ग्रामीण कार्य विभाग

Rural Works Department, Govt of Bihar

DETAILED PROJECT REPORT

YEAR (2022 - 2023)

T-S COPY

STATE	:	BIHAR
DISTRICT	:	Aurangabad
BLOCK	:	Nabinagar
NAME OF ROAD	:	Akari Mahadalit Tola Ke Nala Par Puliya Nirman
TOTAL LENGTH OF Culvert	:-	4.00 M (1x4.0 M x 3.0 M)
TOTAL COST OF CULVERT CONSTRUCTION	:-	Rs. 38.557 Lacs
TOTAL COST OF APPROACH & DIVERSION	:-	Rs. 1.821 Lacs
TOTAL PROJECT COST INCLUDING GST AND L.C.	:-	Rs. 49.480 Lacs

SUBMITTED BY:
EXECUTIVE ENGINEER
RWD (w) DIVISION, AURANGABAD
AURANGABAD

समाहरणालय, औरंगाबाद
(जिला गोपनीय शाखा)

दूरभाष : 06186–223167 (कार्यालय)
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पत्रांक– 2127

प्रेषक,

जिला पदाधिकारी,
औरंगाबाद।

सेवा में,

सचिव,
ग्रामीण कार्य विभाग,
बिहार, पटना।

औरंगाबाद, दिनांक 27/6/23

विषय :– **Emergent work** के अन्तर्गत प्रखण्ड नवीनगर के पंचायत सोरी ग्राम अकड़ी महादलित टोला के नाला पर पुलिया निर्माण यथाशीघ्र कराने के संबंध में।

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि प्रखण्ड नवीनगर के पंचायत सोरी ग्राम अकड़ी महादलित टोला के नाला पर पुलिया को आपातकालीन योजना में शामिल किया जाना अत्यावश्यक है। उक्त जर्जर पुलिया ध्वस्त हो गया है एवं आवागमनन पूर्णतः बाधित है। उक्त पुलिया L028 माली चरण पथ से टोना पथ को जोड़ती है। उक्त जर्जर पुलिया ध्वस्त हो जाने के कारण ग्राम टोना, खड़ग परसा, अकड़ी महादलित टोला,को प्रत्यक्ष रूप से सम्पर्कता भंग हो गयी है। तथापि ग्राम सिन्दुरिया, शाहपुर, धनहारा, गम्हारिया, रघुगहा को अप्रत्यक्ष रूप से सम्पर्कता भी काफी प्रभावित हुई है। ग्रामीणों द्वारा बार–बार मोबाईल पर उक्त पुलिया के बनाने के संबंध में आग्रह किया जा रहा है।

अतः उक्त पुलिया को आपातकालीन योजना में चयनित करने हेतु की कृपा की जाय।

सूचनार्थ एवं आवश्यक कार्रवाई हेतु समर्पित।

विश्वासभाजन

27/06/23
जिला पदाधिकारी,
औरंगाबाद।

27/6/23
कार्यपालक अभियंता
ग्रामीण कार्य विभाग
कार्य प्रमण्डल, औरंगाबाद।

DMFT

YEAR (2022 - 2023)

GENERAL ABSTRACT OF COST

Block:--Nabinagar

District:--Aurangabad

CNCPL Sl. No. :--0

Length of Culvert:-- 4.000 M

Name of Road:-- Akari Mahadalit Tola Ke Nala Per Puliya Nirman

SL. No.	Item of Work		Amount
A	TOTAL COST OF CONSTRUCTION		48.391 Lacs
I	CONTINGENCY 2.25 %		1.089 Lacs
		Sub Total=	49.480 Lacs
	TOTAL cost of project=		**49.480 Lacs**

18/7/23
Junior Engineer
RWD (w)Section ,
Nabinagar

18/07/23
Asstt. Engineer
RWD (w)Sub Division , Nabinagar

18.7.23
Executive Engineer
RWD (w) Division,
Aurangabad

SUMMARY OF COST ESTIMATE FOR THE PROJECT

NAME OF ROAD : Akari Mahadalit Tola Ke Nala Per Puliya Nirman

DISTRICT Aurangabad
BLOCK Nabinagar

LENGTH OF CULVERT (in m) 4.00 M, 2 No's
CD STRUCTURES

Sl. No.	DESCRIPTION	AMOUNT (LAKHS)
1	EARTHWORK	0.342
2	GSB	0.574
3	WBM GRADE III	0.168
4	CC PAVEMENT	0.582
6	ROAD FURNITURES , KM STONES , TRAFFIC & DIRECTION SIGN, MMGSY LOGO	0.154
	SUB TOTAL OF PAVEMENT COST IN LACS =	**1.821**
	CROSS DRAINAGE STRUCTURES	
7	RCC SLAB CULVERT (1x4.0x3.0 m)	9.600
8	RCC SLAB CULVERT (1x4.0x3.0 m)	28.957
	SUB TOTAL OF CD STRUCTURES COST IN LACS =	**38.557**
	Sub Total :--	**40.378**
	18% GST on Total Amount :--	**7.268**
	1% Lab Cess :--	**0.404**
	Seigniorage Fee @ 10%	**0.341**
	Total Constriction Cost (including GSt and Labour Cess) (A) :--	**48.391**
	Add Contingency Charges @ 2.25 % (IN LACS) on Cont. Cost (C) = :--	**1.089**
	TOTAL COST OF PROJECT IN LACS(including GST 18% & 1% Lab Cess)(A+B+C) :--	**49.480**

18/7/23
Junior Engineer
RWD (w)Section , Nabinagar

18/07/23
Assistant Engineer
RWD (w)Sub Division , Nabinagar

18.7.23
Executive Engineer
RWD (w) Division,
Aurangabad

Cost Estimate for Road Work

FORMAT F6

SL No.	SDB SL.NO	MORD Ref.No	Description	Unit	NOS	LENGTH	WIDTH	HEIGHT	QUANTITY	RATE	AMOUNT (In Rs.)
			SUB HEAD : EARTHWORK								
1	3.4	301.5	Construction of Embankment with material obtained from borrow pits with a lift upto 1.5 m , transporting to the site spreading , grading to required slope and compacting to meet requirement of Tables 300.1 and 300.2 with a ***lead upto 1000 m & 100 m*** as per Technical Specification Clause 301.5 . (Including Royality & Labour Cess).								
			For 1000 m lead (For Diversion)	Cum	1.00	12.00	5.00	2.00	120.00	259.42	31,130.40
2	3.14	303.1	**Construction of Subgrade and Earthen Shoulders** Construction of subgrade and earthen shoulders with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table 300.2 with lead upto 1000 m & 100 m as per Technical Specification Clause 303.1. (Including Royality & Labour Cess).								
			ii) Earth shoulder								
			Adjacent to PCC (PCC Portion)	cum	2.00	12.00	1.125	0.160	4.32		
			Adjacent to WBM-GR III (PCC Portion)	cum	2.00	12.00	1.125	0.075	2.03		
			Adjacent to GSB (PCC Portion)	cum	2.00	12.00	1.125	0.200	5.40		
								Total Quantity =	11.75		
			For 1000 m lead @ 100 %						11.75	262.95	3,089.66
									B) SUB TOTAL OF CRUST =		34,220.06

Cost Estimate for Road Work

Sl. No.	SDB SL.NO	MORD Ref.No	Description	Unit	NOS	LENGTH	WIDTH	HEIGHT	QUANTITY	RATE	AMOUNT (Rs.)
			SUB HEAD : DIVERSION								
9	4.1	401	**Granular Sub-base with Well Graded Material (Table 400.1)** (By mix in place method) (i) **For Grading I Material (With Coarse sand Screening)** Construction of granular sub-base by providing well graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401.								
			(For Diversion)	Cum	1.00	12.00	4.00	0.200	9.60		
			GSB in Approach	cum	1.00	12.00	3.750	0.200	9.00		
			Net GSB Qty. Required form Grading I Material						18.60	3,086.81	57,414.67
10	4.7 (3-A)	405	**Water Bound Macadam with Stone Screenings** **WBM Grading 3 (By Mechanical Means)** Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, crushable screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 2 as per Technical Specification Clause 405.								
			WBM Gr-III in Brick Soling / Earthen Length	Cum	1.00	12.00	3.75	0.075	3.38		
			Net WBM -2 Qty						3.38	4,984.09	16,846.22
11	6.4	1500	**Cement Concrete Pavement** Construction of un-reinforced expansion and construction joint only , plain cement thickness as perdesign , over a prepared sub base with 43 grade cement or any other type as per clause 1501.2.2 M 30 grade coarse and fine aggregate maximum size of aggregate not exceding 25mm , mixed in a concrete of not less than 0 2cum capacity and appropriate weigh batcher using approved mix design ,laid in approved fixed side formwork (steel channel ,laying and fixing of 125 micron thick plythene film ,wedges ,steel plates including levelling the formwork as per drawing) spreading the concrete with shovels , rakes , compacted using needle, screed and plate vibrators and finished in continuous operation including provision of contraction and expansion , constrution joints ,applying debonding strips , primer , sealant , dowel bars , near approaches to bridge/ culvert and construction joints, admixtures as approved , curing of concrete slab for 14 days curing compound (where specified) and water finishing to lines and grade as per drawing and Technical specification clause 1501.								
				cum	1.00	12.00	3.75	0.160	7.20		
			Net Qty						7.20	8,086.53	58,223.02
										E) SUB TOTAL OF CC PAVEMENT =	**1,32,483.91**

			Providing and fixing of typical MMGSY informatory sign board with Logo as per MORD specifications and drawing. Three MS Plates of 1.6 mm thick, top and middle plate duly welded with MS flat iron 25mm x 5m size on back on edges. The lower plate will be welded with MS angle iron frame of 25mm x 25mm x 5mm. The angle iron frame of the lower most plate and flat iron frame of middle plate will be welded to 2 nos. 75mm x 75 mm of 12 SWG steel tubes posts duly embedded in cement concrete M-10 grade blocks of 450mm x 450mm x 600mm. 600mm below ground level. The top most diamond plate will be welded to middle plate by 47mm x 47mm of 12 SWG steel plate tube. All M.S. will be stove enameled on both sides. Lettering and printing arrows, border etc. will be painted with ready mixed synthetic enamel paint of superior quality in required shade and colour. All sections of framed posts and steel tube will be painted with primer and two coats of epoxy paint as per drawing Clause 1701 and Annexure 1700.1								
			Providing and Fixing 'Logo' of Project As per Drawing	No.	1.00				1.00	10,678.12	10,678.12
				Total=	1.00						
10	10.1	1700	**Boundary Pillar/Gaurd Post**								
			Reinforced cement concrete M15 grade boundary pillars/local stone of standard design as per IRC:25, fixed in position including finishing and lettering but excluding painting as per drawing and Technical Specification Clause 1704								
				No					7.00	674.41	4,720.87
									TOTAL COST OF PAVEMENT IN RS. (A+B+C+D+E+F+G)=		15,398.99

SUB TOTAL 1,82,102.96

18/7/23
Junior Engineer
RWD (w)Section , Nabinagar

18/07/23
Assistant Engineer
RWD (w)Sub Division , Nabinagar

18.7.23
Executive Engineer
RWD (w) Division, Aurangabad

Sl. No.	SDB Sl.NO	MORD Ref.No	Description	Unit	Quantity	Rate	Amount (In Rs.)	Total Material Required	Material Amount	Add Seignoirage Fee 10%
			EARTHWORK							
1	3.14	303.1	**Construction of Subgrade and Earthen Shoulders**							
			Construction of subgrade and earthen shoulders with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table 300.2 with lead upto 1000 m as per Technical Specification Clause 303.1.							
			Unit = cum							
			Taking output = 100 cum							
		a)	**Material**							
			Compensation For Earth Taken From Private Land	Cum	100	35.01	3,501.00			
			Cost for 100 cum = a				3,501.00			
			Rate Per Cum = (a)/100=	Cum			35.01			
			Total Cost =	Cum			35.01	11.75	411.37	41.14
			PAVEMENT LAYERS - GSB ,WBM-II & WBM-III							
2	4.1	401	**Granular Sub-base with Well Graded Material (Table 400.1)**							
			(By mix in place method)							
		(i)	**For Grading I Material (With Coarse Sand Screening)**							
			Construction of granular sub-base by providing well graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401.							
			For Grading I Material (With Coarse Sand Screening)							
			Unit = cum							
			Taking output = 300 cum							
		a)	**Material**							
			Coarse graded granular sub-base material as per Table 400.2							
			53 mm to 9.5 mm @ 50 per cent	Cum	180.00	915.67	1,64,820.60			
			9.5 mm to 2.36 mm @ 20 per cent	Cum	72.00	424.21	30,543.120			
			2.36 mm below @ 30 per cent (Coarse Sand Screening)	Cum	108.00	262.42	28,341.360			
			Cost for 300 cum = a				2,23,705.08			
			Rate Per Cum = (a)/300=	Cum			745.68			
			Total Cost =	Cum			745.68	18.60	13,869.71	1,386.97

Sl. No.	SDB Sl. NO	MORD Ref.No	Description	Unit	Quantity	Rate	Amount (In Rs.)	Total Material Required	Material Amount	Add Seignoirage Fee 10%
3	4.7	405	Water Bound Macadam with Stone Screening Type "B" Gr- III							
			WBM Grading 3 (Mechanical means)							
	(3-A)		Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with smooth wheel roller 80-100 kN in stages to proper grade and camber, applying and brooming, stone screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 3 as per Technical Specification Clause 405.							
			For WBM III Material							
			Unit = cum							
			Taking output = 360 cum							
		a)	Material							
			Aggregate							
			Grading 3 53 mm to 22.4 mm @ 0.91 cum per 10 sqm for compacted thickness of 75 mm	Cum	435.60	1,080.50	4,70,665.80			
			Stone Screening							
			Type B 11.2 mm for Grading 3 @ 0.18 cum per 10 sqm	Cum	86.40	424.21	36,651.744			
			Cost for 360 cum = a				5,07,317.54			
			Rate Per Cum = (a)/360=	Cum			1,409.22			
			Total Cost =	Cum			1,409.22	3.38	4,763.15	476.31
			SUB HEAD : CC PAVEMENT							
4	6.4	1500	Cement Concrete Pavement							
			Construction of un-reinforced expansion and construction joint only , plain cement thickness as perdesign , over a prepared sub base with 43 grade cement or any other type as per clause 1501.2.2 M 30 grade coarse and fine aggregate maximum size of aggregate not exceding 25mm , mixed in a concrete of not less than 0.2cum capacity and appropriate weigh batcher using approved mix design ,laid in approved fixed side formwork (steel channel ,laying and fixing of 125 micron thick plythene film ,wedges ,steel plates including levelling the formwork as per drawing) spreading the concrete with shovels , rakes , compacted using needle, screed and plate vibrators and finished in continuous operation including provision of contraction and expansion , constrution joints ,applying debonding strips , primer , sealant , dowel bars , near approaches to bridge/ culvert and construction joints, admixtures as approved , curing of concrete slab for 14 days curing compound (where specified) and water finishing to lines and grade as per drawing and Technical specification clause 1501.							
			Unit = cum							

Sl. No.	SDB Sl .NO	MORD Ref.No	Description	Unit	Quantity	Rate	Amount (In Rs.)	Total Material Required	Material Amount	Add Seignoirage Fee 10%
			Taking output = 75 cum (172.50 t)							
		a)	**Material**							
			Aggregate							
			Crushed stone coarse aggregates, grading will be as per Clause 1501.2.4.1 (Table 1500.1) of specifications @ 0.90 cum/cum of concrete	Cum	67.50	886.00	59,805.00			
			Sand as per IS:383 and conforming to Clause 1500.2.4.2 @ 0.45 cum/cum of concrete	Cum	33.75	494.00	16,672.50			
			Cost for75cum = a				**76,477.50**			
			Rate Per Cum = (a)/75=	Cum			**1,019.70**			
			Total Cost =	**Cum**			**1,019.70**	**7.20**	**7,341.84**	**734.18**
			ANALYSIS OF CULVERT/ MINOR BRIDGES ITEMS							
5	11.4	800 & 1200	Providing concrete for plain/reinforced *concrete in open foundations* complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203							
		(ii)	**P.C.C Grade M 15 In Foundation**							
		(i)	**Nominal mix (1:2.5:5)**							
			Unit = Cum							
		a)	**Material**							
			Coarse sand	Cum	0.48	494.00	237.12			
			40 mm aggregate	Cum	0.48	975.00	468.00			
			20 mm aggregate	Cum	0.24	1,186.00	284.64			
			10 mm aggregate	Cum	0.08	586.00	46.88			
			Rate Per Cum = (a)=	Cum			**1,036.64**			
			Total Cost =	**Cum**			**1,036.64**	**165.11**	**1,71,163.91**	**17,116.39**
6		(iii)	P.C.C Grade M 20 In Foundation							
		(i)	Nominal mix (1:2:4)							
			Unit = Cum							
		a)	Material							

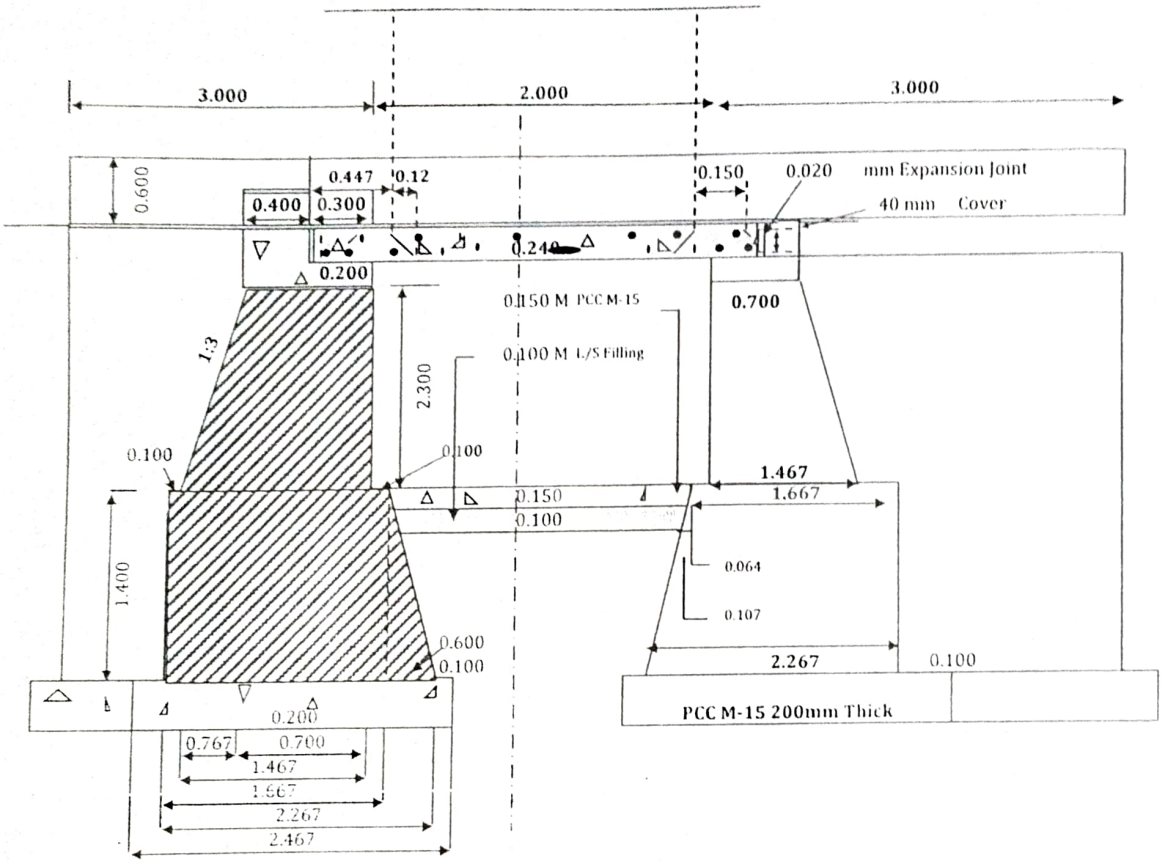
Sr. No.	Item Code No.	Description	Unit	Quantity	Rate	Amount (In Rs.)	Total Material Required	Material Amount	Seigniorage Fee
		Coarse sand	Cum	0.45	494.00	222.30			
		40 mm aggregate	Cum	0.36	975.00	351.00			
		20 mm aggregate	Cum	0.36	1,186.00	426.96			
		10 mm aggregate	Cum	0.18	586.00	105.48			
		Rate Per Cum = (a)=				1,105.74			
		Total Cost =	Cum			1,105.74	105.29	[illegible]	[illegible]
	(iii)	P.C.C Grade M 20 In Substructure							
	(I)	Nominal mix (1:2:4)							
		Unit = Cum							
	a)	Material							
		Coarse sand	Cum	0.45	494.00	222.30			
		40 mm aggregate	Cum	0.36	975.00	351.00			
		20 mm aggregate	Cum	0.36	1,186.00	426.96			
		10 mm aggregate	Cum	0.18	586.00	105.48			
		Rate Per Cum = (a)=				1,105.74			
		Total Cost =	Cum			1,105.74	14.43	[illegible]	
8	(iv)	R.C.C Grade M 25 In Substructure							
		Unit = Cum							
	a)	Material							
		Coarse sand	Cum	0.45	494.00	222.30			
		20 mm aggregate	Cum	0.54	1,186.00	640.44			
		10 mm aggregate	Cum	0.36	586.00	210.96			
		Rate Per Cum = (a)=				1,073.70			
		Total Cost =	Cum			1,073.70	13.79	14,808.20	[illegible]
		Total Construction Cost (With 10% Seigniorage Fee) --							34,142.94
		Total Construction + Maintenace Cost (With 10% Seigniorage Fee) --							34,142.94

कार्यपालक अभियंता
सामान्य कार्य विभाग

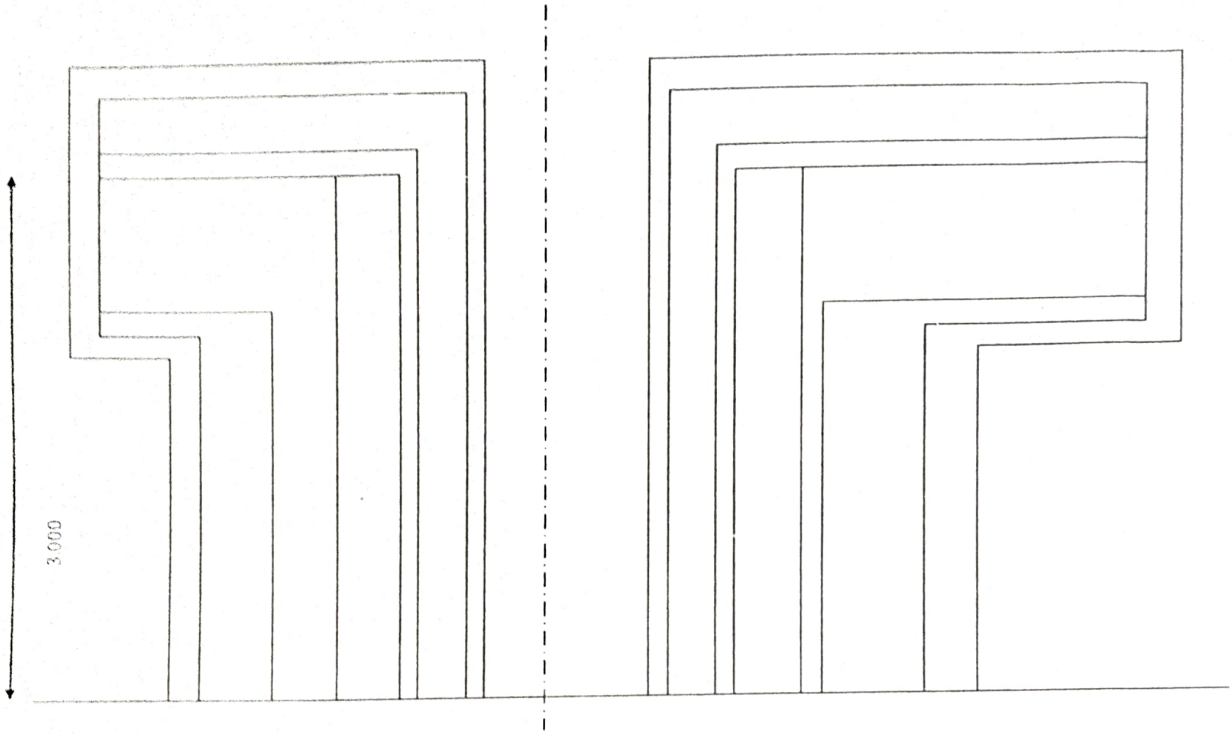
Akari Mahadalit Tola Ke Nala Per Puliya Nirman(DMFT)

