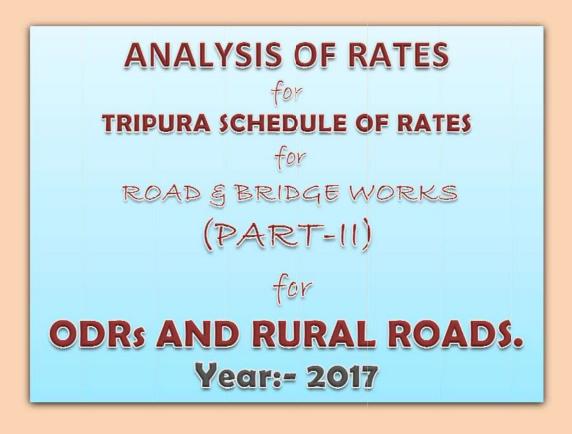
Government of Tripura Public Works Department





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Sr. No.	Ref. to MORD Spec.	-		Description	Unit	Quantity	Rate (₹)	Amount (₹)
1.1		Bou Rub	ulder obish	and Unloading of Lime, Aggregate, Stone , Brick Aggregate, Kankar, Building , Crushed Slag, Stone for Masonry Work ual Means				
		(i)	Agg Slao inclu	ding of Lime, Aggregate, Stone Boulder, Brick gregate, Kankar, Building Rubbish, Crushed g, Stone for Masonry Work by manual means uding a lead upto 30 m t = cum				
			Tak	ing output = 5.5 cum				
			a)	Labour				
				Mate	day	0.02	300.00	6.00
				Mazdoor (Unskilled)	day	0.50	300.00	150.00
			b)	Machinery				
				Truck	hour	0.50	373.00	186.50
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 %	on (a+	b+c)		51.38
			Cos	st for 5.5 cum = $a+b+c+d$				393.88
			Rat	e per cum = (a+b+c+d)/5.5				71.61
							say	<u>71.60</u>
		(ii)		ding of Earth, Sand, Moorum, Manure, Flyash nanual means including a lead upto 30 m				
			Unit	t = cum				
			Tak	ing output = 5.5 cum				
			a)	Labour				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Machinery				
				Truck	hour	0.25	373.00	93.25
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 %	on (a+	b+c)		25.69
			Cos	st for 5.5 cum = $a+b+c+d$				196.94
			Rat	e per cum = (a+b+c+d)/5.5				35.81
							say	<u>35.80</u>
		(iii)	Bric Cru	oading of Lime, Aggregate, Stone Boulder, k Aggregate, Kankar, Building Rubbish, shed Slag, Stone for Masonry Work by nual means including a lead upto 30 m				
			Unit	t = cum				
				ing output = 5.5 cum				

a) Labour

LOADING, UNLOADING, CARRIAGE, CRUSHING OF MATERIALS AND SETTING OUT									
Sr. Ref. to No. Spec.	5 ¦	Description	Unit	Quantity	Rate (₹)	Amount (₹)			
		Mate	day	0.01	300.00	3.00			
		Mazdoor (Unskilled)	day	0.25	300.00	75.00			
		b) Machinery							
		Truck	hour	0.25	373.00	93.25			
		c) 0				0.0			
		d) Contractor's profit and overheads @ 15 %	5 on (a+	b+c)		25.69			
		Cost for 5.5 cum = $a+b+c+d$				196.94			
		Rate per cum = (a+b+c+d)/5.5				35.8			
					say	<u>35.80</u>			
	(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	0.005	300.00	1.5			
		Mazdoor (Unskilled)	day	0.125	300.00	37.5			
		b) Machinery	uuy	0.120	000100	01.0			
		Truck	hour	0.166	373.00	61.9			
		c) 0			0.000	0.0			
		d) Contractor's profit and overheads @ 15 %	on (a+	b+c)		15.1			
		Cost for 5.5 cum = $a+b+c+d$,		116.0			
		Rate per cum = (a+b+c+d)/5.5				21.1			
		,			say	21.10			
1.2	Bou Rub	ding and Unloading of Lime, Aggregate, Stone Ider, Brick Aggregate, Kankar, Building bish, Crushed Slag, Stone for Masonry Work Mechanical Means	3						
	(i)	Loading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by mechanica means including a lead upto 30 m	ł						
		Placing tipper at loading point, loading with fron end loader excluding time for haulage and return trip. Unit = cum							
		Taking output = 5.5 cum							
		Time required for							
		i) Positioning of tipper at loading point	Min	1.00					
		ii) Loading by front end loader 1 cum bucket capacity @ 45 cum per hour	Min	7.33					

	, 01	NLOADING, CARRIAGE, CRUSHING O				
Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	iii)	Waiting time, unforeseen contingencies, etc.	Min	2.00		
		Total	Min	10.33		
	a)	Machinery				
		(i) Tipper 10 t capacity	hour	0.172	321.00	55.21
		(ii) Front end-loader 1 cum bucket capacity@ 45 cum per hour	hour	0.122	963.00	117.49
	b)	0				0.00
	c)	Contractor's profit and overheads @ 15 %	on (a+	b)		25.90
	Co	st for 5.5 cum = $a+b+c$				198.60
	Ra	te per cum = (a+b+c) /5.5				36.11
					say	<u>36.10</u>
(ii)		ading of Earth, Sand, Moorum, Manure, Flyash mechanical means including a lead upto 30 m.				
		cing tipper at loading point, loading with fron d loader excluding time for haulage and returr				
	Un	it = cum				
	Tal	king output = 5.5 cum				
	Tin	ne required for				
	i)	Positioning of tipper at loading point	Min	1.00		
	ii)	Loading by front end loader 1 cum bucke capacity @ 100 cum per hour		3.30		
	iii)	Waiting time, unforeseen contingencies, etc.	Min	2.00		
		Total	Min	6.30		
	a)	Machinery				
		(i) Tipper 10 t capacity	hour	0.105	321.00	33.71
	Ŀ	 (ii) Front end-loader 1 cum bucket capacity @ 100 cum per hour 	hour	0.055	963.00	52.97
	b)		on (o.	L)		0.00
	c)	Contractor's profit and overheads @ 15 % st for 5.5 cum = a+b+c	on (a+	D)		13.00 99.67
	ка	te per cum = (a+b+c)/5.5			601/	18.12
(iii)	Ag Ka Fly me	loading of Earth, Sand, Lime, Moorum gregate, Stone Boulder, Brick Aggregate hkar, Building Rubbish, Manure, Crushed Slag ash, Stone for Masonry Work by mechanica ans. it = cum	,		say	<u>18.10</u>
	Tal	king output = 5.5 cum				
	-					

Placing tipper at unloading point excluding time for haulage and return trip

				NLOADING, CARRIAGE, CRUSHING O				
Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
<u> </u>	-		Tin	e required for	-			
			i)	Positioning of tipper at unloading point	Min	1.00		
			ii)	Manoeuvering, reversing, dumping and turning for return	Min	2.00		
			iii)	Waiting time, unforeseen contingencies, etc.	Min	2.00		
				Total	Min	5.00		
			a)	Machinery				
				Tipper 10 t capacity	hour	0.08	321.00	25.68
			b)	0				0.00
			c)	Contractor's profit and overheads @ 15 %	on (a+	b)		3.85
			Cos	st for 5.5 cum = $a+b+c$				29.53
			Rat	te per cum = (a+b+c)/5.5				5.37
							say	<u>5.40</u>
1.3			-	, Unloading and Stacking of Bricks by				
				Means				
		(i)	lea	ading of Bricks by manual means including a d upto 30 m t = 1000 Nos.				
			Tał	king output = 2000 Nos.				
			a)	Labour				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Machinery				
				Truck	hour	0.33	373.00	123.09
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 %	on (a+	b+c)		30.16
			Cos	st for 2000 Nos. = a+b+c+d				231.25
			Rat	te for 1000 bricks = (a+b+c+d)/2				115.63
							say	<u>115.60</u>
		(ii)		oading and Stacking of Bricks by manual ans including a lead upto 30 m				
			Uni	t = 1000 Nos.				
			Tał	king output = 2000 Nos.				
			a)	Labour				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Machinery				
			,	Truck	hour	0.33	373.00	123.09
			c)					0.00
			-)	-				0.00

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Contractor's profit and overheads @	15 % on (a+	 b+c)		 30.16
		Co	ost for 2000 Nos. = a+b+c+d				231.25
		Ra	ate for 1000 bricks = (a+b+c+d)/2				115.63
						say	<u>115.60</u>
1.4	L((i)) Lo lea	g and Unloading of Cement by Manual ading of Cement by manual means includ ad upto 30 m hit = t				
		Та	king output = 10 t				
		a)	Labour				
			Mate	day	0.06	300.00	18.00
			Mazdoor (Unskilled)	day	1.50	300.00	450.00
		b)	Machinery				
			Truck	hour	1.00	373.00	373.00
		c)	0				0.00
		d)	Contractor's profit and overheads @	15 % on (a+	b+c)		126.15
		Co	pst for $10 t = a+b+c+d$				967.15
		Ra	ate per tonnes = (a+b+c+d)/10				96.72
	(ii	al	nloading of Cement by manual means inclu ead upto 30 m hit = t	uding		say	<u>96.70</u>
		Та	king output = 10 t				
			Labour				
			Mate	day	0.06	300.00	18.00
			Mazdoor (Unskilled)	day	1.50	300.00	450.00
		b)	Machinery				
			Truck	hour	1.00	373.00	373.00
		c)	0				0.00
		d)	Contractor's profit and overheads @	15 % on (a+	b+c)		126.15
		Co	ost for 10 t = a+b+c+d				967.15
		Ra	te per tonne = (a+b+c+d)/10				96.72
						say	<u>96.70</u>
1.5			g and Unloading of Structural Steel and ars by manual means				
	(i)	me	ading of Structural Steel, Steel Bars by ma eans including a lead upto 30 m	anual			
			nit = t				
		Та	king output = 10 t				

Ref. to Sr. Rate MORD Description Unit Quantity Amount (₹) No. (₹) Spec. a) Labour day 21.00 Mate 0.07 300.00 Mazdoor (Unskilled) day 1.80 300.00 540.00 b) Machinery Truck 1.00 373.00 373.00 hour C) 0 0.00 d) Contractor's profit and overheads @ 15 % on (a+b+c) 140.10 Cost for 10 t = a+b+c+d1,074.10 Rate per tonnes = (a+b+c+d)/10 107.41 <u>107.40</u> say (ii) Unloading of Structural Steel, Steel Bars by manual means including a lead upto 30 m Unit = t Taking output = 10 t a) Labour 0.07 21.00 Mate day 300.00 Mazdoor (Unskilled) 300.00 540.00 day 1.80 b) Machinery Truck hour 1.00 373.00 373.00 C) 0 0.00 d) Contractor's profit and overheads @ 15 % on (a+b+c) 140.10 1,074.10 Cost for 10 t = a+b+c+dRate per t = (a+b+c+d)/10107.41 107.40 say 1.6 Loading and Unloading of Bitumen Drums by Manual Means Loading of Bitumen Drums by manual means (i) including a lead upto 30 m Unit = t Taking output = 10 t a) Labour Mate 0.06 300.00 18.00 day Mazdoor (Unskilled) day 1.60 300.00 480.00 b) Machinery 466.25 Truck 1.25 373.00 hour c) 0 0.00 d) Contractor's profit and overheads @ 15 % on (a+b+c) 144.64 1,108.89 Cost for 10 t = a+b+c+dRate per tonnes = (a+b+c+d)/10 110.89

Ref. to Sr. Rate MORD Description Unit Quantity Amount (₹) (₹) No. Spec. <u>110.9</u>0 say (ii) Unloading of Bitumen Drums by Manual Means including a lead upto 30 m Unit = t Taking output = 10 t a) Labour 0.05 300.00 15.00 Mate day Mazdoor (Unskilled) 300.00 360.00 day 1.20 b) Machinery Truck hour 1.25 373.00 466.25 c) 0 0.00 d) Contractor's profit and overheads @ 15 % on (a+b+c) 126.19 967.44 Cost for 10 t = a+b+c+d96.74 Rate per t = (a+b+c+d)/10<u>96.70</u> say The rate is inclusive of the self weight of drum Note: 1.7 100 Loading and Unloading of Timber by Manual Means Loading of Timber by manual means including a (i) lead upto 30 m Unit = t Taking output = 5 t a) Labour 12.00 Mate 0.04 300.00 day Mazdoor (Unskilled) day 1.00 300.00 300.00 b) Machinery 1.00 373.00 373.00 Truck hour 0.00 c) 0 102.75 d) Contractor's profit and overheads @ 15 % on (a+b+c) Cost for 5t = a+b+c+d787.75 Rate per t = (a+b+c+d)/5157.55 say <u>157.60</u> (ii) Unloading of Timber by manual means including a lead upto 30 m Unit = t Taking output = 5 t a) Labour Mate day 0.04 300.00 12.00 Mazdoor (Unskilled) 300.00 300.00 day 1.00

LOADING, UNLOADING, CARRIAGE, CRUSHING OF MATERIALS AND SETTING OUT										
Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)		
				Truck	hour	1.00	373.00	373.00		
			c)	0				0.00		
			d)	Contractor's profit and overheads @ 15 %	on (a+	b+c)		102.75		
			Cos	st for $5 t = a+b+c+d$				787.75		
			Rat	e pert = (a+b+c+d)/5				157.55		
							say	<u>157.60</u>		
	Note:	cum	n. İf	of wood has been assumed as 900 kg per the density is less the output may be reduced pnately .						
1.8		Loa	ding	and Unloading of C.C. Blocks, Kerb, etc.						
		(i)	Sto Sto	nding with care C.C. Blocks, km Stone, 200 m ne, Boundary Pillar, Kerb, Channel, Bond ne, etc. by manual means including a lead o 30 m						
			Uni	t = cum						
			Tak	ting output = 5.5 cum						
			a)	Labour						
				Mate	day	0.08	300.00	24.00		
				Mazdoor (Unskilled)	day	2.00	300.00	600.00		
			b)	Machinery						
				Truck	hour	1.50	373.00	559.50		
			c)	0				0.00		
			d)	Contractor's profit and overheads @ 15 %	on (a+	b+c)		177.53		
			Cos	st for 5.5 cum = $a+b+c+d$				1,361.03		
			Rat	e per cum = (a+b+c+d)/5.5				247.46		
		(ii)	m Sto Sto upto	oading with care C.C. Blocks, km Stone, 200 Stone, Boundary Pillar, Kerb, Channel, Bond ne, etc. by manual means including a lead o 30 m t = cum			say	<u>247.50</u>		
			Tak	ting output = 5.5 cum						
			a)	Labour						
				Mate	day	0.08	300.00	24.00		
				Mazdoor (Unskilled)	day	2.00	300.00	600.00		
			b)	Machinery						
				Truck	hour	1.50	373.00	559.50		
			c)	0				0.00		
			d)	Contractor's profit and overheads $@$ 15 %	on (a+	b+c)		177.53		
			Cos	st for 5.5 cum = $a+b+c+d$				1,361.03		

Sr. No.	Ref. to MORD Spec.				Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Rat	e p	er cum = (a+b+c+d)/5.5				247.46
								say	<u>247.50</u>
1.9		Loa	ading	an	d Unloading of Hume Pipes				
		(i)			g of RCC Hume pipes by mechan including a lead upto 30 m	ical			
			Α.	10	00 / 1200 mm dia Hume pipe				
				Ur	nit = per pipe				
				Та	king output = 9 pipes				
				a)	Labour				
					Mate	day	0.02	300.00	6.00
					Mazdoor (Unskilled)	day	0.50	300.00	150.00
				b)	Machinery				
					Truck	hour	0.33	373.00	123.09
					Crane	hour	0.33	1,050.00	346.50
				c)	0				0.00
				d)	Contractor's profit and overheads	@ 15 % or	ı (a+b+c)		93.84
				Сс	ost for 9 pipes = a+b+c+d				719.43
				Ra	ate per pipe = (a+b+c+d)/9				79.94
								say	<u>79.90</u>
			В.	90	0/ 750 mm dia Hume pipe				
				Ur	nit = per pipe				
				Та	king output = 15 pipes				
				a)	Labour				
					Mate	day	0.02	300.00	6.00
					Mazdoor (Unskilled)	day	0.50	300.00	150.00
				b)	Machinery				
					Truck	hour	0.33	373.00	123.09
					Crane	hour	0.33	1,050.00	346.50
				c)	0				0.00
				d)	Contractor's profit and overheads	@ 15 % or	ı (a+b+c)		93.84
				Сс	ost for 15 pipes = a+b+c+d				719.43
				Ra	ate per pipe = (a+b+c+d)/15				47.96
								say	<u>48.00</u>
			С.	60	0/450 mm dia Hume pipe				
				Ur	hit = per pipe				
				Та	king output = 21 pipe				
				a)	Labour				

I Ref. to I I MORD D. I Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Mate	day	0.02	300.00	6.00
			Mazdoor (Unskilled)	day	0.50	300.00	150.00
		b)	Machinery				
			Truck	hour	0.33	373.00	123.09
			Crane	hour	0.33	1,050.00	346.50
		c)	0				0.00
		d)	Contractor's profit and overheads @ 15	5% on	(a+b+c)		93.84
		Cos	st for 21 pipes = a+b+c+d				719.43
		Rat	te per pipe = (a+b+c+d)/21				34.26
						say	<u>34.30</u>
(ii)			ng of RCC Hume pipe by manual means g a lead upto 30 m				
	Α.	100	00/1200 mm dia RCC Hume pipes				
		Uni	it = per pipe				
		Tał	king output = 5 pipes				
		a)	Labour				
			Mate	day	0.04	300.00	12.0
			Mazdoor (Unskilled)	day	1.00	300.00	300.00
		b)	Machinery				
			Truck	hour	2.00	373.00	746.00
		c)	Material				
			Wooden sleepers 250mm x 250mm x125mm hire charges 3 nos sleeper		2.00	18.50	37.00
			Crow bars 2 nos not less than 40 mm dia (hire-charges)	hour	2.00	11.25	22.50
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 % on (a+b+c+d)				167.63
			Cost for 5 pipes = $a+b+c+d+e/5$				1,285.13
			Rate per pipe = (a+b+c+d+e)				257.03
						say	<u>257.00</u>
	В.	900	0/ 750 mm dia Hume pipe				
		Uni	it = per pipe				
		Tał	king output = 6 pipes				
		a)	Labour				
			Mate	day	0.04	300.00	12.0
			Mazdoor (Unskilled)	day	1.00	300.00	300.0
		b)	Machinery				
			Truck	hour	2.00	373.00	746.00

		DADING, CARRIAGE, CRUSHING OI				
Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	 c)	Materials				
		Wooden sleepers 250mm x250mm x 125mm hire charges 3 nos. sleeper	hour	2.00	18.50	37.00
		Crow bars 2 nos not less than 40 mm dia	hour	2.00	11.25	22.50
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 % on (a+b+c+d)				167.63
		Cost for 6 pipes = a+b+c+d+e				1,285.13
		Rate per pipe = (a+b+c+d+e)/6				214.19
					say	<u>214.20</u>
	C. 60	0/450 mm dia Hume pipe				
	Ur	nit = per pipe				
	Та	king output = 8 pipes				
	a)	Labour				
		Mate	day	0.04	300.00	12.00
		Mazdoor (Unskilled)	day	1.00	300.00	300.00
	b)	Machinery				
		Truck	hour	2.00	373.00	746.00
	c)	Materials				
		Wooden sleepers 250mm x 250mm x 125mm hire charges 3 nos. sleeper	hour	2.00	18.50	37.00
		Crow bars 2 nos not less than 40 mm dia	hour	2.00	11.25	22.50
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 % on (a+b+c+d)				167.63
		Cost for 8 pipes = a+b+c+d+e				1,285.13
		Rate per pipe = (a+b+c+d+e)/8				160.64
					say	<u>160.60</u>
(iii)	means	ling of RCC Hume pipes by mechanical including a lead upto 30 m 00/1200 mm dia Hume pipe				
		nit = per pipe				
		king output = 9 pipes				
		Labour				
	,	Mate	day	0.02	300.00	6.00
		Mazdoor (Unskilled)	day	0.50	300.00	150.00
	b)	Machinery	2			
	,	Truck	hour	0.33	373.00	123.09
		Crane	hour	0.33	1,050.00	346.50

Sr. Ref. t MOR No. Spec	D	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		 c) 0				0.00
		 d) Contractor's profit and overheads @ 15 % on (a+b+c) 				93.84
		Cost for 9 pipes = a+b+c+d				719.43
		Rate per pipe = (a+b+c+d)/9				79.94
					say	<u>79.90</u>
	В.	900/ 750 mm dia Hume pipe				
		Unit = per pipe				
		Taking output = 15 pipes				
		a) Labour				
		Mate	day	0.02	300.00	6.00
		Mazdoor (Unskilled)	day	0.50	300.00	150.00
		b) Machinery				
		Truck	hour	0.33	373.00	123.09
		Crane	hour	0.33	1,050.00	346.50
		c) 0				0.00
		d) Contractor's profit and overheads @ 1	l5 % on	(a+b+c)		93.84
		Cost for 15 pipes = a+b+c+d				719.43
		Rate per pipe = (a+b+c+d)/15				47.96
					say	<u>48.00</u>
	C.	600/450 mm dia Hume pipe				
		Unit = per pipe				
		Taking output = 21 pipes				
		a) Labour				
		Mate	day	0.02	300.00	6.00
		Mazdoor (Unskilled)	day	0.50	300.00	150.00
		b) Machinery				
		Truck	hour	0.33	373.00	123.09
		Crane	hour	0.33	1,050.00	346.50
		c) 0				0.00
		d) Contractor's profit and overheads @ 1	l5 % on	(a+b+c)		93.84
		Cost for 21 pipes = a+b+c+d				719.43
		Rate per pipe = (a+b+c+d)/21				34.26
					say	<u>34.30</u>
1.10	Haulage	e excluding Loading & Unloading				

loading, unloading and stacking. Unit = t.km

Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	Taki	ing output 10 t load and lead 10 km = 100 t.	.km			
	Cas	e-I : Surfaced Road				
	Spe	ed with load: 20 km per hour				
	Spe	ed while returning empty: 35 km per hour				
	(Cor	nsidering hilly roads and the timing of move	ments in Megh	alaya & Tripu	ra on the NH)
	a)	Machinery				
		Tipper 10 t capacity				
		Haulage with load	hour	0.50	321.00	160.50
		Empty return trip	hour	0.29	321.00	93.09
	b)	0				0.0
	c)	Contractor's profit and overheads @ 15	5 % on (a+b)			38.04
	Cos	t for 100 t.km = a+b+c				291.63
	Rate	e per t.km = (a+b+c)/100				2.92
					say	<u>2.9</u>
	num item	en as 8 t and the rate for t is to be divin the of pipes of different diameters as indic the nate per pipe.				
		e-II: Unsurfaced Gravel Road				
	•	ed with load: 15 km/hour				
	Spe	ed for empty return trip: 30 km/hour				
	a)	Machinery				
		Tipper 10 t capacity				
		Haulage with load	hour	0.67	321.00	215.0
		Empty return trip	hour	0.33	321.00	105.93
	b)	0				0.0
	c)	Contractor's profit and overheads @ 15	5 % on (a+b)			48.1
	Cost	t for 100 t.km = a+b+c				369.1
	Rate	e per t.km = (a+b+c)/100				3.69
					say	<u>3.70</u>
		ase of carriage of Hume pipes, output of t				
Note	num	en as 8 t and the rate per t is to be div. nber of pipes of different diameters as indic n 1.9 to get the rate per pipe.	cated in			
Note	num item	nber of pipes of different diameters as indic	cated in River			
Note	num item Cas	nber of pipes of different diameters as indic n 1.9 to get the rate per pipe. ne-III: Katcha Track and Track in				

a) Machinery

LOADING, UNLOADING, CARRIAGE, CRUSHING OF MATERIALS AND SETTING OUT										
Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)		
			i)	Tipper 10 t capacity						
			-	Haulage with load	hour	1.00	321.00	321.00		
				Empty return trip	hour	0.67	321.00	215.07		
		b)	0					0.00		
		c)	Со	ntractor's profit and overheads @ 15 % on	(a+b)			80.41		
		Cos	st for	100 t.km = a+b+c				616.48		
		Rat	e pe	r t.km = (a+b+c)/100				6.16		
							say	<u>6.20</u>		
	Note:	take nun	en a: nber	of carriage of Hume pipes, output of truck be s 8 t and the cost for 8 t is to be divided by of pipes of different diameters as indicated in to get the rate per pipe.						
1.11		Sup	oply	of Quarried stone and hand breaking						
		(i)	coa	oply of quarried stone and hand breaking into arse aggregate to Grading 1 (90 mm to 45 mm) per Table 400.8 of Technical Specifications.						
			Uni	it = cum						
			Tał	king output = 1 cum						
			a)	Labour						
				Mate	day	0.048	300.00	14.40		
				Mazdoor (Unskilled)	day	1.20	300.00	360.00		
			b)	Material						
				Supply of quarried stone 150-200 mm size	cum	1.10	2,603.00	2,863.30		
			c)	0				0.00		
			d)	Contractor's profit and overheads @ 15 %	on (a+	b+c)		485.66		
			Rat	te per cum = a+b+c+d				3,723.36		
							say	<u>3723.40</u>		
		(ii)	coa	oply of quarried stone and hand breaking into arse aggregate to Grading 2 (63 mm to 45 mm) per Table 400.8 of Technical Specifications.						
			Uni	t = cum						
			Tał	king output = 1 cum						
			a)	Labour						
				Mate	day	0.06	300.00	18.00		
				Mazdoor (Unskilled)	day	1.50	300.00	450.00		
			b)	Material						
				Supply of quarried stone 150-200 mm size	cum	1.10	2,603.00	2,863.30		
			c)	0				0.00		
			d)	Contractor's profit and overheads @ 15 %	on (a+	b+c)		499.70		

LOADING, UNLOADING, CARRIAGE, CRUSHING OF MATERIALS AND SETTING OUT Ref. to Sr. Rate MORD Description Unit Quantity Amount (₹) (₹) No. Spec. Rate per cum = a+b+c+d 3,831.00 3831.00 say (iii) Supply of quarried stone and hand breaking into coarse aggregate to Grading 3 (53 mm to 22.4 mm) as per Table 400.8 of Technical Specifications. Unit = cum Taking output = 1 cum a) Labour Mate day 0.072 300.00 21.60 Mazdoor (Unskilled) 540.00 day 1.80 300.00 b) Material Supply of quarried stone 150-200 mm size cum 1.10 2,603.00 2,863.30 c) 0 0.00 d) Contractor's profit and overheads @ 15 % on (a+b+c) 513.74 Rate per cum = a+b+c+d 3,938.64 3938.60 say 1.12 Crushing of Stone boulders in to aggregates 100 per cent passing through 53 mm sieve as per Table 500.6 of Technical Specification. Crushing of Stone boulders of 150 mm size and below in an integrated stone crushing unit of 200 t/ h capacity comprising of primary and secondary crushing units, belt conveyor and vibrating screens to obtain stone aggregates 100 per cent passing through 53 mm sieve as per Table 500.6 of Technical Specification including cost of stones. Unit = cum Taking output = 750 cum at crusher location Labour a) Mate day 0.76 300.00 228.00 Mazdoor (Skilled) 2.00 380.00 760.00 day 17.00 300.00 5,100.00 Mazdoor (Unskilled) day Material b) Stone Boulder of size 150 mm and below 800.00 2,050,400.00 cum 2,563.00 c) Machinery Integrated stone crusher of 200 t/h including belt 14,451.00 86,706.00 hour 6.00 conveyor and vibrating screens Front end loader 1 cum bucket capacity 20.00 963.00 19,260.00 hour Tipper 5.5 cum capacity hour 20.00 321.00 6,420.00 d) 0 0.00

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		e)	Contractor's profit and overheads @ 15 % on	(a+b+c+	 ⊦d)		325,331.10
		Cos	t for 750 cum = $(a+b+c+d+e)$				2,494,205.10
		Rat	e per cum =[(a+b+c+d+e) x 0.85]/ 750				2,826.77
						say	<u>2826.80</u>
	Note:	1	800 cum of stone boulders are needed to get 750 cum of stone aggregates.				
		2	85 per cent of above cost will be attributed to the production of 750 cum of stone aggregates of 40 mm size and balance 15 per cent will be for smaller size aggregates and stone dust which comes out as a by-product.				
		3	The integrated stone crusher includes primary and secondary crushing units.				
1.13		per	shing of Stone boulders in to aggregates 100 cent passing through 22.4 mm sieve as per le 500.6 of Technical Specification.				
		in a com belt agg siev	shing of Stone boulders of 150 mm size and below n integrated stone crushing unit of 200 t/ h capacity pprising of primary and secondary crushing units, conveyor and vibrating screens to obtain stone regates 100 per cent passing through 22.4 mm re as per Table 500.6 of Technical Specification uding cost of stones.				
		Unit	: = cum				
		Tak	ing output = 670 cum at crusher location				
		a)	Labour				
			Mate	day	0.76	300.00	228.00
			Mazdoor (Skilled)	day	2.00	380.00	760.00
			Mazdoor (Unskilled)	day	17.00	300.00	5,100.00
		b)	Material				
			Stone boulder of size 150 mm and below	cum	800.00	2,563.00	2,050,400.00
		c)	Machinery				
			Integrated stone crusher of 200 t/h including belt conveyor and vibrating screens	hour	6.00	14,451.00	86,706.00
			Front end loader 1 cum bucket capacity	hour	10.00	963.00	9,630.00
			Tipper 5.5 cum capacity	hour	10.00	321.00	3,210.00
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 % on	(a+b+c+	⊦d)		323,405.10
			Cost for 670 cum = $(a+b+c+d+e)$				2,479,439.10
			Rate per cum = [(a+b+c+d+e) x 0.90]/ 670				3,330.59
						say	<u>3330.60</u>
	Note:	1	800 cum of stone boulders are needed to get 670 cum of stone chips of required size				

cum of stone chips of required size.

		ING	, UNLOADING, CARRIAGE, CRUSHING OF				
Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		2	production of 670 cum of stone aggregate and balance 10 per cent will be for smaller size aggregates and stone dust which comes out as a by-product.				
1.14		per	Ishing of Stone boulders in to aggregates 100 cent passing through 13.2 mm sieve as per ble 500.9 of Technical Specification.				
		in a com belt agg siev	shing of Stone boulders of 150 mm size and below in integrated stone crushing unit of 200 t/ h capacity inprising of primary and secondary crushing units, is conveyor and vibrating screens to obtain stone gregates 100 per cent passing through 13.2 mm /e as per Table 500.9 of Technical Specification uding cost of stones.				
		Uni	t = cum				
		Tak	ring output = 600 cum at crusher location				
		a)	Labour				
			Mate	day	0.76	300.00	228.00
			Mazdoor (Skilled)	day	2.00	380.00	760.00
			Mazdoor (Unskilled)	day	17.00	300.00	5,100.00
		b)	Material				
			Stone Boulder of size 150 mm and below	cum	800.00	2,563.00	2,050,400.00
		c)	Machinery				
			Integrated stone crusher of 200 t/h including belt conveyor and vibrating screens	hour	6.00	14,451.00	86,706.00
			Front end loader 1 cum bucket capacity	hour	10.00	963.00	9,630.00
			Tipper 5.5 cum capacity	hour	10.00	321.00	3,210.00
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 % on (a+b+c+	-d)		323,405.10
			Cost for 600 cum = $(a+b+c+d+e)$				2,479,439.10
			Rate per cum = [(a+b+c+d+e) x 0.95]/ 600				3,925.78
	Note:	1	800 cum of stone boulders are needed to get 600 cum of stone chips of size 13.2 mm and 125 cum stone dust.			say	<u>3925.80</u>
		2	95 per cent of above cost will be attributed to the production of 600 cum of stone chips of 13.2 mm size and balance 5 per cent to the production of stone dust which comes out as a by-product.				
		3	The integrated stone crusher includes primary				

and secondary crushing units.

		, UNLOADING, CARRIAGE, CRUSHING O								
Sr. Ref. to MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)				
	4	The analysis for curshing of stone chips of size 11.2 mm will be same as for 13.2 mm								
1.15	per	ushing of Stone boulders in to aggregates 100 r cent passing through 9.5 mm sieve as per ble 500.9 of Technical Specification.								
	in a con belt agg siev	Crushing of Stone boulders of 150 mm size and below in an integrated stone crushing unit of 200 t/ h capacity comprising of primary and secondary crushing units, belt conveyor and vibrating screens to obtain stone aggregates 100 per cent passing through 9.5 mm sieve as per Table 500.9 of Technical Specification including cost of stones.								
	Uni	t = cum								
	Tak	king output = 600 cum at crusher location								
	a)	Labour								
		Mate	day	0.76	300.00	228.00				
		Mazdoor (Skilled)	day	2.00	380.00	760.00				
		Mazdoor (Unskilled)	day	17.00	300.00	5,100.00				
	b)	Material								
		Stone Boulder of size 150 mm and below	cum	800.00	2,563.00	2,050,400.00				
	c)	Machinery								
		Integrated stone crusher of 200 t/h including belt conveyor and vibrating screens	hour	6.00	14,451.00	86,706.00				
		Front end loader 1 cum bucket capacity	hour	10.00	963.00	9,630.00				
		Tipper 5.5 cum capacity	hour	10.00	321.00	3,210.00				
	d)	0				0.00				
	e)	Contractor's profit and overheads @ 15 % on	(a+b+c-	⊦d)		323,405.10				
	Cos	st for 600 cum = $(a+b+c+d+e)$				2,479,439.10				
	Rat	te per cum = [(a+b+c+d+e) x 0.95]/ 600				3,925.78				
Note:	1	800 cum of stone boulders are needed to get 600 cum of stone chips of size 9.5 mm and 125 cum stone dust.			say	<u>3925.80</u>				
	2	95 per cent of above cost will be attributed to the production of 600 cum of stone chips of 9.5 mm size and balance 5 per cent to the production of stone dust which comes out as a by-product.								
	3	The integrated stone crusher includes primary and secondary crushing units.								
1.16 100	Set	ting Out								

1.16 100 Setting Out

Unit = 1 km

The analysis of rate per km shall account for the following:

Sr. No.	Ref. to MORD Spec.	i.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
L		(i)	Reference benchmark 1 (one) no.		L J_		
		(ii)	Working benchmark 4 (four) nos per km and near all drainage structure and bridges				
		(iii)	Reference Pillars/Burjees @ 50 m interval on both sides of the formation width				
		(iv)	The marking of centre line setting out curves and recording of levels, etc. by the surveyor will be incidental to the work and no extra payment shall be made for the same				
		(v)	The rate analysis for a typical benchmark as per Drawing 200.1				
			1. Excavation for structure earthwork in excavation for foundations as per drawing and technical specification including dressing of sides and bottom and backfilling in ordinary soil.				
			As per item No.11.1.A.I(i) of Chapter 11	cum	0.325	287.00	93.28
			 Plain cement concrete M10 (1:3:6) nominal mix in levelling course below open foundation as per drawing and technical specification. 				
			As per item No.11.4.I(i) of Chapter 11	cum	0.10	6,890.10	689.01
			3. Brick masonry work in cement mortar 1:3 in foundation complete excluding pointing and plastering as per drawing and technical specification.				
			As per item No.11.5.I of Chapter 11	cum	0.475	5,602.50	2,661.19
			4. Plastering with cement mortar 1:4, 15 mm thick cement plaster on brick work as per technical specifications.				
			As per item No.12.3 of Chapter 12	sqm	2.63	145.60	382.93
	Note:		5 per cent cost of items No.1 to 4 for white hing, lettering and painting, etc.				191.32
			Cost for 1 (one) no Bench Mark =				4,017.72
						say	<u>4017.70</u>
		(vi)	The rate analysis for a typical reference pillar as per Drawing 200.2				
			1. Excavation for structure earthwork in excavation for foundations as per drawing and technical specification including dressing of sides and bottom and backfilling in ordinary soil.				
			As per item No.11.1.A.I(i) of Chapter 11	cum	0.192	287.00	55.10
			 Plain cement concrete M10 (1:3:6) nominal mix in levelling course below open foundation as per drawing and technical specification. 				
			As per item No.11.4.I(i) of Chapter 11	cum	0.06	6,890.10	413.41
			3. Brick masonry work in cement mortar 1:3 in foundation complete excluding pointing and plastering as per drawing and technical specification.				

Sr. Ref. No. MOR Spec	D Description	Unit	Quantity	Rate (₹)	Amount (₹)
	As per item No.11.5.I of Chapter 11	cum	0.193	5,602.50	1,081.28
	 Plastering with cement mortar 1:4, 15 mr thick cement plaster on brick work as pe technical specifications. 				
	As per item No.12.3 of Chapter 12	sqm	1.50	145.60	218.40
	Add 5 per cent cost of items No.1 to 4 for whit washing, lettering and painting, etc.	Э			88.41
	Cost for 1 (one) no Bench Mark =				1,856.60
				say	<u>1856.60</u>
1.17	Haulage excluding Loading & Unloading for Hume	pipes.			
	Haulage of materials by tipper excluding cost of loading, unloading and stacking. Unit = t.km	f			
	Taking output 8 t load and lead 10 km = 80 t.km				
	Case-I : Surfaced Road				
	Speed with load: 25 km per hour				
	Speed while returning empty: 35 km per hour				
	a) Machinery				
	Truck 10 t capacity (considering out put of 8	8 t for hu	me pipes)		
	Haulage with load	hour	0.40	373.00	149.20
	Empty return trip	hour	0.29	373.00	108.17
	b) 0				0.00
	c) Contractor's profit and overheads @ 15 % or	(a+b)			38.61
	d) Cost for 80 t.km = a+b+c	. ,			295.98
	So, Rate per Pipe per Km:-				
	i) For 1000/ 1200 mm dia = (d) / 3 nos / 10 km				
	(considering 2.85 Tonne per pipe of 2.50 mtr length)				9.87
				say	<u>9.90</u>
	ii) For 900/ 750 mm dia = (d) / 4 nos / 10 km				
	(considering 2.07 Tonne per pipe of 2.50 mtr length)				7.40
				say	<u>7.40</u>
	iii) For 600/ 450 mm dia = (d) / 6 nos / 10 km				
	(considering 1.40 Tonne per pipe of 2.50 mtr length)				4.93
				say	<u>4.90</u>
	Case-II: Unsurfaced Gravel Road				
	Speed with load: 15 km/hour				
	Speed for empty return trip: 20 km/hour				

Truck 10 t capacity (considering out put of 8 t for hume pipes)

Sr. No.	Ref. to MORD Spec.		• 	Description		Unit	Quantity	Rate (₹)	Amount (₹)
				Haulage with load		hour	0.67	373.00	249.91
				Empty return trip		hour	0.50	373.00	186.50
		b)	0						0.00
		c)	Со	ntractor's profit and overheads @ 15	% on (a+b)			65.46
		d)	Co	st for 80 t.km = a+b+c					501.87
		i) F	or 10	000/ 1200 mm dia = (d) / 3 nos / 10 km					
		(cor	nside	ring 2.85 Tonne per pipe of 2.50 mtr len	gth)				16.73
								say	<u>16.70</u>
		ii) F	For 9	00/ 750 mm dia = (d) / 4 nos / 10 km					
		(cor	nside	ering 2.07 Tonne per pipe of 2.50 mtr len	gth)				12.55
								say	<u>12.50</u>
		iii) I	For 6	600/ 450 mm dia = (d) / 6 nos / 10 km					
		(cor	nside	ring 1.40 Tonne per pipe of 2.50 mtr len	gth)				8.36
								say	<u>8.40</u>
		Cas	se-III	: Katcha Track and Track in Bed/Nallah Bed and Choe Bed	River				
		Spe	eed v	vith load: 10 km per hour					
		Spe	eed v	while returning empty: 15 km per hour					
		a)	Ма	chinery					
			i)	Truck 10 t capacity (considering out p	ut of 8 t	for hur	me pipes)		
				Haulage with load		hour	1.00	373.00	373.00
				Empty return trip		hour	0.67	373.00	249.91
		b)	0						0.00
		c)	Co	ntractor's profit and overheads @ 15	% on (a+b)			93.44
		d)	Co	st for 80 t.km = a+b+c					716.35
		i) F	or 10	000/ 1200 mm dia = (d) / 3 nos / 10 km					
		(cor	nside	ring 2.85 Tonne per pipe of 2.50 mtr len	gth)				23.88
								say	<u>23.90</u>
		ii) F	For 9	00/ 750 mm dia = (d) / 4 nos / 10 km					
		(cor	onside	ering 2.07 Tonne per pipe of 2.50 mtr len	gth)				17.91
								say	<u>17.90</u>
		iii) I	For 6	600/ 450 mm dia = (d) / 6 nos / 10 km					
		(cor	nside	ering 1.40 Tonne per pipe of 2.50 mtr len	gth)				11.94
								say	<u>11.90</u>
		1. I be i nun	taker mber	se of carriage of Hume pipes, output o n as 8 t and the cost for 8 t is to be divid of pipes of different diameters as indica to get the rate per pipe.	led by				

Sr. MORD Description	Unit	Quantity	Rate (₹)	Amount (₹)	
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2. The length of each pipe is taken as 2.50 mtr.

3. For 1(one) trip of truck following lengths are considered for different dia of pipe.

- i. 1000/ 1200 mm of total 7.50 mtr length (3 nos).
- ii. 900/ 750 mm of total 10.00 mtr length (4 nos).
- iii. 600/ 450 mm of total 15.00 mtr length (6nos).

ADDITIONAL ITEMS BY USING JHAMA BRICK AGGREGATE (i.e. LOCALLY AVAILABLE MATERIALS)

1.18	100	(usi	ing Out (As per drawing 200.1 and 200.2) ng PCC with jhama brick aggregate) = 1 km
		The	analysis of rate per km shall account for the following:
		(i)	Reference benchmark 1 (one) no.
		.,	Working benchmark 4 (four) nos per km and near all drainage structure and bridges
		(iii)	Reference Pillars/Burjees @ 50 m interval on both sides of the formation width = 40 nos
		(iv)	The marking of centre line setting out curves and recording of levels, etc. by the surveyor will be incidental to the work and no extra payment shall be made for the same
		Α.	Ordinary Soil
		1)	Construction of typical benchmark as per drawing 200.1 (considering PCC M10 with jhama brick aggregate in place of brick work)
			 Earthwork in excavation for foundations as per drawing and technical specification.
			As per item No.11.1.A.I(i) of Chapter 11 cum 2.925 287.00 839.48
			 b. Plain cement concrete work in M10 (with jhama brick aggregate)in foundation complete as per drawing and technical specification.
			As per item No.11.9.I(ii) of Chapter 11 cum 5.175 5,881.10 30,434.69
			c. Plastering with cement mortar 1:4 as per technical specifications.
		2)	As per item No.12.3 of Chapter 12 sqm 23.67 145.60 3,446.35 Construction of typical refernce pillar as per drawing 200.2 (considering PCC M10 with jhama brick aggregate in place of brick work)
			a. Earthwork in excavation for foundations as per drawing and technical specification.
			As per item No.11.1.A.I(i) of Chapter 11 cum 7.680 287.00 2,204.16
			 b. Plain cement concrete work in M10 (with jhama brick aggregate)in foundation complete as per drawing and technical specification.
			As per item No.11.9.I(ii) of Chapter 11 cum 10.12 5,881.10 59,516.73

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			 Plastering with cement mortar 1:4 as per technical specifications. 				
			As per item No.12.3 of Chapter 12	sqm	60.00	145.60	8,736.00
	Note:		5 per cent cost of items No.(1) & (2) for white hing, lettering and painting, etc.				5,258.87
			Rate Per K	N			110,436.28
						say	<u>110436.30</u>
		В.	In Ordinary Rock (not requiring blasting)				
		1)	Construction of typical benchmark as per drawir 200.1 (considering PCC M10 with jhama brid aggregate in place of brick work)				
			a. Earthwork in excavation for foundations a per drawing and technical specification.	S			
			As per item No.11.1.A.II(i) of Chapter 11	cum	2.925	358.80	1,049.49
			 Plain cement concrete work in M10 (with jhama brick aggregate)in foundation complete as per drawing and technic specification. 	n			
			As per item No.11.9.I(ii) of Chapter 11	cum	5.175	5,881.10	30,434.69
			 Plastering with cement mortar 1:4 as per technical specifications. As per item No.12.3 of Chapter 12 	sqm	23.67	145.60	3,446.3
		2)	Construction of typical reference pillar as po drawing 200.2 (considering PCC M10 with jham brick aggregate in place of brick work)	er .			0,110.0
			 Earthwork in excavation for foundations a per drawing and technical specification. 	S			
			As per item No.11.1.A.II(i) of Chapter 11 b. Plain cement concrete work in M10 (wir jhama brick aggregate)in foundation complete as per drawing and technic specification.	n	7.680	358.80	2,755.58
			As per item No.11.9.I(ii) of Chapter 11	cum	10.12	5,881.10	59,516.7
			c. Plastering with cement mortar 1:4 as per technical specifications.				
	Note:		As per item No.12.3 of Chapter 12 5 per cent cost of items No.(1) & (2) for white hing, lettering and painting, etc.	sqm	60.00	145.60	8,736.0 5,296.9
			Rate Per K	N		say	111,235.79 <u>111235.80</u>
		C.	In Hard Rock (blasting prohibited)				
		1)	Construction of typical benchmark as per drawir 200.1 (considering PCC M10 with jhama brid aggregate in place of brick work)				
			a. Earthwork in excavation for foundations a per drawing and technical specification.	S			
			As per item No.11.1.A.III of Chapter 11	cum	2.925	548.60	1,604.6

<u></u>				F MATERIALS AND SETTING OUT					
Sr. No.	Ref. to MORD Spec.		Des	scription	Unit	Quantity	Rate (₹)	Amount (₹)	
			jhama brick agg	oncrete work in M10 (with gregate)in foundation r drawing and technical					
			As per item No.	11.9.I(ii) of Chapter 11	cum	5.175	5,881.10	30,434.69	
			technical specifi						
				12.3 of Chapter 12	sqm	23.67	145.60	3,446.35	
		2)		pical refernce pillar as per sidering PCC M10 with jhama lace of brick work)					
				xcavation for foundations as technical specification.					
			o. Plain cement o jhama brick	11.1.A.III of Chapter 11 concrete work in M10 (with aggregate)in foundation per drawing and technical	cum	7.680	548.60	4,213.25	
			As per item No.	11.9.I(ii) of Chapter 11	cum	10.12	5,881.10	59,516.73	
			c. Plastering with technical specifi	cement mortar 1:4 as per ications.					
			As per item No.	12.3 of Chapter 12	sqm	60.00	145.60	8,736.00	
	Note:		5 per cent cost of ite ing, lettering and pa	ms No.(1) & (2) for white inting, etc.				5,397.58	
				Rate Per KM			say	113,349.26 <u>113349.30</u>	
1.19	100		ng Out (As per drav jhama brick aggree	wing enclosed) (using PCC gate)					
		Unit	= 1 km						
		The	analysis of rate per k	m shall account for the followi	ng:				
		(i)	Reference benchma	ırk 1 (one) no.					
		(ii)		4 (four) nos per km and near sture and bridges (4 nos					
				Total - 9 nos.					
		(iii)	Reference Pillars/B poth sides of 40 nos .	urjees @ 50 m interval on the formation width					
		(iv)	The marking of cent recording of levels,	tre line setting out curves and etc. by the surveyor will be rk and no extra payment shall ne					
		(v)	The rate analysis fo Drawing enclosed.	or a typical benchmark as per					

Ref. to Sr. Rate MORD Description Unit Quantity Amount (₹) No. (₹) Spec. 300 -15 mm cement plaster 1:4 500 C.C. M 10 (1:3:6 with jhama brick G.L. aggregate) 500 C.C. M 10 (1:3:6 with jhama brick aggregate) 100 500 For all calss of soil 1. Excavation for structure earthwork in excavation for foundations as per drawing and technical specification including dressing of sides and bottom and backfilling in ordinary soil. 0.50 x 0.50 x 0.50 As per item No.11.1.A.I(i) of Chapter 11 0.130 287.04 37.32 cum 2. Plain cement concrete M10 (1:3:6) nominal mix in levelling course below open foundation as per drawing and technical specification. As per item No.11.9.I(ii) of Chapter 11 cum 0.11 5,881.10 646.92 3. Plastering with cement mortar 1:4 as per technical specifications. As per item No.12.3 of Chapter 12 0.81 145.60 117.94 sqm Add 5 per cent for white washing, lettering and 40.11 painting, etc. Cost for 1 (one) no Bench Mark/ refernce pillar = 842.28 Rate per Km = 49 x 842.28 41271.76 say 41271.80

			SITE CLEARANCE				
Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
2.1	201	Clearing G	rass and Removal of Rubbish				
		of 30 m out	ass and removal of rubbish up to a distand side the periphery of the area as per MoR pecification Clause 201.				
		By Manual	Means				
		Unit = hecta	are				
		Taking outp	ut = 1 hectare				
		a) Labou	r				
		Mate		day	1.60	300.00	480.00
		Mazdo	or (Unskilled)	day	40.00	300.00	12,000.00
		b) 0					0.00
		c) Contra	actor's profit and overheads $@$ 15 % on	(a+b)			1,872.00
		Rate per h	ectare = a+b+c				14,352.00
						say	<u>14352.00</u>
2.2	201	Clearing ar	nd Grubbing Road Land				
		earlier and stacking o auctioned, u disposal of	00 mm , removal of stumps of such trees c disposal of unserviceable materials ar f serviceable material to be used upto a lead of 1000 m including removal ar top organic soil not exceeding 150 mm s per MoRD Technical Specification claus	nd or nd in			
		Unit = hecta	are				
		Taking outp	ut = 1 hectare				
		(I) By Ma	nual Means				
		(A) In	area of non-thorny jungle				
		a)	Labour				
			Mate	day	6.00	300.00	1,800.00
			Mazdoor (Unskilled)	day	150.00	300.00	45,000.00
		b)	Machinery				
			Tractor with trolley	hour	1.00	303.00	303.00
		c)	0				0.00
		d)	Contractor's profit and overheads @ 1	5 % on (a+b+c)		7,065.45
		Ra	ate per hectare = a+b+c+d				54,168.45
						say	<u>54168.50</u>
		(B) In	area of thorny jungle				
		a)	Labour				
			Mate	day	8.00	300.00	2,400.00
			Mazdoor (Unskilled)	day	200.00	300.00	60,000.00

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			b) Machinery				
				Tractor with trolley	hour	2.00	303.00	606.00
			с) 0				0.0
			d) Contractor's profit and overheads @ 15	% on (a+b+c)		9,450.9
			F	ate per hectare = a+b+c+d				72,456.9
							say	<u>72456.90</u>
		(II)	By M	echanical Means				
			(A) lı	n area of non-thorny jungle				
			а) Labour				
				Mate	day	0.16	300.00	48.0
				Mazdoor (Unskilled)	day	4.00	300.00	1,200.0
			b) Machinery				
				Dozer D 50 with attachment or suitable machinery for removal of trees & stumps	hour	10.00	1,463.00	14,630.0
				Tractor with Trolley	hour	1.00	303.00	303.0
			с) Overheads @ 10 % on (a+b)				0.0
			d) Contractor's profit and overheads @ 15	% on (a+b+c)		2,427.1
			F	ate per hectare = a+b+c+d				18,608.1
							say	<u>18608.20</u>
			(B) lı	n area of thorny jungle				
			а) Labour				
				Mate	day	0.24	300.00	72.0
				Mazdoor (Unskilled)	day	6.00	300.00	1,800.0
			b) Machinery				
				Dozer D 50 with attachment for removal of trees & stumps	hour	12.00	1,463.00	17,556.0
				Tractor with trolley	hour	1.50	303.00	454.5
			С) 0				0.0
			d) Contractor's profit and overheads @ 15	% on (a+b+c)		2,982.3
			F	ate per hectare = a+b+c+d				22,864.8
							say	<u>22864.90</u>
	Note:	site, con	, if s served	oil removed during clearing and grubbing of uitable for re-use shall be transported, and stacked as directed by the Engineer and cidental to the work.				

2.3 201 Cutting of Trees including Cutting of Trunks, Branches and Removal of Stumps

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)		
	Cutting of trees, including cutting of trunks, branches and removal of stumps & roots, refilling, compaction of backfilling and stacking of serviceable material by manual means with all lifts as per MoRD Technical Specification Clause 201. A. Lead upto 100 m									
	Unit = each									
		(i)		rth above 300 mm to 600 mm						
			a)	Labour		0.004		7.00		
				Mate	day	0.024	300.00	7.20		
				Mazdoor (Unskilled)	day	0.60	300.00	180.00		
			b)	Machinery						
				Tractor with trolley	hour	0.07	303.00	21.21		
			c)					0.00		
				Contractor's profit and overheads @ 15	% on (a+b+c)		31.26		
			Ra	te for each tree = a+b+c+d				239.67		
							say	<u>239.70</u>		
		(ii)	Gi	rth above 600 mm to 900 mm						
			a)	Labour						
				Mate	day	0.036	300.00	10.80		
				Mazdoor (Unskilled)	day	0.90	300.00	270.00		
			b)	Machinery						
				Tractor with trolley	hour	0.21	303.00	63.63		
			c)	0				0.00		
			d)	Contractor's profit and overheads @ 15	% on (a+b+c)		51.66		
			Ra	te for each tree = a+b+c+d				396.09		
							say	<u>396.10</u>		
		(iii)	Gi	rth above 900 mm to 1800 mm						
			a)	Labour						
			•	Mate	day	0.08	300.00	24.00		
				Mazdoor (Unskilled)	day	2.00	300.00	600.00		
			b)	Machinery						
			,	Tractor with trolley	hour	0.28	303.00	84.84		
			c)	-				0.00		
	d) Contractor's profit and overheads @ 15 % on (a+b+c)									
			-	te for each tree = $a+b+c+d$	(- /		106.33 815.17		
							say	<u>815.20</u>		
							Cuy	0.0120		

(iv) Girth above 1800 mm to 2700 mm

Sr. Ref. to Sr. MORD No. Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)		
		a)	Labour		• -				
			Mate	day	0.16	300.00	48.00		
			Mazdoor (Unskilled)	day	4.00	300.00	1,200.00		
		b)	Machinery						
			Tractor with trolley	hour	0.42	303.00	127.26		
		c)	0				0.00		
		d) Contractor's profit and overheads @ 15 % on (a+b+c)					206.29		
		Ra	te for each tree = a+b+c+d				1,581.55		
						say	<u>1581.50</u>		
	(v)	Giı	rth above 2700 mm to 4500 mm						
		a)	Labour						
			Mate	day	0.32	300.00	96.00		
			Mazdoor (Unskilled)	day	8.00	300.00	2,400.00		
		b)	Machinery						
			Tractor with trolley	hour	1.00	303.00	303.00		
		c)	0				0.00		
		d)	Contractor's profit and overheads @ 15	% on (a+b+c)		419.85		
		Ra	te for each tree = a+b+c+d				3,218.85		
						say	<u>3218.90</u>		
	(vi)	Giı	rth above 4500 mm						
		a)	Labour						
			Mate	day	1.00	300.00	300.00		
			Mazdoor (Unskilled)	day	25.00	300.00	7,500.00		
		b)	Machinery						
			Tractor with trolley	hour	2.00	303.00	606.00		
		c)	0				0.00		
		d)	Contractor's profit and overheads $@$ 15	% on (a+b+c)		1,260.90		
		Ra	te for each tree = a+b+c+d				9,666.90		
						say	<u>9666.90</u>		
E	B. Lea	ıd u	pto 1000 m						
	Uni	t = e	each						
	(i)	Giı	rth above 300 mm to 600 mm						
		a)	Labour						
			Mate	day	0.024	300.00	7.20		
			Mazdoor (Unskilled)	day	0.60	300.00	180.00		
		b)	Machinery						

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)		
·		Trac	tor with trolley	hour	0.10	303.00	30.30		
		c) 0					0.00		
		d) Con	tractor's profit and overheads @ 15	i % on (a+b+c)		32.63		
		Rate for	Rate for each tree = a+b+c+d						
						say	<u>250.10</u>		
		(ii) Girth ab	ove 600 mm to 900 mm						
		a) Labo	our						
		Mate	9	day	0.036	300.00	10.80		
		Maz	door (Unskilled)	day	0.90	300.00	270.00		
		b) Mac	hinery						
		Trac	tor with trolley	hour	0.30	303.00	90.90		
		c) 0					0.00		
		d) Con	tractor's profit and overheads @ 15	5 % on (a+b+c)		55.76		
		Rate for	each tree = a+b+c+d				427.46		
						say	<u>427.50</u>		
		(iii) Girth ab	oove 900 mm to 1800 mm						
		a) Labo	our						
		Mate	9	day	0.08	300.00	24.00		
		Maz	door (Unskilled)	day	2.00	300.00	600.00		
		b) Mac	hinery						
		Trac	tor with trolley	hour	0.40	303.00	121.20		
		c) 0					0.00		
		d) Con	tractor's profit and overheads @ 15	i % on (a+b+c)		111.78		
		Rate for	each tree = a+b+c+d				856.98		
						say	<u>857.00</u>		
		(iv) Girth ab	oove 1800 mm to 2700 mm						
		a) Labo	our						
		Mate	9	day	0.16	300.00	48.00		
		Maz	door (Unskilled)	day	4.00	300.00	1,200.00		
		b) Mac	-						
		Trac	tor with trolley	hour	0.60	303.00	181.80		
		c) 0					0.00		
		-	tractor's profit and overheads @ 15	i % on (a+b+c)		214.47		
		Rate for	each tree = a+b+c+d				1,644.27		
						say	<u>1644.30</u>		

(v) Girth above 2700 mm to 4500 mm

	SIL CLEARANCE				
Sr. Ref. to Sr. MORD No. Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
a)	Labour				
	Mate	day	0.32	300.00	96.00
	Mazdoor (Unskilled)	day	8.00	300.00	2,400.00
b)	Machinery				
	Tractor with trolley	hour	1.20	303.00	363.60
c)	0				0.00
d)	Contractor's profit and overheads @ 15	% on (a+b+c)		428.94
Ra	te for each tree = a+b+c+d				3,288.54
				say	<u>3288.50</u>

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)		
~	(vi) Girth above 4500 mm									
			a)	Labour						
				Mate	day	1.00	300.00	300.00		
				Mazdoor (Unskilled)	day	25.00	300.00	7,500.00		
			b)	Machinery						
				Tractor with trolley	hour	2.40	303.00	727.20		
		Note	e:-	The unit quantity of the Tractor with Trolley has been considered by comparing item 2.3.A.V & VI and 2.3.B.V & VI.						
			c)	0				0.00		
			d)	Contractor's profit and overheads @ 15 °	% on (a+b+c)		1,279.08		
			Ra	te for each tree = a+b+c+d				9,806.28		
							say	<u>9806.30</u>		
2.4	201	Uprootin	ig a	and Removing Stumps & Roots						
	Uprooting and Removing Stumps & roots, compaction of backfilling and stacking of servicable material by manual means as per MoRD Technical Specification Clause 201.									
	A. Lead upto 100 m									
	Unit = each									
		(i)	Gir	th above 300 mm to 600 mm						
			a)	Labour						
				Mate		0.016	300.00	4.80		
				Mazdoor (Unskilled)		0.40	300.00	120.00		
			b)	Machinery						
				Tractor with trolley		0.018	303.00	5.45		
			c)	0				0.00		
			d)	Contractor's profit and overheads @ 15 0	% on (a+b+c)		19.54		
			Ra	te for each stump & root = a+b+c+d				149.79		
							say	<u>149.80</u>		
		(ii)	Gir	th above 600 mm to 900 mm						
			a)	Labour						
				Mate		0.024	300.00	7.20		
				Mazdoor (Unskilled)		0.60	300.00	180.00		
			b)	Machinery						
				Tractor with trolley		0.05	303.00	15.15		
			c)	0				0.00		
			d)	Contractor's profit and overheads @ 15 9	% on (a+b+c)		30.35		

Sr. No.	Ref. to MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Rate for each stump & root = a+b+c+d				232.70

say <u>232.70</u>

Sr. Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	(iii) G	irth above 900 mm to 1800 mm				
	a)	Labour				
		Mate		0.053	300.00	15.90
		Mazdoor (Unskilled)		1.33	300.00	399.00
	b)	Machinery				
		Tractor with trolley		0.07	303.00	21.21
	c)	0				0.00
	d)	Contractor's profit and overheads @ 15	% on (a+b+c)		65.42
	R	ate for each stump & root = a+b+c+d				501.53
					say	<u>501.50</u>
	(iv) G	irth above 1800 mm to 2700 mm				
	a)	Labour				
		Mate		0.11	300.00	33.00
		Mazdoor (Unskilled)		2.66	300.00	798.00
	b)	Machinery				
		Tractor with trolley		0.11	303.00	33.33
	c)	0				0.00
	d)	Contractor's profit and overheads @ 15	% on (a+b+c)		129.65
	R	ate for each stump & root = a+b+c+d				993.98
					say	<u>994.00</u>
	(v) G	irth above 2700 mm to 4500 mm				
	a)	Labour				
		Mate		0.21	300.00	63.00
		Mazdoor (Unskilled)		5.33	300.00	1,599.00
	b)	Machinery				
		Tractor with trolley		0.25	303.00	75.75
	c)	0				0.00
	d)	Contractor's profit and overheads @ 15	% on (a+b+c)		260.66
	R	ate for each stump & root = a+b+c+d				1,998.41
					say	<u>1998.40</u>
	(vi) G	irth above 4500 mm				
	a)	Labour				
		Mate		0.60	300.00	180.00
		Mazdoor (Unskilled)		15.00	300.00	4,500.00
	b)	Machinery				
		Tractor with trolley		0.75	303.00	227.25

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15	% on (a+b+c)		736.09
			Ra	ate for each stump & root = a+b+c+d				5,643.34
							say	<u>5643.30</u>
	В	. Lea	ad u	ıpto 1000 m				
		Un	it =	each				
		(i)	Gi	rth above 300 mm to 600 mm				
			a)	Labour				
				Mate		0.016	300.00	4.80
				Mazdoor (Unskilled)		0.40	300.00	120.00
			b)	Machinery				
				Tractor with trolley		0.025	303.00	7.58
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15		19.86		
			Ra	ate for each stump & root = a+b+c+d		152.23		
							say	<u>152.20</u>
		(ii)	Gi	rth above 600 mm to 900 mm				
			a)	Labour				
				Mate		0.024	300.00	7.20
				Mazdoor (Unskilled)		0.60	300.00	180.00
			b)	Machinery				
				Tractor with trolley		0.075	303.00	22.73
			c)	Overheads @ 10 % on (a+b)				0.00
			d)	Contractor's profit and overheads @ 15	% on (a+b+c)		31.49
			Ra	ate for each stump & root = a+b+c+d				241.41
							say	<u>241.40</u>
		(iii)) Gi	rth above 900 mm to 1800 mm				
			a)	Labour				
				Mate		0.053	300.00	15.90
				Mazdoor (Unskilled)		1.33	300.00	399.00
			b)	Machinery				
				Tractor with trolley		0.10	303.00	30.30
			-	0				0.00
			-	Contractor's profit and overheads @ 15	% on (a+b+c)		66.78
			Ra	ate for each stump & root = a+b+c+d				511.98
							say	<u>512.00</u>

Ref. to Sr. MORD No. Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
(iv) G	irth above 1800 mm to 2700 mm				
a)	Labour				
	Mate		0.11	300.00	33.00
	Mazdoor (Unskilled)		2.66	300.00	798.00
b)	Machinery				
	Tractor with trolley		0.15	303.00	45.45
c)	0				0.00
d)	Contractor's profit and overheads @ 15	% on (a+b+c)		131.47
R	ate for each stump & root = a+b+c+d				1,007.92
				say	<u>1007.90</u>
(v) G	irth above 2700 mm to 4500 mm				
a)	Labour				
	Mate		0.21	300.00	63.00
	Mazdoor (Unskilled)		5.33	300.00	1,599.00
b)	Machinery				
	Tractor with trolley		0.30	303.00	90.90
c)	0				0.00
d)	Contractor's profit and overheads @ 15	% on (a+b+c)		262.94
R	ate for each stump & root = a+b+c+d				2,015.84
				say	<u>2015.80</u>
(vi) G	irth above 4500 mm				
a)	Labour				
	Mate		0.60	300.00	180.00
	Mazdoor (Unskilled)		15.00	300.00	4,500.00
b)	Machinery				
	Tractor with trolley		1.00	303.00	303.00
c)	0				0.00
d)	Contractor's profit and overheads @ 15	% on (a+b+c)		747.45
R	ate for each stump & root = a+b+c+d				5,730.45
				say	<u>5730.50</u>

2.5 202 Dismantling of Structures

	Sr. Ref. to No. MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
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Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding whenever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and upto a lead of 1000 m as per MoRD Technical Specification Clause 202.

Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	I Amount (₹)
		Unit = cum					
		Taking out	put = 1.25 cum				
		(I) By M	anual Means				
		(A) L	ime Concrete				
		а) Labour				
			Mate	day	0.04	300.00	12.00
			Mazdoor (Unskilled)	day	1.00	300.00	300.00
		b) Machinery				
			Tractor with trolley	hour	0.27	303.00	81.81
		с) 0				0.00
		d) Contractor's profit and overheads @	15 % on (a+b+c)		59.07
		С	cost for 1.25 cum = a+b+c+d				452.88
		F	ate per cum = (a+b+c+d)/1.25				362.31
						say	<u>362.30</u>
		(B) C	ement Concrete				
		а) Labour				
			Mate	day	0.05	300.00	15.00
			Mazdoor (Unskilled)	day	1.25	300.00	375.00
		b) Machinery				
			Tractor with trolley	hour	0.27	303.00	81.81
		с) 0				0.00
		d) Contractor's profit and overheads @	15 % on (a+b+c)		70.77
		С	cost for 1.25 cum = a+b+c+d				542.58
		F	ate per cum = (a+b+c+d)/1.25				434.07
						say	<u>434.10</u>
		(C) F	einforced Cement Concrete				
) Labour				
			Mate	day	0.15	300.00	45.00
			Blacksmith	day	0.25	403.00	100.75
			Mazdoor (Unskilled)	day	3.50	300.00	1,050.00
		b) Machinery				
			Tractor with trolley	hour	0.27	303.00	81.81
		с) 0				0.00
) Contractor's profit and overheads @	15 % on (a+b+c)		191.63
			cost for 1.25 cum = a+b+c+d	·	-		1,469.19
		F	ate per cum = (a+b+c+d)/1.25				1,175.36

Sr. Ref. to No. MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
					say	<u>1175.40</u>
	(II) By Mec	hanical Means				
	(A) Ce	ment Concrete				
	a)	Labour				
		Mate	day	0.02	300.00	6.00
		Mazdoor (Unskilled)	day	0.50	300.00	150.00
	b)	Machinery				
		Air compressor 210 cfm with 2 leads of pneumatic breaker @1.5 cum per hour	hour	0.83	321.00	266.43
		Tractor with trolley	hour	0.83	303.00	251.49
	c)	0				0.00
	d)	Contractor's profit and overheads @ 15	% on (a+b+c)		101.09
	Co	st for 1.25 cum = a+b+c+d				775.01
	Ra	te per cum = (a+b+c+d)/1.25				620.01
					say	<u>620.00</u>
	(B) Re	inforced Cement Concrete				
	a)	Labour				
		Mate	day	0.05	300.00	15.00
		Mazdoor (Unskilled)	day	0.91	300.00	273.00
		Blacksmith	day	0.25	403.00	100.75
	b)	Machinery				
		Air compressor 170-210 cfm working with 2 Jack Hammers simultaneously @1.00 cum per hour	hour	1.25	321.00	401.25
		Tractor with trolley	hour	1.25	303.00	378.75
	c)	0				0.00
	d)	Contractor's profit and overheads @ 15	% on (a+b+c)		175.31
	Co	st for 1.25 cum = a+b+c+d				1,344.06
	Ra	te per cum = (a+b+c+d)/1.25				1,075.25
					say	<u>1075.30</u>
	Dismantling Specificatio	J Brick/Tile Work as per MoRD Technical n No. 202.				

Dismantling of existing structures like culverts, bridges, retaining walls and other structures comprising of brick masonry including disposal of unserviceable material and stacking the serviceable material with all lift and upto a lead of 1000 m as per MoRD Technical Specification Clause 202.

Unit = cum

Taking output = 1.25

 Sr. Io.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
 		(A)	Lin	ne mortar				
			a)	Labour				
				Mate	day	0.02	300.00	6.00
				Mazdoor (Unskilled)	day	0.50	300.00	150.00
			b)	Machinery				
				Tractor with trolley	hour	0.27	303.00	81.81
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 %	on (a+b	9+C)		35.67
			Cos	st for 1.25 cum = $a+b+c+d$				273.48
			Rat	te per cum = (a+b+c+d) /1.25				218.79
							say	<u>218.80</u>
		(B)	Ce	ment mortar				
			a)	Labour				
				Mate	day	0.03	300.00	9.00
				Mazdoor (Unskilled)	day	0.75	300.00	225.00
			b)	Machinery				
				Tractor with trolley	hour	0.27	303.00	81.81
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 %	on (a+b	9+C)		47.37
			Cos	st for 1.25 cum = a+b+c+d				363.18
			Rat	te per cum = (a+b+c+d)/1.25				290.55
							say	<u>290.50</u>
		(C)	Mu	d Mortar				
			a)	Labour				
				Mate	day	0.016	300.00	4.80
				Mazdoor (Unskilled)	day	0.40	300.00	120.00
			b)	Machinery				
				Tractor with trolley	hour	0.27	303.00	81.81
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 %	on (a+b	9+c)		30.99
			Cos	st for 1.25 cum = a+b+c+d				237.60
			Rat	te per cum = (a+b+c+d)/1.25				190.08
							say	<u>190.10</u>
		(D)	Dry	Brick Pitching or Brick Soling				
			a)	Labour				
				Mate	day	0.014	300.00	4.20
					-			

 _				SITE CLEARANCE				
Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
 			Maz	door (Unskilled)	day	0.35	300.00	105.00
		k	o) Mac	hinery				
			Trac	ctor with trolley	hour	0.27	303.00	81.81
		c	;) 0					0.00
		c	d) Cor	tractor's profit and overheads $@$ 15 % of the second sec	on (a+b	+c)		28.65
		(Cost for	1.25 cum = a+b+c+d				219.66
		F	Rate pe	r cum = (a+b+c+d)/1.25				175.73
							say	<u>175.70</u>
2.7	202		-	Stone Masonry as per MoRD Technical n Clause 202.				
		retain maso and s upto	ing wall nry incl stacking a lead	of existing structures like culverts, bridges, s and other structures comprising of stone uding disposal of unserviceable material the serviceable material with all lift and of 1000 m as per MoRD Technical Clause 202.				
		Unit =	cum					
		Takin	g ouput	= 1.25 cum				
		(A) F	Rubble	Stone Masonry in Lime Mortar				
		a	a) Lab	our				
			Mat	e	day	0.024	300.00	7.20
			Maz	door (Unskilled)	day	0.60	300.00	180.00
		k	o) Mac	hinery				
			Trac	ctor with trolley	hour	0.27	303.00	81.81
		c	;) 0					0.00
		c	d) Cor	tractor's profit and overheads $@$ 15 % of the second sec	on (a+b	+c)		40.35
		C	Cost for	1.25 cum = a+b+c+d				309.36
		F	Rate pe	r cum = (a+b+c+d)/1.25				247.49
							say	<u>247.50</u>
		(B) F	Rubble	Stone Masonry in Cement Mortar				
		a	a) Lab	our				
			Mat	e	day	0.03	300.00	9.00
			Maz	door (Unskilled)	day	0.75	300.00	225.00
		k	o) Mac	hinery				
			Trac	ctor with trolley	hour	0.27	303.00	81.81
		c	;) 0					0.00
		c	d) Cor	tractor's profit and overheads $@$ 15 % of the second sec	on (a+b	+c)		47.37
		C	Cost for	1.25 cum = a+b+c+d				363.18
		F	Rate pe	r cum = (a+b+c+d)/1.25				290.55

Sr No	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	 						say	<u>290.50</u>
		(C)	Ru	bble Stone Masonry in Mud Mortar				
			a)	Labour				
				Mate	day	0.02	300.00	6.00
				Mazdoor (Unskilled)	day	0.50	300.00	150.00
			b)	Machinery				
				Tractor with trolley	hour	0.27	303.00	81.81
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 % of	on (a+b	+c)		35.67
			Co	st for 1.25 cum = a+b+c+d				273.48
			Rat	te per cum = (a+b+c+d)/1.25				218.79
							say	<u>218.80</u>
		(D)	Dry	<i>r</i> Rubble Masonry				
			a)	Labour				
				Mate	day	0.018	300.00	5.40
				Mazdoor (Unskilled)	day	0.45	300.00	135.00
			b)	Machinery				
				Tractor with trolley	hour	0.27	303.00	81.81
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 % of	on (a+b	+c)		33.33
			Co	st for 1.25 cum = a+b+c+d				255.54
			Rat	te per cum = (a+b+c+d)/1.25				204.43
							say	<u>204.40</u>
		(E)	Dis	mantling Stone Pitching / Dry Stone Spalls				
				Labour				
			-	Mate	day	0.016	300.00	4.80
				Mazdoor (Unskilled)	day	0.40	300.00	120.00
			b)	Machinery				
				Tractor with trolley	hour	0.27	303.00	81.81
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 % of	on (a+b	+c)		30.99
			Co	st for 1.25 cum = a+b+c+d				237.60
			Rat	te per cum = (a+b+c+d)/1.25				190.08
							say	<u>190.10</u>
		(F)	inc	mantling boulders laid in wire crates luding opening of crates and stacking mantled materials				

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
•	.	 a)	 Labour		±	'	
			Mate	day	0.02	300.00	6.00
			Mazdoor (Unskilled)	day	0.50	300.00	150.00
		b)	Machinery				
			Tractor with trolley	hour	0.27	303.00	81.81
		c)	0				0.00
		d)	Contractor's profit and overheads @ 15 % c	on (a+b	9+C)		35.67
		Co	st for 1.25 cum = a+b+c+d				273.48
		Ra	te per cum = (a+b+c+d)/1.25				218.79
						say	<u>218.80</u>
2.8	202	in Fram	tling Wood Work Wrought and Planed Fixed nes of Trusses upto a height of 5 m above Level as per MoRD Technical Specification 202.				
		scaffold material stacking	tling of existing Wood work, including T&P and ing whenever necessary, sorting the dismantled , disposal of unserviceable material and g the serviceable material with all lifts and upto a 1000 m as per MoRD Technical Specification 202.				
		Unit = c	um				
		Taking o	putput = 1.25 cum				
		a) Lal	bour				
		Ма	te	day	0.06	300.00	18.00
		Ca	rpenter 1st Class	day	0.50	425.00	212.50
		Ма	zdoor (Unskilled)	day	1.00	300.00	300.00
		b) Ma	chinery				
		Tra	actor with trolley	hour	0.27	303.00	81.81
		c) 0					0.00
		d) Co	ntractor's profit and overheads @ 15 % on (a	+b+c)			91.85
		Cost for	1.25 cum = a+b+c+d				704.16
		Rate pe	er cum = (a+b+c+d)/1.25				563.33
						say	<u>563.30</u>
2.9	202	upto a Cutting Clause	-				
		scaffold material stacking	tling of existing Steel work, including T&P and ing whenever necessary, sorting the dismantled , disposal of unserviceable material and the serviceable material with all lifts and upto a 1000 m as per MoRD. Technical Specification				

lead of 1000 m as per MoRD Technical Specification

Clause 202.

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Unit	: = t					
		Tak	ing c	putput = 1				
		(A)	Inc	luding dismembering				
			a)	Labour				
				Mate	day	0.14	300.00	42.00
				Blacksmith	day	1.00	403.00	403.00
				Mazdoor (Unskilled)	day	2.50	300.00	750.00
			b)	Add 2.50 per cent of cost of labour for gas cutting, ropes, pulleys, etc. Machinery				29.88
				Tractor with trolley	hour	0.17	303.00	51.51
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 % of	on (a+b	+c)		191.46
			Ra	te per t = a+b+c+d				1,467.84
							say	<u>1467.80</u>
		(B)	Exe	cluding dismembering				
			a)	Labour				
				Mate	day	0.10	300.00	30.00
				Mazdoor (Unskilled)	day	2.00	300.00	600.00
				Blacksmith	day	0.50	403.00	201.50
			b)	Add 2.50 per cent of cost of labour for gas cutting, ropes, pulleys, etc. Machinery				20.79
				Tractor with trolley	hour	0.17	303.00	51.51
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 % of	on (a+b	+c)		135.57
			Rat	te per t = a+b+c+d				1,039.37
							say	<u>1039.40</u>
		(C)	Ext	tra over Items (A) and (B) for cutting rivets				
			Uni	it = each				
			Tał	king output = 10 rivets				
			a)	Labour				
				Mate	day	0.01	300.00	3.00
				Blacksmith	day	0.13	403.00	52.39
				Mazdoor (Unskilled)	day	0.13	300.00	39.00
			b)	0				0.00
			c)	Contractor's profit and overheads @ 15 % o	on (a+b			14.16
			Co	st for 10 rivets = a+b+c				108.55

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
`	L	·	Rate for each rivet = (a+b+c) /10		±\		10.85
						say	<u>10.90</u>
2.10	202	incl Spe Scr T & disr and upto	aping of bricks dismantled from brick work luding stacking as per MoRD Technical ecification Clause 202. aping of bricks from dismantled brick work, including a P and scaffolding whenever necessary, sorting the mantled material, disposal of unserviceable material I stacking the serviceable material with all lifts and p a lead of 1000 m as per MoRD Technical ecification Clause 202.				
		Uni	t = Nos.				
		Tak	ing output = 1000 Nos.				
		In L	.ime/ Cement Mortar				
		a)	Labour				
			Mate	day	0.14	300.00	42.00
			Mazdoor (Unskilled)	day	3.50	300.00	1,050.00
		b)	0				0.00
		c)	Contractor's profit and overheads $@$ 15 % on (a	+b)			163.80
		Rat	e per 1000 Nos. = a+b+c				1,255.80
						say	<u>1255.80</u>
2.11	202		aping of Stone from Dismantled Stone Masonry per MoRD Technical Specification Clause 202.				
		incl sort uns mat	aping of stone from dismantled stone masonry, uding T&P and scaffolding whenever necessary, ting the dismantled material, disposal of erviceable material and stacking the serviceable terial with all lifts and upto a lead of 1000 m as per RD Technical Specification Clause 202.				
		Uni	t = cum				
		Tak	ing output = 1 cum				
		In C	Cement or Lime Mortar				
		a)	Labour				
			Mate	day	0.06	300.00	18.00
			Mazdoor (Unskilled)	day	1.40	300.00	420.00
		b)	0				0.00
		c)	Contractor's profit and overheads $@$ 15 % on (a	+b)			65.70
		Rat	e per cum = a+b+c				503.70
						say	<u>503.70</u>

ī		Bof to	. — — — ·					
	Sr. No.	Ref. to MORD Spec.	, 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	2.12	202	Brick Specif Scrapin stone n necess unserv materia	ing Plaster in Lime or Cement Mortar from / Stone Masonry as per MoRD Technical ication Clause 202. Ing plaster in Lime or Cement Mortar from Brick / masonry, including T&P and scaffolding whenever sary, sorting the dismantled material, disposal of iceable material and stacking the serviceable al with all lifts and upto a lead of 1000 m as per Technical Specification Clause 202.				
			Unit =	sqm				
			Taking	ouput = 100 sqm				
			a) La	abour				
			М	ate	day	0.16	300.00	48.00
			М	azdoor (Unskilled)	day	4.00	300.00	1,200.00
			b) 0					0.00
			c) C	ontractor's profit and overheads @ 15 % on (a	+b)			187.20
			Cost fo	or 100 sqm = a+b+c				1,435.20
			Rate p	er sqm = (a+b+c)/100				14.35
							say	<u>14.40</u>
	2.13	202	Removile					
			Taking	output = 1 m				
			(A) U	pto 600 mm dia Hume pipe				
			a)	Labour				
				Mate	day	0.02	300.00	6.00
				Mazdoor (Unskilled)	day	0.52	300.00	156.00
			b)) 0				0.00
			c)	Contractor's profit and overheads @ 15 % o	on (a+b)		24.30
			R	ate per m = a+b+c				186.30
							say	<u>186.30</u>
			(B) A	bove 600 mm to 900 mm dia Hume pipe				
			a)	Labour				
				Mate	day	0.03	300.00	9.00
				Mazdoor (Unskilled)	day	0.70	300.00	210.00
			b)) 0				0.00
			c)	Contractor's profit and overheads @ 15 % o	on (a+b)		32.85

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Rate	 per m = a+b+c				251.85
							say	<u>251.90</u>
		(C)	Abov	e 900 mm dia Hume pipe				
			a) L	abour				
			Ν	/late	day	0.05	300.00	15.00
			Ν	/azdoor (Unskilled)	day	1.20	300.00	360.00
			b) (0.00
			c) (Contractor's profit and overheads $@$ 15 %	on (a+b)		56.25
			Rate	per m = a+b+c				431.25
							say	<u>431.30</u>
	Note:	1	masc is no sepai	excavation of earth, dismantling of stone mry work in head walls and protection works t included which is to be measured and paid rately. it for retrieved stone from masonry work may				
		-		ken as per actual availability.				
2.14	202	Dis	mantli	ng of Flexible Pavements				
		disn m, mat Spe	nantleo stackir erials	g of flexible pavements and disposal of d materials with all lifts and upto a lead of 100 ng serviceable materials and unserviceable separately as per MoRD Technical on Clause 202.) 9			
		Tak	ing out	put = 1 cum				
		(I)	By M	anual Means				
			(A) E	Bituminous Courses				
			a) Labour				
				Mate	day	0.06	300.00	18.00
				Mazdoor (Unskilled)	day	1.50	300.00	450.00
			k) Machinery				
				Tractor with trolley	hour	0.38	303.00	115.14
			C) 0				0.00
			C	I) Contractor's profit and overheads @ 15	% on (a+b+c)		87.47
			F	Rate per cum = a+b+c+d				670.61
							say	<u>670.60</u>
			(B) (Branular Courses				
			а) Labour				
				Mate	day	0.04	300.00	12.00
				Mazdoor (Unskilled)	day	1.00	300.00	300.00
			k) Machinery				

	<u> </u>	SITE CLEARANCE			
Sr. Ref. to MORI No. Spec.		Description	Quantity	Rate (₹)	Amount (₹)
		Tractor with trolley hour	0.33	303.00	99.99
		c) 0			0.00
		d) Contractor's profit and overheads $@$ 15 % on (a+b+c)		61.80
		Rate per cum = a+b+c+d			473.79
				say	<u>473.80</u>
	(II)	By Mechanical Means			
		(A) Bituminous Courses			
		a) Labour			
		Mate day	0.01	300.00	3.00
		Mazdoor (Unskilled) day	0.30	300.00	90.00
		b) Machinery			
		Tractor with trolley hour	0.38	303.00	115.14
		Tractor with ripper @ 60 cum per hour hour	0.016	378.00	6.05
		c) 0			0.00
		d) Contractor's profit and overheads $@$ 15 % on (a+b+c)		32.13
		Rate per cum = a+b+c+d			246.32
				say	<u>246.30</u>
2.15 202		mantling of Cement Concrete Pavements as per RD Technical Specification Clause 202.			
	meo pieo pilir mat stao mat Spe	mantling of cement concrete pavements by chanical means using pneumatic tools breaking to ces not exceeding 0.02 cum in volume and stock ag at designated locations and disposal of dismantled terials with all lifts and upto a lead of 1000 m, cking serviceable materials and unserviceable terials separately as per MoRD Technical ecification Clause 202. t = cum			
	Tak	ing output = 1 cum			
	a)	Labour			
		Mate day	0.03	300.00	9.00
		Mazdoor (Semi-skilled) day	0.50	340.00	170.00
		Mazdoor (Unskilled) day	0.50	300.00	150.00
	b)	Machinery			
		Air compressor 210 cfm with two leads for hour pneumatic cutters / hammers @ 1 cum per hour	1.00	321.00	321.00
		Tractor with trolley hour	0.40	303.00	121.20
		Joint Cutting Machine with 2-3 blades hour	1.00	257.00	257.00
	c)	0			0.00
	d)	Contractor's profit and overheads @ 15 % on (a+b+c)			154.23

Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Rat	ie per cum = a+b+c+d		* - - '		1,182.43
						say	<u>1182.40</u>
	Note:	pav be	e above analysis is for removal of complete rement. In case full depth repair work is required to done after dismantling, provision of a concrete saw ter may be added for 0.25h.			-	
2.16	202	Dis	mantling Guard Rails				
		disp lead uns	mantling of Guard rails by manual means and bosal of dismantled material with all lifts and upto a d of 1000 m, stacking serviceable materials and serviceable materials separately as per MoRD chnical Specification Clause 202.				
		Uni	t = running m				
		Tak	king Output = 1 m				
		a)	Labour				
			Mate	day	0.006	300.00	1.80
			Mazdoor (Unskilled)	day	0.15	300.00	45.00
		b)	Machinery				
			Tractor with trolley	hour	0.05	303.00	15.15
		c)	0				0.00
		d)	Contractor's profit and overheads $@$ 15 % on (a	+b+c)			9.29
		Rat	e per m = a+b+c+d				71.24
						say	<u>71.20</u>
2.17	202	Dis	mantling Kerb Stones				
		disp lead	mantling of Kerb Stones by manual means and bosal of dismantled material with all lifts and upto a d of 1000 m as per MoRD Technical Specification use 202.				
		Uni	t = running m				
		Tak	king output = 10 m				
		a)	Labour				
			Mate	day	0.006	300.00	1.80
			Mazdoor (Unskilled)	day	0.15	300.00	45.00
		b)	Machinery				
			Tractor with trolley	hour	0.20	303.00	60.60
		c)	0				0.00
		d)	Contractor's profit and overheads $@$ 15 % on (a	+b+c)			16.11
		Cos	st of 10 m = a+b+c+d				123.51
		Rat	te per m = (a+b+c+d)/10				12.35
						say	<u>12.40</u>

7		Def te	·					
	Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	2.18	202	Disma	ntling Kerb Stone Channels				
			and dis	ntling of Kerb Stone channels by manual means posal of dismantled material with all lifts and upto of 1000 m as per MoRD Technical Specification 202.				
			Unit = r	running m				
			Taking	output = 10 m				
			a) La	bour				
			Ma	ate	day	0.015	300.00	4.50
			Ma	azdoor (Unskilled)	day	0.225	300.00	67.50
			b) Ma	achinery				
			Tr	actor with trolley	hour	0.30	303.00	90.90
			c) 0					0.00
			d) Co	ontractor's profit and overheads @ 15 % on (a	+b+c)			24.44
			Cost of	10 m = a+b+c+d				187.34
			Rate p	er m = (a+b+c+d)/10				18.73
							say	<u>18.70</u>
	2.19	202	Disma	ntling Kilometre Stones				
			earth, a and up	ntling of Kilometre Stones including cutting of and disposal of dismantled material with all lifts to a lead of 1000 m and backfilling of pit as per Technical Specification Clause 202.				
			-	output = 1 km stone				
				h km Stone Jantity of cement concrete = 0.392 cum				
			a)	Labour Mate	dov	0.03	300.00	9.00
				Mazdoor (Unskilled)	day day	0.03	300.00	9.00 225.00
			b)		uay	0.75	300.00	225.00
			5)	Tractor with trolley	hour	0.15	303.00	45.45
				·	noui	0.15	303.00	
			c)		<i>,</i> .			0.00
			d) Dr	•	on (a+b	+C)		41.92
			Ra	ate for one 5th km stone = a+b+c+d				321.37
							say	<u>321.40</u>
				rdinary km Stones				
			Qı	uantity of cement concrete = 0.269 cum				
			a)					
				Mate	day	0.02	300.00	6.00

			SITE CLEARANCE				
Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Mazdoor (Unskilled)	day	0.50	300.00	150.00
		b) Machinery				
			Tractor with trolley	hour	0.08	303.00	22.73
		c) 0				0.00
		c) Contractor's profit and overheads @ 15	% on (a+b	+c)		26.81
		F	ate for one ordinary km stone = a+b+c+d				205.53
						say	<u>205.50</u>
		(C) 2	00 m Stones				
		C	Quantity of cement concrete = 0.048 cum				
		a) Labour				
			Mate	day	0.004	300.00	1.20
			Mazdoor (Unskilled)	day	0.10	300.00	30.00
		b) Machinery				
			Tractor with trolley	hour	0.02	303.00	6.06
		c) 0				0.00
		c) Contractor's profit and overheads @ 15	% on (a+b	+c)		5.59
		F	ate for one 200 m stone = a+b+c+d				42.85
						say	<u>42.80</u>
2.20	202	Dism	antling of Fencing				
		includ manu with a servic	antling of barbed wire fencing / wire mesh fencing posts, foundation concrete, backfilling of piral means including disposal of dismantled mate Il lifts and upto a lead of 1000 m and stacking eable and unserviceable material separately oRD Technical Specification Clause 202.	it by erial the			
		Unit =	running m				
		Takin	g output = 30 m				
		a) L	abour				
		Ν	late	day	0.15	300.00	45.00
		Ν	lazdoor (Unskilled)	day	3.00	300.00	900.00
		E	Blacksmith	day	0.75	403.00	302.25
		b) N	lachinery				
		Т	ractor with trolley	hour	0.15	303.00	45.45
		c) (0.00
		d) (Contractor's profit and overheads @ 15 % o	on (a+b+c)			193.91
		Cost	of 30 m = $a+b+c+d$				1,486.61
		Rate	per m = (a+b+c+d)/30				49.55
						say	<u>49.60</u>

	Ref. to	·			í		
Sr. No.	MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
2.21	202	Dis	mantling of CI Water Pipe Line		±\		
		disp stac sep dep disn	mantling of CI water pipe line 600 mm dia including bosal with all lifts and upto a lead of 1000 m and cking the serviceable and unserviceable material arately under supervision of the concerned artment but excluding earth excavation and nantling of masonry works as per MoRD Technical ecification Clause 202.				
		Unit	t = running m				
			ing output = 10 m				
		a)	Labour				
			Mate	day	0.09	300.00	27.00
			Mazdoor (Unskilled)	day	2.00	300.00	600.00
			Plumber	day	0.25	380.00	95.00
		b)	Machinery				
		-	Truck 10 t capacity	hour	0.25	373.00	93.25
			Crane with 3 t capacity	hour	0.50	355.00	177.50
		c)	0				0.00
		d)	Contractor's profit and overheads @ 15 % on (a	+b+c)			148.91
		Cos	st for 10 m = $a+b+c+d$	-			1,141.66
		Rat	e per m = (a+b+c+d)/10				114.17
						say	<u>114.20</u>
	Note:	eart	e rate analysis does not include any excavation in th or dismantling of masonry works which are to be asured and paid separately.				
2.22	202	Rer	noval of Cement Concrete Pipe of Sewer Gutter				
		150 dep leac uns exca	noval of Cement Concrete Pipe of Sewer Gutter 0 mm dia under the supervision of the concerned artment including disposal with all lifts and upto a d of 1000 m and stacking the serviceable and erviceable material separately but excluding earth avation and dismantling of masonry works as per RD Technical Specification Clause 202.				
		Unit	t = running m				
		Tak	ing output = 10 m				
		a)	Labour				
			Mate	day	0.10	300.00	30.00
			Mazdoor (Unskilled)	day	2.50	300.00	750.00
		b)	Machinery				
			Crane upto 8 t capacity	hour	0.30	1,050.00	315.00
			Truck 10 t capacity flat body	hour	1.00	373.00	373.00
		c)	0				0.00

Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		d)	Contractor's profit and overheads @ 15 % on (a	a+b+c)			220.20
		Cos	t for 10 m = $a+b+c+d$				1,688.20
		Rat	e per m = (a+b+c+d)/10				168.82
						say	<u>168.80</u>
	Note:	ear	e rate analysis does not include any excavation in th or dismantling of masonry works which are to be asured and paid separately.				
2.23	202	Rer	noval of Telephone/Electric Poles and Lines				
		incle con dep 100 mat Spe	noval of telephone / electric poles with wires uding excavation and dismantling of foundation crete and lines under the supervision of concerned artment, disposal with all lifts and upto a lead of 0 m and stacking the serviceable and unserviceable erial separately as per MoRD Technical ecification Clause 202.				
			ing output = 30 Nos.				
		a)	Labour				
		۳,	Mate	day	0.48	300.00	144.00
			Mazdoor (Unskilled)	day	10.00	300.00	3,000.00
			Electrician/Lineman	day	2.00	380.00	760.00
		b)	Machinery				
			Tractor with trolley	hour	1.50	303.00	454.50
		c)	0				0.00
		d)	Contractor's profit and overheads @ 15 % on (a	a+b+c)			653.78
		Cos	t for 30 poles = a+b+c+d				5,012.28
		Rat	e per pole = (a+b+c+d)/30				167.08

	Ref. to	í – –			;;		i
Sr. No.	MORD	i	Description	Unit	Quantity	Rate (₹)	Amount j (₹) I
	Spec.	Ŀ_			ii	i	
3.1			paration of Foundation for Embankment				
	301.4		rrifying Existing Granular Surface to a Depth of 50 by Manual Means				
		dep upto	trifying Existing Granular Surface by manual means to a th of 50 mm and disposal of scarified material with a lift o 3 m and leads upto 1000 m as per MoRD Technical ecification Clause 301.4.				
		Uni	t = sqm				
		Tak	ing output = 100 sqm				
		a)	Labour				
			Mate	day	0.16	300.00	48.00
			Mazdoor (Unskilled)	day	4.00	300.00	1,200.00
		b)	Machinery				
			Tractor with trolley	hour	1.50	303.00	454.50
		c)	0				0.00
		d)	Contractor's profit and overheads @ 15 % on (a+b+	c)			255.38
		Cos	st for 100 sqm = a+b+c+d				1,957.88
		Rat	e per sqm = (a+b+c+d)/100				19.58
						say	<u>19.60</u>
3.2		Pre	paration of Foundation for Embankment				
	301.4		rifying Existing Bituminous Surface to a depth of mm by Mechanical Means				
		Sca mea mat Mol	rifying Existing bituminous Road Surface by mechanical ans to a Depth of 150 mm and disposal of scarified rerial with a lift upto 3 m and leads upto 1000 m as per RD Technical Specification Clause 301.4.				
		Uni	t = sqm				
		Tak	ing output = 100 sqm				
		a)	Labour				
			Mate	day	0.01	300.00	3.00
			Mazdoor (Unskilled)	day	0.25	300.00	75.00
		b)	Machinery				
			Tractor with ripper attachment @ 60 cum per hour	hour	0.25	378.00	94.50
			Front end loader 1 cum bucket capacity @ 50 cum per hour	hour	0.30	963.00	288.90
			Tipper 5.5 cum capacity, 4 trips per hour	hour	0.68	321.00	218.28
		c)	0				0.00
		d)	Contractor's profit and overheads @ 15 % on (a+b+	c)			101.95
		Cos	st for 100 sqm = a+b+c+d				781.63
		Rat	e per sqm = (a+b+c+d)/100				7.82
						say	<u>7.80</u>

<u></u>									
Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)		
3.3	301.5		nstruction of Embankment with Material Obtained						
		dep drai con	nstruction of Embankment with approved materials posited at site from roadway cutting and excavation from in and foundation of other structures graded and npacted to meet requirement of Tables 300.1 and 300.2 per MoRD Technical Specification Clause 301.5.						
		Uni	t = cum						
		Tak	ting output = 100 cum						
	Α	For	Spreading beyond 100 m						
		a)	Labour						
			Mate	day	0.04	300.00	12.00		
			Mazdoor (Unskilled)	day	1.00	300.00	300.00		
		b)	Machinery						
			Dozer D-50 for spreading @ 200 cum per hour	hour	0.50	1,463.00	731.50		
			Tractor with attachment for grading @ 25 cum per hour	hour	4.00	322.00	1,288.00		
			Water tanker 6 kl capacity	hour	2.00	310.00	620.00		
			Three wheel 80-100 kN Static Roller	hour	1.25	379.00	473.75		
		c)	Material						
			Water	kl	12.00	135.00	1,620.00		
		d)	0				0.00		
		e)	Contractor's profit and overheads @ 15 % on (a+b+	c+d)			756.79		
		Rat	e for 100 cum = a+b+c+d+e				5,802.04		
		Rat	e per cum = (a+b+c+d+e)/100				58.02		
						say	<u>58.00</u>		
	В	For	Spreading within 100 m						
		a)	Labour						
			Mate	day	0.02	300.00	6.00		
			Mazdoor (Unskilled)	day	0.50	300.00	150.00		
		b)	Machinery						
			Tractor with attachment for grading @ 25 cum per hour	hour	4.00	322.00	1,288.00		
			Water tanker 6 kl capacity	hour	2.00	310.00	620.00		
			Three wheel 80-100 kN Static Roller	hour	1.25	379.00	473.75		
		c)	Material						
			Water	kl	12.00	135.00	1,620.00		
		d)	0				0.00		
		e)	Contractor's profit and overheads @ 15 % on (a+b+	c+d)			623.66		
		Rat	e for 100 cum = a+b+c+d+e				4,781.41		

Sr.	Ref. to MORD	[[Description	Unit	Quantity	Rate	Amount
No.	Spec.	 			- LL	(₹) I	(₹)
		Rat	e per cum = (a+b+c+d+e)/100				47.81
						say	<u>47.80</u>
	Note:	fillin eml pro dun	case the earth cutting is done by dozer and pushed for or in the embankment, the input of dozer in the cost of bankment shall be deleted as the same is already vided in the cost of excavation. However, if the earth is nped by tippers from roadway cutting, the input of dozer spreading is required to be provided.				
3.4	301.5		nstruction of Embankment with Material Obtained n Borrow Pits				
		Cor obta to s to n	nstruction of embankment with approved material ained from borrow pits with a lift upto 1.5 m, transporting ite, spreading, grading to required slope and compacting neet requirement of Tables 300.1 and 300.2 with a lead to 1000 m as per MoRD Technical Specification Clause				
		Uni	t = cum				
		Tak	ing output = 100 cum				
		a)	Labour				
			Mate	day	0.04	300.00	12.00
			Mazdoor (Unskilled)	day	1.00	300.00	300.00
		b)	Machinery				
			Hydraulic Excavator 0.9 cum bucket capacity @ 60 cum per hour	hour	1.67	1,296.00	2,164.32
			Tipper 5.5 cum with 10 t capacity	hour	4.50	321.00	1,444.50
			Loading of earth as per item 1.1 (ii)	cum	100.00	35.81	3,580.68
			Unloading of earth as per item 1.1 (iv)	cum	100.00	21.10	2,110.10
			Dozer D-50 for spreading @ 200 cum per hour	hour	0.50	1,463.00	731.50
			Tractor with attachment for grading @ 25 cum per hour	hour	4.00	322.00	1,288.00
			Water tanker 6 kl capacity	hour	2.00	310.00	620.00
		c)	Three wheel 80-100 kN Static Roller @ 80 cum per hour Material	hour	1.25	379.00	473.75
		c)	Water	kl	12.00	135.00	1,620.00
			Compensation for earth taken from private land	cum	100.00	18.00	1,800.00
		d)	0	Guill	100.00	10.00	1,800.00 0.00
		e)	Contractor's profit and overheads @ 15 % on (a+b+	c+d)			2,421.73
			st for 100 cum = $a+b+c+d+e$.,			18,566.58
			e per cum = (a+b+c+d+e)/100				185.67
			· · · · ·			say	185.70

	Ref. to	i				 	ī	i
Sr. No.	MORD	į		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	Spec.	Ŀ_			i	ii		
	Note:	hav situa com	re to ation	sation for earth will vary from place to place and will be assessed realistically as per particular ground . In case earth is available from Govt. land, sation for earth will not be required. The position is to be clearly stated in the cost estimate.				
3.5	302.3	(i)	wit Exc me with	cavation in Cutting in Soil by manual means h lead upto 50 m cavation in Roadway cutting in soil by using manual ans for carrying of cut earth to embankment site a all lifts and lead upto 50 m as per MoRD Technical ecification Clause 302.3.				
			Uni	t = cum				
			Tak	ing output = 120 cum				
			a)	Labour				
				Mate	day	1.80	300.00	540.00
				Mazdoor (Unskilled)	day	45.00	300.00	13,500.00
			b)	0				0.00
			c)	Contractor's profit and overheads @ 15 % on (a	a+b)			2,106.00
			Cos	st of 120 cum = a+b+c				16,146.00
			Rat	e per cum = (a+b+c)/120				134.55
							say	<u>134.60</u>
		(ii)		cavation in Soil with Dozer with lead upto 100				
			with site trim req	avation for roadway in soil by mechanical means a Dozer including cutting and pushing the earth to of embankment upto a distance of 100 m, including uming bottom and side slopes in accordance with uirements of lines, grades and cross-sections as MoRD Technical Specification Clause 302.3.				
			Uni	t = cum				
				ting output = 180 cum				
				Labour				
				Mate	day	0.08	300.00	24.00
				Mazdoor (Unskilled)	day	2.00	300.00	600.00
			b)	Machinery				
				Dozer D-50 @ 50 cum per hour (cutting with pushing)	hour	3.60	1,463.00	5,266.80
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 % on (a	a+b+c)			883.62
			Cos	st for 180 cum = $a+b+c+d$				6,774.42
			Rat	e per cum = (a+b+c+d)/180				37.64

	Ref. to	ī –	 I		тī		
Sr. No.	MORD	 	Description	Unit	Quantity	Rate (₹)	Amount i (₹) i
	Spec.	L	j		LĹ	L	
						say	<u>37.60</u>
		(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 all lifts and lead upto 1000 m as per MoRD Technical Specification Clause 302.3.				
			Unit = cum				
			Taking output = 360 cum				
			a) Labour				
			Mate	day	0.08	300.00	24.00
			Mazdoor (Unskilled)	day	2.00	300.00	600.00
			b) Machinery				
			Hydraulic excavator 0.9 cum bucket capacity @ 100 cum per hour	hour	3.60	1,296.00	4,665.60
			Tipper 5.5 cum capacity, 4 trips per hour	hour	15.00	321.00	4,815.00
			c) 0				0.00
			d) Contractor's profit and overheads @ 15 % on (a	+b+c)			1,515.69
			Cost for 360 cum = $a+b+c+d$				11,620.29
			Rate per cum = (a+b+c+d)/360				32.28
• •		_	and an in Marsha O. "			say	<u>32.30</u>
3.6	302.3.6		avation in Marshy Soil				
		exca load 1000 with	avation for roadway in marshy soil with hydraulic vator 0.9 cum bucket capacity including cutting and ing in tippers and disposal with all lifts and lead upto 0 m trimming of bottom and side slopes in accordance requirements of lines, grades and cross-sections as per D Technical Specification Clause 302.3.6.				
		Unit	= cum				
		Taki	ng output = 300 cum				
		a)	Labour				
			Mate	day	0.08	300.00	24.00
			Mazdoor (Unskilled)	day	2.00	300.00	600.00
		b)	Machinery				
			Hydraulic excavator 0.90 cum bucket capacity @ 50 cum per hour	hour	6.00	1,296.00	7,776.00
			Tipper 5.5 cum capacity, 4 trips per hour.	hour	12.50	321.00	4,012.50
		c)	0				0.00
		d)	Contractor's profit and overheads @ 15 % on (a+b+c	c)			1,861.88

		<u></u>				;	;
Sr. No.	MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	*	Cos	t for 300 cum = a+b+c+d	·	<u></u>		14,274.38
		Rat	e per cum = (a+b+c+d)/300				47.58
						say	<u>47.60</u>
3.7	302.3.11	Rer	noval of Unsuitable Soil with Disposal upto 1000 m				
		disp sup suit Tec	noval of unsuitable soil including excavation, loading and osal upto 1000 m lead but excluding compaction ground porting embankment / subgrade, replacement by able soil, which shall be paid separately as per MoRD nnical Specification Clause 303.5.2 and as per MoRD nnical Specification Clause 302.3.11.				
		Unit	= cum				
		Tak	ng output = 360 cum				
		a)	Labour				
			Mate	day	0.08	300.00	24.00
			Mazdoor	day	2.00	300.00	600.00
		b)	Machinery				
			Excavator 0.90 cum bucket capacity @ 100 cum per hour	hour	3.60	1,296.00	4,665.60
			Tipper 5.5 cum capacity, 4 trips per hour	hour	15.00	321.00	4,815.00
		c)	0				0.00
		d)	Contractor's profit and overheads @ 15 % on (a+b-	⊦c)			1,515.69
		Cos	t for 360 cum = $a+b+c+d$				11,620.29
		Rat	e per cum = (a+b+c+d)/360				32.28
	Note:	suit	item does not include replacement of unsuitable soil by able soil. Replacement, where required, is to be vided and paid separately under Clause 303.5.2.			say	<u>32.30</u>
3.8	302.3.5	(i)	Excavation in ordinary Rock by manual means				
			Excavation in ordinary rock using manual means including carrying of excavated material to embankment site with all lifts and lead upto 50 m as per MoRD Technical Specification Clause 302.3.5.				
			Unit = cum				
			Taking output = 120 cum				
			a) Labour				
			Mate	day	2.80	300.00	840.00
			Mazdoor (Unskilled)	day	70.00	300.00	21,000.00
			b) 0				0.00
			c) Contractor's profit and overheads @ 15 % on (a+b)			3,276.00

Chapter 3
EARTHWORK, EROSION CONTROL AND DRAINAGE

;	Ref. to							i	
Sr.	MORD	ļ		Description	Unit	Quantity	Rate	Amount	
NO.	Spec.	Ŀ_			,]	ĹĹ	(₹) I	(₹) 	
			Cos	st for 120 cum = $a+b+c$				25,116.00	
			Rat	te per cum = (a+b+c)/120				209.30	
							say	<u>209.30</u>	
		(ii)	upt Exc me ear incl	cavation in Ordinary Rock with Dozer with lead to 100 m cavation for roadway in ordinary rock by mechanical ans with dozer including cutting and pushing the cut th to site of embankment upto a distance of 100 m, uding trimming bottom and side slopes in cordance with the requirements of lines, grades and					
			cro	ss-sections as per MoRD Technical Specification use 302.3.5.					
			Uni	t = cum					
			Tał	king output = 108 cum					
			a)	Labour					
				Mate	day	0.12	300.00	36.00	
				Mazdoor (Unskilled)	day	3.00	300.00	900.00	
			b)	Machinery					
				Dozer D-50 @ 50% of 50 cum per hour	hour	2.16	1,463.00	3,160.08	
			c)	0				0.00	
			d)	Contractor's profit and overheads $@$ 15 % on (a	a+b)			614.41	
			Cos	st for 108 cum = a+b+c+d				4,710.49	
			Rat	te per cum = (a+b+c+d)/108				43.62	
							say	<u>43.60</u>	
		(iii)		cavation in Ordinary Rock using Hydraulic cavator and Tippers with disposal upto 1000 m					
			exc and with side gra	cavation for roadwork in ordinary rock with hydraulic cavator of 0.9 cum bucket capacity including cutting d loading in tippers, transporting to embankment site n all lifts and lead upto 1000 m, trimming bottom and e slopes in accordance with requirements of lines, des and cross-sections and as per MoRD Technical ecification Clause 302.3.5.					
			Uni	t = cum					
			Tał	king output = 240 cum					
			a)	Labour					
				Mate	day	0.08	300.00	24.00	
				Mazdoor (Unskilled)	day	2.00	300.00	600.00	
			b)	Machinery					
				Hydraulic Excavator 0.90 cum bucket capacity @ 40 cum per hour	hour	6.00	1,296.00	7,776.00	

<u></u>			EARTHWORK, EROSION CONTROL AND				
Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Tipper 5.5 cum with 10t capacity, 4 trips per hour.	hour	11.00	321.00	3,531.00
			c) 0				0.00
			d) Contractor's profit and overheads @ 15 % on (a	a+b+c)			1,789.65
			Cost for 240 cum = $a+b+c+d$				13,720.65
			Rate per cum = (a+b+c+d)/240				57.17
						say	<u>57.20</u>
3.9	302.3.2		pping, Storing and Relaying Top Soil from Right-of- y (R.O.W)				
		dan at 1 cut emb	pping, storing and preservation of top soil by keeping it op in stock piles and keep wet till it is used by road side 5 m interval and re-application on embankment slopes, slopes and other areas in localities where the available pankment material is not conducive to plant growth as MoRD Technical Specification Clause 302.3.2.				
		Unit	t = cum				
		Tak	ing output = 10 cum				
		a)	Labour				
			Mate	day	0.20	300.00	60.00
			Mazdoor (Unskilled)	day	5.00	300.00	1,500.00
		b)	Machinery				
			Dozer D-50 @ 100 cum per hour	hour	0.10	1,463.00	146.30
		c)	0				0.00
		d)	Contractor's profit and overheads @ 15 % on (a+b-	-c)			255.95
		Cos	t for 10 cum = $(a+b+c+d)$				1,962.25
		Rat	e per cum = (a+b+c+d)/10				196.22
						say	<u>196.20</u>
3.10	302.3.2		pping, Storing and Relaying Top Soil from Borrow as in Agricultural Fields				
		field afte agri sati	pping of top soil from borrow areas located in agriculture ds, storing at a suitable place, spreading and relaying r taking the borrow earth to maintain fertility of the icultural field, finishing it to the required levels to the sfaction of the farmer/land owners as per MoRD hnical Specification Clause 302.3.2.				
		Unit	t = cum				
		Tak	ing output = 300 cum				
		a)	Labour				
			Mate	day	4.00	300.00	1,200.00
			Mazdoor (Unskilled)	day	100.00	300.00	30,000.00
		b)	Machinery				

<u></u>								
Sr. No.	Ref. to MORD Spec.	-	Description	Unit	Quantity	Rate (₹)	Amount (₹)	
			Dozer D-50 with 100 cum per hour output (Initially stacking and relaying)	hour	6.00	1,463.00	8,778.00	
		c)	0				0.00	
		d)	Contractor's profit and overheads @ 15 % on (a+b+	·c)			5,996.70	
		Cos	st for 300 cum = $a+b+c+d$				45,974.70	
		Rat	te per sqm = (a+b+c+d)/300				153.25	
						say	<u>153.20</u>	
3.11	309	Tur	fing with Sods					
		forr loca Eng and 309	nishing and laying of the live sods of perennial turf ning grass on embankment slope , verges or other ations shown on the drawing or as directed by the gineer including preparation of ground, fetching of sods a watering as per MoRD Technical Specification Clause θ . t = sqm					
		Tall	king output = 300 sqm					
		a)	Labour					
			Mate	day	0.12	300.00	36.00	
			Mazdoor (Unskilled)	day	3.00	300.00	900.00	
		b)	Machinery					
			Water tanker including watering for 3 months	hour	6.00	310.00	1,860.00	
			Tractor with Trolley	hour	1.00	303.00	303.00	
		c)	Material					
			Farmyard manure @ 0.18 cum per 100 sqm at site of work		0.18	490.00	88.20	
		۲۳	Water	kl	36.00	135.00	4,860.00	
		d) e)	0 Contractor's profit and overheads @ 15 % on (a+b+	c+d)			0.00 1,207.08	
			st for 300 sqm = a+b+c+d+e	·c+u)			9,254.28	
			te per sqm = (a+b+c+d+e)/300				30.85	
						say	<u>30.80</u>	
3.12	303.1	Со	nstruction of Subgrade and Earthen Shoulders			,		
		Cor app lead slop	nstruction of subgrade and earthen shoulders with proved material obtained from borrow pits with all lifts and ds, transporting to site, spreading, grading to required be and compacted to meet requirement of Table 300.2 per MoRD Technical Specification Clause 303.1.					
		Ini	t = cum					
			king output = 100 cum					
		а)						
		aj	Mate	day	0.04	300.00	12.00	
				uuy	0.04	000.00	12.00	

Sr. No.	MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Mazdoor (Unskilled)	day	1.00	300.00	300.00
		b)	Machinery				
		i.	Hydraulic excavator 0.9 cum bucket capacity @ 100 cum per hour	hour	1.00	1,296.00	1,296.00
		ii.	Tipper 5.5 cum capacity, 4 trips per hour	hour	4.50	321.00	1,444.50
		iii.	Add rate for loading as per item 1.1 (ii)	cum	100.00	35.80	3,580.00
		iv.	Add rate for unloading as per item 1.1 (iv)	cum	100.00	21.10	2,110.00
		v.	Dozer D-50 for spreading @ 200 cum per hour	hour	0.50	1,463.00	731.50
		vi.	Tractor with attachment for grading @ 25 cum per hour	hour	4.00	322.00	1,288.00
		vii.	Water tanker with 6 kl capacity	hour	2.00	310.00	620.00
		viii.	Three wheel 80-100 kN Static Roller @ 70 cum per hou	hour	1.43	379.00	541.97
		c)	Material				
			Water	kl	12.00	135.00	1,620.00
			Compensation for earth taken from private land	cum	100.00	18.00	1,800.00
		d)	0				0.00
		e)	Contractor's profit and overheads $\ @$ 15 $\%$, ex/c (b.	iii) & (t	o.iv)		1,448.10
		Cos	t for 100 cum = $a+b+c+d+e$				16,792.07
		Rat	e per cum = (a+b+c+d+e)/100				167.92
						say	<u>167.90</u>
3.13	301.4	Cor	npacting Original Ground				
		(i)	Compacting original ground supporting embankment				
			Loosening, Levelling and Compacting original ground supporting embankment to facilitate placement of first layer of embankment,scarified to a depth of 150 mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density as given in Tables 300.1 and 300.2 for embankment construction as per MoRD Technical Specification Clause 301.4.1.				
			Unit = cum				
			Taking output = 600 cum				
			a) Labour				
			Mate	day	0.08	300.00	24.00
			Mazdoor (Unskilled)	day	2.00	300.00	600.00
			b) Machinery				
			Tractor with ripper attachment	hour	6.00	303.00	1,818.00
			Three wheel 80-100 kN Static Roller	hour	7.50	379.00	2,842.50
			Water tanker 6 kl capacity	hour	4.00	310.00	1,240.00
			c) Material				

Chapter 3	
EARTHWORK, EROSION CONTROL AND DRAINAGE	

Sr.	Ref. to	- <u></u>			•		Rate	Amount
No.	MORD Spec.	ļ		Description	Unit	Quantity	(₹)	(₹)
	4_ <u>`</u>			Water	kl	24.00	135.00	3,240.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % on (a+b+c+	d)		1,464.68
			Co	st for 600 cum = a+b+c+d+e				11,229.18
			Ra	te per cum = (a+b+c+d+e)/600				18.72
							say	<u>18.70</u>
	303	(ii)	Co	mpacting original ground supporting subgrade				
			the laye for	osening of the ground upto a level of 300 mm below subgrade level, watered, graded and compacted in ers to meet requirement of Tables 300.1 and 300.2 subgrade construction as per MoRD Technical ecification Clause 303.5.2.				
			Uni	it = cum				
			Tał	king output = 600 cum				
			a)	Labour				
				Mate	day	0.24	300.00	72.00
				Mazdoor (Unskilled)	day	6.00	300.00	1,800.00
			b)	Machinery				
				Tractor with ripper attachment	hour	10.00	303.00	3,030.00
				Water tanker 6 kl capacity	hour	4.00	310.00	1,240.00
			c)	Three wheel 80-100 kN Static Roller @ 70 cum per hour Material	hour	8.60	379.00	3,259.40
				Water	kl	24.00	135.00	3,240.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % on (a+b+c+	d)		1,896.21
			Co	st for 600 cum = a+b+c+d+e				14,537.61
			Ra	te per cum = (a+b+c+d+e)/600				24.23
							say	<u>24.20</u>
3.14	301.5.5.1	Rep	bairs	of damages caused by rain/spillage of water				
		muc the grad rolle	d an desi de, p	tion and surface treatment of formation by removing d slurry, watering to the extent needed to maintain red moisture content, trimming to the required line, profile and rolling with three wheel 80-100 kN static complete as per Technical Specification Clause 1.				
		Unit	t = so	qm				
		Tak	ing o	putput = 3500 sqm				
		a)	Lal	bour				
			Ма	te	day	0.28	300.00	84.00

Chapter 3
EARTHWORK, EROSION CONTROL AND DRAINAGE

Sr. No.	Ref. to MORD	,— — - 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
L	Spec.	L	Mazdar		day	ـــــــــــــــــــــــــــــــــــــ	L	1,800.00
				or (Onskilled) or skilled	day	1.00	380.00	380.00
			Machin		uay	1.00	000.00	000.00
		-		vheel static roller 80-100 kN	hour	3.00	379.00	1,137.00
				anker 6 kl, one trip per hour	hour	2.00	310.00	620.00
			Materia					
		,	Water		kl	12.00	135.00	1,620.00
		d)	0					0.00
		,		ctor's profit and overheads @ 15 % on (a+b-	⊦c+d)			846.15
				0 sqm = a+b+c+d+e	-			6,487.15
		Rate	per sq	m = (a+b+c+d+e)/3500				1.85
							say	<u>1.90</u>
3.15	307	(i)	Surface	e Drains in Soil				
		:	sectiona lines, materia and lea	action of unlined surface drains of average cross al area 0.40 sqm in ordinary soil to specified grades, levels and dimensions. Excavated I to be used in embankment with a lift upto 3 m ad of 50 m (average lead 25 m) as per MoRD cal Specification Clause 307.				
			Unit = n	n				
			Taking	output = 10 m				
			(A) Ma	nual Means				
			a)	Labour				
				Mate	day	0.08	300.00	24.00
				Mazdoor (Unskilled)	day	2.00	300.00	600.00
			b)	0				0.00
			c)	Contractor's profit and overheads @ 15 %	on (a+b)		93.60
			Co	st for 10 m = a+b+c				717.60
			Ra	te per m = (a+b+c)/10				71.76
							say	<u>71.80</u>
	Note:	out k rate	based of cem	g of drain is provided, quantity shall be worked n approved design and drawing and priced on ent concrete of approved grade or stone/brick s the case may be.				
			(B) Me	chanical Means				
				Labour				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Machinery				

Sr. Ref. to No. MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Hydraulic excavator 0.9 cum bucket capacity @ 100 cum per hour	hour	0.04	1,296.00	51.84
	c)	0				0.00
	d)	Contractor's profit and overheads $@$ 15 % of	on (a+b	+c)		19.48
	Co	st for 10 m = $a+b+c+d$				149.32
	Ra	te per m = (a+b+c+d)/10				14.93
					say	<u>14.90</u>
(ii)	Surfac	e Drains in Ordinary Rock				
	section lines, g design	uction of unlined surface drain of average cross al area 0.40 sqm in ordinary rock to specified grades, levels and dimensions as per approved and MoRD Technical Specification Clause 307. ted material to be used in embankment at site.				
	Unit = r	n				
	Taking	output = 10 m				
	(A) Ma	anual Means				
	a)	Labour				
		Mate	day	0.12	300.00	36.00
		Mazdoor (Unskilled)	day	3.00	300.00	900.00
	b)	0				0.00
	c)	Contractor's profit and overheads @ 15 % of	on (a+b))		140.40
	Co	st for 10 m = $a+b+c$				1,076.40
	Ra	te per m = (a+b+c)/10				107.64
					say	<u>107.60</u>
	(B) Me	echanical Means				
	a)	Labour				
		Mate	day	0.02	300.00	6.00
		Mazdoor (Unskilled)	day	0.50	300.00	150.00
	b)	Machinery				
		Hydraulic excavator 0.9 cum bucket capacity @ 40 m per hour	hour	0.10	1,296.00	129.60
	c)	0				0.00
	d)	Contractor's profit and overheads @ 15 % of	on (a+b	+c)		42.84
	Co	st for 10 m = $a+b+c+d$				328.44
	Ra	te per m = (a+b+c+d)/10				32.84

Sr. Ref. to No. Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
				say	32.80

	Ref. to						i
Sr. No.	MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			ADDITIONAL ITEMS BY USING JHAMA BRICK AGO	REGA	TE (i.e. LO	CALLY	
			AVAILABLE MATERIALS)				
3.16	307 & 1606	(i)	Road side Pucca Drains				
	1000		Construction of road side pucca drain with M10 (1:3:6 with jhama brick aggregate) to specified lines, grades, levels and dimensions as per approved design and MoRD Technical Specification Clause 307, 1606. Excavated material to be used in embankment at site. (including centering, shuttering, etc. but excluding reinforcement)				
			(A) Kerb & Channel drain (top clear width 600 mm, bottom clear width 150 mm and clear depth of 200 mm)				
			I. In Ordinary Soil				
			Unit = per metre				
			Taking output = 1.00 m				
			1 Excavation for structure earth work in excavation for foundations as per drawing and technical specification including dressing of sides and bottom and backfilling in ordinary soil.				
			(As per item No.11.1.A.I(i) of Chapter 11)	cum	0.26	287.00	74.62
			2 Plain cement concrete M10 (1:3:6) nominal mix concrete mixture as per techinical specification.				
			(As per item No.11.9.I(i) of Chapter 11)	cum	0.19	5,837.10	1,109.05
			Cost per m = (1+2)				1,183.67
						say	<u>1183.70</u>
			II. In Ordinary rock (not requiring blasting)				
			Unit = per metre				
			Taking output = 1.00 m				
			1 Excavation for structure earth work in excavation for foundations as per drawing and technical specification including dressing of sides and bottom and backfilling in ordinary soil.				
			(As per item No.11.1.A.II(i) of Chapter 11)	cum	0.26	358.80	93.29
			2 Plain cement concrete M10 (1:3:6) nominal mix concrete mixture as per techinical specification.				
			(As per item No.11.9.I(i) of Chapter 11)	cum	0.19	5,837.10	1,109.05
			Cost per m = (1+2)				1,202.34
						say	<u>1202.30</u>
			III. In Hard rock (blasting prohibited)				

Unit = per metre

	Ref. to					
Sr. No.	MORD	Description	Unit	Quantity	Rate (₹)	Amount i (₹) i
L	Spec.			LI	L	
		Taking output = 1.00 m				
		1 Excavation for structure earth work in excavation for foundations as per drawing and technical specification including dressing of sides and bottom and backfilling in ordinary soil.				
		(As per item No.11.1.A.III of Chapter 11)	cum	0.26	548.60	142.64
		2 Plain cement concrete M10 (1:3:6) nominal mix concrete mixture as per technical specification.				
		(As per item No.11.9.I(i) of Chapter 11)	cum	0.19	5,837.10	1,109.05
		Cost per m = (1+2)				1,251.69
					say	<u>1251.70</u>
		 (B) Trapezoidal drain (top clear width 600 mm, bottom clear width 300 mm and clear depth of 400 mm) In Ordinary Soil 				
		Unit = per metre				
		Taking output = 1.00 m				
		1 Excavation for structure earth work in excavation for foundations as per drawing and technical specification including dressing of sides and bottom and backfilling in ordinary soil.				
		(As per item No.11.1.A.I(i) of Chapter 11)	cum	0.52	287.00	149.24
		2 Plain cement concrete M10 (1:3:6) nominal mix concrete mixture as per techinical specification.				
		(As per item No.11.9.I(i) of Chapter 11)	cum	0.31	5,837.10	1,809.50
		1.00 x {(2 x 0.427m x 0.20m) + (0.68 x 0.20m)}				
		3 12 mm cement plaster 1:4 with neat cement punning				
		(Rate as per item no. 12.16 of chapter 12)	sqm	1.564	148.60	232.41
		(0.205 m + 0.427 m + 0.3 m + 0.427 m +0.205 r	n)			
		Cost per m = (1+2+3)				2,191.15
					say	<u>2191.20</u>
		II. In Ordinary rock (not requiring blasting)				
		Unit = per metre				
		Taking output = 1.00 m				
		1 Excavation for structure earth work in excavation for foundations as per drawing and technical specification including dressing of sides and bottom and backfilling in ordinary soil.				
		(As per item No.11.1.A.II(i) of Chapter 11)	cum	0.52	358.80	186.58

Sr. No.	Ref. to MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		2 Plain cement concrete M10 (1:3:6) nominal mix concrete mixture as per techinical specification.				
		(As per item No.11.9.I(i) of Chapter 11)	cum	0.31	5,837.10	1,809.50
		1.00 x {(2 x 0.427m x 0.20m) + (0.68 x 0.20m)}				
		3 12 mm cement plaster 1:4 with neat cement punning				
		(Rate as per item no. 12.16 of chapter 12)	sqm	1.564	148.60	232.41
		(0.205 m + 0.427 m + 0.3 m + 0.427 m +0.205 n	n)			
		Cost per m = (1+2+3)			say	2,228.49 2228.50
		III. In Hard rock (blasting prohibited)			cuy	
		Unit = per metre				
		Taking output = 1.00 m				
		1 Excavation for structure earth work in excavation for foundations as per drawing and technical specification including dressing of sides and bottom and backfilling in ordinary soil.				
		(As per item No.11.1.A.III of Chapter 11)	cum	0.52	548.60	285.27
		2 Plain cement concrete M10 (1:3:6) nominal mix concrete mixture as per techinical specification.				
		(As per item No.11.9.I(i) of Chapter 11)	cum	0.31	5,837.10	1,809.50
		1.00 x {(2 x 0.427m x 0.20m) + (0.68 x 0.20m)}				
		3 12 mm cement plaster 1:4 with neat cement punning		. =		
		(Rate as per item no. 12.16 of chapter 12)	sqm	1.564	148.60	232.41
		(0.205 m + 0.427 m + 0.3 m + 0.427 m +0.205 n	n)			
		Cost per m = (1+2+3)				2,327.18
					say	<u>2327.20</u>
		(C) Trapezoidal drain (top clear width 600 mm, bottom clear width 300 mm and clear depth of 600 mm)				
		I. In Ordinary Soil				
		Unit = per metre				
		Taking output = 1.00 m				
		1 Excavation for structure earth work in excavation for foundations as per drawing and technical specification including dressing of sides and bottom and backfilling in ordinary soil.				
		(As per item No.11.1.A.I(i) of Chapter 11)	cum	0.69	287.00	198.03
		2 Plain cement concrete M10 (1:3:6) nominal mix concrete mixture as per techinical specification.				

