Structure Measurement Details

Item No.	Description	Unit	Quantity (17+240)	Total Qty.
MJB				
7.01	Earth work in excavation for foundation of structures in ordinary soil by mechanical means 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 all complete as per Technical specifications and as directed by the Engineer-in-charge.			
a	Ordinary Soil - Depth Upto 3m	cum	1851	**1851**
b	Ordinary Rock - (not requiring blasting)	cum	793	**793**
7.02	Providing and laying Plain cement concrete in Levelling Course, mechanically mixed and compacted, including centering and shuttering all complete as per drawings and Technical specifications and as directed by the Engineer-in-charge.			**0**
a	PCC Grade M15	cum	46	**46**
a	PCC Grade M20	cum		**0**
7.03	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)	metre		**0**
7.04	Providing and laying Reinforced Cement Concrete in Foundation mechanically mixed including centering and shuttering but excluding cost of reinforcement, all complete as per drawing and Technical specifications and as directed by the Engineer-in-charge.			**0**
a	RCC Grade M30	cum		**0**
a	RCC Grade M35	cum		**0**
	RCC Grade M40	cum	1432	**1432**
7.05	Providing and laying Reinforced Cement Concrete in Substructure, mechanically mixed and compacted, including centering and shuttering but excluding cost of reinforcement, all complete as per drawings and Technical specifications and as directed by the Engineer-in-charge.			**0**
a	RCC Grade M30	cum		**0**
a	RCC Grade M35	cum		**0**
	RCC Grade M40		247	**247**
7.06	Providing and laying Reinforced cement concrete in super-structure including centering and shuttering but excluding cost of reinforcement, all complete as per drawing and Technical specifications and as directed by the Engineer-in-charge.			**0**
a	RCC Grade M35	cum		**0**
b	RCC/PSC Grade M40 - Solid Slab	cum	529	**529**
c	RCC/PSC Grade M45 - T Beam & Slab	cum		**0**
d	RCC/PSC Grade M45 - PSC girder	cum		**0**
e	RCC/PSC Grade M50	cum		**0**
7.07	Supply and fabrication of Mild Steel as per IS 2062 including drilling, welding, riveting, grinding supply of bolts, nuts, washers, fixtures etc. at site. Assembling, erection of fabricated steel structure to proper line, level and camber as per approved drawings and technical specifications section 1900 complete including transportation and handling, painting all exposed surfaces of steel work after erection with one coat of red lead primer paint to IS 102 and two coats of paint including all labour consumable other material machinery tools and tackles complete as per specification and directed by engineers including furnishing of detailed erection scheme and getting the same approved from competent authority	MT		**0**

Structure Measurement Details

Item No.	Description	Unit	Quantity (17+240)	Total Qty.
7.08	Supplying, fitting and placing HYSD bar reinforcement all complete as per drawing and Technical specifications and as directed by the Engineer-in-charge.			**0**
a	For Foundation	MT	215	**215**
b	For Substructure	MT	32	**32**
c	For Superstructure	MT	69	**69**
7.08 d	Providing, supply and placing at position of Bow Steel Girder and Composite steel girder ncluding all lead lift.	MT	891	**891**
7.09	High tensile steel wires / strands including all accessories for stressing, stressing operations and grouting complete as per drawing and Technical Specifications and as directed by the Engineer-in-charge.	MT		**0**
7.10	Supplying, fitting and fixing in position true to line and level POT/PTFEE bearing conforming to IRC: 83 (Part-III) section IX and clause 2006 of MoRTH specifications complete including all accessories as per drawing and Technical Specifications as directed by the Engineer-in-charge.			**0**
(i)	140 tonnes	Nos		**0**
(i)	400 tonnes	Nos		**0**
(iii)	85 tonnes	Nos		**0**
(ii)	205 tonnes	Nos		**0**
(iii)	250 tonnes	Nos	10	**10**
7.11	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.	cucm		**0**
7.12	Construction of Reinforced Earth structures (RES) complete as per additional technical specification Appendix-I			**0**
(a)	Providing and erecting precast concrete fascia panels of M35 grade including reinforcement, soil reinforcing element, foundation pad, all accessories, components and draiange system including ground improvement complete.	sqm		**0**
(b)	Filling, grading and compaction with selected material meeting approved design parameters in layers in reinforced zone complete.	cum		**0**
(c)	Providing and laying in position RCC crash barrier with friction slab, including reinforcement and centering & shuttering, complete.	m		**0**
7.13	Providing and laying Reinforced cement concrete of M35 grade for approach slab including reinforcement and formwork all complete as per drawings and Technical specifications and as directed by the Engineer-in-charge.	cum	36	**36**
7.14	Construction of precast RCC railing of M40 Grade, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, leaving adequate space between vertical post for expansion, complete as per drawing and Technical specifications and as directed by the Engineer-in-charge.	m	286	**286**
7.15	Provision of an Reinforced cement concrete crash barrier constructed with M-40 grade concrete with HYSD reinforcement conforming to IRC:21 and dowel bars 25 mm dia, 450 mm long at expansion joints filled with pre-moulded asphalt filler board, keyed to the structure on which it is built and installed as per design given in the enclosure to MOST circular No. RW/NH -33022/1/94-DO III dated 24 June 1994 as per dimensions in the approved drawing and at locations directed by the Engineer, complete as per drawing and Technical specifications clause 2703 and as directed by the Engineer-in-charge.	m	286	**286**

