		Mazdoor (Skilled)	day	30.00	350.00	10500.00
		Mazdoor	day	40.00	350.00	14000.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				26962.48
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				29658.72
						326245.97
		Add 1% labour cess				3262.46
		Cost for 100 m steel railing = a+b+c+d				329508.43
		<b>Rate per metre (a+b+c+d)/100</b>				3295.08
		Add 12% GST				395.41
		Rate per m				3690.49
					<b>say</b>	<b><u>3690.00</u></b>
4.9	2705	<b>Drainage Spouts complete as per drawing and Technical specification</b>				
		<b>Unit = 1 No.</b>				
		<b>Taking output = 1 No.</b>				
		<b>a) Material</b>				
		Corrosion resistant Structural steel including 5 per cent wastage	Kg	4.00	151.00	604.00
		GI pipe 100mm dia	metre	6.00	150.00	900.00
		GI bolt 10 mm Dia	each	6.00	10.00	60.00
		Galvanised MS flat clamp	each	2.00	180.00	360.00
		<b>b) Labour</b>				
		<b>For fabrication</b>				



Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Mate	day	0.02	350.00	7.00
			Skilled (Blacksmith, welder etc.)	day	0.02	505.17	10.10
			Mazdoor	day	0.02	350.00	7.00
			<b>For fixing in position</b>				
			Mate	day	0.01	350.00	3.50
			Mason	day	0.01	505.17	5.05
			Mazdoor	day	0.20	350.00	70.00
			Add @ 5 per cent of cost of material and labour for electrodes, cutting gas, sealant, anti-corrosive bituminous paint, mild steel grating etc.				101.33
			<b>c) Overhead charges @ 10 % on (a+b)</b>				212.80
			<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				234.08
							2574.87
			Add 1% labour cess				25.75
			<b>Rate per metre (a+b+c+d)</b>				2600.61
			Add 12% GST				312.07
			Rate per m				2912.69
						<b>say</b>	<b><u>2913.00</u></b>
		<b>Note</b>	<b>1. In case of viaducts in urban areas, the drainage spouts should be connected with suitably located pipelines to discharge the surface run-off to drains provided at ground level.</b>				
			<b>2. In case of bridges, sufficient length of G.I Pipe shall be provided to ensure that there is no splashing of water from the drainage spout on the structure.</b>				
4.10	2700		<b>PCC M15 Grade leveling course below approach slab complete as per drawing and Technical specification</b>				
			<b>Unit = 1 cum</b>				
			<b>Taking output = 1 cum</b>				
			<b>Material</b>				
			Concrete, Rate as per item No. 12.8 (A) excluding formworks	cum	1.00	5271.00	5271.00
			<b>Rate per cum</b>			<b>say</b>	<b><u>5271.00</u></b>
4.11	1500,1600,1700 & 2704		<b>Reinforced cement concrete approach slab including reinforcement and formwork complete as per drawing and Technical specification</b>				
			<b>Unit = 1 cum</b>				
			<b>Taking output = 1 cum</b>				
			<b>a) Material</b>				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Cement concrete M30 Grade Refer relevant item of concrete in item 12.8(G) by using batching plant, excluding formwork i.e. per cum basic cost (a+b+c) (Excluding OH & CP)	cum	1.00	9641.00	9641.00
			( Refer relevant item of concrete in item No. 13.8 (G) except that form work may be added at the rate of 2 per cent of cost against 3.5 per cent provided in the foundation concrete.				192.82
			HYSD bar reinforcement Rate as per item No 14.2(Excluding OH & CP)	tonne	0.05	67979.00	3398.95
			<b>b) Overhead charges @ 10 % on (a)</b>				1323.28
			<b>c) Contractor's profit @ 10 % on(a+b)</b>				1455.60
							16011.65
			Add 1% labour cess				160.12
			<b>Rate per cum (a+b+c)</b>				16171.77
			Add 12% GST				1940.61
			Rate per cum				18112.38
						<b>say</b>	<b><u>18112.00</u></b>
		<b>Note</b>	The grade of reinforced cement concrete may be adopted as M30 for severe conditions and M25 for moderate conditions.				
<b>4.12</b>	<b>1600</b>		<b>Providing anti-corrosive treatment to HYSD reinforcement with Fusion Bonded Epoxy Coating (FBEC)</b>				
			<b>Unit = 1 MT</b>				
			<b>Taking output = 1 MT</b>				
			To be taken as per the prevailing market rates.				
		<b>Note</b>	Contractors generally do not have expertise for this item . The job is therefore, got done from specialised firms who have the expertise in the field of construction chemicals. The prevailing rate in the market is required to be ascertained from the market and added in the cost estimate. Detailed guidelines in this regard have been issued by MoRTH vide their circular no. RW/NH-34041/44/91-S&R dated 21.3.2000.				
<b>4.13</b>	<b>1800 &amp; 2300</b>		<b>Precast - pretensioned Girders</b>				
			<b>Providing, precasting, transportation and placing in position precast pretensioned concrete girders as per drawing and technical specifications</b>				
			<b>Unit = 1 cum</b>				
			<b>Taking output = 1 cum</b>				
			Grade of concrete - M40				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<b>a) Material</b>				
		Cement	tonne	0.47	6875.00	3231.25
		Coarse sand	cum	0.45	1214.00	546.30
		20 mm Aggregate	cum	0.54	1298.00	700.92
		10 mm Aggregate	cum	0.36	1298.00	467.28
		Admixture @ 0.4 per cent of cement	Kg	1.88	160.00	300.80
		HYSD steel .	tonne	0.10	59875.00	5987.50
		HT strand with 5 per cent as wastage and extra length for anchoring	tonne	0.06	138583.00	8314.98
		LDO for steam curing	Litre	37.00	60.00	2220.00
		Add consumables such as binding wire, foam, packing tape, shuttering oil, HDPE pipe for unbonding of strand, bolt & nuts etc @ 1 per cent of material cost				217.69
		<b>b) Labour</b>				
		<b>(i) Cutting, bending, making reinforcement cage, placing in position, binding etc. complete</b>				
		<b><i>Taking quantity of steel 100 Kg/cum of concrete including laps and wastage</i></b>				
		Mate	day	0.06	350.00	21.00
		Mazdoor (Skilled)	day	0.35	350.00	122.50
		Mazdoor	day	1.40	350.00	490.00
		<b>(ii) Cable cutting and threading in position including binding by insulation tape with HDPE pipes etc., prestressing and cutting of extra length of HT strand after de-stressing.</b>				
		<b><i>Taking quantity of HT strand 60 Kg/cum</i></b>				
		Mate	day	0.02	350.00	7.00
		Mazdoor (Skilled)	day	0.14	350.00	49.00
		Mazdoor	day	0.50	350.00	175.00
		<b>(iii) Erection and dismantling of shuttering</b>				
		<b><i>Taking shuttering area 10 sqm/cum of concrete</i></b>				
		Mate	day	0.12	350.00	42.00
		Mazdoor (Skilled)	day	1.00	350.00	350.00
		Mazdoor	day	2.00	350.00	700.00
		<b>(iv) Concreting by Batching plant and stationary concrete pump</b>				
		Mate	day	0.03	350.00	10.50
		Mazdoor (Skilled)	day	0.05	350.00	17.50
		Mazdoor	day	0.60	350.00	210.00
		<b>(v) Steam curing and manual curing</b>				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Mate	day	0.01	350.00	3.50
		Mazdoor	day	0.35	350.00	122.50
		<b>(vi) Handling of precast girder, stacking in stockyard and again loading in trailer</b>				
		Mate	day	0.01	350.00	3.50
		Mazdoor	day	0.25	350.00	87.50
		<b>(vii) Placement of girders in position over pier caps including placement of sand jacks, channel, levelling etc.</b>				
		Mate	day	0.01	350.00	3.50
		Mazdoor (Skilled)	day	0.06	350.00	21.00
		Mazdoor	day	0.24	350.00	84.00
		<b>c) Machinery</b>				
		<b>i) At casting yard</b>				
		Generator 100 KVA	hour	0.05	1160.00	58.00
		Batching Plant @ 20 cum/hour	hour	0.05	14488.00	724.40
		Transit Mixer 4 cum capacity	hour	0.10	1601.00	160.10
		Concrete Pump stationary	hour	0.05	240.00	12.00
		Crane 35 tonne capacity	hour	0.10	1250.00	125.00
		Trailer 30 tonne capacity	hour	0.10	2224.00	222.40
		Loader	hour	0.05	1321.00	66.05
		<b>ii) For transportation and placement at site</b>				
		Crane 35 tonne capacity	hour	0.15	1250.00	187.50
		Trailer 30 tonne capacity for transporting to site.	tonne.km	2.5xL	12.20	30.50
		(L - Lead in Kilometer)				
		Trailer 30 tonne capacity during placement.	hour	0.15	2224.00	333.60
		Cost of formwork, steam curing arrangement, pretensioning arrangement etc @ 5 per cent of cost material, labour and machinery				1293.73
		<b>d) Overhead charges @ 10 % on (a+b+c)</b>				2772.00
		<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				3049.20
						33541.20
		Add 1% labour cess				335.41
		<b>Rate per cum = (a+b+c+d+e)</b>				33541.20
		Add 12% GST				4024.94
		Rate per cum				37566.15
					<b>say</b>	<b><u>37566.00</u></b>
<b>4.14</b>	<b>1700 &amp; 1800</b>	<b>Providing and fixing Helical pipes in voided concrete slabs</b>				
		<b>Unit = 1 RM</b>				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<b>Taking output = 1 RM</b>				
		<b>a) Material</b>				
		Helical pipes 600mm diameter	metre	1.00	7000.00	7000.00
		Tie rods 20mm diameter	each	1.00	120.00	120.00
		Consumables for sealing joints etc.@ 5 per cent of cost of material				356.00
		<b>b) Labour</b>				
		Mate	day	0.01	350.00	3.50
		Fitter	day	0.05	403.67	20.18
		Mazdoor	day	0.20	350.00	70.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				756.97
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				832.67
						9159.32
		Add 1% labour cess				91.59
		<b>Rate per cum (a+b+c+d)</b>				9250.91
		Add 12% GST				1110.11
		Rate per cum				10361.02
					<b>say</b>	<b><u>10361.00</u></b>
<b>4.15</b>	<b>800</b>	<b>Crash Barriers</b>				
		The rate analysis for rigid crash barrier in reinforced cement concrete, semi-rigid crash barrier with metal beam and flexible crash barrier with wire ropes have been made and included in chapter-8 on Traffic and Transportation.				
<b>4.16</b>	<b>800</b>	<b>Painting on concrete surface</b>				
		<b>Providing and applying 2 coats of water based cement paint to unplastered concrete surface after cleaning the surface of dirt, dust, oil, grease, efflorescence and applying paint @ of 1 litre for 2 sqm.</b>				
		<b>Unit = sqm</b>				
		<b>Taking output = 10 sqm</b>				
		<b>a) Labour</b>				
		Mate	day	0.01	350.00	3.50
		Painter	day	0.25	403.67	100.92
		Mazdoor (Skilled)	day	0.25	350.00	87.50
		<b>b) Material</b>				
		Water based paint of approved quality for cement concrete surface	Litres	5.00	410.00	2050.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				224.19
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				246.61
						2712.72