(2022-2023)

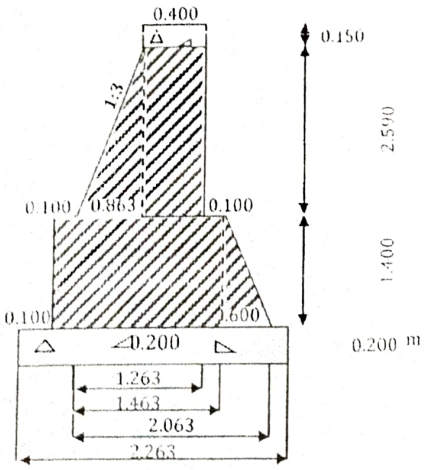
Quantities & Cost Estimate for R.C.C. Slab Culvert - 1 No. x 2.00 m Span x 2.50 m Vent Height



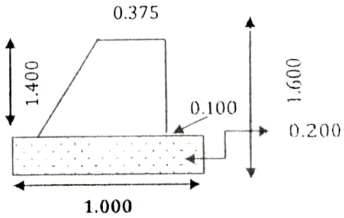
Sectional Elevation



HALF PLAN



Section of Return Wall



Quantities & Cost Estimate for R.C.C. Slab Culvert - 1 No. x 2.00 m Span x 2.50 m Vent Height

Sl No	SOR No.	Description of Items							Total Qty	Unit	Rate (₹)	Amount (₹)
1	2	3							4	5	6	7
1	11.1	Earthwork in excavation for structures as per drawing and technical specifications Clause 305.1 including setting out, construction of shoring and bracing, removal of stumps and other deleterious material and disposal upto a lead of 50 m, dressing of sides and bottom and backfilling in trenches with excavated suitable material.										
		Abutment	2	x	7.600	x	2.467 x	1.600 =	59.997			
		Return Wall	4	x	1.433	x	2.263 x	1.600 =	20.754			
		Floor Under Deck Slab	1	x	6.200	x	0.400 x	0.250 =	0.620			
		Total							**81.371**	**cum**	**410.66**	**33,415.81**
2	11.2	Sand Filling in Foundation Trenches as per drawing and technical specification Clause 1108.										
		Abutment	2	x	7.600	x	2.467 x	0.000 =	0			
		Return Wall	4	x	1.433	x	2.263 x	0.000 =	0			
		Floor Under Deck Slab	1	x	6.200	x	1.629 x	0.100 =	1.01			
		Total							**1.010**	**cum**	**699.49**	**706.48**
3	11.4 (II)	Providing PCC M 15 (1:2.5:5) concrete for plain concrete in open **foundations** complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203										
		Abutment	2	x	7.600	x	2.467 x	0.200 =	7.500			
		Return Wall	4	x	1.433	x	2.263 x	0.200 =	2.594			
		Floor Under Deck Slab	1	x	6.200	x	1.736 x	0.150 =	1.614			
		Cut Off Wall	2	x	0.400	x	1.000 x	0.200 =	0.16			
		Total							**11.868**	**cum**	**6,861.10**	**81,427.53**
4	11.4 (ii)	**Providing PCC M 15 (1:2.5:5)** concrete for plain concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203										
		Qty below GL :										
		Abutment	2	x	6.800	x	1.967 x	1.400 =	37.452			
		Return Wall	4	x	1.433	x	1.763 x	1.400 =	14.148			
		Cut Off Wall	2	x	1.200	x	0.588 x	1.400 =	1.974			
		Total							**53.574**	**cum**	**6,861.10**	**3,67,576.57**
5	12.5 (II)	Plain/reinforced cement concrete in **substructure** complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 ans 1204. **(M15 (PCC 1:2.5:5)**										
		Qty above GL :										
		Abutment	2	x	6.000	x	1.084 x	2.300 =	29.905			
		Return Wall	4	x	1.817	x	0.832 x	2.590 =	15.648			
		Total							**45.553**	**cum**	**7,428.23**	**3,38,378.16**
6	12.5 II	**Plain/Reinforced cement concrete(M-20) in substructure** complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 ans 1204										
		Abutment Cap	2	x	6.000	x	0.700 x	0.200 =	1.680			
		Dirt Wall	2	x	6.000	x	0.400 x	0.240 =	1.152			
		Parapet	2	x	8.000	x	0.400 x	0.600 =	3.840			
		Total							**6.672**	**cum**	**7,917.49**	**52,825.49**
7	13.1	**RCC M25 in Deck Slab :--** Providing and laying reinforced cement concrete in superstructure (Deck slab M25) as per drawing and technical specifications Clauses 800, 1205.4, 1205.5										
			1	x	6.000	x	2.560 x	0.240 =	3.6864			
		Total							**3.686**	**cum**	**9,107.05**	**33,568.59**

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Sl No	SOR No	Description of Items					Total Qty	Unit	Rate (₹)	Amount (₹)
8	13.2	**Supplying, fitting and placing HYSD bar reinforcement in super-structure complete as per drawing and technical specifications**								
		Abutment Cap & Dirt Wall @ 70 Kg per Cum qty of Concrete		2.832 x 70.00		=	198.240			
		Deck Slab @ 80 Kg per Cum qty of Concrete		3.686 x 80.00		=	294.880			
		Sub Total					493.120			
		Total in MT	493.120	÷	1000	=	0.493	MT	87,092.05	42,936.38
9	13.16	**Providing and filling joint sealing compound as per drawings and technical specifications with coarse sand and 6 per cent bitumen by weight**								
			2 x 6.000			=	12.000			
		Total					12.000	RM	56.56	678.72
10	12.9	Providing Weepholes in brick masonary , Plain / Reinforced concrete abutement , 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								
			2 x 8	•	4 x 3	=	28	Nos.	144.52	4,046.56
11	13.10	Drainage spouts complete as per drawing and technical specifications Clause 1209.								
			1 x 2				2	Nos.	548.41	1,096.82
12	10.5	**Painting on Parapet Wall** Painting two coats including primer coat after filling the surface with synthetic enamel paint in all shades on new, plastered / concrete surfaces as per drawing and Technical Specification Clause 1703								
		Top	2 x 8.00	x	0.40	=	6.40			
		Side	4 x 8.00	x	0.60	=	19.20			
		Front	4 x 0.40	x	0.60	=	0.96			
							26.56	Sqm	126.32	3,355.06
									Total ₹	9,60,012.17

Cost of 1 No SLAB CULVERT Size (2 m x 2.5 m) = ₹ 9,60,012.17

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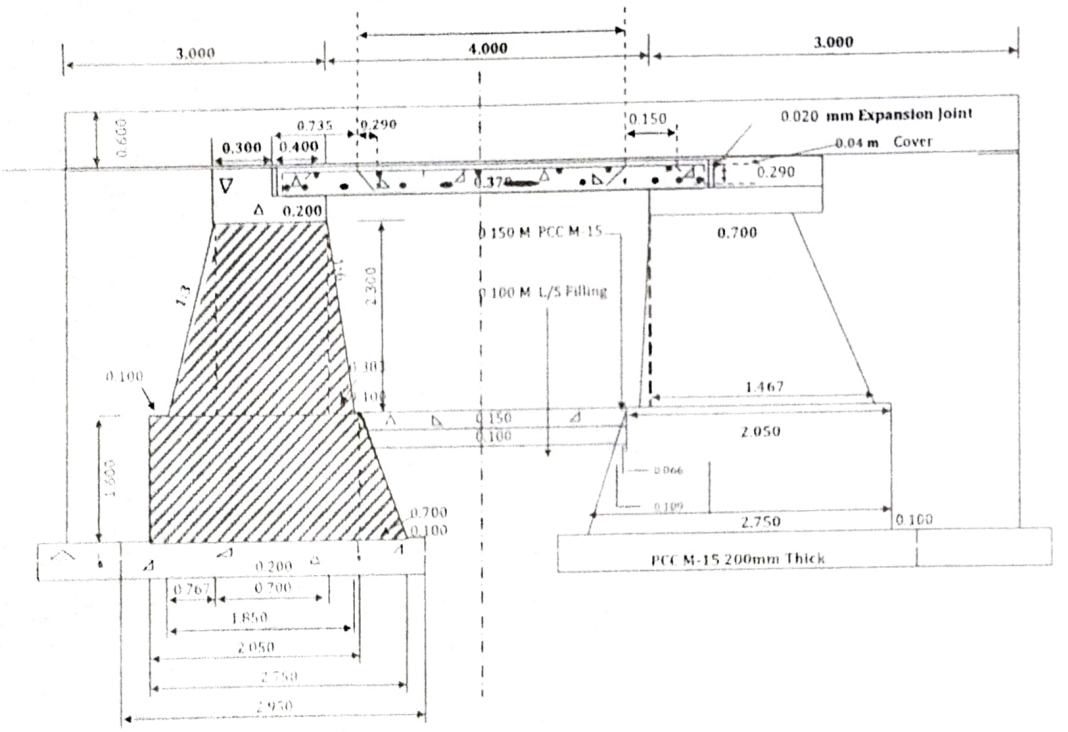
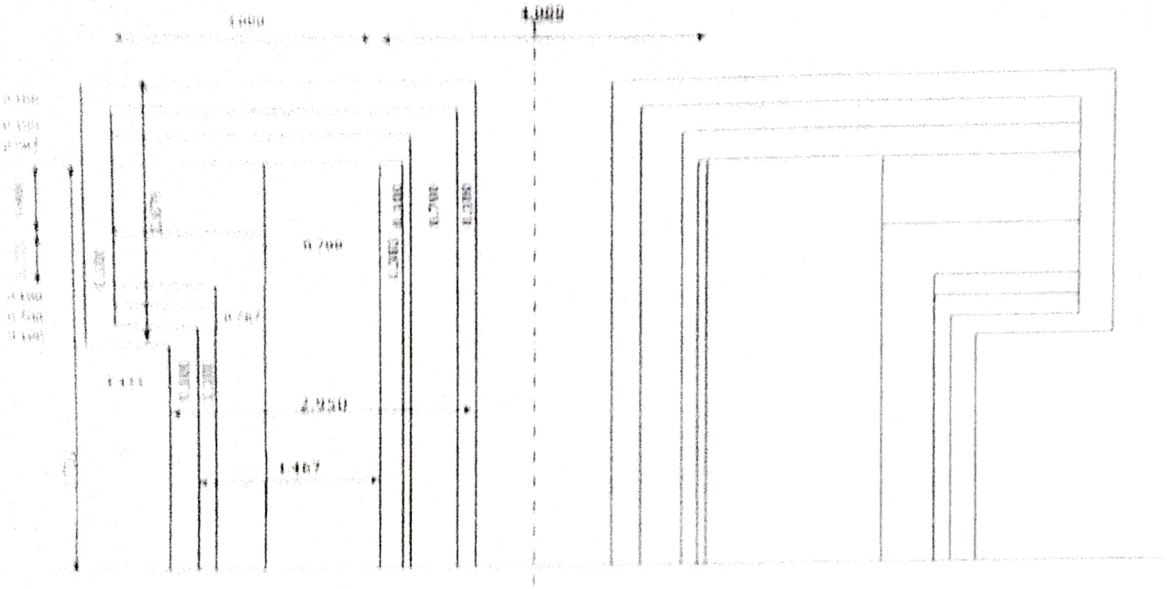
कार्यपालक अभियंता
ग्रामिण कार्य विभाग
कार्य प्रमण्डल, औरंगाबाद

Akari Mahadalit Tola Ke Nala Per Puliya Nirman(DMFT)
YEAR (2022 - 2023)

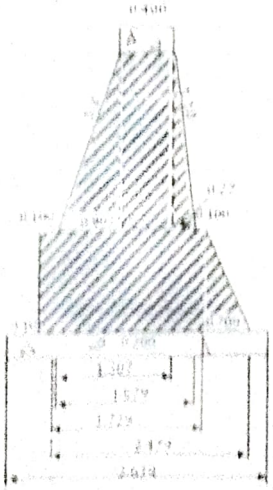
Quantities & Cost Estimate for R.C.C. Slab Culvert - 1 No. x 4.00 m Span x 2.50 m Vent Height



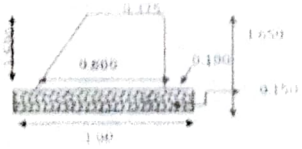
Sectional Elevation



HALF PLAN



Section of Return Wall



Quantities & Cost Estimate for R.C.C. Slab Culvert : 1 No. x 4.00 m Span x 2.50 m Vent Height

Sl No	SOR No	Item of work involved							Total Qty	Unit	Rate (₹)	Amount (₹)
1	11.1	**Earth work in excavation of foundation trenches** :-- Earthwork in excavation for structures as per drawing and technical specifications Clause 305.1 including setting out, construction of shoring and bracing, removal of stumps and other deleterious material and disposal upto a lead of 50 m, dressing of sides and bottom and backfilling in trenches with excavated suitable material										
		Abutment	2	x	9.300	x	2.950	x 1.800	= 98.77			
		Return Wall	4	x	1.433	x	2.679	x 1.800	= 27.64			
		Floor Under Deck Slab	1	x	8.900	x	1.434	x 0.250	= 3.19			
		Cut off Wall										
		Long Walls (U/S & D/S side)	2	x	10.200	x	1.000	x 1.800	= 36.72			
		Cross Walls (U/S Side)	2	x	0.600	x	1.000	x 1.800	= 2.16			
		Cross Walls (D/S Side)	2	x	2.100	x	1.000	x 1.800	= 7.56			
		Flooring (U/S Side)	1	x	8.200	x	0.600	x 0.250	= 1.23			
		Flooring (D/S Side)	1	x	8.200	x	2.100	x 0.250	= 4.31			
		Sub Total							= 181.57			
		Total							= **181.57**	**cum**	**410.66**	**74,563.54**
2	11.2	**Sand Filling in Foundation** :-- Sand Filling in Foundation Trenches as per drawing and technical specification Clause 1108										
		Floor Under Deck Slab	1	x	8.900	x	3.625	x 0.100	= 3.23			
		Total							= **3.23**	**cum**	**699.49**	**2,259.35**
3	11.4 (II)	**Providing M15 (PCC 1:2.5:5) as levelling course in foundation** :-- Providing PCC M 10 (1:3:6) concrete for plain concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203										
		Abutment	2	x	9.300	x	2.950	x 0.200	= 10.97			
		Return Wall	4	x	1.433	x	2.679	x 0.200	= 3.07			
		Floor Under Deck Slab	1	x	8.900	x	3.734	x 0.150	= 4.99			
		Cut off Wall										
		Long Walls (U/S & D/S side)	2	x	10.200	x	1.000	x 0.150	= 3.06			
		Cross Walls (U/S Side)	2	x	0.600	x	1.000	x 0.150	= 0.18			
		Cross Walls (D/S Side)	2	x	2.100	x	1.000	x 0.150	= 0.63			
		Flooring (U/S Side)	1	x	10.000	x	1.500	x 0.150	= 2.25			
		Flooring (D/S Side)	1	x	10.000	x	3.000	x 0.150	= 4.50			
		Total							= **29.65**	**cum**	**6,861.10**	**2,03,431.62**
4	11.4 (II)	Providing PCC M 15 (1:2.5:5) concrete for plain concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203										
		Qty below GL :										
		Abutment	2	x	8.400	x	2.400	x 1.600	= 64.51			
		Return Wall	4	x	1.433	x	2.129	x 1.600	= 19.53			
		Cut off Wall										
		Long Walls (U/S & D/S side)	2	x	10.000	x	0.588	x 1.500	= 17.63			
		Cross Walls (U/S Side)	2	x	0.913	x	0.588	x 1.500	= 1.61			
		Cross Walls (D/S Side)	2	x	2.413	x	0.588	x 1.500	= 4.25			
		Total							= **107.52**	**cum**	**6,861.10**	**7,37,705.47**
5	12.5 (II)	Plain/reinforced cement concrete in **substructure** complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 ans 1204. **(M15 (PCC 1:2.5:5)**										
		Qty above GL :										
		Abutment	2	x	7.500	x	1.275	x 2.300	= 43.99			
		Return Wall	4	x	1.817	x	0.990	x 2.720	= 19.56			
		Total							= **63.54**	**cum**	**7,428.23**	**4,71,989.73**
6	12.5 II	**Plain/reinforced cement concrete(M-20) in substructure** complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 ans 1204										
		Abutment Cap	2	x	7.500	x	0.700	x 0.200	= 2.10			
		Dirt Wall	2	x	7.500	x	0.300	x 0.370	= 1.67			
		Return Wall Coping	2	x	2.200	x	0.400	x 0.150	= 0.26			
		Parapet	2	x	10.000	x	0.400	x 0.600	= 4.80			
		Total							= **8.83**	**cum**	**7,917.49**	**69,911.44**

S.No	SOR No	Description of Work	Quantity	Unit	Rate (₹)	Amount (₹)
7	13.1	**Providing RCC M25 in Deck Slab** :- Providing and laying reinforced cement concrete in superstructure (Deck slab M25) as per drawing and technical specifications Clauses 800, 1205.4, 1205.5				
		1 x 7.500 x 4.260 x 0.370 =	13.21			
		Total	13.21	cum	9,107.05	1,20,304.13
8	13.2	**Supplying, fitting and placing HYSD bar** reinforcement in super structure complete as per drawing and technical specifications				
		Abutment 130.000 70.000 =	9,100.00			
		Return Wall 43.520 70.000 =	3,046.40			
		Abutment Cap & Dirt Wall @ 70 kg per Cum qty of Concrete 8.830 x 70.00 =	618.100			
		Deck Slab @ 80 kg per Cum qty of Concrete 13.210 x 80.00 =	1056.800			
		Total in kg =	13821.300	Kg		
		Total in MT 13821.300 ÷ 1000 =	13.821	MT	87092.05	12,03,699.22
9	13.16	**Providing and filling joint** sealing compound as per drawings and technical specifications with coarse sand and 6 per cent bitumen by weight				
		2 x 7.500 =	15.00			
		Total	15.00	RM	56.56	848.40
10	12.9	**Providing weep holes in abutement** :- Providing Weepholes in brick masonary , Plain / Reinforced concrete abutement , 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				
		2 x 10 + 4 x 3 =	32	Nos.	144.52	4,624.64
11	13.10	Drainage spouts complete as per drawing and technical specifications Clause 1209				
		1 x 4	4	Nos.	548.41	2,193.64
12	10.5	**Painting on Parapet Wall** Painting two coats including primer coat after filling the surface with synthetic enamel paint in all shades on new plastered / concrete surfaces as per drawing and Technical Specification Clause 1701				
		Top 2 x 10.00 x 0.40 =	8.00			
		Side 4 x 10.00 x 0.60 =	24.00			
		Front 4 x 0.40 x 0.60 =	0.96			
			32.96	sqm	126.32	4,163.51
					Total ₹	28,95,694.69

Cost of 1 No SLAB CULVERT Size (4 m x 2.5 m) . = ₹ 28,95,694.69

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कार्यपालक अभियंता
ग्रामिण कार्य विभाग
कारा प्रमण्डल, औरंगाबाद

FORM F8

Analysis for Carriage by Road

Name of Road:-- Akari Mahadalit Tola Ke Nala Par Puliya Nirman

District:- Aurangabad Block :- Nabinagar

Sl No	Item with Source	Unit	Source Up to	Carriage Cost & Lead in Km: Pucka / Surface					Carriage Cost & Lead in Km: Katcha					Loading & Unloading Cost	Carriage Cost by Rail Head	Total
1	Stone Metal Gr-I & Gr-II	Cum	Karjara (Gaya)	8.00 / 4.59	x 7.94	x 140.00 Km	= Rs 1937.43		8.00 / 4.59	x 19.22	x 0.00 Km	= Rs 0.00	210.00		Rs 2147.43
2	Stone Metal Gr-III / GSB	Cum	Karjara (Gaya)	8.00 / 4.99	x 7.94	x 140.00 Km	= Rs 1781.12		8.00 / 4.99	x 19.22	x 0.00 Km	= Rs 0.00	210.00		Rs 1991.12
3	Stone Aggregate / Chips	Cum	Manpur	8.00 / 4.99	x 7.94	x 100.00 Km	= Rs 1654.83		8.00 / 4.99	x 19.22	x 0.00 Km	= Rs 0.00	210.00		Rs 1864.83
4	Stone Boulder	Cum	Karjara (Gaya)	8.00 / 4.80	x 7.94	x 140.00 Km	= Rs 1852.67		8.00 / 4.80	x 19.22	x 0.00 Km	= Rs 0.00	210.00		Rs 2062.67
5	Course Sand	Cum	Dehri On-Son	8.00 / 4.99	x 7.94	x 25.00 Km	= Rs 318.24		8.00 / 4.99	x 19.22	x 0.00 Km	= Rs 0.00	210.00		Rs 528.24
6	Binding Material	Cum	Karjara (Gaya)	8.00 / 6.00	x 7.94	x 140.00 Km	= Rs 1482.13		8.00 / 6.00	x 19.22	x 0.00 Km	= Rs 0.00	210.00		Rs 1692.13
7	Local Sand	Cum	Local	8.00 / 4.99	x 7.94	x 5.00 Km	= Rs 55.46		8.00 / 4.99	x 19.22	x 1.00 Km	= Rs 30.82	210.00		Rs 266.27
8	Brick	1000 Nos	Local	8.00 / 2.00	x 7.94	x 7.00 Km	= Rs 222.32		8.00 / 2.00	x 19.22	x 1.00 Km	= Rs 76.88	499.62		Rs 798.82
9	Cement	MT	Local	8.00 / 8.00	x 7.94	x 10.00 Km	= Rs 79.40		8.00 / 8.00	x 19.22	x 0.00 Km	= Rs 0.00	326.00		Rs 405.40
10	Steel	MT	Local	8.00 / 8.00	x 7.94	x 10.00 Km	= Rs 79.40		8.00 / 8.00	x 19.22	x 0.00 Km	= Rs 0.00	326.00		Rs 405.40
11	Bitumen Emulsion	MT	Belagan	8.00 / 8.00	x 7.94	x 170.00 Km	= Rs 1349.80		8.00 / 8.00	x 19.22	x 0.00 Km	= Rs 0.00	421.81		Rs 1771.61
12	Bitumen	MT	Belagan	8.00 / 8.00	x 7.94	x 170.00 Km	= Rs 1349.80		8.00 / 8.00	x 19.22	x 0.00 Km	= Rs 0.00	421.81		Rs 1771.61
13	Hume Pipe (1000 mm)	m	Sindurni	8.00 / 10.00	x 7.94	x 25.00 Km	= Rs 158.80		8.00 / 10.00	x 19.22	x 0.00 Km	= Rs 0.00	73.32		Rs 232.12
14	Hume Pipe (600 mm)	m	Sindurni	8.00 / 25.00	x 7.94	x 25.00 Km	= Rs 63.52		8.00 / 25.00	x 19.22	x 0.00 Km	= Rs 0.00	31.08		Rs 94.60
15	Hume Pipe (300 mm)	m	Sindurni	8.00 / 60.00	x 7.94	x 25.00 Km	= Rs 26.47		8.00 / 60.00	x 19.22	x 0.00 Km	= Rs 0.00	31.08		Rs 57.55