Structure Measurement Details

Item No.	Description	Unit	Quantity (17+240)	Total Qty.
7.16	Providing and fitting Drainage Spouts complete as per drawing and Technical specifications and as directed by the Engineer-in-charge.	Each	29	**29**
7.17	Providing and fixing filler type expansion joint in slab bridges and culverts complete as per technical specification section 2600	m		**0**
7.18	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 wieldable 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.	m		**0**
7.19	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.	m	32	**32**
7.20	Providing weepholes in brick masonry/stone masonry, plain/reinforced concrete abutment, wing wall, return wall with 100 mm dia PVC pipe extending through the full width of the structures with slope of 1(V):20(H) towards drawing face complete as per drawing and technical specifications Clause 2200 & 2706	cum		**0**
7.21	Backfilling behind abutment, wing wall, retaining wall, breast wall and return wall complete as per drawings & technical specifications Clause 710.1.4.of IRC:78 & Technical specification clause 305.4.4.	cum	588	**588**
7.22	Providing and laying 65 mm wearing course on top of deck slab consisting of 25 mm thick mastic asphalt wearing course and 40 mm thick Bituminous concrete laid to required level and slope after cleaning the surface, including providing antiskid surface with bitumen precoated finegrained hard stone chipping of 13.2 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 is not less than 1000C, protruding 1 mm to 4 mm over mastic surface, all complete as per clause 507 and 516.	Sqm	2000	**2000**
7.23	Providing and laying filter media with granular crushed aggregates as per specification to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and providing over the entire surface behind abutment, wing wall, return wall to the full height, compacted to firm condition complete as per drawing and technical specification Clause 2504.	cum	71	**71**
7.24	Providing and laying Filter material underneath pitching in slopes complete as per drawing and Technical specification	cum	94	**94**
7.25	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	cum	188	**188**

Input 17+240

General data	
Skew angle	0.00
Skew factor	1.00
No. of carriageway	1.00
Width of carriageway	16.00
Thk of Levelling Course	0.10
No of span	1.00
length of span	135.87
Total length of Span	135.87

Pile Length			
A1	2703.81	RL A
	2745.61	RL B
	1.80	Cap
	40.00	
	16.00	no.
A2	2704.66	RL A
	2746.46	RL B
	1.80	Cap
	40.00	
	16.00	no.

Abutment	**A1**	**A2**
No. of Abutments	1.00	1.00
Width of Foundation	23.00	23.00
Bottom Length of Foundation	7.50	7.50
Height of foundation back side	5.80	5.80
Height of foundation front side	2.50	2.50
Sub Structure	**A1**	**A2**
Width of Abut Wall	18.40	18.40
Side width of Abut Wall	1.00	1.00
Top Length of Abut Cap	18.40	18.40
Bottom Length of Abut Cap	18.40	18.40
Ht. of Abutment wall	1.24	2.63
Thk. of Dirt Wall	0.350	0.350
Ht. of Dirt Wall	2.10	2.10
Abutment Cap bottom Width	1.00	1.00
Abutment Cap top Width	1.425	1.425
Abutment Cap Slant height	0.25	0.25
Abutment Cap Straight height	0.50	0.50
Superstruture	**A1**	**A2**
Design Level	2884.426	2884.426
Ground Level	2875.741	2874.346
Abutment Bottom Level	2880.041	2878.646
Founding level		
Wearing Coat	0.065	0.065
Thickness of slab	0.23	0.23
Depth of Girder	1.75	1.75
Length of Pedestal	0.70	0.70
Width of Pedestal	0.70	0.70
Height of pedestal	0.35	0.35
Ht. of Abutment Wall	1.24	2.63

Stone Pitching	**A1**	**A2**
Width	13.03	15.12
Length	40.93	47.50
Thickness	0.30	0.30

Slab	
No Of Carrige way	1.00
Thickness of slab	0.23
width 1	16.00
Length	135.87
Area	**2173.92**