Sr. No.	MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)	
		(As per item No.11.9.I(i) of Chapter 11)	cum	0.38	5,837.10	2,218.10	
		1.00 x {(2 x 0.618m x 0.20m) + (0.68 x 0.20m)}					
		3 12 mm cement plaster 1:4 with neat cement punning					
		(Rate as per item no. 12.16 of chapter 12)	sqm	1.964	148.60	291.85	
		(0.205 m + 0.618 m + 0.3 m + 0.618 m +0.205 i	m)				
		Cost per m = (1+2+3)				2,707.98	
					say	<u>2708.00</u>	
		II. In Ordinary rock (not requiring blasting)					
		Unit = per metre					
		Taking output = 1.00 m					
		1 Excavation for structure earth work in excavation for foundations as per drawing and technical specification including dressing of sides and bottom and backfilling in ordinary soil.					
		(As per item No.11.1.A.II(i) of Chapter 11)	cum	0.69	358.80	247.57	
		2 Plain cement concrete M10 (1:3:6) nominal mix concrete mixture as per technical specification.					
		(As per item No.11.9.I(i) of Chapter 11)	cum	0.38	5,837.10	2,218.10	
		1.00 x {(2 x 0.618m x 0.20m) + (0.68 x 0.20m)}					
		3 12 mm cement plaster 1:4 with neat cement punning					
		(Rate as per item no. 12.16 of chapter 12)	sqm	1.964	148.60	291.85	
		(0.205 m + 0.618 m + 0.3 m + 0.618 m +0.205 h	m)				
		Cost per m = (1+2+3)				2,757.52	
					say	<u>2757.50</u>	
		III. In Hard rock (blasting prohibited)					
		Unit = per metre					
		Taking output = 1.00 m					
		1 Excavation for structure earth work in excavation for foundations as per drawing and technical specification including dressing of sides and bottom and backfilling in ordinary soil.					
		(As per item No.11.1.A.III of Chapter 11)	cum	0.69	548.60	378.53	
		2 Plain cement concrete M10 (1:3:6) nominal mix concrete mixture as per technical specification.					
		(As per item No.11.9.I(i) of Chapter 11)	cum	0.38	5,837.10	2,218.10	
		1.00 x {(2 x 0.618m x 0.20m) + (0.68 x 0.20m)}					
		3 12 mm cement plaster 1:4 with neat cement punning					

·	EARTHWORK, EROSION CONTROL AND				
Sr. Ref. to Sr. MORD No. Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	(Rate as per item no. 12.16 of chapter 12)	sqm	1.964	148.60	291.85
	(0.205 m + 0.618 m + 0.3 m + 0.618 m +0.205 r	m)			
	Cost per m = (1+2+3)				2,888.48
				say	<u>2888.50</u>
	(D) U shaped drain (top clear width 600 mm, bottom clear width 600 mm and clear depth of 600 mm)				
	I. In Ordinary Soil				
	Unit = per metre				
	Taking output = 1.00 m				
	1 Excavation for structure earth work in excavation for foundations as per drawing and technical specification including dressing of sides and bottom and backfilling in ordinary soil.				
	(As per item No.11.1.A.I(i) of Chapter 11)	cum	0.80	287.00	229.60
	2 Plain cement concrete M10 (1:3:6) nominal mix concrete mixture as per technical specification.				
	(As per item No.11.9.I(i) of Chapter 11)	cum	0.44	5,837.10	2,568.32
	1.00x[(2 x 0.60m x 0.20m)+{(0.20m+0.60m+ 0.2	20m)x0.	.20}]		
	3 12 mm cement plaster 1:4 with neat cement punning				
	(Rate as per item no. 12.16 of chapter 12)	sqm	2.210	148.60	328.41
	(0.205 m + 0.600 m + 0.3 m + 0.600 m +0.205 r	m)			
	Cost per m = (1+2+3)				3,126.33
				say	<u>3126.30</u>
	II. In Ordinary rock (not requiring blasting)				
	Unit = per metre				
	Taking output = 1.00 m				
	1 Excavation for structure earth work in excavation for foundations as per drawing and technical specification including dressing of sides and bottom and backfilling in ordinary soil.				
	(As per item No.11.1.A.II(i) of Chapter 11)	cum	0.80	358.80	287.04
	2 Plain cement concrete M10 (1:3:6) nominal mix concrete mixture as per technical specification.				
	(As per item No.11.9.I(i) of Chapter 11)	cum	0.44	5,837.10	2,568.32
	1.00x[(2 x 0.60m x 0.20m)+{(0.20m+0.60m+ 0.2	20m)x0.	.20}]		
	3 12 mm cement plaster 1:4 with neat cement punning				
	(Rate as per item no. 12.16 of chapter 12)	sqm	2.210	148.60	328.41

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			(0.205 m + 0.600 m + 0.3 m + 0.600 m +0.205 l	m)			
			Cost per m = (1+2+3)				3,183.77
						say	<u>3183.80</u>
			III. In Hard rock (blasting prohibited)				
			Unit = per metre				
			Taking output = 1.00 m				
			 Excavation for structure earth work in excavation for foundations as per drawing and technical specification including dressing of sides and bottom and backfilling in ordinary soil. (As per item No.11.1.A.III of Chapter 11) 	cum	0.80	548.60	438.88
			 2 Plain cement concrete M10 (1:3:6) nominal mix concrete mixture as per techinical specification. 				
			(As per item No.11.9.I(i) of Chapter 11)	cum	0.44	5,837.10	2,568.32
			1.00x[(2 x 0.60m x 0.20m)+{(0.20m+0.60m+ 0.2	20m)x0.	.20}]		
			3 12 mm cement plaster 1:4 with neat cement punning				
			(Rate as per item no. 12.16 of chapter 12)	sqm	2.210	148.60	328.41
			(0.205 m + 0.600 m + 0.3 m + 0.600 m +0.205 n	m)			
			Cost per m = (1+2+3)				3,335.61
						say	<u>3335.60</u>
3.17	307	Chu	ute Drains				
		Α.	Providing chute drains across embankment slopes in approches of bridges and on horizontal curves as per drawings.				
		Unit	t = 1 m				
		(a)	Earthwork in excavation for foundation of structures as per drawings and MoRD Technical Specifications Clause 307 including setting out construction of shoring and bracing deleterious matter, dressings of sides and bottom and backfilling with approved material (By manual means).				
			Rate as per item No.11.1 of Chapter 11.	cum			
		(b)	Providing and laying plain cement concrete M15 grade.				
			Rate as per item No.12.14.I of Chapter 12.	cum			
		(c)	Brick Masonry in cement mortar 1:5.				
			Rate as per item No. 12.1(III) of Chapter 12.	cum			
		(d)	Plastering with cement mortar 1:4.				
			Rate as per item No. 12.3 of Chapter 12.	sqm			
		(e)	Providing P.C.C. M.20 coping on the top of chute walls.				
			As per item No. 12.15 of Chapter 12.	m			

Sr. MORD No. Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)	
		J	L		L	1

Rate per m = a+b+c+d+e

Note: Quantities are to be taken as per the designs and drawings.

Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
3.18	307 & 1606	R	oad side 'V' shaped Pucca Drains				
		1: 4 g a (E	onstruction of 'V' shaped road side pucca drain with st class brick work in cement Mortar 1 : 4 (1 cement : river sand) laid brick on edge to specified lines, rades, levels and dimensions as per approved design and MoRD Technical Specification Clause 307, 1606. Excluding the cost of excavation which would be paid eparately)				
		U	nit = sqm				
		Т	aking output = 8.00 sqm				
		a	Material				
			Brick	Nos.	413.00	8.03	3,316.39
			Cement mortar (1:4), Rates as per sub-analysis	cum	0.24	3,012.50	723.00
		b	Labour				
			Mate	day	0.07	300.00	21.00
			Mason (1st Class)	day	0.80	425.00	340.00
			Mazdoor (Unskilled)	day	1.60	300.00	480.00
		C	Bhisti 0	day	0.20	300.00	60.00 0.00
		d	Contractor's profit and overheads $@$ 15 % on (a	a+b+c)			741.06
			Cost for 8 sqm = a+b+c+d				5,681.45
		R	ate per cum = (a+b+c+d)/ 8				710.18
						say	<u>710.20</u>
		Sub-a	nalysis				
		Ceme	nt mortar 1:4 (1 cement : 4 sand)				
		Unit =	cum				
		a) N	laterial				
		С	ement	t	0.38	6,100.00	2,318.00
		S	and	cum	1.05	370.00	388.50
		b) L	abour				
		N	late	day	0.04	300.00	12.00
			azdoor (Unskilled)	day	0.90	300.00	270.00
			histi	day	0.08	300.00	24.00
		Total	material and labour = (a+b)				3,012.50
3.19	307 &	D	ry brick pitching in road side drains				

ry br ск рітс g

1606

Providing dry brick pitching in road side drain with 1st

class brick laid on edge to specified lines, grades, levels and dimensions as per approved design and MoRD Technical Specification Clause 307, 1606. (Excluding the cost of excavation which would be paid separately)

Sr. Ref. to Sr. MORD No. Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)						
Uni	it = sqm										
Tal	king output = 80.00 sqm										
a)	Material										
	Brick	Nos.	4,128.00	8.03	33,147.84						
b)	Labour										
	Mate	day	0.24	300.00	72.00						
	Mazdoor (Unskilled)	day	6.00	300.00	1,800.00						
c)	0				0.00						
d)	Contractor's profit and overheads	@ 15 % on (a+b+c)		5,252.98						
	Cost for 80 sqm = a+b+c+d				40,272.82						
Ra	te per cum = (a+b+c+d)/ 80				503.41						
				say	<u>503.40</u>						

<u></u>		GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS								
Sr. No.	Ref. to MORD Spec.				Description	Unit	Quantity	Rate (₹)	Amount (₹)	
4.1	401	Gra 400		r S	ub-base with Well Graded Material (Table					
		(A)	By	Mix	in Place Method					
			grad mot plac com desi	ded or g ce npag ired	action of granular sub-base by providing well material spreading in uniform layers with grader on prepared surface, mixing by mix in method with rotavator at OMC, and cting with smooth wheel roller to achieve the density, complete as per MoRD Technical cation Clause 401.					
			(i)	Fo	r Grading I Material					
				Un	it = cum					
				Та	king output = 300 cum					
				a)	Labour					
					Mate	day	0.48	300.00	144.00	
					Mazdoor (Skilled)	day	2.00	380.00	760.00	
					Mazdoor (Unskilled)	day	10.00	300.00	3,000.00	
				b)	Machinery					
					Three wheel 80-100 KN static roller @ 10 cum per hour	hour	30.00	379.00	11,370.00	
					Tractor with Rotavator 25 cum per hour	hour	12.00	322.00	3,864.00	
					Water tanker 6 kl capacity	hour	5.00	310.00	1,550.00	
				c)	Material					
					Well graded granular sub-base material as per Table 400.1					
					53 mm to 9.5 mm @ 50 per cent	cum	192.00	3,444.00	661,248.00	
					9.5 mm to 2.36 mm @ 20 per cent	cum	77.00	4,005.00	308,385.00	
					2.36 mm below @ 30 per cent	cum	115.00	2,523.00	290,145.00	
					Water	kl	30.00	135.00	4,050.00	
				d)	0				0.00	
				e)	Contractor's profit and overheads @ 15 %	on (a-	-b+c+d)		192,677.40	
				Co	st for 300 cum = a+b+c+d+e				1,477,193.40	
				Ra	te per cum = (a+b+c+d+e)/300				4,923.98	
								say	<u>4924.00</u>	
			(ii)	Fo	r Grading II Material					
				Un	it = cum					
				Та	king output = 300 cum					
				a)	Labour					
					Mate	day	0.48	300.00	144.00	
					Mazdoor (Skilled)	day	2.00	380.00	760.00	
					Mazdoor (Unskilled)	day	10.00	300.00	3,000.00	

Sr.	Ref. t			Description	Unit	Quantity	Rate (₹)	Amount
NO.	Spec	<u>-L_</u> .					ا ــــــــــــــــــــــــــــــــــــ	(₹)
			b)	Machinery				
				Three wheel 80-100 KN static roller @ 10 cum per hour	hour	30.00	379.00	11,370.00
				Tractor with Rotavator 25 cum per hour	hour	12.00	322.00	3,864.00
				Water tanker 6 kl capacity	hour	5.00	310.00	1,550.00
			c)	Material				
				Well graded granular sub-base material as per Table 400.1				
				26.5 mm to 9.5 mm @ 35 per cent	cum	134.00	3,605.00	483,070.00
				9.5 mm to 2.36 mm @ 25 per cent	cum	96.00	4,005.00	384,480.00
				2.36 mm below @ 40 per cent	cum	153.00	2,523.00	386,019.00
				Water	kl	30.00	135.00	4,050.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 %	on (a-	+b+c+d)		191,746.05
	Cost for 300 cum = $a+b+c+d+e$							
	Rate per cum = (a+b+c+d+e)/300							
							say	<u>4900.20</u>
			(iii) Foi	r Grading III Material				
			Uni	it = cum				
			Tal	king output = 300 cum				
			a)	Labour				
				Mate	day	0.48	300.00	144.00
				Mazdoor (Skilled)	day	2.00	380.00	760.00
				Mazdoor (Unskilled)	day	10.00	300.00	3,000.00
			b)	Machinery				
				Three wheel 80-100 KN static roller @ 10 cum per hour	hour	30.00	379.00	11,370.00
				Tractor with Rotavator 25 cum per hour	hour	12.00	322.00	3,864.00
				Water tanker 6 kl capacity	hour	5.00	310.00	1,550.00
			c)	Material				
				Well graded granular sub-base material as per Table 400.1				
				9.5 mm to 4.75 mm @ 35 per cent	cum	134.00	4,005.00	536,670.00
				4.75 mm to 2.36 mm @ 12.5 per cent	cum	48.00	4,085.00	196,080.00
				2.36 mm below @ 52.5 per cent	cum	201.60	2,523.00	508,636.80
				Water	kl	30.00	135.00	4,050.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 %	on (a-	-b+c+d)		189,918.72

GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS Ref. to Sr. Amount MORD Description Unit Quantity Rate (₹) No. (₹) Spec. Cost for 300 cum = a+b+c+d+e 1,456,043.52 Rate per cum = (a+b+c+d+e)/300 4,853.48 say 4853.50 401 (B) Plant Mix Method Construction of granular sub-base by providing well graded material, mixing in a mechanical mix plant at OMC, carraige of mixed material to work site upto lead of 1000 m spreading in uniform layers with motor grader on prepared surface and compacting with smooth wheel roller to achieve the desired density, complete as per MoRD Technical Specification Clause 401. (i) For Grading I Material Unit = cum Taking output = 225 cum (450 t) a) Labour Mate day 0.40 300.00 120.00 Mazdoor (Skilled) 2.00 380.00 760.00 day Mazdoor (Unskilled) day 8.00 300.00 2,400.00 b) Machinery Wet mix plant @ 60 t capacity per hour hour 7.50 1,096.00 8,220.00 Water tanker 6 kl capacity 5 km lead with hour 4.00 310.00 1,240.00 one trip per hour Front end loader 0.9 cum bucket capacity 25 hour 9.00 963.00 8,667.00 cum per hour Tipper 5.5 cum @ 3 trips per hour hour 13.60 321.00 4,365.60 Tractor with Rotavator hour 9.00 322.00 2,898.00 Three wheel 80-100 KN static roller 10 cum 22.50 8,527.50 hour 379.00 per hour c) Material Well graded granular sub-base material as per Table 400.1 53 mm to 9.5 mm @ 50 per cent cum 144.00 3,444.00 495,936.00 9.5 mm to 2.36 mm @ 20 per cent cum 57.00 4,005.00 228,285.00 2.36 mm below @ 30 per cent 86.40 2,523.00 217,987.20 cum Water kl 24.00 135.00 3,240.00 d) 0 0.00 e) Contractor's profit and overheads @ 15 % on (a+b+c+d) 147,396.95 Cost for 225 cum = a+b+c+d+e 1,130,043.25 Rate per cum = (a+b+c+d+e)/225 5,022.41 5022.40 say

Chapter 4

SOR 2017 MORD Analysis, Tripura PWD

Chapter 4 GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS Ref. to Sr. Amount MORD Description Unit Quantity Rate (₹) No. (₹) Spec. (ii) For Grading II Material Unit = cum Taking output = 225 cum (450 t) a) Labour Mate 0.40 300.00 120.00 day Mazdoor (Skilled) 760.00 day 2.00 380.00 Mazdoor (Unskilled) 8.00 2,400.00 day 300.00 b) Machinery Wet mix plant @ 60 t capacity per hour hour 7.50 1,096.00 8,220.00 Water tanker 6 kl capacity 5 km lead with 4.00 310.00 1,240.00 hour one trip per hour Front end loader 0.9 cum bucket capacity 25 9.00 963.00 8,667.00 hour cum per hour Tipper 5.5 cum, 3 trips per hour 13.60 4,365.60 hour 321.00 Tractor with Rotavator hour 9.00 322.00 2,898.00 Three wheel 80-100 KN static roller 10 cum 22.50 379.00 8,527.50 hour per hour c) Material Well graded granular sub-base material as per Table 400.1

		26.5 mm to 9.5 mm @ 35 per cent	cum	100.80	3,605.00	363,384.00		
		9.5 mm to 2.36 mm @ 25 per cent	cum	72.00	4,005.00	288,360.00		
		2.36 mm below @ 40 per cent	cum	115.20	2,523.00	290,649.60		
		Water	kl	24.00	135.00	3,240.00		
	d)	0				0.00		
	e)	Contractor's profit and overheads @ 15 %	on (a+	b+c+d)		147,424.76		
	Co	st for 225 cum = a+b+c+d+e				1,130,256.46		
	Ra	te per cum = (a+b+c+d+e)/225				5,023.36		
					say	<u>5023.40</u>		
(iii)	Fo	r Grading III Material						
	Un	it = cum						
	Ta	king output = 225 cum (450 t)						
	a)	Labour						
		Mate	day	0.40	300.00	120.00		
		Mazdoor (Skilled)	day	2.00	380.00	760.00		
		Mazdoor (Unskilled)	day	8.00	300.00	2,400.00		
	b)	Machinery						
		Wet mix plant @ 60 t capacity per hour	hour	7.50	1,096.00	8,220.00		

IRef. to Sr. MORD No. Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	Water tanker 6 kl capacity 5 km lead with one trip per hour	hour	4.00	310.00	1,240.00
	Front end loader 0.9 cum bucket capacity 25 cum per hour	hour	9.00	963.00	8,667.00
	Tipper 5.5 cum, 3 trips per hour	hour	13.60	321.00	4,365.60
	Tractor with Rotavator	hour	9.00	322.00	2,898.00
	Three wheel 80-100 KN static roller 10 cum per hour	hour	22.50	379.00	8,527.50
c)	Material				
	Well graded granular sub-base material as per Table 400.1				
	9.5 mm to 4.75 mm @ 35 per cent	cum	100.80	4,005.00	403,704.00
	4.75 mm to 2.36 mm @ 12.5 per cent	cum	36.00	4,085.00	147,060.00
	2.36 mm below @ 52.5 per cent	cum	151.20	2,523.00	381,477.60
	Water	kl	24.00	135.00	3,240.00
d)	0				0.00
e)	Contractor's profit and overheads @ 15 %	on (a+	·b+c+d)		145,901.96
Co	st for 225 cum = a+b+c+d+e				1,118,581.66
Ra	te per cum = (a+b+c+d+e)/225				4,971.47
				say	<u>4971.50</u>

4.2 405 Water Bound Macadam Sub-base/base

1) WBM Grading 1

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, stone screening / binding materials to fill up the interstices of coarse aggregate, watering and compacting to the required density 'Grading 1' as per MoRD Technical Specification Clause 404.

(A) By Manual Means

Unit = cum

Taking output = 360 cum

a) Labour

	Mate	day	10.08	300.00	3,024.00
	Mazdoor (Skilled)	day	2.00	380.00	760.00
	Mazdoor (Unskilled)	day	250.00	300.00	75,000.00
b)	Machinery				
	Three wheel 80-100 KN static roller @ 10 cum per hour	hour	36.00	379.00	13,644.00
	Water tanker 6 kl capacity	hour	24.00	310.00	7,440.00

Sr. No.	Ref. to MORD Spec.			Description		Quantity	r	Amount (₹)
L	opec.					11	l	
			C)	Material (Refer Tables 400.7, 8, 9 and 10)				
				Aggregate				
				Grading 1 90 mm to 45 mm @ 1.21 cum per 10 sqm for compacted thicKNess of 100 mm Stone Screenings	cum	435.60	3,044.00	1,325,966.40
				Type A 13.2 mm for Grading-1 @ 0.27 cum per 10 sqm Binding Material	cum	97.20	3,685.00	358,182.00
				Binding Material @ 0.08 cum per 10 sqm for grading 1 material	cum	28.80	18.00	518.40
				Water	kl	144.00	135.00	19,440.00
			d)	0				0.00
			e)	Contractor's profit and overheads $@$ 15 %	on (a ₁	-b+c+d)		270,596.22
			Co	st for 360 cum = a+b+c+d+e				2,074,571.02
				te per cum = (a+b+c+d+e)/360				5,762.70
				,			say	<u>5762.70</u>
		(B)	By	Mechanical Means			-	
			Un	it = cum				
			Ta	king output = 360 cum				
				Labour				
				Mate	day	0.68	300.00	204.00
				Mazdoor (Skilled)	day	2.00	380.00	760.00
				Mazdoor (Unskilled)	day	15.00	300.00	4,500.00
			b)	Machinery				
				Tractor with Rotavator	hour	14.40	322.00	4,636.80
				Three wheel 80-100 KN static roller @ 10 cum per hour	hour	36.00	379.00	13,644.00
				Water tanker 6 kl capacity	hour	24.00	310.00	7,440.00
			c)	Material (Refer Tables 400.7, 8, 9 and 10)				
				Aggregate Grading 1 90 mm to 45 mm @ 1.21 cum per 10 sqm for compacted thicKNess of 100 mm Stone Screening	cum	435.60	3,044.00	1,325,966.40
				Type A 13.2 mm for Grading-1 @ 0.27 cum per 10 sqm	cum	97.20	3,685.00	358,182.00
				Binding Material				
				Binding Material @ 0.08 cum per 10 sqm for Grading 2 material	cum	28.80	18.00	518.40

Sr. Ref. to Sr. MORD No. Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)						
	Water	kl	144.00	135.00	19,440.00						
d) 0				0.00						
е	Contractor's profit and overheads @ 15 %	on (a-	-b+c+d)		260,293.74						
C	ost for 360 cum = a+b+c+d+e				1,995,585.34						
R	ate per cum = (a+b+c+d+e)/360				5,543.29						
				say	<u>5543.30</u>						

Chapter 4 GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS

2) WBM Grading 2

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 / binding materials to fill up the interstices of coarse aggregate, watering and compacting to the required density 'Grading 2' as per MoRD Technical Specification Clause 405.

(A) By Manual Means

Unit = cum

Taking output = 360 cum

a)	Labour				
	Mate	day	10.08	300.00	3,024.00
	Mazdoor (Skilled)	day	2.00	380.00	760.00
	Mazdoor (Unskilled)	day	250.00	300.00	75,000.00
b)	Machinery				
	Three wheel 80-100 KN static roller @ 8 cum per hour	hour	45.00	379.00	17,055.00
	Water tanker 6 kl capacity	hour	24.00	310.00	7,440.00
c)	Material (Refer Tables 400.7, 8, 9 and 10)				
	Aggregate Grading 2 63 mm to 45 mm @ 0.91 cum per 10 sqm for compacted thicKNess of 75 mm Stone Screening	cum	435.60	3,044.00	1,325,966.40
	Type B 11.2 mm for Grading 2 @ 0.20 cum per 10 sqm	cum	96.01	4,045.00	388,360.45
	Binding Material				
	Binding Material @ 0.06 cum per 10 sqm for Grading 2 material	cum	28.80	18.00	518.40
	Water	kl	144.00	135.00	19,440.00
d)	0				0.00
e)	Contractor's profit and overheads $@$ 15 %	on (a+	b+c+d)		275,634.64

GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS									
Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)		
		Co	 st for 360 cum = a+b+c+d+e				2,113,198.89		
		Ra	te per cum = (a+b+c+d+e)/360				5,870.00		
						say	<u>5870.00</u>		
		(B) By	Mechanical Means						
		Un	it = cum						
		Tal	king output = 360 cum						
		a)	Labour						
			Mate	day	0.68	300.00	204.00		
			Mazdoor (Skilled)	day	2.00	380.00	760.00		
			Mazdoor (Unskilled)	day	15.00	300.00	4,500.00		
		b)	Machinery						
			Tractor with Rotavator	hour	14.40	322.00	4,636.80		
			Three wheel 80-100 KN static roller @ 8 cum per hour	hour	45.00	379.00	17,055.00		
			Water tanker 6 kl capacity	hour	24.00	310.00	7,440.00		
		c)	Material (Refer Tables 400.7, 8, 9 and 10)						
			Aggregate						
			Grading 2 63 mm to 45 mm @ 0.91 cum per 10 sqm for compacted thicKNess of 75 mm Stone Screening	cum	435.60	3,044.00	1,325,966.40		
			Type B 11.2 mm for Grading 2 @ 0.20 cum per 10 sqm Binding Material	cum	96.01	4,045.00	388,360.45		
			Binding Material @ 0.06 cum per 10 sqm for Grading 2 material	cum	28.80	18.00	518.40		
			Water	kl	144.00	135.00	19,440.00		
		d)	0				0.00		
		e)	Contractor's profit and overheads @ 15 %	on (ai	-b+c+d)		265,332.16		
		Co	st for 360 cum = a+b+c+d+e				2,034,213.21		
		Ra	te per cum = (a+b+c+d+e)/360				5,650.59		
						say	<u>5650.60</u>		

Note: Type A Screening can be used in Grading 2

3) WBM Grading 3

	GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS									
Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)			
	<u> </u>	aggregates of macadam sp uniform thicKN wheel roller 80 and camber, ap to fill up the inte and compacting	ng, spreading and compacting stone specific sizes to water bound ecification including spreading in ess, hand packing, rolling with smooth 0-100 KN in stages to proper grade oplying and brooming, stone screening erstices of coarse aggregate, watering to the required density 'Grading 3' as annical Specification Clause 405.		·					
		(A) By Manua	l Means							
		Unit = cum								
		Taking out	put = 360 cum							
		a) Labou	r							
		Mate		day	10.08	300.00	3,024.00			
		Mazdo	or (Skilled)	day	2.00	380.00	760.00			
		Mazdo	or (Unskilled)	day	250.00	300.00	75,000.00			
		b) Machir Three cum pe	wheel 80-100 KN static roller @ 8	hour	45.00	379.00	17,055.00			
		-	anker 6 kl capacity	hour	24.00	310.00	7,440.00			
		c) Materia	al (Refer Tables 400.7, 8, 9 and 10)							
		Aggree	gate							
		per 10 75 mm	g 3 53 mm to 22.4 mm @ 0.91 cum sqm for compacted thicKNess of Screening	cum	435.60	3,044.00	1,325,966.40			
			3 11.2 mm for Grading 3 @ 0.18 cum	cum	86.40	4,045.00	349,488.00			
		Water	•	kl	144.00	135.00	19,440.00			
		d) 0					0.00			
		e) Contra	ctor's profit and overheads @ 15 %	on (a+	·b+c+d)		269,726.01			
		Cost for 36	0 cum = a+b+c+d+e				2,067,899.41			
		Rate per o	cum = (a+b+c+d+e)/360				5,744.17			
						say	<u>5744.20</u>			
		(B) By Mecha	nical Means							
		Unit = cum								
		Taking out	put = 360 cum							
		a) Labou	r							
		Mate		day	0.68	300.00	204.00			
		Mazdo	or (Skilled)	day	2.00	380.00	760.00			
		Mazdo	or (Unskilled)	day	15.00	300.00	4,500.00			

b) Machinery

I Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Tractor with Rotavator	hour	14.40	322.00	4,636.80
		Three wheel 80-100 KN static roller @ 8 cum per hour	hour	45.00	379.00	17,055.00
		Water tanker 6 kl capacity	hour	24.00	310.00	7,440.00
	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 Stone Screening	cum	435.60	3,044.00	1,325,966.40
		Type B 11.2 mm for Grading 3 @ 0.18 cum per 10 sqm	cum	86.40	4,045.00	349,488.00
		Water	kl	144.00	135.00	19,440.00
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 %	on (a+	·b+c+d)		259,423.53
	Co	st for 360 cum = a+b+c+d+e				1,988,913.73
	Ra	te per cum = (a+b+c+d+e)/360				5,524.76
					say	<u>5524.80</u>
4.3 406 Wet Mix	x Ma	cadam				
Ducydalia	~	loving aproading and compacting stopp				

Providing, laying, spreading and compacting stone aggregates to wet mix macadam specification including premixing the material with water at OMC in mechanical mixer (Pug Mill), carriage of mixed materials by tipper to site, laying in uniform layers in sub-base / base course on a well prepared sub-base and compacting with smooth wheel roller of three wheel 80-100 KN static roller to proper grade and camber, achieve the desired density including lighting, barricading and maintenance of diversion, etc as per Tables 400.11 & 400.12 and as per MoRD Technical Specification Clause 406.

By Mechanical Means with 1.00 km lead

Unit = cum

Taking output = 100 cum

a) Labour

	Mate	day	0.40	300.00	120.00
	Mazdoor (Skilled)	day	2.00	380.00	760.00
	Mazdoor (Unskilled)	day	8.00	300.00	2,400.00
b)	Machinery				
	Front end loader 1 cum capacity	hour	4.00	963.00	3,852.00
	Wet mix plant (Pug Mill)	hour	4.00	1,096.00	4,384.00
	Tipper/Dumper (10 t) capacity	hour	5.00	321.00	1,605.00
	Tractor with Rotavator	hour	6.00	322.00	1,932.00

Sr. No.	MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)		
			Three wheel 80-100 KN static roller @ 16 cum per hour	hour	6.25	379.00	2,368.75		
			Water tanker 6 kl capacity	hour	1.33	310.00	412.30		
		c)	Material						
			Coarse aggregate 45 mm to 22.4 mm @ 30.00 %	cum	39.90	3,484.00	139,011.60		
			Aggregates 22.4 mm to 2.36 mm @ 40.00 %	cum	53.20	3,484.00	185,348.80		
			Fine aggregate/Crushed stones 2.36 mm to 75 micron @ 30.00 %	cum	39.90	2,643.00	105,455.70		
			Water	kl	8.00	135.00	1,080.00		
		d)	I) O						
		e)	Contractor's profit and overheads @ 15 % on (a+l	o+c+d)			67,309.52		
		Cos	st for 100 cum = $a+b+c+d+e$				516,039.67		
		Rate per cum = (a+b+c+d+e)/100							
						say	<u>5160.40</u>		
4.4	407	Construction of Shoulders as per Technical Specification Clause 407.							
		A. Earthen Shoulders							
		В.	The rate as applicable for Sub-grade construction may be adopted. B. Hard Shoulders						
			Rate as applicable for Sub-base and/or Base may be adopted as per approved design.						
		C.	Paved Shoulders						
4.5	412	Brie	The rates may be adopted as applicable for different layers of pavement depending upon approved design of paved shoulders. ck Soling						
		i) B	rick on edge soling						
		Providing and laying brick on edge soling layer on prepared subgrade according to lines, grades and cross- section shown on the drawing, filling joints with sand, watering and rolling the same with three wheeled road roller 80-100 KN as per MoRD Technical Specification Clause 412.							
		Uni	Unit = sqm						
		Tak	Taking ouput = 150 sqm						
		(a)	Labour						
			Mate	day	0.52	300.00	156.00		
			Mazdoor (Unskilled)	day	10.00	300.00	3,000.00		
			Mason 1st Class	day	3.00	425.00	1,275.00		
		(b)	Machinery						

	GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS									
Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)			
	• 		Three wheel 80-100 KN static roller @ 150 sqm per hour	hour	1.00	379.00	379.00			
			Water tanker 6 kl capacity	hour	1.00	310.00	310.00			
		(c)	Material							
			Brick 1st Class	No.	7,800.00	8.03	62,634.00			
			Fine Sand (local)	cum	5.66	300.00	1,698.00			
			Water	kl	6.00	135.00	810.00			
		(d)	0				0.00			
		(e)	Contractor's profit and overheads @ 15 % on (a+b	o+c+d)			10,539.30			
		Cos	t for 150 sqm = a+b+c+d+e				80,801.30			
		Rat	e per sqm = (a+b+c+d+e)/150				538.68			
						say	<u>538.70</u>			
	ii) Flat Brick soling									
		Providing and laying flat brick soling layer on prepared subgrade according to lines, grades and cross-section shown on the drawing, filling joints with Earth, free from clay with a Plasticity Index not exceeding 6, watering and rolling the same with three wheeled road roller 80-100 KN as per MoRD Technical Specification Clause 412.								
		Uni	t = sqm							
		Tak	ing ouput = 198.75 sqm							
		(a)	Labour							
			Mate	day	0.44	300.00	132.00			
			Mazdoor (Unskilled)	day	8.00	300.00	2,400.00			
			Mason 1st Class	day	3.00	425.00	1,275.00			
		(b)	Machinery							
			Three wheel 80-100 KN static roller @ 150 sqm per hour	hour	1.00	379.00	379.00			
			Water tanker 6 kl capacity	hour	1.00	310.00	310.00			
		(c)	Material							
			Brick 1st Class	No.	6,161.00	8.03	49,472.83			
			Earth, free from clay with a plasticity index not exceeding 6		3.396		516.19			
			Water	kl	3.60	135.00	486.00			
		(d)					0.00			
			Contractor's profit and overheads @ 15 % on (a+k	o+c+d)			8,245.65			
			t for 198.75 sqm = $a+b+c+d+e$				63,216.68			
		кat	e per sqm = (a+b+c+d+e)/198.75				318.07			
						say	<u>318.10</u>			

iii) Brick edging laid in full brick width

	Ref. to	— — İ	i		ii	i	
Sr. No.	MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
L		acco drav Plas sam	viding and laying brick edging on prepared subgrade ording to lines, grades and cross-section shown on the wing, filling joints with Earth, free from clay with a sticity Index not exceeding 6, watering and rolling the ne with three wheeled road roller 80-100 KN as per RD Technical Specification Clause 412.		11	LI	
		Unit	t = m				
		Tak	ing ouput = 10 m				
		(a)	Labour				
			Mate	day	0.02	300.00	6.00
			Mazdoor (Unskilled)	day	0.30	300.00	90.00
			Mason 1st Class	day	0.24	425.00	102.00
		(b)	Machinery				
			Three wheel 80-100 KN static roller @ 150 sqm per hour		0.01	379.00	3.79
			Water tanker 6 kl capacity	hour	0.01	310.00	3.10
		(c)	Material	N	405.00	0.00	4 000 75
			Brick 1st Class	No.	125.00	8.03	1,003.75
			Earth, free from clay with a plasticity index not exceeding 6 Water	cum kl	0.04	152.00 135.00	6.08 5.40
		(d)	0				0.00
		(e)	Contractor's profit and overheads @ 15 % on (a+k	o+c+d)			183.02
		Cos	st for 10 m = a+b+c+d+e				1,403.14
		Rat	e per m = (a+b+c+d+e)/10				140.31
						say	<u>140.30</u>
		iv) l	Brick edging laid length wise				
		Providing and laying brick edging laid lengthwise on prepared subgrade according to lines, grades and cross- section shown on the drawing, filling joints with Earth, free from clay with a Plasticity Index not exceeding 6, watering and rolling the same with three wheeled road roller 80-100 KN as per MoRD Technical Specification Clause 412.					
		Unit	t = m				
		Tak	ing ouput = 10 m				
			Labour				
			Mate	day	0.01	300.00	3.00
			Mazdoor (Unskilled)	day	0.15	300.00	45.00
			Mason 1st Class	day	0.10	425.00	42.50

(b) Machinery

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)	
			Three wheel 80-100 KN static roller @ 150 sqm per hour	hour	0.005	379.00	1.90	
			Water tanker 6 kl capacity	hour	0.005	310.00	1.55	
		(c)	Material					
			Brick 1st Class	No.	40.00	8.03	321.20	
			Earth, free from clay with a plasticity index not exceeding 6	cum	0.02	152.00	3.04	
			Water	kl	0.02	135.00	2.70	
		(d)	0				0.00	
		(e)	Contractor's profit and overheads @ 15 % on (a+b	b+c+d)			63.13	
		Cos	Cost for 10 m = $a+b+c+d+e$					
		Rat	tate per m = (a+b+c+d+e)/10					
						say	<u>48.40</u>	

ADDITIONAL ITEMS BY USING JHAMA BRICK AGGREGATE (i.e. LOCALLY AVAILABLE MATERIALS)

4.6 401 Granular Sub-base with Well Graded Material (Table 400.1) using Jhama Brick Aggregate

(A) By Mix in Place Method

Construction of granular sub-base by providing well graded material (Jhama Brick Aggregate, Grading-I, as per Table 400.1, spreading in uniform layers with tractor with attachments on prepared surface, mixing by mix in place method with rotavator at OMC, applying and brooming sand to fill up the interstices of coarse aggregate, watering and compacting with smooth wheel roller to achieve the desired density, complete as per MoRD Technical Specification Clause 401.

(i) For Grading I Material

Unit = cum

Taking output = 300 cum

a) Labour

Mate	day	0.48	300.00	144.00
Mazdoor (Skilled)	day	2.00	380.00	760.00
Mazdoor (Unskilled)	day	10.00	300.00	3,000.00
Machinery				
Three wheel 80-100 KN static roller @ 10 cum per hour	hour	30.00	379.00	11,370.00
Tractor with Rotavator 25 cum per hour	hour	12.00	322.00	3,864.00
Water tanker 6 kl capacity	hour	5.00	310.00	1,550.00
	Mazdoor (Skilled) Mazdoor (Unskilled) Machinery Three wheel 80-100 KN static roller @ 10 cum per hour Tractor with Rotavator 25 cum per hour	Mazdoor (Skilled)dayMazdoor (Unskilled)dayMachinerydayThree wheel 80-100 KN static roller @ 10 cum per hourhourTractor with Rotavator 25 cum per hourhour	Mazdoor (Skilled)day2.00Mazdoor (Unskilled)day10.00MachineryThree wheel 80-100 KN static roller @ 10 cum per hourhour30.00Tractor with Rotavator 25 cum per hourhour12.00	Matchineryday2.00380.00Machineryday10.00300.00Machinery30.00 KN static roller @ 10hour30.00Three wheel 80-100 KN static roller @ 10hour30.00379.00Tractor with Rotavator 25 cum per hourhour12.00322.00

c) Material

Well graded granular sub-base material as per Table 400.1

Sr. Ref. to No. Spec.	Description	Description	Quantity	Rate (₹)	Amount (₹)
	53 mm to 0.075 mm @ 70 %	cum	268.80	2,559.00	687,859.20
	Fine Sand(local) @ 30 %	cum	115.00	300.00	34,500.00

	GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS										
Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)				
			Water	kl	30.00	135.00	4,050.00				
		d)	0				0.00				
		e)	Contractor's profit and overheads @ 15 %	on (a+	-b+c+d)		112,064.58				
		Co	st for 300 cum = a+b+c+d+e				859,161.78				
		Ra	te per cum = (a+b+c+d+e)/300				2,863.87				
						say	<u>2863.90</u>				
4.7	405	Water Boun Brick Aggra	d Macadam Sub-Base / Base using Jhama Igate								
		1) WBM G	Grading 2								
		brick a macada uniform wheel r and ca materia aggrega density	ng, laying, spreading and compacting jhama ggregates of specific sizes to water bound am specification including spreading in thickness, hand packing rolling with three roller 80-100 KN in stages to proper grade amber, applying and brooming binding ls to fill up the interstices of coarse ate, watering and compacting to the required Grading- 2 as per MoRD Technical cation Clause 405.								
		(A) By	Manual Means								
		Un	it = cum								
		Tal	king output = 360 cum								
		a)	Labour								
			Mate	day	10.08	300.00	3,024.00				
			Mazdoor (Skilled)	day	2.00	380.00	760.00				
			Mazdoor (Unskilled)	day	250.00	300.00	75,000.00				
		b)	Machinery								
			Three wheel 80-100 KN static roller @ 8 cum per hour	hour	45.00	379.00	17,055.00				
			Water tanker 6 kl capacity	hour	24.00	310.00	7,440.00				
		c)	Material (Refer Tables 400.7, 8, 9 and 10)								
			Aggregate Grading 2, 63 mm to 22.4 mm @ 1.11 cum per 10 sqm for compacted thickness of 75 mm Binding Material	cum	532.80	2,499.00	1,331,467.20				
			Binding Material (earth) @ 0.06 cum per 10 sqm for Grading 2 material	cum	28.80	18.00	518.40				
			Water	kl	144.00	135.00	19,440.00				
		d)	0				0.00				
		e)	Contractor's profit and overheads @ 0 % c	on (a+b	+c+d)		218,205.69				

Cost for 360 cum = a+b+c+d+e

	GRA	NULAR	SUB-BASES, BASES (NON-BITUMING	DUS) /	AND SHO	ULDERS	
Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Ra					4,646.97
						say	<u>4647.00</u>
		(B) By	Mechanical Means				
		-	it = cum king output = 360 cum				
		a)	Labour				
			Mate	day	0.68	300.00	204.00
			Mazdoor (Skilled)	day	2.00	380.00	760.00
			Mazdoor (Unskilled)	day	15.00	300.00	4,500.00
		b)	Machinery				
			Tractor with Rotavator	hour	14.40	322.00	4,636.80
			Three wheel 80-100 KN static roller @ 8 cum per hour	hour	45.00	379.00	17,055.00
			Water tanker 6 kl capacity	hour	24.00	310.00	7,440.00
		c)	Material (Refer Tables 400.7, 8, 9 and 10)				
			Aggregate				
			Grading 2, 63 mm to 22.4 mm @ 1.11 cum per 10 sqm for compacted thickness of 75 mm Binding Material	cum	532.80	2,499.00	1,331,467.20
			Binding Material(earth) @ 0.06 cum per 10 sqm for Grading 2 material	cum	28.80	18.00	518.40
			Water	kl	144.00	135.00	19,440.00
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 %	on (a	+b+c+d)		207,903.21
		Co	st for 360 cum = a+b+c+d+e				1,593,924.61
		Ra	te per cum = (a+b+c+d+e)/360				4,427.57
						say	<u>4427.60</u>
	·· · -						

Note: Type A Screening can be used in Grading 2

2) WBM Grading 3

Providing, laying, spreading and compacting jhama brick aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing rolling with three wheel roller 80-100 KN in stages to proper grade and camber, applying and brooming binding materials to fill up the interstices of coarse aggregate, watering and compacting to the required density Grading- 3 as per MoRD Technical Specification Clause 405.

(A) By Manual Means

Unit = cum

Ref. to						i
Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	— — • • •			·I	L	
		king output = 360 cum				
	a)	Labour Mate	davi	10.08	300.00	3,024.00
			day day			
		Mazdoor (Skilled)	day day	2.00	380.00	760.00
	۲	Mazdoor (Unskilled)	day	250.00	300.00	75,000.00
	0)	Machinery Three wheel 80-100 KN static roller @ 8 cum per hour	hour	45.00	379.00	17,055.00
		Water tanker 6 kl capacity	hour	24.00	310.00	7,440.00
	c)	Material (Refer Tables 400.7, 8, 9 and 10)				
		Aggregate				
		Grading 3, 53 mm to 11.2 mm @ 1.09 cum per 10 sqm for compacted thickness of 75 mm	cum	523.20	2,559.00	1,338,868.80
		Binding Material				
		Binding Material(earth) @ 0.06 cum per 10 sqm for Grading 3 material	cum	28.80	18.00	518.40
		Water	kl	144.00	135.00	19,440.00
	d)	0				0.00
	e)	Contractor's profit and overheads $@$ 15 %	on (a+	·b+c+d)		219,315.93
	Co	st for 360 cum = a+b+c+d+e				1,681,422.13
	Ra	te per cum = (a+b+c+d+e)/360				4,670.62
					say	<u>4670.60</u>
(B)	Ву	Mechanical Means				
	Un	it = cum				
	Tal	king output = 360 cum				
	a)	Labour				
		Mate	day	0.68	300.00	204.00
		Mazdoor (Skilled)	day	2.00	380.00	760.00
		Mazdoor (Unskilled)	day	15.00	300.00	4,500.00
	b)	Machinery				
		Tractor with Rotavator	hour	14.40	322.00	4,636.80
		Three wheel 80-100 KN static roller @ 8 cum per hour	hour	45.00	379.00	17,055.00
		Water tanker 6 kl capacity	hour	24.00	310.00	7,440.00
	c)	Material (Refer Tables 400.7, 8, 9 and 10)				
		Aggregate				
		Grading 3, 53 mm to 11.2 mm @ 1.09 cum per 10 sqm for compacted thickness of 75 mm	cum	523.20	2,559.00	1,338,868.80

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GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS

Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Binding Material				
			Binding Material(earth) @ 0.06 cum per 10 sqm for Grading 3 material	cum	28.80	18.00	518.40
			Water	kl	144.00	135.00	19,440.00
		d)	0				0.00
		e)	Contractor's profit @ 15 % on (a+b+c+d)				209,013.45
		Cc	st for 360 cum = a+b+c+d+e				1,602,436.45
		Ra	te per cum = (a+b+c+d+e)/360				4,451.21
						say	<u>4451.20</u>

4.8 406 Wet Mix Macadam

Providing, laying, spreading and compacting 53 mm to 0.075 mm jhama brick aggregates to wet mix macadam specification including premixing the material with water at OMC in mechanical mixer (Pug Mill), carriage of mixed materials by tipper to site, laying in uniform layers in subbase / base course on a well prepared sub-base and compacting with smooth wheel roller of three wheel 80-100 KN static roller to proper grade and camber, achieve the desired density including lighting, barricading and maintenance of diversion, etc as per Tables 400.11 & 400.12 and as per MoRD Technical Specification Clause 406.

By Mechanical Means with 1.00 km lead

Unit = cum

Taking output = 100 cum

a) Labour Mate 0.40 300.00 120.00 day Mazdoor (Skilled) day 2.00 380.00 760.00 Mazdoor (Unskilled) 2,400.00 day 8.00 300.00 b) Machinery Front end loader 1 cum capacity hour 4.00 963.00 3,852.00 Wet mix plant (Pug Mill) hour 4.00 1,096.00 4,384.00 Tipper/Dumper (10 t) capacity 5.00 321.00 1,605.00 hour Tractor with Rotavator 6.00 1,932.00 hour 322.00 Three wheel 80-100 KN static roller @ 16 cum per hour 6.25 379.00 2,368.75 hour Water tanker 6 kl capacity 1.33 310.00 412.30 hour Material C) Jhama brick aggregates 45 mm to 22.4 mm @ 30 cum 39.90 2,529.00 100,907.10 per cent Jhama brick aggregates 22.4 mm to 2.36 mm @ 40 cum 53.20 2,588.00 137,681.60 per cent Fine aggregate/Crushed brick 2.36 mm to 75 micron cum 39.90 2,142.00 85,465.80 @ 30 per cent

	GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS							
Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Wa	ter	kl	8.00	135.00	1,080.00
		d)	0					0.00
		e)		ntractor's profit and overheads @ 15 % on (a+i	b+c+d)			51,445.28
				100 cum = a+b+c+d+e	,			394,413.83
				er cum = (a+b+c+d+e)/100				3,944.14
			•				say	<u>3944.10</u>
4.9	403	Lay preplace min motorio roae	ving a pared ce w imun tor g d roll prove	abilisation for Improving Subgrade and spreading available soil in the subgrade on a d surface, pulverising, mixing the spread soil in ith rotavator with 2 per cent slaked lime having n 70 per cent of contents of CaO, grading with rrader and compacting with the smooth wheel er at OMC to the desired density to form a layer of d Sub-grade as per MoRD Technical ation Cluase 403.				
		(A)	Ву	Manual Means				
			Uni	t = cum				
			Tak	king output = 150 cum (263 t)				
			a)	Labour				
				Mate	day	1.44	300.00	432.00
				Mazdoor (Skilled)	day	1.00	380.00	380.00
				Mazdoor (Unskilled)	day	35.00	300.00	10,500.00
			b)	Machinery				
				Three wheel 80-100 kN Static roller @ 70 cum per hour	hour	2.15	379.00	814.85
				Water tanker 6 kl capacity	hour	3.00	310.00	930.00
			c)	Material				
				Lime	t	5.26	8,000.00	42,080.00
				Water	kl	18.00	135.00	2,430.00
			d)	0		_		0.00
			e)	Contractor's profit and overheads @ 15 % on	(a+b+c	c+d)		8,635.03
				st for 150 cum = $a+b+c+d+e$				66,201.88
			Rat	te per cum = (a+b+c+d+e)/150				441.35
			D.,	Mechanical Means			say	<u>441.30</u>
		(Б)	-	t = cum				
				sing output = 300 cum (525 t)				
				Labour				
			<i></i> ,	Mate	day	0.36	300.00	108.00
				Mazdoor (Skilled)	day	1.00	380.00	380.00
				Mazdoor (Unskilled)	day	8.00	300.00	2,400.00
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Chapter 4 RANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS

60 cum per hour for ripping and 25 cum per hour for mixing Motor grader 110 HP @ 50 cum per hour hour 6.00 2.289.00 13.734.00 Three wheel 80-100 kN static roller @ 70 cum hour 4.30 379.00 1,629.7 Water tanker 6 kl capacity hour 5.00 310.00 1,550.0 C) Material Lime t 10.50 8,000.00 84,000.0 Water kl 30.00 135.00 4,050.0 4,050.0 d) 0 - 0,00 4,050.0 e) Contractor's profit and overheads @ 15 % on (a+b+c+d) 16,858.1 209.245.8 Cost for 300 cum = a+b+c+d+e 129.245.80 30.80 30.80 Note: The exact quantity of lime shall be as per design. 430.8 sey 430.80 4.10 403 Lime Treated Soil for Sub-Base Providing, laying and Spreading soil on a prepared sub- grade, pulverising, mixing the spread soil in place with rotavator with 4 per cent of CaO, grading with motor grader and compacing with ther coad roller at OMC to achive atleast 98 per cent of the max dry density to form a layer of sub-base as per MoRD Technical Specification Clause 403. 300.00 14.00 </th <th>Sr. No. MORD Spec. Description Unit Quantity Rate (₹) b) Machinery Tractor with ripper and rotavator attachments @ hour 12.00 378.00 60 cum per hour for ripping and 25 cum per hour hour 12.00 378.00 60 cum per hour for ripping and 25 cum per hour hour 12.00 378.00 60 cum per hour for ripping and 25 cum per hour hour 12.00 378.00 60 cum per hour hour 60.00 2,289.00 Three wheel 80-100 kN static roller @ 70 cum hour 4.30 379.00 per hour 4.30 379.00 Water tanker 6 kl capacity hour 5.00 310.00 310.00 c) Material Lime t 10.50 8,000.00 Water kl 30.00 135.00 d) 0 e) Contractor's profit and overheads @ 15 % on (a+b+c+d) Cost for 300 cum = a+b+c+d+e Rate per cum = (a+b+c+d+e)/300 say Note: The exact quantity of lime shall be as per design. 4.10 403 Lime Treated Soil for Sub-Base say Providing, laying and spreading soil on a prepared sub-grade, pulverising, mixing the spread soil in place with rotavator with 4 per cent slaked lime with minimum</th> <th>(₹) 4,536.00 13,734.00 1,629.70 1,550.00 84,000.00</th>	Sr. No. MORD Spec. Description Unit Quantity Rate (₹) b) Machinery Tractor with ripper and rotavator attachments @ hour 12.00 378.00 60 cum per hour for ripping and 25 cum per hour hour 12.00 378.00 60 cum per hour for ripping and 25 cum per hour hour 12.00 378.00 60 cum per hour for ripping and 25 cum per hour hour 12.00 378.00 60 cum per hour hour 60.00 2,289.00 Three wheel 80-100 kN static roller @ 70 cum hour 4.30 379.00 per hour 4.30 379.00 Water tanker 6 kl capacity hour 5.00 310.00 310.00 c) Material Lime t 10.50 8,000.00 Water kl 30.00 135.00 d) 0 e) Contractor's profit and overheads @ 15 % on (a+b+c+d) Cost for 300 cum = a+b+c+d+e Rate per cum = (a+b+c+d+e)/300 say Note: The exact quantity of lime shall be as per design. 4.10 403 Lime Treated Soil for Sub-Base say Providing, laying and spreading soil on a prepared sub-grade, pulverising, mixing the spread soil in place with rotavator with 4 per cent slaked lime with minimum	(₹) 4,536.00 13,734.00 1,629.70 1,550.00 84,000.00
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Hydraulic Excavator 0.90 cum bucket capacity hour 5.00 1,296.00 6,480.00 Tipper 5.5 cum 4 trips per hour hour 14.00 321.00 4,494.00 Motor grader 110 HP @ 50 cum per hour hour 6.00 2,289.00 13,734.00 Three wheel 80-100 kN Static roller @ 70 cum per hc hour 4.30 379.00 1,629.70 Tractor with rotavator and blade @ 25 cum per hour hour 12.00 322.00 3,864.00	Mazdoor (Unskilled) day 10.00 300.00	3,000.00
Tipper 5.5 cum 4 trips per hour hour 14.00 321.00 4,494.00 Motor grader 110 HP @ 50 cum per hour hour 6.00 2,289.00 13,734.00 Three wheel 80-100 kN Static roller @ 70 cum per hc hour 4.30 379.00 1,629.70 Tractor with rotavator and blade @ 25 cum per hour hour 12.00 322.00 3,864.00	b) Machinery	
Motor grader 110 HP @ 50 cum per hourhour6.002,289.0013,734.00Three wheel 80-100 kN Static roller @ 70 cum per hchour4.30379.001,629.70Tractor with rotavator and blade @ 25 cum per hourhour12.00322.003,864.00	Hydraulic Excavator 0.90 cum bucket capacity hour 5.00 1,296.00	6,480.00
Three wheel 80-100 kN Static roller @ 70 cum per hc hour4.30379.001,629.70Tractor with rotavator and blade @ 25 cum per hourhour12.00322.003,864.00	Tipper 5.5 cum 4 trips per hourhour14.00321.00	4,494.00
Tractor with rotavator and blade @ 25 cum per hour hour 12.00 322.00 3,864.0	Motor grader 110 HP @ 50 cum per hour hour 6.00 2,289.00	13,734.00
	Three wheel 80-100 kN Static roller @ 70 cum per ho hour 4.30 379.00	1,629.70
Water tanker 6 kl canacity bour 5.00 310.00 1.550.0	Tractor with rotavator and blade @ 25 cum per hour hour 12.00 322.00	3,864.00
	Water tanker 6 kl capacity hour 5.00 310.00	1,550.00
c) Material	c) Material	

Lime

Water

168,000.00

4,050.00

21.00 8,000.00

135.00

30.00

t

kl

			NULAR SUB-BASES, BASES (NON-BITUMINC	OUS) A	ND SHO	ULDERS	
Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		d)	0				0.0
		e)	Contractor's profit and overheads @ 15 % on (a+k	o+c+d)			31,155.8
		Cos	st for 300 cum = $a+b+c+d+e$				238,861.5
		Rat	e per cum = (a+b+c+d+e)/300				796.2
						say	<u>796.20</u>
			e exact quantity of lime shall be as per design.				
4.11	404	Pro grad cen grad road com	ment Treated Soil Sub-Base/Base viding, laying and spreading soil on a prepared sub- de, pulverising, adding the designed quantity of ment to the spread soil, mixing in place with rotavator, ding with the motor grader and compacting with the d roller at OMC to achieve the desired unconfined mpressive strength and to form a layer of sub- se/base as per MoRD Technical Specification Clause				
		Uni	t = cum				
		Tak	ting output = 300 cum (525 t)				
		For	4 per cent quantity of cement by weight of soil				
		a)	Labour				
			Mate	day	0.48	300.00	144.0
			Mazdoor (Skilled)	day	2.00	380.00	760.0
			Mazdoor (Unskilled)	day	10.00	300.00	3,000.0
		b)	Machinery				
			Hydraulic Excavator 0.90 cum bucket capacity	hour	5.00	1,296.00	6,480.0
			Tipper 5.5 cum	hour	14.00	321.00	4,494.0
			Motor grader 110 HP @ 50 cum per hour	hour	6.00	2,289.00	13,734.0
			Three wheel 80-100 kN static roller @ 70 cum per ho	hour	4.30	379.00	1,629.7
			Tractor with rotavator and blade @ 25 cum per hour	hour	12.00	322.00	3,864.0
			Water tanker 6 kl capacity	hour	5.00	310.00	1,550.0
		c)	Material				
			Cement at site @ 4% (of 525 t)	t	21.00	6,100.00	128,100.0
			Water	kl	30.00	135.00	4,050.0
		d)	0				0.0
		e)	Contractor's profit @ 15 % on (a+b+c+d)				25,170.8
		Cos	st for 300 cum = $a+b+c+d+e$				192,976.5
		Rat	e per cum =(a+b+c+d+e)/300				643.2
						say	<u>643.30</u>

Note: The exact quantity of cement shall be as per design.

Sr. Ref. to Sr. MORD No. Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)	
						•

4.12 405 Water Bound Macadam Sub-Base / Base using Jhama Brick Aggragate

1) WBM Grading 1

Providing, laying, spreading and compacting jhama brick aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing rolling with three wheel roller 80-100 KN in stages to proper grade and camber, applying and brooming binding materials to fill up the interstices of coarse aggregate, watering and compacting to the required density Grading- 1 as per MoRD Technical Specification Clause 405.

(A) By Manual Means

Unit = cum

Taking output = 360 cum

a) Labour

	Mate	day	10.08	300.00	3,024.00
	Mazdoor (Skilled)	day	2.00	380.00	760.00
	Mazdoor (Unskilled)	day	250.00	300.00	75,000.00
b)	Machinery				
	Three wheel 80-100 KN static roller @ 8 cum per hour	hour	45.00	379.00	17,055.00
	Water tanker 6 kl capacity	hour	24.00	310.00	7,440.00
c)	Material (Refer Tables 400.7, 8, 9 and 10) Aggregate				
	Grading 1, 90 mm to 22.4 mm @ 1.48 cum per 10 sqm for compacted thickness of 100 mm	cum	532.80	2,424.03	1,291,523.18
	Binding Material				
	Binding Material (earth) @ 0.06 cum per 10 sqm for Grading 1 material	cum	28.80	18.00	518.40
	Water	kl	144.00	135.00	19,440.00
d)	0				0.00
e)	Contractor's profit and overheads @ 15 %	on (a+	·b+c+d)		212,214.09
Co	st for 360 cum = a+b+c+d+e				1,626,974.67
Ra	te per cum = (a+b+c+d+e)/360				4,519.37
				say	<u>4519.40</u>
) Ву	Mechanical Means				
Un	it = cum				
Ta	king output = 360 cum				
a)	Labour				
	Mate	day	0.68	300.00	204.00

(B)

GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS					
I Ref. to I Sr. MORD No. Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	Mazdoor (Skilled)	day	2.00	380.00	760.00
	Mazdoor (Unskilled)	day	15.00	300.00	4,500.00
b)	Machinery				
	Tractor with Rotavator Three wheel 80-100 KN static roller @ 8 cum per hour	hour hour	14.40 45.00	322.00 379.00	4,636.80 17,055.00
	Water tanker 6 kl capacity	hour	24.00	310.00	7,440.00
c)	Material (Refer Tables 400.7, 8, 9 and 10) Aggregate				
	Grading 1, 90 mm to 22.4 mm @ 1.48 cum per 10 sqm for compacted thickness of 100 mm Binding Material	cum	532.80	2,424.03	1,291,523.18
	Binding Material(earth) @ 0.06 cum per 10 sqm for Grading 1 material	cum	28.80	18.00	518.40
	Water	kl	144.00	135.00	19,440.00
d)	0				0.00
e)	Contractor's profit and overheads @ 15 %	on (a+	-b+c+d)		201,911.61
Co	st for 360 cum = a+b+c+d+e				1,547,988.99
Ra	te per cum = (a+b+c+d+e)/360				4,299.97
				say	<u>4300.00</u>

	Ref. to Sr. Ref. to No. MORD No. Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)	
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5.1 502 Prime Coat

(i) 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- 1.00 kg/sqm using mechanical means as per MoRD Technical Specification Clause 502.

Unit = sqm

Taking output = 1750 sqm

a) Labour

	Mate	day	0.04	300.00	12.00
	Mazdoor (Unskilled)	day	1.00	300.00	300.00
b)	Machinery				
	Hydraulic broom @ 1250 sqm per hour	hour	1.40	558.00	781.20
	Air compressor 210 cfm	hour	1.40	321.00	449.40
	Bitumen emulsion pressure distributor @ 1750 sqm per hour	hour	1.00	735.48	735.48
	Water tanker 6 kl capacity 1 trip per hour	hour	0.50	310.00	155.00
c)	Material				
	Bitumen emulsion (SS-1) @ 0.85 kg per sqm	t	1.48	39,435.00	58,363.80
	Water	kl	3.00	135.00	405.00
d)	0				0.00
e)	Contractor's profit and overheads @ 15 % of	on (a+b+c	;+d)		9,180.28
Cos	st of 1750 sqm = a+b+c+d+e				70,382.16
Rat	e per sqm = (a+b+c+d+e)/1750				40.22
				say	<u>40.20</u>

(ii) Medium 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 0.90- 1.20 kg/sqm using mechanical means as per MoRD Technical Specification Clause 502.