* Subjected to Verification of Lead

Cost of Haulage Excluding Loading & Unloading as per SOR

Type of Road	Per Ton Km by Tipper	Per Ton Km by Truck
For Surface Road	12.28	7.94
Kutcha Surface Gravel Road	14.67	9.55
Kaccha Road	25.30	19.22

BASIC RATES
(A) Labour

Sl. No.	Description of Labour	Unit	Rate (Rs.)
L-01	Bhisti	day	373.00
L-02	Bitumen Sprayer	day	393.00
L-03	Blacksmith	day	449.00
L-04	Blaster	day	619.00
L-05	Carpenter 1st Class	day	503.00
L-06	Chips spreader	day	449.00
L-07	Chiseller	day	577.00
L-08	Dresser (Skilled)	day	472.00
L-09	Driller	day	449.00
L-10	Electrician	day	476.00
L-11	Fitter	day	511.00
L-12	Mason (1st class)	day	503.00
L-13	Mason (2nd Class)	day	449.00
L-14	Mate	day	397.00
L-15	Mazdoor (Unskilled)	day	373.00
L-16	Mazdoor (Semi skilled)	day	388.00
L-17	Mazdoor (Skilled)	day	472.00
L-18	Painter (Ist class)	day	476.00
L-19	Plumber	day	476.00
L-20	Surveyor	day	454.00
L-21	White Washer	day	476.00

BASIC RATES
(B) Material

Sl. No.	Description	Unit	Basic Rate as per SOR including Royalty	Final Rate including Royalty
M-001	AC pipe 100 mm	m	44.28	44.28
M-002	Aggregate - For 37.5 mm Maximum size - 22.4 mm to 5.6 mm	cum	886.00	886.00
M-003	Aggregate - For 37.5 mm Maximum size - 45 mm to 22.5 mm	cum	1,080.50	1,080.50
M-004	Aggregate - For 37.5 mm Maximum size - Below 5.6 mm	cum	424.21	424.21
M-005	Aggregate - For 53 mm Maximum size - 22.5 mm to 5.6 mm	cum	886.00	886.00
M-006	Aggregate - For 53 mm Maximum size - 63 mm to 45 mm	cum	975.00	975.00
M-007	Aggregate - For 53 mm Maximum size - Below 5.6 mm	cum	424.21	424.21
M-008	Aggregate - Grading I (40 mm nominal Size) 10 mm - 5 mm	cum	586.00	586.00
M-009	Aggregate - Grading I (40 mm nominal Size) 25 mm - 10 mm	cum	886.00	886.00
M-010	Aggregate - Grading I (40 mm nominal Size) 37.25 mm - 25 mm	cum	1,080.50	1,080.50
M-011	Aggregate - Grading I (40 mm nominal Size) 5 mm and below	cum	424.21	424.21
M-012	Aggregate - Grading II (19 mm nominal Size) 10 mm - 5 mm	cum	586.00	586.00
M-013	Aggregate - Grading II (19 mm nominal Size) 25 mm - 10 mm	cum	886.00	886.00
M-014	Aggregate - Grading II (19 mm nominal Size) 5 mm and below	cum	424.21	424.21
	Aggregate 13.2 mm to 0.09 mm	cum	515.53	515.53
M-015	Aggregate 10 mm	cum	586.00	586.00
M-016	Aggregate 20 mm	cum	1,186.00	1,186.00
M-017	Aggregate 40 mm	cum	975.00	975.00
M-018	Aggregate- Crushable type such as moorum or Gravel for Grading I	cum	165.30	165.30
M-019	Aggregate- Crushable type such as moorum or Gravel for Grading II	cum	165.30	165.30
M-020	Aggregate- Crushable type such as moorum or Gravel for Grading III	cum	165.30	165.30
M-021	Aggregate-Grading I 90 mm to 45 mm	cum	975.00	975.00
M-022	Aggregate-Grading II 63 mm to 45 mm	cum	975.00	975.00
M-023	Aggregate-Grading III 53 mm to 22.4 mm	cum	1,080.50	1,080.50
M-024	Aggregates 22.4 mm to 2.36 mm for wet mix macadam	cum	678.14	678.14
M-025	Aggregates 45 mm to 22.4 mm for wet mix macadam	cum	1,080.50	1,080.50
M-026	Aluminium sheeting (1.5 mm thick)	sqm	8,945.43	8,945.43

FORM F8

Sl. No.	Description	Unit	Basic Rate as per SOR including Royalty	Final Rate including Royalty
M-027	Aluminium Studs 100 mm x 100 mm fitted with lense reflectors	Nos	187.29	187.29
M-028	Bamboo (1st Class) 85 mm - 100 mm dia, 2.0 m long	No.	20.98	20.98
M-029	Bamboo (1st Class) 85 mm - 100 mm dia, 2.5 m long	No.	20.98	20.98
M-029	Bamboo (1st Class) 85 mm - 100 mm dia, 3.0 m long	No.	20.98	20.98
M-030	Bamboo (1st Class) 85 mm - 100 mm dia, 4.5 m - 5.5 m long	No.	20.98	20.98
M-029	Bamboo (2nd Class) 75mm dia, 1.8 m - 2.5 m long	No.	19.65	19.65
M-030	Bamboo (2nd Class) 75mm dia, 2.1 m - 3.0 m long	No.	19.65	19.65
M-031	Barbed wire	kg	73.77	73.77
M-032	Binding Material	cum	160.00	160.00
M-033	Binding wire	kg	75.04	75.04
M-034	Bitumen (Crumb Rubber Modified)	tonne		
M-035	Bitumen (Natural Rubber Modified)	tonne		
M-036	Bitumen (Polymer Modified)	tonne		
M-037	Bitumen (S-65) (Fatuha) (Excluding the cost of empty drum @ Rs. 816.61 / Per MT)	t	51,650.50	51,650.50
M-038	Bitumen (S-90) (Fatuha) (Excluding the cost of empty drum @ Rs. 816.61 / Per MT)	t	50,930.50	50,930.50
M-039	Bitumen Emulsion (RS-1) (Patna) (Excluding the cost of empty drum @ Rs. 665.625/ Per MT)	t	48,921.50	48,921.50
M-040	Bitumen Emulsion (SS-1) (Patna) (Excluding the cost of empty drum @ Rs.665.625 / Per MT)	t	50,361.50	50,361.50
M-041	Bituminous sealant	litre	27.24	27.24
M-042	Blasted rubble	cum	675.00	675.00
M-043	Blasting material (Moorum)	kg	131.28	131.28
M-044	Bond stone (400 mm x 150 mm x 150 mm)	No.	10.57	10.57
M-045	Brick 1st Class	No.	6.069	6.07
M-046	Cement (OPC - 43 Grade) (Excluding the cost of empty bag @ Rs. 8.48 / Per Bag) (OPC 43 grade)	t	5,854.80	5,854.80
M-047	Cement Primer	litre	115.16	115.16
M-048	Chlorprene Elastomer or Closed Cell Foam Sealing Element	m		
M-049	Compensation for earth taken from private land (Including royalty @ Rs. 22.0 per cum & compensation @ Rs. 1.65 per cum)	cum	35.01	35.01
M-050	Compressible Fibre Board	sqm	1,132.98	1,132.98
M-051	Copper plate	kg	896.80	896.80

FORM F8

Sl. No.	Description	Unit	Basic Rate as per SOR including Royalty	Final Rate including Royalty
M-052	Corbelling Stones (300 mm x 150 mm x 150 mm)	No.		
M-053	Corrosion Resistant Structural Steel Grating	kg	46.83	46.83
M-054	Credit for excavated rock found suitable for use	cum	101.24	101.24
M-055	Crow bars 40 mm dia (hire charges)	hour	5.00	5.00
M-056	Crushed Sand or Grit Passing 2.36 mm and retained on 180 micron	cum	119.10	119.10
M-057	Crushed Slag	cum	729.73	729.73
M-058	Crushed Stone Aggregate 26.5 mm to 75 micron	cum	657.85	657.85
M-059	Crushed Stone chipping 13.2 mm nominal size	cum	697.55	697.55
M-060	Crushed Stone Chipping 6.7 mm size 100% passing 11.2 mm and retained on 2.36 mm	cum	514.58	514.58
M-061	Crushed Stone Chipping 6.7 mm size 100% passing 9.5 mm and retained on 2.36 mm	cum	514.58	514.58
M-062	Crushed Stone chipping 9.5 mm nominal size	cum	668.80	668.80
M-063	Crushed Stone Coarse Aggregate Passing 53 mm and retained on 2.8 mm	cum	524.27	524.27
M-064	Curing compound	litre	136.22	136.22
M-065	Debonding strips	m	45.00	45.00
M-066	Edge Stone (450 mm x 350 mm x 100 mm)	No.		
M-067	Edge Stone (450 mm x 350 mm x 200 mm)	No.		
M-068	Elastomeric bearing assembly	Nos.	28,508.46	28,508.46
M-069	Electric Detonator	each	6.19	6.19
M-070	Epoxy Paint	kg	568.30	568.30
M-071	Epoxy Primer	kg	122.02	122.02
M-072	Farmyard manure	cum	278.90	278.90
M-073	Fevicol adhesive	kg	125.00	125.00
M-074	Filter media	cum	678.14	678.14
M-075	Fine aggregate/Crushed sand 2.36 mm to 75 micron	cum	119.10	119.10
M-076	Galvanised angle	kg		-
M-077	Galvanised angle Section 100 mm x 100 mm of 12 mm thickness	kg	39.25	39.25
M-078	Gelatine 80 per cent	kg	976.21	976.21
M-079	GI Pipe 100 mm dia	m	617.50	617.50
M-080	GI Pipe 50 mm dia	m	617.50	617.50

FORM F8

Sl. No.	Description	Unit	Basic Rate as per SOR including Royalty	Final Rate including Royalty
M-1001	Gravel	kg	90.20	90.20
M-1002	Graded stone aggregate	cum	109.21	109.21
M-1003	Granular material (Natural moorring, coal gravel mixture / quarry waste, broken granite chippings	cum	165.26	165.26
M-1005	Gravel Broken Metal 40 mm size	cum	145.22	145.22
M-1006	Gudgin	kg	169.78	169.78
M-1007	Insulation King Blanket width 60 mm thickness	sqm		
M-1008	Insulation King Blanket width 80 mm thickness	sqm		
M-1009	Jaisal Filler board	sqm	957.49	957.49
M-1010	Jute cutting upto width 75 mm square opening	sqm	41.26	41.26
M-1011	Jute rope 12 mm dia	m	14.28	14.28
M-1012	Lime Aggregates passing 77.8 mm and retained on 2.8 mm	cum	581.99	581.99
M-1013	Lime	t	1,871.95	1,871.95
M-1014	Lime putty	t	1,871.95	[illegible]
M-1015	Lime Mortar (Fine Lime Mortar) 1:2 (1:1:6)	Nos.	191.58	[illegible]
M-1016	[illegible]	cum	20,775.00	[illegible]
M-1017	[illegible]	cum	106.33	[illegible]
M-1018	[illegible]	Nos.	13.36	[illegible]
M-1019	[illegible] Mast	t	57,833.00	57,833.00
M-1020	[illegible]	kg	38.65	38.65
M-1021	[illegible] 2.5 mm thick	sqm	169.78	169.78
M-1022	[illegible] 2.5 mm thick	sqm	199.56	199.56
M-1023	[illegible]	t	69,150.00	69,150.00
M-1024	[illegible] (Synthetic Enamel)	litre	246.65	246.65
M-1025	[illegible]	litre	214.86	214.86
M-1026	Nail (Long shank) (125 mm x 6)	sqm	14.68	14.68
M-1027	Polythene Sheeting	sqm	14.68	14.68
M-1028	Quarried Stone 150-200 mm size	cum	355.68	355.68
M-1029	RCC Pipe NP4 (1200 mm dia)	m	3,921.34	3,921.34
M-1030	RCC Pipe NP4 (1000 mm dia)	m	2,758.22	2,758.22

M. No	Description	Unit	Basic Rate as per SOR including Royalty	Final Rate including Royalty
M-110	RCC Pipe NP4 (750 mm dia)	m	996.02	996.02
M-111	RCC Pipe NP4 (600 mm dia)	m	667.90	667.90
M-112	RCC Pipe NP4 (500 mm dia)	m		-
	RCC Pipe NP4 (400 mm dia)	m	505.12	505.12
M-113	RCC Pipe NP4 (1200 mm dia)	m	6,510.00	6,510.00
M-114	RCC Pipe NP4 (1000 mm dia)	m	5,570.00	5,570.00
M-115	RCC Pipe NP4 (750 mm dia)	m		-
M-116	RCC Pipe NP4 (600 mm dia)	m	2,350.00	2,350.00
M-117	RCC Pipe NP4 (500 mm dia)	m	532.24	532.24
M-118	Red oxide Primer	litre	226.49	226.49
M-119	Road marking paint	litre	246.65	246.65
M-120	Sand (Coarse)	cum	494.00	494.00
M-121	Sand (Fine)	cum	143.32	143.32
M-122	Seeds	kg	38.31	38.31
M-123	Steel Pipe 50 mm dia	m	244.89	244.89
M-124	Steel Reinforcement (HYSD Bars)	t	57,667.00	57,667.00
M-125	Steel Reinforcement (MS Round Bars)	t	57,667.00	57,667.00
M-126	Steel Reinforcement (TMT Bars)	t	57,667.00	57,667.00
M-127	Stone Boulder of size 150 mm and below	cum	675.00	675.00
M-128	Stone Chips 12 mm size	cum	586.00	586.00
M-129	Stone Chips 13.2 mm to 5.6 mm	cum	586.00	586.00
M-130	Stone Crushed Aggregate 11.2 mm to 0.09 mm	cum	600.00	600.00
M-131	Stone for Coarse Rubble Masonry 1st Sort	cum	392.53	392.53
M-132	Stone for Coarse Rubble Masonry 2nd Sort	cum		-
M-133	Stone for Random Rubble Masonry	cum		-
M-134	Stone for Stone Set Pavement (300 mm x 200 mm x 150 mm)	No	340.55	340.55
M-135	Stone Screening - Type A 13.2 mm for Grading-1	cum	424.21	424.21
M-136	Stone Screening - Type A 13.2 mm for Grading-2	cum	424.21	424.21
M-137	Stone Screening - Type B 11.2 mm for Grading-2	cum	424.21	424.21

FORM F8

Sl. No.	Description	Unit	Basic Rate as per SOR including Royalty	Final Rate including Royalty
M-138	Stone Screening - Type B 11.2 mm for Grading 3	cum	424.21	424.21
M-139	Stone spall	cum	351.36	351.36
M-140	Traffic cones	No.		
M-141	Water	kl	56.20	56.20
M-142	Well graded Granular Base Material - Grading A 2.36 mm below	cum	262.42	262.42
M-143	Well graded Granular Base Material - Grading A 26.5 mm to 4.75 mm	cum	886.00	886.00
M-144	Well graded Granular Base Material - Grading A 53 mm to 26.5 mm	cum	1,080.50	1,080.50
M-145	Well graded Granular Base Material - Grading B 2.36 mm below	cum	262.42	262.42
M-146	Well graded Granular Base Material - Grading B 26.5 mm to 4.75 mm	cum	886.00	886.00
M-147	Well graded Granular Base Material - Grading C 2.36 mm below	cum	262.42	262.42
M-148	Well graded Granular Base Material - Grading C 9.5 mm to 4.75 mm	cum	586.00	586.00
M-149	Well Graded Material for Sub Base - Grading C 2.36 mm below	cum	262.42	262.42
M-150	Well Graded Material for Sub Base - Grading C 53 mm to 9.5 mm	cum	915.67	915.67
M-151	Well Graded Material for Sub Base - Grading C 9.5 mm to 2.36 mm	cum	424.21	424.21
M-152	Well Graded Material for Sub Base - Grading D 2.36 mm below	cum	262.42	262.42
M-153	Well Graded Material for Sub Base - Grading D 26.5 mm to 9.5 mm	cum	886.00	886.00
M-154	Well Graded Material for Sub Base - Grading D 9.5 mm to 2.36 mm	cum	424.21	424.21
M-155	Well Graded Material for Sub Base - Grading D 2.36 mm below	cum	262.42	262.42
M-156	Well Graded Material for Sub Base - Grading III 4.75 mm to 2.36 mm	cum	262.42	262.42
M-157	Well Graded Material for Sub Base - Grading III 9.5 mm to 4.75 mm	cum	586.00	586.00
M-158	Wooden Sleepers (250 mm x 250 mm x 125 mm) (hire charges)	No.	5.00	5.00
BC-11				
M-158	[illegible]	litre	198.46	198.46
M-159	[illegible]	kg	72.00	72.00
M-159	[illegible] bunnizons binder(market rate)	t	43,000.00	43,000.00

BASIC RATES
(C) USAGE RATES OF PLANT & MACHINERY

Sr. No.	Description of		Output of Machine		Usage Rates in Rs.	
	Machine	Activity	Unit	Output	Unit	Rate
PM-001	Air Compressor 210 cfm	Supplying compressed air	cfm	210.00	per hour	440.00
PM-002	Batch mix HMP 40-60 TPH	BM, DBM, SDBC, PM	t/h	50.00	per hour	31,459.00
	Batch mix HMP 40-60 TPH @ 37.4 t/h Actual output	BM, DBM, SDBC, PM	t/h	37.40	per hour	31,459.00
PM-003	Batch type HMP 30/40 TPH	BM, DBM, SDBC, PM	t/h	35.00	per hour	31,459.00
PM-004	Bitumen boiler oil fired					
	200 litre	Heating of bitumen	litre / h	400.00	per hour	552.00
	1000 litre		litre / h	2000.00	per hour	552.00
PM-005	Bitumen emulsion pressure distributor	Applying bitumen tack coat	sqm/h	1750.00	per hour	1,350.00
PM-006	Concrete mixer 0.28/0.4 cum	Mixing of ingradients	cum/h	2.50	per hour	334.00
PM-007	Crane upto 3.5T	Lifting of materials			per hour	831.00
PM-008	Dozer D 50	Dozing cutting	cum/h	200.00	per hour	5,610.00
			cum/h	100.00		2,997.00
PM-009	Electric generator set, 125 KVA	Electricity generation	KVA	100.00	per hour	1,642.00
PM-010	Emulsion Sprayer with Tractor	Spraying of Emulsion			per hour	1,350.00
PM-011	Front end-loader 1 cum bucket capacity @ 45 cum/hour	Loading Aggregates	cum/h	45.00	per hour	1,419.00
		Loading Soil	cum/h	100.00		1,419.00
PM-012	Hydraulic broom with tractor	Surface cleaning	sqm/h	1250.00	per hour	794.00
PM-013	Hydraulic Excavator 0.9 cum	Excavation	cum/h	100.00	per hour	2,272.00
PM-014	Hydraulic self propelled chip spreader	Surface Dressing	sqm/h	1500.00	per hour	1,674.00
PM-015	Jack Hammer with tractor	Pavement breaking & rock drilling	cum/h	05. to 1	per hour	1,289.30
PM-016	Joint Cutting Machine with 2-3 blades	Cutting of Joints	h		per hour	342.00
PM-017	Mixall 6-10 t capacity	Mixing of bituminous materials	t/h	8.00	per hour	3,702.00
PM-018	Motor Grader	Scarifier & levelling	cum/h	200.00	per hour	2,982.00
	Tractor Mounted Grader			50.00		646.00
PM-019	Needle vibrator	Vibrating cement concrete mix	cum/h	3.50	per hour	386.00
PM-020	Paver finisher	Laying/spreading	t/h	75.00	per hour	2,141.00

FORM F8

Sr. No.	Description of Machine	Activity	Output of Machine Unit	Output	Usage Rates in Rs. Unit	Rate
PM-021	Plate compactor	Compaction	cum/h		per hour	396.00
PM-022	Plate vibrator	Compaction	cum/h		per hour	396.00
PM-023	Screed vibrator	Compaction	cum/h		per hour	102.64
PM-024	Smooth wheeled 80-100 kN tandem roller	Compaction of Sub-base/ Asphalt	cum/h	30.00	per hour	2,053.00
PM-025	Stone crusher (Integrated) of 200 TPH	Crushing of Spalls	t/h	200.00	per hour	13,721.00
PM-026	Three wheel 80-100 kN Static Roller	Compaction/ Rolling				1,593.00
		Earth:- Embankment or sub-grade	cum/h	80/70		1,593.00
		Sub-base G-I	cum/h	10.00		1,593.00
		Sub-base G-II/G-III	cum/h	8.00		1,593.00
		WMM	cum/h	16.00		1,593.00
		BUSG	cum/h	10.00	per hour	1,593.00
		BM 50/75 mm	cum/h	12.00		1,593.00
		Premix 20 mm	sqm/h	250.00		1,593.00
		Seal Coat	sqm/h	500.00		1,593.00
		Surface Dressing 1st Coat	sqm/h	400.00		1,593.00
		Surface Dressing 2ndCoat	sqm/h	500.00		1,593.00
PM-027	Tipper 5.5 cum/10 t	Carriage	cum/trip	5.50	per hour	1,426.00
PM-028	Tractor with Disc Harrows	Pulverisation of soil	cum/h	80.00	per hour	676.00
PM-029	Tractor with ripper @ 60 cum per hour	Ripping Pavements, uprooting trees	cum/h	60.00	per hour	697.00
PM-030	Tractor with trolley/with Grading equipment	Transportation of materials	t/trip	3 to 5	per hour	676.00
PM-031	Tractor with Rotavator	Scarifier	cum/h	25.00	per hour	693.00
PM-032	Truck 10 t capacity	Carriage	cum/trip	5.50	per hour	934.30
PM-033	Vibratory roller 80-100 kN	Compaction of soil WMM	cum/h	100.00	per hour	2,063.00
		Compaction of BM	cum/h	60.00		2,063.00
PM-034	Water tanker 6 kl capacity (Truck Mounted)	Carriage of water	litre / h	12000.00	per hour	752.00
PM-035	Wet mix plant (Pug Mill)	Wet Mix	cum/h	25.00	per hour	1,822.30
RCD						
P&M-043	Road marking machine	Road marking	Sqm/h	100.00	per hour	1,411.00