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 1% labour cess				27.13
		Cost for 10 sqm (a+b+c+d)				2739.85
		<b>Rate per sqm (a+b+c+d)/10</b>				273.98
		Add 12% GST				32.88
		Rate per sqm				306.86
					<b>say</b>	<b><u>307.00</u></b>
<b>4.17</b>	<b>2604</b>	<b>Burried Joint</b>				
		Providing and laying a burried expansion joint, expansion gap being 20 mm, covered with 12 mm thick, 200 mm wide galvanised weldable structural steel plate as per IS: 2062, placed symmetrical to centre line of the joint, resting freely over the top surface of the deck concrete, welding of 8 mm dia. 100 mm long galvanised nails spaced 300 mm c/c along the centre line of the plate, all as specified in clause 2604.				
		<i>Unit = Running meter</i>				
		<i>Taking output = 12 m</i>				
		<b>a) Labour</b>				
		Mate	day	0.02	350.00	7.00
		Mazdoor	day	0.40	350.00	140.00
		Mazdoor (Skilled)	day	0.20	350.00	70.00
		<b>b) Material</b>				
		Galvanised M.S plate 200 mm wide, 12 mm thick @ 94.20 kg/sqm including 5 per cent wastage	kg	237.50	110.00	26125.00
		Add 1 per cent of cost of steel plate cutting, welding consumables and galvanised nails.				261.25
		<b>c) Overhead charges @ 10 % on (a+b)</b>				2660.33
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				2926.36
						32189.93
		Add 1% labour cess				321.90
		Cost for 12 m = (a+b+c+d)				32511.83
		<b>Rate per m = (a+b+c+d)/12</b>				2709.32
		Add 12% GST				325.12
		Rate per m				3034.44
					<b>say</b>	<b><u>3034.00</u></b>
		<b>Note</b>				
		Guidelines laid down vide the MoRTH circular No. RW/NH-34059/1/96-S&R dated 30.11.2000 and subsequent corrigendum dated 25.01.2001 may be referred for expansion joints.				
<b>4.18</b>	<b>2605</b>	<b>Filler joint</b>				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
		(i)	Providing & fixing 2 mm thick corrugated copper plate in expansion joint complete as per drawing & Technical Specification.				
			<i>Unit = Running meter</i>				
			<i>Taking output = 12 m</i>				
			<b>a) Labour</b>				
			Cutting, bending, carrying & fixing etc.				
			Mate	day	0.04	350.00	14.00
			Mazdoor	day	0.50	350.00	175.00
			Mazdoor (Skilled)	day	0.50	350.00	175.00
			<b>b) Material</b>				
			Copper plate - 12m long x 250 mm wide	kg	55.00	900.00	49500.00
			Area = 12 x 0.25 = 3 sqm				
			Weight = 3 x 0.002 x 8900 = 53.4 kg				
			Wastage @ 2.5 per cent = 1.33 kg/54.73 kg say = 55 kg.				
			<b>c) Overhead charges @ 10 % on (a+b)</b>				4986.40
			<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				5485.04
							60321.44
			Add 1% labour cess				603.21
			Cost for 12 m = (a+b+c+d)				60924.65
			<b>Rate per m = (a+b+c+d)/12</b>				5077.05
			Add 12% GST				609.25
			Rate per m				5686.30
						<b>say</b>	<b><u>5686.00</u></b>
4.18		(ii)	Providing & fixing 20 mm thick compressible fibre board in expansion joint complete as per drawing & Technical Specification.				
			<i>Unit = Running meter</i>				
			<i>Taking output = 12 m</i>				
			<b>a) Labour</b>				
			For carrying, placing & fixing.				
			Mate	day	0.008	350.00	2.80
			Mazdoor	day	0.10	350.00	35.00
			Mazdoor (Skilled)	day	0.10	350.00	35.00
			<b>b) Material</b>				
			20 mm thick compressible fibre board 12 m long x 25 cm deep.	sqm	3.00	500.00	1500.00
			Area = 12 x 0.25 = 3 sqm				
			<b>c) Overhead charges @ 10 % on (a+b)</b>				157.28
			<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				173.01
							1903.09

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Add 1% labour cess				19.03
			Cost for 12 m = (a+b+c+d)				1922.12
			<b>Rate per m = (a+b+c+d)/12</b>				160.18
			Add 12% GST				19.22
			Rate per m				179.40
						<b>say</b>	<b><u>179.00</u></b>
4.18		(iii)	<b>Providing and fixing in position 20 mm thick premoulded joint filler in expansion joint for fixed ends of simply supported spans not exceeding 10 m to cater for a horizontal movement upto 20 mm, covered with sealant complete as per drawing and technical specifications.</b>				
			<i>Unit = Running meter</i>				
			<i>Taking output = 12 m</i>				
			<b>a) Labour</b>				
			Mate	day	0.01	350.00	3.50
			Mazdoor	day	0.20	350.00	70.00
			Mazdoor (Skilled)	day	0.10	350.00	35.00
			<b>b) Material</b>				
			Premoulded joint filler 12 m long, 20 mm thick and 300 mm deep.	sqm	3.60	1900.00	6840.00
			<b>c) Overhead charges @ 10 % on (a+b)</b>				694.85
			<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				764.34
							8407.69
			Add 1% labour cess				84.08
			Cost for 12 m = (a+b+c+d)				8491.76
			<b>Rate per m = (a+b+c+d)/12</b>				707.65
			Add 12% GST				84.92
			Rate per m				792.56
						<b>say</b>	<b><u>793.00</u></b>
4.18		(iv)	<b>Providing and filling joint sealing compound as per drawings and technical specifications with coarse sand and 6 per cent bitumen by weight</b>				
			<i>Unit = Running meter</i>				
			<i>Taking output = 12 m</i>				
			12m long x 100 mm wide x 10mm deep recess				
			<b>a) Labour</b>				
			Mate	day	0.02	350.00	7.00
			Mazdoor	day	0.50	350.00	175.00
			Mazdoor (Skilled)	day	0.10	350.00	35.00
			<b>b) Material</b>				
			Sand	cum	0.012	1156.00	13.87



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Volume 12 x 0.1 x 0.01 = 0.012 cum				
		Weight 0.012 x 1400 = 16.8kg				
		<b>Bitumen</b>	t	0.001	40159.00	40.16
		16.8 x 0.06 = 1 kg				
		<b>c) Overhead charges @ 10 % on (a+b)</b>				27.10
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				29.81
						327.95
		Add 1% labour cess				3.28
		Cost for 12 m = (a+b+c+d)				331.23
		<b>Rate per m = (a+b+c+d)/12</b>				27.60
		Add 12% GST				3.31
		Rate per m				30.91
					<b>say</b>	<b><u>31.00</u></b>
		<b>Note</b> For arriving at the final rate of filler joints per m length and per cm depth of joint filling compound, the rates at Sl. No. i), ii), iii) & iv) shall be added				
<b>4.19</b>	<b>2600</b>	<b>Asphaltic Plug joint</b>				
		<b>Providing and laying of asphaltic plug joint to provide for horizontal movement of 25 mm and vertical movement of 2 mm, depth of joint varying from 75 mm to 100 mm, width varying from 500 mm to 750 mm (in traffic direction), covered with a closure plate of 200mm x 6mm of weldable structural steel conforming to IS: 2062, asphaltic plug to consist of polymer modified bitumen binder, carefully selected single size aggregate of 12.5 mm nominal size and a heat resistant foam caulking/backer rod, all as per approved drawings and specifications.</b>				
		<i>Unit = Running meter</i>				
		<i>Taking output = 12 m</i>				
		<b>a) Labour</b>				
		Mate	day	0.052	350.00	18.20
		Mazdoor	day	1.00	350.00	350.00
		Mazdoor (Skilled)	day	0.30	350.00	105.00
		<b>b) Material</b>				
		Crushed stone aggregate 12.5 mm nominal size	cum	0.75	1268.00	951.00
		Polymer modified bitumen	kg	77.50	61.26	4747.65