Unit = sqm

Taking output = 1750 sqm

a) Labour

	Mate	day	0.10	300.00	30.00
	Mazdoor (Unskilled)	day	2.00	300.00	600.00
b)	Machinery				
	Hydraulic broom @ 1250 sqm per hour	hour	1.40	558.00	781.20

Chapter 5 BASES AND SURFACE COURSES (BITUMINOUS)

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)		
				Air compressor 210 cfm	hour	1.40	321.00	449.40		
				Bitumen emulsion pressure distributor @ 1750 sqm per hour	hour	1.00	735.48	735.48		
				Water tanker 6 kl capacity 1 trip per hour	hour	0.50	310.00	155.00		
			c)	Material						
				Bitumen emulsion (SS-1) @ 1.05 kg per sqm	t	1.83	39,435.00	72,166.05		
				Water	kl	3.00	135.00	405.00		
			d)	0				0.00		
			e)	e) Contractor's profit and overheads @ 15 % on (a+b+c+d)						
			Cos	Cost of 1750 sqm = a+b+c+d+e						
			Rat	e per sqm = (a+b+c+d+e)/1750				49.50		
							say	<u>49.50</u>		
		(iii)	Hig	h porosity						
			em bas spra usir Spe	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 1.20- 1.50 kg/sqm using mechanical means as per MoRD Technical Specification Clause 502. Unit = sqm						
			Tak	ring output = 1750 sqm						
			a)	Labour						
				Mate	day	0.12	300.00	36.00		
				Mazdoor (Unskilled)	day	3.00	300.00	900.00		
			b)	Machinery						
				Hydraulic broom @ 1250 sqm per hour	hour	1.40	558.00	781.20		
				Air compressor 210 cfm	hour	1.40	321.00	449.40		
				Bitumen emulsion pressure distributor @ 1750 sqm per hour	hour	1.00	735.48	735.48		
				Water tanker 6 kl capacity 1 trip per hour	hour	0.50	310.00	155.00		
			c)	Material						
				Bitumen emulsion (SS-1) @ 1.35 kg per sqm	t	2.36	39,435.00	93,066.60		
				Water	kl	3.00	135.00	405.00		
			d) 0							
			e) Contractor's profit and overheads @ 15 % on (a+b+c+d)							
			Cost of 1750 sqm = $(a+b+c+d+e)$							
		Rate per sqm = a+b+c+d+e/1750								
							say	<u>63.40</u>		

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)	
		(i)	em rate bitu	widing and applying tack coat with bitumen ulsion (RS-1) using emulsion distributor at the e of 0.20 to 0.25 kg per sqm on the prepared iminous surface cleaned with Hydraulic broom per MoRD Technical Specification Clause 503.					
			Uni	t = sqm					
			Tak	sing output = 1750 sqm					
			a)	Labour					
				Mate	day	0.04	300.00	12.00	
				Mazdoor (Unskilled)	day	1.00	300.00	300.00	
			b)	Machinery					
				Hydraulic broom @ 1250 sqm per hour	hour	1.40	558.00	781.20	
				Air compressor 210 cfm	hour	1.40	321.00	449.40	
				Emulsion pressure distributor @1750 sqm per hour	hour	1.00	735.48	735.48	
			c)	Material	•	0.20	26 442 00	14 010 77	
				Bitumen emulsion (RS-1) @ 0.225 kg per sqm	t	0.39	36,443.00	14,212.77	
			d)	d) 0			0.00		
			e)	e) Contractor's profit and overheads @ 15 % on (a+b+c+d)					
			Cos	st of 1750 sqm = $a+b+c+d+e$				18,964.48	
			Rat	e per sqm = (a+b+c+d+e)/1750				10.84	
							say	<u>10.80</u>	
		(ii)	em rate and Hyd	viding and applying tack coat with bitumen ulsion (RS-1) using emulsion distributor at the e of 0.25 to 0.30 kg per sqm on the prepared dry d hungry bituminous surface cleaned with draulic broom as per MoRD Technical ecification Clause 503.					
			Uni	t = sqm					
			Tak	king output = 1750 sqm					
			a)	Labour					
				Mate	day	0.04	300.00	12.00	
				Mazdoor (Unskilled)	day	1.00	300.00	300.00	
			b)	Machinery					
				Hydraulic broom @ 1250 sqm per hour	hour	1.40	558.00	781.20	
				Air compressor 210 cfm	hour	1.40	321.00	449.40	
			c)	Emulsion pressure distributor @1750 sqm per hour	hour	1.00	735.48	735.48	
			c)	Material	÷	0 40	36,443.00	17 402 64	
				Bitumen emulsion (RS-1) @ 0.275 kg per sqm	t	0.48	JU,44J.UU	17,492.64	
			d)	0				0.00	

	Ref. to	Ē–		`i		·	i	
Sr. No.	MORD			Description	Unit	Quantity	Rate (₹)	Amount (₹)
I	Spec.	L_		Contractor's profit and overheads @ 15 % o	n (a+b		!	 2,965.61
			-	st of 1750 sqm = a+b+c+d+e	Π (ατυ	rc+u)		22,736.33
				te per sqm = (a+b+c+d+e)/1750				12.99
			Na				631/	<u>13.00</u>
		<i>(</i>)	D	viding and applying tools and with his man			say	15.00
		(111)	em rate gra Hyd	widing and applying tack coat with bitumen ulsion (RS-1) using emulsion distributor at the e of 0.25 to 0.30 kg per sqm on the prepared nular surface treated with primer & cleaned with draulic broom as per MoRD Technical ecification Clause 503.				
			Uni	t = sqm				
			Tak	king output = 1750 sqm				
			a)	Labour				
				Mate	day	0.04	300.00	12.00
				Mazdoor (Unskilled)	day	1.00	300.00	300.00
			b)	Machinery				
				Hydraulic broom @ 1250 sqm per hour	hour	1.40	558.00	781.20
				Air compressor 210 cfm	hour	1.40	321.00	449.40
				Emulsion pressure distributor @1750 sqm per hour	hour	1.00	735.48	735.48
			c)	Material				
				Bitumen emulsion (RS-1) @ 0.275 kg per sqm	t	0.48	36,443.00	17,492.64
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % o	n (a+b-	⊦c+d)		2,965.61
			Cos	st of 1750 sqm = a+b+c+d+e				22,736.33
			Rat	te per sqm = (a+b+c+d+e)/1750				12.99
							say	<u>13.00</u>
		(iv)		widing and applying tack coat with bitumen ulsion (RS-1) using emulsion distributor at the e of 0.30 to 0.35 kg per sqm on the prepared non- iminous surfaces (cement concrete pavement) aned with Hydraulic broom as per MoRD chnical Specification Clause 503.				
			Uni	t = sqm				
			Taking output = 1750 sqm					
				Labour				
			,	Mate	day	0.04	300.00	12.00
				Mazdoor (Unskilled)	day	1.00	300.00	300.00
			b)	Machinery	-			
			-	Hydraulic broom @ 1250 sqm per hour	hour	1.40	558.00	781.20
				Air compressor 210 cfm	hour	1.40	321.00	449.40

Chapter 5
BASES AND SURFACE COURSES (BITUMINOUS)

			BASES AND SURFACE COURSES (B								
Sr. No.	Ref. to MORD Spec.	 <u> </u>	Description	Unit	Quantity	Rate (₹)	Amount (₹)				
		c)	Emulsion pressure distributor @1750 sqm per hour Material	hour	1.00	735.48	735.48				
			Bitumen emulsion (RS-1) @ 0.325 kg per sqm	t	0.57	36,443.00	20,772.51				
		d)	0				0.00				
		e)	Contractor's profit and overheads $@$ 15 % c	on (a+b	+c+d)		3,457.59				
		C	ost of 1750 sqm = a+b+c+d+e				26,508.18				
		R	ate per sqm = (a+b+c+d+e) / 1750				15.15				
						say	<u>15.10</u>				
	Note:	Cá	n output of 1750 sqm has been considered in ise of tack coat which can be covered by tuminous courses on the same day.								
		ละ รเ	ne use of cutback bitumen (Medium Curing grade) a per IS:217 shall be restricted only for sites at hb-zero temperature or for emergency oplications as directed by the Engineer.								
5.3	504	Bitum	nous Macadam								
		500.4 site uj prepar grade, desireo	plant using crushed aggregates of grading as per Table 500.4 premixed with bituminous binder, transported to site upto a lead of 1000 m laid over a previously prepared surface with paver finisher to the required grade, level and alignment and rolled to achieve the desired compaction as per MoRD Technical Specification Clause 504.								
		i. With	Viscocity Graded Bitumen of VG-30.								
		Unit =									
		-	output = 102.5 cum (225 t)								
		a)		- I	0.50	200.00	450.00				
			Mate	day	0.52	300.00	156.00				
			Mazdoor (Unskilled)	day	10.00	300.00	3,000.00				
		b)	Mazdoor (Skilled)	day	3.00	380.00	1,140.00				
		b)	Machinery Batch mix HMP 40-60 THP @ 40 t per hour actual output	hour	6.00	10,364.00	62,184.00				
			Hydraulic broom @ 1250 sqm per hour	hour	1.10	558.00	613.80				
			Air compressor 210 cfm	hour	1.10	321.00	353.10				
			Paver finisher	hour	6.00	951.00	5,706.00				
			Generator 125 KVA	hour	6.00	705.00	4,230.00				
			Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00				
			Tipper 5.5 cum, 10 t capacity	hour	6.21	321.00	1,993.41				
			Three wheel 80-100 kN static roller for intial break down rolling, final and finishing rolling	hour	12.00	379.00	4,548.00				

Sr. M	ef. to IORD Spec.	· – – – ·		Description	 	Unit	Quantity	Rate (₹)	Amount (₹)
			rolling	/ roller 80-100 kN for	intermediate	hour	6.00	1,304.00	7,824.00
		c)	Material						
				men (VG-30) @ 3.3 per c ght of mix = 102.5 x 2.2 = regate		t	7.425	37,787.00	280,568.48
			Tota	I weight of mix = 225 t					
			Weig	ght of bitumen = 7.425 t					
			Weig	ght of aggregate = 225 - 7	7.425 = 217.57	5 t			
			Taki	ng density of aggregate =	1.5 t/cum				
			Volume of aggregate = 145.05 cum						
			(19 r	nm nominal size) as per	Table 500.4	cum	145.05	3,845.00	557,717.25
			25 -1	10 mm - 40.00 %	58.02	cum			
				5 mm - 40.00%	58.02	cum			
				n and below - 20.00 %	29.01	cum			
		d)	0		23.01	cum			0.00
			 c) contractor's profit and overheads @ 15 % on (a+b+c+d) Cost of 102.5 cum = a+b+c+d+e 						
		ej							
			Rate per cum = $a+b+c+d+e/102.5$						1,076,183.84 10,499.35
			nate pe	- cum = arbrerare, roz.	•			say	<u>10499.40</u>
	i	i. With '	Viscocity	Graded Bitumen of VG	-20.			Suy	10400.40
		Jnit = cı	-						
	٦	Faking c	output = 1	02.5 cum (225 t)					
		a)	Labour						
			Mate			day	0.52	300.00	156.00
			Mazdoo	r (Unskilled)		day	10.00	300.00	3,000.00
			Mazdooi	r (Skilled)		day	3.00	380.00	1,140.00
		b)	Machine	-					
			Batch m actual or	ix HMP 40-60 THP @ 40 utput	t per hour	hour	6.00	10,364.00	62,184.00
			Hydrauli	c broom @ 1250 sqm per	hour	hour	1.10	558.00	613.80
			Air comp	pressor 210 cfm		hour	1.10	321.00	353.10
			Paver fir	nisher		hour	6.00	951.00	5,706.00
			Generat	or 125 KVA		hour	6.00	705.00	4,230.00
			Front en	d loader 1 cum bucket ca	pacity	hour	6.00	963.00	5,778.00
			Tipper 5	.5 cum, 10 t capacity		hour	6.21	321.00	1,993.41
				wheel 80-100 kN static r		hour	12.00	379.00	4,548.00
			Vibratory rolling	/ roller 80-100 kN for	intermediate	hour	6.00	1,304.00	7,824.00

BASES AND SURFACE COURSES (BITUMINOUS)										
	Ref. to MORD Spec.				Description		Unit	Quantity	Rate (₹)	Amount (₹)
			c) l	Mat	terial					
				-	Bitumen (VG-20) @ 3.3 per (Weight of mix = 102.5 x 2.7 Aggregate		t	7.425	36,820.00	273,388.50
					Total weight of mix = 225 t					
					Weight of bitumen = 7.425 t					
					Weight of aggregate = 225 -	7.425 = 217.57	′5 t			
					Taking density of aggregate	= 1.5 t/cum				
					Volume of aggregate = 145.0)5 cum				
					(19 mm nominal size) as pe	er Table 500.4	cum	145.05	3,845.00	557,717.25
					25 -10 mm - 40.00 %	58.02	cum			
					10– 5 mm - 40.00%	58.02	cum			
					5 mm and below - 20.00 %	29.01	cum			
			d) (0						0.00
			e) (Соі	ntractor's profit and overhe	ads @ 15 % c	on (a+b-	+c+d)		139,294.81
			(Cos	st of 102.5 cum = a+b+c+d+e					1,067,926.87
			I	Rat	e per cum = a+b+c+d+e/102	2.5				10,418.80
									say	<u>10418.80</u>
	Note:	1	per avail and the c cater	nor labl pav putp r foi	h the rollers are required only ms of output, but the sam e at site for six hours as the rer will take six hours for mix out of 225 t considered in the r the idle period of these rolle ay be multiplied by a factor of	e have to be hot mix plant ing and paving se analysis. To ers, their usage				
		2		ose	v of bitumen has been take e. The actual quantity will de nula.					
		3	misc have	ella be	for traffic control, watch and meous duties at site, inclu een included in administrative ractor.					
		4	provi the s	isio sam	BM is laid over freshly l n of Hydraulic broom and he shall be detected as the s l in the cost of tack coat.	2 mazdoor for				
		5	mate	erial	s is based on 1000 m l . Cost of additional cartage ite requirements.					
5.4	505	Buil	t-Un s	Snr	av Grout					

5.4 505 Built-Up Spray Grout

Sr. No.	Ref. to	Description	Unit	Quantity	Rate (₹)	Amount (₹)	
L	<u> Spec. </u>		L				ļ

Providing, laying and rolling of built-up spray grout layer over prepared base consisting of a two layer composite construction of crushed coarse aggregates using motor grader for aggregates. Key stone chips spreader may be used with application of bituminous binder (Bitumen of VG-30) after each layer, and with key aggregates placed on top of the second layer to serve as a base, conforming to line, grades and cross section specified, the compacted layer thickness being 75 mm as per MoRD Technical Specification Clause 505.

(A) By Manual Means

Unit = sqm

Taking output = 800 sqm (60 cum)

a) Labour

	'					
		Mate	day	5.50	300.00	1,650.00
		Mazdoor (Unskilled)	day	100.50	300.00	30,150.00
		Chips spreader	day	10.00	300.00	3,000.00
		Bitumen Sprayer	day	2.50	340.00	850.00
		Mazdoor (Semi-Skilled)	day	25.50	340.00	8,670.00
	b)	Machinery				
		Bitumen boiler oil fired, capacity 1000 litre fitted with spray set	hour	6.00	207.00	1,242.00
		Three wheel 80-100 kN static Roller	hour	6.00	379.00	2,274.00
	c)	Material				
		Bitumen of VG-30 @ 30 kg per 10 sqm @ 15 kg per 10 sqm for each layer	t	2.40	37,787.00	90,688.80
		Crushed stone coarse aggregate passing 53 mm and retained on 2.8 mm sieve @ 1.00 cum per 10 sqm for each layer	cum	80.00	3,364.00	269,120.00
		Key aggregates passing 22.4 mm and retained on 2.8 mm sieve @ 0.13 cum per 10 sqm	cum	10.40	3,564.00	37,065.60
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 % of	n (a+b-	+c+d)		66,706.56
	Cos	st of 800 sqm = a+b+c+d+e				511,416.96
	Rat	e per sqm = (a+b+c+d+e)/800				639.27
					say	<u>639.30</u>
)	Ву	Mechanical Means				
	Uni	t = sqm				
	Tak	ting output = 3000 sqm (225 cum)				
	a)	Labour				
		Mate	day	0.40	300.00	120.00

(B)

			BASES AND SURFACE COURSES (B				
Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Mazdoor (Unskilled)	day	8.00	300.00	2,400.00
			Mazdoor (Skilled)	day	2.00	380.00	760.00
		b)	Machinery				
			Hydraulic self propelled chip spreader both for aggregates and key aggregates @ 1500 sqm per hour for 3000 x 3 sqm	hour	6.00	2,672.00	16,032.00
			Bitumen presssure distributor for 3000x 2 sqm @ 1750 sqm per hour	hour	3.43	735.48	2,522.70
			Tipper 5.5 cum capacity	hour	10.00	321.00	3,210.00
			Three wheel 80-100 kN Static Roller @ 10 cum per hour	hour	22.50	379.00	8,527.50
			Front end loader 1 cum bucket capacity	hour	5.00	963.00	4,815.00
		c)	Material				
			Bitumen (VG-30) @ 30 kg per 10 sqm @ 15 kg per 10 sqm for each layer	t	9.00	37,787.00	340,083.00
			Crushed stone coarse aggregate passing 53 mm and retained on 2.8 mm sieve @ 1.00 cum	cum	300.00	3,364.00	1,009,200.00
			per 10 sqm for each layer Key aggregates passing 22.4 mm and retained on 2.8 mm sieve @ 0.13 cum per 10 sqm	cum	39.00	3,564.00	138,996.00
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 % o	n (a+b	+c+d)		228,999.93
		Cos	st of 3000 sqm = a+b+c+d+e				1,755,666.13
		Rat	e per sqm = (a+b+c+d+e)/3000				585.22
						say	<u>585.20</u>
5.5	507	Surface Binder	Dressing using Bituminous (viscocity grade)				
		consistir prepared aggrega 80-100 surface 507.	g and laying surface dressing as wearing course ng of a layer of bituminous binder laid on the d surface, followed by a cover of crushed stone tes of specified size and rolling with three wheel kN static roller including cleaning the road as per MoRD Technical Specification Clause Manual Means				
		Ca	se – I: Nominal chipping size 13.2 mm				
		(I)	Bitumen of VG-30				
			Unit = sqm				
			Taking output = 900 sqm				
			a) Labour				
			Mate	day	2.60	300.00	780.00
			Bitumen Sprayer	day	1.00	340.00	340.00
			Mazdoor (Unskilled)	day	58.00	300.00	17,400.00

Chapter 5 BASES AND SURFACE COURSES (BITUMINOUS)

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Mazdoor (Semi-Skilled)	day	6.00	340.00	2,040.00
				Add: 0.50 % of (a) Labour for sundries				102.80
			b)	Machinery				
				Bitumen boiler oil fired, capacity 1000 litre	hour	2.25	207.00	465.75
				fitted with spray set Three wheel 80-100 kN static roller	hour	2.25	379.00	852.75
			c)	Material				
				Bitumen (VG-30) @ 1.00 kg per sqm	t	0.90	37,787.00	34,008.30
			d)	Crushed stone chipping, 13.2 mm nominal size @ 0.010 cum per sqm 0	cum	9.00	3,925.00	35,325.00 0.00
			e)	Contractor's profit and overheads @ 15 %	% on (a	atptctd)		13,697.19
				st of 900 sqm = a+b+c+d+e		атотстај		105,011.79
				te per sqm = (a+b+c+d+e)/900				116.68
			na					
							say	<u>116.70</u>
		(II)		umen of VG-20				
				it = sqm				
				king output = 900 sqm				
			a)	Labour				
				Mate	day	2.60	300.00	780.00
				Bitumen Sprayer	day	1.00	340.00	340.00
				Mazdoor (Unskilled)	day	58.00	300.00	17,400.00
				Mazdoor (Semi-Skilled)	day	6.00	340.00	2,040.00
				Add: 0.50 % of (a) Labour for sundries				102.80
			b)	Machinery				
				Bitumen boiler oil fired, capacity 1000 litre fitted with spray set Three wheel 80-100 kN static roller	hour hour	2.25 2.25	207.00 379.00	465.75 852.75
			c)	Material	nour	2.20	010.00	002.10
				Bitumen (VG-20) @ 1.00 kg per sqm	t	0.90	36,820.00	33,138.00
				Crushed stone chipping, 13.2 mm nominal size @ 0.010 cum per sqm	cum	9.00	3,925.00	35,325.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 9	% on (a	a+b+c+d)		13,566.65
			Co	st of 900 sqm = a+b+c+d+e				104,010.95
			Ra	te per sqm = (a+b+c+d+e)/900				115.57
							say	<u>115.60</u>

Case – II: Nominal chipping size 9.5 mm

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
		(I)	Bit	umen of VG-30				
			Un	it = sqm				
			Та	king output = 1000 sqm				
			a)	Labour				
				Mate	day	2.60	300.00	780.00
				Bitumen Sprayer	day	1.00	340.00	340.00
				Mazdoor (Unskilled)	day	58.00	300.00	17,400.00
				Mazdoor (Semi-Skilled)	day	6.00	340.00	2,040.00
				Add: 0.50 % of (a) Labour for sundries				102.80
			b)	Machinery				
				Bitumen boiler oil fired, capacity 1000 litre fitted with spray set	hour	2.00	207.00	414.00
				Three wheel 80-100 kN static roller	hour	2.00	379.00	758.00
			c)	Material				
				Bitumen (VG-30) @ 0.90 kg per sqm	t	0.90	37,787.00	34,008.30
				Crushed stone chipping, 9.5 mm nominal size @ 0.008 cum per sqm	cum	8.00	3,845.00	30,760.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 9	% on (a	a+b+c+d)		12,990.47
			Co	st of 1000 sqm = a+b+c+d+e				99,593.57
			Ra	te per sqm = (a+b+c+d+e)/1000				99.59
							say	<u>99.60</u>
		(II)	Bit	umen of VG-20				
			Un	it = sqm				
			Та	king output = 1000 sqm				
			a)	Labour				
				Mate	day	2.60	300.00	780.00
				Bitumen Sprayer	day	1.00	340.00	340.00
				Mazdoor (Unskilled)	day	58.00	300.00	17,400.00
				Mazdoor (Semi-Skilled)	day	6.00	340.00	2,040.00
				Add: 0.50 % of (a) Labour for sundries				102.80
			b)	Machinery				
				Bitumen boiler oil fired, capacity 1000 litre fitted with spray set	hour	2.00	207.00	414.00
				Three wheel 80-100 kN static roller	hour	2.00	379.00	758.00

c) Material

Sr. No.	Ref. to MORD Spec.				Description	Unit	Quantity	Rate (₹)	Amount (₹)
					Bitumen (VG-20) @ 0.90 kg per sqm	t	0.90	36,820.00	33,138.00
					Crushed stone chipping, 9.5 mm nominal	cum	8.00	3,845.00	30,760.00
				d)	size @ 0.008 cum per sqm 0				0.00
				e)	Contractor's profit and overheads @ 15 9	% on (a	a+b+c+d)		12,859.92
				Co	st of 1000 sqm = a+b+c+d+e				98,592.72
				Ra	te per sqm = (a+b+c+d+e)/1000				98.59
								say	<u>98.60</u>
		(B)	Ву	Mec	hanical Means				
			Ca	se –	I: Nominal chipping size 13.2 mm				
			(I)	Bit	umen of VG-30				
				Un	it = sqm				
				Tal	king output = 7500 sqm				
				a)	Labour				
					Mate	day	0.44	300.00	132.00
					Mazdoor (Unskilled)	day	9.00	300.00	2,700.00
					Mazdoor (Skilled)	day	2.00	380.00	760.00
				b)	Machinery				
					Hydraulic broom @ 1250 sqm per hour	hour	6.00	558.00	3,348.00
					Air compressor 210 cfm	hour	6.00	321.00	1,926.00
					Hydraulic self propelled chip spreader @ 1500 sqm per hour	hour	6.00	2,672.00	16,032.00
					Tipper 5.5 10 t capacity for carriage of stone chips from stockpile on road side to chip spreader	hour	6.00	321.00	1,926.00
					Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
					Bitumen pressure distributor	hour	6.00	735.48	4,412.88
					Three wheel 80-100 kN static roller weight	hour	18.75	379.00	7,106.25
				c)	Material				
					Bitumen (VG-30) @ 1.00 kg per sqm	t	7.50	37,787.00	283,402.50
					Crushed stone chipping, 13.2 mm nominal size @ 0.010 cum per sqm	cum	75.00	3,925.00	294,375.00
				d)	0				0.00
				e)	Contractor's profit and overheads @ 15 9	% on (a	a+b+c+d)		93,284.79
				Co	st of 7500 sqm = a+b+c+d+e				715,183.42
				Ra	te per sqm = (a+b+c+d+e)/7500				95.36
								say	<u>95.40</u>

(II) Bitumen of VG-20

Unit = sqm

							;	,
Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Та	king output = 7500 sqm				
			a)	Labour				
				Mate	day	0.44	300.00	132.00
				Mazdoor (Unskilled)	day	9.00	300.00	2,700.00
				Mazdoor (Skilled)	day	2.00	380.00	760.00
			b)	Machinery				
				Hydraulic broom @ 1250 sqm per hour	hour	6.00	558.00	3,348.00
				Air compressor 210 cfm	hour	6.00	321.00	1,926.00
				Hydraulic self propelled chip spreader @ 1500 sqm per hour	hour	6.00	2,672.00	16,032.00
				Tipper 5.5 10 t capacity for carriage of stone chips from stockpile on road side to chip spreader	hour	6.00	321.00	1,926.00
				Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
				Bitumen pressure distributor	hour	6.00	735.48	4,412.88
				Three wheel 80-100 kN static roller weight	hour	18.75	379.00	7,106.25
			c)	Material				
				Bitumen (VG-20) @ 1.00 kg per sqm	t	7.50	36,820.00	276,150.00
				Crushed stone chipping, 13.2 mm nominal size @ 0.010 cum per sqm	cum	75.00	3,925.00	294,375.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 %	% on (a	a+b+c+d)		92,196.92
			Co	st of 7500 sqm = a+b+c+d+e				706,843.05
			Ra	te per sqm = (a+b+c+d+e)/7500				94.25
							say	<u>94.20</u>
		Ca	se –	II: Nominal chipping size 9.5 mm				
		(I)	Bit	umen of VG-30				
			Un	it = sqm				
			Та	king output = 7500 sqm				
			a)	Labour				
				Mate	day	0.44	300.00	132.00
				Mazdoor (Unskilled)	day	9.00	300.00	2,700.00
				Mazdoor (Skilled)	day	2.00	380.00	760.00
			b)					
				Hydraulic broom @ 1250 sqm per hour	hour	6.00	558.00	3,348.00
				Air compressor 210 cfm	hour	6.00	321.00	1,926.00
				Hydraulic self propelled chips spreader @ 1500 sqm per hour	hour	6.00	2,672.00	16,032.00

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Tipper 5.5 10 t capacity for carriage of stone chips from stockpile on road side to chips spreader	hour	6.00	321.00	1,926.00
				Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
				Bitumen pressure distributor @ 1750 sqm per hour	hour	6.00	735.48	4,412.88
				Three wheel 80-100 kN static roller weight	hour	15.00	379.00	5,685.00
			c)	Material				
				Bitumen (VG-30) @ 0.90 kg per sqm	t	6.75	37,787.00	255,062.25
				Crushed stone chipping, 9.5 mm nominal size @ 0.008 cum per sqm	cum	60.00	3,845.00	230,700.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 %	% on (a	a+b+c+d)		79,269.32
			Co	st of 7500 sqm = a+b+c+d+e				607,731.45
			Ra	te per sqm = (a+b+c+d+e)/7500				81.03
							say	<u>81.00</u>
		(II)	Bit	umen of VG-20				
			Un	it = sqm				
				king output = 7500 sqm				
			a)	Labour				
				Mate	day	0.44	300.00	132.00
				Mazdoor (Unskilled)	day	9.00	300.00	2,700.00
				Mazdoor (Skilled)	day	2.00	380.00	760.00
			b)	Machinery				
				Hydraulic broom @ 1250 sqm per hour	hour	6.00	558.00	3,348.00
				Air compressor 210 cfm	hour	6.00	321.00	1,926.00
				Hydraulic self propelled chips spreader @ 1500 sqm per hour	hour	6.00	2,672.00	16,032.00
				Tipper 5.5 10 t capacity for carriage of stone chips from stockpile on road side to chips spreader	hour	6.00	321.00	1,926.00
				Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
				Bitumen pressure distributor @ 1750 sqm per hour	hour	6.00	735.48	4,412.88
				Three wheel 80-100 kN static roller weight	hour	15.00	379.00	5,685.00
			c)	Material				
				Bitumen (VG-20) @ 0.90 kg per sqm	t	6.75	36,820.00	248,535.00
				Crushed stone chipping, 9.5 mm nominal size @ 0.008 cum per sqm	cum	60.00	3,845.00	230,700.00
			d)	0				0.00

Sr. No.	Ref. to MORD Spec.		Description	 !	Quantity	Rate (₹)	Amount (₹)
			e) Contractor's profit and overheads @ 15	% on (a	a+b+c+d)		78,290.23
			Cost of 7500 sqm = a+b+c+d+e				600,225.11
			Rate per sqm = (a+b+c+d+e)/7500				80.03
						say	<u>80.00</u>
5.6	507	Surface	Dressing using Bitumen Emulsion				
		consistii prepare chipping 80-100	ng and laying surface dressing as wearing course ing of a layer of bitumen emulsion laid on the d surface, followed by a cover of crushed stone gs of specified size and rolling with three wheel kN static roller including cleaning the road as per MoRD Technical Specification Clause				
		(A) By	Manual Means				
		Ca	se – I: Nominal aggregate size 13.2 mm				
		Un	it = sqm				
		Tal	king output = 900 sqm				
		a)	Labour				
			Mate	day	2.36	300.00	708.00
			Bitumen Emulsion Sprayer	day	1.00	340.00	340.00
			Mazdoor (Unskilled)	day	58.00	300.00	17,400.00
			Add: 0.50 % of (a) Labour for sundries				92.24
		b)	Machinery				
			Bitumen emulsion sprayer, capacity 1000 litre fitted with spray set	hour	2.25	735.48	1,654.83
			Three wheel 80-100 kN static roller	hour	2.25	379.00	852.75
		c)	Material		4.05	20 442 00	40,400,05
			Bitumen Emulsion (RS-1) @ 1.50 kg per sqm Crushed stone chipping, 13.2 mm nominal size	t cum	9.00	36,443.00 3,925.00	49,198.05 35,325.00
			@ 0.010 cum per sqm	cum	3.00	3,323.00	30,320.00
		d)					0.00
		e)	Contractor's profit and overheads @ 15 % c	on (a+b-	+c+d)		15,835.63
		Co	st of 900 sqm = a+b+c+d+e				121,406.50
		Ra	te per sqm = (a+b+c+d+e)/900				134.90
						say	<u>134.90</u>
		Ca	se – II: Nominal chipping size 9.5 mm				
		Un	it = sqm				
		Tal	king output = 1000 sqm				
		a)	Labour				
			Mate	day	2.36	300.00	708.00

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Bitumen Sprayer	day	1.00	340.00	340.00
				Mazdoor (Unskilled)	day	58.00	300.00	17,400.00
				Add: 0.50 % of (a) Labour for sundries				92.24
		I	b)	Machinery				
				Emulsion sprayer, capacity 1000 litre fitted with spray set	hour	2.00	735.48	1,470.96
				Three wheel 80-100 kN static roller	hour	2.00	379.00	758.00
		(c)	Material		4.40		54 000 00
				Bitumen Emulsion (RS-1) @ 1.40 kg per sqm	t	1.40	36,443.00	51,020.20
				Crushed stone chipping, 9.5 mm nominal size @ 0.008 cum per sqm	cum	8.00	3,845.00	30,760.00
		(d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % o	n (a+b-	⊦c+d)		15,382.41
		(Cos	t of 1000 sqm = a+b+c+d+e				117,931.81
			Rat	e per sqm = (a+b+c+d+e)/1000				117.93
							say	<u>117.90</u>
		(B)	By I	Mechanical Means				
		(Cas	e – I: Nominal chipping size 13.2 mm				
		I	Unit	= sqm				
		-	Tak	ing output = 7500 sqm				
		i	a)	Labour				
				Mate	day	0.44	300.00	132.00
				Mazdoor (Unskilled)	day	9.00	300.00	2,700.00
				Mazdoor (Skilled)	day	2.00	380.00	760.00
		I	b)	Machinery				
				Hydraulic broom @ 1250 sqm per hour	hour	6.00	558.00	3,348.00
				Air compressor 210 cfm	hour	6.00	321.00	1,926.00
				Hydraulic self propelled chip spreader @ 1500 sqm per hour	hour	6.00	2,672.00	16,032.00
				Tipper 5.5 10 t capacity for carriage of stone chips from stockpile on road side to chip spreader	hour	6.00	321.00	1,926.00
				Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
				Bitumen Emulsion pressure distributor	hour	6.00	735.48	4,412.88
				Three wheel 80-100 kN static roller	hour	18.75	379.00	7,106.25
			c)	Material				
				Bitumen Emulsion (RS-1) @ 1.50 kg per sqm	t	11.25	36,443.00	409,983.75

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Crushed stone chipping, 13.2 mm nominal size @ 0.010 cum per sqm	cum	75.00	3,845.00	288,375.00
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 % o	on (a+b	+c+d)		111,371.98
		Cos	st of 7500 sqm = a+b+c+d+e				853,851.86
		Rat	te per sqm = (a+b+c+d+e)/7500				113.85
						say	<u>113.80</u>
		Ca	se – II: Nominal chipping size 9.5 mm				
		Uni	t = sqm				
		Tał	king output = 7500 sqm				
		a)	Labour				
			Mate	day	0.44	300.00	132.00
			Mazdoor (Unskilled)	day	9.00	300.00	2,700.00
			Mazdoor (Skilled)	day	2.00	380.00	760.00
		b)	Machinery				
			Hydraulic broom @ 1250 sqm per hour	hour	6.00	558.00	3,348.00
			Air compressor 210 cfm	hour	6.00	321.00	1,926.00
			Hydraulic self propelled chip spreader @ 1500 sqm per hour	hour	6.00	2,672.00	16,032.00
			Tipper 5.5 10 t capacity for carriage of stone chips from stockpile on road side to chip spreader	hour	6.00	321.00	1,926.00
			Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
			Bitumen emulsion pressure distributor @ 1750 sqm per hour	hour	6.00	735.48	4,412.88
			Three wheel 80-100 kN static roller	hour	15.00	379.00	5,685.00
		c)	Material				
			Bitumen Emulsion (RS-1) @ 1.40 kg per sqm	t	10.50	36,443.00	382,651.50
			Crushed stone chipping, 9.5 mm nominal size @ 0.008 cum per sqm	cum	60.00	3,845.00	230,700.00
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 % o	on (a+b	+c+d)		98,407.71
		Co	st of 7500 sqm = a+b+c+d+e				754,459.09
		Rat	te per sqm = (a+b+c+d+e)/7500				100.59
						say	<u>100.60</u>

5.7 507.2.5 Pre-coating Chips

Pre-coating chips with 1 percent of paving bitumen by weight of chips in a suitable mixer duly heated to 160° C as per Technical Specification Clause 507.2.5.

	Def to										
Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)				
		Unit = c	um								
		Taking	putput = 30 cum								
		a)	Labour								
			Mate	day	0.60	300.00	180.0				
			Mazdoor (Unskilled)	day	15.00	300.00	4,500.0				
		b)	Machinery								
			Bitumen boiler oil fired, capacity 1000 litre itre	hour	6.00	207.00	1,242.0				
			Mixall 6-10 t capacity	hour	6.00	762.00	4,572.0				
		c)	Material								
			Bitumen (VG-30) @1.00% by weight of chips (30x1.6)/100	t	0.48	37,787.00	18,137.7				
		d)	0				0.0				
		e)	Contractor's profit and overheads @ 15 % o	n (a+b-	+c+d)		4,294.7				
		Co	st of 30 cum = a+b+c+d+e				32,926.5				
		Ra	te per cum = (a+b+c+d+e)/30				1,097.5				
						say	<u>1097.60</u>				
5.8	508		n thick Open-Graded Premix Carpet using nous (viscocity grade/ modified bitumen)								
		carpet of mm agg emulsio wearing mixing i wheel & required either T	ng, laying and rolling of open-graded premix of 20 mm thickness composed of 13.2 mm to 5.6 gregates either using viscocity grade bitumen or n to required line, grade and level to serve as course on a previously prepared base, including n a suitable plant, laying and rolling with a three 30 - 100 kN static roller capacity, finished to a level and grades to be followed by seal coat of type A or Type B or Type C or Type D as per Fechnical Specification Clause 508.								
		Case -	: By Manual Means								
		(I) Bit	umen of VG-30								
		Un	it = sqm								
		Ta	king output = 500 sqm (10 cum)								
		a)	Labour								
			Mate	day	1.08	300.00	324.0				
			Mazdoor (Unskilled)	day	21.00	300.00	6,300.0				
			Mazdoor (Semi-Skilled)	day	6.00	340.00	2,040.0				
		b)	Machinery								
			Mixall 6/10 t capacity	hour	4.00	762.00	3,048.0				

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Bitumen boiler oil fired1000 litre capacity fitted with spray set	hour	4.00	207.00	828.00
				Three wheel 80-100 kN static roller	hour	2.00	379.00	758.00
			c)	Material				
				Bitumen (VG-30) @ 14.60 kg per 10 sqm	t	0.73	37,787.00	27,584.51
				Crushed stone chipping, 13.2 mm to 5.6 mm @ 0.27 cum per 10 sqm	cum	13.50	3,925.00	52,987.50
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % o	on (a+b-	⊦c+d)		14,080.50
			Cos	st of 500 sqm = a+b+c+d+e				107,950.51
			Rat	e per sqm = (a+b+c+d+e)/500				215.90
							say	<u>215.90</u>
		(II)	Bit	umen of VG-20				
			Uni	t = sqm				
			Tak	sing output = 500 sqm (10 cum)				
			a)	Labour				
				Mate	day	1.08	300.00	324.00
				Mazdoor (Unskilled)	day	21.00	300.00	6,300.00
				Mazdoor (Semi-Skilled)	day	6.00	340.00	2,040.00
			b)	Machinery				
				Mixall 6/10 t capacity	hour	4.00	762.00	3,048.00
				Bitumen boiler oil fired 1000 litre capacity fitted with spray set	hour	4.00	207.00	828.00
				Three wheel 80-100 kN static roller	hour	2.00	379.00	758.00
			c)	Material				
				Bitumen (VG-20) @ 14.60 kg per 10 sqm	t	0.73	36,820.00	26,878.60
				Crushed stone chipping, 13.2 mm to 5.6 mm @ 0.27 cum per 10 sqm	cum	13.50	3,925.00	52,987.50
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % o	on (a+b-	⊦c+d)		13,974.62
			Cos	st of 500 sqm = a+b+c+d+e				107,138.72
			Rat	te per sqm = (a+b+c+d+e)/500				214.28
							say	<u>214.30</u>
		-						

Case - II: By Mechanical Means

(I) Bitumen of VG-30

Unit = sqm

Taking output = 4000 sqm (80 cum)

Chapter 5
BASES AND SURFACE COURSES (BITUMINOUS)

		BASES AND SURFACE COURSES (E				
Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	a)	Labour				
		Mate	day	0.52	300.00	156.00
		Mazdoor (Unskilled)	day	10.00	300.00	3,000.00
		Mazdoor (Skilled)	day	3.00	380.00	1,140.00
	b)	Machinery				
		HMP 30/40 t per hour	hour	6.00	7,734.00	46,404.00
		Electric generator set 125 KVA	hour	6.00	705.00	4,230.00
		Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
		Tipper 5.5 10 t capacity	hour	3.64	321.00	1,168.44
		Paver finisher	hour	6.00	951.00	5,706.00
		Three wheel 80-100 kN static roller	hour	16.00	379.00	6,064.00
	c)	Material				
		Bitumen (VG-30) @ 14.60 kg per 10 sqm	t	5.84	37,787.00	220,676.08
		Crushed stone chipping, 13.2 mm to 5.6 mm @ 0.27 cum per 10 sqm	cum	108.00	3,925.00	423,900.00
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 % o	on (a+b∙	+c+d)		107,733.38
		st of 4000 sqm = a+b+c+d+e				825,955.90
	Rat	te per sqm = (a+b+c+d+e)/4000				206.49
					say	<u>206.50</u>
(II)		umen of VG-20				
		t = sqm				
		king output = 4000 sqm (80 cum)				
	a)	Labour	dov	0.52	200.00	156.00
		Mate Mazdoor (Unskilled)	day day	0.52 10.00	300.00 300.00	3,000.00
		Mazdoor (Skilled)	day	3.00	300.00	3,000.00
	b)	Machinery	uay	3.00	550.00	1,140.00
		HMP 30/40 t per hour	hour	6.00	7,734.00	46,404.00
		Electric generator set 125 KVA	hour	6.00	705.00	4,230.00
		Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
		Tipper 5.5 10 t capacity	hour	3.64	321.00	1,168.44
		Paver finisher	hour	6.00	951.00	5,706.00
		Three wheel 80-100 kN static roller	hour	16.00	379.00	6,064.00
	c)	Material			2. 5.00	2,00100
	-1	Bitumen (VG-20) @ 14.60 kg per 10 sqm	t	5.84	36,820.00	215,028.80

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)				
			Crushed stone chipping, 13.2 mm to 5.6 mm @ 0.27 cum per 10 sqm	cum	108.00	3,925.00	423,900.00				
			d) 0								
			e) Contractor's profit and overheads @ 15 % on (a+b+c+d)								
			Cost of 4000 sqm = $a+b+c+d+e$								
			Rate per sqm = (a+b+c+d+e)/4000				204.87				
						say	<u>204.90</u>				
5.9	508.2	Bitur Spec Provi	nm thick Open Graded Premix Carpet using men Emulsion as per MoRD Technical sification Clause 508.2. ding , laying and rolling of open-graded premix et of 20 mm thickness composed of 13.2 mm to 5.6								
		mm line, previ plant static grade Type	carpet of 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates using bitumen 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 or Type D as per MoRD Technical Specification Clause 508.2.								
		Unit :	= sqm								
		Takir	ng output = 900 sqm (24.3 cum)								
		a)	Labour								
			Mate	day	0.80	300.00	240.00				
			Mazdoor (Unskilled)	day	18.00	300.00	5,400.00				
			Mazdoor (Skilled)	day	2.00	380.00	760.00				
		b)	Machinery								
			Concrete mixer 0.4/0.28 cum capacity	hour	6.00	193.00	1,158.00				
			Three wheel 80-100 kN static roller	hour	3.60	379.00	1,364.40				
		c)	Material								
			Bitumen emulsion (RS-1) @ 21.50 kg per 10 sqm	t	1.94	36,443.00	70,699.42				
			Crushed stone aggregates 13.2 mm to 5.6 mm @ 0.27 cum per 10 sqm	cum	24.30	3,925.00	95,377.50				
		,	0 Controptor's profit and overboads @ 15 % on (s		N		0.00				
		-	Contractor's profit and overheads @ 15 % on (a of $900 \text{ scm} = 2 \pm b \pm c \pm d \pm 0$	+D+C+C	1)		26,249.90				
			of 900 sqm = a+b+c+d+e per sqm = (a+b+c+d+e)/900				201,249.22 223.61				
		nale	per sym = (atototute/300			631/	<u>223.61</u> <u>223.60</u>				
						say	223.00				

5.10 509 Mix Seal Surfacing

Chapter 5

				Chapter 5 BASES AND SURFACE COURSES (B	ΙΤυΜΙ	NOUS)		
Sr. No.	Ref. to MORD Spec.		— — ·	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		surf mm agg line, prev plan stati	acing to 0 rega , gra /ious nt, la ic rol	g , laying and rolling of close-graded premix g material of 20 mm thickness composed of 11.2 .9 mm (Type-A) or 13.2 mm to 0.9 mm (Type-B) tes using viscocity grade bitumen to required de and level to serve as wearing course on a sly prepared base , including mixing in a suitable ying and rolling with a three wheel 80 - 100 kN ller , finishing to required level and grades as per echnical Specification Clause 509.				
		(A)	By N	<i>l</i> anual Means				
		i) Ty	ype /	A				
		(I)	Bitu	umen of VG-30				
			Uni	t = sqm				
			Tak	king output = 500 sqm				
			a)	Labour				
				Mate	day	1.40	300.00	420.0
				Mazdoor (Unskilled)	day	21.00	300.00	6,300.0
				Mazdoor (Semi-Skilled)	day	7.00	340.00	2,380.0
			b)	Machinery				
				Mixall 6-10 t capacity	hour	6.00	762.00	4,572.0
				Oil fired bitumen boiler 1000 litre capacity fitted with spray set	hour	6.00	207.00	1,242.0
				Three wheel 80-100 kN static roller	hour	6.00	379.00	2,274.0
			c)	Material				
				Bitumen (VG-30) @ 22.00 kg per 10 sqm	t	1.10	37,787.00	41,565.7
				Stone crushed aggregates 11.2 mm to 0.09 mm @ 0.27 cum per 10 sqm	cum	13.50	4,085.00	55,147.5
			d)	0				0.0
			e)	Contractor's profit and overheads $@$ 15 % o	n (a+b∙	+c+d)		17,085.1
			Cos	st of 500 sqm = a+b+c+d+e				130,566.3
			Rat	e per sqm = (a+b+c+d+e)/500				261.1
							say	<u>261.10</u>
		(II)	Bitu	umen of VG-20				
			Uni	t = sqm				
			Tak	ring output = 500 sqm				
			2)	Labour				

a)	Labour				
	Mate	day	1.40	300.00	420.00
	Mazdoor (Unskilled)	day	21.00	300.00	6,300.00
	Mazdoor (Semi-Skilled)	day	7.00	340.00	2,380.00

Ref. to Sr. MORD No. Spec.	_ _	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	b)	Machinery				
		Mixall 6-10 t capacity	hour	6.00	762.00	4,572.00
		Oil fired bitumen boiler 1000 litre capacity fitted with spray set	hour	6.00	207.00	1,242.00
		Three wheel 80-100 kN static roller	hour	6.00	379.00	2,274.00
	c)	Material				
		Bitumen (VG-20) @ 22.00 kg per 10 sqm	t	1.10	36,820.00	40,502.00
		Stone crushed aggregates 11.2 mm to 0.09 mm @ 0.27 cum per 10 sqm	cum	13.50	4,085.00	55,147.50
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 % o	n (a+b-	⊦c+d)		16,925.63
	Cos	st of 500 sqm = $a+b+c+d+e$				129,343.13
	Rat	te per sqm = (a+b+c+d+e)/500				258.69
					say	<u>258.70</u>
ii) T	уре	В				
(I)	Bit	umen of VG-30				
	Uni	t = sqm				
	Tak	king output = 500 sqm				
	a)	Labour				
		Mate	day	1.40	300.00	420.00
		Mazdoor (Unskilled)	day	21.00	300.00	6,300.00
		Mazdoor (Semi-Skilled)	day	7.00	340.00	2,380.00
	b)	Machinery				
		Mixall 6-10 t capacity	hour	6.00	762.00	4,572.00
		Oil fired bitumen boiler 1000 litre capacity fitted with spray set	hour	6.00	207.00	1,242.00
		Three wheel 80-100 kN static roller	hour	6.00	379.00	2,274.00
	c)	Material				
		Bitumen (VG-30) @ 19.00 kg per 10 sqm	t	0.95	37,787.00	35,897.65
		Stone crushed aggregates 13.2 mm to 0.09 mm @ 0.27cum per 10 sqm	cum	13.50	4,085.00	55,147.50
	d)	0				0.00
	e)	Contractor's profit and overheads $@$ 15 % o	n (a+b-	⊦c+d)		16,234.97
	Cos	st of 500 sqm = a+b+c+d+e				124,048.12
	Rat	e per sqm = (a+b+c+d+e)/500				248.10
					say	<u>248.10</u>

(II) Bitumen of VG-20

Unit = sqm

Sr. Ref. to No. MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	Ta	king output = 500 sqm				
	a)	Labour				
		Mate	day	1.40	300.00	420.0
		Mazdoor (Unskilled)	day	21.00	300.00	6,300.0
		Mazdoor (Semi-Skilled)	day	7.00	340.00	2,380.00
	b)	Machinery				
		Mixall 6-10 t capacity	hour	6.00	762.00	4,572.0
		Oil fired bitumen boiler 1000 litre capacity fitted with spray set Three wheel 80-100 kN static roller	hour hour	6.00	207.00	1,242.0
	c)	Material	noui	6.00	379.00	2,274.0
	•)			_		.
		Bitumen (VG-20) @ 19.00 kg per 10 sqm	t		36,820.00	34,979.00
	d)	Stone crushed aggregates 13.2 mm to 0.09 mm @ 0.27cum per 10 sqm 0	cum	13.50	4,085.00	55,147.50 0.0 0
	e)	Contractor's profit and overheads @ 15 % o	n (a+b-	⊦c+d)		16,097.1
	Co	st of 500 sqm = $a+b+c+d+e$				122,991.6
		te per sqm = (a+b+c+d+e)/500				245.9
					691/	246.00
					say	240.00
В	8. By N	lechanical Means			Say	<u>246.00</u>
	3. By N) Type				Say	<u>246.00</u>
	Туре				Say	<u>246.00</u>
i)) Type I) Bit	A			Say	<u>240.00</u>
i)) Type I) Bit Un	A umen of VG-30			Say	<u>240.00</u>
i)) Type I) Bit Un	A rumen of VG-30 it = sqm			Say	<u>240.00</u>
i)) Type I) Bit Un Ta	A tumen of VG-30 it = sqm king output = 4000 sqm (80 cum)	day	0.52	300.00	
i)) Type I) Bit Un Ta	A umen of VG-30 it = sqm king output = 4000 sqm (80 cum) Labour	day day	0.52		<u>240.00</u> 156.0 3,000.0
i)) Type I) Bit Un Ta	A umen of VG-30 it = sqm king output = 4000 sqm (80 cum) Labour Mate	-		300.00	156.0 3,000.0
i)) Type I) Bit Un Ta	A tumen of VG-30 it = sqm king output = 4000 sqm (80 cum) Labour Mate Mazdoor (Unskilled)	day	10.00	300.00 300.00	156.0 3,000.0
i)) Type I) Bit Un Ta a)	A umen of VG-30 it = sqm king output = 4000 sqm (80 cum) Labour Mate Mazdoor (Unskilled) Mazdoor (Skilled)	day	10.00	300.00 300.00	156.0
i)) Type I) Bit Un Ta a)	A umen of VG-30 it = sqm king output = 4000 sqm (80 cum) Labour Mate Mazdoor (Unskilled) Mazdoor (Skilled) Machinery	day day	10.00 3.00	300.00 300.00 380.00	156.0 3,000.0 1,140.0
i)) Type I) Bit Un Ta a)	A umen of VG-30 it = sqm king output = 4000 sqm (80 cum) Labour Mate Mazdoor (Unskilled) Mazdoor (Skilled) Machinery HMP of appropriate capacity Electric generator set 125 KVA	day day hour hour	10.00 3.00 6.00 6.00	300.00 300.00 380.00 7,734.00 705.00	156.0 3,000.0 1,140.0 46,404.0 4,230.0
i)) Type I) Bit Un Ta a)	A umen of VG-30 it = sqm king output = 4000 sqm (80 cum) Labour Mate Mazdoor (Unskilled) Mazdoor (Skilled) Machinery HMP of appropriate capacity	day day hour	10.00 3.00 6.00	300.00 300.00 380.00 7,734.00	156.0 3,000.0 1,140.0 46,404.0
i)) Type I) Bit Un Ta a)	A umen of VG-30 it = sqm king output = 4000 sqm (80 cum) Labour Mate Mazdoor (Unskilled) Mazdoor (Skilled) Machinery HMP of appropriate capacity Electric generator set 125 KVA Front end loader 1 cum bucket capacity	day day hour hour hour	10.00 3.00 6.00 6.00 6.00	300.00 300.00 380.00 7,734.00 705.00 963.00	156.0 3,000.0 1,140.0 46,404.0 4,230.0 5,778.0 1,155.6
i)) Type I) Bit Un Ta a)	A umen of VG-30 it = sqm king output = 4000 sqm (80 cum) Labour Mate Mazdoor (Unskilled) Mazdoor (Skilled) Machinery HMP of appropriate capacity Electric generator set 125 KVA Front end loader 1 cum bucket capacity Tipper 5.5 10 t capacity	day day hour hour hour	10.00 3.00 6.00 6.00 6.00 3.60	300.00 300.00 380.00 7,734.00 705.00 963.00 321.00	156.0 3,000.0 1,140.0 46,404.0 4,230.0 5,778.0
i)) Type I) Bit Un Ta a)	A umen of VG-30 it = sqm king output = 4000 sqm (80 cum) Labour Mate Mazdoor (Unskilled) Mazdoor (Unskilled) Machinery HMP of appropriate capacity Electric generator set 125 KVA Front end loader 1 cum bucket capacity Tipper 5.5 10 t capacity Paver finisher	day day hour hour hour hour	10.00 3.00 6.00 6.00 3.60 6.00	300.00 300.00 380.00 7,734.00 705.00 963.00 321.00 951.00	156.0 3,000.0 1,140.0 46,404.0 4,230.0 5,778.0 1,155.6 5,706.0

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Stone crushed aggregates 11.2 mm to 0.09 mm @ 0.27 cum per 10 sqm	cum	108.00	4,085.00	441,180.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % of	on (a+b∙	+c+d)		127,214.58
			Co	st of 4000 sqm = a+b+c+d+e				975,311.78
			Ra	te per sqm = (a+b+c+d+e)/4000				243.83
							say	<u>243.80</u>
		(II)	Bit	umen of VG-20				
			Un	t = sqm				
			Tal	king output = 4000 sqm (80 cum)				
			a)	Labour				
				Mate	day	0.52	300.00	156.00
				Mazdoor (Unskilled)	day	10.00	300.00	3,000.00
				Mazdoor (Skilled)	day	3.00	380.00	1,140.00
			b)	Machinery				
				HMP of appropriate capacity	hour	6.00	7,734.00	46,404.00
				Electric generator set 125 KVA	hour	6.00	705.00	4,230.00
				Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
				Tipper 5.5 10 t capacity Paver finisher	hour hour	3.60 6.00	321.00 951.00	1,155.60 5,706.00
				Three wheel 80-100 kN static roller	hour	18.00	379.00	6,822.00
			c)	Material				
				Bitumen (VG-20) @ 22.00 kg per 10 sqm	t	8.80	36,820.00	324,016.00
				Stone crushed aggregates 11.2 mm to 0.09 mm @ 0.27 cum per 10 sqm	cum	108.00	4,085.00	441,180.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % of	on (a+b∙	+c+d)		125,938.14
			Co	st of 4000 sqm = a+b+c+d+e				965,525.74
			Ra	te per sqm = (a+b+c+d+e)/4000				241.38
							say	<u>241.40</u>
		ii) T	уре	В				
		(I)	Bit	umen of VG-30				
			Uni	t = sqm				
			Tal	king output = 4000 sqm (80 cum)				
			a)	Labour				
				Mate	day	0.52	300.00	156.00
				Mazdoor (Unskilled)	day	10.00	300.00	3,000.00

Chapter 5
BASES AND SURFACE COURSES (BITUMINOUS)

<u>г</u>	Ref. to				,́		
Sr. No.	MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Mazdoor (Skilled)	day	3.00	380.00	1,140.00
		b)	Machinery				
			HMP 30/40 t per hour	hour	6.00	7,734.00	46,404.00
			Electric generator set 125 KVA	hour	6.00	705.00	4,230.00
			Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
			Tipper 5.5 10 t capacity	hour	3.60	321.00	1,155.60
			Paver finisher	hour	6.00	951.00	5,706.00
			Three wheel 80-100 kN static roller	hour	18.00	379.00	6,822.00
		c)	Material				
			Bitumen (VG-30) @ 19.00 kg per 10 sqm	t	7.60	37,787.00	287,181.20
			Stone crushed aggregates 13.2 mm to 0.09 mm @ 0.27 cum per 10 sqm	cum	108.00	4,085.00	441,180.00
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 % of	on (a+b-	⊦c+d)		120,412.92
		Co	st of 4000 sqm = a+b+c+d+e				923,165.72
		Ra	te per sqm = (a+b+c+d+e)/4000				230.79
						say	<u>230.80</u>
	(11) Bit	umen of VG-20				
		Un	it = sqm				
		Tal	king output = 4000 sqm (80 cum)				
		a)	Labour				
			Mate	day	0.52	300.00	156.00
			Mazdoor (Unskilled)	day	10.00	300.00	3,000.00
			Mazdoor (Skilled)	day	3.00	380.00	1,140.00
		b)	Machinery				
			HMP 30/40 t per hour	hour	6.00	7,734.00	46,404.00
			Electric generator set 125 KVA	hour	6.00	705.00	4,230.00
			Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
			Tipper 5.5 10 t capacity	hour	3.60	321.00	1,155.60
			Paver finisher	hour	6.00	951.00	5,706.00
			Three wheel 80-100 kN static roller	hour	18.00	379.00	6,822.00
		c)	Material				
			Bitumen (VG-20) @ 19.00 kg per 10 sqm	t	7.60	36,820.00	279,832.00
			Stone crushed aggregates 13.2 mm to 0.09 mm @ 0.27 cum per 10 sqm	cum	108.00	4,085.00	441,180.00
		d)	0				0.00

d) 0

0.00

BASES AND SURFACE COURSES (BITUMINOUS) Ref. to Amount Quantity MORD Description Rate (₹) Unit (₹) Spec. e) Contractor's profit and overheads @ 15 % on (a+b+c+d) 119,310.54 914,714.14 Cost of 4000 sqm = a+b+c+d+e Rate per sqm = (a+b+c+d+e)/4000 228.68 say <u>228.70</u> 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 A or Type B or Type C or Type D as per MoRD Technical Specification Clause 510. Α. By Manual Means Case - I : Type A Bitumen of VG-30 (1) Unit = sqm Taking output = 1100 sqm a) Labour Mate day 1.15 300.00 345.00 **Bitumen Sprayer** 1.00 340.00 340.00 day 22.00 300.00 6,600.00 Mazdoor (Unskilled) day Mazdoor (Semi-Skilled) 6.00 340.00 2,040.00 day b) Machinery 221.00 486.20 Bitumen boiler oil fired, capacity 1000 litre fitted hour 2.20 with spray set Three wheel 80-100 kN static roller 2.20 379.00 833.80 hour Material c) 1.078 37,787.00 Bitumen (VG-30) @ 9.80 kg per 10 sqm 40,734.39 t Crushed stone chipping of 6.7 mm size 100 per 9.90 3,605.00 35,689.50 cum cent passing 11.2 mm sieve and retained on 2.36 mm sieve applied @ 0.09 cum per 10 sqm d) 0 0.00 Contractor's profit and overheads @ 15 % on (a+b+c+d) 13,060.33 e) Cost of 1100 sqm = a+b+c+d+e 100,129.22 Rate per sqm = (a+b+c+d+e)/1100 91.03 91.00 say (II) Bitumen of VG-20 Unit = sqm

Chapter 5

Taking output = 1100 sqm

Labour a)

Mate

Sr.

No.

5.11

Chapter 5
BASES AND SURFACE COURSES (BITUMINOUS)

	Ref. to	<u> </u>		BASES AND SURFACE COURSES (B				₁
Sr. No.	MORD Spec.	i I L		Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Bitumen Sprayer	day	1.00	340.00	340.00
				Mazdoor (Unskilled)	day	22.00	300.00	6,600.00
				Mazdoor (Semi-Skilled)	day	6.00	340.00	2,040.00
			b)	Machinery				
				Bitumen boiler oil fired, capacity 1000 litre fitted with spray set Three wheel 80-100 kN static roller	hour hour	2.20 2.20	221.00 379.00	486.20 833.80
			c)	Material				
				Bitumen (VG-20) @ 9.80 kg per 10 sqm	t	1.078	36,820.00	39,691.96
				Crushed stone chipping of 6.7 mm size 100 per cent passing 11.2 mm sieve and retained on 2.36 mm sieve applied @ 0.09 cum per 10 sqm	cum	9.90	3,605.00	35,689.50
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % o	n (a+b-	⊦c+d)		12,903.97
			Cos	st of 1100 sqm = a+b+c+d+e				98,930.43
			Rat	e per sqm = (a+b+c+d+e)/1100				89.94
							say	<u>89.90</u>
		Cas	se - Il	I:Туре В				
		(I)	Bitu	umen of VG-30				
			Uni	t = sqm				
			Tak	ing output = 1250 sqm				
			a)	Labour				
				Mate	day	0.85	300.00	255.00
				Mazdoor (Unskilled)	day	15.00	300.00	4,500.00
				Mazdoor (Semi-Skilled)	day	2.00	340.00	680.00
			b)	Machinery				
				Mixall 6/10 t capacity	hour	2.50	762.00	1,905.00
				Three wheel 80-100 kN static roller	hour	2.50	379.00	947.50
				Bitumen boiler oil fired 1000 litre capacity fitted with spray set	hour	2.50	207.00	517.50
			c)	Material				
				Bitumen (VG-30) @ 6.80 kg per 10 sqm	t	0.85	37,787.00	32,118.95
				Crushed stone or grit as passing 2.36 mm sieve and retained on 180 micron sieve applied @ 0.06 cum per 10 sqm	cum	7.50	2,643.00	19,822.50
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % o	n (a+b-	⊦c+d)		9,111.97
			Cos	st of 1250 sqm = a+b+c+d+e				69,858.42
			Rat	e per sqm = (a+b+c+d+e)/1250				55.89

BASES AND SURFACE COURSES (BITUMINOUS) Ref. to Amount Quantity MORD Description Rate (₹) Unit (₹) Spec. <u>55.90</u> say (II) Bitumen of VG-20 Unit = sqm Taking output = 1250 sqm a) Labour Mate day 0.85 300.00 255.00 Mazdoor (Unskilled) 15.00 300.00 4,500.00 day Mazdoor (Semi-Skilled) day 2.00 340.00 680.00 b) Machinery Mixall 6/10 t capacity hour 2.50 762.00 1,905.00 Three wheel 80-100 kN static roller 2.50 947.50 hour 379.00 Bitumen boiler oil fired 1000 litre capacity fitted hour 2.50 207.00 517.50 with spray set c) Material Bitumen (VG-20) @ 6.80 kg per 10 sqm t 0.85 36,820.00 31,297.00 Crushed stone or grit as passing 2.36 mm 7.50 2,643.00 19,822.50 cum sieve and retained on 180 micron sieve applied @ 0.06 cum per 10 sqm 0.00 d) 0 e) Contractor's profit and overheads @ 15 % on (a+b+c+d) 8,988.68 Cost of 1250 sqm = a+b+c+d+e 68,913.18 55.13 Rate per sqm = (a+b+c+d+e)/1250 say <u>55.10</u> Case - III: Type C Bitumen of VG-30 **(I)** Unit = sqmTaking output = 1100 sqm a) Labour Mate day 1.15 300.00 345.00 **Bitumen Sprayer** day 1.00 340.00 340.00 Mazdoor (Unskilled) 6,600.00 day 22.00 300.00 Mazdoor (Semi-Skilled) 340.00 1,700.00 day 5.00 b) Machinery Bitumen boiler oil fired 1000 litre capacity fitted hour 2.20 207.00 455.40 with spray set Three wheel 80-100 kN static roller hour 2.20 379.00 833.80 c) Material

Chapter 5

Bitumen (VG-30) @ 6.50 kg per 10 sqm 0.715 37,787.00 t

Sr.