Analysis of Rates (FORMAT F8)

Sl. No.	SOD Sl. No.	MORTH Ref. No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
			Haulage BY TIPPER				
1	1.10	(i)	**Haulage excluding Loading & Unloading**				
			Haulage of materials by tipper excluding cost of loading, unloading and stacking				
			Unit = t.km				
			Taking output 10 t load and lead 10 km = 100 t.km				
			Case-I : Surfaced Road				
			Speed with load: 25 km per hour				
			Speed while returning empty: 35 km per hour				
		a)	**Machinery**				
			Tipper 10 t capacity				
			Haulage with load	hour	0.40	1426.00	570.40
			Empty return trip	hour	0.29	1426.00	413.54
		b)	Overheads @ 12 % on (a)				118.07
			Contractor's profit @ 10% on (a+b)				110.20
			Cost for 100 t-km = a+b				1212.21
			Rate per cum = (a+b) / 100				12.12
			Rate Per Km.	Cum			12.10
2	1.10	(ii)	**Haulage excluding Loading & Unloading**				
			Haulage of materials by tipper excluding cost of loading, unloading and stacking				
			Unit = t.km				
			Taking output 10 t load and lead 10 km = 100 t.km				
			Case-II: Unsurfaced Gravel Road.				
			Speed with load: 20 km/hour				
			Speed for empty return trip: 30 km/hour				
		a)	**Machinery**				
			Tipper 10 t capacity				
			Haulage with load	hour	0.50	1426.00	713.00
			Empty return trip	hour	0.33	1426.00	470.58
		b)	Overheads @ 12% on (a)				142.03
			Contractor's profit @ 10% on (a+b)				132.56
			Cost for 100 t-km = a+b				1458.17
			Rate per cum = (a+b) / 100				**14.58**
			Rate Per Km.	Cum			14.60
3	1.10	(iii)	**Haulage excluding Loading & Unloading**				
			Haulage of materials by tipper excluding cost of loading, unloading and stacking				
			Unit = t.km				
			Taking output 10 t load and lead 10 km = 100 t.km				
			Case-III : Katcha Track and Track in River Bed/Nallah Bed and Choe Bed.				
			Speed with load: 10 km per hour				
			Speed while returning empty: 15 km per hour				
		a)	**Machinery**				
			Tipper 10 t capacity				
			Haulage with load	hour	1.00	1426.00	1426.00
			Empty return trip	hour	0.67	1426.00	955.42
		b)	Overheads @ 12 % on (a)				285.77
		(c)	Contractor's profit @ 10% on (a+b)				266.72
			Cost for 100 t-km = a+b+c				2933.91
			Rate per cum = (a+b+c) / 100				**29.34**
			Rate Per Km.	Cum			29.30
			Haulage BY TRUCK				
4	1.10	(i)	**Haulage excluding Loading & Unloading**				
			Haulage of materials by tipper excluding cost of loading, unloading and stacking.				
			Unit = t.km				
			Taking output 10 t load and lead 10 km = 100 t.km				
			Case-I : Surfaced Road				

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in R
			Speed with load: 25 km per hour				
			Speed while returning empty: 35 km per hour				
		a)	**Machinery**				
			Truck 10 t capacity				
			Haulage with load	hour	0.40	934.30	373.72
			Empty return trip	hour	0.29	934.30	270.95
		b)	Overheads @ 12 % on (a)				77.36
		(c)	Contractor's profit @ 10% on (a+b)				72.20
			Cost for 100 t-km = a+b+c				794.23
			Rate per cum = (a+b+c) /100				7.94
			Rate Per Km.	Cum			7.94
5	1.10	(ii)	**Haulage excluding Loading & Unloading**				
			Haulage of materials by tipper excluding cost of loading, unloading and stacking.				
			Unit = t.km				
			Taking output 10 t load and lead 10 km = 100 t km				
			Case-II: Unsurfaced Gravel Road.				
			Speed with load: 20 km/hour				
			Speed for empty return trip: 30 km/hour				
		a)	**Machinery**				
			Truck 10 t capacity				
			Haulage with load	hour	0.50	934.30	467.15
			Empty return trip	hour	0.33	934.30	308.32
		b)	Overheads @12 % on (a)				93.06
		(c)	Contractor's profit @ 10% on (a+b)				86.85
			Cost for 100 t-km = a+b+c				955.38
			Rate per cum = (a+b+c) /100				9.55
			Rate Per Km.	Cum			9.55
6	1.10	(iii)	**Haulage excluding Loading & Unloading**				
			Haulage of materials by tipper excluding cost of loading unloading and stacking.				
			Unit = t.km				
			Taking output 10 t load and lead 10 km = 100 t km				
			Case-III : Katcha Track and Track in River Bed/Nallah Bed and Choe Bed.				
			Speed with load: 10 km per hour				
			Speed while returning empty: 15 km per hour				
		a)	**Machinery**				
			Truck 10 t capacity				
			Haulage with load	hour	1.00	934.30	934.30
			Empty return trip	hour	0.67	934.30	625.98
		b)	Overheads @ 12 % on (a)				187.23
		(c)	Contractor's profit @ 10% on (a+b)				174.75
			Cost for 100 t-km = a+b+c				1922.27
			Rate per cum = (a+b+c) /100				19.22
			Rate Per Km.	Cum			19.22
7	1.1	RCD	Loading and Unloading of Stone Boulder/Stone aggregates/Sand/Kanker/Moorum				
			Placing tipper at loading point, loading with front end loader, dumping, turning for return trip, excluding time for haulage and				
			Unit = cum				
			Taking output = 5.5 cum				
			Time required for				
			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		**20 Min**		
			a) Machinery				
			Tipper 5.5 tonnes capacity	hour	0.330	1426.00	470.58
			Front end-loader 1 cum bucket capacity @ 25 cum/hour	hour	0.330	1419.00	468.27
			Overheads @ 12 % on (a)				112.66
			(c) Contractor's profit @ 10% on (a+b)				105.15
			Cost for 5.5 cum = a+b+c				1156.66
			Rate per cum = (a+b+c)/ 5.5				210.30
			Unloading will be by tipping.			*say*	*210.00*

Sl. No.	SDBSR No.	MORD Ref.No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
8	1.2		Loading and Unloading Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by Mechanical Means				
		i	Loading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by mechanical means including a lead upto 30 m Placing tipper at loading point, loading with front end loader excluding time for haulage and return trip.				
			Unit = cum				
			Taking output = 5.5 cum				
			Time required for	Min	1.000		
		i	Positioning of tipper at loading point	Min	7.330		
		ii	Loading by front end loader 1 cum bucket capacity @ 45 cum per hour	Min	2.000		
		iii	Waiting time, unforeseen contingencies, etc. *Total*	Min	10.330		
		a)	Machinery	hour	0.172	1426.00	245.27
			Tipper 10 t capacity	hour	0.122	1419.00	173.12
			Front end-loader 1 cum bucket capacity @ 45 cum per hour				50.21
		b)	Overheads @ 12 %				46.86
		C	Contractors Profit @ 10.0 %				515.46
			Cost for 5.5 cum = a+b+C				93.72
			Rate per cum = (a+b)/5.5				
			Unloading of Earth, Sand, Lime, Moorum, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Manure, Crushed Slag, Flyash, Stone for Masonry Work by mechanical means.				
			Unit = cum				
			Taking output = 5.5 cum				
			Placing tipper at unloading point excluding time for haulage and return trip				
			Time required for	Min	1.000		
		i	Positioning of tipper at loading point	Min	2.000		
		ii	Manoeuvering, reversing, dumping and turning for return	Min	2.000		
		iii	Waiting time, unforeseen contingencies, etc. *Total*	Min	5.000		
		a)	Machinery	hour	0.080	1426.00	114.08
			Tipper 10 t capacity				13.69
		b)	Overheads @ 12 % on (a)				12.78
		C	Contractors Profit @ 10.0 % on (b)				140.55
			Cost for 5.5 cum = a+b				25.55
			Rate per cum = (a+b)/5.5				*119.27*
			Total loading and unloading by mechanical means				
8	1.2	RCD	Loading and Unloading of Boulders by Manual Means				
			Unit = cum				
			Taking output = 5.5 cum				
			a) Labour				
			Mate	day	0.110	397.00	43.67
			Mazdoor for loading and unloading	day	0.750	373.00	279.75
			b) Machinery				
			Tipper 5.5 tonne capacity	hour	0.750	1426.00	1069.50
			Overheads @ 12% on (a+b)				167.15
			(d) Contractor's profit @ 10% on (a+b+c)				156.01
			Cost for5.5 cum = a+b+c+d				1716.08
			Rate per cum = (a+b+c+d)/5.5				312.01
			Unloading will be by tipping.			say	*312.00*
9	1.3	RCD	Loading and Unloading of Cement or Steel by Manual Means				
			Unit = tonne				
			Taking output = 10 tonnes				
			a) Labour				
			Mate	day	0.080	397.00	31.76
			Mazdoor for loading and unloading	day	2.000	373.00	746.00
			b) Machinery				
			Truck 10 tonne capacity	hour	2.000	934.30	1868.60
			Overheads @ 12 % on (a+b)				317.56
			(d) Contractor's profit @ 10% on (a+b+c)				296.39

Sr.No.	SDB & Ref No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount (Rs.)
							3260.32
			Cost for 10 tonnes = a+b+c+d				326.0
			Rate per tonnes = (a+b+c+d) / 10				326.00
10	1.1	(i)	Loading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by manual means including a lead upto 30 m				
			Unit = cum				
			Taking output = 5.5 cum				
		a)	**Labour**				
			Mate	day	0.02	397.00	7.94
			Mazdoor (Unskilled)	day	0.50	373.00	186.50
		b)	**Machinery**				
			Truck	hour	0.50	934.30	467.15
		c)	Overheads @ 12% on (a+b)				79.39
		d)	Contractor's profit @ 10% on (a+b+c)				74.10
			Cost for 5.5 cum = a+b+c+d				815.08
			Rate per cum = (a+b+c+d) /5.5				148.20
			Total Cost	Cum			148.2
11		(ii)	Loading of Earth, Sand, Moorum, Manure, Flyash by manual means including a lead upto 30 m.				
			Unit = cum				
			Taking output = 5.5 cum				
		a)	**Labour**				
			Mate	day	0.01	397.00	3.97
			Mazdoor (Unskilled)	day	0.25	373.00	93.25
		b)	**Machinery**				
			Truck	hour	0.25	934.30	233.58
		c)	Overheads @ 12 % on (a+b)				39.70
		d)	Contractor's profit @ 10% on (a+b+c)				37.05
			Cost for 5.5 cum = a+b+c+d				407.54
			Rate per cum = (a+b+c+d) /5.5				74.10
			Total Cost	Cum			74.1
12		(iii)	Unloading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by mechanical means including a lead upto 30 m				
			Unit = cum				
			Taking output = 5.5 cum				
		a)	**Labour**				
			Mate	day	0.01	397.00	3.97
			Mazdoor (Unskilled)	day	0.25	373.00	93.25
		b)	**Machinery**				
			Truck	hour	0.25	934.30	233.58
		c)	Overheads @ 12% on (a+b)				39.70
		d)	Contractor's profit @ 10% on (a+b+c)				37.05
			Cost for 5.5 cum = a+b+c+d				407.54
			Rate per cum = (a+b+c+d) /5.5				74.10
			Total Cost	Cum			74.1
			Total Loding & Unloading of Stone Aggregate	Cum	= 148.2 + 74.1 =		222.30
13		(iv)	Unloading of Earth, Sand, Moorum, Manure, Flyash by manual means including a lead upto 30 m.				
			Unit = cum				
			Taking output = 5.5 cum				
		a)	**Labour**				
			Mate	day	0.01	397.00	1.99
			Mazdoor (Unskilled)	day	0.13	373.00	46.63
		b)	**Machinery**				
			Truck	hour	0.166	934.30	155.09
		c)	Overheads @ 12 % on (a+b)				24.44
		d)	Contractor's profit @ 10% on (a+b+c)				22.81
			Cost for 5.5 cum = a+b+c+d				250.96
			Rate per cum = (a+b+c+d) /5.5				45.63
			Total Cost	Cum			45.6
			Total Loding & Unloading of Sand / Moorum	Cum	= 74.1 + 45.63 =		119.73
14	1.3		**Loading, Unloading and Stacking of Bricks by Manual Means**				
		(i)	Loading of Bricks by manual means including a lead upto 30 m				

Sl. No.	SDB Sl. No.	MORD Ref.No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
			Unit = 1000 Nos.				
			Taking output = 2000 Nos.				
		a)	**Labour**				
			Mate	day	0.01	397.00	3.97
			Mazdoor (Unskilled)	day	0.25	373.00	93.25
		b)	**Machinery**				
			Truck	hour	0.33	934.30	308.32
		c)	Overheads @ 12 % on (a+b)				48.66
		d)	Contractor's profit @ 10% on (a+b+c)				45.42
			Cost for 2000 Nos. = a+b+c+d				499.62
			Rate for 1000 bricks = (a+b+c+d)/2				**249.81**
			Total Cost	no.			249.81
15		(ii)	Unloading and Stacking of Bricks by manual means including a				
			Unit = 1000 Nos.				
			Taking output = 2000 Nos.				
		a)	**Labour**				
			Mate	day	0.01	397.00	3.97
			Mazdoor (Unskilled)	day	0.25	373.00	93.25
		b)	**Machinery**				
			Truck	hour	0.33	934.30	308.32
		c)	Overheads @ 12% on (a+b)				48.66
		d)	Contractor's profit @ 10% on (a+b+c)				45.42
			Cost for 2000 Nos. = a+b+c+d				499.62
			Rate for 1000 bricks = (a+b+c+d)/2				**249.81**
			Total Cost	no.			249.81
			Total Loding & Unloading of Brick Per 1000		***= 249.81 + 249.81 =***		***499.62***
16			**Loading and Unloading of Cement by Manual Means**				
		(i)	Loading of Cement by manual means including a lead upto 30 m				
			Unit = t				
			Taking output = 10 t				
		a)	**Labour**				
			Mate	day	0.06	397.00	23.82
			Mazdoor (Unskilled)	day	1.50	373.00	559.50
		b)	**Machinery**				
			Truck	hour	1.00	934.30	934.30
		c)	Overheads @ 12 % on (a+b)				182.11
		d)	Contractor's profit @ 10% on (a+b+c)				169.97
			Cost for 10 t = a+b+c+d				1869.71
			Rate per tonnes = (a+b+c+d)/10				**186.97**
			Total Cost including	t			186.97
17		(ii)	Unloading of Cement by manual means including a lead upto 30 m				
			Unit = t				
			Taking output = 10 t				
		a)	**Labour**				
			Mate	day	0.06	397.00	23.82
			Mazdoor (Unskilled)	day	1.50	373.00	559.50
		b)	**Machinery**				
			Truck	hour	1.00	934.30	934.30
		c)	Overheads @12 % on (a+b)				182.11
		d)	Contractor's profit @ 10% on (a+b+c)				169.97
			Cost for 10 t = a+b+c+d				1869.71
			Rate per tonnes = (a+b+c+d)/10				**186.97**
			Total Cost	t			186.97
			Total Loding & Unloading of Cement	***t***	***= 186.97 + 186.97 =***		***373.94***
18	1.5		**Loading and Unloading of Structural Steel and Steel Bars by manual means**				
		(i)	Loading of Structural Steel, Steel Bars by manual means including a lead upto 30 m				
			Unit = t				
			Taking output = 10 t				

S.No	MORTH Ref No	MORD Ref No	DESCRIPTION	Unit	Quantity	Rate	Amount in R
		a)	**Labour**				
			Mate	day	0.07	397.00	27.79
			Mazdoor (Unskilled)	day	1.80	373.00	671.40
		b)	**Machinery**				
			Truck	hour	1.00	934.30	934.30
		c)	Overheads @ 12% on (a+b)				196.02
		d)	Contractor's profit @ 10% on (a+b+c)				182.95
			Cost for 10 t = a+b+c+d				2012.46
			Rate per tonnes = (a+b+c+d)/10				**201.25**
			Total Cost	t			**201.2**
19		(ii)	Unloading of Structural Steel, Steel Bars by manual means including a lead upto 30 m				
			Unit = t				
			Taking output = 10 t				
		a)	**Labour**				
			Mate	day	0.07	397.00	27.79
			Mazdoor (Unskilled)	day	1.80	373.00	671.40
		b)	**Machinery**				
			Truck	hour	1.00	934.30	934.30
		c)	Overheads @ 12 % on (a+b)				196.02
		d)	Contractor's profit @ 10% on (a+b+c)				182.95
							2012.46
							201.25
			Total Cost	t			**201.2**
			Total Loding & Unloading of Steel	***t***	***= 201.25 + 201.25 =***		***402.50***
20	1.6		**Loading and Unloading of Bitumen Drums by Manual Means**				
		(i)	Loading of Bitumen Drums by manual means including a lead upto 30 m				
			Unit = t				
			Taking output = 10 t				
		a)	**Labour**				
			Mate	day	0.06	397.00	23.82
			Mazdoor (Unskilled)	day	1.60	373.00	596.80
		b)	**Machinery**				
			Truck	hour	1.25	934.30	1167.88
		c)	Overheads @ 12 % on (a+b)				214.82
		d)	Contractor's profit @ 10% on (a+b+c)				200.31
			Cost for 10 t = a+b+c+d				2203.43
			Rate per tonnes = (a+b+c+d)/10				**220.34**
			Total Cost	t			**220.3**
21		(ii)	Unloading of Bitumen Drums by Manual Means including a lead upto 30 m				
			Unit = t				
			Taking output = 10 t				
		a)	**Labour**				
			Mate	day	0.05	397.00	19.85
			Mazdoor (Unskilled)	day	1.20	373.00	447.60
		b)	**Machinery**				
			Truck	hour	1.25	934.30	1167.88
		c)	Overheads @ 12 % on (a+b)				196.24
		d)	Contractor's profit @ 10% on (a+b+c)				183.16
			Cost for 10 t = a+b+c+d				2014.72
			Rate per tonnes = (a+b+c+d)/10				**201.47**
		Note :	The rate is inclusive of the self weight of drum				
			Total Cost	t			201.47
			Total Loding & Unloading of Bitumen Drums	***t***	***= 220.34 + 201.47 =***		***421.82***
22	1.9		**Loading and Unloading of Hume Pipes**				
		(i)	Loading of RCC Hume pipes by mechanical means including a lead upto 30 m				
		A.	**1000 / 1200 mm dia Hume pipe**				
			Unit = per pipe				
			Taking output = 9 pipes				
		a)	**Labour**				
			Mate	day	0.02	397.00	7.94
			Mazdoor (Unskilled)	day	0.50	373.00	186.50

Sl. No	SDB Sl. No	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
		b)	**Machinery**				
			Truck	hour	0.33	934.30	308.32
			Crane	hour	0.33	831.00	274.23
		c)	Overheads @ 12 % on (a+b)				93.24
		d)	Contractor's profit @ 10% on (a+b+c)				87.02
			Cost for 9 pipes = a+b+c+d				957.25
			Rate per pipe = (a+b+c+d)/9				**106.36**
			Total Cost	per p			106.36
24		C.	**600/450 mm dia Hume pipe**				
			Unit = per pipe				
			Taking output = 21 pipe				
		a)	**Labour**				
			Mate	day	0.02	397.00	7.94
			Mazdoor (Unskilled)	day	0.50	373.00	186.50
		b)	**Machinery**				
			Truck	hour	0.33	934.30	308.32
			Crane	hour	0.33	831.00	274.23
		c)	Overheads @ 12 % on (a+b)				93.24
		d)	Contractor's profit @ 10% on (a+b+c)				87.02
			Cost for 21 pipes = a+b+c+d				957.25
			Rate per pipe = (a+b+c+d)/21				**45.58**
			Total Cost	per p			45.58
24		(ii)	Unloading of RCC Hume pipe by mechanical means including a lead upto 30 m				
		A.	**1000/1200 mm dia RCC Hume pipes**				
			Unit = per pipe				
			Taking output = 9 pipes				
		a)	**Labour**				
			Mate	day	0.02	397.00	7.94
			Mazdoor (Unskilled)	day	0.50	373.00	186.50
		b)	**Machinery**				
			Truck	hour	0.20	934.30	186.86
			Crane	hour	0.20	831.00	166.20
		c)	Overheads @ 12 % on (a+b)				65.70
		d)	Contractor's profit @ 10% on (a+b+c)				61.32
			Cost for 9 pipes = a+b+c+d				674.52
			Rate per pipe = (a+b+c+d)/9				**74.95**
			Total Cost	per p			74.95
			Total Loding & Unloading of RCC Hume Pipe	*per Pipe*	*= 106.36 + 74.95 =*		*181.31*
			Total Loding & Unloading of RCC Hume Pipe	*m*	*= 181.31 / 2.50 =*		*72.52*
24		C.	**600/450 mm dia Hume pipe**				
			Unit = per pipe				
			Taking output = 21 pipes				
		a)	**Labour**				
			Mate	day	0.02	397.00	7.94
			Mazdoor (Unskilled)	day	0.50	373.00	186.50
		b)	**Machinery**				
			Truck	hour	0.20	934.30	186.86
			Crane	hour	0.20	831.00	166.20
		c)	Overheads @ 12 % on (a+b)				65.70
		d)	Contractor's profit @ 10% on (a+b+c)				61.32
			Cost for 21 pipes = a+b+c+d				674.52
			Rate per pipe = (a+b+c+d)/21				32.12
			Total Cost	per p			32.12
			Total Loding & Unloading of RCC Hume Pipe	*per Pipe*	*= 45.58 + 32.12 =*		*77.70*
			Total Loding & Unloading of RCC Hume Pipe	*m*	*= 77.7 / 2.50 =*		*31.08*
1	1.16	100	**Setting Out Pillars**				
			Unit = 1 No.				
			Analysis of rates per pillar shall account for following :				
			Typical Benchmark 1 no. as per Dwg no. 200.1 of MORD Data Book (Page 1-18)				
			The rate analysis for a typical benchmark as per dwg.				
			1. Excavation	cum	0.325	410.66	133.46
			2. P.C.C. grade M 10	cum	0.100	7188.28	718.83
			3. Brick Masonry in CM 1:4	cum	0.475	7084.03	3364.91
			4. Plastering with CM 1:4 , 15 mm thick cement plaster on Brick work.	sqm	2.630	208.74	549.00