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		2.4 Galvanised structural steel plate 200 mm wide, 6 mm thick, 12 m long (2.4 sqm) @ 47.10 kg/sqm including 5 per cent wastage	kg	113.00	110.00	12430.00
		Add 1 per cent for welding and foam caulking/backer rod and other incidentals.				186.02
		<b>c) Machinery</b>				
		Mastic cooker 1 tonne capacity	hour	1.00	109.00	109.00
		Smooth 3-wheeled steel roller 8-10 capacity	hour	0.50	1432.00	716.00
		<b>d) Overhead charges @ 10 % on (a+b+c)</b>				1961.29
		<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				2157.42
						23731.57
		Add 1% labour cess				237.32
		Cost for 12 m asphalt plug joint = (a+b+c+d+e)				23968.89
		<b>Rate per m = (a+b+c+d+e)/12</b>				1997.41
		Add 12% GST				239.69
		Rate per m				2237.10
					<b>say</b>	<b><u>2237.00</u></b>
		<b>Note</b> The nominal size of aggregates shall be 12.5 mm for depth of joint upto 75 mm and 20 mm for joints of depth more than 75 mm.				
<b>4.20</b>	<b>2606</b>	<b>Elastomeric Slab Steel Expansion Joint</b>				
		<b>Providing and laying of an elastomeric slab steel expansion joint, catering to right or skew (less than 20 deg., moderately curved with maximum horizontal movement upto 50 mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation and clause 2606 of MoRTH specifications for road &amp; bridge works.</b>				
		<b>Unit = Running meter</b>				
		<b>Taking output = 12 m</b>				
		<b>a) Labour</b>				
		Mate	day	0.06	350.00	21.00
		Mazdoor	day	1.00	350.00	350.00
		Mazdoor (Skilled)	day	0.50	350.00	175.00
		<b>b) Material</b>				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Supply of elastomeric slab seal expansion joint assembly manufactured by using chloroprene, elastomer for elastomeric slab unit conforming to clause 915.1 of IRC: 83 (part II), complete as per approved drawings and standard specification conforming to clause 2606 of MoRT&H Specification	metre	12.00	8500.00	102000.00
		Add 5 per cent of cost of material for anchorage reinforcement, welding and other incidentals.				5100.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				10764.60
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				11841.06
						130251.66
		Add 1% labour cess				1302.52
		Cost for 12 m = (a+b+c+d)				131554.18
		<b>Rate per m = (a+b+c+d)/12</b>				10962.85
		Add 12% GST				1315.54
		Rate per m				12278.39
					<b>say</b>	<b><u>12278.00</u></b>
<b>4.21</b>	<b>2600</b>	<b>Compression Seal Joint</b>				
		<b>Providing and laying of compression seal joint consisting of steel armoured nosing at two edges of the joint gap suitably anchored to the deck concrete and a preformed chloroprene elastomer or closed cell foam joint sealer compressed and fixed into the joint gap with special adhesive binder to cater for a horizontal movement upto 40 mm and vertical movement of 3 mm.</b>				
		<b>Unit = Running meter</b>				
		<b>Taking output = 12 m</b>				
		<b>a) Labour</b>				
		Mate	day	0.036	350.00	12.60
		Mazdoor	day	0.60	350.00	210.00
		Mazdoor (Skilled)	day	0.30	350.00	105.00
		<b>b) Material</b>				
		1. Galvanised angle sections 100mm x 100mm of 12mm thickness weldable structural steel as per IS: 2062, 2 nos. of 12 m length each @ 17.7 kg/m and 5 per cent wastage.	kg	446.00	110.00	49060.00
		Add 5 per cent of cost of above for structural steel for anchorage, welding and other incidentals.				2469.38

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Preformed continuous chloroprene elastomer or closed cell foam sealing element with high tear strength, vulcanised in a single operation for the full length of a joint to ensure water tightness.	metre	12.00	19300.00	231600.00
			Add 1 per cent of cost of sealing element for lubricant-cum-adhesive and other consumables.				2316.00
			<b>c) Overhead charges @ 10 % on (a+b)</b>				28577.30
			<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				31435.03
							345785.31
			Add 1% labour cess				3457.85
			Cost for 12 m = (a+b+c+d)				349243.16
			<b>Rate per m = (a+b+c+d)/12</b>				29103.60
			Add 12% GST				3492.43
			Rate per m				32596.03
						<b>say</b>	<b><u>32596.00</u></b>
		<b>Note</b>	<b>1. The installation shall be done by the manufacturer or his authorised representative to the satisfaction of the Engineer.</b>				
			<b>2. The concreting for joining the expansion joint assembly with the deck has not been included in this analysis as the same is catered in the quantities of RCC deck.</b>				
			<b>3. The anchoring bars of the expansion joint assembly shall be welded to the main reinforcement of the deck.</b>				
<b>4.22</b>	<b>2607</b>		<b>Strip Seal Expansion Joint</b>				
			Providing and laying of a strip seal expansion joint catering to maximum horizontal movement upto 70 mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation.				
			<i>Unit = Running meter</i>				
			<i>Taking output = 12 m</i>				
			<b>a) Labour</b>				
			Mate	day	0.05	350.00	17.50
			Mazdoor	day	1.00	350.00	350.00
			Mazdoor (Skilled)	day	0.25	350.00	87.50
			<b>b) Material</b>				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Supply of complete assembly of strip seal expansion joint comprising of edge beams, anchorage, strip seal element and complete accessories as per approved specifications and drawings.	metre	12.00	22000.00	264000.00
			Add 5 per cent of cost of material for anchorage reinforcement, welding and other incidentals.				13222.75
			<b>c) Overhead charges @ 10 % on (a+b)</b>				27767.78
			<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				30544.55
							335990.08
			Add 1% labour cess				3359.90
			Cost for 12 m = (a+b+c+d)				339349.98
			<b>Rate per m = (a+b+c+d)/12</b>				28279.16
			Add 12% GST				3393.50
			Rate per m				31672.66
						<b>say</b>	<b><u>31673.00</u></b>
		<b>Note</b>	1. The installation shall be done by the manufacturer or his authorised representative to the satisfaction of the Engineer.				
			2. The concreting for joining the expansion joint assembly with the deck has not been included in this analysis as the same is catered in the quantities of RCC deck.				
4.23	2600		<b>Modular Strip / Box Seal Joint</b>				
			Providing and laying of a modular strip Box seal expansion joint including anchorage catering to a horizontal movement beyond 70 mm and upto 140mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation.				
			<i>Unit = Running meter</i>				
			<i>Taking output = 12 m</i>				
			<b>a) Labour</b>				
			Mate	day	0.056	350.00	19.60
			Mazdoor	day	1.00	350.00	350.00
			Mazdoor (Skilled)	day	0.40	350.00	140.00
			<b>b) Material</b>				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Supply of a modular strip/box seal joint assembly comprising of edge beams, central beam, 2 modules chloroprene seal, anchorage elements, support and control system, all steel sections protected against corrosion and installed by the manufacturer or his authorised representative.	metre	12.00	25000.00	300000.00
			<b>c) Overhead charges @ 10 % on (a+b)</b>				30050.96
			<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				33056.06
							363616.62
			Add 1% labour cess				3636.17
			Cost for 12 m Modular strip/box seal joint = (a+b+c+d)				367252.78
			<b>Rate per m = (a+b+c+d)/12</b>				30604.40
			Add 12% GST				3672.53
			Rate per m				34276.93
						<b>say</b>	<b><u>34277.00</u></b>
		<b>Note</b>	<b>1. The installation shall be done by the manufacturer or his authorised representative to the satisfaction of the Engineer.</b>				
			<b>2. The concreting for joining the expansion joint assembly with the deck has not been included in this analysis as the same is catered in the quantities of RCC deck.</b>				
			<b>3. The anchoring bars of the expansion joint assembly shall be welded to the main reinforcement of the deck.</b>				
<b>4.24</b>	<b>2600</b>		<b>Modular Strip / Box Seal Joint</b>				
			Providing and laying of a modular strip box seal expansion joint catering to a horizontal movement beyond 140mm and upto 210mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation.				
			<b>Unit = Running meter</b>				
			<b>Taking output = 12 m</b>				
			<b>a) Labour</b>				
			Mate	day	0.07	350.00	24.50
			Mazdoor	day	1.25	350.00	437.50
			Mazdoor (Skilled)	day	0.50	350.00	175.00
			<b>b) Material</b>				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Supply of a modular box / box seal joint assembly containing 3 modules / cells and comprising of edge beams, two central beams, chloroprene seal, anchorage elements, support and control system, all steel sections protected against corrosion and installed by the manufacturer or his authorised representative.	metre	12.00	30000.00	360000.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				36063.70
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				39670.07
						436370.77
		Add 1% labour cess				4363.71
		Cost for 12 m Modular strip/box seal joint = (a+b+c+d)				440734.48
		<b>Rate per m = (a+b+c+d)/12</b>				36727.87
		Add 12% GST				4407.34
		Rate per m				41135.22
					<b>say</b>	<b><u>41135.00</u></b>
		<b>Note</b>				
		<b>1. The installation shall be done by the manufacturer or his authorised representative to the satisfaction of the Engineer.</b>				
		<b>2. The concreting for joining the expansion joint assembly with the deck has not been included in this analysis as the same is catered in the quantities of RCC deck.</b>				
		<b>3. The anchoring bars of the expansion joint assembly shall be welded to the main reinforcement of the deck.</b>				

## Chapter-5:

### River Training and Protection works

#### Preamble:

1. Three types of apron on river beds as under have been catered:
  - a) Boulder apron laid dry.
  - d) Boulder apron laid in wire crates
  - e) Apron laid in cement concrete blocks M -15.
2. A toe wall for toe protection of pitching can be either in dry rubble masonry (uncoursed) or in nominal mix cement concrete M -15. Depending upon the design, the rates may be adopted under respective clauses
3. Flooring has been proposed in dry rubble stone rubble stone laid in C.M . 1:3 and with cement concrete blocks M -15.
4. Curtain walls proposed are of following two types
  - a) Course rubble stone masonry (1<sup>st</sup> sort) in CM 1:3
  - b) Cement concrete M -15 grade.
5. The rate analysis for gabion structures comprising of stone boulders laid in wire crates have been included. Such structures are sited as retaining structures and for erosion control in river training works especially for situations where some settlement of foundation is anticipated. These structures can adjust in minor settlements being flexible structures without losing their functional requirement.