No.

27,017.71

Sr. No.	Ref. to MORD Spec.	— — 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Crushed stone chipping of 6.7 mm size defined as 100% passing 9.5 mm sieve and retained on 2.36 mm sieve applied @ 0.09 cum per 10 sqm.	cum	9.90	3,605.00	35,689.50
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % o	n (a+b∙	+c+d)		10,947.21
			Cos	st of 1100 sqm = a+b+c+d+e				83,928.62
			Rat	e per sqm = (a+b+c+d+e)/1100				76.30
							say	<u>76.30</u>
		(II)	Bit	umen of VG-20				
			Uni	t = sqm				
			Tak	king output = 1100 sqm				
			a)	Labour				
				Mate	day	1.15	300.00	345.00
				Bitumen Sprayer	day	1.00	340.00	340.00
				Mazdoor (Unskilled) for carrying of chips & spraying	day	22.00	300.00	6,600.00
				Mazdoor (Semi-Skilled)	day	5.00	340.00	1,700.00
			b)	Machinery				
				Bitumen boiler oil fired 1000 litre capacity fitted with spray set Three wheel 80-100 kN static roller	hour hour	2.20 2.20	207.00 379.00	455.40 833.80
			c)	Material	nour	2.20	010.00	000.00
			0)	Bitumen (VG-20) @ 6.50 kg per 10 sqm	t	0 715	36,820.00	26,326.30
				Crushed stone chipping of 6.7 mm size defined as 100% passing 9.5 mm sieve and retained on 2.36 mm sieve applied @ 0.09 cum per 10 sqm.	cum	9.90	3,605.00	35,689.50
			d)	•				0.00
			e)	Contractor's profit and overheads @ 15 % o	n (a+b∙	+c+d)		10,843.50
			Co	st of 1100 sqm = a+b+c+d+e				83,133.50
				e per sqm = (a+b+c+d+e)/1100				75.58
							say	<u>75.60</u>
		Cas	se - l'	V: Type D (premix with fine sand)				
		(I)		umen of VG-30				
			Uni	t = sqm				
			Tał	king output = 1250 sqm				
			a)	Labour				
			•	Mate	day	0.85	300.00	255.00
				Mazdoor (Unskilled)	day	15.00	300.00	4,500.00

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Mazdoor (Semi-Skilled)	day	2.00	340.00	680.00
			b)	Machinery				
				Mixall 6/10 t capacity	hour	2.50	762.00	1,905.00
				Three wheel 80-100 kN static roller	hour	2.50	379.00	947.50
			c)	Bitumen boiler oil fired 1000 litre capacity fitted with spray set Material	hour	2.50	207.00	517.50
				Bitumen (VG-30) @ 6.80 kg per 10 sqm	t	0.850	37,787.00	32,118.95
				Sand (fine) applied @ 0.06 cum per 10 sqm	cum	7.50	370.00	2,775.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % o	n (a+b	+c+d)		6,554.84
			Cos	st of 1250 sqm = a+b+c+d+e				50,253.79
			Rat	e per sqm = (a+b+c+d+e)/1250				40.20
							say	<u>40.20</u>
		(II)	Bitu	umen of VG-20				
				t = sqm				
			Tak	ing output = 1250 sqm				
			a)	Labour				
				Mate	day	0.85	300.00	255.00
				Mazdoor (Unskilled)	day	15.00	300.00	4,500.00
				Mazdoor (Semi-Skilled)	day	2.00	340.00	680.00
			b)	Machinery				
				Mixall 6/10 t capacity	hour	2.50	762.00	1,905.00
				Three wheel 80-100 kN static roller	hour	2.50	379.00	947.50
			c)	Bitumen boiler oil fired 1000 litre capacity fitted with spray set Material	hour	2.50	207.00	517.50
				Bitumen (VG-20) @ 6.80 kg per 10 sqm	t	0.850	36,820.00	31,297.00
				Sand (fine) applied @ 0.06 cum per 10 sqm	cum	7.50	370.00	2,775.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % o	n (a+b	+c+d)		6,431.55
			Cos	st of 1250 sqm = a+b+c+d+e				49,308.55
			Rat	e per sqm = (a+b+c+d+e)/1250				39.45
							say	<u>39.40</u>

B. By Mechanical Means

	Bof to							
Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Cas	se - I	: Туре А				
		(I)	Bit	umen of VG-30				
			Uni	t = sqm				
			Tak	king output = 7500 sqm (67.5 cum)				
			a)	Labour				
				Mate	day	0.24	300.00	72.00
				Mazdoor (Unskilled)	day	6.00	300.00	1,800.00
			b)	Machinery				
				Hydraulic self propelled chips spreader	hour	6.00	2,672.00	16,032.00
				Tipper 5.5 / 10 t capacity for carriage of stone chips from stockpile on the road to chip spreader	hour	6.00	321.00	1,926.00
				Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
				Bitumen pressure distributor	hour	6.00	735.48	4,412.88
				Three wheel 80-100 kN static roller	hour	15.00	379.00	5,685.00
			c)	Material				
				Bitumen (VG-30) @ 9.80 kg per 10 sqm	t	7.35	37,787.00	277,734.45
				Crushed stone chipping of 6.7 mm size 100 per cent passing 11.2 mm sieve and retained on 2.36 mm sieve applied @ 0.09 cum per 10 sqm	cum	67.50	3,605.00	243,337.50
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % o	n (a+b+	⊦c+d)		83,516.67
			Cos	st of 7500 sqm = a+b+c+d+e				640,294.50
			Rat	te per sqm = (a+b+c+d+e)/7500				85.37
							say	<u>85.40</u>
		(II)	Bit	umen of VG-20				
			Uni	t = sqm				
			Tak	king output = 7500 sqm (67.5 cum)				
			a)	Labour				
				Mate	day	0.24	300.00	72.00
				Mazdoor (Unskilled)	day	6.00	300.00	1,800.00
			b)	Machinery				
				Hydraulic self propelled chips spreader	hour	6.00	2,672.00	16,032.00
				Tipper 5.5 / 10 t capacity for carriage of stone chips from stockpile on the road to chip spreader	hour	6.00	321.00	1,926.00
				Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00

	Bof to												
Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)					
				Bitumen pressure distributor	hour	6.00	735.48	4,412.88					
				Three wheel 80-100 kN static roller	hour	15.00	379.00	5,685.00					
			c)	Material									
				Bitumen (VG-20) @ 9.80 kg per 10 sqm	t	7.35	36,820.00	270,627.00					
				Crushed stone chipping of 6.7 mm size 100 per cent passing 11.2 mm sieve and retained on 2.36 mm sieve applied @ 0.09 cum per 10 sqm	cum	67.50	3,605.00	243,337.50					
			d)	0				0.00					
			e)	Contractor's profit and overheads @ 15 % o	n (a+b-	+c+d)		82,450.56					
			Cos	st of 7500 sqm = a+b+c+d+e				632,120.94					
			Rat	te per sqm = (a+b+c+d+e)/7500				84.28					
							say	<u>84.30</u>					
		bitu bee	minc n ca	seal coat is provided immediately over the bus layers, Hydraulic broom for cleaning has not tered.									
	510			I: Туре В									
		(I)		umen of VG-30									
				t = sqm									
			Tak	ring output = 5000 sqm (30 cum)									
			a)	Labour									
				Mate	day	0.16	300.00	48.00					
				Mazdoor (Unskilled)	day	4.00	300.00	1,200.00					
			b)	Machinery									
				HMP of 30/40 t per hour	hour	2.00	7,734.00	15,468.00					
				Electric generator set 125 KVA	hour	2.00	705.00	1,410.00					
				Front end loader 1 cum bucket capacity	hour	2.00	963.00	1,926.00					
				Tipper 5.5 /10 t capacity	hour	1.36	321.00	436.56					
				Paver finisher	hour	2.00	951.00	1,902.00					
				Three wheel 80-100 kN static roller	hour	10.00	379.00	3,790.00					
			c)	Material									
				Bitumen (VG-30) @ 6.80 kg per 10 sqm	t	3.40	37,787.00	128,475.80					
				Crushed stone or grit passing 2.36 mm sieve and retained on 180 micron sieve applied @ 0.06 cum per 10 sqm	cum	30.00	2,643.00	79,290.00					
				0				0.00					
			e)	Contractor's profit and overheads @ 15 % o	n (a+b-	+c+d)		35,091.95					
			Cos	st of 5000 sqm = a+b+c+d+e				269,038.31					
			Rat	e per sqm = (a+b+c+d+e)/5000				53.81					

				BASES AND SURFACE COURSES (B	ITUMI	NOUS)		
Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
							say	<u>53.80</u>
		(II)	Bit	umen of VG-20				
		()		it = sqm				
			Tał	king output = 5000 sqm (30 cum)				
			a)	Labour				
				Mate	day	0.16	300.00	48.00
				Mazdoor (Unskilled)	day	4.00	300.00	1,200.00
			b)	Machinery				
				HMP of 30/40 t per hour	hour	2.00	7,734.00	15,468.00
				Electric generator set 125 KVA	hour	2.00	705.00	1,410.00
				Front end loader 1 cum bucket capacity	hour	2.00	963.00	1,926.00
				Tipper 5.5/ 10 t capacity	hour	1.36	321.00	436.56
				Paver finisher	hour	2.00	951.00	1,902.00
				Three wheel 80-100 kN static roller	hour	10.00	379.00	3,790.00
			c)	Material				
				Bitumen (VG-20) @ 6.80 kg per 10 sqm	t	3.40	36,820.00	125,188.00
				Crushed stone or grit passing 2.36 mm sieve and retained on 180 micron sieve applied @ 0.06 cum per 10 sqm	cum	30.00	2,643.00	79,290.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % o	n (a+b-	⊦c+d)		34,598.78
			Cos	st of 5000 sqm = a+b+c+d+e				265,257.34
			Rat	te per sqm = (a+b+c+d+e)/5000				53.05
							say	<u>53.10</u>
	Note:	prei hou utili	mix o irs c ised f	eal coat is required to be provided over the carpet on the same day, out of the 6 working f the HMP, 4.00 hours are proposed to be for the premix carpet and the balance 2.00 hours en considered for this case.				
		Cas	se - I	II: Туре C				
		(I)	Bit	umen of VG-30				
			Uni	t = sqm				
			Tak	king output = 7500 sqm (67.5 cum)				
			a)	Labour				
				Mate	day	0.20	300.00	60.00
				Mazdoor (Unskilled)	day	5.00	300.00	1,500.00
			b)	Machinery				
				Hydraulic self propelled chips spreader	hour	6.00	2,672.00	16,032.00

Ī Sr. No. L ____

Sr. No.	Ref. to MORD Spec.	 	·	Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Tipper 5.5/ 10 t capacity	hour	6.00	321.00	1,926.00
				Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
				Bitumen pressure distributor	hour	6.00	735.48	4,412.88
				Three wheel 80-100 kN static roller	hour	15.00	379.00	5,685.00
			c)	Material				
				Bitumen (VG-30) @ 6.50 kg per 10 sqm	t	4.88	37,787.00	184,400.56
				Crushed stone chipping of 6.7 mm size 100 per cent passing 9.5 mm sieve and retained on 2.36 mm sieve applied @ 0.09 cum per 10 sqm	cum	67.50	3,605.00	243,337.50
			d)	0				0.00
			e)	Contractor's profit and overheads $@$ 15 % o	n (a+b-	⊦c+d)		69,469.79
			Cos	st of 7500 sqm = a+b+c+d+e				532,601.73
			Rat	e per sqm = (a+b+c+d+e)/7500				71.01
							say	<u>71.00</u>
		(II)	Bit	umen of VG-20				
			Uni	t = sqm				
			Tak	ting output = 7500 sqm (67.5 cum)				
			a)	Labour				
				Mate	day	0.20	300.00	60.00
				Mazdoor (Unskilled)	day	5.00	300.00	1,500.00
			b)	Machinery				
				Hydraulic self propelled chips spreader	hour	6.00	2,672.00	16,032.00
				Tipper 5.5/ 10 t capacity	hour	6.00	321.00	1,926.00
				Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
				Bitumen pressure distributor	hour	6.00	735.48	4,412.88
				Three wheel 80-100 kN static roller	hour	15.00	379.00	5,685.00
			c)	Material				
				Bitumen (VG-20) @ 6.50 kg per 10 sqm	t	4.88	36,820.00	179,681.60
				Crushed stone chipping of 6.7 mm size 100 per cent passing 9.5 mm sieve and retained on 2.36 mm sieve applied @ 0.09 cum per 10 sqm	cum	67.50	3,605.00	243,337.50
			d)	0				0.00
			e)	Contractor's profit and overheads $@$ 15 % o	n (a+b-	⊦c+d)		68,761.95
			Cos	st of 7500 sqm = a+b+c+d+e				527,174.93
			Rat	e per sqm = (a+b+c+d+e)/7500				70.29
							say	<u>70.30</u>

Sr. No.	Ref. to MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
5.12	508	25 mm thick Open-Graded Premix Carpet using				

Bituminous (viscocity grade/ modified bitumen) Binder

Providing, laying and rolling of open-graded premix carpet of 25 mm thickness composed of 13.2 mm to 5.6 mm aggregates either using viscocity 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 or Type D as per MoRD Technical Specification Clause 508.

Case - I: By Manual Means

(I) Bitumen of VG-30

Unit = sqm

Taking output = 400 sqm (10 cum)

	a)	Labour					
		Mate	day	1.08	300.00	324.00	
		Mazdoor (Unskilled)	day	21.00	300.00	6,300.00	
		Mazdoor (Semi-Skilled)	day	6.00	340.00	2,040.00	
	b)	Machinery					
		Mixall 6/10 t capacity	hour	4.00	762.00	3,048.00	
		Bitumen boiler oil fired1000 litre capacity fitted with spray set	hour	4.00	207.00	828.00	
		Three wheel 80-100 kN static roller	hour	2.00	379.00	758.00	
	c)	Material					
		Bitumen (VG-30) @ 18.25 kg per 10 sqm	t	0.73	37,787.00	27,584.51	
		Crushed stone chipping, 13.2 mm to 5.6 mm @ 0.34 cum per 10 sqm	cum	13.60	3,925.00	53,380.00	
	d)	0				0.00	
	e)	Contractor's profit and overheads @ 15 %	on (a+b+c	+d)		14,139.38	
	Cos	st of 400 sqm = a+b+c+d+e				108,401.89	
	Rat	e per sqm = (a+b+c+d+e)/400				271.00	
					say	<u>271.00</u>	
(II)	Bit	umen of VG-20					
	Uni	t = sqm					
	Tak	ting output = 400 sqm (10 cum)					
	a)	Labour					
		Mate	day	1.08	300.00	324.00	

Mazdoor (Unskilled) day 21.00 300.00 6,300.00

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Mazdoor (Semi-Skilled)	day	6.00	340.00	2,040.00
			b)	Machinery	-			
				Mixall 6/10 t capacity	hour	4.00	762.00	3,048.00
				Bitumen boiler oil fired 1000 litre capacity fitted with spray set	hour	4.00	207.00	828.00
				Three wheel 80-100 kN static roller	hour	2.00	379.00	758.00
			c)	Material				
				Bitumen (VG-20) @ 18.25 kg per 10 sqm	t	0.73	36,820.00	26,878.60
				Crushed stone chipping, 13.2 mm to 5.6 mm @ 0.34 cum per 10 sqm	cum	13.60	3,925.00	53,380.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % o	n (a+b∙	⊦c+d)		14,033.49
			Cos	st of 400 sqm = a+b+c+d+e				107,590.09
			Rat	e per sqm = (a+b+c+d+e)/400				268.98
							say	<u>269.00</u>
		Cas	e - II	: By Mechanical Means				
		(I)	Bitu	umen of VG-30				
			Uni	t = sqm				
			Tak	ing output = 3200 sqm (80 cum)				
			a)	Labour				
				Mate	day	0.52	300.00	156.00
				Mazdoor (Unskilled)	day	10.00	300.00	3,000.00
				Mazdoor (Skilled)	day	3.00	380.00	1,140.00
			b)	Machinery	•			
			,	HMP 30/40 t per hour	hour	6.00	7,734.00	46,404.00
				Electric generator set 125 KVA	hour	6.00	705.00	4,230.00
				Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
				Tipper 5.5/ 10 t capacity	hour	3.64	321.00	1,168.44
				Paver finisher	hour	6.00	951.00	5,706.00
				Three wheel 80-100 kN static roller	hour	16.00	379.00	6,064.00
			c)	Material				
				Bitumen (VG-30) @ 18.25 kg per 10 sqm	t	5.84	37,787.00	220,676.08
				Crushed stone chipping, 13.2 mm to 5.6 mm @ 0.34 cum per 10 sqm	cum	108.80	3,925.00	427,040.00
			d)	0				0.00
			e)	Contractor's profit and overheads $@$ 0 % on	(a+b+c	+d)		108,204.38
			Cos	st of 3200 sqm = a+b+c+d+e				829,566.90
			Rat	e per sqm = (a+b+c+d+e)/3200				259.24

Chapter 5
BASES AND SURFACE COURSES (BITUMINOUS)

Sr. Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
					say	<u>259.20</u>
(II)	Bit	umen of VG-20				
	Uni	it = sqm				
	Tał	king output = 3200 sqm (80 cum)				
	a)	Labour				
		Mate	day	0.52	300.00	156.00
		Mazdoor (Unskilled)	day	10.00	300.00	3,000.00
		Mazdoor (Skilled)	day	3.00	380.00	1,140.00
	b)	Machinery				
		HMP 30/40 t per hour	hour	6.00	7,734.00	46,404.00
		Electric generator set 125 KVA	hour	6.00	705.00	4,230.00
		Front end loader 1 cum bucket capacity	hour	6.00	963.00	5,778.00
		Tipper 5.5/ 10 t capacity	hour	3.64	321.00	1,168.44
		Paver finisher	hour	6.00	951.00	5,706.00
		Three wheel 80-100 kN static roller	hour	16.00	379.00	6,064.00
	c)	Material				
		Bitumen (VG-20) @ 18.25 kg per 10 sqm	t	5.84	36,820.00	215,028.80
		Crushed stone chipping, 13.2 mm to 5.6 mm @ 0.34 cum per 10 sqm	cum	108.80	3,925.00	427,040.00
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 % of	on (a+b+	⊦c+d)		107,357.29
	Co	st of 3200 sqm = a+b+c+d+e				823,072.53
	Rat	te per sqm = (a+b+c+d+e)/3200				257.21
					say	<u>257.20</u>

|--|

6.1 400 Granual Sub-base

Rate as per item No.4.1 of Chapter 4

6.2 1500 Water Bound Macadam (WBM) - Sub-base

& 400

(A) By Manual Means

As per item No.4.2 of Chapter 4

(B) By Mechnical Means

As per item No.4.2 of Chapter 4

6.3 1500 Cement Concrete Pavement

Construction of un-reinforced, dowel jointed at 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 MoRD Technical Specification Clause 1501.

Unit = cum

Taking output = 75 cum (172.50 t) (100 m x 3.75 m x 0.200 m)

a)	Labour				
	Mate	day	7.00	300.00	2,100.00
	Mason (1st class)	day	5.00	425.00	2,125.00
	Mason (2nd class)	day	5.00	380.00	1,900.00
	Mazdoor (Unskilled)	day	129.00	300.00	38,700.00
	Mazdoor (Skilled)	day	6.00	380.00	2,280.00
	Surveyor	day	2.00	490.00	980.00
	Mazdoor (Semi-Skilled)	day	6.00	340.00	2,040.00
	Bhisti	day	14.00	300.00	4,200.00
b)	Blacksmith for cutting of dowel bars including removal of burrs, fabrications & fixing of dowel bars. Machinery	day	1.00	403.00	403.00
2)	Concrete mixer 0.28 / 0.4 cum capacity (6 mixers) with weigh batcher and suitable capacity calibrated water tank	hour	36.00	193.00	6,948.00
	Needle vibrator	hour	9.00	62.00	558.00

Sr. No.	Ref. to MORD Spec.	— — I I I L _	Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Screed vibrator	hour	9.00	83.00	747.00
			Plate vibrator	hour	9.00	143.00	1,287.00
			Concrete joint cutting machine for initial & final cuts	hour	4.00	257.00	1,028.00
			Water tanker 6 kl capacity	hour	5.00	310.00	1,550.00
			Air Compressor (1 hour initial + 1 hour final)	hour	2.00	321.00	642.00
		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	3,925.00	264,937.50
			(ii) Sand as per IS:383 and conforming to Clause 1500.2.4.2 @ 0.45 cum/cum of concrete	cum	33.75	370.00	12,487.50
			(iii) Cement @ 310 kg/cum of concrete	t	26.25	6,100.00	160,125.00
			(iv) Polythene sheet 125 micron	sqm	412.50	21.00	8,662.50
			(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	117.60	40.32	4,741.63
			Bitumen primer @ 200 ml per joint for 23 joints	t	0.005	45,164.00	225.82
			Bituminous sealant 800 ml per joint for 23 joints	litre	19.00	90.00	1,710.00
			Jute rope 12 mm dia including 5 per cent wastage	m	90.00	4.90	441.00
			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	21.00	1,890.00
			Polythene sheathing, covering 2/3rd dowel bars (25 mm x 1.0 m) and tight fit including 5 per cent wastage	No.	483.00	11.35	5,482.05
			Plasticizer 0.5 per cent by weight of cement	litre	122.00	41.00	5,002.00
			Curing compound (if used) @ 0.33 litre per sqm	litre	131.25	98.00	12,862.50
			Water for curing	kl	18.00	135.00	2,430.00
			Joint filler board 20 mm thick as per IS:1838 $(4 \times 3.75 \times 0.200 = 3 \text{ sqm})$	sqm	3.00	865.00	2,595.00
		d)	Formwork @ 3% of (a+b+c)				16,532.42
		e)	0				0.00
		f) Contractor's profit and overheads @ 15 % on (a+b+c+d+e)Cost for 75 cum = a+b+c+d+e+f					85,141.94
							652,754.85
		Rate per cum = (a+b+c+d+e+f)/75					8,703.40
		say					

6.4 1500 Roller Compacted Concrete Pavement

Sr. Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	(RCCP IS:383, with m minimu gradatic concret site, la mechan wheel, flexural	uction of Roller Compacted Concrete Pavement) with coarse and fine aggregates conforming to the size of coarse aggregate not exceeding 25 mm ninimum aggregate cement ratio of 5:1 and with m cement content of 310 kg per cum, aggregate on to be as per Table 602.2 after blending, mixing in the mixer at optimum moisture content, transporting to aying with wheel barrows or steel pans or with nical paver , compacting with 80 - 100 kN smooth tandem vibratory roller, to achieve, the designed strength, finishing and curing as per drawing and technical specification Clause 1502.				
	Unit = d					
	-	output = 75 cum				
	a) La (i)	bour Mate	day	6.00	300.00	1,800.00
	(ii)		day	132.00	300.00	39,600.00
	(iii		day	4.00	425.00	1,700.00
	(iv) Mason (2nd class)	day	4.00	380.00	1,520.00
	(v)	Surveyor	day	2.00	490.00	980.00
	(vi) Bhisti	day	14.00	300.00	4,200.00
	b) Ma	achinery				
	(i)	Concrete mixer 0.28 / 0.4 cum capacity (6 mixers) with weigh batcher and suitable capacity calibrated water tank	hour	36.00	193.00	6,948.00
	(ii)	Vibratory/80-100 kN Static Roller	hour	6.00	1,304.00	7,824.00
	,) Concrete joint cutting machine for day's end work and regular joint cutting.	hour	6.00	257.00	1,542.00
) Water tanker 6 kl capacity	hour	6.00	310.00	1,860.00
		Air compressor (1 hour initial + 1 hour final) aterial	hour	2.00	321.00	642.00
	с) Ма (i)	Crushed stone coarse aggregates grading as per Clause 1501.2.4.1 (Table 1500.3) @ 0.90 cum/cum of concrete conforming to Clause 600.4.4	cum	67.50	3,925.00	264,937.50
	(ii)	Sand as per IS:383 and conforming to Clause 1501.2.4.2 @ 0.45 cum/cum of concrete	cum	33.75	370.00	12,487.50
	(iii) Cement @ 310 kg/cum of concrete	t	23.25	6,100.00	141,825.00
	(iv) Bitminous primer @ 200 ml per joint for 21 joints	t	0.004	45,164.00	180.66
	(v)	Jute rope 10 mm dia including 5 per cent wastage	m	90.00	4.90	441.00
	(vi) Bituminous sealant @ 800 ml per joint for 21 joints	kg	16.80	90.00	1,512.00
	(vi	i) Curing compound @ 0.33 litre per sqm	Ι	131.25	98.00	12,862.50
	(vi	ii) Water for mixing and curing for 14-days	day	18.00	135.00	2,430.00
	d) Fo	ormwork @ 2% of (a+b+c)				10,105.84
	e) 0					0.00

——	Ref. to								
Sr. No.	MORD Spec.	! ! L	Description	Unit	Quantity	Rate (₹)	Amount (₹)		
		f) C	ontractor's profit and overheads @ 15 % on (a+b+c	+d+e)			77,309.70		
		Cost fo	or 75 cum = $a+b+c+d+e+f$				592,707.70		
		Rate	per cum = (a+b+c+d+e+f)/75				7,902.77		
						say	<u>7902.80</u>		
	Note:	When	curing compound is used 4-days water curing will be do	ne					
6.5	1500	Recta	ngular Concrete Block Pavement						
		m x 0.3 and sp with sa	acturing, laying of cement concrete blocks of size 0.450 300 m x 0.150 m of Cement Concrete (C.C) M30 grade reading 25 mm thick sand under neath and filling joints and on existing W.B.M. base as per MoRD Technical cation Clause 1503.						
			output = 112.5 sqm						
		-	ete M30 grade for block, 784 x (0.45 x 0.30 x 0.15)	cum	15.88	7,139,36	113,373.04		
						·	·		
		Concre	te M30 for edge block, 2 x 98 x (0.30 x 0.30 x 0.15)	cum	2.65	7,139.36	18,919.30		
			TOTAL:-	cum	18.53				
		,							
		L. (i)	abour for Manufacturing the Cement Concrete Block Mate	day	3.00	300.00	900.00		
		(ii		day	80.00	300.00	24,000.00		
		(ii		day	12.00	380.00	4,560.00		
			/) Bhisti	day	3.00	300.00	900.00		
			achinery	uay	5.00	500.00	300.00		
		-	oncrete mixer 0.28 / 0.4 cum	hour	12.00	193.00	2,316.00		
			ate vibrator	hour	23.00	143.00	3,289.00		
			ater tanker 6 kl capacity	hour	4.00	310.00	1,240.00		
			aterial				,		
		, (i)		cum	16.49	3,925.00	64,723.25		
			Table 1500.1 (18.53 x 0.89)						
		(ii	, , , , , , , , , , , , , , , , , , , ,	cum	9.73	370.00	3,600.10		
			i) Cement	t	7.41	6,100.00	45,201.00		
		(iv	/) Sand as per Table 1500.5	cum	5.760	300.00	1,728.00		
			Bed = 30 m x 3.75 x 0.025 = 2.81 cum						
			Joints = (240x4mm + 367.5 x 4mm)x 0.15 = 1.80 cum	I					
			Total = 4.61 cum (considering 20% void)						
		(v	,	kl	12.00	135.00	1,620.00		
		-	ormwork @ 3% of (a+b+c)				4,622.32		
		e) 0					0.00		

Sr. Ref. to MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	f)	Contractor's profit and overheads @ 15 % on (a+b+c-	+d+e)			23,804.95
	Cos	t for 112.5 sqm = a+b+c+d+e+f				182,504.62
Rate per sqm = (a+b+c+d+e+f)/112.5						1,622.26
					say	<u>1622.30</u>
Note:	i.	In case curing compound is used in places where there is scarcity of water, the water curing will be used for 4- days and rate analysis will be amended accordingly				

ii. Carriage of C.C. block to site of is payable seperately as per Chapter of carriage of material from manufacturing site to the site of work.

Chapter 7 CAUSEWAY AND SUBMERSIBLE BRIDGES

Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
7.1	1400, 300, 600		nstruction of Cut-off Walls/Head Walls				
	,	(i)	Earthwork in excavation for structures as per drawing and technical specification Clause 305. Rate as per item No.11.1 of Chapter 11	cum			
		(ii)	Plain cement concrete M15 grade				
			Rate as per item No.11.4 (ii) of Chapter 11	cum			
		(iii)	Brick masonry in cement mortar 1:4				
			Rate as per item No.11.5 (ii) of Chapter 11	cum			
		(iv)	Providing P.C.C M20 architectural coping on top of wa	all			
			Rate as per item No.12.11 of Chapter 12	m			
	Note:		e as appropriate for the type of soil/rock are to be en in (i)				
7.2	300	Pre	paration of Subgrade				
		Rat	e as per item No.3.13 of Chapter 3	cum			
7.3	400	Gra	nular Sub-base				
		Rat	e as per item No.4.1 of Chapter 4	cum			
7.4	1500	Cer	nent Concrete Slab				
		Rat	e as per item No.6.3 of Chapter 6	cum			
7.5	1400 & 1300	(i)	Providing and Laying of Apron with Cement Concrete Blocks as per Drawing and Technical Specification Clause 1301 Rate as per item No.14.3 of Chapter 14	cum			
7.6		Gui	de Posts				
	1600	grad	struction of R.C.C. guide posts of 250 mm dia, M25 de as per drawing and technical specification Clause				
		140 Rat	e as per item No.8.8 of Chapter 8	cum			
7.7	1400, 1100 &	Bec	Iding for Causeway				
		(i)	Type A (concrete cradle) Bedding Clause 1402.5				
			As per item No.9.2 of Chapter 9	cum			
		(ii)	Type B (first class) Bedding Clause 1402.5				
			As per item No.9.2 of Chapter 9	cum			
7.8	1400 & 1100	-	ing Reinforced Cement Concrete Pipe NP3 as per wing and technical specification Clause 1402.6				
		As p	per item No.9.3 of Chapter 9	m			
	Note :	1	Rate as appropriate for the type of soil/rock are to be taken in (i) .				
		2	Appropriate items may also be taken from the relevant item of the relevant Chapters in case of using jhama brick aggregate.				

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
8.1	200	Site Clearance					
		As per Chapter 2					
8.2		Earthwork in Hill I	Road				
	300	(i) Excavation i manual mean	n Hilly Areas in Ordinary Soil I s.	by			
		manual m side slope with a lift	n in ordinary soil in Hilly Areas I leans including cutting and trimming es and disposing of excavated ear upto 1.50 m and a lead upto 20 m a ng and MoRD Technical Specificatio 503.1.	of rth as			
		Unit = cur	n				
		Taking ou a) Labo u	tput = 120 cum ur				
		Mate		day	2.40	300.00	720.00
		Mazdo	oor (Unskilled)	day	60.00	300.00	18,000.00
		b) 0					0.00
		c) Contr	actor's profit and overheads @ 15	5 % on (a	a+b)		2,808.00
		Cost for 2	120 cum = (a+b+c)				21,528.00
		Rate per	cum = (a+b+c)/120				179.40
						say	<u>179.40</u>
		B) Extra for Part there Excavatio					
		Unit = cur					
			tput = 10 cum				
		a) Labou					
			por (Unskilled)	day	0.55	300.00	165.00
		b) 0					0.00
		c) Contr	actor's profit and overheads @ 15	5 % on (a	a+b)		24.75
		Cost for 2	10 cum = (a+b+c)				189.75
		Rate per	cum = (a+b+c)/10				18.98
						say	<u>19.00</u>
		Mechanical n A) Excavatio mechanic trimming excavated lead upto	n Hilly Areas in Ordinary Soil I neans. n in ordinary soil in Hilly Areas I al means including cutting ar of side slopes and disposing d earth with a lift upto 1.50 m and o 20 m as per drawing and MoR Specification Clause 1603.1.	by nd of a			
		Linit – cur	2				

Unit = cum

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Ta	king output = 260 cum				
			a)	Labour				
				Mate	day	0.80	300.00	240.00
			b)	Mazdoor (Unskilled) for trimming slopes and helping in excavation, etc. Machinery	day	20.00	300.00	6,000.00
				Dozer D-50 @ 43.28 cum per hour	hour	6.00	1,463.00	8,778.00
			c)	Overheads @ 10% on (a+b)				0.00
			d)	Contractor's profit @ 10% on (a+b+c)				2,252.70
			Co	st for 260 cum = a+b+c+d				17,270.70
			Ra	te per cum = (a+b+c+d)/260				66.43
							say	<u>66.40</u>
			Pa	tra for Every Additional Lift of 1.5 m or rt thereof cavation in Soil				
				it = cum king output = 10 cum				
			a)	Labour				
				Mazdoor (Unskilled)	day	0.55	300.00	165.00
			b)	0				0.00
			c)	Contractor's profit and overheads @ 15 %	on (a	a+b)		24.75
			Co	st for 10 cum = (a+b+c)				189.75
			Ra	te per cum = (a+b+c)/10				18.98
							say	<u>19.00</u>
	Note:	(i)	there i earth c loader	e the land on the valley side is barren and is no objection for disposing of excavated on the valley side, the provision of front end and tipper shall be deleted as excavated hall be disposed off on the valley side.				
		(ii)		posal of excavated surplus earth beyond 20 relevant items of carriage be followed.				
		(iii)	0.9 cu	e, alternative machine like hydraulic excavator m bucket capacity is necessited because of nditions, the same can be used.				
		(iii)		ation in Hilly Area in Ordinary Rock by I means				
			of a	cavation in ordinary rock using manual eans including loading in a truck and carrying excavated material to embankment site with lift upto 1.50 m and lead upto 20 m as per orD Clause 1603.2.				

Unit = cum

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Ta	sking output = 120 cum				
				Labour				
			,	Mate	day	5.28	300.00	1,584.00
				Mazdoor (Unskilled)	day	132.00	300.00	39,600.00
			b)	0				0.00
			c)	Contractor's profit and overheads $@$ 15 %	6 on (a	a+b)		6,177.60
			Co	ost for 120 cum = a+b+c				47,361.60
			Ra	ate per cum = (a+b+c)/120				394.68
							say	<u>394.70</u>
			Pa	Atra for Every Additional Lift of 1.5 m or Art thereof or Ordinary Rock				
				nit = cum king output = 10 cum				
			a)	Labour				
				Mazdoor (Unskilled)	day	0.86	300.00	258.00
			b)	0				0.00
			c)	Contractor's profit and overheads @ 15 %	6 on (a	a+b)		38.70
			Co	ost for 10 cum = a+b+c				296.70
			Ra	ate per cum = (a+b+c)/10				29.67
							say	<u>29.70</u>
		• •		ation in Hilly Areas in Ordinary Rock by Inical means not requiring blasting				
			blastin trimmii a lift u	ation in hilly area in ordinary rock not requiring g by mechanical means including cutting and ng of slopes and disposal of cut material with pto 1.50 m and lead upto 20 m as per MoRD cal specification Clause 1603.2.				
			Unit =	cum				
				output = 170 cum				
			a) La	bour				
			M	ate	day	0.68	300.00	204.00
			M	azdoor (Unskilled)	day	17.00	300.00	5,100.00
			M	azdoor for disposing of earth upto 20 m	day	9.00	300.00	2,700.00
			b) M	achinery				
			-	ozer D-50 @ 28.32 cum per hour	hour	6.00	1,463.00	8,778.00
			Hy	/draulic Excavator 0.9 cum bucket capacity @) cum per hour	hour	4.25	1,296.00	5,508.00
			c) 0					0.00
			-	ontractor's profit and overheads @ 15 % or or 170 cum = a+b+c+d	n (a+b-	+c)		3,343.50 25,633.50

Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Rate per cum = (a+b+c+d)/170				150.79
						say	<u>150.80</u>
	Note:	(i)	In case the land on the valley side is barren and there is no objection for disposing of excavated earth on the valley side, the provision of front end loader and tipper shall be deleted as excavated earth shall be disposed off on the valley side.				
		(ii)	In case, alternative machine like hydraulic excavator 0.9 cum bucket capacity is necessited because of site conditions, the same can be used.				
8.3	1400, 1700 & 800	600 with grac 500	struction of RCC guide posts of 250 mm dia and total mm long,(300 mm below GL) M15 grade cast-in-situ 20 mm nominal size aggregate, true to line and de, tolerance of vertical RCC posts not to exceed 1 in as per drawing and MoRD Technical Specification use 1401.6.				↑ <u>50</u> 300 ↑
			Unit = Each	-	\sim		*
			Taking Output = 1 No.				300
		Α.	In Ordinary Soil				
		(i)	Earth work in excavation for structures				\checkmark
			Unit = cum		\rightarrow	250	\leftarrow
		(ii)	Rates as per item No.11.1.A.I(i) of Chapter 11 RCC M15 grade Unit = cum	cum	0.08	287.00	22.96
			As per item No. 11.4.II(i) of Chapter 11	cum	0.03	7,071.60	212.15
		(iii)	Steel bars				
			Unit = t				
			Steel @ 80 kg/ cum				
			As per item No. 11.6 of Chapter 11	t	0.002	53,066.80	106.13
		(iv)	Painting two coats including prime coat on new concrete surface Unit = sqm				
			As per item No.10.5 of Chapter 10	sqm	0.25	85.40	21.35
		Cos	t for 1 No. of RCC Guide Post = (i + ii + iii + iv)				362.59
						say	362.60
	Note:	Qua	ntities are to be taken as per drawing.				
		в.	In Ordinary Rock (not requiring blasting)				
		(i)	Earth work in excavation for structures				
			Unit = cum				
		(ii)	As per item No.11.1.A.II(i) of Chapter 11 RCC M15 grade Unit = cum	cum	0.08	358.80	28.70
			As per item No. 11.4.II(i) of Chapter 11	cum	0.03	7,071.60	212.15

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		(iii)	Steel bars				
			Unit = t				
			Steel @ 80 kg/ cum				
			As per item No. 11.6 of Chapter 11	t	0.002	53,066.80	106.13
		(iv)	Painting two coats including prime coat on new concrete surface Unit = sqm				
			As per item No.10.5 of Chapter 10	sqm	0.25	85.40	21.35
		Cos	t for 1 No. of RCC Guide Post = (i + ii + iii + iv)				368.34
						say	<u>368.30</u>
	Note:	Qua	antities are to be taken as per drawing.				
		С.	In Hard Rock (blasting prohibited)				
		(i)	Earth work in excavation for structures				
			Unit = cum				
		(ii)	Rates as per item No.11.1.A.III of Chapter 11 RCC M15 grade Unit = cum	cum	0.08	548.60	43.89
			As per item No. 11.4.II(i) of Chapter 11	cum	0.03	7,071.60	212.15
		(iii)	Steel bars				
			Unit = t				
			Steel @ 80 kg/ cum				
			As per item No. 11.6 of Chapter 11	t	0.002	53,066.80	106.13
		(iv)	Painting two coats including prime coat on new concrete surface Unit = sqm				
			As per item No.10.5 of Chapter 10	sqm	0.25	85.40	21.35
		Cos	t for 1 No. of RCC Guide Post = (i + ii + iii + iv)				383.52
	Note:	Qua	antities are to be taken as per drawing.			say	<u>383.50</u>
8.4	1600		viding edge stones on valley side of formation as per ving and Technical Specification Clause 1608.2.6.				
			e = 1 m ne as Item No. 8.3 of this chapter.				
8.5	1600 & 309	Tur	fing with Sods in hilly areas				
		form or o the the	hishing and laying of the live sods of perennial turf hing grass on embankment slope of hill roads, verges ther locations shown on the drawing or as directed by Engineer including preparation of ground, stacking sods and watering as per MoRD Technical cification Clause 309.				

Unit = sqm

			THEE ROADO				
Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Tak	ing output = 100 sqm				
		a)	Labour				
			Mate	day	0.16	300.00	48.00
			Mazdoor (Unskilled)	day	4.00	300.00	1,200.00
		b)	Machinery Water tanker including watering for 3 months	hour	4.00	310.00	1,240.00
			Tractor with Trolley	hour	1.00	303.00	303.00
		c)	Materials				
			Farmyard manure @ 0.18 cum per 100 sqm at site of work	cum	0.18	490.00	88.20
			Water	kl	24.00	135.00	3,240.00
		d)	0				0.00
		e)	Contractor's profit and overheads $@$ 15 % on (a+	b+c+d	l)		917.88
		Cos	t for 100 sqm = a+b+c+d+e				7,037.08
		Rat	e per sqm = (a+b+c+d+e)/100				70.37
						say	<u>70.40</u>

ADDITIONAL ITEMS BY USING JHAMA BRICK AGGREGATE (i.e. LOCALLY **AVAILABLE MATERIALS)**

8.6 1600, **Retaining Walls / Breast Walls**

600 &

Construction of retaining walls/breast walls in Plain 700 cement concrete with M10 (with jhama brick aggregate) as per drawing and MoRD technical specifications Clause 1604 (including centering, shuttering, staging etc. but excluding reinforcement).

	(i)	Earthwork in excavation for structures	
		Rate as per item No.11.1 of Chapter 11	cum
	(ii)	Plain cement concrete M 10 grade	
		Rate as per item No.11.9.I.(i) of Chapter 11	cum
	(iii)	Providing P.C.C. M 20 architectural coping on top of retaining wall/breast wall	
		Rate as per item No.12.15 of Chapter 12	m
	(iv)	Filter material behind retaining wall / breast wall as per Specification 1204.3.8 in a width of 600 m	
	(v)	Rate as per item No. 12.13 of Chapter 12 Back filling behind retaining wall/breast wall	cum
		Rate as per item No. 12.8.I of Chapter 12	cum
Note:	1	Quantities of material/work shall be as per design and drawings.	

Sr.	Ref. to MORD	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
L	Spec.	i	i	İ	Lj	i	İ
			Earth work in excavation may be taken as per site conditions. It may comprise of a number of sub- items depending upon the type of soil/rock encountered.				
8.7	1600,		struction of Hill Side Drain				
	700, 300 & 800	Con requ Dim	struction of hill side drain in accordance with the uirment of specifications true to lines and grades. ensions and other particulars as per drawing and RD Technical Specification Clause 1606.1.				
		Unit	= 1 m				
			As per item No.3.16 of Chapter 3				
	Note:	1	Quantities of material/work shall be as per design and drawings.				
		2	Earth work in excavation may be taken as per site conditions. It may comprise of a number of sub- items depending upon the type of soil/rock encountered.				
8.8	1400, 1700 & 800	600 brick agg RCC	struction of RCC guide posts of 250 mm dia and total mm long,(300 mm below GL) M15 grade (with jhama k aggregate) cast-in-situ with 20 mm nominal size regate, true to line and grade, tolerance of vertical C posts not to exceed 1 in 500 as per drawing and RD Technical Specification Clause 1401.6.				↑ <u>50</u> 300 ↑
			Unit = Each	7	\sim	_	¥
			Taking Output = 1 No.	/		3	300
		Α.	In Ordinary Soil				
		(i)	Earth work in excavation for structures				\downarrow
			Unit = cum		\rightarrow	250 <	_
		(ii)	As per item No.11.1.A.I(i) of Chapter 11 RCC M15 grade Unit = cum	cum	0.08	287.00	22.96
			As per item No. 11.9.II(i) of Chapter 11	cum	0.03	6,061.90	181.86
		(iii)	Steel bars				
			Steel @ 80 kg/ cum				
			As per item No. 11.6 of Chapter 11	t	0.002	53,066.80	106.13
		(iv)	Painting two coats including prime coat on new concrete surface Unit = sqm				
			As per item No.10.5 of Chapter 10	sqm	0.25	85.40	21.35
		Cos	t for 1 No. of RCC Guide Post = (i + ii + iii + iv)				332.30
						say	<u>332.30</u>
	Note:	Qua	ntities are to be taken as per drawing.			-	
		В.	In Ordinary Rock (not requiring blasting)				
		(i)	Earth work in excavation for structures				
			Unit = cum				

	Ref. to	<u>-</u>				_ī	
Sr. No.	MORD Spec.	i 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		(ii)	As per item No.11.1.A.II(i) of Chapter 11 RCC M15 grade Unit = cum	cum	0.08	358.80	28.70
			As per item No. 11.9.II(i) of Chapter 11	cum	0.03	6,061.90	181.86
		(iii)	Steel bars				
			Unit = t				
			Steel @ 80 kg/ cum				
			As per item No. 11.6 of Chapter 11	t	0.002	53,066.80	106.13
		(iv)	Painting two coats including prime coat on new concrete surface Unit = sqm				
			As per item No.10.5 of Chapter 10	sqm	0.25	85.40	21.35
		Cos	st for 1 No. of RCC Guide Post = (i + ii + iii + iv)				338.04
						say	<u>338.00</u>
	Note:	Qua	antities are to be taken as per drawing.				
		C.	In Hard Rock (blasting prohibited)				
		(i)	Earth work in excavation for structures				
			Unit = cum				
		(ii)	Rates as per item No.11.1.A.III of Chapter 11 RCC M15 grade Unit = cum	cum	0.08	548.60	43.89
			As per item No. 11.9.II(i) of Chapter 11	cum	0.03	6,061.90	181.86
		(iii)	Steel bars				
			Steel @ 80 kg/ cum				
			As per item No. 11.6 of Chapter 11	t	0.002	53,066.80	106.13
		(iv)	Painting two coats including prime coat on new concrete surface Unit = sqm				
			As per item No.10.5 of Chapter 10	sqm	0.25	85.40	21.35
		Cos	st for 1 No. of RCC Guide Post = (i + ii + iii + iv)				353.23
			· · · · ·			say	<u>353.20</u>
	Note:	Qua	antities are to be taken as per drawing.			-	
8.9	1600	Prov agg	viding edge stones with PCC using jhama brick regate on valley side of formation as per drawing and RD Technical Specification Clause 1608.2.6.				
		Unit	t = 1 m				
_			ne as Item No. 8.8 of this chapter.				
8.10	1600		ting Out (using PCC with jhama brick aggregate)				
		Unit	t = Each				
		The	analysis of rate per km shall account for the following:				

Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Construction of reference pillars (burjee) @ 20 m on both sides as per Fig. 1600.1 (b) and @ 8.33 m interval on curves				
			Construction of back pillars in front of each reference pillar as per Fig. 1600.1 (c)				
		(3)	Construction of job pillars as per Fig. 1600.1 (d)				
		Α.	In Ordinary Soil				
			 Construction of reference pillars as per Fig. 1600.1 (b) as per drawing and MoRD Technica Specification Clause 1602.1. 				
			 (a) Earthwork in excavation for foundation as per drawing and MoRD Technica Specifications. As per item No.11.1.A.I(i) of Chapter 11 		0.014	287.00	4.02
			(b) Plain cement concrete work in M10 (with jhama brick aggregate) in foundation complete as per drawing and MoRD Technical Specifications				
			As per item No.11.9.I.(ii) of Chapter 11	cum	0.012	5,881.10	70.57
			(c) Plaster with cement mortar 1:4 as per MoRD Technical Specifications				
			As per item No.12.3 of Chapter 12	sqm	0.28	145.60	40.77
			Add 5% on (a+b+c) for white washing, lettering and painting, etc.				5.77
			Total Cost for each Reference Pillar				121.13
						say	<u>121.10</u>
			 (2) Construction of back pillar as per Fig. 1600.1 (c) as per drawing and MoRD Technica Specification Clause 1602.3. (a) Earthwork in excavation for foundation as 				
			per drawing and MoRD Technical Specifications.				
			As per item No.11.1.A.I(i) of Chapter 11	cum	0.043	287.00	12.34
			(b) Plain cement concrete work in M10 (with jhama brick aggregate) in foundation complete as per drawing and MoRD Technical Specifications				
			As per item No.11.9.I.(ii) of Chapter 11	cum	0.036	5,881.10	211.72
			(c) Plaster with cement mortar 1:4 as per MoRD Technical Specifications				
			As per item No.12.3 of Chapter 12	sqm	0.57	145.60	82.99
			Add 5% on (a+b+c) for white washing, lettering and painting, etc.				15.35
			Total Cost for Back Pillar				307.05
						say	<u>307.10</u>
			(3) Construction of job pillars as per Fig. 1600.1(d) and MoRD Technical Specification Clause 1602.4.				

		HILL ROADS				
Sr. No.	Ref. to MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		(a) Earthwork in excavation for foundation as per drawing and MoRD Technica Specifications.				
		As per item No.11.1.A.I(i) of Chapter 11	cum	0.115	287.00	33.01
		(b) Plain cement concrete work in M10 (with jhama brick aggregate) in foundatior complete as per drawing and MoRE Technical Specifications	1			
		As per item No.11.9.I.(ii) of Chapter 11	cum	0.096	5,881.10	564.59
		(c) Plaster with cement mortar 1:4 as per MoRD Technical Specifications	r			
		As per item No.12.3 of Chapter 12	sqm	1.12	145.60	163.07
		Add 5% on (a+b+c) for white washing, lettering and painting, etc.				38.03
		Total Cost for each Job Pillar				798.70
					say	<u>798.70</u>
	В.	In Ordinary Rock (not requiring blasting)				
		 Construction of reference pillars as per Fig 1600.1 (b) as per drawing and MoRD Technica Specification Clause 1602.1. 				
		 (a) Earthwork in excavation for foundation as per drawing and MoRD Technica Specifications. 				
		As per item No.11.1.A.II(i) of Chapter 11	cum	0.014	358.80	5.02
		(b) Plain cement concrete work in M10 (with jhama brick aggregate) in foundation complete as per drawing and MoRE Technical Specifications	1			
		As per item No.11.9.I.(ii) of Chapter 11	cum	0.012	5,881.10	70.57
		(c) Plaster with cement mortar 1:4 as pe MoRD Technical Specifications	r			
		As per item No.12.3 of Chapter 12	sqm	0.28	145.60	40.77
		Add 5% on (a+b+c) for white washing, lettering and painting, etc.				5.82
		Total Cost for each Reference Pillar				122.18
					say	<u>122.20</u>
		(2) Construction of back pillar as per Fig. 1600.1 (c) as per drawing and MoRD Technica Specification Clause 1602.3.				
		 (a) Earthwork in excavation for foundation as per drawing and MoRD Technica Specifications. 				
		As per item No.11.1.A.II(i) of Chapter 11	cum	0.043	358.80	15.43
		(b) Plain cement concrete work in M10 (with jhama brick aggregate) in foundatior complete as per drawing and MoRE Technical Specifications	1			

	Ref. to					₇	
Sr. No.	MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			As per item No.11.9.I.(ii) of Chapter 11	cum	0.036	5,881.10	211.72
			(c) Plaster with cement mortar 1:4 as per MoRD Technical Specifications				
			As per item No.12.3 of Chapter 12	sqm	0.57	145.60	82.99
			Add 5% on (a+b+c) for white washing, lettering and painting, etc.				15.51
			Total Cost for Back Pillar				310.14
						say	<u>310.10</u>
		(3)	Construction of job pillars as per Fig. 1600.1(d) and MoRD Technical Specification Clause 1602.4.				
			(a) Earthwork in excavation for foundation as per drawing and MoRD Technical Specifications.				
			As per item No.11.1.A.II(i) of Chapter 11	cum	0.115	358.80	41.26
			(b) Plain cement concrete work in M10 (with jhama brick aggregate) in foundation complete as per drawing and MoRD Technical Specifications				
			As per item No.11.9.I.(ii) of Chapter 11	cum	0.096	5,881.10	564.59
			(c) Plaster with cement mortar 1:4 as per MoRD Technical Specifications				
			As per item No.12.3 of Chapter 12	sqm	1.12	145.60	163.07
			Add 5% on (a+b+c) for white washing, lettering and painting, etc.				38.45
			Total Cost for each Job Pillar				807.37
						say	<u>807.40</u>
	C	C. In H	lard Rock (blasting prohibited)				
		(1)	Construction of reference pillars as per Fig. 1600.1 (b) as per drawing and MoRD Technical Specification Clause 1602.1.				
			(a) Earthwork in excavation for foundation as per drawing and MoRD Technical Specifications.				
			Rates as per item No.11.1.A.III of Chapter 11	cum	0.014	548.60	7.68
			(b) Plain cement concrete work in M10 (with jhama brick aggregate) in foundation complete as per drawing and MoRD Technical Specifications				
			As per item No.11.9.I.(ii) of Chapter 11	cum	0.012	5,881.10	70.57
			(c) Plaster with cement mortar 1:4 as per MoRD Technical Specifications				
			As per item No.12.3 of Chapter 12	sqm	0.28	145.60	40.77
			Add 5% on (a+b+c) for white washing, lettering and painting, etc.				5.95
			Total Cost for each Reference Pillar				124.97

Ref. to Sr. MORD No. Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
				say	<u>125.00</u>
	 (2) Construction of back pillar as per Fig. 1600.1 (c as per drawing and MoRD Technica Specification Clause 1602.3. (a) Earthwork in excavation for foundation as 	I			
	per drawing and MoRD Technica Specifications.				
	Rates as per item No.11.1.A.III of Chapter 1	1 cum	0.043	548.60	23.59
	(b) Plain cement concrete work in M10 (with jhama brick aggregate) in foundation complete as per drawing and MoRE As per item No.11.9.I.(ii) of Chapter 11	۱	0.036	5,881.10	211.72
	(c) Plaster with cement mortar 1:4 as pe MoRD Technical Specifications	r			
	As per item No.12.3 of Chapter 12	sqm	0.57	145.60	82.99
	Add 5% on (a+b+c) for white washing, lettering and painting, etc.				15.92
	Total Cost for Back Pillar				318.30
				say	<u>318.30</u>
	 (3) Construction of job pillars as per Fig. 1600.1(d and MoRD Technical Specification Clause 1602.4. (a) Earthwork in excavation for foundation as per drawing and MoRD Technical 	6			
	Specifications. Rates as per item No.11.1.A.III of Chapter 1	1 cum	0.115	548.60	63.09
	(b) Plain cement concrete work in M10 (with jhama brick aggregate) in foundation complete as per drawing and MoRI	ו ו			
	As per item No.11.9.I.(ii) of Chapter 11	cum	0.096	5,881.10	564.59
	(c) Plaster with cement mortar 1:4 as pe MoRD Technical Specifications	r			
	As per item No.12.3 of Chapter 12	sqm	1.12	145.60	163.07
	Add 5% on (a+b+c) for white washing, lettering and painting, etc.				39.54
	Total Cost for each Job Pillar				830.28
				say	<u>830.30</u>
Note: (i)	The dimensions of reference pillars, back pillars and job pillars are as per figure/site conditions. The above items are covered under different Chapters o MORD Specifications for payment.	9			
(ii)	The marking of centre line, setting out, curves recording of levels, etc. by the surveyor will be incidental to work and no extra payment shall be made for the same.)			

Sr. No.	MORD Spec.	Description	nit Quantity	Rate (₹)	Amount (₹)						
9.1	1100 & 300	Excavation for Structures									
		Earthwork in excavation for foundation of structures upto 3 m depth as per drawing and MoRD technical specification Clause 1104, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.									
		Unit = cum									
		A. Ordinary Soil									
		Rate as per item No.11.1.A(i) of Chapter 11	e as per item No.11.1.A(i) of Chapter 11 cum 287.00								
		B. Ordinary Rock (not requiring blasting)									
		Rate as per item No.11.II of Chapter 11	cum	358.80							
		C. Hard Rock (blasting prohobited)									
		Rate as per item No.11.1.III of Chapter 11	cum	548.60							
		D. Marshy Soil									
		Rate as per item No.11.1.IV of Chapter 11	e as per item No.11.1.IV of Chapter 11 cum 538.20								
	Note:	Rate as applicable for the type of soil / rock are to be taken fu	rom Chapter 11								
9.2	1100 & 800	Bedding for Pipe									
		(i) Type A (Concrete Cradle) Bedding									
		Laying concrete cradle bedding with M15 Grade Cement Concrete as per MoRD Technical specification Clause 1105(i).									
		Unit = cum									
		Rate as per Item No.11.4 of Chapter 11	cum	6,890.10							
	Note:	Rate as applicable for the type mixing are taken from Chapte	er 11								
		(ii) Type B (First Class) Bedding									
		Laying (First Class) bedding on well compacted sand, moorum or approved granular material as per MoRD Technical specification Clause 1105(i).									
		Unit = cum									
		Rate as per Item No.11.2.I of Chapter 11	cum	521.00							
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 with collar 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 as per MoRD Technical specification Clause 1106.									