Sl.No	Sub No	MORD Item No	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
			Add 5 per cent cost of items No 1 to 4 for white washing.				248.5
			Sub Total	NO			5004.51
			A Total 1 Nos of Pillars required for 1 Km.	NO	1	5004.51	5,004.51
			Total Cost	NO			5,004.51
			Unit = 1 No				
			Analysis of rates per pillar shall account for following				
			Reference Pillar 1 no as per Dwg no 200.2				
			of MORD Data Book (Page 1 18)				
			The rate analysis for a typical benchmark as per dwg				78.85
			1. Excavation	cum	0.192	410.66	431.3
			2. P.C.C. grade M 10	cum	0.060	7188.28	1367.2
			3. Brick Masonry in CM 1:4	cum	0.194	7084.04	313.12
			4. Plastering with CM 1:4 , 15 mm thick cement plaster on Brick work	sqm	1.500	200.74	109.52
			Add 5 per cent cost of items No 1 to 4 for white washing.				2300.0
			Sub Total	NO			2,300.00
			B Total 1 Nos of reference pillars required for 1 Km.	NO	1	2300.00	2,300.0
			Total Cost	NO			
3	2.2 (1)	201	**Clearing and Grubbing Road Land**				
			Clearing and Grubbing Road Land including uprooting wild vegetation , grass,bushes,shurbs,saplings and trees of girth upto 300mm, removal of stumps of such trees cut earlier and unserviceable materials & stacking of serviceable materials to be used as sanctioned upto a lead of 1000m including removal and disposal of top organic soil not exceeding 150mm in thickness as per technical specification(clause 201.1)				
			By Manual Means				
		(A)	In area of non theme jungle				
		a)	Labour				
			Mate	day	6.00	397.00	2,382.00
			Mazdoor (Unskilled)	day	150.00	373.00	55,950.0
		b)	Machinery				
			Dozer with trolley	hour	1.00	676.00	676.0
		c)	Overheads @ 12 % on (a+b)				7080.96
		d)	Contractor's profit @ 10% on (a+b+c)				6608.96
			Rate per hectare = a+b+c+d=				72,697.86
			Total Cost	Ha.			72,697.8
			EARTHWORK				
8	3.3	301.5	***Construction of embankment with material obtained from road way cutting***				
			Construction of embankment with approved materials deposited at site and obtained from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of Tables 300.1 and 300.2 as per Technical Specification Clause 301.5				
			Unit = cum				
			Taking output = 100 cum				
		a)	Labour				
			Mate	day	0.02	397.00	7.9
			Mazdoor (Unskilled)	day	0.50	373.00	186.50
		b)	Machinery				
			Dozer D-50 for spreading @ 100 cum per hour	hour	0.50	2997.00	0.00
				hour	0.50	646.00	323.0
			Tractor mounted grader arrangement for grading @ 100 cum per hour	hour	2.00	752.00	1,504.00
			Water tanker 6 Kl capacity	hour	1.25	1,593.00	1,991.2
			Three wheel 150-100 kN Static Roller				
		c)	Material	Kl	12.00	56.20	674.4
			Water				562.45
		d)	Overheads @12% on (a+b+c)				524.95
		e)	Contractor's profit @ 10% on (a+b+c+d)				5,774.49
			Rate for 100 cum = a+b+c+d+e				57.7
			Rate per cum = (a+b+c+d+e)/100=				
			Total Cost	CUM		A	57.74
9	3.5	(ii)	**Excavation in Soil with Dozer with lead upto 100 m**				
			Excavation for roadway in soil by mechanical means including cutting and pushing the earth to site of embankment upto a distance of 100 m, including trimming bottom and side slopes in accordance with requirements of lines, grades and cross sections.				
			Unit = cum				
			Taking output = 180 cum				
		a)	**Labour**				
			Mate	day	0.08	397.00	31.76
			Mazdoor (Unskilled)	day	2.00	373.00	746.00
		b)	**Machinery**				
			Dozer D-50 @ 50 cum per hour (cutting with pushing)	hour	3.60	5,610.00	20,196.00
		c)	Overheads @ 12 % on (a+b)				2516.8
		d)	Contractor's profit @ 10% on (a+b+c)				2349.06

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
			Cost for 360 cum = a+b+c+d				25,839.67
			Rate per cum = (a+b+c+d)/180				**143.55**
			Compensation for earth	cum	1.00	35.01	**35.01**
			Total Cost	CUM		B	**178.56**
						Total Cost (A+B)	236.31
10	3.5	(iii)	**Excavation in Soil using Hydraulic Excavator and Tippers with disposal upto 1000 m**				
			Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross-sections, and transporting to the embankment location with a lift upto 1.5 m and lead upto 1000 m as per Technical Specification Clause 302.3				
			Unit = cum				
			Taking output = 360 cum				
		a)	**Labour**				
			Mate	day	0.08	397.00	31.76
			Mazdoor (Unskilled)	day	2.00	373.00	746.00
		b)	**Machinery**				
			Hydraulic excavator 0.9 cum bucket capacity @ 100 cum per hour	hour	3.60	2,272.00	8,179.20
			Tipper 5.5 cum capacity, 4 trips per hour	hour	15.00	1,426.00	21,390.00
		c)	Overheads @ 12 % on (a+b)				3641.64
		d)	Contractor's profit @ 10% on (a+b+c)				3398.86
			Cost for 360 cum = a+b+c+d				37,387.45
			Rate per cum = (a+b+c+d)/360				**103.85**
			Total Cost	CUM			**103.85**
11	3.4	301.5	**Construction of Embankment with Material Obtained from Borrow Pits**				
		(A)	Construction of embankment with approved material obtained from borrow pits with a lift upto 1.5 m, transporting to site, spreading, grading to required slope and compacting to meet requirement of Tables 300.1 and 300.2 with a ***lead upto 1000 m*** as per Technical Specification Clause 301.5				
			Unit = cum				
			Taking output = 100 cum				
		a)	Labour				
			Mate	day	0.04	397.00	15.88
			Mazdoor (Unskilled)	day	1.00	373.00	373.00
		b)	Machinery				
			Hydraulic Excavator 0.9 cum bucket capacity @ 60 cum per hour	hour	1.67	2272.00	3,794.24
			Tipper 5.5 cum with 10 t capacity	hour	4.50	1,426.00	6,417.00
			Add 10 % of the cost of carriage by tipper				641.70
			Dozer D-50 for spreading @ 100 cum per hour	hour	0.50	2,997.00	1,498.50
			Tractar mounted grader arrangement @ 200 cum per hour	hour	1.00	646.00	646.00
			Water tanker 6 kl capacity	hour	2.00	752.00	1,504.00
			Three wheel 80-100 kN Static Roller	hour	1.25	1,593.00	1,991.25
		c)	Material				
			Water	kl	12.00	56.20	674.40
			Compensation for earth taken from private land	cum	100.00	35.01	3,501.00
		d)	Overheads @12 % on (a+b+c)				2526.84
		e)	Contractor's profit @ 10% on (a+b+c+d)				2358.38
			Cost for 100 cum = a+b+c+d+e				25,942.19
			Rate per cum = (a+b+c+d+e)/100=				259.42
			Total Cost	CUM			**259.42**
13	3.14	303.1	**Construction of Subgrade and Earthen Shoulders**				
			Construction of subgrade and earthen shoulders with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table 300.2 with lead upto 1000 m as per Technical Specification Clause 303.1.				
			Unit = cum				
			Taking output = 100 cum				
		a)	**Labour**				
			Mate	day	0.04	397.00	15.88
			Mazdoor (Unskilled)	day	1.00	373.00	373.00
		b)	**Machinery**				
			Hydraulic excavator 0.9 cum bucket capacity @ 100 cum per hour	hour	1.67	2272.00	3,794.24
			Tipper 5.5 cum capacity, 4 trips per hour	hour	4.50	1426.00	6,417.00
			Add 10 % of the cost of carriage to cover loading & unloading	cum			641.70
			Dozer D-50 for spreading @ 100 cum per hour	hour	0.50	2997.00	1,498.50
			Tractar mounted grader arrangement for grading @ 100 cum per hour	hour	1.00	646.00	646.00
			Water tanker with 6 kl capacity	hour	2.00	752.00	1,504.00
			Three wheel 80-100 kN Static Roller	hour	1.43	1,593.00	2,277.99
		c)	**Material**				
			Water	kl	12.00	56.20	674.40
			Compensation for earth taken from private land	cum	100.00	35.01	3,501.00

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
		d)	Overheads @12 % on (a+b+c)				2561.7
		e)	Contractor's profit @ 10% on (a+b+c+d)				23905.0
			Cost for 100 cum = a+b+c+d+e				26295.9
			Rate per cum = (a+b+c+d+e)/100				262.9
			Total Cost	sqm			262.9
			PAVEMENT CRUST LAYERS				
14	4.1	401	**Granular Sub-base with Well Graded Material (Table 400.1)**				
		(A)	**By Mix in Place Method**				
			Construction of granular sub-base by providing well graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401				
			For Grading I Material				
			Unit = cum				
			Taking output = 300 cum				
		a)	**Labour**				
			Mate	day	0.48	397.00	190.56
			Mazdoor (Skilled)	day	2.00	472.00	944.00
			Mazdoor (Unskilled)	day	10.00	373.00	3,730.00
		b)	**Machinery**				
			Tractor Mounted Grader 110 HP @ 25 cum per hour	hour	12.00	646.00	7,752.00
			Three wheel 80-100 kN Static Roller	hour	30.00	1,593.00	47790
			Tractor with Rotavator 25 cum per hour	hour	12.00	693.00	8,316.0
			Water tanker 6 kl capacity	hour	5.00	752.00	3,760.00
		c)	**Material**				
			Coarse graded granular sub-base material as per Table 400.2				
			53 mm to 9.5 mm @ 50 per cent	cum	180.00	915.67	164,820.6
			9.5 mm to 2.36 mm @ 20 per cent	cum	72.00	424.21	30,543.12
			2.36 mm below @ 30 per cent (Coarse Sand Screening)	cum	108.00	262.42	28,341.3
			Water	kl	30.00	56.20	1,686.00
		d)	Overheads @12 % on (a+b+c)				35744.8
		e)	Contractor's profit @ 10% on (a+b+c+d)				33361.85
			Cost for 300 cum = a+b+c+d+e				366,980.3
			Rate per cum = (a+b+c+d+e)/300				1,223.27
			Add for Carriage Cost				
			53 mm to 9.5 mm @ 50 per cent		0.60	1992.12	1195.272
			9.5 mm to 2.36 mm @ 20 per cent		0.24	1992.12	478.1088
			2.36 mm below @ 30 per cent (Coarse Sand Screening)		0.36	528.24	190.1664
			Total Cost per Cum				3086.8
			Total Cost	CUM			3,086.81
15	4.7 (3-A)	405	**Water Bound Macadam with Stone Screening Type "B" Gr- III**				
			WBM Grading 3				
			Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with smooth wheel roller 80-100 kN in stages to proper grade and camber, applying and brooming stone screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 3 as per Technical Specification Clause 405.				
		(A)	**By Mechanical Means**				
			Unit = cum				
			Taking output = 360 cum				
		a)	**Labour**				
			Mate	day	0.68	397.00	269.96
			Mazdoor (Skilled)	day	2.00	472.00	944.00
			Mazdoor (Unskilled)	day	15.00	373.00	5595.00
		b)	**Machinery**				
			Tractor Mounted grader for grading @ 25 cum per hour	hour	14.40	646.00	9302.40
			Three wheel 80-100 kN static roller @ 8 cum per hour	hour	45.00	1593.00	71685.00
			Water tanker 6 kl capacity	hour	24.00	752.00	18048.00
		c)	**Material (Refer Tables 400.7, 8, 9 and 10)**				
			Aggregate				
			Grading 3 53 mm to 22.4 mm @ 0.91 cum per 10 sqm for compacted thickness of 75 mm	cum	435.60	1080.50	470665.80
			Stone Screening				
			Type B 11.2 mm for Grading 3 @ 0.18 cum per 10 sqm	cum	86.40	424.21	36651.74
			Water	kl	144	56.20	8092.80
		d)	Overheads @ 12 % on (a+b+c)				74550.56
		e)	Contractor's profit @ 10% on (a+b+c+d)				69580.53
			Cost for 360 cum = a+b+c+d+e				765385.80
			Rate per cum = (a+b+c+d+e)/360				2126.07
		f)	***CARRIAGE***				
			Stone material Grading 3 53 mm to 22.4 mm	Cum	1.21	1992.12	2410.47

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
			Stone Screening	Cum	0.24	1864.83	447.56
			Rate per cum with carriage				4984.09
			Total Cost	cum			4,984.09
			BITUMINOUS ITEMS				
16	5.1 (I)	502	**Prime Coat (Low Porosity)**				
			Providing and applying primer coat with bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.70-1.0 kg/sqm using mechanical means as per Technical Specification Clause 502				
			Unit = sqm				
			Taking output = 1750 sqm				
		a)	**Labour**				
			Mate	day	0.04	397.00	15.88
			Mazdoor (Unskilled)	day	1.00	373.00	373.00
		b)	**Machinery**				
			Hydraulic broom @ 1250 sqm per hour	hour	1.40	794.00	1,111.60
			Air compressor 210 cfm	hour	1.40	440.00	616.00
			Emulsion Sprayer @ 1750 sqm per hour	hour	1.00	1,350.00	1,350.00
			Water tanker 6 kl capacity 1 trip per hour	hour	0.50	752.00	376.00
		c)	**Material**				
			Bitumen emulsion (SS-1) @ 0.85 kg per sqm	t	1.48	50,361.50	74,535.02
			Water	kl	3.00	56.20	168.60
		d)	Overheads @12 % on (a+b+c)				9425.53
		e)	Contractor's profit @ 10% on (a+b+c+d)				8797.16
			Cost of 1750 sqm = a+b+c+d+e				96768.80
			Rate per sqm = (a+b+c+d+e)/1750				55.30
		f)	***Carriage Cost***				
			Bitumen Emulsion	ton	0.00085	1771.61	1.50
			Rate per sqm with carriage				56.79
			Total Cost	sqm			56.79
17	5.2 (I)	503	**Tack Coat**				
			Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.25 to 0.3 kg per sqm on the prepared bituminous surface cleaned with Hydraulic broom as per Technical Specification Clause 503				
			Unit = sqm				
			Taking output = 1750 sqm				
		a)	Labour				
			Mate	day	0.04	397.00	15.88
			Mazdoor (Unskilled)	day	1.00	373.00	373.00
		b)	Machinery				
			Hydraulic broom @ 1250 sqm per hour	hour	1.40	794.00	1,111.60
			Air compressor 210 cfm	hour	1.40	440.00	616.00
			Emulsion Sprayer @1750 sqm per hour	hour	1.00	1,350.00	1,350.00
		c)	Material				
			Bitumen emulsion (RS-1) @ 0.275 kg per sqm	t	0.48	48,921.50	23,482.32
		d)	Overheads @12 % on (a+b+c)				3233.86
		e)	Contractor's profit @ 10% on (a+b+c+d)				3018.27
			Cost of 1750 sqm = a+b+c+d+e				33200.92
			Rate per sqm = (a+b+c+d+e)/1750				18.97
			Carriage Cost				
			Bitumen Emulsion	ton	0.00027	1771.61	0.49
			Rate per sqm with carriage				19.46
			Total Cost	sqm			19.46
19	5.9 (II)	508	**Premix Carpet**				
			Providing, laying and rolling of open-graded premix carpet of 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates either using penetration grade bitumen or emulsion to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 80-100 kN static roller capacity, finished to required level and grades to be followed by seal coat of either Type A or Type B or Type C as per Technical Specification Clause 508.				
			Case - II By Mechanical Means				
		(I)	**Bitumen (S-90)**				
			Unit = sqm				
			Taking output = 4000 sqm (80 cum)				
		a)	**Labour**				
			Mate	day	0.52	397.00	206.44
			Mazdoor (Unskilled)	day	10.00	373.00	3,730.00
			Mazdoor (Skilled)	day	3.00	472.00	1,416.00
		b)	**Machinery**				
			HMP 30/40 t per hour	hour	6.00	31,459.00	188,754.00
			Electric generator set 125 KVA	hour	6.00	1,642.00	9,852.00
			Front end loader 1 cum bucket capacity	hour	6.00	1,419.00	8,514.00
			Tipper 5.5 10 t capacity	hour	3.64	1,426.00	5,190.64
			Paver finisher	hour	6.00	2,141.00	12,846.00
			Three wheel 80-100 kN static roller	hour	16.00	1,593.00	25,488.00

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
		c)	**Material**				
			Bitumen (S-90) @ 14.60 kg per 10 sqm	t	5.84	50,930.50	292,434.12
			Crushed stone chipping, 13.2 mm to 5.6 mm @ 0.27 cum per 10 sqm	cum	108.00	697.55	75,335.4
		d)	Overheads @12 % on (a+b+c)				75,451.90
		e)	Contractor's profit @ 10% on (a+b+c+d)				70,421.6
			Cost of 4000 sqm = a+b+c+d+e				774640.45
			Rate per sqm = (a+b+c+d+e)/4000				193.6
			Carriage Cost				
			Bitumen (S-90)	ton	0.00146	1771.61	2.5
			Stone chips	cum	0.02700	1864.83	50.35
			Rate per sqm with carriage				246.6
			Total Cost including 1 % LABOUR CESS	*sqm*			**249.06**
20	5.12	510	**Seal Coat**				
			Providing and laying seal coat sealing the voids in a bituminous surface laid to the specified levels, grade and cross fall using Type B, as per Technical Specification Clause 510				
		A.	**By Manual Means**				
			Case - 1 : Type B				
		(1)	**Bitumen (S-90)**				
			Unit = sqm				
			Taking output = 1250 sqm				
		a)	**Labour**				
			Mate	day	0.85	397.00	337.45
			Mazdoor (Unskilled)	day	15.00	373.00	5595.00
			Mazdoor (Semi-Skilled)	day	2.00	388.00	776.00
		b)	**Machinery**				
			Mixal 6/10 t capacity	hour	2.50	3702.00	9255.00
			Bitumen boiler oil fired, capacity 1000 litre fitted with spray set	hour	2.50	552.00	1380.00
			Three wheel 80-100 kN static roller	hour	2.50	1593.00	3982.50
		c)	**Material**				
			Bitumen (S-90) @ 6.80 kg per 10 sqm	t	0.85	50930.50	43290.93
			Crushed stone chipping of 6.7 mm size 100 per cent passing 11.2	cum	7.50	119.10	893.25
		d)	Overheads @ 12 % on (a+b+c)				7,861.2
		e)	Contractor's profit @ 10% on (a+b+c+d)				7,337.13
			Cost of 1250 sqm = a+b+c+d				80708.1
			Rate per sqm = (a+b+c+d+e)/1250				64.57
		f)	***Carriage Cost***				
			i) Bitumen	t	0.00068	1771.61	1.20
			ii) Crushed stone chipping	cum	0.00600	1864.83	11.19
			Rate per sqm = (a+b+c+d+e+f)/1250				**76.96**
			Total Cost including 1 % LABOUR CESS	**cum**			**77.73**
			CC PAVEMENT				
19	6.4	1500	**Cement Concrete Pavement**				
			Construction of un-reinforced, expansion and construction joint only, plain cement concrete pavement, thickness as per design over a prepared sub base, with 43 grade cement or any other type as per Clause 1501.2.2 M30 (Grade), coarse and fine aggregates conforming to IS:383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a concrete mixer of not less than 0.2 cum capacity and appropriate weigh batcher using approved mix design, laid in approved fixed side formwork (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the formwork as per drawing) spreading the concrete with shovels, rakes, compacted using needle, screed and plate vibrators and finished in continuous operation including provision of contraction and expansion, construction joints, applying debonding strips, primer, sealant, dowel bars, near approaches to bridge/culvert and construction joints, admixtures as approved, curing of concrete slabs for 14 days,using curing compound (where specified) and water finishing to lines and grade as per drawing and Technical				
			Specification Clause 1501				
			Unit = cum				
			Taking output = 75 cum (172.50 t)				
			(100 x 3.75 x 0.200)				
		a)	**Labour**				
			Mate	day	7.00	397.00	2,779.00
			Mason (1st class)	day	5.00	503.00	2,515.00
			Mason (2nd class)	day	5.00	449.00	2,245.00
			Mazdoor (Unskilled)	day	129.00	373.00	48,117.00
			Mazdoor (Skilled)	day	6.00	472.00	2,832.00
			Surveyor	day	2.00	454.00	908.00
			Mazdoor (Semi-Skilled)	day	6.00	388.00	2,328.00
			Bhisti	day	14.00	373.00	5,222.00
			Blacksmith for cutting of dowel bars including removal of burrs, fabrications & fixing of dowel bars.	day	1.00	449.00	0.00
		b)	**Machinery**				
			Concrete mixer 0.28 / 0.4 cum capacity (6 mixers) with weigh batcher and suitable capacity calibrated water tank	hour	36.00	334.00	12,024.00
			Needle vibrator	hour	9.00	386.00	3,474.00

Sl.No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
			Screed vibrator	hour	9.00	102.64	0.00
			Plate vibrator	hour	9.00	396.00	3,564.00
			Concrete joint cutting machine for initial & final cuts	hour	4.00	342.00	1,368.00
			Water tanker 6 kl capacity	hour	5.00	752.00	3,760.00
			Air Compressor (1 hour initial + 1 hour final)	hour	2.00	440.00	880.00
		c)	**Material**				
		(i)	Crushed stone coarse aggregates, grading will be as per Clause 1501.2.4.1 (Table 1500.1) of specifications @ 0.90 cum/cum of concrete	cum	67.50	886.00	59,805.00
		(ii)	Sand as per IS:383 and conforming to Clause 1500.2.4.2 @ 0.45 cum/cum of concrete	cum	33.75	494.00	16,672.50
		(iii)	Cement @ 350 kg/cum of concrete	t	26.25	5,854.80	153,688.50
		(iv)	Polythene sheet 125 micron	sqm	412.50	14.68	6,055.50
		(v)	Mild steel dowel bar 25 mm dia of grade S 240. 500 mm long 20 Nos. at culvert/bridge slab and at construction joint including 5 per cent wastage.				
			(4 x 20 x 0.500) + 5 per cent wastage = 42 m @ 2.80 kg per m = 117.6 kg.	kg	0.00	57.67	0.00
			Bitumen primer @ 200 ml per joint for 23 joints	t	0.005	50,361.50	251.81
			Bituminous sealant 800 ml per joint for 23 joints	litre	19.00	27.24	517.56
			Jute rope 12 mm dia including 5 per cent wastage	m	90.00	34.20	3,078.00
			Debonding strips 3.75 m (length) x 10 mm (width) x 5 mm (thick) cut-out of rubber filler board or similar material including 5 per cent wastage	m	90.00	45.00	4,050.00
			Polythene sheathing, covering 2/3rd dowel bars (20x23) and tight fit including 5 per cent wastage	No.	0.00	14.68	0.00
			Plasticizer 0.5 per cent by weight of cement	litre	122.00	214.86	26,212.92
			Curing compound (if used) @ 0.33 litre per sqm	litre	131.25	0.00	0.00
			Water for curing	kl	18.00	56.20	1,011.60
			Joint filler board 20 mm thick as per IS 1838 (4 x 3.75 x 0.200 = 3 sqm)	sqm	3.00	957.49	0.00
		d)	**Formwork @ 1% of (a+b+c)**				3633.59
		e)	Overheads @12% on (a+b+c+d)				44,039.16
		f)	Contractor's profit @ 10% on (a+b+c+d+e)				41103.21
			Rate per cum = (a+b+c+d+e+f)/75				6028.47
			Carriage Cost				
			Carriage stone aggregate	cum	0.90	1864.83	1678.35
			Carriage sand	cum	0.45	528.24	237.71
			carriage cement	ton	0.35	405.40	141.89
			carriage steel	kg	0.0000000	0.405	0.00
			carriage bitumen	ton	0.000067	1771.61	0.12
			Cost for 75 cum = a+b+c+d+e				8,086.53
			Rate per cum = (a+b+c+d+e)/75				8,086.53
			Total Cost	cum			8,086.53
20	4.18	412	**Brick Soling**				
			Laying brick soling layer on prepared sub-grade with brick on end edging according to lines, graded and cross-section shown on the drawing filling joints with sand and earth, spreading 25 mm thick layer of earth over brick soling, watering and rolling the same with three wheel road roller 80-100 kN as per Technical Specification Clause 412				
			Unit = sqm				
			Taking ouput = 150 sqm				
		(a)	**Labour**				
			Mate	day	0.52	397.00	206.44
			Mazdoor (Unskilled)	day	10.00	373.00	3730.00
			Mason 1st Class	day	3.00	503.00	1509.00
		(b)	**Machinery**				
			Three wheel 80-100 kN static roller	hour	1.00	1593.00	1593.00
			Water tanker	hour	1.00	752.00	752.00
		(c)	**Material**				
			Brick 1st Class	No.	8160.00	6.07	49523.04
			Brick 1st Class on edging	No.	1100.00	6.07	6675.90
			Fine Sand	cum	5.66	143.32	811.19
			Water	kl	6.00	56.20	337.20
		(d)	Overheads @ 12% on (a+b+c+d)				7,816.53
		e)	Contractor's profit @ 10% on (a+b+c+d)				7295.43
			Cost for 150 sqm = a+b+c+d+e				535.00
		f	***Carriage Cost***				
			Brick 1st Class	No.	61.73	0.80	49.31
			Fine Sand	cum	0.04	266.27	10.05
			Rate per sqm = (a+b+c+d+e+f)				**594.36**
			Total Cost	cum			594.36