**CHAPTER - 5**

**RIVER TRAINING AND PROTECTION WORKS**

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
5.1	2503	Providing and laying boulders apron on river bed for protection against scour with stone boulders weighing not less than 40 kg each complete as per drawing and Technical specification.				
		<b>A Boulder Laid Dry Without Wire Crates.</b>				
		<i>Unit = cum</i>				
		<i>Taking output = 1 cum</i>				
		<b>a) Material</b>				
		Stone	cum	1.00	700.00	700.00
		Stone Spalls	cum	0.20	700.00	140.00
		<b>b) Labour</b>				
		Mate	day	0.04	350.00	14.00
		Mason	day	0.35	505.17	176.81
		Mazdoor *	day	0.75	350.00	262.50
		<b>c) Overhead charges @ 10 % on (a+b)</b>				129.33
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				142.26
						1564.90
		Add 1% labour cess				15.65
		<b>Rate per cum = (a+b+c+d)</b>				1580.55
		Add 12% GST				189.67
		Rate per cum				1770.22
					<b>say</b>	<b><u>1770.00</u></b>
		* Including excavation for trimming for preparation of bed.				
		<b>Note</b> Nominal excavation required for preparation of bed has been taken into account while making provision for labour.				
5.2	2503	<b>Boulder Apron Laid in Wire Crates</b>				
		Providing and laying of boulder apron laid in wire crates made with 4mm dia GI wire conforming to IS: 280 & IS:4826 in 100mm x 100mm mesh (weaved diagonally) including 10 per cent extra for laps and joints laid with stone boulders weighing not less than 40 kg each.				
		<i>Unit = cum</i>				
		<i>Taking output = 3 mx1.5mx1.25m = 5.63 cum</i>				
		<b>a) Material</b>				
		4mm GI wire crates woven in mesh size of 100 mm x 100 mm.	sqm	22.00	190.00	4180.00
		Stone	cum	5.63	700.00	3941.00
		Stone Spalls	cum	1.13	700.00	791.00
		<b>b) Labour</b>				
		Mate	day	0.18	350.00	63.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Mazdoor (Skilled)	day	1.50	350.00	525.00
		Mazdoor	day	*3.00	350.00	1050.0
		<b>c) Overhead charges @ 10 % on (a+b)</b>				1055.0
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				1160.50
						12765.50
		Add 1% labour cess				127.66
		Cost for 5.63 cum = a+b+c+d				12893.16
		<b>Rate per cum = (a+b+c+d)/5.63</b>				2290.08
		Add 12% GST				274.81
		Rate per cum				2564.89
					<b>say</b>	<b><u>2565.00</u></b>
		* Including excavation for trimming for preparation of bed.				
		<b>Note</b> Readymade woven wire crate rolls have been considered in the rate analysis. In case readymade rolls are not available, GI wire 4mm dia. @ 32 kg per 10 sqm may be provided. In that case 2 per cent of the cost of GI wire may be added for weaving the wire crates.				
<b>5.3</b>	<b>2503</b>	<b>Cement Concrete Blocks (size 0.5 x 0.5 x 0.5 m)</b>				
		Providing and laying of apron with cement concrete blocks of size 0.5x0.5x0.5 m cast in-situ and made with nominal mix of M-15 grade cement concrete with a minimum cement content of 250 kg/cum as per IRC: 21-2000.				
		<b>Unit = cum</b>				
		<b>Taking out put = 1 cum</b>				
		Concrete Grade M15 Rate as per item No. 12.8 (A) including OH & CP	cum	1.00	5481.00	5481.00
		Add 2 per cent of cost to account for excavation for preparation of bed, nominal surface reinforcement and filling of granular material in recesses between blocks.				109.62
		<b>Rate per cum</b>				5590.62
					<b>say</b>	<b><u>5591.00</u></b>
<b>5.4</b>	<b>2504</b>	<b>Providing and laying Pitching on slopes laid over prepared filter media including boulder apron laid dry in front of toe of embankment complete as per drawing and Technical specifications</b>				
		<b>A Stone/Boulder</b>				
		<b>Unit = cum</b>				
		<b>Taking output = 1 cum</b>				
		<b>a) Material</b>				
		Stone weighing not less than 40kg	cum	1.00	700.00	700.00
		Stone spalls of minimum 25 mm size	cum	0.20	700.00	140.00
		<b>b) Labour</b>				

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			Mate	day	0.04	350.00	14.00
			Mason	day	0.35	505.17	176.81
			Mazdoor	day	0.75	350.00	262.50
			<b>c) Overhead charges @ 10 % on (a+b)</b>				129.33
			<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				142.26
							1564.90
			Add 1% labour cess				15.65
			<b>Rate per cum = (a+b+c+d)</b>				1580.55
			Add 12% GST				189.67
			Rate per cum				1770.22
						<b>say</b>	<b><u>1770.00</u></b>
<b>5.4</b>		<b>B</b>	<b>Cement Concrete Blocks of size 0.3x0.3 x0.3 m cast in cement concrete of Grade M15</b>				
			<b>Unit = cum</b>				
			<b>Taking output = 1 cum</b>				
			Concrete Grade M15 Rate as per item No. 12.8 (A)	cum	1.00	5481.00	5481.00
			Add 2 per cent of cost to account for nominal surface reinforcement and filling of granular material in recesses between blocks.				109.62
			<b>Rate per cum</b>				5590.62
						<b>say</b>	<b><u>5591.00</u></b>
<b>5.5</b>	<b>2504</b>		<b>Providing and laying Filter material underneath pitching in slopes complete as per drawing and Technical specification</b>				
			<b>Unit = cum</b>				
			<b>Taking output = 1 cum</b>				
			<b>a) Material</b>				
			Graded stone aggregate of required size	cum	1.20	600.00	720.00
			<b>b) Labour</b>				
			Mate	day	0.05	350.00	17.50
			Mazdoor (Skilled)	day	0.25	350.00	87.50
			Mazdoor *	day	1.00	350.00	350.00
			<b>c) Overhead charges @ 10 % on (a+b)</b>				117.50
			<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				129.25
							1421.75
			Add 1% labour cess				14.22
			<b>Rate per cum = (a+b+c+d)</b>				1435.97
			Add 12% GST				172.32
			Rate per cum				1608.28
						<b>say</b>	<b><u>1608.00</u></b>
			Includes Mazdoor required for trimming of slope to proper profile and preparation of bed.				
<b>5.6</b>	<b>700 &amp; 2504</b>		<b>Geotextile Filter</b>				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Laying of a geotextile filter between pitching and embankment slopes on which pitching is laid to prevent escape of the embankment material through the voids of the stone pitching/cement concrete blocks as well as to allow free movement of water without creating any uplift head on the pitching.				
		<b>Unit = sqm</b>				
		<b>Taking output = 10 sqm.</b>				
		<b>a) Labour</b>				
		Mate	day	0.02	350.00	7.00
		Mazdoor	day	0.30	350.00	105.00
		Mazdoor (Skilled)	day	0.10	350.00	35.00
		<b>b) Material</b>				
		Permeable synthetic geotextile including 5 per cent for overlap and wastage	sqm	11.00	180.00	1980.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				212.70
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				233.97
						2573.67
		Add 1% labour cess				25.74
		Cost for 10 sqm = a+b+c+d				2599.41
		<b>Rate per sqm = (a+b+c+d)/10</b>				259.94
		Add 12% GST				31.19
		Rate per sqm				291.13
					<b>say</b>	<b>291.00</b>
<b>5.7</b>	<b>2504.4</b>	<b>Toe protection</b>				
		A toe wall for toe protection can either be in dry rubble masonry in case of dry rubble pitching or pitching with stones in wire crates or it can be in PCC M15 nominal mix if cement concert block have been used for pitching . Rates for toe wall can be adopted from respective clauses depending upon approved design. The rate for excavation for foundation, dry rubble masonry and PCC M15 have been analysed and given in respective chapters.				
<b>5.8</b>	<b>2505</b>	<b>Providing and laying Flooring complete as per drawing and Technical specifications laid over cement concert bedding.</b>				
		<b>A Rubble stone laid in cement mortar 1:3</b>				
		<b>Unit = cum</b>				
		<b>Taking output = 1 cum</b>				
		<b>a) Cement mortar 1:3</b> (Rate as in Item 12.6 sub-analysis) excluding OH & CP	cum	0.33	5049.00	1666.17

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		b) Add for cement concrete bedding (M15 Nominal mix) vide Item 12.8 (A) excluding OH & CP . Quantity shall be adopted as per design ( Assume Rubble stone Flooring thickness 300mm and cement concrete bedding thickness 100mm)	cum	0.33	4356.00	1437.48
		Add 1 per cent of cost to account for excavation for preparation of bed.				31.04
		<b>c) Material</b>				
		Stone	cum	1.00	700.00	700.00
		Stone Spalls	cum	0.20	700.00	140.00
		<b>d) Labour</b>				
		Mate	day	0.08	350.00	28.00
		Mason	day	0.50	505.17	252.58
		Mazdoor (for laying stones, filling of quarry spalls)	day	1.50	350.00	525.00
		<b>e) Overhead charges @ 10 % on (a+c+d)</b>				331.18
		<b>f) Contractor's profit @ 10 % on (a+c+d+e)</b>				364.29
						5475.74
		Add 1% labour cess				54.76
		<b>Rate per cum = (a+b+c+d+e+f)</b>				5530.50
		Add 12% GST				663.66
		Rate per cum				6194.15
					<b>say</b>	<b><u>6194.00</u></b>
		* Includes cement mortar for laying and filling of joints.				
<b>5.8</b>	<b>B</b>	<b>Cement Concrete blocks Grade M15</b>				
		Concrete Grade M15 block. (Rate as per item No. 12.8 (A) including OH & CP.	cum	1.00	5481.00	5481.00
		Add for cement concrete bedding (M15 Nominal mix) vide Item 12.8 (A) including OH & CP. Quantity shall be adopted as per design ( Assume Cement Concrete blocks thickness 300mm and cement concrete bedding thickness 100mm)	cum	0.33	5481.00	1808.73
		Add 1 per cent of cost to account for excavation for preparation of bed.				72.90
		<b>Rate per cum</b>				7362.63
					<b>say</b>	<b><u>7363.00</u></b>
<b>5.9</b>	<b>2506</b>	<b>Dry Rubble Flooring</b>				
		Construction of dry rubble flooring at cross drainage works for relatively less important works.				
		<b>Unit = cum</b>				
		<b>Taking output = 1 cum</b>				
		<b>a) Material</b>				
		Stone	cum	1.00	700.00	700.00
		Stone Spalls	cum	0.20	700.00	140.00