Unit = m

Ref. to Sr. MORD No. Spec.		Description		Unit	Quantity	Rate (₹)	Amount (₹)
Ta	king c	output = 7.5 m					
(3	pipes	of 2.5 m length each)					
(A)) 120	00 mm dia					
	a)	Labour					
		Mate		day	0.14	300.00	42.00
		Mason (1st Class)		day	0.50	425.00	212.50
		Mazdoor (Unskilled)		day	3.00	300.00	900.00
	b)	Material					
		Sand		cum	0.05	370.00	18.50
		Cement		t	0.07	6,100.00	427.00
		RCC pipe NP3 pipe including collar		m	7.50	10,710.00	80,325.00
	c)	0					0.00
	d)	Contractor's profit and overheads	@ 15 % on	(a+b+	⊦c)		12,288.75
	Co	st for 7.5 m = a+b+c+d					94,213.75
	Rat	te per m = (a+b+c+d)/7.5					12,561.83
						say	<u>12561.80</u>
(B)) 100	00 mm dia					
	a)	Labour					
		Mate		day	0.09	300.00	27.00
		Mason (1st Class)		day	0.25	425.00	106.25
		Mazdoor (Unskilled)		day	2.00	300.00	600.00
	b)	Material					
		Sand		cum	0.04	370.00	14.80
		Cement		t	0.03	6,100.00	183.00
		RCC pipe NP3 pipe including collar		m	7.50	8,824.00	66,180.00
	c)	0					0.00
	d)	Contractor's profit and overheads	@ 15 % on	(a+b+	+с)		10,066.66
	Co	st for 7.5 m = a+b+c+d					77,177.71
	Ra	te per m = (a+b+c+d)/7.5					10,290.36
						say	<u>10290.40</u>
(C)) 750) mm dia					
	a)	Labour					
		Mate		day	0.05	300.00	15.00
		Mason (1st Class)		day	0.15	425.00	63.75
		Mazdoor (Unskilled)		day	1.20	300.00	360.00
	b)	Material					

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)		
				Sand	cum	0.024	370.00	8.88		
				Cement	t	0.018	6,100.00	109.80		
				RCC pipe NP3 pipe including collar	m	7.50	6,126.00	45,945.00		
			c)	0				0.00		
			d)	Contractor's profit and overheads @ 15 % o	n (a+b+	-c)		6,975.36		
			Cos	st for 7.5 m = a+b+c+d				53,477.79		
			Rat	e per m = (a+b+c+d)/7.5				7,130.37		
							say	<u>7130.40</u>		
		(D)	600) mm dia						
			a)	Labour						
				Mate	day	0.04	300.00	12.00		
				Mason (1st Class)	day	0.12	425.00	51.00		
				Mazdoor (Unskilled)	day	0.96	300.00	288.00		
			b)	Material						
				Sand	cum	0.0192	370.00	7.10		
				Cement	t	0.014	6,100.00	85.40		
			c)	RCC pipe NP3 pipe including collar 0	m	7.50	4,413.00	33,097.50 0.00		
			c) d)	Contractor's profit and overheads @ 15 % o	n (athi	-c)		5,031.15		
			,	st for 7.5 m = $a+b+c+d$	יטדא) וו	-()		38,572.15		
				e per m = (a+b+c+d)/7.5				5,142.95		
			nai				say	<u>5143.00</u>		
9.4	1100			ng and Laying Reinforced Cement Concrete 3 as per Design in Double Row			Suy	<u>0140.00</u>		
		NP3 gran with prot wor	3 wit nular n ce tectic ks i	g and Laying reinforced cement concrete pipe h collar for culverts on first class bedding of material in Double row including fixing collar ment mortar 1:2 but excluding excavation, on works, backfilling, concrete and masonry n head walls and parapets as per MoRD al specification Clause 1106.						
		Unit	t = m							
		Tak	ing c	output = 7.5 m						
		(6 p	ipes	of 2.5 m length each in two rows)						
		(A)	120	0 mm dia						
			a)	Labour						
				Mate	day	0.34	300.00	102.00		
				Mason (1st Class)	day	1.20	425.00	510.00		
			b)	Mazdoor (Unskilled) Material	day	7.20	300.00	2,160.00		

Ref. to Sr. MORD No. Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	Sand	cum	0.11	370.00	40.70
	Cement	t	0.14	6,100.00	854.00
	RCC pipe NP3 pipe including collar	m	15.00	10,710.00	160,650.00
	c) 0				0.00
	d) Contractor's profit and overheads @ 15 %	on (a+b-	+C)		24,647.51
	Cost for 7.5 m = $a+b+c+d$				188,964.21
	Rate per m = (a+b+c+d)/7.5				25,195.23
				say	<u>25195.20</u>
(B)	1000 mm dia				
	a) Labour				
	Mate	day	0.22	300.00	66.00
	Mason 1st Class	day	0.60	425.00	255.00
	Mazdoor (Unskilled)	day	4.80	300.00	1,440.00
	b) Material				
	Sand	cum	0.08	370.00	29.60
	Cement	t	0.06	6,100.00	366.00
	RCC pipe NP3 pipe including collar	m	15.00	8,824.00	132,360.00
	c) 0				0.00
	d) Contractor's profit and overheads @ 15 %	on (a+b-	⊦c)		20,177.49
	Cost for 7.5 m = a+b+c+d				154,694.09
	Rate per m = (a+b+c+d)/7.5				20,625.88
				say	<u>20625.90</u>
(C)	750 mm dia			-	
	a) Labour				
	Mate	day	0.11	300.00	33.00
	Mason 1st Class	day	0.30	425.00	127.50
	Mazdoor (Unskilled)	day	4.80	300.00	1,440.00
	b) Material				
	Sand Cement	cum t	0.08 0.060	370.00 6,100.00	29.60 366.00
	RCC pipe NP3 pipe including collar	m	15.00	6,126.00	91,890.00
	c) 0				0.00
	d) Contractor's profit and overheads @ 15 %	on (a+b-	+c)		14,082.92
	Cost for 7.5 m = $a+b+c+d$				107,969.02
	Rate per m = (a+b+c+d)/7.5			say	14,395.87 <u>14395.90</u>

(D) 600 mm dia

Sr. No.	Ref. to MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		a) Labour				
		Mate	day	0.09	300.00	27.00
		Mason 1st Class	day	0.24	425.00	102.00
		Mazdoor (Unskilled)	day	3.84	300.00	1,152.00
		b) Material				
		Sand	cum	0.06	370.00	22.20
		Cement	t	0.050	6,100.00	305.00
		RCC pipe NP3 pipe including collar	m	12.00	4,413.00	52,956.00
		c) 0				0.00
		d) Contractor's profit and overheads $@$ 15 % of	on (a+b-	⊦c)		8,184.63
		Cost for 7.5 m = a+b+c+d				62,748.83
		Rate per m = (a+b+c+d)/7.5				8,366.51
					say	<u>8366.50</u>
9.5	1100 & 800	Plain Cement Concrete M10(1:3:6 nominal mix) ir levelling course below open foundation of Head walls as per drawings & MoRD Technica Specification Clause 800 & 1109. Rate as per item No.11.4.I.(i) of Chapter 11	ł			6,890.10
9.6	1100 & 600	Brick Masonry Work in cement mortar in foundation of Head walls complete excluding pointing and plastering as per drawing and MoRD technica specification Clause 1109. (A) Brick Masonry in 1:4 cement mortar	ł			
		Rate as per item No.11.5 (ii) Chapter 11	cum			5,383.60
9.7	1100 & 600	Pointing with Cement Mortar (1 : 3) on brickwork as per MoRD Technical Specification Clause 613.3.	5			
		Rate as per item No.12.2 of Chapter 12	sqm			63.10
9.8	1100 & 600	Plastering with Cement Mortar (1 : 4), 15 mm thicl on brickwork in substructure as per MoRD technica specification Clause 613.4. Rate as per item No.12.3 of Chapter 12				145.60
9.9	1100 & 300	Backfilling in Foundation Trenches as per drawing and MoRD technical specification Clause 1108.	I			
		i) Sand Filling				F04 00
		Rate as per Item No.11.2.I of Chapter 11	cum			521.00
		i) Earth Filling (for Masrshy Soil) Rate as per Item No.11.2.II of Chapter 11	cum			184.00
9.10	1100, 600, 700 & 1200	Providing PCC M20 Architecture Coping on the top of wing wall, return wall etc. complete as pe drawing and MoRD Technical Specification Clause 615.) r			
		Rate as per Item No.12.11 of Chapter 12	m			518.90

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
9.11	1109 & 800 400	Walls w c/c on Technic	Concrete M10 (1:3:6 nominal mix) in Head with skin reinforcement (8 mm dia @ 200 mm exposed surface as per drawings & MoRD cal Specification 1109 (including centering, ing, staging etc.)				
Γ	600		putput = 2.60 cum				
Γ	2820	0	skin reinforcement = 13.16 cum				
		500 mm	dia				
		a)	For concrete				
125	50		Rate as per Item No.11.4.I(ii) of Chapter 11	Cum	2.57	6,934.10	17,820.64
		b)	Steel for skin reinforcement @ 4.50 kg/sqm (Twisted steel/ deformed bars)	t	0.059	41,020.00	2,420.18
		c)	0				0.00
		d)	Contractor's profit and overheads @ 15 % of	n (b+c)			363.03
		Co	st for 2.57 cum = a+b+c+d				20,603.84
		Ra	te per cum = (a+b+c+d)/2.57				8,017.06
						say	<u>8017.10</u>

ADDITIONAL ITEMS BY USING JHAMA BRICK AGGREGATE (i.e. LOCALLY AVAILABLE MATERIALS)

9.12 1100 & Bedding for Pipe 800

9.13

9.14

		(i)	Type A (Concrete Cradle) Bedding		
			Laying concrete cradle bedding with M15 Grade Cement Concrete(with jhama brick aggregate as per MoRD Technical soecification Clause 1105(i). Unit = cum		
			Rate as per Item No.11.9.II(i) of Chapter 11	cum	6,017.90
5	1100 & 800	jhan four Tec cent rein	n Cement Concrete M10(1:3:6 nominal mix with na brick aggregate) in levelling course below open adation of Head walls as per drawings & MoRD hnical Specification Clause 1109 (including tering, shuttering, staging etc. but excluding forcement).		
		Rate	e as per item No. 11.11.I.(i) of Chapter 11.	cum	5,837.10
Ļ	1100, 600, 700 & 1200	Cop as Clau	viding PCC M20 (jhama brick aggregate) Architecture ing on the top of wing wall, return wall etc. complete per drawing and MoRD Technical Specification use 615 (including centering, shuttering, staging etc. excluding reinforcement).		
		Rate	e as per Item No.12.15 of Chapter 12	m	446.80

	PIPE CULVERTS									
Sr. No.	Ref. to MORD Spec.	i 	Description	Unit	Quantity	Rate (₹)	Amount (₹)			
9.15	1109 & 800	brick ag (8 mm drawing	Concrete M10 (1:3:6 nominal mix with jhama ggregate) in Head Walls with skin reinforcement dia @ 200 mm c/c on exposed surface as per s & MoRD Technical Specification 1109 ng centering, shuttering, staging etc.)							
	400	Unit = c	um							
Г	600		output = 2.60 cum							
F		-	skin reinforcement = 13.02 cum							
	2820									
		a)	For concrete							
12	50		Rate as per Item No.11.11.I(i) of Chapter 11	Cum	2.57	5,837.10	15,001.35			
		b)	Steel for skin reinforcement @ 4.50 kg/sqm (Twisted steel/ deformed bars) 0	t	0.059	41,020.00	2,420.18 0.00			
		c) d)	Contractor's profit and overheads @ 15 % o	on (b+c)			363.03			
		Cc	st for 2.57 cum = a+b+c+d	. ,			17,784.55			
		Ra	te per cum = (a+b+c+d)/2.57				6,920.06			
						say	<u>6920.10</u>			
9.16	1100		ng and laying Reinforced Cement Concrete P2 as per design in single Row							
		NP2 for materia mortar backfilli	ng and Laying reinforced cement concrete pipe or culverts on first class bedding of granular I in single row including fixing collar with cement 1:2 but excluding excavation, protection works, ng, concrete and masonry works in head walls arapets as per MoRD Technical specification 1106.							
		Unit = r	n							
		Taking	output = 7.5 m							
		(3 pipes	of 2.5 m length each)							
		(A) 12	00 mm dia							
		a)	Labour							
			Mate	day	0.14	300.00	42.00			
			Mason (1st Class)	day	0.50	425.00	212.50			
			Mazdoor (Unskilled)	day	3.00	300.00	900.00			
		b)	Material							
			Sand	cum	0.05	370.00	18.50			
			Cement	t	0.07	6,100.00	427.00			
			RCC pipe NP2 pipe of 1200 mm dia	m	7.50	5,838.00	43,785.00			
		_	Collar of 1200 mm dia	no	2	1,294.00	2,588.00			
		c)	0				0.00			

I Sr I	Ref. to MORD Spec.		Description	I Unit	Quantity	Rate (₹)	Amount (₹)
		c	I) Contractor's profit and overheads @	2 15 % on (a+b+	·c)		7,195.95
		C	Cost for 7.5 m = a+b+c+d				55,168.95
		F	Rate per m = (a+b+c+d)/7.5				7,355.86
						say	<u>7355.90</u>
	(B) 9	000 mm dia				
		a	ı) Labour				
			Mate	day	0.09	300.00	27.00
			Mason (1st Class)	day	0.25	425.00	106.25
			Mazdoor (Unskilled)	day	2.00	300.00	600.00
		k	o) Material				
			Sand	cum	0.04	370.00	14.80
			Cement	t	0.03	6,100.00	183.00
			RCC pipe NP2 pipe of 900 mm dia	m	7.50	3,710.00	27,825.00
			Collar of 900 mm dia	no	2	953.00	1,906.00
		C	:) 0				0.00
		C	I) Contractor's profit and overheads @	2 15 % on (a+b+	·c)		4,599.31
		(Cost for 7.5 m = a+b+c+d				35,261.36
		F	Rate per m = (a+b+c+d)/7.5				4,701.51
						say	<u>4701.50</u>
	(C) 6	600 mm dia				
		a) Labour				
			Mate	day	0.05	300.00	15.00
			Mason (1st Class)	day	0.15	425.00	63.75
			Mazdoor (Unskilled)	day	1.20	300.00	360.00
		k) Material				
			Sand	cum	0.02	370.00	7.40
			Cement	t	0.02	6,100.00	122.00
			RCC pipe NP2 pipe of 600 mm dia	m	7.50	2,306.00	17,295.00
			Collar of 600 mm dia	no	2	537.00	1,074.00
		C	:) 0				0.00
		C	 Contractor's profit and overheads @ 	2 15 % on (a+b+	·c)		2,840.57
		(Cost for 7.5 m = a+b+c+d				21,777.72
		F	Rate per m = (a+b+c+d)/7.5				2,903.70
						say	<u>2903.70</u>
	/	ע א	150 mm dia				

(D) 450 mm dia

a) Labour

Sr. No.	Ref. to MORD Spec.			Description	i Ur I	nit	Quantity	Rate (₹)	Amount (₹)
				Mate	da	ay	0.04	300.00	12.00
				Mason (1st Class)	da	ay	0.12	425.00	51.00
				Mazdoor (Unskilled)	da	ay	0.96	300.00	288.00
			b)	Material					
				Sand	cu	ım	0.0192	370.00	7.10
				Cement	t	t	0.014	6,100.00	85.40
				RCC pipe NP2 pipe of 450 mm dia	n	n	7.50	1,485.00	11,137.50
				Collar of 450 mm dia	n	0	2	354.00	708.00
			c)	0					0.00
			d)	Contractor's profit and overheads @ 1	5 % on (a	+b+	c)		1,843.35
			Cos	st for 7.5 m = a+b+c+d					14,132.35
			Rat	e per m = (a+b+c+d)/7.5					1,884.31
								say	<u>1884.30</u>
		(E)	300	mm dia					
			a)	Labour					
				Mate	da	ay	0.03	300.00	9.00
				Mason (1st Class)	da	ay	0.10	425.00	42.50
				Mazdoor (Unskilled)	da	ay	0.77	300.00	231.00
			b)	Material					
				Sand	cu	ım	0.0154	370.00	5.70
				Cement	t	t	0.012	6,100.00	73.20
				RCC pipe NP2 pipe of 300 mm dia	n	n	7.50	698.00	5,235.00
				Collar of 300 mm dia	n	0	2	143.00	286.00
			c)	0					0.00
			d)	Contractor's profit and overheads @ 1	5 % on (a	+b+	c)		882.36
			Cos	st_for 7.5 m = a+b+c+d					6,764.76
			Rat	e per m = (a+b+c+d)/7.5					901.97
								say	<u>902.00</u>
9.17	1100	Pro	vidir	ng and laying Reinforced Cement Cor	ncrete				

Pipe NP2 as per design in Double Row

Providing and Laying reinforced cement concrete pipe NP2 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 MoRD Technical specification Clause 1106.

Unit = m

Taking output = 7.5 m

Sr. No.	Ref. to MORD Spec.	. — — 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		(6 p	ipes	of 2.5 m length each in two rows)				
		(A)	120	0 mm dia				
			a)	Labour				
				Mate	day	0.34	300.00	102.00
				Mason (1st Class)	day	1.20	425.00	510.00
				Mazdoor (Unskilled)	day	7.20	300.00	2,160.00
			b)	Material				
				Sand	cum	0.11	370.00	40.70
				Cement	t	0.14	6,100.00	854.00
				RCC pipe NP2 pipe of 1200 mm dia	m	15.00	5,838.00	87,570.00
				Collar of 1200 mm dia	no	4	1,294.00	5,176.00
			c)	0				0.00
			d)	Contractor's profit and overheads @	15 % on (a+b+c	c)		14,461.91
				st for 7.5 m = $a+b+c+d$				110,874.61
			Ra	te per m = (a+b+c+d)/7.5				14,783.28
							say	<u>14783.30</u>
		(B)) mm dia 				
			a)	Labour		0.00	000.00	00.00
				Mate	day	0.22	300.00	66.00
				Mason (1st Class)	day	0.60	425.00	255.00
			LA	Mazdoor (Unskilled)	day	4.80	300.00	1,440.00
			b)	Material		0.00	270.00	00.00
				Sand	cum	0.08	370.00	29.60
				Cement	t	0.06	6,100.00	366.00
				RCC pipe NP2 pipe of 900 mm dia Collar of 900 mm dia	m no	15.00 4	3,710.00 953.00	55,650.00 3,812.00
			c)	0	no	-	555.00	0.00
			d)	Contractor's profit and overheads @	15 % on (a+b+o	c)		9,242.79
			Cos	st for 7.5 m = a+b+c+d				70,861.39
			Rat	te per m = (a+b+c+d)/7.5				9,448.19
							say	<u>9448.20</u>
		(C)	600) mm dia				
			a)	Labour				
				Mate	day	0.11	300.00	33.00
				Mason (1st Class)	day	0.30	425.00	127.50
				Mazdoor (Unskilled)	day	4.80	300.00	1,440.00

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		b)	Material				
			Sand	cum	0.08	370.00	29.60
			Cement	t	0.06	6,100.00	366.00
			RCC pipe NP2 pipe of 600 mm dia	m	15.00	2,306.00	34,590.00
			Collar of 600 mm dia	no	4	537.00	2,148.00
		c)	0				0.00
		d)	Contractor's profit and overheads	@ 15 % on (a+b	o+c)		5,810.12
		Co	st for 7.5 m = a+b+c+d				44,544.22
		Ra	te per m = (a+b+c+d)/7.5				5,939.23
						say	<u>5939.20</u>
	(D)	450) mm dia				
		a)	Labour				
			Mate	day	0.09	300.00	27.00
			Mason (1st Class)	day	0.24	425.00	102.00
			Mazdoor (Unskilled)	day	3.84	300.00	1,152.00
		b)	Material				
			Sand	cum	0.06	370.00	22.20
			Cement	t	0.05	6,100.00	305.00
			RCC pipe NP2 pipe of 450 mm dia	m	15.00	1,485.00	22,275.00
			Collar of 450 mm dia	no	4	354.00	1,416.00
		c)	0				0.00
		d)	Contractor's profit and overheads	@ 0 % on (a+b+	c)		3,794.88
		Co	st for 7.5 m = $a+b+c+d$				29,094.08
		Ra	te per m = (a+b+c+d)/7.5				3,879.21
						say	<u>3879.20</u>
	(E)	300) mm dia				
		a)	Labour				
			Mate	day		300.00	21.00
			Mason (1st Class)	day		425.00	80.75
			Mazdoor (Unskilled)	day	3.07	300.00	921.00
		b)	Material				
			Sand	cum		370.00	18.50
			Cement	t	0.04	6,100.00	244.00
			RCC pipe NP2 pipe of 300 mm dia	m	15.00	698.00	10,470.00
			Collar of 300 mm dia	no	4	143.00	572.00
		c)	0	0.4			0.00
		d)	Contractor's profit and overheads	@ 15 % on (a+b	0+C)		1,849.09

Sr. Ref. to No. MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	Cost for 7.5 m = a+b+c+d				14,176.34
	Rate per m = (a+b+c+d)/7.5				1,890.18
				say	<u>1890.20</u>

Painter 1st Class day 2.00 340.00 680.00 Mazdoor (Unskilled) day 1.00 300.00 300.00 b) Material itre 0.70 180.00 126.00 c) 0 Contractor's profit and overheads @ 15 % on (a+b+c) 171.30 Cost for 1600 cm = a+b+c+d 1,313.30 Rate per cm height per letter = (a+b+c+d)/1600	Sr. No.	Ref. to MORD Spec.	 	Description Unit Quantity Rate (₹									
enamei paint black or any other approved colour to give an even shade as per drawings and MoRD Technical Specification Clause 1701. () Hindi (Matras commas and the like not to be measured and paid for. Half letters shall be counted as half only) Details for 100 letters of 160 mm height, i.e., 1600 cm Unit = per cm height per letter a) Labour Mate day 0.12 300.00 36.00 Painter 1st Class day 2.00 340.00 6680.00 Mazdoor (Unskilled) day 1.00 300.00 300.00 b) Material Paint litre 0.70 180.00 126.00 c) 0 0.00 d) Contractor's profit and overheads @ 15 % on (a+b+c) 171.30 Cost for 1600 cm = a+b+c+d 1,313.30 Rate per cm height per letter = (a+b+c+d)/1600 382 say 0.89 (i) English and Roman Hyphens, commas and the like not to be measured and paid for. Detail for 100 letters of 160 mm height, i.e., 1.6 m Unit = per cm height per letter a) Labour Mate day 0.07 300.00 21.00 Painter 1st Class day 1.25 340.00 425.00 Mazdoor day 0.50 300.00 150.00 b) Material Paint litre 0.50 180.00 425.00 Mazdoor day 0.50 300.00 150.00 b) Material Paint litre 0.50 180.00 425.00 Mazdoor day 0.50 300.00 150.00 b) Material Paint litre 0.50 180.00 90.00 c) 0 000 c) 0 000 c) 0 0000 c) 0 00000 c) 0 00000 c) 0 0000000000000000000000000000000000	10.1	1700	Printir	g New Letters and Figures of any Shade									
measured and paid for. Half letters shall be counted as half only) Details for 100 letters of 160 mm height, i.e., 1600 cm Unit = per cm height per letter a) Labour Mate day 0.12 300.00 36.00 Painter 1st Class day 2.00 340.00 680.00 Mazdoor (Unskilled) day 1.00 300.00 300.00 b) Material utro 0.70 180.00 126.00 c) 0 Contractor's profit and overheads @ 15 % on (a+b+c) 1771.30 0.00 c) 0 Contractor's profit and overheads @ 15 % on (a+b+c) .82 0.80 iii) English and Roman say 0.80 .83 Hyphens, commas and the like not to be measured and paid for. Detail for 100 letters of 160 mm height, i.e., 1.6 m .82 .80 Unit = per cm height per letter day 0.73 300.00 21.00 Mate day 0.75 300.00 160.00 iiit = per cm height per letter day 0.50 300.00 160.00 Mate day <td></td> <td></td> <th>ename an eve</th> <td colspan="10">mel paint black or any other approved colour to give even shade as per drawings and MoRD Technical</td>			ename an eve	mel paint black or any other approved colour to give even shade as per drawings and MoRD Technical									
Unit = per cm height per letter a) Labour Mate day 0.12 300.00 36.00 Painter 1st Class day 2.00 340.00 660.00 Mazdoor (Unskilled) day 1.00 300.00 300.00 b) Material day 1.00 300.00 300.00 c) 0 Contractor's profit and overheads @ 15 % on (a+b+c) 171.30 Cost for 1600 cm = a+b+c+d 1,313.30 Rate per cm height per letter = (a+b+c+d)/1600 0.82 cost for 1600 cm = a+b+c+d 1,313.30 Rate 0.80 file English and Roman say 0.82 Hyphens, commas and the like not to be measured and paid for. Detail for 100 letters of 160 mm height, i.e., 1.6 m say 0.30.00 21.00 Unit = per cm height per letter a) Labour aday 1.25 340.00 425.00 Mate day 0.50 300.00 150.00 150.00 150.00 mate day 0.50 300.00 150.00 150.00 150.00 Mate day 0.50 180.00			m	neasured and paid for. Half letters shall be									
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b) Material litre 0.70 180.00 126.00 c) 0 0 0.00 d) Contractor's profit and overheads @ 15 % on (a+b+c) 171.30 Cost for 1600 cm = a+b+c+d 1,313.30 Rate per cm height per letter = (a+b+c+d)/1600				Painter 1st Class	day	2.00	340.00	680.00					
Paint litre 0.70 180.00 126.00 c) 0 Contractor's profit and overheads @ 15 % on (a+b+c) 171.30 Cost for 1600 cm = a+b+c+d 1,313.30 Rate per cm height per letter = (a+b+c+d)/1600				Mazdoor (Unskilled)	day	1.00	300.00	300.00					
c) 0 Contractor's profit and overheads @ 15 % on (a+b+c) 171.30 Cost for 1600 cm = a+b+c+d 1,313.30 Rate per cm height per letter = (a+b+c+d)/1600 0.82 Rate per cm height per letter = (a+b+c+d)/1600 8.82 Berglish and Roman say 0.80 Hyphens, commas and the like not to be measured and paid for. Detail for 100 letters of 160 mm height, i.e., 1.6 m 1.25 340.00 21.00 Unit = per cm height per letter al 1.25 340.00 21.00 21.00 Mate day 0.07 300.00 21			b)	Material									
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ii) English and Roman Hyphens, commas and the like not to be measured and paid for. Detail for 100 letters of 160 mm height, i.e., 1.6 m Unit = per cm height per letter a) Labour Mate day 0.07 300.00 21.00 Painter Ist class day 1.25 340.00 425.00 Mazdoor day 0.50 300.00 150.00 b) Material Paint litre 0.50 180.00 90.00 c) 0 000 c) 0 000 c) 0 000 c) 0 000 cost for 1600 cm = a+b+c+d 788.90 Rate per cm height per letter = (a+b+c +d)/1600 000 c) 0.00 c) 0.00 c) 0.00 c) 0.00 c) 0.00 c) 100 cm = a+b+c+d 788.90 cost for 1600 cm = a+b+c+d 788.90 cost			R	ate per cm height per letter = (a+b+c+d)/1600				0.82					
Hyphens, commas and the like not to be measured and paid for. Detail for 100 letters of 160 mm height, i.e., 1.6 mUnit = per cm height per lettera)Laboura)LabourMateday0.07300.0021.00Painter Ist classday1.25340.00425.00Mazdoorday0.50300.00150.00b)MaterialItre0.50180.0090.00c)0Contractor's profit and overheads @ 15 % on (a+b+c)102.90Cost for 1600 cm = a+b+c+d788.90788.90Rate per cm height per letter = (a+b+c +d)/16000.49							say	<u>0.80</u>					
and paid for. Detail for 100 letters of 160 mm height, i.e., 1.6 m Unit = per cm height per letter a) Labour Mate day 0.07 300.00 21.00 Painter Ist class day 1.25 340.00 425.00 Mazdoor day 0.50 300.00 150.00 b) Material Paint litre 0.50 180.00 90.00 c) 0 Contractor's profit and overheads @ 15 % on (a+b+c) 102.90 Cost for 1600 cm = a+b+c+d 788.90 788.90 Rate per cm height per letter = (a+b+c +d)/1600 0.49			ii) E	nglish and Roman									
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b) Material Paint litre 0.50 180.00 90.00 c) 0 0.00 0.00 d) Contractor's profit and overheads @ 15 % on (a+b+c) 102.90 Cost for 1600 cm = a+b+c+d 788.90 Rate per cm height per letter = (a+b+c + d)/1600 0.49				Painter Ist class	day	1.25	340.00	425.00					
Paint litre 0.50 180.00 90.00 c) 0 0.00 d) Contractor's profit and overheads @ 15 % on (a+b+c) 102.90 Cost for 1600 cm = a+b+c+d 788.90 Rate per cm height per letter = (a+b+c +d)/1600 0.49				Mazdoor	day	0.50	300.00	150.00					
c) 0 0.00 d) Contractor's profit and overheads @ 15 % on (a+b+c) 102.90 Cost for 1600 cm = a+b+c+d 788.90 Rate per cm height per letter = (a+b+c +d)/1600 0.49			b)	Material									
d) Contractor's profit and overheads @ 15 % on (a+b+c) 102.90 Cost for 1600 cm = a+b+c+d 788.90 Rate per cm height per letter = (a+b+c +d)/1600 0.49				Paint	litre	0.50	180.00	90.00					
Cost for 1600 cm = a+b+c+d 788.90 Rate per cm height per letter = (a+b+c +d)/1600 0.49			C)	c) 0									
Rate per cm height per letter = (a+b+c +d)/1600 0.49			d)	d) Contractor's profit and overheads @ 15 % on (a+b+c)									
			С	Cost for 1600 cm = $a+b+c+d$									
sav 0.50			R	ate per cm height per letter = (a+b+c +d)/1600				0.49					
							say	<u>0.50</u>					

10.2 1700, Traffic Signs 300, 800

A. Retro-reflectorised Traffic Signs

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)		
	(1) Providing and fixing of retro-reflectorised cautionary, mandatory and informatory sign as per IRC:67 made of encapsulated lens type reflective sheeting vide MoRD technical specification 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 M 15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per drawings and MoRD Technical Specification Clause 801.									
		i) wit	h 900) mm equilateral triangle aluminium sheeti	ng					
		Uni	t = ea	ach						
		Tak	king c	output = one traffic sign						
		i)	Exc	avation for foundation						
			As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16		
		ii)	Cen	nent concrete M15 grade						
			As p	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57		
		iii)	two	nting Angle Iron Post with Primer and coats of Epoxy Paint as per per item No.10.7 of this Chapter	sqm	0.887	99.80	88.52		
			a)	labour (For fixing at site)						
			-	Mate	day	0.01	300.00	3.00		
				Mazdoor (Unskilled)	day	0.25	300.00	75.00		
			b)	Material						
				Mild steel angle iron 75 x 75 x 6 mm	kg	20.00	42.67	853.40		
				Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				25.60		
				Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint						
				900 mm equilateral triangle	sqm	0.35	764.00	267.40		
			c)	Machinery						
				Tractor with trolley	hour	0.08	303.00	24.24		
			d)	0				0.00		
			e)	Contractor's profit and overheads @ 15 %	% on (a	a+b+c+d)		187.30		
	Rate per traffic sign = (i+ii+iii+a+b+c+d+e) 2									
							say	<u>2457.20</u>		
			L CO() mm oquilatoral triangle aluminium shooti						

ii) with 600 mm equilateral triangle aluminium sheeting

Unit = each

Sr. Ref. to Sr. MORD No. Spec.		Description	Unit I	Quantity	Rate (₹)	Amount (₹)
Tal	king d	putput = one traffic sign				'
i)	Exc	cavation for foundation				
	As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
ii)	Cer	ment concrete M15 grade				
	As	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
iii)	two	nting Angle Iron Post with Primer and coats of Epoxy Paint as per				
		per item No.10.7 of this Chapter	sqm	0.887	99.80	88.52
	a)	labour (For fixing at site)				0.00
		Mate	day	0.01	300.00	3.00
	г.)	Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material	ka	20.00	42.67	853.40
		Mild steel angle iron 75 x 75 x 6 mm Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.	kg	20.00	42.07	25.60
		Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
		with 600 mm equilateral triangle	sqm	0.156	764.00	119.18
	c)	Machinery				
		Tractor with trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 9	% on (a	ı+b+c+d)		165.06
	Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,286.74
					say	<u>2286.70</u>
iii) wit	h 60	0 mm circular aluminium sheeting				
Uni	it = e	ach				
Tal	king d	output = one traffic sign				
i)	Exc	cavation for foundation				
	As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
ii)	Cer	ment concrete M15 grade				
	As	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
iii)	two	nting Angle Iron Post with Primer and coats of Epoxy Paint as per per item No.10.7 of this Chapter	sqm	0.887	99.80	88.52
	a)	labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00

I Sr. IMC	of. to I DRD I Dec		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Mazdoor (Unskilled)	day	0.25	300.00	75.00
		b)	Material				
			Mild steel angle iron 75 x 75 x 6 mm	kg	20.00	42.67	853.40
			Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				25.60
			Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
			with 600 mm circular	sqm	0.283	764.00	216.21
		c)	Machinery				
			Tractor with trolley	hour	0.08	303.00	24.24
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 9	% on (a	ı+b+c+d)		179.62
		Rate	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,398.32
						say	<u>2398.30</u>
	iv) wi	th 800	0 x 600 mm rectangular aluminium sheetir	ng			
	Un	it = ea	ach				
	Ta	king c	output = one traffic sign				
	i)	Exc	avation for foundation				
		As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
	ii)	Cen	nent concrete M15 grade				
		As p	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
	iii)	two	nting Angle Iron Post with Primer and coats of Epoxy Paint as per				
		As p	per item No.10.7 of this Chapter	sqm	0.887	99.80	88.52
		a)	labour (For fixing at site)				
			Mate	day	0.01	300.00	3.00
			Mazdoor (Unskilled)	day	0.25	300.00	75.00
		b)	Material				
			Mild steel angle iron 75 x 75 x 6 mm	kg	20.00	42.67	853.40
			Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				25.60
			Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
			with 800 x 600 mm rectangular	sqm	0.48	764.00	366.72

Sr. Ref. to No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	c)	Machinery				
		Tractor with trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 9	% on (a	a+b+c+d)		202.19
	Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,571.41
v) w	vith 60	0 x 450 mm rectangular aluminium sheetin	g		say	<u>2571.40</u>
U	Jnit = e	ach				
т	aking	output = one traffic sign				
i)) Exc	cavation for foundation				
	As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
ii) Cei	ment concrete M15 grade				
	As	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
ii	two	nting Angle Iron Post with Primer and coats of Epoxy Paint as per				
	As	per item No.10.7 of this Chapter	sqm	0.887	99.80	88.52
	a)	labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				
		Mild steel angle iron 75 x 75 x 6 mm	kg	20.00	42.67	853.40
		Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc. Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				25.60
		with 600 x 450 mm rectangular	sqm	0.27	764.00	206.28
	c)	Machinery				
		Tractor with trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 9	% on (a	a+b+c+d)		178.13
	Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,386.90
					say	<u>2386.90</u>
vi) w	vith 60	0 x 600 mm square aluminium sheeting				
U	Jnit = e	ach				
т	aking	output = one traffic sign				
i	Evo	cavation for foundation				

i) Excavation for foundation

Ref. to I Sr. MORD No. Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
·		As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
	ii)		ment concrete M15 grade				
	,	As per item No.11.4.II(ii) of Chapter 11		cum	0.126	7,115.60	896.57
	iii)		nting Angle Iron Post with Primer and				
	-		coats of Epoxy Paint as per				
			per item No.10.7 of this Chapter	sqm	0.887	99.80	88.52
		a)	labour (For fixing at site)				
			Mate	day	0.01	300.00	3.00
			Mazdoor (Unskilled)	day	0.25	300.00	75.00
		b)	Material				
			Mild steel angle iron 75 x 75 x 6 mm	kg	20.00	42.67	853.40
			Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				25.60
			Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
			with 600 x 600 mm square	sqm	0.36	764.00	275.04
		c)	Machinery				
			Tractor with trolley	hour	0.08	303.00	24.24
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 9	% on (a	a+b+c+d)		188.44
		Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,465.97
						say	<u>2466.00</u>
vii) wit	h 90	0 mm side octagon aluminium sheeting				
	Uni	t = e	ach				
	Tak	king (putput = one traffic sign				
	i)	Exc	cavation for foundation				
		As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
	ii)	Cer	nent concrete M15 grade				
		As	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
	iii)		nting Angle Iron Post with Primer and coats of Epoxy Paint as per				
		As	per item No.10.7 of this Chapter	sqm	0.887	99.80	88.52
		a)	labour (For fixing at site)				
			Mate	day	0.01	300.00	3.00
			Mazdoor (Unskilled)	day	0.25	300.00	75.00
		b)	Material				

			SIGNS, MARKINGS AND OTHER RO				
Sr. Ref. to No. Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Mild steel angle iron 75 x 75 x 6 mm	kg	20.00	42.67	853.40
			Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				25.60
			Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
			with 900 mm side octagon	sqm	0.672	764.00	513.41
		c)	Machinery				
			Tractor with trolley	hour	0.08	303.00	24.24
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15	% on (a	a+b+c+d)		224.20
		Rate	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,740.10
						say	<u>2740.10</u>
	me gra mr	eans o ade ce m, 600	50 mm dia firmly fixed to the ground by of properly designed foundation with M-15 ement concrete 450 mm x 450 mm x 600 0 mm below ground level as per drawings RD Technical Specification Clause 1701.				
	Un	nit = ea	ach				
	Та	king o	output = one traffic sign				
	i) wi	th 900	0 mm equilateral triangle aluminium sheet	ing			
	i)	Exc	avation for foundation				
		As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
	ii)	Cen	nent concrete M15 grade				
		As p	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
		a)	Labour (For fixing at site)				
			Mate	day	0.01	300.00	3.00
			Mazdoor (Unskilled)	day	0.25	300.00	75.00
		b)	Material				
			50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00
			Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10

Sr. No.	Ref. to MORD Spec.	· — — ·		Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
				900 mm equilateral triangle	sqm	0.35	764.00	267.40
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 9	% on (a	ı+b+c+d)		236.21
			Rat	e per traffic sign = (i+ii+a+b+c+d+e)				2,743.68
							say	<u>2743.70</u>
	i	i) wit	h 60	0 mm equilateral triangle aluminium sheeti	ing			
		i)	Exc	avation for foundation				
			As I	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
		ii)	Cer	nent concrete M15 grade				
			As I	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
			a)	Labour (For fixing at site)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material				
				50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00
				Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10
				Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
				600 mm equilateral triangle	sqm	0.156	764.00	119.18
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads @ on	(a+b+c	+d)		213.98
			Rat	e per traffic sign = (i+ii+a+b+c+d+e)				2,573.23
							say	<u>2573.20</u>
	ii	i) wit	h 60	0 mm circular aluminium sheeting				
		i)	Exc	cavation for foundation				
			As I	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16

Sr. MORD		Description	Unit	Quantity	Rate (₹)	Amount
No. Spec.			ا لـــــــ	I	j.	(₹)
ii)	Cer	nent concrete M15 grade				
	As	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
	a)	Labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				
		50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00
		Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10
		Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
		600 mm circular	sqm	0.283	764.00	216.21
	c)	Machinery				
		Tractor with trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 9	% on (a	i+b+c+d)		228.53
	Rat	e per traffic sign = (i+ii+a+b+c+d+e)				2,684.81
					say	<u>2684.80</u>
iv) wi	th 80	0 x 600 mm rectangular aluminium sheetin	g			
i)	Exc	cavation for foundation				
	As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
ii)	Cer	nent concrete M15 grade				
	As	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
	a)	Labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				
		50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00
		Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10
		Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
		800 mm x 600 mm rectangular	sqm	0.48	764.00	366.72

	TRAFFIC SIGNS, MARKINGS AND OTHER ROAD APPORTENANCES									
Sr. Ref. to Sr. MORD No. Spec.	Description		Unit	Quantity	Rate (₹)	Amount (₹)				
	c)	Machinery								
		Tractor with trolley	hour	0.08	303.00	24.24				
	d)	0				0.00				
	e)	Contractor's profit and overheads @ 15	% on (a	a+b+c+d)		251.11				
	Rat	e per traffic sign = (i+ii+a+b+c+d+e)				2,857.90				
					say	<u>2857.90</u>				
v) with 600 x 450 mm rectangular aluminium sheeting										
i)	Exc	Excavation for foundation								
	As	As per item No.11.1.A.I(i) of Chapter 11 cum 0.126 287.00				36.16				
ii)	Cer	Cement concrete M15 grade								
	As	per item No.11.4.II(ii) of Chapter 11	0.126	7,115.60	896.57					
	a)	Labour (For fixing at site)								
		Mate	day	0.01	300.00	3.00				
		Mazdoor (Unskilled)	day	0.25	300.00	75.00				
	b)	Material								
		50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00				
		Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10				
		Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint								
		600 mm x 450 mm rectangular	sqm	0.27	764.00	206.28				
	c)	Machinery								
		Tractor with trolley	hour	0.08	303.00	24.24				
	d)	0				0.00				
	e) Contractor's profit and overheads @ 15 % on (a+b+c+d)									
	Rate per traffic sign = (i+ii+a+b+c+d+e)									
					say	<u>2673.40</u>				
vi) with 600 mm x 600 mm square aluminium sheeting										
i)		cavation for foundation								
		per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16				
ii)	Cement concrete M15 grade									
		per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57				
	a)	Labour (For fixing at site)	devi	0.04	200.00	2.00				
		Mate	day	0.01	300.00	3.00				
		Mazdoor (Unskilled)	day	0.25	300.00	75.00				

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
ا ــــــ	╘┈╴╴┻		b)	Material		· J		/
				50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00
				Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10
				Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
				600 mm x 600 mm square	sqm	0.36	764.00	275.04
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
	e) Contractor's profit and overheads @ 15 % on (a+b+c+d) Rate per traffic sign = (i+ii+a+b+c+d+e)							237.36
							2,752.46	
							say	<u>2752.50</u>
		vii) wit	h 900	0 mm side octagon aluminium sheeting				
		i)	Exc	avation for foundation				
			As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
		ii)	Cement concrete M15 grade					
			As per item No.11.4.II(ii) of Chapter 11 cum 0.126 7,115.			7,115.60	896.57	
			a)	Labour (For fixing at site)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material				
				50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00
				Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10
				Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
				900 mm sides octagon	sqm	0.672	764.00	513.41
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
e) Contractor's profit and overheads @ 15 % on (a+b+c+d)						273.11		
Rate per traffic sign = (i+ii+a+b+c+d+e)						3,026.59		

;	Ref. to I											
Sr. No.	MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)				
							say	<u>3026.60</u>				
		(3) Providing and fixing of retro-reflectorised cautionary, mandatory and informatory sign as per IRC:67 made of encapsulated lens type reflective sheeting vide MoRD technical specification Clause 1701.2.3 fixed over aluminium sheeting, 1.5 mm thick supported on RCC post 100 mm x 100 mm firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per drawings and MoRD Technical Specification Clause 1701.										
		i) wit	h 900	0 mm equilateral triangle aluminium sheet	ing							
		Uni	t = ea	ach								
		Tak	king c	output = one traffic sign								
		i)	Exc	avation for foundation								
			As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16				
		ii)	Cen	nent concrete M15 grade								
			As p	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57				
		iii)	con	nting two coats including Prime coat on crete surface with Epoxy Paint as per cifications								
			As p	per item No.10.7 of this Chapter	sqm	0.90	99.80	89.82				
			a)	labour (For fixing at site)								
				Mate	day	0.01	300.00	3.00				
				Mazdoor (Unskilled)	day	0.25	300.00	75.00				
			b)	Material								
			i.	RCC M15 Grade in Sub-structure								
				As per item No.12.4.II of Chapter 12	cum	0.0285	7,526.20	214.50				
			ii.	Steel reinforcement Twisted steel/ deformed	d bar							
				As per item No.12.5 of Chapter 12	t	0.0077	53,218.60	409.78				
			iii.	Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts, etc.				18.73				
			iv.	Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint								
				900 mm equilateral triangle	sqm	0.35	764.00	267.40				
			c)	Machinery	-							
			-	Tractor with trolley	hour	0.08	303.00	24.24				
			d)	0				0.00				
			e)	Contractor's profit and overheads @ 15	% on (a	a+b.iii.iv+c+c	ł)	58.26				
			-	-	•							

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)	
			Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,093.45	
							say	<u>2093.50</u>	
		ii) wit	h 60	0 mm equilateral triangle aluminium sheet	ina				
		-	t = e		5				
		Tak	king c	putput = one traffic sign					
		i)	-	cavation for foundation					
			As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16	
		ii)	Cer	nent concrete M15 grade					
			As I	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57	
		iii)	con	nting two coats including Prime coat on acrete surface with Epoxy Paint as per ecifications					
			As I	per item No.10.7 of this Chapter	sqm	0.90	99.80	89.82	
			a)	labour (For fixing at site)					
				Mate	day	0.01	300.00	3.00	
				Mazdoor (Unskilled)	day	0.25	300.00	75.00	
			b)	Material					
			i.	RCC M15 Grade in Sub-structure					
				As per item No.12.4.II of Chapter 12	cum	0.0285	7,526.20	214.50	
			ii.	Steel reinforcement Twisted steel/ deformed	bars				
				As per item No.12.5 of Chapter 12	t	0.0077	53,218.60	409.78	
			iii.	Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts, etc.				18.73	
			iv.	Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint					
				with 600 mm equilateral triangle	sqm	0.156	764.00	119.18	
			c)	Machinery					
				Tractor with trolley	hour	0.08	303.00	24.24	
			d)	0				0.00	
			e)	Contractor's profit and overheads @ 15	% on (a	a+b.iii.iv+c+c	i)	36.02	
			Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				1,923.00	
	say <u>19</u>								
		iii) wit	h 60	0 mm circular aluminium sheeting					

Unit = each

Taking output = one traffic sign

i) Excavation for foundation

i	Ref. to I							Amount	
Sr. No.	MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)	
			As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16	
		ii)	Cer	nent concrete M15 grade					
			As	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57	
		iii)	cor	nting two coats including Prime coat on acrete surface with Epoxy Paint as per ecifications					
			As	per item No.10.7 of this Chapter	sqm	0.90	99.80	89.82	
			a)	labour (For fixing at site)					
				Mate	day	0.01	300.00	3.00	
				Mazdoor (Unskilled)	day	0.25	300.00	75.00	
			b)	Material					
			i.	RCC M15 Grade in Sub-structure					
				As per item No.11.4.II(ii) of Chapter 11	cum	0.0285	7,526.20	214.50	
			ii.	Steel reinforcement Twisted steel/ deformed	lbars				
				As per item No.12.5 of Chapter 12	t	0.0077	53,218.60	409.78	
			iii.	Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts, etc.				18.73	
			iv.	Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint					
				with 600 mm circular	sqm	0.283	764.00	216.21	
			c)	Machinery					
				Tractor with trolley	hour	0.08	303.00	24.24	
			d)	0				0.00	
			e)	Contractor's profit and overheads @ 15 0	% on (a	a+b.iii.iv+c+c	i)	50.58	
			Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,034.58	
							say	<u>2034.60</u>	
	iv) witl	h 80	0 x 600 mm rectangular aluminium sheetir	ng				
			t = e		-				
		Tak	king d	output = one traffic sign					
		i)	Exc	cavation for foundation					
		-	As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16	
		ii)	Cer	nent concrete M15 grade					
				per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57	
		iii)	cor	nting two coats including Prime coat on acrete surface with Epoxy Paint as per crifications					
			-	per item No.10.7 of this Chapter	sqm	0.90	99.80	89.82	

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			a)	labour (For fixing at site)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material				
			i.	RCC M15 Grade in Sub-structure				
				As per item No.12.4.II of Chapter 12	cum	0.0285	7,526.20	214.50
			ii.	Steel reinforcement Twisted steel/ deformed	bars			
				As per item No.12.5 of Chapter 12	t	0.0077	53,218.60	409.78
			iii.	Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts, etc.				18.73
			iv.	Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
				with 800 x 600 mm rectangular	sqm	0.48	764.00	366.72
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 9	% on (a	a+b.iii.iv+c+c	i)	73.15
			Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,207.67
							say	<u>2207.70</u>
	v	-		0 x 450 mm rectangular aluminium sheetin	g			
			: = ea					
			-	output = one traffic sign				
		i)		avation for foundation		0.400	007.00	00.40
			-	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
		ii)		nent concrete M15 grade		0.400	7 4 4 5 00	000 57
		iii)	Pair con	ber item No.11.4.II(ii) of Chapter 11 nting two coats including Prime coat on acrete surface with Epoxy Paint as per	cum	0.126	7,115.60	896.57
			-	cifications per item No.10.7 of this Chapter	sqm	0.90	99.80	89.82
			a)	labour (For fixing at site)	Sqiii	0.30	33.00	03.02
			aj	Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material	aay	0.20	500.00	10.00
			i.	RCC M15 Grade in Sub-structure				
				As per item No.12.4.II of Chapter 12	cum	0.0285	7,526.20	214.50
			ii.	Steel reinforcement Twisted steel/ deformed			.,	

Sr. No.	Ref. to I MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
				As per item No.12.5 of Chapter 12	t	0.0077	53,218.60	409.78
			iii.	Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts, etc.				18.73
			iv.	Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
				with 600 x 450 mm rectangular	sqm	0.27	764.00	206.28
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 9	% on (a	+b.iii.iv+c+c	i)	49.09
			Rate	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,023.16
							say	<u>2023.20</u>
	vi) witl	h 600) x 600 mm square aluminium sheeting				
		-	t = ea	-				
		Tak	ing o	output = one traffic sign				
		i)	-	avation for foundation				
		,		per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
		ii)	-	nent concrete M15 grade				
		-	As p	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
		iii)	con	nting two coats including Prime coat on crete surface with Epoxy Paint as per cifications				
			As p	per item No.10.7 of this Chapter	sqm	0.90	99.80	89.82
			a)	labour (For fixing at site)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material				
			i.	RCC M15 Grade in Sub-structure				
				As per item No.12.4.II of Chapter 12	cum	0.0285	7,526.20	214.50
			ii.	Steel reinforcement Twisted steel/ deformed	lbars			
				As per item No.12.5 of Chapter 12	t	0.0077	53,218.60	409.78
			iii.	Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts, etc.				18.73
			iv.	Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				

Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
·		with 600 x 600 mm square	sqm	0.35	764.00	267.40
	c)	Machinery				
		Tractor with trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15	% on (a	a+b.iii.iv+c+c	d)	58.26
	Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,093.45
					say	<u>2093.50</u>
vii) wit	h 90	0 mm side octagon aluminium sheeting				
-	it = ea					
Tał	king c	putput = one traffic sign				
i)	Exc	cavation for foundation				
	As I	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
ii)	Cer	nent concrete M15 grade				
	As I	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
iii)	con	nting two coats including Prime coat on acrete surface with Epoxy Paint as per acifications				
	As	per item No.10.7 of this Chapter	sqm	0.90	99.80	89.82
	a)	labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				
	i.	RCC M15 Grade in Sub-structure				
		As per item No.12.4.II of Chapter 12	cum	0.0285	7,526.20	214.50
	ii.	Steel reinforcement Twisted steel/ deformed	d bars			
		As per item No.12.5 of Chapter 12	t	0.0077	53,218.60	409.78
	iii.	Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts, etc.				18.73
	iv.	Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
		with 900 mm side octagon	sqm	0.672	764.00	513.41
	c)	Machinery	-			
	-	Tractor with trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15	% on (a	a+b.iii.iv+c+c	l)	95.16
	Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,376.36

say

Chapter 10 TRAFFIC SIGNS, MARKINGS AND OTHER ROAD APPURTENANCES

Sr. No.	Ref. to MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)

<u>2376.40</u>

- **Note:** 1 Any one area of aluminium sheeting given at (i) to (vii) may be adopted as per site requirement and in accordance with IRC:67.
 - 2 The rate for excavation, cement concrete M-15, RCC M-15 in Sub-structure, steel re-inforcement and painting may be taken from respective Chapters.
 - 3 The depth of foundation and quantity of cement concrete in the foundation are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.

B. Semi Reflective Traffic Signs

Providing and fixing of semi reflective cautionary, mandatory and informatory sign board as per IRC:67 made of 1.5 mm thick MS sheet duly stove white colour in front and gray colour on back with red reflective border of 65 mm width and required letters and figures with reflective tape engineering grade as per Clause 1701.3.9 of MORD for Rural Roads of required shade and colour supported and welded on 47 mm x 47 mm x 12 SWG sheet tube firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm bellow ground level as per approved drawings and as per MoRD Technical specification Clause 1701.2.2.

Unit = Each

Taking output = one traffic sign

i) with 900 mm equilateral triangle MS sheeting

(i)	Exc	avation foundations				
	As	per Item No. 1 to 11.1 of Chapter 11	cum	0.126	287.00	36.16
(ii)	Cer	nent concrete M-15 Grade				
	As	per item no. 11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
(iii)	coa	nting steel tube posts with primer and two its of epoxy paint as per specifications per item no 10.7 of Chapter 11	sqm	0.46	99.80	45.91
	a)	Labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				
		Support of M.S. Sheet tube				
		(I) 47 mm x 47 mm x 12 SWG Sheet	kg	12.40	54.96	681.50
		3050 mm long				

Sr. No.	Ref. to MORD Spec.	• • • •			Description	Unit	Quantity	Rate (₹)	Amount (₹)
					Angle iron 50 x 50 x 6 mm for hold fast	kg	1.06	42.67	45.23
				;	including 5% wastage Add 3% cost of MS Sheet tube 12 SWG and angle irons towards the cost of fabrication, drilling holes, nuts and bolts etc.				21.80
					1.5 mm thick M.S. Sheet duly painted with stove enamelled paint including lettering, signs, border, message with reflective tape of engineering grade required size, shade and colour as per Technical Specifications				
				1	900 mm equilateral & triangle	sqm	0.35	530.00	185.50
			c)	Mach	ninery				
				Tract	or with Trolley	hour	0.08	303.00	24.24
			,	0					0.00
			-		ractor's profit and overheads @ 15 % or	n (a+b+	c+d)		155.44
			Rate	e per	traffic sign = (i+ii+iii+a+b+c+d+e)			say	2,170.35 2170.40
								Suy	<u>2110.40</u>
		ii)			mm equilateral triangle MS sheeting				
		(i)			on foundations		0.400	007.00	00.40
		<i>.</i>	-		m No. 1 to 11.1 of Chapter 11	cum	0.126	287.00	36.16
		(11)			concrete M-15 Grade		0.400	7 4 4 5 0 0	000 57
		<i></i>	-		m no. 11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
		(111)		-	steel tube posts with primer and two epoxy paint as per specifications				
			As p	per ite	m no 10.7 of Chapter 11	sqm	0.46	99.80	45.91
			a)	Labo	our (For fixing at site)				
			I	Mate		day	0.01	300.00	3.00
			I	Mazo	loor (Unskilled)	day	0.25	300.00	75.00
			b)	Mate	rial				
			:	Supp	ort of M.S. Sheet tube				
				(I) ·	47 mm x 47 mm x 12 SWG Sheet	kg	12.40	54.96	681.50
					3050 mm long				
					Angle iron 50 x 50 x 6 mm for hold fast including 5% wastage	kg	1.06	42.67	45.23
				; 1	Add 3% cost of MS Sheet tube 12 SWG and angle irons towards the cost of fabrication, drilling holes, nuts and bolts etc.				21.80

Sr. Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
(t		(III) 1.5 mm thick M.S. Sheet duly painted with stove enamelled paint including lettering, signs, border, message with reflective tape of engineering grade required size, shade and colour as per Technical Specifications	sqm			
		600 mm equilateral & triangle	sqm	0.156	530.00	0.00
	c)	Machinery				
		Tractor with Trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 % on	(a+b+o	c+d)		127.62
	Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				1,957.03
					say	<u>1957.00</u>
iii)	wit	n 600 mm circular MS sheeting				
(i)	Exc	avation foundations				
	As	per Item No. 1 to 11.1 of Chapter 11	cum	0.126	287.00	36.16
(ii)	Cer	nent concrete M-15 Grade				
	As	per item no. 11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
(iii)		nting steel tube posts with primer and two ts of epoxy paint as per specifications				
	As	per item no 10.7 of Chapter 11	sqm	0.46	99.80	45.91
	a)	Labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				
		Support of M.S. Sheet tube				
		(I) 47 mm x 47 mm x 12 SWG Sheet	kg	12.40	54.96	681.50
		3050 mm long				
		 (II) Angle iron 50 x 50 x 6 mm for hold fast including 5% wastage 	kg	1.06	42.67	45.23
		Add 3% cost of MS Sheet tube 12 SWG and angle irons towards the cost of fabrication, drilling holes, nuts and bolts etc.				21.80
		(III) 1.5 mm thick M.S. Sheet duly painted with stove enamelled paint including lettering, signs, border, message with reflective tape of engineering grade required size, shade and colour as per Technical Specifications	sqm			
		600 mm circular	sqm	0.283	530.00	149.99
	c)	Machinery				
		Tractor with Trolley	hour	0.08	303.00	24.24
	d)	0				0.00

Sr. No.	Ref. to MORD Spec.	 			Description	Unit	Quantity	Rate (₹)	Amount (₹)
•===	-	-	e) (Cont	ractor's profit and overheads @ 15 % or	n (a+b+	c+d)		150.11
			Rate	per	traffic sign = (i+ii+iii+a+b+c+d+e)				2,129.52
								say	<u>2129.50</u>
		iv)	with	800	x 600 mm rectangular MS sheeting				
		(i)	Exca	avati	on foundations				
			As pe	er Ite	em No. 1 to 11.1 of Chapter 11	cum	0.126	287.00	36.16
		(ii)	Ceme	ent	concrete M-15 Grade				
			As pe	er ite	m no. 11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
		(iii)		-	steel tube posts with primer and two epoxy paint as per specifications				
			As pe	er ite	m no 10.7 of Chapter 11	sqm	0.46	99.80	45.91
			a) L	Labo	our (For fixing at site)				
			Ν	Mate		day	0.01	300.00	3.00
			Ν	Mazo	door (Unskilled)	day	0.25	300.00	75.00
			b) N	Mate	erial				
			S	Supp	oort of M.S. Sheet tube				
				(I)	47 mm x 47 mm x 12 SWG Sheet	kg	12.40	54.96	681.50
					3050 mm long				
					Angle iron 50 x 50 x 6 mm for hold fast including 5% wastage	kg	1.06	42.67	45.23
					Add 3% cost of MS Sheet tube 12 SWG and angle irons towards the cost of fabrication, drilling holes, nuts and bolts etc.				21.80
			(1.5 mm thick M.S. Sheet duly painted with stove enamelled paint including lettering, signs, border, message with reflective tape of engineering grade required size, shade and colour as per Technical Specifications	sqm			
					800 mm x 600 mm rectangular	sqm	0.48	530.00	254.40
			c) M	Macl	hinery				
			Т	Tract	tor with Trolley	hour	0.08	303.00	24.24
			d) (0					0.00
			e) (Cont	ractor's profit and overheads @ 15 % or	n (a+b+	c+d)		165.78
			Rate	per	traffic sign = (i+ii+iii+a+b+c+d+e)				2,249.59
								say	<u>2249.60</u>
		v)	with	600	x 450 mm rectangular MS sheeting				
		(i)	Exca	avati	on foundations				
			As pe	er Ite	em No. 1 to 11.1 of Chapter 11	cum	0.126	287.00	36.16
		(ii)	Ceme	ent	concrete M-15 Grade				

;	Ref. to							Amount
Sr. No.	MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			As	per item no. 11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
		(iii)		nting steel tube posts with primer and two ts of epoxy paint as per specifications				
			As	per item no 10.7 of Chapter 11	sqm	0.46	99.80	45.91
			a)	Labour (For fixing at site)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material				
				Support of M.S. Sheet tube				
				(I) 47 mm x 47 mm x 12 SWG Sheet	kg	12.40	54.96	681.50
				3050 mm long				
				(II) Angle iron 50 x 50 x 6 mm for hold fast including 5% wastage	kg	1.06	42.67	45.23
				Add 3% cost of MS Sheet tube 12 SWG and angle irons towards the cost of fabrication, drilling holes, nuts and bolts etc.				21.80
				 (III) 1.5 mm thick M.S. Sheet duly painted with stove enamelled paint including lettering, signs, border, message with reflective tape of engineering grade required size, shade and colour as per Technical Specifications 	sqm			
				600 mm x 450 mm rectangular	sqm	0.27	530.00	143.10
			c)	Machinery				
				Tractor with Trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % or	n (a+b+	c+d)		149.08
			Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,121.59
							say	<u>2121.60</u>
		vi)	wit	h 600 x 600 mm square MS sheeting				
		, (i)		avation foundations				
		.,		per Item No. 1 to 11.1 of Chapter 11	cum	0.126	287.00	36.16
		(ii)		nent concrete M-15 Grade				
		(,		per item no. 11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
		(iii)	Pai	nting steel tube posts with primer and two	oum	0.120	7,110.00	000.01
				ts of epoxy paint as per specifications per item no 10.7 of Chapter 11	sqm	0.46	99.80	45.91
			a)	Labour (For fixing at site)	1			
			-1	Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material	y	0.20	223.00	. 5.00

Sr. M	ef. to ORD	_		Description	Unit	Quantity	Rate (₹)	Amount (₹)
·	·		Sup	port of M.S. Sheet tube				'
			(I)	47 mm x 47 mm x 12 SWG Sheet	kg	12.40	54.96	681.50
				3050 mm long				
			(II)	Angle iron 50 x 50 x 6 mm for hold fast including 5% wastage	kg	1.06	42.67	45.23
				Add 3% cost of MS Sheet tube 12 SWG and angle irons towards the cost of fabrication, drilling holes, nuts and bolts etc.				21.80
			(111)	1.5 mm thick M.S. Sheet duly painted with stove enamelled paint including lettering, signs, border, message with reflective tape of engineering grade required size, shade and colour as per Technical Specifications				
				600 mm x 600 mm	sqm	0.36	530.00	190.80
		c)		hinery				
			Trac	tor with Trolley	hour	0.08	303.00	24.24
		d)	0					0.00
		e)		tractor's profit and overheads @ 15 % or	ו (a+b+o	c+d)		156.24
		Rat	te per	traffic sign = (i+ii+iii+a+b+c+d+e)				2,176.45
							say	<u>2176.40</u>
				mm side octagon MS sheeting				
	(i)			on foundations				
	<i></i>		-	em No. 1 to 11.1 of Chapter 11	cum	0.126	287.00	36.16
	(ii)			concrete M-15 Grade		0.400		
			-	em no. 11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
	(111)		-	steel tube posts with primer and two epoxy paint as per specifications				
		As	per ite	em no 10.7 of Chapter 11	sqm	0.46	99.80	45.91
		a)	Lab	our (For fixing at site)				
			Mate	9	day	0.01	300.00	3.00
			Maz	door (Unskilled)	day	0.25	300.00	75.00
		b)	Mate	erial				
			Sup	port of M.S. Sheet tube				
			(I)	47 mm x 47 mm x 12 SWG Sheet	kg	12.40	54.96	681.50
				3050 mm long				
			(II)	Angle iron 50 x 50 x 6 mm for hold fast including 5% wastage	kg	1.06	42.67	45.23
				Add 3% cost of MS Sheet tube 12 SWG and angle irons towards the cost of fabrication, drilling holes, nuts and bolts etc.				21.80

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		<u> </u>		(III) 1.5 mm thick M.S. Sheet duly painted with stove enamelled paint including lettering, signs, border, message with reflective tape of engineering grade required size, shade and colour as per Technical Specifications				
				900 mm side octagon	sqm	0.672	530.00	356.16
			c)	Machinery				
				Tractor with Trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % or	n (a+b+	c+d)		181.04
			Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,366.61
							say	<u>2366.60</u>
	Note:	1	be	one area of M.S. Sheet given at (i) to (viii) may adopted as per site requirement and in cordance with IRC-67.				
		2		e rate for excavation, cement concrete M-15, and nting may be taken from respective Chapters.				
		3	the inci like	e depth of foundation and quantity of cement in foundation are indicative. These may be reased for areas having higher wind velocities in coastal area. This is applicable to all road hs and direction boards.				
10.3	1700, 800 & 300		ectio e boa	n and Place Identification signs upto 0.9 sqm ard				
		A.	Ret	ro-reflectorised Traffic Signs				
		(i)	ider may vide fixe not sing fixe four mm	viding and erecting direction and place ntification retro-reflectorised sign as per IRC:67 de of encapsulated lens type reflective sheeting e MoRD technical specification Clause 1701.2.3 d over aluminium sheeting, 2 mm thick with area exeeding 0.9 sqm supported on a mild steel gle angle iron post 75 mm x 75 mm x 6 mm firmly d to the ground by means of properly designed ndation with M 15 grade cement concrete 450 n x 450 mm x 600 mm, 600 mm bellow ground el as per approved drawings and MoRD chnical Specification Clause 1701.				
			Uni	t = sqm				
			Tak	ting output = 0.9 sqm				
			i)	Excavation for foundation				
				As per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
			ii)	Cement concrete M-15 grade				
				As per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
			iii)	Painting Angle Iron Post with Primer and two coats of Epoxy Paint as per				

Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Rate as per item No.10.7 of this Chapter	sqm	0.887	99.80	88.52
	a)	Labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				
		Mild steel angle iron 75 x 75 x 6 mm	kg	20.00	42.67	853.40
		Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				25.60
		Aluminium sheeting 2.0 mm thick fixed with encapsulated lens type reflective sheeting of size 0.90 sqm including lettering and signs as applicable background with epoxy paint	sqm	0.90	925.00	832.50
	c)	Machinery				
		Tractor with trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 % or	ו (a+b+₀	c+d)		272.06
	Cos	st for 0.9 sqm = (i+ii+iii+a+b+c+d+e)				3,107.05
		e per sqm (for sign having area upto 0.9 sqm)				3,452.28
	= (I	+ii+iii+a+b+c+d+e)/0.90			say	<u>3452.30</u>
(ii)	ider mac vide fixe not Pip des con bell	viding and erecting direction and place ntification retro-reflectorised sign as per IRC:67 de of encapsulated lens type reflective sheeting e MoRD technical specification Clause 1701.2.3 d over aluminium sheeting, 2 mm thick with area exeeding 0.9 sqm supported on 2 inch dia GI e firmly fixed to the ground by means of properly igned foundation with M 15 grade cement crete 450 mm x 450 mm x 600 mm, 600 mm ow ground level as per approved drawings and RD Technical Specification Clause 1701.			,	
	Uni	t = sqm				
	Tak	ing output = 0.9 sqm				
	i)	Excavation for foundation				
		As per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
	ii)	Cement concrete M-15 grade				
		As per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
	a)	Labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				

Sr. Ref. to No. MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00
		Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10
		Aluminium sheeting 2.0 mm thick fixed with encapsulated lens type reflective sheeting of size 0.90 sqm including lettering and signs as applicable background with epoxy paint	sqm	0.90	925.00	832.50
	c)	Machinery				
		Tractor with trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 % or) (a+b+	c+d)		320.98
	Cos	st for 0.9 sqm = (i+ii+iii+a+b+c+d+e)				3,393.54
		te per sqm (for sign having area upto 0.9 sqm) +ii+iii+a+b+c+d+e)/0.90				3,770.60
	•				say	<u>3770.60</u>
()	ider mac vide fixe not mm of cen mm	widing and erecting direction and place ntification retro-reflectorised sign as per IRC:67 de of encapsulated lens type reflective sheeting e MoRD technical specification Clause 1701.2.3 d over aluminium sheeting, 2 mm thick with area exceeding 0.9 sqm supported on RCC post 100 n x 100 mm firmly fixed to the ground by means properly designed foundation with M 15 grade nent concrete 450 mm x 450 mm x 600 mm, 600 n below ground level as per approved drawings d MoRD Technical Specification Clause 1701.				
	Uni	t = sqm				
	Tak	king output = 0.9 sqm				
	i)	Excavation for foundation				
		As per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
	ii)	Cement concrete M-15 grade				
		As per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
	iii)	Painting two coats including prime coat on concrete surface with Epoxy Paint as per specifications				
		As per item No.10.7 of Chapter 10	sqm	0.90	99.80	89.82
	a)	Labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				
	i.	RCC M-15 Grade in Sub-structure				
		As per item No.12.4.II of Chapter 12	cum	0.0285	7,526.20	214.50

Sr. MORD		Description	Unit	Quantity	Rate (₹)	Amount
No. Spec.						(₹)
		ii. Steel re-inforcement Twisted steel/ deformed ba	irs			
		As per item No.12.5 of Chapter 12	t	0.0077	53,218.60	409.78
		iii. Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts etc.				18.73
		iv. Aluminium sheeting 2.0 mm thick fixed with encapsulated lens type reflective sheeting of size 0.90 sqm including lettering and signs as applicable background with epoxy paint	f	0.90	925.00	832.50
		c) Machinery				
		Tractor with trolley	hour	0.08	303.00	24.24
		d) 0				0.00
		e) Contractor's profit and overheads @ 15 % o	n (a+b.i	ii, iv+c)		143.02
		Cost for 0.9 sqm = (i+ii+iii+a+b+c+d+e)				2,743.32
		Rate per sqm (for sign having area upto 0.9 sqm) = (i+ii+iii+a+b+c+d+e)/0.90	I			3,048.13
					say	<u>3048.10</u>
Note:	1	Lettering and arrow markings on sign board to be provided separately as per actual requirement. Rates for these items have been analysed separately.				
	2	The rate for excavation, cement concret M15, RCC M15 in Sub-structure, steel re-inforcement and painting may be taken from respective Chapters.				
	3	The depth of foundation and quantity of cement concrete in the foundation are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.	1			
	в.	Semi-Reflective Traffic signs				
		Direction and place indentification signs up to 0.9 sqm size board				
		Providing and erecting and place identifications of semi reflective sign boards as per IRC:67 made of 2 mm thick M.S. sheet duly stove enameled paint in white colour in front and gray colour on back with red reflective border of 70 mm width and required message, letters and figures with reflective engineering grade tape as per MORD specifications of required shade and colour. Supported and welded on 47 mm x 47 mm x 12 SWG square tube of 3050 mm height duly strengthened by 25 mm x 5 mm MS flat iron on edges on back firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per approved drawings and MoRD Technical Specification Clause				

Unit = each

1701.