Sl. No	SDB Sl. No	MORD Ref No	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
21	11.5	600 & 1200	Brick masonry work in cement mortar in foundation complete excluding pointing and plastering as per drawing and technical specifications Clauses 600, 1202 & 1203				
	(ii)		Unit = cum				
			Brick masonry in 1:4 cement mortar				
		a)	**Material**				
			Brick	Nos.	500.00	6.07	3034.50
			Cement mortar 1:4	cum	0.24	3833.65	920.08
			Rates as per sub-analysis				
		b)	**Labour**				
			Mate	day	0.09	397.00	35.73
			Mason (1st Class)	day	0.80	503.00	402.40
			Mazdoor (Unskilled)	day	1.60	373.00	596.80
			Bhisti	day	0.20	373.00	74.60
		c)	Overheads @ 12 % on (a+b)				607.69
		d)	Contractor's profit @ 10% on (a+b+c)				567.18
			Rate per cum = (a+b+c+d+e+f)				**6238.98**
			Total Cost	**cum**			**6,238.98**
			Sub-analysis				
			Cement mortar 1:4 (1 cement : 4 sand)				
			Unit = cum				
		a)	**Material**				
			Cement	t	0.38	5,854.80	2,224.82
			Sand	cum	1.05	494.00	518.70
		b)	**Labour**				
			Mate	day	0.04	397.00	15.88
			Mazdoor (Unskilled)	day	0.90	373.00	335.70
			Bhisti	day	0.08	373.00	29.84
			CARRIAGE				
			Cement	t	0.38	405.40	154.05
			Sand	cum	1.05	528.24	554.65
			Total material and labour = (a+b)				**3833.65**
22	10.1	1700	**Printing New Letters and Figures of any Shade**				
			Printing new letter and figures of any shade with synthetic enamel paint black or any other approved colour to give an even shade as per drawings and Technical Specification Clause 1701				
		ii)	**English and Roman**				
			Hyphens, commas and the like not to be measured and paid for. Detail for 100 letters of				
			Unit = per cm height per letter				
		a)	**Labour**				
			Mate	day	0.07	397.00	27.79
			Painter Ist class	day	1.25	476.00	595.00
			Mazdoor (Unskilled)	day	0.50	373.00	186.50
		b)	**Material**				
			Paint	litre	0.50	246.65	123.33
		c)	Overheads @ 12 % on (a+b)				**111.91**
		d)	**Contractor's profit @ 10 % on (a+b+c)**				**101.67**
			Cost for 1600 cm = a+b+c+d				1,146.20
			Rate per cm height per letter= (a+b+c+d)/1600				0.72
23	10.10	1700	**Kilometre stone**				
			Reinforced cement concrete M15 grade kilometre stone/local stone of standard design as per IRC 8 fixing in position including painting and printing, etc as per drawing and Technical Specification Clause 1703				
		i)	**5th KILOMETRE STONE (precast)**				
			Unit = each				
			Taking output = 6 Nos.				
		a)	M-15 grade of concrete				
			As per item No.12.5 of Chapter 12	cum	2.35	6,861.10	16,123.59
		b)	Steel reinforcement @ 5 kg per sqm				
			As per item No.12.6 of Chapter 12	kg	22.08	85.51	1,888.06
		c)	Excavation in soil for foundation				
			As per item No.11.1 of Chapter 11	cum	1.68	410.66	689.9[illegible]
		d)	Painting two coats on concrete surface				
			As per item No.10.5 of Chapter 10	sqm	9.85	67.50	664.8[illegible]
		e)	lettering on km post (average 30 letters of 10 cm height each)				
			As per item No.10.1 of Chapter 10	per cm high per litre	1,800.00	0.72	1,289.48
			Transportation and fixing				
		f)	**Labour**				
			Mate	day	0.26	397.00	103.22
			Mason (1st Class)	day	0.60	503.00	301.80
			Mazdoor (Unskilled)	day	6.00	373.00	2,238.00

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
			g) **Machinery**				
			50 HP Tractor with trolley	hour	6.00	676.00	4,056.00
			h) Overheads @ 12 % on (f+g)				803.88
			i) Contractor's profit @ 10% on (f+g+h)				750.29
			Cost for 6 Nos. 5th km stone = a+b+c+d+e+f+g+h+i				28,909.10
			Rate for each 5th km stone = (a+b+c+d+e+f+g+h+i)/6	no.			**4,818.18**
			ii) **KM STONE**				
			iii) **Ordinary Kilometer Stone (Precast)**				
			Unit = each				
			Taking output = 14 Nos				
			a) M15 grade of concrete	cum	3.77	6,861.10	25,866.35
			As per item No.12.5 of Chapter 12				
			b) Steel reinforcement @ 5 kg per sqm	kg	26.32	85.51	2,250.62
			As per item No.12.6 of Chapter 12				
			c) Excavation in soil for foundation	cum	2.77	410.66	1,137.53
			As per item No.11.1 of Chapter 11				
			d) Painting two coats on concrete surface	sqm	11.41	67.50	770.18
			As per item No.10.5 of Chapter 10				
			e) lettering on km post (average 12 letters of 10 cm height each)	per cm high per letter	1,680.00	0.72	1,203.51
			As per item No.10.1 of Chapter 10				
			Transportation and fixing				
			f) **Labour**	day	0.32	397.00	127.04
			Mate	day	1.00	503.00	503.00
			Mason (1st Class)	day	7.00	373.00	2611.00
			Mazdoor (Unskilled)				
			g) **Machinery**	hour	6.00	676.00	4056.00
			50 HP Tractor with trolley				
							875.64
			h) Overheads @12 % on (f+g)				817.27
			i) Contractor's profit @ 10% on (f+g+h)				4021.14
			Cost for 14 Nos. ordinary km stone = (a+b+c+d+e+f+g+h+i)				2872.72
			Rate for each ordinary km stone = (a+b+c+d+e+f+g+h+i)/14				
			Rate for each ordinary km stone = (a+b+c+d+e+f+g+h+i)/14				**2872.72**
			(iii) 200 m STONE				
			iii) **200 m stone (precast)**				
			Unit = each				
			Taking output = 33 Nos				
			a) M15 grade of concrete	cum	1.58	6,861.10	10,840.54
			As per item No.12.5 of Chapter 12				
			b) Steel reinforcement @5 kg per sqm	kg	66.00	85.51	5,643.66
			As per item No.12.6 of Chapter 12				
			c) Excavation in soil for foundation	cum	1.39	410.66	570.82
			As per item No.11.1 of Chapter 11				
			d) Painting two coats on concrete surface	sqm	1.83	67.50	123.23
			As per item No.10.5 of Chapter 10				
			e) lettering on km post (average 1 letter of 10 cm height each)	per cm per letter	330.00	0.72	236.40
			As per item No.10.1 of Chapter 10				
			Transportation and fixing				
			f) **Labour**	day	0.34	397.00	134.98
			Mate	day	1.50	503.00	754.50
			Mason (1st Class)	day	7.00	373.00	2611.00
			Mazdoor (Unskilled)				
			g) **Machinery**	hour	6.00	676.00	4,056.00
			50 HP Tractor with trolley				
							906.78
			h) Overheads @12 % on (f+g)				846.33
			i) Contractor's profit @ 10% on (f+g+h)				27,024.23
			Cost for 33 Nos. 200 m stone = (a+b+c+d+e+f+g+h+i)				818.92
			Rate for each 200 m stone = (a+b+c+d+e+f+g+h+i)/33				818.92
			Rate for each 200 m stone = (a+b+c+d+e+f+g+h+i)/33				
24	10.2 (A)	1700.3, 800	**Retro-reflectorised Traffic Signs**				
			Providing and fixing of retro-reflectorised cautionary, mandatory and informatory sign as per IRC 67 made of encapsulated lens type reflective sheeting vide Clause 1701.2.3 fixed over aluminium sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per drawings and Technical Specification Clause 801				
			Unit = Each				
			Taking output = one traffic sign				

Sl.No.	SDR Sl. No.	MORD Ref.No.	DESCRIPTION	Unit	Quantity	Rate	Amount In Rs
		(ii)	Cement Concrete M-15 grade As per Item No. 11.4 of Chapter 11	cum	0.126	6,861.10	864.50
		(iii)	Painting on M.S. tube post with primer and two coat of epoxy paint as per specifications As per item No.10.7 of Chapter 10	sqm	0.59	163.30	96.35
		a)	***Labour (For fixing at site)***				
			Mate	day	0.01	397.00	3.97
			Mazdoor (Unskilled)	day	0.25	373.00	93.25
		b)	***Materials***				
		i)	Support of MS sheet tube 47 mm x 47 mm of 12 SWG sheet 3050 mm long	kg	12.40	38.65	479.25
		ii)	Angle iron 50 x 50 x 6 mm for lugs including 5% wastage	kg	1.06	28.91	30.64
		iii)	2 mm thick MS sheet strengthened by 25 mm x 5 mm MS flat iron & painted with stove enameled paint including lettering, signs, message border with reflective tape of engineering grade of required shade and colour as per Technical Specifications	sqm	0.90	739.56	665.60
			Add 1% cost of MS sheet angle iron towards the cost of fabrications, drilling, holes, nuts, bolts, etc				35.26
		c)	***Machinery***				
			Tractor with Trolley	hour	0.08	676.00	54.08
		d)	Overheads @ 12 % on (a+b+c)				163.45
		e)	Contractor's profit @ 10% on (a+b+c+d)				152.55
			Cost for 0.9 sqm = (i+ii+iii+a+b+c+d+e)				2,690.64
			Rate per sqm = (i+ii+iii+a+b+c+d+e) / 0.9				2,989.60
			Total Cost	**SQM**			**2989.60**
27	10.16	1700	**Providing and Fixing 'Logo' of MMGSY Project**				
			Providing and fixing of typical MMGSY information sign board with signs as per MORD specifications and drawing. Three MS Plates of 1.6 mm thick, top and middle plate dulx welded with MS flat iron 25mm x 5m size on back on edges. The lower plate will be welded with MS angle iron frame of 25mm x 25mm x 5mm. The angle iron frame of the lower most plate and flat iron frame of middle plate will be welded to two nos. 27 mm x 52 mm of 12 SWG, chequered plates duly embedded in cement concrete M-15 grade blocks of 450mm x 450mm x 600mm (600mm below ground level). The top most diamond plate will be welded to middle plate by 47mm x 47mm of 12 SWG steel plate tube. All MS [illegible] shall be stove enameled on both sides. Lettering and printing arrows, border etc will be painted with ready mixed synthetic enamel paint of superior quality in required shade and colour. All sections of framed posts and steel tube will be painted with primer and two coats of epoxy paint as per drawing Clause 1701 and Annexure 1700 !				
			Unit = Each Taking out put = one typical board				
			Excavation for foundations As per item No. 11.1 of Chapter 11	cum	0.252	110.660	103.49
			Cement Concrete M15 grade As per item No. 11.4 of Chapter 11	cum	0.252	6,861.100	1,729.00
			Painting on MS Steel tubes with primer and two coats of epoxy paint 1x240x30 = 1.24 1x1.10x180 = 0.21 As per item No. 10.7 of Chapter 10	sqm	1.89	163.30	293.34
			Printing new letters and figures of any shade with synthetic enamel paint black or any other approved colour to give an even shade. Logo Border 60x4x5 = 1200 per cm height per letter Figure 60x10 = 600 per cm height per letter Middle plate words 28x5 = 140 per cm height per letter Bottom plate border 150x2x5 = 1500 per cm height per letter Bottom plate border 50x2x5 = 500 per cm height per letter Words 161x2.5 = 252.5 Words 86x3 = 240.00 Total=4532.5 per cm height per letter As per item No 10.1 of Chapter 10	per cm height per letter	4532.50	0.72	3,216.98
		a)	Labour (for fixing at site)				
			Mate	day	0.03	397.00	11.91
			Mazdoor (Unskilled)	day	0.75	373.00	279.75
		b)	**Material**				
			2 nos. MS tubes 75mm x 75mm of 12 SWG sheet 2650 mm long	kg	63.15	38.65	2,440.68
			1 No. MS tube 47mm x 47mm of 12 SWG 1100 mm long	kg	4.47	38.65	172.76
			Angle iron 50mm x 50mm x 5 mm for lugs	kg	2.12	28.91	61.28
			1.6 mm thick MS sheet strengthened by 25mm x 5 MS flat iron on logo and middle plate angle iron 25mm x 25mm x 5mm on bottom plate painting with stove enameled paint on both sides as per MORD specifications	sqm	1.44	739.56	1,064.96
			Add 1% cost of MS tube and angle iron towards the cost of fabrications, drilling holes, nuts, bolts, etc				112.19
		c)	**Machinery**				
			Tractor with trolley	hour	0.24	676.00	162.24

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
		d)	Overheads @12 % on (a+b+c)				516.6
		e)	Contractor's profit @ 10% on (a+b+c+d)				482.25
			COST OF ONE BOARD=				10,678.1
			Total Cost	Nos.			10678.12
1	8.23	810	Metal Beam Crash Barrier				
		A	Type - A, "W" : Metal Beam Crash Barrier				
		(RCD)	Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS 1367 and IS 1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810				
			Unit = Running metre				
			Taking output = 4.5 metre length				
		a)	Labour				
			Mate	day	0.06	397.00	23.82
			Blacksmith	day	0.50	449.00	224.50
			Mazdoor	day	1.00	472.00	472.00
		b)	Machinery				
			Tractor-trolley	hour	0.10	676.00	67.60
		c)	Material				
			Corrugated sheet,3 mm thick, "W" beam section railing,4.5 m in length	kg	41.21	51.20	2,109.95
			Channel post 150 x 75 x 5 mm,1.8 m long,3 Nos @ 16.4 kg per metre	kg	88.56	51.20	4,534.27
			Spacer 150 x 75 x 5 mm channel 0.33 m long,3 Nos @ 16.4 kg per metr	kg	16.24	51.20	831.49
			Nuts and bolts	kg	20.00	69.15	1,383.00
			Add 25 per cent of the cost of material for fabrication, nuts, bolts and washers etc.)				2,214.68
		d)	Overheads @12 % on (a+b+c)				1,423.36
			Contractor's profit @ 10%				1,328.47
			Cost for 4.5 metre = (a+b+c+d+e)				14,613.13
			Rate per metre = (a+b+c+d)/4.5				3,247.36
			Total Cost	metre			3247.36
28	8.13	803	**Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface**				
	RCD		Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC35. The finished surface to be level, uniform and free from streaks and holes.				
			Unit = sqm				
			Taking output = 640 sqm				
			a) Labour				
			Mate	day	0.500	397.00	198.50
			Mazdoor	day	2.000	373.00	746.00
			b) Machinery				
			Road marking machine @ 80 sqm per hour	hour	8.000	1411.00	11288.00
			Tractor-trolley	hour	8.000	676.00	5408.00
			c) Material				
			Hot applied thermoplastic compound	Litre	2000.000	198.46	396920.00
			Reflectorising glass beads	kg	200.000	72.00	14400.00
			(d) Overheads @ 12% on (a+b+c)				51475.26
			(e) Contractor's profit @ 10% on (a+b+c+d)				48043.58
			Cost for 640 sqm = a+b+c+d+e				528479.34
			Rate per sqm = a+b+c+d+e)/640				825.75
			Total Cost	sqm			825.75
29	8.16	800	**Painting on concrete surface**				
	RCD		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.				
			Unit = sqm				
			Taking output = 10 sqm				
		a)	**Labour**				
			Mate	day	0.01	397.00	3.97
			Painter	day	0.25	476.00	119.00
			Mazdoor (Skilled)	day	0.25	472.00	118.00

Sl. No.	SUB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
		b)	**Machinery**				
			water based paint of approved quality for cement concrete surface	Litre	5.00	115.16	575.80
		c)	Overheads @ 12 % on (a+b+c)				98.01
		d)	Contractor's profit @ 10% on (a+b+c+d)				91.48
			Cost for 10 sqm (a+b+c+d)				1,006.26
			Rate per sqm (a+b+c+d)/10				100.63
			Total Cost	sqm			100.63
30	8.13	803	**Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Conctete Surface**				
	RCD		Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform and free from streaks and holes.				
			Unit = sqm				
			Taking output = 640 sqm				
			a) Labour				
			Mate	day	0.500	397.00	198.50
			Mazdoor	day	2.000	373.00	746.00
			b) Machinery				
			Road marking machine @ 80 sqm per hour	hour	8.000	1411.00	11288.00
			Tractor-trolley	hour	8.000	676.00	5408.00
			c) Material				
			Hot applied thermoplastic compound	Litre	2000.000	198.46	396920.00
			Reflectorising glass beads	kg	200.000	72.00	14400.00
			(d) Overheads @12% on (a+b+c)				51475.26
			(e) Contractor's profit @ 10% on (a+b+c+d)				48043.58
			Cost for 640 sqm = a+b+c+d+e				528479.34
			Rate per sqm = a+b+c+d+e)/640				825.75
			Total Cost	sqm			825.75
			Total Cost	cum	26064+825.7489625=		926.38
31	10.11	1700	**Boundary Pillar**				
			Reinforced cement concrete M15 grade boundary pillars/local stone of standard design as per IRC:25, fixed in position including finishing and lettering but excluding painting as per drawing and Technical Specification Clause				
			Unit = each				
			Taking output = 57 Nos.				
		a)	M-15 grade of Concrete				
			As per Item No. 12.5 of Chapter 12	cum	1.250	6861.100	8576.375
		b)	Steel reinforcement				
			As per Item No. 12.6 of Chapter 12	kg	79.800	85.510	6823.724
		c)	Excavation in soil				
			As per Item No. 11.1 of Chapter 11	cum	10.720	410.7	4402.275
		d)	lettering, each 10 cm high				
			As per Item No. 10.1 of Chapter 10	per litre per cm high	2280.0	0.72	1633.34
			Transportation and fixing				
		e)	**Labour**				
			Mate	day	0.570	397.000	226.29
			Mazdoor (Unskilled)	day	14.250	373.000	5315.25
		f)	**Machinery**				
			Tractor with trolley	hour	6.000	676.000	4056.00
		g)	**Material**				
			Stone spall	cum	11.970	351.360	4205.78
		h)	Overhead @ 12% on (e+f+g)				1656.40
		i)	Contractor's profit 10%				1545.97
			Cost for 57 Nos. boundary pillar = a+b+c+d+e+f+g+h				38441.40
			Rate for each boundary pillar = (a+b+c+d+e+f+g+h)/57				674.41
			i) on above				674.41
			Final Rate Adopted in DPR				674.41
32	10.5	1700	**Painting Two Coats on New Concrete Surfaces**				
			Painting two coats including primer coat after filling the surface with synthetic enamel paint in all shades on new, plastered / concrete surfaces as per drawing and Technical Specification Clause 1701				
			Unit = sqm				
			Taking output = 40 sqm				
		a)	**Labour**				
			Mate	day	0.20	397.00	79.400
			Painter (1st Class)	day	3.00	476.00	1428.000
			Mazdoor (Unskilled)	day	2.00	373.00	746.000

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
			b) Material				
			Cement Primer as per specifications	litre	3.00	115.16	345.480
			Paint conforming to requirement of Clause 1701.3.8	litre	6.00	246.65	1479.900
			Add for scaffolding @ 1 per cent of labour cost where required				22.53
			c) Overheads @ 12% on (a+b)				492.16
			d) Contractor's profit @ 10% on (a+b+c)				459.35
			Rate per sqm = (a+b+c+d)/40				126.32
			Total Cost				126.32
29	10.8	1700	**Painting lines, Dashes, Arrows, etc. on Road in Two Coats on New Work**				
			Painting lines, Dashes, Arrows, etc. on Road in Two Coats on New Work with ready mixed road marking paint conforming to IS:164 on bituminous/concrete surface,including cleaning the surface of all dirt, dust and other foreign matter, demarcation at sit and traffic control as per drawing and Technical Specification Clause 1702				
			Assuming 100 mm Width				
			unit = sqm				
			Taking output = 10 sqm				
			a) Labour				
			Mate	day	0.09	397.00	35.73
			Painter 1st Class	day	0.55	476.00	261.80
			Mazdoor (Unskilled)	day	1.55	373.00	578.15
			b) Material				
			Road marking paint as IS:164	liter	1.48	246.65	365.04
			(d) Overheads @ 12 % on (a+b+c)				148.8
			(e) Contractor's profit 10% on (a+b+c+d)				138.96
			Cost for 10 sqm = a+b+c+d+e				1,528.5
			Rate per sqm = a+b+c+d+e/10				152.86
			Total Cost	Nos.			154.3
33	8.29 RCD		**Cable Duct Across the Road**				
			Providing and laying of a reinforced cement concrete pipe duct,300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills,constructing head walls at both ends, providing a minimum fill ofgranular material over top and sides of RCC pipe as per IRC.981997,bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings.				
			Unit = Rm				
			Taking output = 20 m				
			a) Labour				
			Mate	day	0.500	397.00	198.50
			Mazdoor (skilled)	day	0.250	472.00	118.00
			Mazdoor (Unskilled)	day	1.000	373.00	373.00
			b) Material				
			Reinforced Cement Concrete pipe 300 mm dia	Rm	20.000	562.67	11253.40
			Local Sand for bedding and sides of pipe	Cum	7.200	143.32	1031.90
			Collar for joints 300 mm dia	Each	9.000	118.00	1062.00
			Cement mortar 1:2 for joints	Cum	0.020	4647.47	92.95
			c) Machinery				
			Tractor-trolley	Hour	0.500	676.00	338.00
			d) Overheads @12 % on (a+b+c)				1736.13
			e) Contractor's profit @ 0.1 on (a+b+c+d)				0.00
			(e) Contractor's profit @ 10% on (a+b+c+d)				1620.39
			Cost for 20 Rm = a+b+c+d+e				17824.27
			Rate per Rm = a+b+c+d+e)/20 Sub Total				891.21
			Carriage Cost				
			Local Sand	Cum	0.36000	266.27	95.8
			Rate per Rm = a+b+c+d+e)/20 Final				987.07
			Total Cost	Rm			987.07
			SUB HEAD : ANALYSIS OF CULVERT/ MINOR BRIDGES ITEMS				
34	11.1	300	*Excavation for Structures*				
			Earthwork in excavation for structures as per drawing and technical specifications Clause 305.1 including setting out, construction of shoring and bracing, removal of stumps and other deleterious material and disposal upto a lead of 50 m, dressing of sides and bottom and backfilling in trenches with excavated suitable material.				
		I.	**Ordinary soil**				
		(i)	**Upto 3 m depth**				
			Unit = cum				
			Taking output = 10 cum				
		a)	**Labour**				
			Mate	day	0.32	397.00	127.0
			Mazdoor (Unskilled)	day	8.00	373.00	2984.00
		b)	Overheads @20 % on (a)				622.21