Sr No	Ref. to MoRTH Spec.		Description	Unit	Quantity	Rate Rs	Cost Rs
			<b>b) Labour</b>				
			Mate	day	0.10	350.00	35.00
			Mason	day	0.50	505.17	252.58
			mazdoor	day	1.50	350.00	525.00
			Add 1 per cent of (b) for trimming and preparation of base.				8.13
			<b>c) Overhead charges @ 10 % on (a+b)</b>				166.07
			<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				182.68
							2009.46
			Add 1% labour cess				20.09
			<b>Rate per cum = (a+b+c+d)</b>				2029.55
			Add 12% GST				243.55
			Rate per cum				2273.10
						<b>say</b>	<b><u>2273.00</u></b>
5.10	2507.2		<b>Curtain wall complete as per drawing and Technical specification</b>				
		<b>A</b>	<b>Stone masonry in cement mortar (1:3)</b>				
			<b>Coursed rubble masonry (1st sort)</b>	cum	1.00	5600.00	5600.00
			Rate same as per item No. 12.7 (A) including OH & CP				
			<b>Rate per cum</b>			<b>say</b>	<b><u>5600.00</u></b>
			or				
5.10		<b>B</b>	<b>Cement concrete Grade M15</b>				
			Concrete Grade M15 Rate as per item No. 12.8 (A) including OH & CP	cum	1.00	5481.00	5481.00
			<b>Rate per cum</b>			<b>say</b>	<b><u>5481.00</u></b>
		<b>Note</b>	Other items like excavation for foundation, filling behind wall, filter media, weep holes etc. shall be added separately as per approved design.				
5.11	2507.2		<b>Flexible Apron :Construction of flexible apron 1 m thick comprising of loose stone boulders weighing not less than 40 kg beyond curtain wall.</b>				
			<b>Unit = cum</b>				
			<b>Taking Output = 1 cum</b>				
			<b>a) Material</b>				
			Stone	cum	1.00	700.00	700.00
			Stone Spalls	cum	0.20	700.00	140.00
			<b>b) Labour</b>				
			Mate	day	0.05	350.00	17.50
			Mason	day	0.25	505.17	126.29
			Mazdoor	day	1.00	350.00	350.00
			Add 1 per cent of cost of (a+b) for trimming and preparation of bed.				13.34
			<b>c) Overhead charges @ 10 % on (a+b)</b>				134.71
			<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				148.18
							1630.03

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 1% labour cess				16.30
		<b>Rate per cum = (a+b+c+d)</b>				1646.33
		Add 12% GST				197.56
		Rate per cum				1843.89
					<b>say</b>	<b>1844.00</b>
5.12	2503.3	<b>Gabian Structure for Retaining Earth</b>				
		Providing and construction of a gabian structure for retaining earth with segments of wire crates of size 7 m x 3 m x 0.6 m each divided into 1.5 m compartments by cross netting, made from 4 mm galvanised steel wire @ 32 kg per 10 sqm having minimum tensile strength of 300 Mpa conforming to IS:280 and galvanizing coating conforming to IS:4826, woven into mesh with double twist, mesh size not exceeding 100 x 100 mm, filled with boulders with least dimension of 200 mm, all loose ends to be tied with 4 mm galvanised steel wire				
		<b>Unit = cum</b>				
		<b>Taking output = 7 x 3 x 0.6 = 12.60 cum</b>				
		<b>a) Labour</b>				
		Mate	day	0.28	350.00	98.00
		Mazdoor	day	5.00	350.00	1750.00
		Mazdoor (Skilled)	day	2.00	350.00	700.00
		<b>b) Material</b>				
		Galvanised steel wire crates of mesh size 100 mm x 100 mm woven with 4mm dia. GI wire in rolls of required size.	sqm	61.00	190.00	11590.00
		Stone boulders with least dimension of 200 mm	cum	12.60	700.00	8820.00
		Stone spalls of minimum size 25 mm	cum	2.52	700.00	1764.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				2472.20
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				2719.42
						29913.62
		Add 1% labour cess				299.14
		Cost for 12.60 cum (a+b+c+d)				30212.76
		<b>Rate per cum (a+b+c+d)/12.60</b>				2397.84
		Add 12% GST				287.74
		Rate per cum				2685.58
					<b>say</b>	<b>2686.00</b>
		<b>Note</b> Readymade woven wire crate rolls have been considered in the rate analysis. In case readymade rolls are not available, GI wire 4mm dia. @ 32 kg per 10 sqm may be provided. In that case 2 per cent of the cost of GI wire may be added for weaving the wire crates.				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
5.13	2503.3	<b>Gabian Structure for Erosion Control, River Training Works and Protection works</b>				
		Providing and constructing gabian structures for erosion control, river training works and protection works with wire crates of size 2 m x 1 m x 0.3 m each divided into 1m compartments by cross netting, made from 4 mm galvanised steel wire @ 32 kg per 10 sqm having minimum tensile strength of 300 Mpa conforming to IS:280 and galvanizing coating conforming to IS:4826, woven into mesh with double twist, mesh size not exceeding 100 mm x 100 mm, filled with boulders with least dimension of 200 mm, all loose ends to be securely tied with 4 mm galvanised steel wire				
		<b>Unit = cum</b>				
		<b>Taking output = 2 x 1 x 0.3 x 10 Nos. = 6.00 cum</b>				
		<b>a) Labour</b>				
		Mate	day	0.14	350.00	49.00
		Mazdoor	day	2.50	350.00	875.00
		Mazdoor (Skilled)	day	1.00	350.00	350.00
		<b>b) Material</b>				
		Galvanised steel wire crates of mesh size 100 mm x 100 mm woven with 4mm dia. GI wire in rolls of required size to cover 6.00 cum.	sqm	65.00	190.00	12350.00
		Stone boulders with least dimension of 200 mm	cum	6.00	700.00	4200.00
		Stone spalls of minimum size 25 mm	cum	1.20	700.00	840.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				1866.40
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				2053.04
						22583.44
		Add 1% labour cess				225.83
		Cost for 6.00 cum (a+b+c+d)				22809.27
		<b>Rate per cum (a+b+c+d) / 6.00</b>				3801.55
		Add 12% GST				456.19
		Rate per cum				4257.73
					<b>say</b>	<b>4258.00</b>
		<b>Note</b> Readymade woven wire crate rolls have been considered in the rate analysis. In case readymade rolls are not available, GI wire 4mm dia. @ 32 kg per 10 sqm may be provided. In that case 2 per cent of the cost of GI wire may be added for weaving the wire crates.				



## Chapter-6:

### Repair and Rehabilitation

#### Preamble:

1. Removal of cement concrete wearing coat and asphaltic wearing coat has been proposed with pneumatic breakers
2. The rate for external pre-stressing has been analysed for three different spans of 25, 50 and 100 m.
3. Sealing of cracks has been proposed with cement grout, cement mortar (1 : 1) grout and epoxy grout by injecting with grout pump through nipples
4. Bonding of new concrete with old concrete is proposed with epoxy resin.
5. The repair and replacement of following structures has been included:
  - A) Bridge bearings
  - B) Expansion Joints
  - C) Concrete railing
  - D) Mild steel railing
  - E) Crash barrier.