Sr. Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	Tak	ce Output = 0.9 sqm				
(i)	Exc	cavation for foundations				
	As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
(ii)	Cei	ment concrete M-15 grade				
	As	per item No.11.4.II(ii) of Chapter 11	cum	0.126	7,115.60	896.57
(iii)	coa	nting on M.S. tube post with primer and two at of epoxy paint as per specifications per item No.10.7 of Chapter 10	sqm	0.59	99.80	58.88
		Labour (For fixing at site)	Sqiii	0.00	55.00	55.55
	u)	Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Materials				
	,	Support of MS sheet tube				
		47 mm x 47 mm of 12 SWG sheet 3050 mm lon،	kg	12.40	54.96	681.50
	ii)	Angle iron 50 x 50 x 6 mm for lugs including 5% wastage	kg	1.06	42.67	45.23
	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	712.00	640.80
		Add 3% cost of MS sheet angle iron towards the cost of fabrications, drilling, holes, nuts, bolts, etc.				41.03
	c)	Machinery				
		Tractor with Trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 % or	ı (a+b+o	c+d)		226.62
		Cost for 0.9 sqm = (i+ii+iii+a+b+c+d+e)				2,729.03
		Rate per sqm = (i+ii+iii+a+b+c+d+e) / 0.9				3,032.26
					say	<u>3032.30</u>
		r excavation, cement concrete M15 and painting taken from respective Chapters.				

^{& 300} more than 0.9 sqm size board

A. Retro-reflectorised Traffic Signs

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
		(i)	ider mae vide fixe exe iron to four mm	viding and erecting direction and place ntification retro-reflectorised sign as per IRC:67 de of encapsulated lens type reflective sheeting e MoRD technical specification Clause 1701.2.3 d over aluminium sheeting, 2 mm thick with area eding 0.9 sqm supported on a mild steel angle post 75 mm x 75 mm x 6 mm 2 Nos. firmly fixed the ground by means of properly designed ndation with M 15 grade cement concrete 450 a x 450 mm x 600 mm, 600 mm bellow ground el as per approved drawings and MoRD thnical Specification Clause 1701.				
			Uni	t = sqm				
			Tak	ting output = 1.50 sqm				
			i)	Excavation for foundation				
				As per item No.11.1.A.I(i) of Chapter 11	cum	0.252	287.00	72.32
			ii)	Cement concrete M-15 grade				
				As per item No.11.4.II(ii) of Chapter 11	cum	0.252	7,115.60	1,793.13
			iii)	Painting Angle Iron Post with Primer and two coats of Epoxy Paint specifications	0.000	1 774	00.80	177.05
			-)	As per item No.10.7 of Chapter 10	sqm	1.774	99.80	177.05
			a)	Labour (For fixing at site)	dov	0.02	200.00	6.00
				Mate	day	0.02	300.00	6.00
			F)	Mazdoor (Unskilled)	day	0.50	300.00	150.00
			U)	Material Mild steel angle iron 75 mm x 75 mm x 6 mm, 2.85 m long, 2 nos. with 5 per cent wastage	kg	40.00	42.67	1,706.80
				Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				51.20
				Aluminium sheeting 2 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint	sqm	1.50	925.00	1,387.50
			c)	Machinery				
				Tractor with trolley	hour	0.12	303.00	36.36
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % or	n (a+b+e	c+d)		500.68
			Cos	st for 1.5 sqm = i+ii+iii+a+b+c+d+e				5,881.04
				e per sqm (for sign having area more than 0.9 n) = (i+ii+iii+a+b+c+d+e)/1.50				3,920.70
							say	<u>3920.70</u>

;					SIGNS, MARKINGS AND OTHER RO				;
Sr. No.	Ref. to MORD Spec.	 			Description	Unit	Quantity	Rate (₹)	Amount (₹)
		(ii)	mad vide fixed exee 2 No prop ceme mm	tifica le of Mo d ove eding os. oerly ent bell	g and erecting direction and place ation retro-reflectorised sign as per IRC:67 f encapsulated lens type reflective sheeting RD technical specification Clause 1701.2.3 er aluminium sheeting, 2 mm thick with area g 0.9 sqm supported on 50 mm dia GI Pipe, firmly fixed to the ground by means of designed foundation with M 15 grade concrete 450 mm x 450 mm x 600 mm, 600 low ground level as per approved drawings RD Technical Specification Clause 1701.				
			Unit	= so	qm				
			Taki	ng c	putput = 1.50 sqm				
			i)	Exc	avation for foundation				
				As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.252	287.00	72.32
			ii)	Cen	nent concrete M15 grade				
				As p	per item No.11.4.II(ii) of Chapter 11	cum	0.252	7,115.60	1,793.13
			i	a)	Labour (For fixing at site)				
					Mate	day	0.02	300.00	6.00
					Mazdoor (Unskilled)	day	0.50	300.00	150.00
				b)	Material				
					50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	6.00	390.00	2,340.00
					Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts, etc.				70.20
					Aluminium sheeting 2 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint		1.50	925.00	1,387.50
				c)	Machinery				
					Tractor with trolley	hour	0.12	303.00	36.36
				d)	0				0.00
				e)	Contractor's profit and overheads @ 15 9	% on (a	a+b+c+d)		598.51
				Cos	t for 1.50 sqm = i+ii+a+b+c+d+e				6,454.02
					e per sqm (for sign having area more n 0.9 sqm) = (i+ii+a+b+c+d+e)/1.50				4,302.68
								say	<u>4302.70</u>

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
		(iii)	ider mac vide fixed exce x 1 mea grad mm	viding and erecting direction and place tification retro-reflectorised sign as per IRC:67 de of encapsulated lens type reflective sheeting e MoRD technical specification Clause 1701.2.3 d over aluminium sheeting, 2 mm thick with area eeding 0.9 sqm supported on RCC post 100 mm 00 mm, 2 Nos. firmly fixed to the ground by ans of properly designed foundation with M 15 de cement concrete 450 mm x 450 mm x 600 , 600 mm bellow ground level as per approved wings and MoRD Technical Specification Clause 1.				
			Unit	= sqm				
			Tak	ing output = 1.50 sqm				
			i)	Excavation for foundation				
				As per item No.11.1.A.I(i) of Chapter 11	cum	0.252	287.00	72.32
			ii)	Cement concrete M15 grade				
				As per item No.11.4.II(ii) of Chapter 11	cum	0.252	7,115.60	1,793.13
			iii)	Painting two coats including prime coat on concrete surface with Epoxy Paint as per specifications				
				As per item No.10.7 of Chapter 10	sqm	1.84	99.80	183.63
			a)	Labour (For fixing at site)				
				Mate	day	0.02	300.00	6.00
				Mazdoor (Unskilled)	day	0.50	300.00	150.00
			b)	Material				
			i.	RCC M-15 Grade in Sub-structure				
				As per item No.12.4.II of Chapter 12	cum	0.057	7,526.20	428.99
			ii.	Steel re-inforcement Twisted steel/ deformed bars As per item No.12.5 of Chapter 12	t	0.0154	53,218.60	819.57
			iii.	Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts, etc.				37.46
			iv.	Aluminium sheeting fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint	sqm	1.50	925.00	1,387.50
			c)	Machinery				
				Tractor with trolley	hour	0.12	303.00	36.36
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % or	n (a+b.ii	ii, iv+c)		242.60
			Cos	t for 1.5 sqm = a+b+c+d+e				5,157.56
				e per sqm (for sign having area more than 0.9 n) = (a+b+c+d+e)/1.50				3,438.37
							say	<u>3438.40</u>

:		۱۱ 	RAFFIC SIGNS, MARKINGS AND OTHER ROAD APPURTENANCES									
Sr. No.	MORD Spec.			Description	 	Unit	Quantity	Rate (₹)	Amount (₹)			
	Note:	1	prov Rate	ring and arrow markings on sign l ded separately as per actual s for these items have bee rately.	requirement.							
		2	M15	ate for excavation, cement concret in Sub-structure, steel re-infor- ing may be taken from respective C	cement and							
		3	con may velc	depth of foundation and quantity rete in the foundation are indica be increased for areas having ities like in coastal areas. This is ad signs and directions boards.	tive. These higher wind							
		в.	Sen	-Reflective Traffic signs								
				tion and place identification 0.90 sqm sign board	signs more							
			Provider IRC ena colo widt refle spe Sup 12 stre edg of p cerr mm and	ding and erecting direction fications of semi reflective sign bo of made of 2 mm thick M.S. she heled paint in white colour in fro r on back with reflective borde and required message, letters and tive engineering grade tape as fications of required shade orted and welded on 2 Nos. 47 mm SWG square tube of 3050 mm gthened by 25 mm x 5 mm MS is on back firmly fixed to the groun operly designed foundation with ent concrete 450 mm x 450 mm x 6 below ground level as per approve MoRD Technical Specification Clau	et duly stove nt and gray r of 70 mm d figures with per MORD and colour. n x 47 mm x height duly flat iron on nd by means M 15 grade 500 mm, 600 ed drawings							
				Excavation for foundations as								
			."	As per item No.11.1.A.I(i) of Chapte	er 11	cum	0.252	287.00	72.32			
			(ii)	Cement concrete M15 grade								
				As per item No.11.4.II(ii) of Chapter	11	cum	0.252	7,115.60	1,793.13			
			(iii)	Painting M.S. tube posts with pri wo coats of epoxy paint as per s As per item No. 10.7 of chapter 10		sqm	0.92	99.80	91.82			
			a)	_abour (fox fixing at site)								
				Mate		day	0.02	300.00	6.00			
				Mazdoor (Unskilled)		day	0.50	300.00	150.00			
			b)	Material								
) Support of MS Sheet tubes 47 mm x 12 SWG sheet 3050 mm		kg	24.80	54.96	1,363.01			

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			ii)	Angle iron 50 mm x 50 mm x 6 mm for lugs	kg	2.12	42.67	90.46
			iii)	2 mm thick MS Sheet strengthened by 25 mm x 5 mm M.S. flat iron and painted with stove enameled paint including lettering, signs, messages, border with reflective tape of engineering grade of required size, shade and colour as per MORD specifications	sqm	1.50	712.00	1,068.00
				Add 3% cost of MS sheet and angle iron towards the cost of fabrications, drilling, holes, nuts, bolts etc.				75.64
		c	c) Mao	chinery				
			Tra	ctor with trolley	hour	0.16	303.00	48.48
		c	d) 0 (b					0.00
		e	e) Cor	ntractor's profit and overheads @ 15 % or	ו (a+b+	c+d)		420.24
		(Cost for	1.5 sqm board = (i+ii+iii+a+b+c+d+e)				5,179.10
		F	Rate pe	r sqm = (i+ii+iii+a+b+c+d+e) / 1.5				3,452.74
							say	<u>3452.70</u>
	Note:			eavation cement concrete M15 and painting n from respective chapter				
10.5	1700	Paint	ing Tw	o Coats on New Concrete Surfaces				
		surfac plaste	ce with ered / c	coats including primer coat after filling the synthetic enamel paint in all shades on new, oncrete surfaces as per drawing and MoRD ecification clause 1701.				
		Unit =	sqm					
		Takin	g outpu	t = 40 sqm				
		a) L	_abour					
		Ν	Mate		day	0.20	300.00	60.00
		F	Painter	(1st Class)	day	3.00	340.00	1,020.00
		Ν	Mazdoo	r (Unskilled)	day	2.00	300.00	600.00
		b) M	Materia	I				
		C	Cement	Primer as per specifications	litre	3.00	65.00	195.00
		F	Paint co	nforming to requirement of Clause 1701.3.8	litre	6.00	180.00	1,080.00
			Add for a where re	scaffolding @ 1 per cent of labour cost equired				16.80
		c) ()					0.00
		d) (Contrac	ctor's profit and overheads @ 15 % on (a+	·b+c)			445.77
				qm = a+b+c+d				3,417.57
		Rate	per sqr	n = (a+b+c+d)/40				85.44
							say	<u>85.40</u>

;	Ref. to		TRAFFIC SIGNS, MARKINGS AND OTHER ROAD APPURTENANCES									
Sr. No.	MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)					
10.6	1700	Pai	nting on Steel Surfaces									
		incl afte	viding and applying two coats of ready mix paint uding primer coat of approved brand on steel surface er through cleaning of surface to give an even shade per drawing and MoRD Technical Specification Clause 11.									
		Uni	t = sqm									
		Tak	sing output = 10 sqm									
		a)	Labour									
			Mate	day	0.25	300.00	75.00					
			Painter (1st Class)	day	0.60	340.00	204.00					
			Mazdoor (Unskilled)	day	0.40	300.00	120.00					
		b)	Material									
			Red-oxide Primer as per specifications	litre	0.60	85.00	51.00					
			Paint ready mixed approved brand	litre	1.25	180.00	225.00					
			Add @ 1 per cent on cost of material for scaffolding wherever required				2.76					
		c)	0				0.00					
		d)	Contractor's profit and overheads $@$ 15 % on (a+	·b+c)			101.66					
		Cos	st for 10 sqm = a+b+c+d				779.42					
		Rat	e per sqm = (a+b+c+d)/10				77.94					
						say	<u>77.90</u>					
10.7	1700	Pai	nting on Concrete/Steel Surfaces with Epoxy									
		of thro	nting two coats including prime coat with epoxy paint approved brand on concrete/steel surfaces after bugh cleaning of surface to give an even shade as per wing and MoRD Technical Specification Clause 1701.									
		Uni	t = sqm									
		Tak	ting output = 10 sqm									
		a)	Labour									
			Mate	day	0.25	300.00	75.00					
			Painter (1st Class)	day	0.60	340.00	204.00					
			Mazdoor (Unskilled)	day	0.40	300.00	120.00					
		b)	Material									
			Epoxy primer	litre	0.60	190.00	114.00					
			Epoxy paint	litre	1.25	280.00	350.00					
			Add @ 1 per cent on cost of material for scaffolding wherever required				4.64					
		c)	0				0.00					
		d)	Contractor's profit and overheads @ 15 % on (a+	·b+c)			130.15					

;						:
Sr. No.	Ref. to MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Cost for 10 sqm = (a+b+c+d)				997.79
		Rate per sqm = (a+b+c+d)/10				99.78
					say	<u>99.80</u>
10.8	1700	Painting lines, Dashes, Arrows, etc. on Road in Two Coats on New Work				
		Painting lines, dashes, arrows, etc. on roads 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 site and traffic control as per drawing and MoRD Technical Specification Clause 1702.				
		Assuming 100 mm width				
		Unit = sqm				
		Taking output = 10 sqm				
		a) Labour				
		Mate	day	0.09	300.00	27.00
		Painter 1st Class	day	0.55	340.00	187.00
		Mazdoor (Unskilled)	day	1.55	300.00	465.00
		b) Material				
		Road marking paint as per IS:164	litre	1.48	212.00	313.76
		c) 0				0.00
		d) Contractor's profit and overheads @ 15 % on (a+l	b+c)			148.91
		Cost for 10 sqm = $a+b+c+d$				1,141.67
		Rate per sqm = (a+b+c+d)/10				114.17
					say	<u>114.20</u>
10.9	1700	Painting lines, Dashes, Arrows, etc. on Roads in Two Coats on Old Work				
		Painting lines, dashes, arrows, etc. on roads in two coats on old 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 site and traffic control as per drawing and MoRD Technical Specification Clause 1702.				
		Assuming 100 cm width				
		Unit = sqm				
		Taking output = 10 sqm				
		a) Labour				
		Mate	day	0.06	300.00	18.00
		Painter (Ist class)	day	0.30	340.00	102.00
		Mazdoor (Unskilled)	day	1.25	300.00	375.00

,	Ref. to	<u>.</u>		FIC SIGNS, MARKINGS AND OTHER RO			i	i
Sr. No.	MORD Spec.	i I L		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		b)	Ma	terial				
			Roa	ad marking paint	litre	0.90	212.00	190.80
		c)	0					0.00
		d)	Со	ntractor's profit and overheads @ 15 % on (a-	+b+c)			102.87
		Cos	st for	10 sqm = a+b+c+d				788.67
		Rat	e pe	r sqm = (a+b+c+d)/10				78.87
							say	<u>78.90</u>
10.10	1700	Kilo	omet					
		loca pos	al sto sition	ed cement concrete M15 grade kilometre stone / one of standard design as per IRC:8 fixing in including painting and printing, etc. as per and MoRD Technical Specification Clause 1703.				
		i)	5th	Kilometre Stone (precast)				
			Uni	t = each				
			Tak	ting output = 6 Nos.				
			a)	M-15 grade of concrete				
				As per item No.12.4.II of Chapter 12	cum	2.35	7,526.20	17,686.57
			b)	Steel reinforcement @ 5 kg per sqm				
				As per item No.12.5 of Chapter 12	t	0.0221	53,218.60	1,176.13
			c)	Excavation in soil for foundation				
				As per item No.11.1.A.I(i) of Chapter 11	cum	1.68	287.00	482.16
			d)	Painting two coats on concrete surface				
				As per item No.10.5 of Chapter 10	sqm	9.85	85.40	841.19
			e)	lettering on km post (average 30 letters of 10 cm height each)				
				As per item No.10.1 of Chapter 10 (Englisg & Ro	per cm high per letter	1,800.00	0.50	900.00
			Tra	nsportation and fixing				
			f)	Labour				
				Mate	day	0.26	300.00	78.00
				Mason (1st Class)	day	0.60	425.00	255.00
				Mazdoor (Unskilled)	day	6.00	300.00	1,800.00
			g)	Machinery				
				50 HP Tractor with trolley	hour	6.00	303.00	1,818.00
			h)	0				0.00
			i)	Contractor's profit and overheads $@$ 15 % o	n (f+g+ł	ı)		592.65
			Cos	st for 6 Nos. 5th km stone = a+b+c+d+e+f+g+h+i				25,629.70
			Rat	e for each 5th km stone = (a+b+c+d+e+f+g+h+	i)/6			4,271.62

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
·———					━┶━━┻	4	say	<u>4271.60</u>
		ii)	Ord	linary Kilometer Stone (Precast)				
			Uni	t = each				
			Tak	ting output = 14 Nos.				
			a)	M15 grade of concrete				
				As per item No.12.4.II of Chapter 12	cum	3.77	7,526.20	28,373.77
			b)	Steel reinforcement @ 5 kg per sqm				
				As per item No.12.5 of Chapter 12	t	0.0263	53,218.60	1,399.65
			c)	Excavation in soil for foundation				
				As per item No.11.1.A.I(i) of Chapter 11	cum	2.77	287.00	794.99
			d)	Painting two coats on concrete surface				
				As per item No.10.5 of Chapter 10	sqm	11.41	85.40	974.41
			e)	lettering on km post (average 30 letters of 10 cm height each)				
				As per item No.10.1 of Chapter 10 (Englisg & Roman)	per cm high	1,680.00	0.50	840.00
			Tra	nsportation and fixing	per			
			f)	Labour				
				Mate	day	0.32	300.00	96.00
				Mason (1st Class)	day	1.00	425.00	425.00
				Mazdoor (Unskilled)	day	7.00	300.00	2,100.00
			g)	Machinery				
				50 HP Tractor with trolley	hour	6.00	303.00	1,818.00
			h)	0				0.00
			i)	Contractor's profit and overheads $@$ 15 %	on (f+g+h))		665.85
				st for 14 Nos. ordinary km stone = b+c+d+e+f+g+h+l)				37,487.68
				e for each ordinary km stone = b+c+d+e+f+g+h+i)/14				2,677.69
							say	<u>2677.70</u>
		iii)	200) m stone (precast)				
				t = each				
			Tał	ting output = 33 Nos.				
			a)	M15 grade of concrete				
				As per item No.12.4.II of Chapter 12	cum	1.58	7,526.20	11,891.40
			b)	Steel reinforcement @ 5 kg per sqm				
				As per item No.12.5 of Chapter 12	t	0.066	53,218.60	3,512.43

Sr. Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		As per item No.11.1.A.I(i) of Chapter 11	cum	1.39	287.00	398.93
	d)	Painting two coats on concrete surface				
		As per item No.10.5 of Chapter 10	sqm	6.27	85.40	535.46
	e)	lettering on km post (average 30 letters of 10 cm height each)				
	As per item No.10.1 of Chapter 10 (Englisg & per cm 330.0 Roman) per letter				0.50	165.00
	Tra	insportation and fixing				
	f)	Labour				
		Mate	day	0.34	300.00	102.00
		Mason (1st Class)	day	1.50	425.00	637.50
		Mazdoor (Unskilled)	day	7.00	300.00	2,100.00
	g)	Machinery				
		50 HP Tractor with trolley	hour	6.00	303.00	1,818.00
	h)	0				0.00
	i)	Contractor's profit and overheads @ 15 % c	on (f+g+h)		698.63
	Co	st for 33 Nos. 200 m stone = (a+b+c+d+e+f+g+h+	⊦I)			21,859.34
	Rat	te for each 200 m stone = (a+b+c+d+e+f+g+h+	i)/33			662.40
Note: 1	reir	e rate for excavation, cement concrete, stee nforcement, painting and lettering may be taken m respective Chapters.			say	<u>662.40</u>
2	RC	case local stone is to be used in place of precase C stones, then rate of cement concrete and stee nforcement may be deleted.				
10.11 ^{1700, 800} G.I & 300	Bark	bed Wire Fencing 1.2 m high				
wit m cor but bot wit hor	h 1.8 cent ncrete t one th sid h 9 h rizont mplet	g and fixing 1.2 m high GI barbed wire fencing m RCC posts 150 mm x 150 mm placed every 3 re-to-centre founded in M-15 grade cemen e, 0.6 m below ground level, every 15th post, las end post and corner post shall be strutted or les and end post on one side only and provided norizontal lines and 2 diagonals interwoven with al wires, fixed with GI staples, turn buckles etc e as per MoRD technical specification Clause				
170	05.					
170		er running m				
17) Un	it = p	er running m putput = 30 m				
17) Un	it = p king c	-				
17) Un Ta	it = p king c	putput = 30 m pour	day	0.09	300.00	27.00
17) Un Ta	it = p king c Lal Ma	putput = 30 m pour	day day	0.09 0.25	300.00 403.00	27.00 100.75

Sr. Ref. to No. MORD		Description		Unit	Quantity	Rate (₹)	Amount (₹)	
	b)	Material						
	i.	. Barbed wire 335 m length @ 9.38 kg per	[.] 100 m	kg	31.42	88.20	2,771.24	
		R.C.C. Post 150 mm x 150 mm x 1.80 m						
		M15 Grade concrete						
		13 x 150 mm x 150 mm x 1.8 m						
	ii.	. Rate As per item No.12.4.II of Chapter 1	2	cum	0.526	7,526.20	3,958.78	
	iii.	. Add 5 per cent extra cost for formwork o	f M-15				197.94	
		Supply of Twisted steel/ deformed bars in cutting, bending, tying & placing in position 10 mm dia bars for posts	0					
		13 x 4 x 1.8 = 93.6 m @ 0.62 kg/mt =	43.60 kg					
		8 mm dia bars for rings						
		13 x 10 x 0.6 = 78 m @ 0.39 kg/mt =	30.42 kg					
		Total 74.0	2 kg					
	iv.	. As per item No.12.5 of Chapter 12		t	0.074	53,218.60	3,938.18	
	v.	. Add for GI staple binding wire, drilling ho 2 per cent of the cost of material	les, etc. @				78.76	
	c)	Painting						
		Applying two coats of painting including p on exposed surface of RCC posts	orimer coat					
		As per item No.10.5 of this Chapter		sqm	8.14	85.40	695.16	
	d)	0					0.00	
	e)	Contractor's profit and overheads @	15 % on (a+	b{i,iii &	v}+d)		566.35	
	Cos	st for 30 m fencing = a+b+c+d+e					12,934.16	
	Rat	e per m = (a+b+c+d+e)/30					431.14	
Note:	con per	<i>say</i> Cost of excavation for foundation and foundation concrete to be added separately in the cost estimate as per approved design. The rate for these items may be taken from respective Chapters.						
10.12 1700, 800 & 300	G.I	Barbed Wire Fencing 1.8 m high						
	Drov	viding and fiving 1.8 m high CL barbed	wire fencing					

Providing and fixing 1.8 m high GI barbed wire fencing with 2.4 m RCC M15 grade 150 mm x 150 mm concrete post placed every 3 m centre-to-centre founded in M15 grade cement concrete, 0.6 m below ground level, every 15th post, last but one end post and corner post shall be strutted on both sides and end post on one side only and provided with 12 horizontal lines and 2 diagonals interwoven with horizontal wires, fixed with GI staples, turn buckles etc. complete as per MoRD technical specification Clause 1705.

Unit = per running m

Taking output = 30 m

Sr. Ref. to Sr. MORD No. Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
;	a)	Labour					
		Mate		day	0.12	300.00	36.00
		Blacksmith		day	0.40	403.00	161.20
		Mazdoor (Unskill	ed)	day	2.50	300.00	750.00
I	b)	Material					
	i.	Barbed wire 428	m length @ 9.38 kg per 100 m	kg	40.15	88.20	3,541.23
		R.C.C. Post 150	mm x 150 mm x 2.4 m				
		M-15 Grade					
		13 x 150 mm x 1	50 mm x 2.4 m				
	ii.	As per item No.1	2.4.II of Chapter 12	cum	0.702	7,526.20	5,283.39
	iii.	Add 5 per cent e	xtra cost of C.C. for formwork of M	-15			264.17
		cutting, bending,	d steel/ deformed bars including tying & placing in position.				
		10 mm dia steel					
		13 x 4 x 2.4 =	124.80 m				
		@ 0.62 kg/mt =	77.38 kg				
		8 mm dia bars fo	r rings				
		13 x 11 x 0.6 =	85.80 m				
		@ 0.39 kg/m =	33.46 kg				
		Total	110.84 kg				
	iv.	As per item No.1	2.5 of Chapter 12	t	0.111	53,218.60	5,907.26
	v.	2 per cent of the	e, binding wire, drilling holes etc. @ cost of material				118.15
	c)	Painting					
		on exposed surfa	ts of painting including prime coat ace of RCC posts				
		As per item No.1	0.5 of this Chapter	sqm	12.10	85.40	1,033.34
	d)	0					0.00
	e)	-	ofit and overheads @ 15 % on (a	a+b{i,iii &	v}+d)		730.61
	Cos	t for 30 m fencing	= a+b+c+d+e				17,825.35
	Rate	e per m fencing =	= (a+b+c+d+e)/30				594.18
						say	<u>594.20</u>
	con per	crete to be added	for foundation and foundation separately in the cost estimate a . The rate for these items may be Chapters.	s			
			ling on Medium Weight Stee s) 100 mm x 50 mm	el			

Sr. Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
in cha abo apr 170	3 ro annels ove g prove 06.	g, fixing and erecting 50 mm dia steel pipe railing ows duly painted on medium weight steel s(ISMC series) 100 mm x 50 mm, 1.2 m high pround, 2 m centre-to-centre, complete as per d drawings MoRD technical specification Clause unning m				
		utning m				
i)	-	cavation for foundation (6 Nos.) 6 x 0.6 x 0.6 x				
		per item No.11.1.A.I(i) of Chapter 11	cum	1.296	287.000	371.95
ii)		undation concrete M-15 grade PCC 6 x 0.6 x x 0.3				
	As	per item No. 11.4.II(ii) of Chapter 11	cum	0.648	7,115.600	4,610.91
iii)	Pai	nting of pipe				
	As	per item No.10.6 of this Chapter	sqm	4.71	77.900	366.91
iv)		nting of channel section (6 nos.) m each 0.2 x 1.8 x 1.6 = 2.16				
	As	per item No.10.6 of this Chapter	sqm	2.16	77.900	168.26
	a)	labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
		Plumber	day	0.01	380.00	3.80
	b)	Material				
		Steel pipe 50 mm external dia as per IS:1239	m	30.00	390.00	11,700.00
		Medium weight steel channel (ISMC series) 100 mm x 50 mm, 10.8 m length @ 9.2 kg per m including 5 per cent wastage	kg	104.33	46.35	4,835.70
		Add for drilling holes @ 3 per cent of cost of char	nnels			145.07
	c)	Machinery				
		50 HP Tractor with trolley	hour	0.06	303.00	18.18
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 % or	n (a+b+c	c+d)		2,517.11
	Cos	st for 10 m = a+b+c+d+e				24,815.89
	Rat	e per m = (a+b+c+d+e)/10		2,481.59		
					say	<u>2481.60</u>
		Steel Railing on Precast RCC posts, 1.2 m ove Ground Level				

high above Ground Level

Providing, fencing and erecting 50 mm dia painted steel pipe railing in 3 rows on precast M-20 grade RCC vertical posts 175 mm x 175 mm x 1.8 m high (1.2 m above GL) with 3 holes 50 mm dia for pipe, fixed 2 m centre-tocentre complete as per approved drawings MoRD technical specification Clause 1706.

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Unit	t = R	unning m				
		Tak	ing c	putput = 10 m				
		i)		cavation for foundation (6 Nos.) 6 x 0.6 x 0.6 x				
			0.6 As	per item No.11.1.A.I(i) of Chapter 11	cum	1.296	287.000	371.95
		ii)	Fou	undation concrete M15 grade PCC 6 x 0.6 x x 0.3				
				per item No. 11.4II.ii of Chapter 11	cum	0.648	7,115.600	4,610.91
		iii)	RC	C M20 for precast posts (6 nos.) of 1.8 m each				
			As	per item No.12.4.V.i of Chapter 12	sqm	0.33	8,414.000	2,776.62
		iv)	Pai	nting of pipe				
			As	per item No.10.6 of this Chapter	sqm	4.71	77.900	366.91
			a)	Labour				
				Mate	day	0.014	300.00	4.20
				Mazdoor (Unskilled)	day	0.35	300.00	105.00
				Plumber	day	0.01	380.00	3.80
			b)	Material				
			i.	Steel pipe 50 mm dia as per IS:1239	m	30.00	390.00	11,700.00
			іі. с)	Twisted steel/ deformed bars As per item No.12.5 of Chapter 12 Machinery	t	0.032	53,218.60	1,703.00
				50 HP Tractor with trolley	hour	0.25	303.00	75.75
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % or	n (a+b.i-	+c+d)		1,783.31
			Cos	st for 10 m = $a+b+c+d+e$				23,129.50
			Rat	te per m = (a+b+c+d+e)/10				2,312.95
							say	<u>2312.90</u>
10.15	Suggestive	Tra	ffic (Cone				
		traff mat heig	fic c terial ght c	n of red fluorescent with white refective sleeve one made of Low Density Polythylene(LDPE) with a square base of 390 x 390 x 35 mm and a of 770 mm, 4 kg in weight, placed at 1.5 m all as per BS:873.				
		Unit	t = E	ach				
		Tak	ing c	putput = 68 Nos.				
		a)	Lat	bour				
			Mat	te	day	0.02	300.00	6.00
			Ma	zdoor (Unskilled)	day	0.50	300.00	150.00
		b)		terial	-			
			Tra	ffic cones with 150 mm reflective sleeve	Nos.	68.00	585.00	39,780.00

Sr.	Ref. to MORD			Description	Unit	Quantity	NCES Rate (₹)	Amount
No.	Spec.	 						(₹)
		c)	Мас	chinery				
			50 H	IP Tractor with trolley	Hour	0.10	303.00	30.30
		d)	0					0.00
		e)	Con	tractor's profit and overheads @ 15 % on (a+	-b+c+d)			5,994.95
		Cos	st for (68 Nos. = a+b+c+d+e				45,961.25
		Rate	e for	each cone = (a+b+c+d+e)/68				675.90
10.16	Suggestive	Run	nble	Strips			say	<u>675.90</u>
		Prov bitur wide loca	visior mino e pla ations	n of 15 nos. rumble strips covered with premix us carpet, 15-20 mm high at centre, 250 mm aced at 1 m centre-to-centre at approved to control speed, marked with white strips of king paint.				
		Unit	t = sq	m				
		Taki	ing o	utput = 57.188 sqm (including gaps)				
		(15.:	.25 m	long and 3.75 m wide area)				
			i)	Tack coat with bitumen emulsion 0.20 to 0.25 kg	per sqm	ı		
				As per item No.5.2(i) of Chapter 5	sqm	14.06	10.80	151.85
			ii)	20 mm thick open graded premix carpet using bituminous binder		44.00	045.00	0.005.55
				As per item No.5.8. Case-I.(II) of Chapter 5	cum	14.06	215.90	3,035.55
			iii)	Painting with road marking paint As per item No.10.8 of Chapter 10	sqm	7.03	114.20	802.83
				Add 2.00 % extra invlovement of labour for peacemeal work	oqm	1100	111120	79.80
			Cos	t for 57.188 sqm =				4,070.03
			Rate	e per sqm =				71.17
	Note:	be a	adop	per sqm of premix carpet and road marking may ted from Chapters 5 & 10 respectively for the s calculated from approved drawings.			say	<u>71.20</u>
10.17	Suggestive	Roa	ad Ma	arkers/Road Stud with Lens Reflector				
		in al fitteo aspl 600	lumin d wi haltic mm	g and fixing of road stud 100 x 100 mm die cast hium, resistant to corrosive effect of salt and grit, th lense reflectors, installed in concrete or surface by drilling holes 30 mm upto a depth of and bedded in a suitable bituminous grout or ortar, all as per BS:873(Part 4) 1973.				
		Unit	t = ea	ch				
		Taki	ing o	utput = 50 Nos.				
		(a)	Lab	our				
			Mat	e	day	0.04	300.00	12.00
			Maz	door (Unskilled)	day	1.00	300.00	300.00

Sr. No.	Ref. to MORD	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	(b)	Material				
		Aluminium studs 100x100 mm fitted with lense reflectors	Nos.	50.00	220.00	11,000.00
		Add 10 per cent of cost of material for fixing and installation.				1,100.00
	(c)	0				0.00
	(d)	Contractor's profit and overheads @ 15 % on (a-	-b+c)			1,861.80
	Co	st for 50 studs = a+b+c+d				14,273.80
	Ra	te per stud = (a+b+c+d)/50				285.48
					say	<u>285.50</u>

ADDITIONAL ITEMS BY USING JHAMA BRICK AGGREGATE (i.e. LOCALLY AVAILABLE MATERIALS)

10.18 1700, Traffic Signs (using jhama brick aggregate in CC/ PCC) 300, 800

Retro-reflectorised Traffic Signs Α.

(1) Providing and fixing of retro-reflectorised cautionary, mandatory and informatory sign as per IRC:67 made of encapsulated lens type reflective sheeting vide MoRD technical specification 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 M 15 grade cement concrete (using jhama brick aggregate) 450 mm x 450 mm x 600 mm, 600 mm below ground level as per approved drawings and MoRD Technical Specification Clause 801.

i) with 900 mm equilateral triangle aluminium sheeting

Unit = each

Taking output = one traffic sign i) Excavation for foundation As per item No.11.1.A.I(i) of Chapter 11 0.126 287.00 36.16 cum ii) Cement concrete M15 grade (using jhama brick aggregate) As per item No.11.9.II(ii) of Chapter 11 cum 0.126 6,061.90 763.80 iii) Painting Angle Iron Post with Primer and two coats of Epoxy Paint as per As per item No.10.7 of this Chapter 0.887 99.80 88.52 sqm a) labour (For fixing at site) Mate day 0.01 300.00 3.00 Mazdoor (Unskilled) 0.25 300.00 75.00 day b) Material Mild steel angle iron 75 x 75 x 6 mm 20.00 42.67 853.40 kg Page - 212 of 347 of Part- II

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				25.60
				Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
				900 mm equilateral triangle	sqm	0.35	764.00	267.40
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 9	% on (a	ı+b+c+d)		187.30
			Rate	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,324.42
							say	<u>2324.40</u>
	i	ii) witl	h 600) mm equilateral triangle aluminium sheeti	ing			
		Uni	t = ea	ach	-			
		Tak	ing o	utput = one traffic sign				
		i)	Exc	avation for foundation				
			As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
		ii)		nent concrete M15 grade (using jhama k aggregate)				
			As p	per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
		iii)		nting Angle Iron Post with Primer and coats of Epoxy Paint as per				
			As p	per item No.10.7 of this Chapter	sqm	0.887	99.80	88.52
			a)	labour (For fixing at site)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material				
				Mild steel angle iron 75 x 75 x 6 mm	kg	20.00	42.67	853.40
				Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				25.60
				Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
				with 600 mm equilateral triangle	sqm	0.156	764.00	119.18
			c)	Machinery	-			
			-	Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00

Sr. No.	Ref. to I MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			e)	Contractor's profit and overheads @ 15	% on (a	a+b+c+d)		165.06
			Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,153.97
							say	<u>2154.00</u>
		iii) wit	h 600	0 mm circular aluminium sheeting				
		Uni	it = ea	ach				
		Tak	king c	putput = one traffic sign				
		i)	Exc	avation for foundation				
			As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
		ii)		nent concrete M15 grade (using jhama :k aggregate)				
			As p	per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
		iii)	two	nting Angle Iron Post with Primer and coats of Epoxy Paint as per				
			As p	per item No.10.7 of this Chapter	sqm	0.887	99.80	88.52
			a)	labour (For fixing at site)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material			40.07	050 40
				Mild steel angle iron 75 x 75 x 6 mm	kg	20.00	42.67	853.40
				Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				25.60
				Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
				with 600 mm circular	sqm	0.283	764.00	216.21
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15	% on (a	a+b+c+d)		179.62
			Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,265.56
							say	<u>2265.60</u>
		iv) wit	h 800	0 x 600 mm rectangular aluminium sheetii	ng			
		Uni	it = ea	ach	-			
		Tak	king c	output = one traffic sign				
		i)	Exc	avation for foundation				
			As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
		ii)		nent concrete M15 grade (using jhama :k aggregate)				

Sr. No.	Ref. to MORD Spec.		Description		Unit	Quantity	Rate (₹)	Amount (₹)
			As per item No.11.9.II(ii) of Chapter 11		cum	0.126	6,061.90	763.80
		iii)	 Painting Angle Iron Post with Primer and two coats of Epoxy Paint as per 					
			As per item No.10.7 of this Chapter			0.887	99.80	88.52
			a)	labour (For fixing at site)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material				
				Mild steel angle iron 75 x 75 x 6 mm	kg	20.00	42.67	853.40
				Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				25.60
				Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
				with 800 x 600 mm rectangular	sqm	0.48	764.00	366.72
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
	e) Contractor's profit and overheads @ 15 % on (a+b+c+d) Rate per traffic sign = (i+ii+iii+a+b+c+d+e)						202.19	
							2,438.64	
	saj						say	<u>2438.60</u>
	v) with 600 x 450 mm rectangular aluminium sheeting							
	Unit = each							
		Taking output = one traffic sign						
		i)	i) Excavation for foundation					
			As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
		ii)	Cement concrete M15 grade (using jhama brick aggregate)					
		As per item No.11.9.II(ii) of Chapter 11 cum		0.126	6,061.90	763.80		
		iii)	Painting Angle Iron Post with Primer and two coats of Epoxy Paint as perAs per item No.10.7 of this Chaptersqm					
						0.887	99.80	88.52
			a)	labour (For fixing at site)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material				
				Mild steel angle iron 75 x 75 x 6 mm	kg	20.00	42.67	853.40

Sr. Ref. t Sr. MOR No. Spec			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				25.60
			Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
			with 600 x 450 mm rectangular	sqm	0.27	764.00	206.28
		c)	Machinery				
			Tractor with trolley	hour	0.08	303.00	24.24
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 9	% on (a	ı+b+c+d)		178.13
		Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,254.13
						say	<u>2254.10</u>
	vi) wit	h 600	0 x 600 mm square aluminium sheeting				
	Uni	t = ea	ach				
	Tak	king c	output = one traffic sign				
	i)	Exc	avation for foundation				
		As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
	ii)		nent concrete M15 grade (using jhama :k aggregate)				
		As p	per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
	iii)		nting Angle Iron Post with Primer and coats of Epoxy Paint as per				
		As p	per item No.10.7 of this Chapter	sqm	0.887	99.80	88.52
		a)	labour (For fixing at site)				
			Mate	day	0.01	300.00	3.00
			Mazdoor (Unskilled)	day	0.25	300.00	75.00
		b)	Material				
			Mild steel angle iron 75 x 75 x 6 mm	kg	20.00	42.67	853.40
			Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				25.60
			Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
			with 600 x 600 mm square	sqm	0.36	764.00	275.04
		c)	Machinery	-			
		-	Tractor with trolley	hour	0.08	303.00	24.24
		d)	0				0.00

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			e)	Contractor's profit and overheads @ 15 9	% on (a	a+b+c+d)		188.44
			Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,333.21
							say	<u>2333.20</u>
		vii) wit	h 900	0 mm side octagon aluminium sheeting				
		Uni	t = ea	ach				
		Tak	ing c	output = one traffic sign				
		i)	Exc	avation for foundation				
			As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
		ii)		nent concrete M15 grade (using jhama :k aggregate)				
			As p	per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
		iii)	two	nting Angle Iron Post with Primer and coats of Epoxy Paint as per				
			As p	per item No.10.7 of this Chapter	sqm	0.887	99.80	88.52
			a)	labour (For fixing at site)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material				
				Mild steel angle iron 75 x 75 x 6 mm	kg	20.00	42.67	853.40
				Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				25.60
				Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
				with 900 mm side octagon	sqm	0.672	764.00	513.41
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 9	% on (a	a+b+c+d)		224.20
			Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,607.33
							say	<u>2607.30</u>

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
		ma of Mo ove GI me gra age bel	andate enca RD t er alu pipe eans ade grega ow g	g and fixing of retro-reflectorised cautionary, bry and informatory sign as per IRC:67 made psulated lens type reflective sheeting vide echnical specification Clause 1701.2.3 fixed minium sheeting, 1.5 mm thick supported on 50 mm dia firmly fixed to the ground by of properly designed foundation with M-15 cement concrete (using jhama brick te) 450 mm x 450 mm x 600 mm, 600 mm ground level as per approveddrawings and rechnical Specification Clause 1701.				
		Un	it = e	ach				
		Ta	king o	output = one traffic sign				
		i) wit	th 90	0 mm equilateral triangle aluminium sheet	ing			
		i)	Exc	cavation for foundation				
			As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
		ii)	brio	nent concrete M15 grade (using jhama ck aggregate) per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
			a)	a)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material				
				50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00
				Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10
				Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
				900 mm equilateral triangle	sqm	0.35	764.00	267.40
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15	% on (a	a+b+c+d)		236.21
			Rat	e per traffic sign = (i+ii+a+b+c+d+e)				2,610.91
							say	<u>2610.90</u>
		ii) wit	th 60	0 mm equilateral triangle aluminium sheet	ing			
		i)	Exc	cavation for foundation				
			As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16

Sr. MORD		Description	Unit	Quantity	Rate (₹)	Amount (₹)
i <u>Spec.</u> i ii)		nent concrete M15 grade (using jhama	<u></u>	LI		I
		:k aggregate) per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
	a)	Labour (For fixing at site)	cum	0.120	0,001.00	700.00
	u)	Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material	aay	0.20		
	~,	50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00
		Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10
		Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
		600 mm equilateral triangle	sqm	0.156	764.00	119.18
	c)	Machinery				
		Tractor with trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ on	(a+b+c	+d)		213.98
	Rat	e per traffic sign = (i+ii+a+b+c+d+e)				2,440.46
					say	<u>2440.50</u>
iii) wit	h 600	0 mm circular aluminium sheeting				
, i)	_	avation for foundation				
,	As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
ii)		nent concrete M15 grade (using jhama k aggregate)				
		per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
	a)	Labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				
		50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00
		Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10
		Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				

,	۲ 		FIC	SIGNS, MARKINGS AND OTHER RO		PURTENA	NCES	
	Ref. to I NORD Spec.			Description	Unit	Quantity	Rate (₹) 	Amount (₹)
				600 mm circular	sqm	0.283	764.00	216.21
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 9	% on (a	a+b+c+d)		228.53
			Rat	e per traffic sign = (i+ii+a+b+c+d+e)				2,552.05
							say	<u>2552.00</u>
	iv	v) wit	h 80	0 x 600 mm rectangular aluminium sheetin	g			
		i)	Exc	cavation for foundation				
			As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
		ii)		nent concrete M15 grade (using jhama ck aggregate)				
			As	per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
			a)	Labour (For fixing at site)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material				
				50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00
				Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10
				Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
				800 mm x 600 mm rectangular	sqm	0.48	764.00	366.72
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 0	% on (a	a+b+c+d)		251.11
			Rat	e per traffic sign = (i+ii+a+b+c+d+e)				2,725.13
							say	<u>2725.10</u>
	Ň	v) wit	h 60	0 x 450 mm rectangular aluminium sheetin	g			
		i)		cavation for foundation	-			
		,		per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
		ii)	Cer	nent concrete M15 grade (using jhama ck aggregate)				
				per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80

Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
·	a)	Labour (For fixing at site)				/
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				
		50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00
		Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10
		Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
		600 mm x 450 mm rectangular	sqm	0.27	764.00	206.28
	c)	Machinery				
		Tractor with trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 °	% on (a	a+b+c+d)		227.04
	Rat	te per traffic sign = (i+ii+a+b+c+d+e)				2,540.62
					say	<u>2540.60</u>
vi) wit	th 60	0 mm x 600 mm square aluminium sheetin	g			
i)	Exc	cavation for foundation				
	As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
ii)	brie	ment concrete M15 grade (using jhama ck aggregate)				
	As	per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
	a)	Labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material		0.00		
		50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00
		Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10
		Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
		600 mm x 600 mm square	sqm	0.36	764.00	275.04
	c)	Machinery				
		Tractor with trolley	hour	0.08	303.00	24.24
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Sr. Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15	% on (a	a+b+c+d)		237.36
	Rat	e per traffic sign = (i+ii+a+b+c+d+e)				2,619.70
					say	<u>2619.70</u>
vii) w	ith 90	0 mm side octagon aluminium sheeting				
i)	Exc	cavation for foundation				
	As	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
ii)		nent concrete M15 grade (using jhama ck aggregate)				
	As	per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
	a)	Labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				
		50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00
		Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10
		Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
		900 mm sides octagon	sqm	0.672	764.00	513.41
	c)	Machinery				
		Tractor with trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15	% on (a	a+b+c+d)		273.11
	Rat	e per traffic sign = (i+ii+a+b+c+d+e)				2,893.82
					say	<u>2893.80</u>
m of M	andato enca loRD t	g and fixing of retro-reflectorised cautionary, ory and informatory sign as per IRC:67 made psulated lens type reflective sheeting vide echnical specification Clause 1701.2.3 fixed minium sheeting, 1.5 mm thick supported on				

MoRD technical specification Clause 1701.2.3 fixed over aluminium sheeting, 1.5 mm thick supported on RCC post 100 mm x 100 mm firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete (using jhama brick aggregate) 450 mm x 450 mm x 600 mm, 600 mm below ground level as per approved drawings and MoRD Technical Specification Clause 1701.

i) with 900 mm equilateral triangle aluminium sheeting

· — — — ·	Ref. to											
Sr. No.	MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)				
		Uni	t = ea	ach								
		Tak	king c	putput = one traffic sign								
		i)	Exc	avation for foundation								
			As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16				
		ii)		nent concrete M15 grade (using jhama ck aggregate)								
				per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80				
		iii)	con	nting two coats including Prime coat on acrete surface with Epoxy Paint as per crifications								
			As p	per item No.10.7 of this Chapter	sqm	0.90	99.80	89.82				
			a)	labour (For fixing at site)								
				Mate	day	0.01	300.00	3.00				
				Mazdoor (Unskilled)	day	0.25	300.00	75.00				
			b)	Material								
			i.	PCC M15 Grade in Sub-structure (using jhama brick aggregate)								
				As per item No.12.14.II of Chapter 12	cum	0.0285	6,411.60	182.73				
			ii.	Twisted steel/ deformed bar								
				As per item No.12.5 of Chapter 12	t	0.0077	53,218.60	409.78				
			iii.	Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts, etc.				17.78				
			iv	Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint								
				900 mm equilateral triangle	sqm	0.35	764.00	267.40				
			c)	Machinery	·							
			-	Tractor with trolley	hour	0.08	303.00	24.24				
			d)	0				0.00				
			e)	Contractor's profit and overheads @ 15 9	% on (a	+b.iii.iv+c+c	I)	58.11				
			Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				1,927.82				
							say	<u>1927.80</u>				
		ii) wit	h 600	0 mm equilateral triangle aluminium sheeti	ng							
		Uni	t = ea	ach								
		Tak	king c	putput = one traffic sign								
		i)	Exc	avation for foundation								
			As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16				

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Sr. No.	I Ref. to I MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
		ii)		nent concrete M15 grade (using jhama k aggregate)				
			As p	per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
		iii)	con	nting two coats including Prime coat on crete surface with Epoxy Paint as per cifications				
			As p	per item No.10.7 of this Chapter	sqm	0.90	99.80	89.82
			a)	labour (For fixing at site)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material				
			i.	PCC M15 Grade in Sub-structure (using jhama brick aggregate)				
				As per item No.12.14.II of Chapter 12	cum	0.0285	6,411.60	182.73
			ii.	Twisted steel/ deformed bar				
				As per item No.12.5 of Chapter 12	t	0.0077	53,218.60	409.78
			iii.	Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts, etc.				17.78
			iv	Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
				with 600 mm equilateral triangle	sqm	0.156	764.00	119.18
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 9	% on (a	a+b.iii.iv+c+c	d)	35.88
			Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				1,757.37
							say	<u>1757.40</u>
		i)ifi	h 601	0 mm circular aluminium sheeting				
		-	t = ea	_				
			-	butput = one traffic sign				
		i)		evation for foundation	0.100	0.126	287.00	36.16
		ii)	Cer	ber item No.11.1.A.I(i) of Chapter 11 nent concrete M15 grade (using jhama ck aggregate)	cum	0.120	207.00	50.10
				ber item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
		iii)	Pair con	nting two coats including Prime coat on crete surface with Epoxy Paint as per critications			-,	

Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
·	As	per item No.10.7 of this Chapter	sqm	0.90	99.80	89.82
	a)	labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				
	i.	PCC M15 Grade in Sub-structure (using jhama brick aggregate)	cum	0.0285	6,411.60	182.73
		As per item No.12.14.II of Chapter 12				
	ii.	Twisted steel/ deformed bars				
		As per item No.12.5 of Chapter 12	t	0.0077	53,218.60	409.78
	iii.	Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts, etc.				17.78
	iv	Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
		with 600 mm circular	sqm	0.283	764.00	216.21
	c)	Machinery				
		Tractor with trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 9	% on (a	a+b.iii.iv+c+c	i)	50.43
	Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				1,868.96
					say	<u>1869.00</u>
iv) wit	h 80	0 x 600 mm rectangular aluminium sheetir	na			
	it = e	-	5			
Tal	king c	putput = one traffic sign				
i)	•	avation for foundation				
,	Ası	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
ii)		nent concrete M15 grade (using jhama :k aggregate)				
	As I	per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
iii)	con	nting two coats including Prime coat on acrete surface with Epoxy Paint as per acifications				
	As I	per item No.10.7 of this Chapter	sqm	0.90	99.80	89.82
	a)	labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				

; <u>-</u> -			AFFIC SIGNS, MARKINGS AND OTHER ROAD APPURTENANCES								
	lef. to I IORD I Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)			
			i.	PCC M15 Grade in Sub-structure (using							
				jhama brick aggregate) As per item No.12.14.II of Chapter 12	0.UM	0.0285	6,411.60	182.73			
			ii.	Steel reinforcement Twisted steel/ deformed	cum d bars	0.0203	0,411.00	102.75			
				As per item No.12.5 of Chapter 12	t	0 0077	53,218.60	409.78			
			iii.	Add 3 per cent of cost of RCC Post	ſ	0.0077	55,210.00	17.78			
				towards cost of drilling holes, nuts, bolts, etc.				17.70			
			iv	Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint							
				with 800 x 600 mm rectangular	sqm	0.48	764.00	366.72			
			c)	Machinery							
				Tractor with trolley	hour	0.08	303.00	24.24			
			d)	0				0.00			
			e)	Contractor's profit and overheads @ 15	% on (a	a+b.iii.iv+c+c	(k	73.01			
			Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,042.04			
							say	<u>2042.00</u>			
	v)			0 x 450 mm rectangular aluminium sheetir	ng						
			t = ea								
			-	output = one traffic sign							
		i)		avation for foundation							
			-	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16			
		ii)		nent concrete M15 grade (using jhama :k aggregate)							
				per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80			
		iii)	con	nting two coats including Prime coat on crete surface with Epoxy Paint as per cifications							
			As	per item No.10.7 of this Chapter	sqm	0.90	99.80	89.82			
			a)	labour (For fixing at site)							
				Mate	day	0.01	300.00	3.00			
				Mazdoor (Unskilled)	day	0.25	300.00	75.00			
			b)	Material							
			i.	PCC M15 Grade in Sub-structure (using jhama brick aggregate)							
				As per item No.12.14.II of Chapter 12	cum	0.0285	6,411.60	182.73			
			ii.	Steel reinforcement Twisted steel/ deformed							
				As per item No.12.5 of Chapter 12	t	0.0077	53,218.60	409.78			

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			iii.	Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts, etc.				17.78
			iv	Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
				with 600 x 450 mm rectangular	sqm	0.27	764.00	206.28
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15	% on (a	a+b.iii.iv+c+c	l)	48.94
			Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				1,857.53
							say	<u>1857.50</u>
		vi) wit	h 600	0 x 600 mm square aluminium sheeting				
		Uni	t = ea	ach				
		Tak	ing c	output = one traffic sign				
		i)	Exc	avation for foundation				
			As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
		ii)		nent concrete M15 grade (using jhama :k aggregate)				
			As p	per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
		iii)	con	nting two coats including Prime coat on crete surface with Epoxy Paint as per cifications				
			As p	per item No.10.7 of this Chapter	sqm	0.90	99.80	89.82
			a)	labour (For fixing at site)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material				
			i.	PCC M15 Grade in Sub-structure (using jhama brick aggregate)				
				As per item No.12.14.II of Chapter 12	cum	0.0285	6,411.60	182.73
			ii.	Steel reinforcement Twisted steel/ deformed	d bars			
				As per item No.12.5 of Chapter 12	t	0.0077	53,218.60	409.78
			iii.	Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts, etc.				17.78

Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	iv	Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
		with 600 x 600 mm square	sqm	0.35	764.00	267.40
	c)	Machinery				
		Tractor with trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 9	% on (a	a+b.iii.iv+c+c	i)	58.11
	Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				1,927.82
					say	<u>1927.80</u>
vii) wit	th 900	0 mm side octagon aluminium sheeting				
Un	it = ea	ach				
Tal	king c	output = one traffic sign				
i)	Exc	avation for foundation				
	As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
ii)		nent concrete M15 grade (using jhama ck aggregate)				
	As p	per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
iii)	con	nting two coats including Prime coat on crete surface with Epoxy Paint as per cifications				
	As p	per item No.10.7 of this Chapter	sqm	0.90	99.80	89.82
	a)	labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				
	i.	PCC M15 Grade in Sub-structure (using jhama brick aggregate)				
		As per item No.12.14.II of Chapter 12	cum	0.0285	6,411.60	182.73
	ii.	Steel reinforcement Twisted steel/ deformed	bars			
		As per item No.12.5 of Chapter 12	t	0.0077	53,218.60	409.78
	iii.	Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts, etc.				17.78
	iv	Aluminium sheeting 1.5 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint				
		with 900 mm side octagon	sqm	0.672	764.00	513.41
	c)	Machinery				

Chapter 10
TRAFFIC SIGNS, MARKINGS AND OTHER ROAD APPURTENANCES

Sr. Ref. to No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Tractor with trolley	hour	0.08	303.00	24.24
		d) 0				0.00
		e) Contractor's profit and overheads @ 15 9	% on (a	a+b.iii.iv+c+c	I)	95.01
		Rate per traffic sign = (i+ii+iii+a+b+c+d+e)				2,210.73
					say	<u>2210.70</u>
Note:	1	Any one area of aluminium sheeting given at (i) to (vii) may be adopted as per site requirement and in accordance with IRC:67.				
	2	The rate for excavation, cement concrete M-15, RCC M-15 in Sub-structure, steel re-inforcement and painting may be taken from respective Chapters.				
	3	The depth of foundation and quantity of cement concrete in the foundation are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.				
E	3.	Semi Reflective Traffic Signs				
		Providing and fixing of semi reflective cautionary, mandatory and informatory sign board as per IRC:67 made of 1.5 mm thick MS sheet duly stove white colour in front and gray colour on back with red reflective border of 65 mm width and required letters and figures with reflective tape engineering grade as per Clause 1701.3.9 of MORD specification for Rural Roads of required shade and colour supported and welded on 47 mm x 47 mm x 12 SWG sheet tube firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete (using jhama brick aggregate) 450 mm x 450 mm x 600 mm, 600 mm bellow ground level as per approved drawings and MoRD technical specification Clause 1701.2.2.				
		Unit = Each				
		Taking output = one traffic sign				
ij)	with 900 mm equilateral triangle MS sheeting				
	(i)	Excavation foundations				
		As per Item No. 1 to 11.1 of Chapter 11	cum	0.126	287.00	36.16
	(ii)	Cement concrete M15 grade (using jhama brick aggregate) As per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
((iii)	Painting steel tube posts with primer and two coats of epoxy paint as per specifications As per item no 10.7 of Chapter 11	sqm	0.46	99.80	45.91
		a) Labour (For fixing at site)	1	00	20.00	
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
			,	-		-

Sr. Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	b)	Material				/
		Support of M.S. Sheet tube				
		(I) 47 mm x 47 mm x 12 SWG Sheet	kg	12.40	54.96	681.50
		3050 mm long				
		 (II) Angle iron 50 x 50 x 6 mm for hold fast including 5% wastage 	kg	1.06	42.67	45.23
		Add 3% cost of MS Sheet tube 12 SWG and angle irons towards the cost of fabrication, drilling holes, nuts and bolts etc.				21.80
		(III) 1.5 mm thick M.S. Sheet duly painted with stove enamelled paint including lettering, signs, border, message with reflective tape of engineering grade required size, shade and colour as per Technical Specifications				
		900 mm equilateral & triangle	sqm	0.35	530.00	185.50
	c)	Machinery				
		Tractor with Trolley	hour	0.08	303.00	24.24
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 % or	n (a+b+	c+d)		155.44
	Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,037.59
					say	<u>2037.60</u>
ii)	wit	h 600 mm equilateral triangle MS sheeting				
(i)	Exc	avation foundations				
	As	per Item No. 1 to 11.1 of Chapter 11	cum	0.126	287.00	36.16
(ii)		nent concrete M15 grade (using jhama brick jregate)				
	As	per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
(iii)	COa	nting steel tube posts with primer and two ts of epoxy paint as per specifications				
		per item no 10.7 of Chapter 11	sqm	0.46	99.80	45.91
	a)	Labour (For fixing at site)				
		Mate	day	0.01	300.00	3.00
		Mazdoor (Unskilled)	day	0.25	300.00	75.00
	b)	Material				
		Support of M.S. Sheet tube		10.10	54.00	004 50
		(I) 47 mm x 47 mm x 12 SWG Sheet	kg	12.40	54.96	681.50
		3050 mm long(II) Angle iron 50 x 50 x 6 mm for hold fast including 5% wastage	kg	1.06	42.67	45.23