Quantity calculation **17+240**

Sl. no.	Description	Unit	No.	Length	Width	Height	Qty.
1	***Earthwork in excavation***	Cum					
	Abutment A1		1	7.70	23.200	7.40	1321.936
	Abutment A2		1	7.70	23.200	7.40	1321.936
							2643.872
2	***PCC M-15 grade in levelling course below Foundation***	Cum					
	Abutment A1		1	7.700	23.200	0.100	17.864
	Abutment A2		1	7.700	23.200	0.100	17.864
							35.728
3	***R.C.C. M-40 grade in Foundation***	Cum					
	Abutment A1(Pile Cap)		1	7.500	23.000	4.150	715.875
	Abutment A2(Pile Cap)		1	7.500	23.000	4.150	715.875
							1431.750
4	***R.C.C. M-40 grade in Sub structure***	Cum					
	Abutment						
	Abutment Wall A1		1	18.400	1.000	1.240	22.816
	Abutment Wall A2		1	18.400	1.000	2.635	48.484
	Abutment Cap A1	top	1	18.400	1.425	0.500	13.110
		bottom	1	18.400	1.213	0.250	5.578
	Abutment Cap A2	top	1	18.400	1.425	0.500	13.110
		bottom	1	18.400	1.213	0.250	5.578
	Return Wall	vertical	4	11.250	4.090	0.750	138.037
							246.712
5	***R.C.C. M-40 grade in Dirt wall***	Cum					
	Abutment A1		1.00	18.400	0.350	2.100	13.524
	Abutment A2		1.00	18.400	0.350	2.100	13.524
							27.048
6	***RCC M-40 in Pedestals***	Cum					
	For bearing		10	0.700	0.700	0.350	1.715
							1.715
7	***RCC M-40 in Slab superstructure***	Cum					
	Deck slab		1	135.870	16.000	0.230	500.002
							500.002
8	***Bow String Girder***	MT			Wt. per Sqm		
	End section		1	135.870	16.000	0.410	891.307
							891.307
9	***HYSD bar reinforcement***	Tonne					
	In piles		150	Kg/Cum			
	In Foundation		150	Kg/Cum			214.763
	Abutment Wall		130	Kg/Cum			9.269
	Abutment Cap		130	Kg/Cum			4.859
	Pier		130	Kg/Cum			
	Pier cap		130	Kg/Cum			
	Return Wall		130	Kg/Cum			17.945
	Pedestal		80	Kg/Cum			0.137
	Dirt Wall		130	Kg/Cum			3.516

Quantity calculation **17+240**

Sl. no.	Description	Unit	No.	Length	Width	Height	Qty.
	PSC Girders		120	Kg/Cum			
	Slab Super Structure		130	Kg/Cum			65.000
							315.489
10	***Pot PTF***	No					
	Bearing		2	5.000			10
							10
11	***HT Strands***	Tonne					
	PSC Girders		50	Kg/Cum			
							0.000
12	***Crash Barrier***	Rmt					
			2	142.87			285.740
							285.740
13	***Drainage spouts***	Nr.					
			29				29.000
							29.000
14	***Wearing course***	Sqm					
			1	143	14.000		2000.18
							2000.18
15	***Filler Type Expansion joint***	Rmt					
							0.000
15	***Strip seal Type Expansion joint***	Rmt					
			2	16.000			32.000
							32.000
16	***PCC M-15 in approach slab***	Cum					
	A1 Side		1	14.500	3.500	0.100	5.075
	A2 Side		1	14.500	3.500	0.100	5.075
							10.150
17	***RCC M-35 in approach slab***	Cum					
	A1 Side		1	14.500	3.500	0.350	17.763
	A2 Side		1	14.500	3.500	0.350	17.763
							35.525
18	***Filter Media***	Cum					
	Behind abutment		2	14.500	0.600	4.090	71.166
							71.166
19	***Backfilling***	Cum					
	Behind abutment A1		1	14.500	3.542	4.090	210.061
	Behind abutment A2		1	14.500	4.750	5.485	377.791
							587.85
20	***Railing***	Rmt					
			2	142.87			285.740
							285.740
21	***Stone pitching***	Cum					
	Behind abutment A1		2	10.232	13.027	0.300	79.977
	Behind abutment A2		2	11.875	15.120	0.300	107.732
							187.709
22	***Filter Media Underneath Pitching***	Cum					
	Behind abutment A1		2	10.232	13.027	0.150	39.988

Quantity calculation **17+240**

Sl. no.	Description	Unit	No.	Length	Width	Height	Qty.
	Behind abutment A2		2	11.875	15.12	0.150	53.866
							93.854