Sl. No.	SDB Sl. No.	MORD Ref.No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
		c)	Contractor's profit @ 10% on (a+b)				373.32
			Cost for 10 cum = a+b+c				4,106.57
			Rate per cum = (a+b+c)/10	cum			410.66
			Rate per cum = (a+b+c)/10=	cum			410.66
			NOTE :				
			1 Cost of dewatering may be added, where required, up to 10 per cent of labour cost. Assessment for dewatering shall be made as per site conditions.				
			2 The excavated earth if found suitable, can be used partly for backfilling in trenches & partly for road work. Hence cost of disposal has not been added except for marshy soil. This note is common to all cases of item 11.1 excluding 11.1 V				
35	9.2 (I)	1100 & 800	**Type B (First Class) Bedding**				
			Laying (First Class) bedding on well compacted sand, moorum or approved granular material as per Clause 1105 (ii)				
			Fillling in foundation trenches as per drawing and technical specification Clause 305.3.9				
		I.	**Sand filling**				
			Unit = cum				
		a)	**Labour**				
			Mate	day	0.01	397.00	3.97
			Mazdoor (Unskilled)	day	0.30	373.00	111.90
		b)	**Material**				
			Sand (assuming 20 per cent voids)	cum	1.20	143.32	171.98
		c)	Overheads @20% on (a+b)				57.57
		d)	Contractor's profit @ 10% on (a+b+c)				34.54
			CARRIAGE COST				
			sand	Cum	1.2	266.27	319.52
			Rate per cum = a+b+c				699.49
			Total Cost	CUM			699.49
36 (I)	9.3	1100	**Providing and Laying Reinforced Cement Concrete Pipe NP3 as per design in Single Row**				
			Providing and laying reinforced cement concrete pipe NP3 for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets Clause 1106.				
		A.	**600 MM DIA**				
			Unit =m				
			Taking output =7.5 m				
			(3 pipes of 2.5 m length each)				
			a) Material				
			i) Sand at site	cum	0.024	1022.24	24.53
			ii) Cement at site	ton	0.018	6260.20	112.68
			iii) RCC pipe NP 3 pipe including collar at site	m	7.50	762.50	5718.78
			b) Labour				
			Mate	day	0.04	397.00	15.88
			Mason (1st class)	day	0.12	503.00	60.36
			Mazdoor (Unskilled)	day	0.96	373.00	358.08
			Overheads @ 20 % on (a+b+c+d)				1258.06
			d)Contractor's profit @ 10% on (a+b+c)				754.84
			Cost for 7.5m = (a+b+c+d)				8303.21
			Rate per m =(a+b+c+d)/7.5				1107.10
			Total Cost	M			1107.10
37 (II)	9.3	1100	**Providing and Laying Reinforced Cement Concrete Pipe NP3 as per design in Single Row**				
			Providing and laying reinforced cement concrete pipe NP3 for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets Clause 1106.				
		B.	**1000 MM DIA**				
			Unit =m				
			Taking output =7.5 m				
			(3 pipes of 2.5 m length each)				
			a) Material				
			I) Sand at site	cum	0.04	1022.24	40.89
			ii) Cement at site	ton	0.03	6260.20	187.81
			iii) RCC pipe NP 3 pipe including collar at site	m	7.50	2989.54	22421.55
			b) Labour				
			Mate	day	0.09	397.00	35.73
			Mason (1st class)	day	0.25	503.00	125.75
			Mazdoor (Unskilled)	day	2.00	373.00	746.00
			c)Overheads @ 20 % on (a+b)				4711.55
			d)Contractor's profit @ 10% on (a+b+c)				2826.93
			Cost for 7.5m = (a+b+c+d)				31096.20
			Rate per m =(a+b+c+d)/7.5				4146.16
			Total Cost	m			4,146.16
37	9.5	1100	**Providing and Laying Reinforced Cement Concrete Pipe NP3 as per Design in Double Row**				

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
(III)	(C)		Providing and laying reinforced cement concrete pipe NP3 for culverts on first class bedding of granular material in double row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets as per Clause 1106				
		C.	**2 X 1000 MM DIA**				
			Unit = m				
			Taking output = 7.5 m				
			(6 pipes of 2.5 m length each in two rows)				
			a) Material				
			I) Sand at site	cum	0.08	1022.24	81.79
			ii) Cement at site	ton	0.06	6260.20	375.61
			iii) RCC pipe NP 3 pipe including collar at site	m	15.00	2989.54	44843.10
			b) Labour				
			Mate	day	0.22	397.00	87.34
			Mason (1st class)	day	0.6	503.00	301.8
			Mazdoor (Unskilled)	day	4.80	373.00	1790.40
			c)Overheads @20 % on (a+b)				9496.0
			d)Contractor's profit @ 10% on (a+b+c)				5697.60
			Cost for 7.5m = (a+b+c)				62673.6
			Rate per m = (a+b+c)/7.5				8356.49
			Total Cost including 1 % LABOUR CESS	M			8440.05
38	11.4	800 & 1200	Providing concrete for plain/reinforced ***concrete in open foundations*** complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203				
		I.	**P.C.C grade M 10**				
		(i)	**Nominal mix 1:3:6**				
			Unit = cum				
		a)	**Material**				
			Cement	t	0.250	5,854.80	1,463.70
			Coarse sand	cum	0.48	494.00	237.12
			40 mm aggregate	cum	0.576	975.00	561.60
			20 mm aggregate	cum	0.288	1,186.00	341.57
			10 mm aggregate	cum	0.096	586.00	56.26
		b)	**Labour**				
			Mate	day	0.08	397.00	31.76
			Mason (1st Class)	day	0.10	503.00	50.30
			Mazdoor (Unskilled)	day	1.63	373.00	607.99
			Bhisti	day	0.27	373.00	100.7
		c)	**Machinery**				
			Mechnical concrete mixer 0.4/0.28 cum capacity fitted with water measuring device and preferably also with load cell	hour	0.40	334.00	133.60
		d)	Formwork @ 4% on cost of material, labour and machinery (a+b+c)				143.38
		e)	Overheads @ 20 % on (a+b+c+d)				743.60
		f)	Contractor's profit @ 10% on (a+b+c+d+e)				447.36
			Rate per cum =(a+b+c+d+e+f)				4920.94
			Carrige cost:				
			Cement	t	0.250	405.40	101.35
			Coarse sand	cum	0.48	528.24	253.56
			Aggregate	cum	0.960	1,992.12	1,912.43
			Rate per cum including Carrige				7,188.28
			Rate per cum = a+b+c+d=	cum			7188.28
		II.	**P.C.C grade M 15**				
		(i)	**Nominal mix (1:2.5:5)**				
			Unit = cum				
		a)	**Material**				
			Cement	t	0.275	5,854.80	1,610.07
			Coarse sand	cum	0.48	494.00	237.12
			40 mm aggregate	cum	0.48	975.00	468.00
			20 mm aggregate	cum	0.24	1,186.00	284.64
			10 mm aggregate	cum	0.08	586.00	46.88
		b)	**Labour**				
			Mate	day	0.08	397.00	31.76
			Mason (1st Class0	day	0.10	503.00	50.30
			Mazdoor (Unskilled)	day	1.63	373.00	607.99
			Bhisti	day	0.27	373.00	100.71
		c)	**Machinery**				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	334.00	133.60
		d)	Formwork @ 4% on cost of material, labour and machinery (a+b+c)				142.84
		e)	Overheads @ 20 % on (a+b+c+d)				742.76
		f)	Contractor's profit @ 10% on (a+b+c+d+e)				445.67
			Rate per cum =(a+b+c+d+e+f)				4902.36
			Carrige cost:-				
			Cement	t	0.275	405.40	111.49
			Coarse sand	cum	0.48	528.24	253.56
			Aggregate	cum	0.80	1,992.12	1,593.70

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	
			Rate per cum including Carrige				
			Rate per cum = a+b+c+d=	cum			
		III.	**P.C.C. grade M 20**				
			Nominal mix (1:2:4)				
			Unit = cum				
		a)	**Material**				
			Cement	t	0.33	5,854.80	
			Sand	cum	0.45	494.00	
			40 mm aggregate	cum	0.36	975.00	
			20 mm aggregate	cum	0.36	1,186.00	
			10 mm aggregate	cum	0.18	586.00	
		b)	**Labour**				
			Mate	day	0.08	397.00	
			Mason (1st Class)	day	0.10	503.00	
			Mazdoor (Unskilled)	day	1.63	373.00	
			Bhisti	day	0.27	373.00	
		c)	**Machinery**				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	334.00	
		d)	Formwork @ 4% on (a+b+c)				1.
		e)	Overheads @20 % on (a+b+c+d)				82.
		f)	Contractor's profit @ 10% on (a+b+c+d+e)				494.4
			Rate per cum =(a+b+c+d+e+f)				5439.2
			Carrige cost:-				
			Cement	t	0.33	405.40	133.78
			Coarse sand	cum	0.45	528.24	237.71
			Aggregate	cum	0.90	1,992.12	1,792.91
			Rate per cum including Carrige				7,603.68
			Rate per cum = a+b+c+d=	cum			7603.68
39	12.5	800	Plain/reinforced ***cement concrete in substructure*** complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 ans 1204				
			For height upto 5 m				
			Unit = cum				
		II.	**P.C.C grade M 15**				
		(i)	**Nominal mix (1:2.5:5)**				
			Unit = cum				
		a)	**Material**				
			Cement	t	0.275	5,854.80	1,610.07
			Coarse sand	cum	0.46	494.00	227.12
			40 mm aggregate	cum	0.48	975.00	468.00
			20 mm aggregate	cum	0.24	1,186.00	284.64
			10 mm aggregate	cum	0.18	586.00	105.48
		b)	**Labour**				
			Mate	day	0.08	397.00	31.76
			Mason (1st Class0	day	0.10	503.00	50.30
			Mazdoor (Unskilled)	day	1.63	373.00	607.99
			Bhisti	day	0.27	373.00	100.71
		c)	**Machinery**				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	334.00	133.60
		d)	Formwork @ 10% on cost of material, labour and machinery (a+b+c)				362.97
		e)	Overheads @20 % on (a+b+c+d)				798.53
		f)	Contractor's profit @ 10% on (a+b+c+d+e)				479.12
			Rate per cum =(a+b+c+d+e+f)				5270.28
			Carrige cost:-				
			Cement	t	0.275	405.40	111.49
			Coarse sand	cum	0.46	528.24	253.56
			Aggregate	cum	0.90	1,992.12	1,792.91
			Rate per cum including Carrige				7,428.23
			Rate per cum = a+b+c+d+e+f=	cum			7428.23
		II.	**P.C.C. grade M 20**				
		(i)	**Nominal mix (1:2:4)**				
			Unit = cum				
		a)	**Material**				
			Cement	t	0.33	5,854.80	1,932.08
			Sand	cum	0.45	494.00	222.30
			40 mm aggregate	cum	0.36	975.00	351.00
			20 mm aggregate	cum	0.36	1,186.00	426.96
			10 mm aggregate	cum	0.18	586.00	105.48
		b)	**Labour**				
			Mate	day	0.08	397.00	31.76
			Mason (1st Class)	day	0.10	503.00	50.30
			Mazdoor (Unskilled)	day	1.63	373.00	607.99
			Bhisti	day	0.27	373.00	100.71
		c)	**Machinery**				

			[illegible]				
			Machine Mixer 0.4/0.28 cum capacity	hour	0.40	394.00	157.6
							264.0
		e)	Formwork @ 10% on labour				[illegible]
			[illegible]				[illegible]
		f)	[illegible]				[illegible]
			Rate per cum (a+b+c+d+e+f)				[illegible]
			Carriage cost				
			Cement		0.[illegible]	495.45	[illegible]
			Coarse sand		0.[illegible]	1,[illegible]	[illegible]
			Coarse sand	cum	0.[illegible]	1,992.12	1,[illegible]
			Aggregate	cum	0.[illegible]	1,992.12	1,[illegible]
			Rate per cum including Carriage				[illegible]
			Cost per cum (a+b+c+d+e+f)	cum			[illegible]
		II)	R.C.C grade M 15				
			Unit = cum				
		a)	Material		0.[illegible]	5,[illegible]	[illegible]
			Cement	t	0.[illegible]	495.[illegible]	[illegible]
			Coarse sand	cum	0.[illegible]	1,[illegible]	[illegible]
			20 mm aggregate	cum	0.[illegible]	[illegible]	[illegible]
			10 mm aggregate	cum	0.[illegible]	[illegible]	[illegible]
		b)	Labour				
			Mate	day	0.[illegible]	397.00	[illegible]
			Mason (1st Class)	day	0.12	569.00	[illegible]
			Mason (Unskilled)	day	1.73	373.00	[illegible]
			Bhisti	day	0.27	373.00	[illegible]
		c)	Machinery				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	394.00	[illegible]
		d)	Formwork @ 10% on labour				[illegible]
		e)	Overheads @ 25 % on (a+b+c+d)				[illegible]
		f)	Contractor's profit @ 10% on (a+b+c+d+e)				[illegible]
			Rate per cum (a+b+c+d+e+f)				[illegible]
			Carriage cost				
			Cement	t	0.40	495.45	162.1
			Coarse sand	cum	0.65	1,[illegible]	[illegible]
			Coarse sand	cum	0.90	1,992.12	1,792.9
			Aggregate				8,598.87
			Rate per cum including Carriage				8,598.87
			Rate per cum = a+b+c+d+e+f=	cum			8,598.87
		NOTE					
		i	For height above 1 m upto 4 m add 10 % extra for every 1 m in following manner				
		ii	Add 2 per cent of cost of material, labour and machinery in order for extra lift				
		iii	The percentage of formwork should be 15 percent instead of 10 per cent of cost of material, labour and machinery				
		2	The cost of formwork has been increased for river bridges to account for cost of side support to formwork				
		3	[illegible]				
			Lump for use in labour				
46	12.1	800	Providing and laying **reinforced cement concrete in superstructure** as per drawing and specification complete (Clauses 800, 1200.1 and 1200.2)				
		ii	R.C.C M 25				
			Unit = cum				
		a)	Material				
			Cement	t	0.40	5,[illegible]	2,341.92
			Coarse sand	cum	0.45	934.00	222.3
			20 mm aggregate	cum	0.54	1,186.00	640.44
			10 mm aggregate	cum	0.54	586.00	316.[illegible]
		b)	Labour				
			Mate	day	0.08	397.00	31.76
			Mason (1st Class)	day	0.12	569.00	68.3[illegible]
			Mason (Unskilled)	day	1.73	373.00	645.2[illegible]
			Bhisti	day	0.27	373.00	100.7[illegible]
		c)	Machinery				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	394.00	157.6
		d)	For formwork and shaping 20%of a+b				850.7[illegible]
		e)	Overheads @ 20% on (a+b+c+d)				1[illegible]
		f)	Contractor's profit @ 10% on (a+b+c+d+e)				628.57
			Rate per cum =(a+b+c+d+e+f)				6,914.2[illegible]
			Carriage cost				
			Cement	t	0.40	405.45	162.1[illegible]
			Coarse sand	cum	0.65	528.24	237.7[illegible]
			Aggregate	cum	0.90	1,992.12	1,792.9[illegible]
			Rate per cum including Carriage				9,107.0[illegible]
			Rate per cum = a+b+c+d+e+f=	cum			9,192.0[illegible]
			This analysis will hold good for concrete of nominal mix 1:1½:3 also				
		ii	R.C.C M 30				
			Unit = cum				

Sl. No.	Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
		a)	**Material**				
			Cement	t	0.43	5,854.80	2,517.56
			Coarse sand	cum	0.45	494.00	222.30
			20 mm aggregate	cum	0.54	1,186.00	640.44
			10 mm aggregate	cum	0.36	586.00	210.96
		b)	**Labour**				
			Mate	day	0.08	397.00	31.76
			Mason (1st Class)	day	0.12	503.00	60.36
			Mazdoor (Unskilled)	day	1.73	373.00	645.29
			Bhisti	day	0.27	373.00	100.71
		e)	**Machinery**				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	334.00	133.60
		d)	For formwork and staging 20%of a+b				885.88
		e)	Overheads @ 20% on (a+b+c+d)				1089.77
		f)	Contractor's profit @ 10% on (a+b+c+d+e)				653.86
			Rate per cum =(a+b+c+d+e+f)				7192.50
			Carrige cost:-				
			Cement	t	0.43	405.40	174.32
			Coarse sand	cum	0.45	528.24	237.71
			Aggregate	cum	0.90	1,992.12	1,792.91
			Rate per cum including Carrige				9,397.43
			Rate per cum = a+b+c+d+e+f=	**cum**			**9397.43**
41	11.5	600 & 1200	***Brick masonry work in cement mortar in foundation*** complete excluding pointing and plastering as per drawing and technical specifications Clauses 600, 1202 & 1203				
		I)	***1 : 3 Cement Mortar***				
			Unit = cum				
		I.	**Brick masonry in 1:3 cement mortar**				
		a)	**Material**				
			Brick	Nos	500.00	6.07	3,034.50
			Cement mortar 1:3	cum	0.24	4,647.47	1,115.39
			(Rate as per Sub-analysis)				
		b)	**Labour**				
			Mate	day	0.09	397.00	35.73
			Mason (1st Class)	day	0.80	503.00	402.40
			Mazdoor (Unskilled)	day	1.60	373.00	596.80
			Bhisti	day	0.20	373.00	74.60
		c)	Overheads @ 20% on (a+b)				1051.88
		d)	Contractor's profit @ 10% on (a+b+c)				631.13
			Rate per cum =(a+b+c+d)				6942.44
			Carriage Cost				
			carriage brick	no	500.00	0.80	399.41
			Rate per cum including Carrige				**7,341.85**
			Rate per cum = a+b+c+d	**cum**			**7341.85**
			Sub-analysis				
			Cement mortar 1:3 (1 cement : 3 sand)				
			Unit = cum				
		a)	**Material**				
			Cement	t	0.51	5,854.80	2,985.95
			Sand	cum	1.05	494.00	518.70
		b)	**Labour**				
			Mate	day	0.04	397.00	15.88
			Mazdoor (Unskilled)	day	0.90	373.00	335.70
			Bhisti	day	0.08	373.00	29.84
			Rate per cum =(a+b+c+d)				3886.07
			Carriage Cost				
			carriage cement	t	0.51	405.40	206.75
			carriage sand	cum	1.05	528.24	554.65
			Rate per cum including Carrige				4,647.47
			Total material and labour = (a+b)	**cum**			**4647.47**
		II.	**Brick masonry in 1:4 cement mortar**				
			Unit = cum				
		a)	**Material**				
			Brick	Nos.	500.00	6.07	3,034.50
			Cement mortar 1:4	cum	0.24	3,833.65	920.08
			Rates as per sub-analysis				
		b)	**Labour**				
			Mate	day	0.09	397.00	35.73
			Mason (1st Class)	day	0.80	503.00	402.40
			Mazdoor (Unskilled)	day	1.60	373.00	596.80
			Bhisti	day	0.20	373.00	74.60
		c)	Overheads @ 20 % on (a+b)				1012.82
		d)	Contractor's profit @ 10% on (a+b+c)				607.69

MB No	SOR SL No	MORD REF No	Description	Unit	Quantity	Rate	Amount
			Rate per cum = [a+b+c+d]				6684.42
			Carriage Cost				
			Carriage brick	No	500.00	0.80	399.41
			Rate per cum including Carriage				7083.83
			Rate per cum = a+b+c+d	cum			7083.83
			Sub analysis				
			Cement mortar 1:4 (1 cement : 4 sand)				
			Unit = cum				
		a)	Material				
			Cement	t	0.38	5,854.80	2,224.82
			Sand	cum	1.05	494.00	518.70
		b)	Labour				
			Mate	day	0.04	443.00	17.72
			Mason (Unskilled)	day	0.30	373.00	111.9
			Bhisti	day	0.08	373.00	29.84
			Rate per cum = [a+b]				2924.4
			Carriage Cost				
			Carriage cement	t	0.38	409.40	154.07
			Carriage sand	cum	1.05	528.24	554.65
			Rate per cum including carriage				3633.1
			Total material and labour = [a+b]	cum			3633.1
		III.	In 1:5 cement mortar				
			Unit = cum				
		a)	Material				
			Bricks 1st class	Nos	500.00	6.07	3034.50
			Cement mortar	cum	0.24	3,595.83	814.99
		b)	Labour				
			Mate	day	0.04	397.00	15.73
			Mason 1st Class	day	0.50	383.00	192.50
			Mason (Unskilled)	day	1.67	373.00	622.91
			Bhisti	day	0.10	373.00	37.30
			Add for scaffolding @ 5 per cent of cost of materials and labour (a+b)				247.95
							5961.38
		c)	Overheads @ 20% on (a+b)				1192.28
		d)	Contractor's profit @ 10% on (a+b+c)				715.37
			Rate per cum = a+b+c+d				7869.03
			Total Cost	cum			7869.03
			Sub analysis				
			Cement mortar 1:5 (1 cement : 5 sand)				
		a)	Material				
			Cement	t	0.31	5,854.80	1,814.79
			Sand	cum	1.05	494.00	518.70
		b)	Labour				
			Mate	day	0.04	397.00	15.88
			Mason (1st class)	day	0.30	373.00	111.9
			Bhisti	day	0.08	373.00	29.84
		c)	Carriage cost				
			Cement	t	0.31	409.40	125.6
			Sand	cum	1.05	528.24	554.65
			Total cost				3195.47
			Total material and labour = [a+b]	cum			3195.47
42	12.1	6.08	Brick masonry work in cement mortar in substructure: complete excepting pointing and plastering, including [illegible]				
			Upto the plinth (Lintels not extra and 1:2:4 & 1:1:6)				
		I.	In 1:3 cement mortar				
			Unit = cum				
		a)	Material				
			Bricks	Nos	500.00	6.07	3034.50
			Cement mortar (Rate as in Item 11.5.1)	cum	0.24	4,847.47	1,125.73
		b)	Labour				
			Mate	day	0.09	397.00	35.73
			Mason 1st Class	day	0.40	383.00	153.20
			Mason (Unskilled)	day	1.50	373.00	559.50
			Bhisti	day	0.20	373.00	74.60
			Add for scaffolding @ 5 per cent of cost of materials and labour (a+b)				207.4
							5390.31
		c)	Overheads @ 20% on (a+b)				1078.06
		d)	Contractor's profit @ 10% on (a+b+c)				646.83
			Rate per cum = (a+b+c+d)				7116.21
			Carriage Cost				
			Carriage brick	No	500.00	0.80	399.41
			Rate per cum including Carriage				7515.62
			Rate per cum = a+b+c+d	cum			7515.62
		II.	In 1:4 Cement mortar				