**CHAPTER - 6**  
**REPAIR AND REHABILITATION**

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
6.1	2809	Removal of existing cement concrete wearing coat including its disposal complete as per Technical Specification without causing any detrimental effect to any part of the bridge structure and removal of dismantled material with all lifts and lead upto 1000 m				
		<i>Unit = Sq m ( Thickness 75 mm)</i>				
		<i>Taking output = 10 sqm</i>				
		<b>a) Labour</b>				
		Mate	day	0.06	350.00	21.00
		Mazdoor	day	1.00	350.00	350.00
		<b>b) Machinery</b>				
		Air Compressor 250 cfm with pneumatic breaker/jack hammer along with accessories.	hour	1.00	488.00	488.00
		Tractor-trolley.	hour	0.50	581.00	290.50
		<b>c) Overhead charges @ 10 % on (a+b)</b>				114.95
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				126.45
						1390.90
		Add 1% labour cess				13.91
		Cost for 10 sqm = (a+d+c+d)				1390.90
		<b>Rate per sqm = (a+b+c+d)/10</b>				139.09
		Add 12% GST				16.69
		Rate per sqm				155.78
					<b>say</b>	<b><u>156.00</u></b>
6.2	2809	Removal of existing asphaltic wearing coat comprising of 50 mm thick asphaltic concert laid over 12 mm thick mastic asphalt including disposal with all lift and lead upto 1000 m.				
		<i>Unit = Sq m</i>				
		<i>Taking output = 10 sqm</i>				
		<b>a) Labour</b>				
		Mate	day	0.03	350.00	10.50
		Mazdoor	day	0.75	350.00	262.50
		<b>b) Machinery</b>				
		Air Compressor 250 cfm with pneumatic breaker.	hour	0.75	488.00	366.00
		Tractor-trolley.	hour	0.40	581.00	232.40
		<b>c) Overhead charges @ 10 % on (a+b)</b>				87.14
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				95.85
						1054.39
		Add 1% labour cess				10.54
		Cost for 10 sqm = (a+d+c+d)				1064.94
		<b>Rate per sqm = (a+b+c+d)/10</b>				106.49
		Add 12% GST				12.78
		Rate per sqm				119.27
					<b>say</b>	<b><u>119.00</u></b>
6.3	2807	Guniting concrete surface with cement mortar applied with compressor after cleaning surface and spraying with epoxy complete as per Technical Specification				
		<i>Unit = Sq m</i>				
		<i>Taking output = 1 sqm</i>				
		Assuming thickness 25 mm				
		<b>a) Material</b>				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Cement	kg	16.00	6.88	110.00
		Graded sand	cum	0.04	1156.00	46.24
		Wire mesh 50mm x 50mm size of 3mm wire	kg	2.00	155.00	310.00
		Epoxy	kg	0.67	17.00	11.39
		Accelerator compound for guniting @ 4 per cent of weight of cement	kg	0.64	160.00	102.40
		Add 2 per cent of cost of material for miscellaneous consumables like nozzles, wire brush, cotton waste etc.				11.60
		<b>b) Labour</b>				
		Mate	day	0.01	350.00	3.50
		Mason	day	0.04	505.17	20.21
		Mazdoor	day	0.14	350.00	49.00
		<b>c) Machinery</b>				
		Compressor with guniting equipment along with accessories	hour	0.10	488.00	48.80
		<b>d) Overhead charges @ 10 % on (a+b+c)</b>				71.31
		<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				78.45
						862.90
		Add 1% labour cess				8.63
		<b>Rate per sqm = (a+b+c+d+e)</b>				871.53
		Add 12% GST				104.58
		Rate per sqm				976.11
					<b>say</b>	<b>976.00</b>
6.4	2800	Providing and inserting nipples with approved fixing compound after drilling holes for grouting as per Technical Specifications including subsequent cutting/removal and sealing of the hole as necessary of nipples after completion of grouting with Cement/Epoxy				
		<b>Unit = Number</b>				
		<b>Taking output = 1 No.</b>				
		<b>a) Material</b>				
		Nipples	each	1.00	155.00	155.00
		Cement, fixing compound and consumables @ 15 per cent of cost of nipple				23.25
		<b>b) Labour</b>				
		Mate	day	0.01	350.00	3.50
		Mazdoor (Skilled) labour for drilling	day	0.08	350.00	28.00
		Mazdoor (Skilled) labour for fixing nipple and sealing inlets	day	0.08	350.00	28.00
		Mazdoor for cutting and removing of nipples	day	0.04	350.00	14.00
		Add 10 per cent of labour cost for drilling holes etc				7.35
		<b>c) Overhead charges @ 10 % on (a+b)</b>				25.91
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				28.50
						313.51
		Add 1% labour cess				3.14
		<b>Rate per No. = (a+b+c+d)</b>				316.65
		Add 12% GST				38.00
		Rate per No.				354.64
					<b>say</b>	<b>355.00</b>
6.5	2806	Sealing of cracks/porous concrete by injection process through nipples/Grouting complete as per Technical Specification.				
	A	Cement Grout				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<b>Unit = kg</b>				
		<b>Taking output = 1 kg</b>				
		<b>a) Material</b>				
		Cement including 10 per cent wastage	kg	1.10	6.88	7.56
		Admixtures (anti shrinkage compound) @ 20 per cent of cost of cement				1.51
		<b>b) Labour</b>				
		Mate	day	0.08	350.00	28.00
		Mazdoor (Skilled)	day	0.10	350.00	35.00
		Mazdoor	day	0.10	350.00	35.00
		<b>c) Machinery</b>				
		Grout pump with agitator and accessories	hour	0.10	682.00	68.20
		<b>d) Overhead charges @ 10 % on (a+b+c)</b>				17.53
		<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				19.28
						212.08
		Add 1% labour cess				2.12
		<b>Rate per kg = (a+b+c+d+e)</b>				214.20
		Add 12% GST				25.70
		Rate per Kg.				239.91
					<b>say</b>	<b>240.00</b>
	<b>B</b>	<b>Cement Mortar (1:1) Grouting</b>				
		<b>Unit = kg</b>				
		<b>Taking output = 1 kg</b>				
		<b>a) Material</b>				
		Cement including 10 per cent wastage	kg	0.55	6.88	3.78
		Sand including 10 per cent wastage	kg	0.55	0.77	0.42
		Admixtures (anti shrinkage compound) @ 20 per cent of cost of cement				0.76
		<b>b) Labour</b>				
		Mate	day	0.08	350.00	28.00
		Mazdoor (Skilled)	day	0.10	350.00	35.00
		Mazdoor	day	0.10	350.00	35.00
		<b>c) Machinery</b>				
		Grout pump with agitator and accessories	hour	0.10	682.00	68.20
		<b>d) Overhead charges @ 10 % on (a+b+c)</b>				17.12
		<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				18.83
						207.11
		Add 1% labour cess				2.07
		<b>Rate per kg = (a+b+c+d+e)</b>				209.18
		Add 12% GST				25.10
		Rate per Kg.				234.28
					<b>say</b>	<b>234.00</b>
6.6	2800	<b>Patching of damaged concrete surface with polymer concrete and curing compounds, initiator and promoter, available in present formulations, to be applied as per instructions of manufacturer and as approved by the Engineer.</b>				
		<b>Unit = sqm</b>				
		<b>Taking output = 10 sqm for an average thickness of 25mm.</b>				
		<b>a) Labour</b>				
		Mate	day	0.06	350.00	21.00
		Mazdoor (Skilled)	day	0.75	350.00	262.50
		Mazdoor	day	0.75	350.00	262.50

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<b>b) Material</b>				
		Pre-packed polymer concrete based on epoxy system complete with curing compound, initiator and promoter including 5 per cent wastage.	kg	315.00	17.00	5355.00
		<b>c) Machinery</b>				
		Grout pump with agitator and accessories	hour	2.00	682.00	1364.00
		<b>d) Overhead charges @ 10 % on (a+b+c)</b>				726.50
		<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				799.15
						8790.65
		Add 1% labour cess				87.91
		Cost for 10 sqm = a+b+c+d+e				8878.56
		<b>Rate per sqm = (a+b+c+d+e)/10</b>				887.86
		Add 12% GST				106.54
		Rate per Kg.				994.40
					<b>say</b>	<b><u>994.00</u></b>
		<b>Note</b>				
		This item is a proprietary item available in market as pre-packed polymer concrete and is required to be applied as per instructions of the manufacturer.				
6.7	2803	<b>Sealing of crack / porous concrete with Epoxy Grout by injection through nipples complete as per clause 2803.1.</b>				
		<b>Unit = kg</b>				
		<b>Taking output = 1 kg</b>				
		<b>a) Material</b>				
		Epoxy including 10 per cent wastage	kg	1.10	17.00	18.70
		<b>b) Labour</b>				
		Mate	day	0.08	350.00	28.00
		Mazdoor (Skilled)	day	0.10	350.00	35.00
		Mazdoor	day	0.10	350.00	35.00
		<b>c) Machinery</b>				
		Epoxy Injection gun	hour	0.10	809.00	80.90
		<b>d) Overhead charges @ 10 % on (a+b+c)</b>				19.76
		<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				21.74
						239.10
		Add 1% labour cess				2.39
		<b>Rate per kg = (a+b+c+d+e)</b>				241.49
		Add 12% GST				28.98
		Rate per Kg.				270.47
					<b>say</b>	<b><u>270.00</u></b>
6.8	2804	<b>Applying epoxy mortar over leached, honey combed and spalled concrete surface and exposed steel reinforcement complete as per Technical Specification</b>				
		<b>Unit = sqm</b>				
		<b>Taking output = 10 sqm</b>				
		Assume average 10mm thickness of epoxy mortar				
		<b>a) Material</b>				
		Epoxy resin-hardener mix for prime coat	kg	2.50	1784.00	4460.00
		Epoxy mortar	kg	2.20	2738.00	6023.60
		Epoxy resin -hardener mix for seal coat.	kg	2.00	1784.00	3568.00
		Add 3 per cent cost of material for other consumables like acetone etc and to cover wastage.				421.55
		<b>b) Labour</b>				
		Mate	day	0.04	350.00	14.00
		Mazdoor (Skilled)	day	0.50	350.00	175.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Mazdoor	day	0.50	350.00	175.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				1483.71
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				1632.09
						17952.95
		Add 1% labour cess				179.53
		Cost for 10 sqm = a+b+c+d				18132.48
		<b>Rate per sqm = (a+b+c+d)/10</b>				1813.25
		Add 12% GST				217.59
		Rate per sqm.				2030.84
					<b>say</b>	<b><u>2031.00</u></b>
6.9	2807	<b>Removal of defective concrete, cleaning the surface thoroughly, applying the shotcrete mixture mechanically with compressed air under pressure, comprising of cement, sand, coarse aggregates, water and quick setting compound in the proportion as per clause 2807.1., sand and coarse aggregates conforming to IS: 383 and table 1 of IS: 9012 respectively, water cement ratio ranging from 0.35 to 0.50, density of gunite not less than 2000 kg/cum, strength not less than 25 Mpa and workmanship conforming to clause 2807.6.</b>				
		<b>unit: sqm</b>				
		<b>Taking output = 10 sqm, 40 mm average thickness.</b>				
		<b>a) Labour</b>				
		Mate	day	0.04	350.00	14.00
		Mazdoor	day	0.50	350.00	175.00
		Mazdoor (Skilled)	day	0.50	350.00	175.00
		<b>b) Machinery</b>				
		Air compressor 250 cfm	hour	1.00	488.00	488.00
		Shotcreteing equipment	hour	1.00	488.00	488.00
		water tanker 6 KL capacity	hour	0.02	500.00	10.00
		<b>c) Material</b>				
		Cement	kg	120.00	6.88	825.00
		Sand	cum	0.15	1156.00	173.40
		Coarse aggregate of size 4.75mm	cum	0.15	883.00	132.45
		Quick setting compound	kg	2.50	106.00	265.00
		Water	KL	0.10	102.00	10.20
		<b>d) Overhead charges @ 10 % on (a+b+c)</b>				275.61
		<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				303.17
						3334.82
		Add 1% labour cess				33.35
		Cost for 10 sqm = a+b+c+d+e				3368.17
		<b>Rate per sqm = (a+b+c+d+e)/10</b>				336.82
		Add 12% GST				40.42
		Rate per sqm.				377.23
					<b>say</b>	<b><u>377.00</u></b>
6.10	2800	<b>Applying pre-packed cement based polymer mortar of strength 45 Mpa at 28 days for replacement of spalled concrete</b>				
		<b>Unit = sqm</b>				
		<b>Taking output = 10 sqm</b>				
		Assumed thickness - 10 mm				
		<b>a) Material</b>				
		Acrylic polymer bonding coat	Litre	1.40	289.00	404.60

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		pre-packed cement based polymer mortar of strength 45 Mpa at 28 days	kg	12.00	17.00	204.00
		Add 3 per cent of (a ) above for wastage.				18.26
		<b>b) Labour</b>				
		Mate	day	0.04	350.00	14.00
		Mazdoor (Skilled)	day	0.50	350.00	175.00
		Mazdoor	day	0.50	350.00	175.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				99.09
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				108.99
						1198.94
		Add 1% labour cess				11.99
		Cost for 10 sqm = a+b+c+d				1210.93
		<b>Rate per sqm = (a+b+c+d)/10</b>				121.09
		Add 12% GST				14.53
		Rate per sqm.				135.62
					<b>say</b>	<b><u>136.00</u></b>
6.11	2805	<b>Eproxy bonding of new concrete to old concrete</b>				
		<b>Unit = sqm</b>				
		<b>Taking output = 10 sqm</b>				
		<b>a) Material</b>				
		Epoxy resin with pot life not less than 60-90 minutes and satisfying testing as per clause 2803.9	kg	8.00	1784.00	14272.00
		Add 3 per cent of (a ) above for wastage.				428.16
		<b>b) Labour</b>				
		Mate	day	0.04	350.00	14.00
		Mazdoor (Skilled)	day	0.50	350.00	175.00
		Mazdoor	day	0.50	350.00	175.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				1506.42
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				1657.06
						18227.63
		Add 1% labour cess				182.28
		Cost for 10 sqm = a+b+c+d				18409.91
		<b>Rate per sqm = (a+b+c+d)/10</b>				1840.99
		Add 12% GST				220.92
		Rate per sqm.				2061.91
					<b>say</b>	<b><u>2062.00</u></b>
6.12	2810	<b>Providing external prestressing with high tensile steel wires/strands including drilling for passage of prestressing steel, all accessories for stressing and stressing operation and grouting complete as per drawing and Technical Specification</b>				
		<b>Span assumed: 25 m</b>				
		<b>No. of cables: 4 no.</b>				
		<b>No. of anchorages : 8 no.</b>				
		<b>Unit = MT</b>				
		<b>Taking output = 1 MT</b>				
		Assume 12.7mm dia. Strand in 12T13 system. Weight-9.42 kg/m of cable.				
		<b>a) Material</b>				
		HTS strand including 5 per cent wastage and extra length for jacking	tonne	1.05	138583	145512.15
		HDPE pipes 75mm dia including 5 per cent wastage	metre	112.00	218.00	24416.00
		Cement for grouting	kg	400.00	6.88	2750.00
		Tube anchorage set complete with bearing plate, permanent wedges etc	each	8.00	481.00	3848.00

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Epoxy	kg	6.00	17.00	102.00
		MS plates for deviator (where deviator blocks are not provided)	tonne	2.10	55110.0	115731.00
		Add 20 per cent cost of material for other materials like lead sheet, sleeves, deviator fixtures etc.				58471.83
		<b>b) Labour</b>				
		<b>i) For making holes in the structure .</b>				
		Mate	day	0.24	350.00	84.00
		Mazdoor Semi-skilled)	day	3.00	350.00	1050.00
		Mazdoor	day	3.00	350.00	1050.00
		<b>ii) For making and fixing anchorages for cables and placement of cables .</b>				
		Mate	day	0.44	350.00	154.00
		Blacksmith	day	3.00	505.17	1515.50
		Mazdoor	day	8.00	350.00	2800.00
		<b>iii) For prestressing</b>				
		Mate/Supervisor	day	0.13	350.00	45.50
		Fitter	day	0.70	403.67	282.57
		Mazdoor	day	2.65	350.00	927.50
		<b>iv) For grouting</b>				
		Mate/Supervisor	day	0.13	350.00	45.50
		Mason	day	0.70	505.17	353.62
		Mazdoor	day	2.65	350.00	927.50
		<b>c) Machinery</b>				
		Stressing jack with pump	hour	4.00	328.00	1312.00
		Grouting pump with agitator	hour	1.35	682.00	920.70
		<b>d) Overhead charges @ 10 % on (a+b+c)</b>				36229.94
		<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				39852.93
						438382.23
		Add 1% labour cess				4383.82
		<b>Rate per MT = (a+b+c+d+e)</b>				442766.05
		Add 12% GST				53131.93
		Rate per MT.				495897.98
					<b>say</b>	<b><u>495898.00</u></b>
6.13	2810	<b>Providing external prestressing with high tensile steel wires/strands including drilling for passage of prestressing steel, all accessories for stressing and stressing operation and grouting complete as per drawing and Technical Specification</b>				
		<b>Span assumed: 50 m</b>				
		<b>No. of cables: 4 no.</b>				
		<b>No. of anchorages : 8 no.</b>				
		<b>Unit = MT</b>				
		<b>Taking output = 3.10 MT</b>				
		Assume 12.7mm dia. Strand in 19T13 system. Weight-14.73 kg/m of cable.				
		<b>a) Material</b>				
		HTS strand including 5 per cent wastage and extra length for jacking	tonne	3.10	138583.00	429607.30
		HDPE pipes 90mm dia including 5 per cent wastage	metre	224.00	264.00	59136.00
		Cement for grouting	tonne	1.01	6875.00	6943.75
		Tube anchorage set complete with bearing plate, permanent wedges etc	each	8.00	481.00	3848.00
		Epoxy	kg	10.00	17.00	170.00
		MS plates for deviator (where deviator blocks are not provided)	tonne	7.00	55110.00	385770.00



Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Add 20 per cent cost of material for other materials like lead sheet, sleeves, deviator fixtures etc.				177095.01
		<b>b) Labour</b>				
		<b>i) For making holes in the structure .</b>				
		Mate	day	0.08	350.00	28.00
		Mazdoor Semi-skilled)	day	8.00	350.00	2800.00
		Mazdoor	day	8.00	350.00	2800.00
		<b>ii) For making and fixing anchorages for cables and placement of cables .</b>				
		Mate	day	1.28	350.00	448.00
		Blacksmith	day	7.00	505.17	3536.17
		Mazdoor	day	25.00	350.00	8750.00
		<b>iii) For prestressing</b>				
		Mate/Supervisor	day	0.20	350.00	70.00
		Fitter	day	1.00	403.67	403.67
		Mazdoor	day	4.00	350.00	1400.00
		<b>iv) For grouting</b>				
		Mate/Supervisor	day	0.26	350.00	91.00
		Mason	day	1.50	505.17	757.75
		Mazdoor	day	5.00	350.00	1750.00
		<b>c) Machinery</b>				
		Stressing jack with pump	hour	7.00	328.00	2296.00
		Grouting pump with agitator	hour	3.00	682.00	2046.00
		<b>d) Overhead charges @ 10 % on (a+b+c)</b>				108974.66
		<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				119872.13
						1318593.44
		Add 1% labour cess				13185.93
		<b>Cost for 3.10 MT = a+b+c+d+e</b>				1331779.37
		<b>Rate per MT = (a+b+c+d+e)/3.10</b>				429606.25
		Add 12% GST				51552.75
		Rate per MT.				481159.00
					<b>say</b>	<b><u>481159.00</u></b>
6.14	2810	<b>Providing external prestressing with high tensile steel wires/strands including drilling for passage of prestressing steel, all accessories for stressing and stressing operation and grouting complete as per drawing and Technical Specification</b>				
		<b>Span assumed: 100 m</b>				
		<b>No. of cables: 6 no.</b>				
		<b>No. of anchorages : 12 no.</b>				
		<b>Unit = MT</b>				
		<b>Taking output = 9.28 MT</b>				
		Assume 12.7mm dia. Strand in 19T13 system. Weight-14.73 kg/m of cable.				
		<b>a) Material</b>				
		HTS strand including 5 per cent wastage and extra length for jacking	tonne	9.28	138583.00	1286050.24
		HDPE pipes 90 mm dia including 5 per cent wastage	metre	672.00	264.00	177408.00
		Cement for grouting	tonne	3.04	6875.00	20900.00
		Tube anchorage set complete with bearing plate, permanent wedges etc	each	12.00	481.00	5772.00
		Epoxy	kg	14.00	17.00	238.00
		MS plates for deviator (where deviator blocks are not provided)	tonne	20.00	55110.00	1102200.00
		Add 20 per cent cost of material for other materials like lead sheet, sleeves, deviator fixtures etc.				518513.65

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<b>b) Labour</b>				
		<b>i) For making holes in the structure .</b>				
		Mate	day	1.72	350.00	602.00
		Mazdoor Semi-skilled)	day	18.00	350.00	6300.00
		Mazdoor	day	25.00	350.00	8750.00
		<b>ii) For making and fixing anchorages for cables and placement of cables .</b>				
		Mate	day	4.00	350.00	1400.00
		Blacksmith	day	20.00	505.17	10103.33
		Mazdoor	day	80.00	350.00	28000.00
		<b>iii) For prestressing</b>				
		Mate/Supervisor	day	0.30	350.00	105.00
		Fitter	day	1.50	403.67	605.50
		Mazdoor	day	6.00	350.00	2100.00
		<b>iv) For grouting</b>				
		Mate/Supervisor	day	1.00	350.00	350.00
		Mason	day	5.00	505.17	2525.83
		Mazdoor	day	20.00	350.00	7000.00
		<b>c) Machinery</b>				
		Stressing jack with pump	hour	10.00	328.00	3280.00
		Grouting pump with agitator	hour	10.00	682.00	6820.00
		<b>d) Overhead charges @ 10 % on (a+b+c)</b>				318902.36
		<b>e) Contractor's profit @ 10 % on (a+b+c+d)</b>				350792.59
						3858718.50
		Add 1% labour cess				38587.19
		<b>Cost for 9.28 MT = a+b+c+d+e</b>				3897305.69
		<b>Rate per MT = (a+b+c+d+e)/9.28</b>				397684.25
		Add 12% GST				47722.11
		Rate per MT.				445406.36
						<b>say 445406.00</b>
6.15	2808	<b>Replacement of Bearings complete as per Technical Specification</b>				
		<b>Unit = No</b>				
		<b>Taking output = 3 No.</b>				
		Lifting of superstructure span by jacking up from below i.e. by placing the jacks on pier/abutment caps for span length of 30m.				
		<b>a) Lifting of span</b>				
		i) Hire charges for jack of 40 tonne lifting capacity.	Day	3.00	546.00	1638.00
		Mate	day	0.64	350.00	224.00
		Mazdoor (Skilled)	day	4.00	350.00	1400.00
		Mazdoor	day	12.00	350.00	4200.00
		v) Wooden packing	cum	0.15	60000.00	9000.00
		<b>b) Replacement of bearing</b>				
		Cost of bearing.	each	3.00	75000.00	225000.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				24146.20
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				26560.82
						292169.02
		Add 1% labour cess				2921.69
		Cost of repair of 3 bearings = a+b+c+d				295090.71
		<b>Rate of repair per bearing = (a+b+c+d)/3</b>				98363.57
		Add 12% GST				11803.63
		Rate per MT.				110167.20
						<b>say 110167.00</b>