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
			Unit = cum				
		a)	**Material**				
			Bricks	Nos.	500.00	6.07	3,034.50
			Cement mortar				
			(Rate as in item 11.5 II)	cum	0.24	3,833.65	920.08
		b)	**Labour**				
			Mate	day	0.09	397.00	35.73
			Mason 1st Class	day	0.80	503.00	402.40
			Mazdoor (Unskilled)	day	1.60	373.00	596.80
			Bhisti	day	0.20	373.00	74.60
			Add for scaffolding @ 5 per cent of cost of materials and labour (a+b)				253.21
		c)	Overheads @ 20% on (a+b)				1063.46
		d)	Contractor's profit @ 10% on (a+b+c)				638.08
			Rate per cum =(a+b+c+d)				7018.85
			Carriage Cost				
			carriage brick	no.	500.00	0.80	399.41
			Rate per cum including Carrige				7418.26
			Rate per cum = a+b+c+d=	**cum**			**7418.26**
43	12.2	600	***Pointing with cement mortar (1:3)*** on brickwork as per drawing and technical specification Clauses 613.3 and 1204				
			Unit = 10 sqm				
			Taking output = 10 sqm				
		a)	**Material**				
			Cement mortar 1:3 (Rate as in item 11.5 I)	cum	0.03	4,647.47	139.42
		b)	**Labour**				
			Mate	day	0.04	397.00	15.88
			Mason 1st Class	day	0.50	503.00	251.50
			Mazdoor (Unskilled)	day	0.50	373.00	186.50
			Bhisti	day	0.20	373.00	74.60
		c)	Overheads @ 20% on (a+b)				133.58
		d)	Contractor's profit @ 10% on (a+b+c)				80.15
			Rate per 10 sqm = (a+b+c+d)				881.63
			Rate per sqm = (a+b+c+d)/10				88.16
			Total Cost	***sqm***			**88.16**
44	12.3	600 & 1200	***Plastering with CM 1:4***				
			Plastering with cement mortar (1:4), 15 mm thick on brickwork in substructure as per technical specification Clauses 613.4 & 1204				
			Unit = 10 sqm				
			Taking output = 10 sqm				
		a)	**Material**				
			Cement mortar 1:4 (Rate as in item 11.5 II)	cum	0.24	3,833.65	920.08
		b)	**Labour**				
			Mate	day	0.06	397.00	23.82
			Mason 1st Class	day	0.60	503.00	301.80
			Mazdoor (Unskilled)	day	0.60	373.00	223.80
			Bhisti	day	0.30	373.00	111.90
		c)	Overheads @ 20% on (a+b)				316.28
		d)	Contractor's profit @ 10% on (a+b+c)				189.77
			Rate per 10 sqm = a+b+c+d				2,087.44
			Total Cost	**Sqm**			**208.74**
45	11.7	1000 & 1200	Supplying, fitting and placing ***HYSD bar reinforcement in foundation*** complete as per drawings and technical specifications Clauses 1000 and 1202				
			Unit = t				
		a)	**Material**				
			HYSD bars including 5 per cent for overlaps and wastage	t	1.05	57,667.00	60,550.35
			Binding wire	kg	6.00	75.04	450.24
		b)	**Labour for cutting, bending, shifting to site, tying and placing in position**				
			Mate	day	0.40	397.00	158.80
			Blacksmith	day	2.00	449.00	898.00
			Mazdoor (Unskilled)	day	6.00	373.00	2,238.00
		c)	Overheads @ 20% on (a+b)				12859.08
		d)	Contractor's profit @ 10% on (a+b+c)				7715.45
			Rate per t = a+b+c+d				**84,869.91**
			CARRIAGE				
			Reinforcement	t	1.05	405.40	425.67
			Rate per t including Carrige				85295.58
			Rate per t = a+b+c	**t**			**85295.58**
46	12.6	1000	Supplying, fitting and placing ***HYSD bar reinforcement (Fe 415) in substructrue*** complete as per drawings and technical specification Clauses 1002, 1005, 1010 & 1202				
			Unit = t				
		a)	**Material**				
			HYSD bars including 5 per cent overlaps and wastage	t	1.05	57,667.00	60,550.35
			Binding wire	kg	6.00	75.04	450.24

[illegible]	[illegible]	[illegible]	Description	Unit	Quantity	Rate	Amount
		b)	Labour for cutting, bending, shifting to site, tying and placing in position				
			Mate	day	[illegible]	[illegible]	[illegible]
			Blacksmith	day	[illegible]	[illegible]	[illegible]
			Mazdoor (Unskilled)	day	[illegible]	[illegible]	[illegible]
		c)	Overheads @ 20% on (a+b)				[illegible]
		d)	Contractor's profit @ 10% on (a+b+c)				[illegible]
			Rate per t = a+b+c+d				
			CARRIAGE		[illegible]	[illegible]	[illegible]
			[illegible]				[illegible]
			Total cost per t including Carriage				[illegible]
			Rate per t = [illegible]				
47	[illegible]	1000	Supplying, fitting and placing HYSD bar reinforcement in superstructure complete as per drawing and technical specifications (Clauses 1002, 1014 and 1501)				
			[illegible]				
		a)	Material				
			HYSD bars including 5 per cent for laps and wastage	t	[illegible]	[illegible]	[illegible]
			Binding wire	kg	[illegible]	[illegible]	[illegible]
		b)	Labour for cutting, bending, tying and placing in position				
			Mate	day	[illegible]	[illegible]	[illegible]
			Blacksmith	day	[illegible]	[illegible]	[illegible]
			Mazdoor (Unskilled)	day	[illegible]	[illegible]	[illegible]
		c)	Overheads @ 20% on (a+b)				[illegible]
		d)	Contractor's profit @ 10% on (a+b+c)				[illegible]
			Rate per t = a+b+c+d				
			CARRIAGE		[illegible]	[illegible]	[illegible]
			[illegible]				[illegible]
			Total cost per t including Carriage				[illegible]
			Rate per t = [illegible]				
48	[illegible]	[illegible]	[illegible]				
			[illegible]				
		a)	Material				
			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			Binding wire	kg	[illegible]	[illegible]	[illegible]
		b)	Labour				
			Mate	day	[illegible]	[illegible]	[illegible]
			[illegible]	day	[illegible]	[illegible]	[illegible]
			[illegible]	day	[illegible]	[illegible]	[illegible]
			[illegible]	day	[illegible]	[illegible]	[illegible]
			[illegible]	day	[illegible]	[illegible]	[illegible]
		c)	Machinery	hour	[illegible]	[illegible]	[illegible]
			[illegible]				[illegible]
		d)	[illegible]				[illegible]
		e)	Overheads @ 20% on [illegible]				[illegible]
		f)	Contractor's profit @ 10% on [illegible]				[illegible]
			Rate per cum = [illegible]				[illegible]
			Carriage cost				
			Cement	t	[illegible]	[illegible]	[illegible]
			[illegible]	cum	[illegible]	[illegible]	[illegible]
			Aggregate	cum	[illegible]	[illegible]	[illegible]
			[illegible]	t	[illegible]	[illegible]	[illegible]
			[illegible]				[illegible]
			Total cost per cum including Carriage				[illegible]
			Rate per cum = [illegible]				[illegible]
49	[illegible]	800	Construction of R.C.C. railing of M 25 grade in-situ or precast with 20 mm nominal size aggregate, true to line and grade, [illegible]				
			[illegible]				
			[illegible]				
			[illegible]				
		a)	M 25 grade R.C.C.				
			No of vertical posts = [illegible]				
			Cross sectional area of vertical post = [illegible] sqm				
			Concrete in vertical posts = [illegible] cum				
			Hand rail in 2 rows = [illegible] = 144 m				
			Cross sectional area = [illegible] = 0.03 sqm				
			Concrete in hand rails = 0.03 x 144 = 4.32 cum				
			Total concrete = [illegible] + 4.32 = 6.252 cum	cum	6.25	[illegible]	[illegible]

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
		b)	**HYSD bar reinforcement (Rate as per item 13.2)**	t	1.46	87,092.05	118,445.19
		c)	Overheads @ 20% on (a+b)				32904.15
		d)	Contractor's profit @ 10% on (a+b+c)				19742.49
			Cost for 48 m = (a+b+c+d)				217,167.38
			Rate per m = (a+b+c+d)/48				4,569.56
			Sub Analysis for Rate of Concrete				
		a)	**Material**				
			Cement	t	0.40	5,854.80	2,341.92
			Coarse sand	cum	0.45	494.00	222.30
			20 mm aggregate	cum	0.54	1,186.00	640.44
			10 mm aggregate	cum	0.46	586.00	270.96
		b)	**Labour**				
			Mate	day	0.08	497.00	41.76
			Mason (1st Class)	day	0.12	503.00	60.36
			Mazdoor (Unskilled)	day	1.71	377.00	645.29
			Bhisti	day	0.27	371.00	100.71
		c)	**Machinery**				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	344.00	137.60
		d)	**Formwork @ 12% (a+b+c)**				789.61
			Carrige cost:-				
			Cement	t	0.40	405.40	162.16
			Coarse sand	cum	0.45	528.24	237.71
			Aggregate	cum	0.90	1,992.12	1,792.91
			Total Cost				7,169.73
			Total (a+b+c+d)	m			7,169.73
		1	*48 m length is the total linear length adding both sides of 2x12 m span*				
		2	*Quantities of material have been adopted from standard plans of MORTH vide drawing No SD/202*				
50	13.9	600	Brick masonry work in ***cement mortar 1:3 in parapet*** excluding pointing and plastering as per drawing and technical specifications Clauses 600, 900 and 1208A				
			Unit = cum				
		a)	**Material**				
			Bricks	Nos	500.00	6.07	3,034.50
			Cement mortar (Rate as in item 11.5 A)	cum	0.24	7,615.74	1,827.78
		b)	**Labour**				
			Mate	day	0.09	497.00	45.73
			Mason 1st Class	day	0.80	503.00	402.40
			Mazdoor (Unskilled)	day	1.60	377.00	536.00
			Bhisti	day	0.20	373.00	74.60
		c)	Overheads @20% on (a+b)				1194.36
		d)	Contractor's profit @ 10% on (a+b+c)				716.62
			Rate per cum = a+b+c				7,882.79
			Carrige cost:-				
			Brick	nos	500.00	0.80	399.41
			Total Cost per cum including Carrige				8,282.20
			Rate per cum = a+b+c =	cum			8,282.20
51	13.10	1200	***Drainage spouts*** complete as per drawing and technical specifications				
			Clause 1209				
			Unit = 1 No				
		a)	**Material**				
		i)	Corrosion resistant structural steel grating including 5 per cent wastage	kg	4.00	46.84	187.31
		ii)	AC pipe 100 mm	m	1.00	44.28	44.28
		b)	**Labour**				
			For fabrication				
			Mate	day	0.02	397.00	7.94
			Blacksmith, Welder etc. (Skilled)	day	0.02	449.00	8.98
			Mazdoor (Unskilled)	day	0.20	373.00	74.60
			For fixing in position				
			Mate	day	0.01	397.00	3.97
			Mason (1st Class)	day	0.01	503.00	5.03
			Mazdoor (Unskilled)	day	0.20	373.00	74.60
			Add @ 5 per cent of cost of material and labour (a+b) for electrodes, gas cutting, sealant, anti corrosive bituminous paint, mild steel grating etc.				8.76
		c)	Overheads @20% on (a+b)				83.09
		d)	Contractor's profit @ 10% on (a+b+c)				49.86
			Total Cost				548.41
			Rate per m = a+b+c	No			548.41
52	13.16 IV)	1200	**Filler Joint**				
			Providing and filling joint sealing compound as per drawings and technical specifications with coarse sand and 6 per cent bitumen by weight.				

Sl. No.	SDB Sl. Nos	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
			Unit = Running m				
			Taking output = 7.5 m				
			7.5 m long x 100 mm wide x 10 mm deep recess				
		a)	**Material**				
			Sand	cum	0.008	494.00	3.9
			Volume = 7.5 x 0.1 x 0.01 = 0.008 cum				
			Weight = 0.008 x 1400 = 11.2 kg				
			Bitumen-11.2 x 0.06 = 0.672 kg	t	0.0007	51,650.50	36.16
		b)	**Labour**				
			Mate	day	0.02	397.00	7.94
			Mazdoor (Skilled)	day	0.50	472.00	236.0
			Mazdoor (Unskilled)	day	0.10	373.00	37.30
		c)	Overheads @20% on (a+b)				64.2
		d)	Contractor's profit @ 10% on (a+b+c)				38.56
			Cost for 7.5 m with 10 mm depth = a+b+c+d				424.1
			Rate per m 1 cm depth = (a+b+c+d)/7.5				56.56
			Total Cost	m			56.5
		Note:	*For arriving at the final rate for filler joints per m length and per cm depth of joint filling compound, the rates of Sr. Nos (i), (ii), (iii) and (iv) shall be added.*				
53	12.10	1200	**Backfilling behind abutment, wing wall and return wall** complete as per drawings & technical specification (Clause 1204.3.6)				
			Unit = cum				
			Taking output = 10 cum				
		I)	**Granular material**				
		a)	**Material**				
			Granular material	cum	12.00	165.26	1,983.12
		b)	**Labour**				
			Mate	day	0.20	397.00	111.16
			Mazdoor (Unskilled)	day	10.00	373.00	3,730.0
			Bhisti	day	0.40	373.00	149.20
		c)	Overheads @20 % on (a+b)				1194.7
		d)	Contractor's profit @ 10% on (a+b+c)				716.82
			Carrige cost:-				
			Granular Material	cum	12.00	1,992.12	23,905.44
			Cost for 10 cum of granular backfill = a+b+c+d				31,754.4
			Rate per cum = (a+b+c+d)/10				3,179.04
		II)	**Sandy material**				
			Unit = cum				
			Taking output = 10 cum				
		a)	**Material**				
			Sand	cum	12.00	143.32	1,719.84
		b)	**Labour**				
			Mate	day	0.40	397.00	158.80
			Mazdoor (Unskilled)	day	10.00	373.00	3,730.0
			Bhisti	day	0.40	373.00	149.20
		c)	Overheads @ 20 % on (a+b)				1151.5
		d)	Contractor's profit @ 10% on (a+b+c)				690.94
			Cost for per cum of sand backfill = (a+b+c+d)/10				7603
			Carrige cost:-				
			Sand	cum	1.20	266.27	319.52
			Cost for per cum of sand backfill including carriage				1,079.5
			Rate per cum = (a+b+c+d)/10 =	cum			1,079.56
54	12.11	1200	**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 1204.3.6)				
			Unit = cum				
			Taking output = 10 cum				
		a)	**Material**				
			Filter media as per specification	cum	12.00	678.14	8,137.68
		b)	**Labour**				
			Mate	day	0.40	397.00	158.80
			Mazdoor (Unskilled)	day	9.00	373.00	3,357.00
			Mazdoor (Skilled)	day	1.00	472.00	472.0
			Bhisti	day	0.50	373.00	186.50
		c)	Overheads @ 20 % on (a+b)				2462.4
		d)	Contractor's profit @ 10% on (a+b+c)				1477.44
			Cost for per cum = (a+b+c+d)/10				1625.1
			Carrige cost:-				
			Filter Material	cum	1.20	1,992.12	2,390.54

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
			Cost for per cum including carriage				4,015.73
			Rate per cum = (a+b+c+d)/10	cum			401.57
			PROTECTION WORK				
57	14.1	1300	**Providing and laying boulder apron** for bed protection with stone boulders of minimum size and weight as per Table 1300.1, or fragment weighing less than 25 kg laid dry complete as per drawing and technical specifications Clause 1301				
			Unit = cum				
		a)	**Material**				
			Stone boulder (25 kg minimum)	cum	1.00	675.00	675.00
			Stone spalls	cum	0.20	675.00	135.00
		b)	**Labour**				
			Mate	day	0.04	197.00	15.80
			Mason 1st Class	day	0.35	503.00	176.05
			Mazdoor (Unskilled)	day	0.75	173.00	129.75
		c)	Overheads @ 20% on (a+b)				256.34
		d)	Contractor's profit @ 10% on (a+b+c)				153.80
			Rate per cum = (a+b+c+d)				1691.82
			Carriage Cost				
			Stone boulder (25 Kg minimum)	cum	1	2062.67	2062.67
			Stone spalls	cum	0.2	1992.12	398.42
			Rate per cum = a+b+c+d	cum			4,152.91
		NOTE :	Nominal excavation required for preparation of bed has been taken into account while making provisions for labour				
			Total Cost	**CUM**			**4152.91**
58	14.5	1300	Providing and laying ***boulder pitching on slopes*** laid over prepared filter media as per drawing and technical specifications Clause 1302				
		I.	**Stone/Boulder**				
			Unit = cum				
		a)	**Material**				
			Stone boulder (25 kg minimum)	cum	1.00	675.00	675.00
			Stone spalls of minimum 25 mm size	cum	0.20	675.00	135.00
		b)	**Labour**				
			Mate	day	0.04	197.00	15.80
			Mason 1st Class	day	0.35	503.00	176.05
			Mazdoor (Unskilled)	day	0.75	173.00	129.75
		c)	Overheads @ 20 % on (a+b)				256.34
		d)	Contractor's profit @ 10% on (a+b+c)				153.80
			Rate per cum = (a+b+c+d)				1691.82
			Carriage Cost				
			Stone boulder (25 Kg minimum)	Nos	1.00	2062.67	2062.67
			Stone spalls	cum	0.20	1992.12	398.42
			Rate per cum including Carriage				**4,152.91**
			Total Cost	**CUM**			**4152.91**
59	14.6	1300	Providing and laying ***filter material underneath pitching*** in slopes complete as per drawing and technical specifications Clause 1302				
			Unit = cum				
		a)	**Material**				
			Graded stone aggregate of required size	cum	1.20	668.80	802.56
		b)	**Labour**				
			Mate	day	0.05	197.00	19.85
			Mazdoor (Skilled)	day	0.25	472.00	118.00
			Mazdoor (Unskilled)	day	1.02	173.00	180.46
		c)	Overheads @ 20% on (a+b)				364.17
		d)	Contractor's profit @ 10% on (a+b+c)				158.50
			Rate per cum = (a+b+c+d)				1,743.55
			Carriage Cost				
			Graded stone aggregate of required size	cum	1.20	1992.12	2,390.54
			Rate per cum including Carriage				**4,134.09**
		NOTE :	*Labour cost includes labour required for trimming of slope to proper profile and preparation of bed*				
			Total Cost	**Cum**			**4134.09**
60	14.7	1300	**Providing and laying flooring** laid over cement concrete bedding complete as per drawing and technical specification Clause 1303				
	(iii)		**Brick on edge laid in cement mortar (1:3)**				
			Unit = cum				
		a)	**Material**				
			Bricks	Nos	500.00	6.07	3034.50
			Cement mortar (1:3) [(Rate as in item 11.5 (i)]	cum	0.15	6238.98	935.85
			Cement mortar bedding (1:5) [(Rate as in item 12.1 (iii)]	cum	0.25	5317.31	1329.33
		b.	**Labour**				
			Mate	day	0.10	197.00	19.70
			Mason 1st Class	day	0.80	503.00	402.40
			Mazdoor (Unskilled)	day	1.60	373.00	596.80
			Bhisti	day	0.20	173.00	74.60
		c)	Overheads @ 20% on (a+b)				1282.63

Sl. No.	SDBSR No.	MORTH Ref.No.	DESCRIPTION	Unit	Quantity	Rate	Amount in
		d)	Contractor's profit @ 10% on (a+b+c)				769.59
			Rate per cum = (a+b+c+d)				8465.3
			Carriage Cost				
			i) Bricks	Nos	500.00	0.80	399.4
			ii) Cement	cum	0.15	405.40	62.4
			iii) Sand	cum	0.42	266.27	111.8
			Rate per cum including Carriage = a+b+c+d				9,039.0
			Total Cost	cum			9039.0
61	12.9	600	Providing weepholes in brick masonry/stone masonry, plain/reinforced concrete abutment, wing wall, return wall with 100 mm dia AC 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 specification Clauses 614, 709, 1204.3.7				
			Unit = Nos				
			Taking output = 30 Nos				
		a)	**Material**				
			AC pipe 100 mm dia including wastage @ 5 per cent. Average length of weep hole is taken as one metre for the purpose of estimating	m	31.50	44.28	1,394.8
			MS clamps	Nos	30.00	43.36	1,300.8
			Cement mortar 1:3 (For rate refer to item 11.5.1)	cum	0.05	4,647.47	232.3
		b)	**Labour**				
			Mate	day	0.03	397.00	11.9
			Mason 1st Class	day	0.50	503.00	251.50
			Mazdoor (Unskilled)	day	0.25	373.00	93.2
		c)	Overheads @ 20% on (a+b)				656.93
		d)	Contractor's profit @ 10% on (a+b+c)				394.16
			Cost for 30 Nos = (a+b+c+d)				4,335.74
			Rate per No = (a+b+c+d)/30=	no.			144.52
62	11.2	300 & 1200	**Filling in foundation trenches as per drawing and technical specification Clause 305.3.9**				
			Sand filling				
			Unit = cum				
		a)	**Labour**				
			Mate	day	0.01	397.00	3.9
			Mazdoor (Unskilled)	day	0.30	373.00	111.9
		b)	**Material**				
			Sand (assuming 20 per cent voids)	cum	1.20	143.32	171.98
		c)	Overheads @ 20% on (a+b)				57.57
		d)	Contractor's profit @ 10% on (a+b+c)				34.54
			Rate per cum = (a+b+c+d)				379.9
			Carriage Cost				
			Sand (assuming 20 per cent voids)	cum	1.20	266.27	319.52
			Rate per cum = a+b+c+d=	cum			699.45
11.9	307.8(D)		Planting of tree by the road side (Avenue Tree) in 0.6 m dia holes, 1 m deep dug in the Ground. Mixing the soil with decayed farm yard/ slug manure, planting the saplings back filling the trench, watering, fixing the tree guard & maintain the Plant for One Year				
			Unit = each				
			Taking output = 10 tree				
		a)	Labour				
			Mate	day	1.700	397.00	674.9
			Mazdoor for planting	day	2.000	373.00	746.0
			Mazdoor for maintainace for one year	day	15.000	373.00	5,595.0
		b)	**Machinery**				
			Water tanker 6 Kl capacity	hour	2.00	752.00	1,504.0
		c)	**Machinery**				
			Sapling 2 m height 25 mm dia	each	10.00	21.63	216.3
			Farm yard manure	cum	0.94	729.23	685.9
			Pesticide	KG	0.50	73.26	36.6
			Cost of water	KL	12.00	56.20	674.40
		d)	**Overheads @ 20 % on (a+b+c)**				2026.6
		e)	**CP @10 % on (a+b+c+d)**				1215.9
			Cost for 10 tree = (a+b+c+d)				13375.7
			Rate per Tree = (a+b+c+d)/10				1337.5
			Total Cost	cum			1337.5