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
	<b>Note</b>	The work entails replacement of all the bearings on one side of the span.				
6.16	2808	<b>Rectification of Bearings as per Technical Specifications</b>				
		<i>Unit = 1 No</i>				
		<i>Taking output = 3 No.</i>				
		<b>a) Lifting of superstructure span by jacking up from below i.e. by placing the jacks on pier/abutment caps for span length of 30m.</b>				
		i) Hire charges for jack of 40 tonne lifting capacity.	each	3.00	546.00	1638.00
		ii) Mate	day	0.64	350.00	224.00
		iii) Mazdoor (Skilled)	day	4.00	350.00	1400.00
		iv) Mazdoor	day	12.00	350.00	4200.00
		v) Wooden packing	cum	0.15	60000.00	9000.00
		<b>b) Cost of parts to be replaced for 3 bearings.</b>	each	3.00	25000.00	75000.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				9146.20
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				10060.82
						110669.02
		Add 1% labour cess				1106.69
		Cost of repair of 3 bearings = a+b+c+d				111775.71
		<b>Rate of repair per bearing = (a+b+c+d)/3</b>				37258.57
		Add 12% GST				4471.03
		Rate of repair per bearing				41729.60
					<b>say</b>	<b><u>41730.00</u></b>
	<b>Note</b>	The rectification of 3 bearings included in this analysis are on the same side of the span.				
6.17		<b>Replacement of Expansion Joints complete as per drawings</b>				
		<i>Unit -1 RM</i>				
		<i>Taking output = 12 RM</i>				
		<b>a) Material</b>				
		Epoxy for bonding new concrete to old concrete @ 0.8 kg/sqm	kg	9.60	17.00	163.20
		M-30 grade cement concrete excluding OH & CP (Rate as per items 14.1 C (i))	cum	3.60	11579.00	41684.40
		<b>b) Labour</b>				
		Removal of old expansion joint including breaking of concrete, cutting of lugs and shifting of broken material etc.				
		Mate	day	0.26	350.00	91.00
		Mazdoor	day	6.00	350.00	2100.00
		Mazdoor (Skilled)	day	0.50	350.00	175.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				4421.36
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				4863.50
						53498.46
		Add 1% labour cess				534.98
		Cost for replacement of 12 RM = a+b+c+d				54033.44
		<b>Rate per RM = (a+b+c+d)/12</b>				4502.79
		Add 12% GST				540.33
		Rate per RM				5043.12
					<b>say</b>	<b><u>5043.00</u></b>
	<b>Note</b>	The rate for the installation of new expansion joints may be taken from the chapter on superstructure. Broken concrete will have to be replaced which has been included in this analysis.				
6.18		<b>Replacement of Damaged Concrete Railing.</b>				

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<b>Unit = RM</b>				
		<b>Taking output = 10 RM</b>				
		<b>a) Labour</b>				
		Labour for dismantling old railing and disposal of dismantled material.				
		Mate	day	0.20	350.00	70.00
		Mazdoor	day	5.00	350.00	1750.00
		<b>b) Machinery</b>				
		Tractor-trolley for disposal of dismantled material	hour	1.00	581.00	581.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				240.10
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				264.11
						2905.21
		Add 1% labour cess				29.05
		Cost for 10 m = a+b+c+d				2934.26
		<b>Rate per metre = (a+b+c+d)/10</b>				293.43
		Add 12% GST				35.21
		Rate per M				328.64
					<b>say</b>	<b>329.00</b>
		<b>Note</b> The rate for the provision of new railing may be adopted from the chapter on superstructure.				
<b>6.19</b>		<b>Replacement of Crash Barrier.</b>				
		<b>Unit = RM</b>				
		<b>Taking output = 10 M</b>				
		<b>a) Labour</b>				
		Labour for dismantling old railing and disposal of dismantled material.				
		Mate	day	0.40	350.00	140.00
		Mazdoor	day	10.00	350.00	3500.00
		<b>b) Machinery</b>				
		Tractor-trolley for disposal of dismantled material	hour	1.00	581.00	581.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				422.10
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				464.31
						5107.41
		Add 1% labour cess				51.07
		Cost for 10 m = a+b+c+d				5158.48
		<b>Rate per metre = (a+b+c+d)/10</b>				515.85
		Add 12% GST				61.90
		Rate per M				577.75
					<b>say</b>	<b>578.00</b>
		<b>Note</b> The rate for the construction of new crash barrier may be adopted from chapter 8 on Traffic and Transportation.				
<b>6.20</b>		<b>Replacement of Damaged Mild Steel Railing</b>				
		<b>Unit = RM</b>				
		<b>Taking output = 10 M</b>				
		<b>a) Labour</b>				
		Labour for dismantling old railing and disposal of dismantled material.				
		Mate	day	0.16	350.00	56.00
		Mazdoor	day	4.00	350.00	1400.00
		<b>b) Machinery</b>				
		Tractor-trolley for disposal of dismantled material	hour	1.00	581.00	581.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				203.70
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				224.07
						2464.77
		Add 1% labour cess				24.65

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		Cost for 10 m = a+b+c+d				2489.42
		<b>Rate per metre = (a+b+c+d)/10</b>				248.94
		Add 12% GST				29.87
		Rate per M				278.81
					<b>say</b>	<b><u>279.00</u></b>
<b>6.21</b>		<b>Repair of Crash Barrier</b>				
		Repair of concrete crash barrier with cement concert of M-30 grade by cutting and trimming the damaged portion to a regular shape, cleaning the area to be repaired thoroughly, applying cement concert after erection of proper form work.				
		<b>Unit = Running meter.</b>				
		<b>Taking output = 10 M.</b>				
		It is assumed that damage is to the extent of 10 per cent of the volume of concrete .This will require 0.30 cum of concrete.				
		<b>a) Manpower*</b>				
		Mate	day	0.04	350.00	14.00
		Mazdoor	day	1.00	350.00	350.00
		* For dismantling and trimming the surface to a regular shape and removal of damaged material.				
		<b>b) Material</b>				
		M-30 grade cement concrete excluding OH & CP (Rate as per items 14.1 C (i))	cum	0.30	11579.00	3473.70
		This may be priced based on the rate given the chapter of superstructure.				
		<b>c) Overhead charges @ 10 % on (a)</b>				36.40
		<b>d) Contractor's profit @ 10 % on (a+c)</b>				40.04
						3914.14
		Add 1% labour cess				39.14
		Cost for 10 m = a+b+c+d				3953.28
		<b>Rate per m = (a+b+c+d)/10</b>				395.33
		Add 12% GST				47.44
		Rate per M				442.77
					<b>say</b>	<b><u>443.00</u></b>
<b>6.22</b>		<b>Repair of RCC Railing</b>				
		Carrying out repair of RCC M30 railing to bring it to the original shape.				
		<b>Unit = Running meter.</b>				
		<b>Taking output = 10 M.</b>				
		It is assumed that damage is to the extent of 10 per cent .				
		<b>a) Material</b>				
		M-30 grade cement concrete excluding OH & CP (Rate as per items 14.1 C (i))	cum	0.10	11579.00	1157.90
		HYSB bar reinforcement Rate as per item No 14.2(Excluding OH & CP)	tonne	0.01	67979.00	883.73
		<b>b) Labour*</b>				
		Mate	day	0.016	350.00	5.60
		mazdoor	day	0.20	350.00	70.00
		* For dismantling and trimming the surface to a regular shape and removal of damaged material.				
		<b>c) Overhead charges @ 10 % on (b)</b>				7.56
		<b>d) Contractor's profit @ 10 % on (b+c)</b>				8.32
						2133.10
		Add 1% labour cess				21.33
		Cost for 10 m = a+b+c+d				2154.43

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs
		<b>Rate per m = (a+b+c+d)/10</b>				215.44
		Add 12% GST				25.85
		Rate per M				241.30
					<b>say</b>	<b><u>241.00</u></b>
6.23		<b>Repair of Steel Railing</b>				
		Repair of steel railing to bring it to the original shape				
		It is assumed that the damage to the steel railing is to the extent of 10 per cent .				
		<b>Unit = Running meter.</b>				
		<b>Taking output = 10 M.</b>				
		<b>a) Material</b>				
		Mild steel ISMC series	kg	29.00	55.11	1598.19
		Flat iron	kg	10.00	55.11	551.10
		MS Bolt and nuts	kg	1.00	85.00	85.00
		Add 5 per cent of cost of material for painting.				111.71
		<b>b) Labour</b>				
		Mate	day	0.016	350.00	5.60
		Mazdoor (Skilled)	day	0.20	350.00	70.00
		Mazdoor	day	0.20	350.00	70.00
		<b>c) Overhead charges @ 10 % on (a+b)</b>				249.16
		<b>d) Contractor's profit @ 10 % on (a+b+c)</b>				274.08
						3014.84
		Add 1% labour cess				30.15
		Cost of repair for 10m = a+b+c+d				3044.99
		<b>Cost of meter = (a+b+c+d)/10</b>				304.50
		Add 12% GST				36.54
		Rate per M				341.04
					<b>say</b>	<b><u>341.00</u></b>
6.24		Extra for providing and mixing polyester trinagular synthetic fibres in specified ratio 6-18mm length, melting point 240-260 degree centigrade and having specifiv gravity of 1.33-1.40 as per IS-456 ammendment August 2007 & IRC 44-2008 @ 125 gramme/50kg of cement bag in all types of CC, RCC, plastering and flooring work etc.				
		<b>Unit = Per Tonne.</b>				
		<b>Detail of cost for 1 bag of cement 50kg weight.</b>				
		<b>a) Material</b>				
		Polyester trinagular synthetic fibres	kg	0.13	427.00	53.38
		Carriage & labour for mixing.	L.S.			8.00
						61.38
		<b>b) Overhead charges @ 10 % on (a)</b>				6.14
		<b>d) Contractor's profit @ 10 % on (a+b)</b>				6.75
						74.26
		Add 1% labour cess				0.74
		Cost of mixing fibre in 1 bag (50kg) of cement.				75.01
		<b>Cost of mixing the fibre per tonne of cement.meter = (a+b+c+d)/10</b>				1500.13
		Add 12% GST				180.02
		Rate per M				1680.14
					<b>say</b>	<b><u>1680.00</u></b>