Sr. Ref. to Sr. MORD No. Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Add 3% cost of MS Sheet tube 12 SWG and angle irons towards the cost of fabrication, drilling holes, nuts and bolts etc.				21.80
		(111)	1.5 mm thick M.S. Sheet duly painted with stove enamelled paint including lettering, signs, border, message with reflective tape of engineering grade required size, shade and colour as per Technical Specifications	sqm			
			600 mm equilateral & triangle	sqm	0.156	530.00	0.00
	c)	Mac	hinery				
		Trac	ctor with Trolley	hour	0.08	303.00	24.24
	d)	0					0.00
	e)	Con	tractor's profit and overheads $@$ 15 % or	ו (a+b+ו	c+d)		127.62
	Rat	te pe	r traffic sign = (i+ii+iii+a+b+c+d+e)				1,824.26
						say	<u>1824.30</u>
iii)	wit	th 600) mm circular MS sheeting				
(i)	Exe	cavat	ion foundations				
	As	per It	em No. 1 to 11.1 of Chapter 11	cum	0.126	287.00	36.16
(ii)		ment grega	concrete M15 grade (using jhama brick tte)				
	As	per it	em No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
(iii)	COa	ats of	steel tube posts with primer and two epoxy paint as per specifications				
	As		em no 10.7 of Chapter 11	sqm	0.46	99.80	45.91
	a)		our (For fixing at site)				
		Mate		day	0.01	300.00	3.00
			door (Unskilled)	day	0.25	300.00	75.00
	b)		erial				
		-	port of M.S. Sheet tube	ka	12.40	E4.00	694 50
		(1)	47 mm x 47 mm x 12 SWG Sheet 3050 mm long	kg	12.40	54.96	681.50
		(II)	Angle iron 50 x 50 x 6 mm for hold fast	kg	1.06	42.67	45.23
			including 5% wastage	Ū			
			Add 3% cost of MS Sheet tube 12 SWG and angle irons towards the cost of fabrication, drilling holes, nuts and bolts etc.				21.80
		(111)	1.5 mm thick M.S. Sheet duly painted with stove enamelled paint including lettering, signs, border, message with reflective tape of engineering grade required size, shade and colour as per Technical Specifications	sqm			

Sr. Ref. to No. MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			600 mm circular	sqm	0.283	530.00	149.99
	c)	Мас	hinery				
		Trac	tor with Trolley	hour	0.08	303.00	24.24
	d)	0					0.00
	e)	Con	tractor's profit and overheads $@$ 15 % or	n (a+b+o	c+d)		150.11
	Rat	te per	traffic sign = (i+ii+iii+a+b+c+d+e)				1,996.75
						say	<u>1996.80</u>
iv)	wit	th 800	x 600 mm rectangular MS sheeting				
(i)	Exe	cavati	ion foundations				
	As	per Ite	em No. 1 to 11.1 of Chapter 11	cum	0.126	287.00	36.16
(ii)		ment grega	concrete M15 grade (using jhama brick te)				
	As	per ite	em No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
(iii)	coa	ats of	steel tube posts with primer and two epoxy paint as per specifications em no 10.7 of Chapter 11		0.46	99.80	45.91
		-	·	sqm	0.46	99.00	45.91
	a)	Mate	our (For fixing at site)	dav	0.01	300.00	3.00
			door (Unskilled)	day day	0.01	300.00	75.00
	b)	Mate		uay	0.25	300.00	75.00
	5)		port of M.S. Sheet tube				
			47 mm x 47 mm x 12 SWG Sheet	kg	12.40	54.96	681.50
		(1)	3050 mm long				
		(II)	Angle iron 50 x 50 x 6 mm for hold fast including 5% wastage	kg	1.06	42.67	45.23
			Add 3% cost of MS Sheet tube 12 SWG and angle irons towards the cost of fabrication, drilling holes, nuts and bolts etc.				21.80
		(111)	1.5 mm thick M.S. Sheet duly painted with stove enamelled paint including lettering, signs, border, message with reflective tape of engineering grade required size, shade and colour as per Technical Specifications	sqm			
			800 mm x 600 mm rectangular	sqm	0.48	530.00	254.40
	c)	Мас	hinery				
		Trac	tor with Trolley	hour	0.08	303.00	24.24
	d)	0					0.00
	e)	Con	tractor's profit and overheads $@$ 15 % or	n (a+b+o	c+d)		165.78
	Rat	te per	traffic sign = (i+ii+iii+a+b+c+d+e)				2,116.82

Sr. Ref. No. MOR	D		Description	Unit	Quantity	Rate (₹)	Amount (₹)
·						say	<u>2116.80</u>
	v)	with 600) x 450 mm rectangular MS sheeting				
	(i)	Excavat	ion foundations				
		As per It	em No. 1 to 11.1 of Chapter 11	cum	0.126	287.00	36.16
	(ii)	Cement aggrega	concrete M15 grade (using jhama brick nte)				
			em No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
	(iii)	_	g steel tube posts with primer and two f epoxy paint as per specifications				
			em no 10.7 of Chapter 11	sqm	0.46	99.80	45.91
		a) Lab	our (For fixing at site)				
		Mat	e	day	0.01	300.00	3.00
		Maz	zdoor (Unskilled)	day	0.25	300.00	75.00
		b) Mat	erial				
		Sup	port of M.S. Sheet tube				
		(I)	47 mm x 47 mm x 12 SWG Sheet	kg	12.40	54.96	681.50
			3050 mm long				
		(II)	Angle iron 50 x 50 x 6 mm for hold fast including 5% wastage	kg	1.06	42.67	45.23
			Add 3% cost of MS Sheet tube 12 SWG and angle irons towards the cost of fabrication, drilling holes, nuts and bolts etc.				21.80
		(111)	1.5 mm thick M.S. Sheet duly painted with stove enamelled paint including lettering, signs, border, message with reflective tape of engineering grade required size, shade and colour as per Technical Specifications	sqm			
			600 mm x 450 mm rectangular	sqm	0.27	530.00	143.10
		c) Mad	chinery			-	-
		-	ctor with Trolley	hour	0.08	303.00	24.24
		d) 0	-				0.00
		-	ntractor's profit and overheads @ 15 % or	n (a+b+	c+d)		149.08
		-	r traffic sign = (i+ii+iii+a+b+c+d+e)	·	,		1,988.83
			2 . , ,			say	<u>1988.80</u>
	vi)	with 600) x 600 mm square MS sheeting				
	(i)	Excavat	ion foundations				
		As per It	em No. 1 to 11.1 of Chapter 11	cum	0.126	287.00	36.16
	(ii)	Cement aggrega	concrete M15 grade (using jhama brick tte)				
			em No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
						D 000	f 247 of Dort

i	Ref. to I												
Sr. No.	MORD Spec.		_	Description	Unit	Quantity	Rate (₹)	Amount (₹)					
		(iii)		nting steel tube posts with primer and two ats of epoxy paint as per specifications									
			As	per item no 10.7 of Chapter 11	sqm	0.46	99.80	45.91					
			a)	Labour (For fixing at site)									
				Mate	day	0.01	300.00	3.00					
				Mazdoor (Unskilled)	day	0.25	300.00	75.00					
			b)	Material									
				Support of M.S. Sheet tube									
				(I) 47 mm x 47 mm x 12 SWG Sheet	kg	12.40	54.96	681.50					
				3050 mm long									
				 (II) Angle iron 50 x 50 x 6 mm for hold fast including 5% wastage 	kg	1.06	42.67	45.23					
				Add 3% cost of MS Sheet tube 12 SWG and angle irons towards the cost of fabrication, drilling holes, nuts and bolts etc.				21.80					
				(III) 1.5 mm thick M.S. Sheet duly painted with stove enamelled paint including lettering, signs, border, message with reflective tape of engineering grade required size, shade and colour as per Technical Specifications									
				600 mm x 600 mm	sqm	0.36	530.00	190.80					
			c)	Machinery									
				Tractor with Trolley	hour	0.08	303.00	24.24					
			d)	0				0.00					
			e)	Contractor's profit and overheads $@$ 15 % or	n (a+b+	c+d)		156.24					
			Rat	e per traffic sign = (i+ii+iii+a+b+c+d+e)				2,043.68					
							say	<u>2043.70</u>					
		vii)	wit	h 900 mm side octagon MS sheeting									
		(i)	Exc	cavation foundations									
			As	per Item No. 1 to 11.1 of Chapter 11	cum	0.126	287.00	36.16					
		(ii)		ment concrete M15 grade (using jhama brick gregate)									
			As	per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80					
		(iii)		nting steel tube posts with primer and two ats of epoxy paint as per specifications									
			As	per item no 10.7 of Chapter 11	sqm	0.46	99.80	45.91					
			a)	Labour (For fixing at site)									
				Mate	day	0.01	300.00	3.00					
				Mazdoor (Unskilled)	day	0.25	300.00	75.00					
			b)	Material									

Sr. No.	Ref. to MORD Spec.				Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Sup	port of M.S. Sheet tube				
				(I)	47 mm x 47 mm x 12 SWG Sheet	kg	12.40	54.96	681.50
					3050 mm long				
				(11)	Angle iron 50 x 50 x 6 mm for hold fast including 5% wastage	kg	1.06	42.67	45.23
					Add 3% cost of MS Sheet tube 12 SWG and angle irons towards the cost of fabrication, drilling holes, nuts and bolts etc.				21.80
				(111)	1.5 mm thick M.S. Sheet duly painted with stove enamelled paint including lettering, signs, border, message with reflective tape of engineering grade required size, shade and colour as per Technical Specifications				
					900 mm side octagon	sqm	0.672	530.00	356.16
			c)	Мас	hinery				
				Trac	ctor with Trolley	hour	0.08	303.00	24.24
			d)	0					0.00
			e)	Con	tractor's profit and overheads $@$ 15 % or	n (a+b+	c+d)		181.04
			Rat	te pe	r traffic sign = (i+ii+iii+a+b+c+d+e)				2,233.85
								say	<u>2233.80</u>
	Note:	1	be	ado	area of M.S. Sheet given at (i) to (viii) may pted as per site requirement and in nce with IRC-67.				
		2			for excavation, cement concrete M-15, and may be taken from respective Chapters.				
		3	the inci like	fou rease in c	th of foundation and quantity of cement in ndation are indicative. These may be d for areas having higher wind velocities oastal area. This is applicable to all road d direction boards.				
10.19			ectio	on an	d Blace Identification signs upto 0.9 sqm Ising jhama brick aggregate in CC / PCC)				

A. Retro-reflectorised Traffic Signs

Sr. No.	Ref. to MORD		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		iden ma vide fixe not sing fixe fou jhan mm	widing and erecting direction and place ntification retro-reflectorised sign as per IRC:67 de of encapsulated lens type reflective sheeting e MoRD technical specification Clause 1701.2.3 d over aluminium sheeting, 2 mm thick with area exeeding 0.9 sqm supported on a mild steel gle angle iron post 75 mm x 75 mm x 6 mm firmly d to the ground by means of properly designed ndation with M 15 grade cement concrete (using ma brick aggregate) 450 mm x 450 mm x 600 n, 600 mm bellow ground level as per approved wings and MoRD Technical Specification Clause 01.				
		Uni	t = sqm				
		Tak	king output = 0.9 sqm				
		i)	Excavation for foundation				
			As per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
		ii)	Cement concrete M15 grade (using jhama brick aggregate) As per item No.11.9.II(ii) of Chapter 11		0.126	6,061.90	763.80
		iii)	Painting Angle Iron Post with Primer and two coats of Epoxy Paint as per				
			Rate as per item No.10.7 of this Chapter	sqm	0.887	99.80	88.52
		a)	Labour (For fixing at site)				
			Mate	day	0.01	300.00	3.00
			Mazdoor (Unskilled)	day	0.25	300.00	75.00
		b)	Material				
			Mild steel angle iron 75 x 75 x 6 mm	kg	20.00	42.67	853.40
			Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				25.60
			Aluminium sheeting 2.0 mm thick fixed with encapsulated lens type reflective sheeting of size 0.90 sqm including lettering and signs as applicable background with epoxy paint	sqm	0.90	925.00	832.50
		c)	Machinery				
			Tractor with trolley	hour	0.08	303.00	24.24
		d)	0				0.00
		e)	Contractor's profit and overheads $@$ 15 % or	n (a+b+o	c+d)		272.06
		Cos	st for 0.9 sqm = (i+ii+iii+a+b+c+d+e)				2,974.29
			te per sqm (for sign having area upto 0.9 sqm) +ii+iii+a+b+c+d+e)/0.90				3,304.76
						say	<u>3304.80</u>

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
		(ii)	ider mae vide fixe not Pip des con 450 per	viding and erecting direction and place ntification retro-reflectorised sign as per IRC:67 de of encapsulated lens type reflective sheeting e MoRD technical specification Clause 1701.2.3 d over aluminium sheeting, 2 mm thick with area exeeding 0.9 sqm supported on 50 mm dia GI e firmly fixed to the ground by means of properly signed foundation with M 15 grade cement icrete (using jhama brick aggregate) 450 mm x 0 mm x 600 mm, 600 mm bellow ground level as approved drawings and MoRD Technical ecification Clause 1701.				
			Uni	t = sqm				
			Tak	xing output = 0.9 sqm				
			i)	Excavation for foundation				
				As per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
			ii)	Cement concrete M15 grade (using jhama brick aggregate) As per item No.11.9.II(ii) of Chapter 11		0.126	6,061.90	763.80
			a)	Labour (For fixing at site)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material				
				50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	3.00	390.00	1,170.00
				Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts etc.				35.10
				Aluminium sheeting 2.0 mm thick fixed with encapsulated lens type reflective sheeting of size 0.90 sqm including lettering and signs as applicable background with epoxy paint	sqm	0.90	925.00	832.50
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads $@$ 15 % or	n (a+b+	c+d)		320.98
			Cos	st for 0.9 sqm = (i+ii+iii+a+b+c+d+e)		3,260.78		
				e per sqm (for sign having area upto 0.9 sqm) +ii+iii+a+b+c+d+e)/0.90				3,623.09
			-				say	<u>3623.10</u>

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
		i r f r c c c r	iden mac vide fixed not mm of p cem mm leve	viding and erecting direction and place tification retro-reflectorised sign as per IRC:67 de of encapsulated lens type reflective sheeting MoRD technical specification Clause 1701.2.3 d over aluminium sheeting, 2 mm thick with area exceeding 0.9 sqm supported on RCC post 100 x 100 mm firmly fixed to the ground by means properly designed foundation with M 15 grade tent concrete (using jhama brick aggregate) 450 x 450 mm x 600 mm, 600 mm below ground at as per approved drawings and MoRD hnical Specification Clause 1701.				
		ι	Unit	= sqm				
		-	Tak	ing output = 0.9 sqm				
		i	i)	Excavation for foundation				
				As per item No.11.1.A.I(i) of Chapter 11	cum	0.126	287.00	36.16
		i	ii)	Cement concrete M15 grade (using jhama brick aggregate)				
				As per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
		i	iii)	Painting two coats including prime coat on concrete surface with Epoxy Paint as per specifications				
				As per item No.10.7 of Chapter 10	sqm	0.90	99.80	89.82
			a)	Labour (For fixing at site)				
				Mate	day	0.01	300.00	3.00
				Mazdoor (Unskilled)	day	0.25	300.00	75.00
			b)	Material				
			i.	PCC M-15 Grade in Sub-structure (using jhama brick aggregate)				
				As per item No.12.14.II of Chapter 12	cum	0.0285	6,411.60	182.73
			ii.	Steel re-inforcement Twisted steel/ deformed bar	S			
				As per item No.12.5 of Chapter 12	t	0.0077	53,218.60	409.78
				Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts etc.				17.78
			IV.	Aluminium sheeting 2.0 mm thick fixed with encapsulated lens type reflective sheeting of size 0.90 sqm including lettering and signs as applicable background with epoxy paint	sqm	0.90	925.00	832.50
			c)	Machinery				
				Tractor with trolley	hour	0.08	303.00	24.24
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % on	ı (a+b.ii	ii.iv+c+d)		142.88
		(Cos	t for 0.9 sqm = (i+ii+iii+a+b+c+d+e)				2,577.69

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Rate per sqm (for sign having area upto 0.9 sqm) = (i+ii+iii+a+b+c+d+e)/0.90			say	2,864.10 <u>2864.10</u>
	Note:	1	Lettering and arrow markings on sign board to be provided separately as per actual requirement. Rates for these items have been analysed separately.				
		2	The rate for excavation, cement concret M15, RCC M15 in Sub-structure, steel re-inforcement and painting may be taken from respective Chapters.				
		3	The depth of foundation and quantity of cement concrete in the foundation are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.				
		В.	Semi-Reflective Traffic signs				
			Direction and place indentification signs up to 0.9 sqm size board				
			Providing and erecting and place identifications of semi reflective sign boards as per IRC:67 made of 2 mm thick M.S. sheet duly stove enameled paint in white colour in front and gray colour on back with red reflective border of 70 mm width and required message, letters and figures with reflective engineering grade tape as per MORD specifications of required shade and colour. Supported and welded on 47 mm x 47 mm x 12 SWG square tube of 3050 mm height duly strengthened by 25 mm x 5 mm MS flat iron on edges on back firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete (using jhama brick aggregate) 450 mm x 450 mm x 600 mm, 600 mm bellow ground level as per approved drawings and MoRD Technical Specification Clause 1701.				
			Unit = each				
			Take Output = 0.9 sqm				
		(i)	Excavation for foundations				
			As per Item No. 11.1 of Chapter 11	cum	0.126	287.00	36.16
		(ii)	Cement concrete M15 grade (using jhama brick aggregate)				
		/:::>	As per item No.11.9.II(ii) of Chapter 11	cum	0.126	6,061.90	763.80
		(111)	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	99.80	58.88
			a) Labour (For fixing at site)				
			Mate	day	0.01	300.00	3.00
			Mazdoor (Unskilled)	day	0.25	300.00	75.00

TRAFFIC SIGNS, MARKINGS AND OTHER ROAD APPURTENANCES									
Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)	
			b)	Materials					
			i)	Support of MS sheet tube					
				47 mm x 47 mm of 12 SWG sheet 3050 mm long	kg	12.40	54.96	681.50	
			ii)	Angle iron 50 x 50 x 6 mm for lugs including 5% wastage	kg	1.06	42.67	45.23	
			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	712.00	640.80	
				Add 3% cost of MS sheet angle iron towards the cost of fabrications, drilling, holes, nuts, bolts, etc.				41.03	
			c)	Machinery					
				Tractor with Trolley	hour	0.08	303.00	24.24	
			d)	0				0.00	
			e)	Contractor's profit and overheads @ 15 % or	n (a+b+	c+d)		226.62	
				Cost for 0.9 sqm = $(i+ii+iii+a+b+c+d+e)$				2,596.26	
				Rate per sqm = (i+ii+iii+a+b+c+d+e) / 0.9				2,884.74	
							say	<u>2884.70</u>	
	Note:			excavation, cement concrete M15 and painting taken from respective Chapters.					
10.20	1700, 800 & 300	mor	re th	n and place identification signs with size an 0.9 sqm sign board (using jhama brick ate in CC /PCC)					
			-	ro-reflectorised Traffic Signs					
		ic rr vi fi: e ir tc fc jr r d		viding and erecting direction and place ntification retro-reflectorised sign as per IRC:67 de of encapsulated lens type reflective sheeting MORD technical specification Clause 1701.2.3 d over aluminium sheeting, 2 mm thick with area eding 0.9 sqm supported on a mild steel angle post 75 mm x 75 mm x 6 mm 2 Nos. firmly fixed the ground by means of properly designed indation with M 15 grade cement concrete (using ma brick aggregate) 450 mm x 450 mm x 600 a, 600 mm bellow ground level as per approved wings and MORD Technical Specification Clause 1.					
			Uni	t = sqm					
			Tak	ing output = 1.50 sqm					
			i)	Excavation for foundation					
				As per item No.11.1.A.I(i) of Chapter 11	cum	0.252	287.00	72.32	
			ii)	Cement concrete M15 grade (using jhama brick aggregate)					
				As per item No.11.9.II(ii) of Chapter 11		0.252	6,061.90	1,527.60	

Sr. Ref. to I No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	iii)	Painting Angle Iron Post with Primer and two coats of Epoxy Paint specifications				
		As per item No.10.7 of Chapter 10	sqm	1.774	99.80	177.05
	a)	Labour (For fixing at site)				
		Mate	day	0.02	300.00	6.00
		Mazdoor (Unskilled)	day	0.50	300.00	150.00
	b)	Material				
		Mild steel angle iron 75 mm x 75 mm x 6 mm, 2.85 m long, 2 nos. with 5 per cent wastage	kg	40.00	42.67	1,706.80
		Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.				51.20
		Aluminium sheeting 2 mm thick fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint	sqm	1.50	925.00	1,387.50
	c)	Machinery				
		Tractor with trolley	hour	0.12	303.00	36.36
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 % or	ו (a+b+י	c+d)		500.68
	Co	st for 1.5 sqm = i+ii+iii+a+b+c+d+e				5,615.51
		te per sqm (for sign having area more than 0.9 m) = (i+ii+iii+a+b+c+d+e)/1.50				3,743.67
					say	<u>3743.70</u>
(i	ide ma vid fixe exe 2 pro cei mn lev	by by by by by by by by by by by by by b				
	Un	it = sqm				
	Та	king output = 1.50 sqm				
	i)	Excavation for foundation				
		As per item No.11.1.A.I(i) of Chapter 11	cum	0.252	287.00	72.32
	ii)	Cement concrete M15 grade (using jhama brick aggregate) As per item No.11.9.II(ii) of Chapter 11	cum	0.252	6,061.90	1,527.60
		a) Labour (For fixing at site)				
		Mate	day	0.02	300.00	6.00

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Mazdoor (Unskilled)	day	0.50	300.00	150.00
			b)	Material				
				50 mm dia GI Pipe 2.85 m long including 5 per cent wastage	m	6.00	390.00	2,340.00
				Add 3 per cent of cost of GI Pipe towards cost of fabrication, drilling holes, nuts, bolts, etc.				70.20
				Aluminium sheeting 2 mm thick fixed encapsulated lens type reflective sheeting including lettering and signs as appleackground with epoxy paint	of size	1.50	925.00	1,387.50
			c)	Machinery				
				Tractor with trolley	hour	0.12	303.00	36.36
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15	% on (a	ı+b+c+d)		598.51
			Cos	t for 1.50 sqm = i+ii+a+b+c+d+e				6,188.49
				e per sqm (for sign having area more n 0.9 sqm) = (i+ii+a+b+c+d+e)/1.50				4,125.66
			titai	10.5 Sqiil) – (itiltatistotute)/ 1.50			say	<u>4125.70</u>
		fixed exco x 1 mea grad agg bell	ed ove eedir 00 m ans c de gregat low g	RD technical specification Clause 1701.2.3 er aluminium sheeting, 2 mm thick with area ing 0.9 sqm supported on RCC post 100 mm hm, 2 Nos. firmly fixed to the ground by of properly designed foundation with M 15 cement concrete (using jhama brick te) 450 mm x 450 mm x 600 mm, 600 mm round level as per approved drawings and echnical Specification Clause 1701.				
		Unit	t = sc	ım				
		Tak	king o	utput = 1.50 sqm				
		i)	Exc	avation for foundation				
			As p	per item No.11.1.A.I(i) of Chapter 11	cum	0.252	287.00	72.32
		ii)	bric	hent concrete M15 grade (using jhama k aggregate)	0.1120	0.252	6 061 00	1 527 60
		iii)	Pair con	ber item No.11.9.II(ii) of Chapter 11 Inting two coats including prime coat on Crete surface with Epoxy Paint as per Cifications	cum	0.252	6,061.90	1,527.60
			As p	per item No.10.7 of Chapter 10	sqm	1.84	99.80	183.63
		a)	Lab	our (For fixing at site)				
			Mate	e	day	0.02	300.00	6.00
			Maz	door (Unskilled)	day	0.50	300.00	150.00

Sr. Ref. to No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		b) Material				
		 PCC M-15 Grade in Sub-structure (using jhama brick aggregate) 				
		As per item No.12.14.II of Chapter 12	cum	0.057	6,411.60	365.46
		 Steel re-inforcement Twisted steel/ deformed bars As per item No.12.5 of Chapter 12 	t	0.0154	53,218.60	819.57
		 Add 3 per cent of cost of RCC Post towards cost of drilling holes, nuts, bolts, etc. 			,	35.55
		 Aluminium sheeting fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint 	sqm	1.50	925.00	1,387.50
		c) Machinery				
		Tractor with trolley	hour	0.12	303.00	36.36
		d) 0				0.00
		e) Contractor's profit and overheads @ 15 % of	n (a+b.ii	ii.iv+c+d)		242.31
		Cost for 1.5 sqm = a+b+c+d+e				4,826.30
		Rate per sqm (for sign having area more than 0.9 sqm) = (a+b+c+d+e)/1.50				3,217.54
					say	<u>3217.50</u>
Note:	1	Lettering and arrow markings on sign boards to be provided separately as per actual requirement. Rates for these items have been analysed separately.				
	2	The rate for excavation, cement concrete M15, RCC M15 in Sub-structure, steel re-inforcement and painting may be taken from respective Chapters.				
	3	The depth of foundation and quantity of cement concrete in the foundation are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.				
	в.	Semi-Reflective Traffic signs				
		Direction and place identification signs more than 0.90 sqm sign board				

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Providing and erecting and place identifications of semi reflective sign boards as per IRC:67 made of 2 mm thick M.S. sheet duly stove enameled paint in white colour in front and gray colour on back with reflective border of 70 mm width and required message, letters and figures with reflective engineering grade tape as per MORD specifications of required shade and colour. Supported and welded on 47 mm x 47 mm x 12 SWG square tube of 3050 mm height duly strengthened by 25 mm x 5 mm MS flat iron on edges on back firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete (using jhama brick aggregate) 450 mm x 450 mm x 600 mm, 600 mm below ground level as per approved drawings and MoRD Technical Specification Clause 1701.

Unit = each

Taking output = 1.5 sqm

(i)	Exc	avation for foundations as				
	As	per item no. 11.1 Chapter 11	cum	0.252	287.00	72.32
(ii)	bric	ment concrete M15 grade (using jhama ck aggregate) per item No.11.9.II(ii) of Chapter 11	cum	0.252	6,061.90	1,527.60
(iii)	two	nting M.S. tube posts with primer and coats of epoxy paint as per specification		0.00	00.90	04.92
2)		per item No. 10.7 of chapter 10 pour (fox fixing at site)	sqm	0.92	99.80	91.82
a)	Lau	Mate	day	0.02	300.00	6.00
		Mazdoor (Unskilled)	day	0.50	300.00	150.00
b)	Mat	terial				
	i)	Support of MS Sheet tubes 47 mm x 47 mm x 12 SWG sheet 3050 mm long	kg	24.80	54.96	1,363.01
	ii)	Angle iron 50 mm x 50 mm x 6 mm for lugs	kg	2.12	42.67	90.46
	iii)	2 mm thick MS Sheet strengthened by 25 mm x 5 mm M.S. flat iron and painted with stove enameled paint including lettering, signs, messages, border with reflective tape of engineering grade of required size, shade and colour as per MORD specifications	sqm	1.50	712.00	1,068.00
		Add 3% cost of MS sheet and angle iron towards the cost of fabrications, drilling, holes, nuts, bolts etc.				75.64
c)		chinery				
		ctor with trolley	hour	0.16	303.00	48.48
d)	0					0.00

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Chapter 10 TRAFFIC SIGNS, MARKINGS AND OTHER ROAD APPURTENANCES

Sr. No.	Ref. to MORD Spec.	T 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		e)	Contractor's profit and overheads @ 15 % o	on (a+b+o	c+d)		420.24
		Co	st for 1.5 sqm board = (i+ii+iii+a+b+c+d+e)				4,913.57
		Ra	te per sqm = (i+ii+iii+a+b+c+d+e) / 1.5				3,275.71
						say	<u>3275.70</u>
	Note:		r excavation cement concrete M15 and painting taken from respective chapter	,			
10.21	1700		re Stone (with RCC M15 grade using jhama ggregate)	I			
		brick ag design a and prir	eed cement concrete M15 grade (using jhama gregate) kilometre stone/local stone of standard as per IRC:8 fixing in position including painting nting, etc. as per drawing and MoRD Technica ation Clause 1703.	l J			
		i) 5th	Kilometre Stone (precast)				
		Un	it = each				
		Tal	king output = 6 Nos.				
		a)	Cement concrete M-15 grade (using jhama brick	k aggrega	ate)		
			As per item No.12.14.II of Chapter 12	cum	2.35	6,411.60	15,067.26
		b)	Steel reinforcement @ 5 kg per sqm				
			As per item No.12.5 of Chapter 12	t	0.0221	53,218.60	1,176.13
		c)	Excavation in soil for foundation				
			As per item No.11.1.A.I(i) of Chapter 11	cum	1.68	287.00	482.16
		d)	Painting two coats on concrete surface				
			As per item No.10.5 of Chapter 10	sqm	9.85	85.40	841.19
		e)	lettering on km post (average 30 letters of 10 cm height each)				
			As per item No.10.1 of Chapter 10 (Englisg & Roman)	per cm high per	1,800.00	0.50	900.00
		Tra	insportation and fixing	•			
		f)	Labour				
			Mate	day	0.26	300.00	78.00
			Mason (1st Class)	day	0.60	425.00	255.00
			Mazdoor (Unskilled)	day	6.00	300.00	1,800.00
		g)	Machinery				
			50 HP Tractor with trolley	hour	6.00	303.00	1,818.00
		h)	0				0.00
		i)	Contractor's profit and overheads @ 15 % o	on (f+g+h)		592.65
		Co	st for 6 Nos. 5th km stone = a+b+c+d+e+f+g+h+i				23,010.39
		Ra	te for each 5th km stone = (a+b+c+d+e+f+g+h+	-i)/6			3,835.07

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
							say	<u>3835.10</u>
		ii)	Ore	dinary Kilometer Stone (Precast)				
			Uni	t = each				
			Tał	king output = 14 Nos.				
			a)	Cement concrete M-15 grade (using jhama bric	k aggrega	ate)		
				As per item No.12.14.II of Chapter 12	cum	3.77	6,411.60	24,171.73
			b)	Steel reinforcement @ 5 kg per sqm				
				As per item No.12.5 of Chapter 12	t	0.0263	53,218.60	1,399.65
			c)	Excavation in soil for foundation				
				As per item No.11.1.A.I(i) of Chapter 11	cum	2.77	287.00	794.99
			d)	Painting two coats on concrete surface				
				As per item No.10.5 of Chapter 10	sqm	11.41	85.40	974.41
			e)	lettering on km post (average 30 letters of 10 cm height each)				
				As per item No.10.1 of Chapter 10 (Englisg & Roman)	per cm high	1,680.00	0.50	840.00
			Tra	ransportation and fixing				
			f)	Labour				
				Mate	day	0.32	300.00	96.00
				Mason (1st Class)	day	1.00	425.00	425.00
				Mazdoor (Unskilled)	day	7.00	300.00	2,100.00
			g)	Machinery				
				50 HP Tractor with trolley	hour	6.00	303.00	1,818.00
			h)	0				0.00
			i)	Contractor's profit and overheads @ 15 % of	on (f+g+h	n)		665.85
				st for 14 Nos. ordinary km stone = b+c+d+e+f+g+h+l)				33,285.64
				e for each ordinary km stone =				2,377.55
			(a+	b+c+d+e+f+g+h+i)/14			say	<u>2377.50</u>
		iii)	200) m stone (precast)				
		,		t = each				
				sing output = 33 Nos.				
			a)	Cement concrete M-15 grade (using jhama bric	k aggreg	ato)		
			a)	As per item No.12.14.II of Chapter 12	cum	1.58	6,411.60	10 130 33
			b)	Steel reinforcement @ 5 kg per sqm	Guill	1.00	0,411.00	10,130.33
			U)	As per item No.12.5 of Chapter 12	t	0.066	53,218.60	3,512.43
			c)		ı	0.000	JJ,210.0U	3,012.43
			C)	Excavation in soil for foundation				

Sr. Ref. No. MO	RD			Description	Unit	Quantity	Rate (₹)	Amount (₹)
·	#			As per item No.11.1.A.I(i) of Chapter 11	cum	1.39	287.00	398.93
			d)	Painting two coats on concrete surface				
				As per item No.10.5 of Chapter 10	sqm	6.27	85.40	535.46
			e)	lettering on km post (average 30 letters of 10 cm height each)				
				As per item No.10.1 of Chapter 10 (Englisg & Roman)	per cm per	330.00	0.50	165.00
			Tra	nsportation and fixing				
			f)	Labour				
				Mate	day	0.34	300.00	102.00
				Mason (1st Class)	day	1.50	425.00	637.50
				Mazdoor (Unskilled)	day	7.00	300.00	2,100.00
			g)	Machinery				
				50 HP Tractor with trolley	hour	6.00	303.00	1,818.00
			h)	0				0.00
			i)	Contractor's profit and overheads @ 15 % o	n (f+g+h	n)		698.63
			Cos	st for 33 Nos. 200 m stone = (a+b+c+d+e+f+g+h+	l)			20,098.27
			Rat	e for each 200 m stone = (a+b+c+d+e+f+g+h+i)/33			609.04
							say	<u>609.00</u>
Νο	ote:	1	reir	e rate for excavation, cement concrete, steel forcement, painting and lettering may be taken n respective Chapters.				
		2	RC	case local stone is to be used in place of precast C stones, then rate of cement concrete and steel offorcement may be deleted.				
10.22 17				ry Pillar (with PCC M15 grade using jhama gregate and reinforcement)	l			
		agg stor incl	rega ne of uding drav	ement concrete M15 grade (using jhama brick te and reinforcement) boundary pillar / local standard design as per IRC:25 fixed in position g finishing and lettering but excluding painting as wing and MoRD Technical Specification Clause	 ;			
		Unit	t = ea	ach				
		Tak	ing c	output = 57 Nos.				
		a)	Cer	nent concrete M-15 grade (using jhama brick agg	(regate			
			As	per item No.12.14.II of Chapter 12	cum	1.37	6,411.60	8,783.89
		b)	Exc	avation in soil				
			As	per Item No. 11.1.A.I(i) of Chapter 11	cum	9.58	287.00	2,749.46
		c)	lette	ering, each 10 cm high				
			As	per Item No. 10.1 of Chapter 10	per letter per cm	2,280.00	0.50	1,140.00

Sr. Ref. to	<u></u>	RAFFIC SIGNS, MARKINGS AND OTHER RO			 !	Amount			
No. Spec.		Description	Unit	Quantity	Rate (₹)	(₹)			
	Tra	nsportation and fixing							
	e)	Labour							
		Mate	day	0.57	300.00	171.00			
		Mazdoor (Unskilled)	day	14.25	300.00	4,275.00			
	f)	Machinery							
		Tractor with trolley	hour	6.00	303.00	1,818.00			
	g)	Material							
		PCC M15 grade with jhama brick aggregate							
		As per item No.12.14.I of Chapter 12	cum	1.31	6,365.00	8,338.15			
		M.S bar 6 mm dia							
		As per Item No. 12.6 of Chapter 12	t	0.076	52,373.30	3,980.37			
	h)	h) 0							
	i)	i) Contractor's profit and overheads @ 15 % on (e+f+h)							
	Cost for 57 Nos. boundary pillar = a+b+c+d+e+f+g+h+i								
	Rate for each boundary pillar = (a+b+c+d+e+f+g+h+i)/57								
					say	<u>564.80</u>			
Note:	1	In case of soft ground, a proper foundation may be provided as per approved design. In case foundation is required to be provided, the items of excavation and foundation concrete are required to be measured and paid separately.							
	2	In case local stone is to be used in place of precast RCC stones, then rate of cement concrete and steel reinforcement may be deleted.							
10.23 1700, 800 & 300		Barbed Wire Fencing 1.2 m high (using jhama k aggreagte in CC/PCC/RCC)							
	with m con- grou corr on c 2 di GI	viding and fixing 1.2 m high GI barbed wire fencing 1.8 m RCC posts 150 mm x 150 mm placed every 3 centre-to-centre founded in M15 grade cement crete,(using jhama brick aggregate) 0.6 m below and level, every 15th post, last but one end post and her post shall be strutted on both sides and end post one side only and provided with 9 horizontal lines and iagonals interwoven with horizontal wires, fixed with staples, turn buckles etc. complete as per MoRD unical specification Clause 1705.							
	Unit	e = per running m							
		Taking output = 30 m							
	Tak	$\log output = 30 \text{ m}$							
	Tak a)	Labour							
			day	0.09	300.00	27.00			

Mazdoor (Unskilled)

600.00

300.00

day

2.00

Sr. Ref. t Sr. MOR No. Spec	P	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	b)	Material				
	i	. Barbed wire 335 m length @ 9.38 kg per 100 m	kg	31.42	88.20	2,771.24
		R.C.C. Post 150 mm x 150 mm x 1.80 m				
		M15 Grade concrete				
		13 x 150 mm x 150 mm x 1.8 m				
	ii	. Rate as per item No.12.14.II of Chapter 12	cum	0.526	6,411.60	3,372.50
	iii	. Add 5 per cent extra cost for formwork of M-15				168.63
		Supply of Twisted steel/ deformed bars including cutting, bending, tying & placing in position. 10 mm dia steel bars for posts				
		13 x 4 x 1.8 = 93.6 m @ 0.62 kg/mt = 43.60 kg				
		8 mm dia steel bars for rings				
		13 x 10 x 0.6 = 78 m @ 0.39 kg/mt = 30.42 kg				
		Total 74.02 kg				
	iv	. As per item No.12.5 of Chapter 12	t	0.074	53,218.60	3,938.18
	v	 Add for GI staple binding wire, drilling holes, etc. @ 2 per cent of the cost of material 				78.76
	c)	Painting				
		Applying two coats of painting including primer coat on exposed surface of RCC posts				
		As per item No.10.5 of this Chapter	sqm	8.14	85.40	695.16
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 % on (a-	+b{i,iii &	. v}+d)		561.96
	Cos	st for 30 m fencing = a+b+c+d+e				12,314.17
	Rat	te per m = (a+b+c+d+e)/30				410.47
					say	<u>410.50</u>
Note	cor per	st of excavation for foundation and foundation acrete to be added separately in the cost estimate as approved design. The rate for these items may be en from respective Chapters.				
10.24 1700, 8 & 300		Barbed Wire Fencing 1.8 m high (using jhama ck aggreagte in CC/PCC/RCC)				
	with agg 3 r cor but	viding and fixing 1.8 m high GI barbed wire fencing n 2.4 m RCC M15 grade (using jhama brick gregate)150 mm x 150 mm concrete post placed every n centre-to-centre founded in M15 grade cement acrete, 0.6 m below ground level, every 15th post, last one end post and corner post shall be strutted on h sides and end post on one side only and provided				

both sides and end post on one side only and provided with 12 horizontal lines and 2 diagonals interwoven with horizontal wires, fixed with GI staples, turn buckles etc. complete as per MoRD technical specification Clause 1705.

Unit = per running m

 	Tak a)	ing output = 30 m Labour				
	a)	Labour				
		Mate	day	0.12	300.00	36.00
		Blacksmith	day	0.40	403.00	161.20
		Mazdoor (Unskilled)	day	2.50	300.00	750.00
	b)	Material				
	i.	Barbed wire 428 m length @ 9.38 kg per 100 m	kg	40.15	88.20	3,541.23
		R.C.C. Post 150 mm x 150 mm x 2.4 m				
		M-15 Grade				
		13 x 150 mm x 150 mm x 2.4 m				
	ii.	As per item No.12.14.II of Chapter 12	cum	0.702	6,411.60	4,500.94
	iii.	Add 5 per cent extra cost of C.C. for formwork of M-1	5			225.05
		Supply of Twisted steel/ deformed Bars including cutting, bending, tying & placing in position.				
		10 mm dia steel bars for posts				
		13 x 4 x 2.4 = 124.80 m				
		@ 0.62 kg/mt = 77.38 kg				
		8 mm dia steel bars for rings				
		13 x 11 x 0.6 = 85.80 m				
		@ 0.39 kg/m = 33.46 kg				
		Total 110.84 kg				
	iv.	As per item No.12.5 of Chapter 12	t	0.111	53,218.60	5,907.26
		Add for GI staple, binding wire, drilling holes etc. @ 2 per cent of the cost of material				118.15
	c)	Painting				
		Applying two coats of painting including prime coat on exposed surface of RCC posts		10.10	05.40	4 000 04
	N	As per item No.10.5 of this Chapter	sqm	12.10	85.40	1,033.34
	d)					0.00
	e)	Contractor's profit and overheads @ 15 % on (a-	+D{I,III &	v}+d)		724.74
		t for 30 m fencing = $a+b+c+d+e$				16,997.91
	Rat	e per m fencing = (a+b+c+d+e)/30				566.60
Note:	con per	t of excavation for foundation and foundation crete to be added separately in the cost estimate as approved design. The rate for these items may be on from respective Chapters.			say	<u>566.60</u>

10.25 ^{1700, 800} Tubular Steel Railing on Medium Weight Steel ^{&300} Channel (ISMC series) 100 mm x 50 mm

Sr. Ref. to No. Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	in : char abov appi	3 ro nnels ve g rove	g, fixing and erecting 50 mm dia steel pipe railing ows duly painted on medium weight steel s(ISMC series) 100 mm x 50 mm, 1.2 m high rround, 2 m centre-to-centre, complete as per d drawings as per MoRD technical specification 1706.				
	Unit	Unit = Running m					
	Taki	ing c	output = 10 m				
	i)	0.6	cavation for foundation (6 Nos.) 6 x 0.6 x 0.6 x		4 000	207 000	274.05
	ii)	Fοι	per item No.11.1.A.I(i) of Chapter 11 undation concrete M-15 grade PCC(using ma brick appropriate) 6 x 0.6 x 0.6 x 0.3	cum	1.296	287.000	371.95
		As	ma brick aggregate) 6 x 0.6 x 0.6 x 0.3 per item No. 11.9.II(ii) of Chapter 11	cum	0.648	6,061.900	3,928.11
	iii)		nting of pipe per item No.10.6 of this Chapter	sqm	4.71	77.900	366.91
	iv)	1.8	Painting of channel section (6 nos.)1.8 m each 0.2 x 1.8 x 1.6 = 2.16As per item No.10.6 of this Chaptersqm		2.16	77.900	168.26
		a)	labour (For fixing at site)				
			Mate	day	0.01	300.00	3.00
			Mazdoor (Unskilled)	day	0.25	300.00	75.00
			Plumber	day	0.01	380.00	3.80
		b)	Material				
			Steel pipe 50 mm external dia as per IS:1239	m	30.00	390.00	11,700.00
			Medium weight steel channel (ISMC series) 100 mm x 50 mm, 10.8 m length @ 9.2 kg per m including 5 per cent wastage	kg	104.33	46.35	4,835.70
		Add for drilling holes @ 3 per cent of cost of channels					145.07
		c)	Machinery				
			50 HP Tractor with trolley	hour	0.06	303.00	18.18
		d)	0				0.00
		e) Contractor's profit and overheads @ 15 % on (a+b+c+d)					2,517.11
	Cost for 10 m = $a+b+c+d+e$						24,133.09
	Rate per m = (a+b+c+d+e)/10						2,413.31
						say	<u>2413.30</u>

10.26 ^{1700, 800} Tubular Steel Railing on Precast RCC posts, 1.2 m ^{& 300} high above Ground Level

Chapter 10 TRAFFIC SIGNS, MARKINGS AND OTHER ROAD APPURTENANCES

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		pipe jharr x 1.8 pipe appr Clau	rail na b 3 m , fi rove ise 7	g, fencing and erecting 50 mm dia painted steel ing in 3 rows on precast M-20 grade RCC(using rick aggregate) vertical posts 175 mm x 175 mm high (1.2 m above GI) with 3 holes 50 mm dia for xed 2 m centre-to-centre complete as per d drawings as per MoRD technical specification 1706.				
		Unit	= R	unning m				
		Taki	ng c	putput = 10 m				
		i)	Exc 0.6	cavation for foundation (6 Nos.) 6 x 0.6 x 0.6 x				
				per item No.11.1.A.I(i) of Chapter 11	cum	1.296	287.000	371.95
		ii)		undation concrete M15 grade PCC(using ma brick aggregate) 6 x 0.6 x 0.6 x 0.3				
			As	per item No. 11.9.II.ii of Chapter 11	cum	0.648	6,061.900	3,928.11
		iii)	pre	C M20(using jhama brick aggregate) for ecast posts (6 nos.) of 1.8 m each	0.0100	0.22	6 020 700	2,287.13
				per item No.12.14.IV of Chapter 12	sqm	0.33	6,930.700	2,207.13
		iv)		nting of pipe		4.71	77.900	366.91
				per item No.10.6 of this Chapter	sqm	4.71	11.900	300.91
			a)	Mate	day	0.014	300.00	4.20
				Mazdoor (Unskilled)	day	0.35	300.00	105.00
				Plumber	day	0.01	380.00	3.80
			b)	Material	uuy	0.01	000.00	0.00
			i.	Steel pipe 50 mm dia as per IS:1239	m	30.00	390.00	11,700.00
			ii.	Steel bars As per item No.12.5 of Chapter 12	t	0.032		1,703.00
			c)	Machinery				
				50 HP Tractor with trolley	hour	0.25	303.00	75.75
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % o	n (a+b.i	+c+d)		1,783.31
			Cos	st for 10 m = $a+b+c+d+e$				21,957.21
			Rat	te per m = (a+b+c+d+e)/10				2,195.72
							say	<u>2195.70</u>

the Project(with CC structure)

Chapter 10 TRAFFIC SIGNS, MARKINGS AND OTHER ROAD APPURTENANCES

Sr. No.	Ref. to MORD		Description	Unit	Quantity	Rate (₹)	Amount (₹)
۱ <u>ـــ</u>	<u>i Spec.</u>	with CC 300 G.L. x 60 skin C/C arro synt shad with and	viding and fixing of typical Citizens' Information board Logo as per MORD specifications and drawing with structure made with M-15 of Size 1150 mm in length, mm in thickness and 2450 mm in height all above with foundation with M-15 concrete of size 1150 mm 00 mm x 750 mm , 750 mm below ground level with reinforcemet with 8 mm dia TMT bars @ 200 cm from bottom of the structure. Lettering and printing ws, border etc. will be painted with ready mixed hetic enamel paint of superior quality in required de and colour. All sections of structure will be painted primer and two coats of epoxy paint as per drawing MoRD technical specification Clause 1701 and exure 1700.1		LJ	L	
		Unit	= Each				
		Tak	ing out put = one typical board				
		A. E	Board 'A'				
		(i)	Excavation for foundations				
			As per item No. 11.1 of Chapter 11	cum	0.520	287.000	149.24
		(ii)	Cement Concrete M15 grade (using jhama brick aggregate)				
			Below G.L 1.15 x 0.60 x 0.75 = 0.520				
			Above G.L 1.15 x 0.30 x 2.45 = 0.850				
			Total :- 1.37				
			As per item No. 11.11.II.ii of Chapter 11	cum	1.370	6,061.900	8,304.80
			Steel for skin reinforcement, 8 mm steel bars @ 200 mm c/c $$	t	0.041	53,218.60	2,181.96
		(iii)	Painting on MS Steel tubes with primer and two coats of epoxy paint $2 \times 2.05 \times 1.15 = 5.60$				
			2 x 2.05 x 0.30 = 1.50				
			1 x 1.15 x 0.30 = 0.40 Total :- 7.50				
			As per item no. 10.7 of Chapter 10	sqm	7.46	99.80	744.51
		iv)	Printing new letters and figures of any shade with synthetic enamel paint black or any other approved colour to give an even shade.	Sqiii	7.40	33.00	1.51
			Heading Band $90 \times 10 = 900$				
			Logo 70 x 10 = 700				
			Lettering 50 x 2.5 = 125				
			Band 65 x 1.5 x 3 = 292.5				
			$75 \times 1.5 \times 4 = 450$				
			Information 200 x 1.7 x 80 = 340				

Chapter 10 TRAFFIC SIGNS, MARKINGS AND OTHER ROAD APPURTENANCES									
Ref. to MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amc (₹				

Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		700 x 1 = 700				/
		25 x 1.7 = 42.5				
		1400 x 1.2 = 1680				
		Total :- 5282.50				
		4532.5 per cm height per letter				
	A	s per item No.10.1 of Chapter 10 (English & Roman	per cm height per	5,282.50	0.50	2,641.25
	a) Labour (for fixing at site)	·			
		Mate	day	0.05	300.00	15.00
		Mazdoor (Unskilled)	day	1.25	300.00	375.00
	b) Machinery				
		Tractor with trolley	hour	0.30	303.00	90.90
	C) 0				0.00
	d) Contractor's profit and overheads @ 15 % or	n (a+b+e	c)		72.14
	С	cost for one Board= (i+ii+iii+iv+a+b+c+d)				14,574.80
			say	<u>14574.80</u>		
В	. Bo	ard 'B'				
(i)) E	excavation for foundations				
	A	s per item No. 11.1 of Chapter 11	cum	0.520	287.000	149.24
(i	a	ement Concrete M15 grade (using jhama brick ggregate)				
		elow G.L 1.15 x 0.60 x 0.75 = 0.520				
	A	bove G.L 1.15 x 0.30 x 2.45 = 0.850				
		Total :- 1.37				
	A	s per item No. 11.11.II.ii of Chapter 11	cum	1.370	6,061.900	8,304.80
		teel for skin reinforcement, 8 mm steel bars @ 200 mm c/c	t	0.041	53,218.60	2,181.96
(i	ii) P c	Painting on MS Steel tubes with primer and two oats of epoxy paint $x 1.15 \times 0.30 = 0.70$				
	2	x 1.15 x 2.45 = 5.60				
	1	x 0.30 x 2.45 = 0.70				
		Total :- 7.1				
	A	s per item no. 10.7 of Chapter 10	sqm	7.10	99.80	708.58
iv	w	rinting new letters and figures of any shade vith synthetic enamel paint black or any other pproved colour to give an even shade.				
	Н	leading Band 90 x 10 = 900				
	L	ogo 70 x 10 = 700				

I

L

Sr.

No. L

Sr. No.	Ref. to MORD Spec.			Descrip	otion		Unit	Quantity	Rate (₹)	Amount (₹)
		Let	tering	50 x 2.5	= 125					
		Bai	nd	65 x 1.5 x	3 = 292.5					
				75 x 1.5 x	4 = 450					
		Info	ormation	200 x 1.7 :	x 80 = 340					
				21 x 2.5	= 52.5					
				500 x 1	= 500					
				25 x 1.7	= 42.5					
				800 x 1.2	= 960					
				Tota	al :- 4362.50					
			453	2.5 per cm h	neight per lette	r				
			per item man)	n No.10.1 c	of Chapter 10) (English	& per cm height per letter	4,362.00	0.50	2,181.00
		a)	Labour	(for fixing a	t site)					
			Mate				day	0.05	300.00	15.00
			Mazdoor	· (Unskilled)			day	1.25	300.00	375.00
		b)	Machine	ery						
			Tractor v	with trolley			hour	0.30	303.00	90.90
		c)	0							0.00
		d)	Contrac	tor's profit a	and overhead	s @ 15 %	on (a+b+	c)		72.14
		Co	st for one	Board= (i+ii+	-iii+iv+a+b+c+o	(b				14,078.62
									say	<u>14078.60</u>

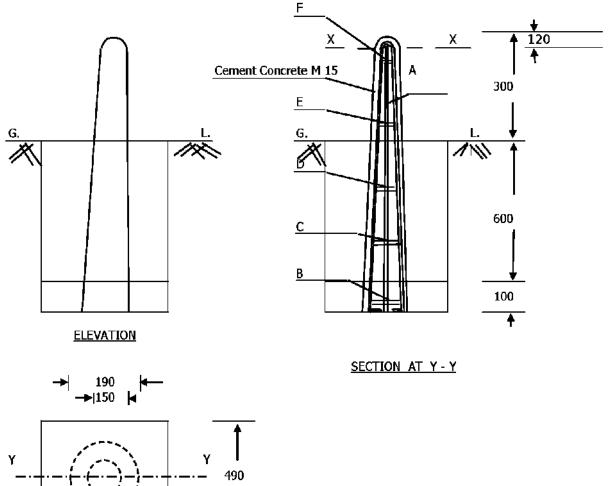
Chapter 10 TRAFFIC SIGNS, MARKINGS AND OTHER ROAD APPURTENANCES

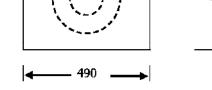
Note: Printing and lettering for blank spaces on the lower plate will be written as required and paid seperately.

Chapter 10 TRAFFIC SIGNS, MARKINGS AND OTHER ROAD APPURTENANCES

I Ref. to I I Sr. I MORD I Description I No. I I Spec. I	Jnit	Quantity	Rate (₹)	Amount (₹)
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Boundary Pillar (with PCC M15 grade using jhama brick aggregate and reinforcement)





PLAN AT X - X

Note:

- 1 Not to Scale
- 2 Hand Sketch
- 3 All Dimensions are in mm

SCHEDULE OF REINFORCEMENT M.S. BARS 6 mm DIA LENGTH

1.87 m

48 cm

47 cm

46 cm

43 cm

41 cm

A. В.

C.

D.

E.

F.

No.

2

1

1

1

1

1

Sr. No.	Ref. to MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)				
11.1	300	cavation for Structures								
		A. Without dewatering.	Without dewatering.							
		Earthwork in excavation for structures as per drawing and MoRD technical specifications Clause 305. including setting out, construction of shoring & bracing removal of stumps & other deleterious material and disposal upto a lead of 50 m, dressing of sides & bottom and backfilling in trenches with excavated suitable material.	, 							
		(i) Upto 3 m depth								
		Unit = cum								

Taking output = 10 cum

a) Labour

b) 0	-			0.00
Mazdoor (Unskilled)	day	8.00	300.00	2,400.00
Mate	day	0.32	300.00	96.00

c) Contractor's profit and overheads @ 15 % on (a+b)		374.40
Cost for 10 cum = a+b+c		2,870.40
Rate per cum = (a+b+c)/10		287.04
	say	<u>287.00</u>
ost of dewatering may be added, where required,		

- **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 cost of shoring and shuttering, where needed, may be added @ 3 per cent on cost of excavation for open foundation.
 - 3 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.
 - (ii) 3 m to 6 m depth

Unit = cum

a) Labour

	Mate	day	0.38	300.00	114.00
	Mazdoor (Unskilled)	day	9.50	300.00	2,850.00
b)	0				0.00
c)	Contractor's profit and overheads @ 15 %	on (a+b)			444.60
Co	est for 10 cum = a+b+c				3,408.60
Ra	te per cum = (a+b+c)/10				340.86
				say	<u>340.90</u>

Sr. No.	Ref. to MORD Spec.	· <u> </u>	Description	Unit	Quantity	Rate (₹)	Amount (₹)	
	Note:	Note: 1 Cost of dewatering may be added, when needed, up to 15 per cent of labour cost.						

2 Cost of shoring and shuttering, where needed, may be added @ 10 per cent on cost of excavation for open foundation.

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		II.	Ord	linary rock (not requiring blasting)				
			i) U	pto 3 m depth				
			Uni	t = cum				
			Tał	king output = 10 cum				
			a)	Labour				
				Mate	day	0.40	300.00	120.00
				Mazdoor (Unskilled)	day	10.00	300.00	3,000.00
			b)	0				0.00
			c)	Contractor's profit and overheads @ 15 % or	n (a+b)			468.00
			Cos	st for 10 cum = a+b+c				3,588.00
			Rat	te per cum = (a+b+c)/10				358.80
							say	<u>358.80</u>
	Note:			dewatering upto 10 per cent of labour cost may d, where required as per site condition.				
		III.	Ha	rd rock (blasting prohibited)				
			Upt	o 3 m depth including 1.5 m depth in hard rock				
			Uni	t = cum				
			Tał	king output = 10 cum				
			a)	Labour				
				Mate	day	0.20	300.00	60.00
				Mazdoor (Unskilled)	day	5.00	300.00	1,500.00
			b)	Machinery				
				Air compressor 210 cfm with 2 jack hammers of pneumatic breaker	hour	10.00	321.00	3,210.00
			-7	0				0.00
				Contractor's profit and overheads @ 15 % or	ו (a+b+	c)		715.50
				st for 10 cum = $a+b+c+d$				5,485.50
			Rat	te per cum = a+b+c+d/10				548.55
	Note:			dewatering up to 10 per cent of (a+b) may be			say	<u>548.60</u>
		ado IV.		where required as per site conditions. rshy soil				
		1.		t = cum				
				king output = 10 cum				
			a)	Labour Mate	dav	0.60	300.00	180.00
				Mazdoor (Unskilled)	day day	15.00	300.00	4,500.00
			P)		day	10.00	300.00	
			b)	U				0.00

Sr. Ref. to Sr. MORD No. Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)	
	c) Contractor's profit and overheads @ 15 % o	n (a+b)			702.00	-
	Cost for 10 cum = a+b+c				5,382.00	

Chapter 11 FOUNDATION

Sr. No.	Ref. to MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Rate per cum = (a+b+c)/10				538.20
					say	<u>538.20</u>
	Note:	1 Cost of dewatering @ 30 per cent of (a) may be added.				
		2 Shoring and shuttering @ 15 per cent of (a) may be added where required.				
		 3 Since marshy soil cannot be used in filling in trenches, it shall be removed and replaced by approved quality of soil. The labour cost includes labour input for disposal of marshy soil from excavated pit with a lead upto 50 m lead. 4 Marshy soil is generaly available upto 3 m depth. 				
		The rate has, therefore, been done upto 3 m depth of excavation. For deeper excavation refer analysis in item 11.1.				
		A. With dewatering.				
		Earthwork in excavation for structures as per drawing and technical specifications Clause 305.1 including setting out, dewatering, construction of shoring, shuttering & bracing, removal of stumps & other deleterious material and disposal upto a lead of 50 m, dressing of sides & 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	300.00	96.00
		Mazdoor (Unskilled)	day	8.00	300.00	2,400.00
		b) Add 5.00 % for dewatering				124.80
		c) Add 3.00 % for shoring, shuttering & brac	ing			78.62
		d) 0				0.00
		e) Contractor's profit @ 15 % on (a+b+c+d)				404.91
		Cost for 10 cum = a+b+c+d+e				3,104.34
		Rate per cum = (a+b+c+d+e)/10				310.43
					say	<u>310.40</u>
	Note:	 Cost of dewatering is added, where required, @ 5.00 per cent of labour cost. Assessment for dewatering shall be made as per site conditions. 				
		2 The cost of shoring and shuttering, is added @ 3 per cent on cost of excavation for open foundation.				
		3 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.				

Sr. Ref. to No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		(ii) 3 m to 6 m depth				
		Unit = cum				
		Taking output = 10 cum				
		a) Labour				
		Mate	day	0.38	300.00	114.00
		Mazdoor (Unskilled)	day	9.50	300.00	2,850.00
		b) Add 10.00 % for dewatering				296.40
		c) Add 5.00 % for shoring, shuttering & b	oracing			163.02
		d) Overhead charges @ 0 % on (a+b+c)				0.00
		e) Contractor's profit @ 15 % on (a+b+c	+d)			513.51
		Cost for 10 cum = a+b+c+d+e				3,936.93
		Rate per cum = (a+b+c+d+e)/10				393.69
					say	<u>393.70</u>
Note	: 1	Cost of dewatering is added, where required, 10.00 per cent of labour cost.	@			
	2	The cost of shoring and shuttering, is added @ 5 per cent on cost of excavation for open foundatio				
11.2 300 & 1200		ng in foundation trenches as per drawing RD technical specification Clause 305.3.9, 1200				
	Мо	RD technical specification Clause 305.3.9, 1200				
	Мо	RD technical specification Clause 305.3.9, 1200 Sand filling				
	Мо	RD technical specification Clause 305.3.9, 1200 Sand filling Unit = cum		0.01	300.00	3.00
	Мо	RD technical specification Clause 305.3.9, 1200 Sand filling Unit = cum a) Labour		0.01 0.30	300.00 300.00	3.00 90.00
	Мо	RD technical specification Clause 305.3.9, 1200 Sand filling Unit = cum a) Labour Mate	day			
	Мо	RD technical specification Clause 305.3.9, 1200 Sand filling Unit = cum a) Labour Mate Mazdoor (Unskilled)	day			
	Мо	 RD technical specification Clause 305.3.9, 1200 Sand filling Unit = cum a) Labour Mate Mazdoor (Unskilled) b) Material 	day day	0.30	300.00	90.00
	Мо	 RD technical specification Clause 305.3.9, 1200 Sand filling Unit = cum a) Labour Mate Mazdoor (Unskilled) b) Material Sand (local quarry) (assuming 20% voids) 	day day cum	0.30 1.20	300.00	90.00 360.00
	Мо	 RD technical specification Clause 305.3.9, 1200 Sand filling Unit = cum a) Labour Mate Mazdoor (Unskilled) b) Material Sand (local quarry) (assuming 20% voids) c) 0 	day day cum	0.30 1.20	300.00	90.00 360.00 0.00
	Мо	 RD technical specification Clause 305.3.9, 1200 Sand filling Unit = cum a) Labour Mate Mazdoor (Unskilled) b) Material Sand (local quarry) (assuming 20% voids) c) 0 d) Contractor's profit and overheads @ 15 % 	day day cum	0.30 1.20	300.00	90.00 360.00 0.00 67.95
	Мо	 RD technical specification Clause 305.3.9, 1200 Sand filling Unit = cum a) Labour Mate Mazdoor (Unskilled) b) Material Sand (local quarry) (assuming 20% voids) c) 0 d) Contractor's profit and overheads @ 15 % 	day day cum	0.30 1.20	300.00 300.00	90.00 360.00 0.00 67.95 520.95
	Mo	 RD technical specification Clause 305.3.9, 1200 Sand filling Unit = cum a) Labour Mate Mazdoor (Unskilled) b) Material Sand (local quarry) (assuming 20% voids) c) 0 d) Contractor's profit and overheads @ 15 % Rate per cum = a+b+c+d 	day day cum	0.30 1.20	300.00 300.00	90.00 360.00 0.00 67.95 520.95
	Mo	 RD technical specification Clause 305.3.9, 1200 Sand filling Unit = cum a) Labour Mate Mazdoor (Unskilled) b) Material Sand (local quarry) (assuming 20% voids) c) 0 d) Contractor's profit and overheads @ 15 % Rate per cum = a+b+c+d Earth filling (For marshy soil) 	day day cum	0.30 1.20	300.00 300.00	90.00 360.00 0.00 67.95 520.95
	Mo	 RD technical specification Clause 305.3.9, 1200 Sand filling Unit = cum a) Labour Mate Mazdoor (Unskilled) b) Material Sand (local quarry) (assuming 20% voids) c) 0 d) Contractor's profit and overheads @ 15 % Rate per cum = a+b+c+d Earth filling (For marshy soil) Unit = cum 	day day cum	0.30 1.20	300.00 300.00	90.00 360.00 0.00 67.95 520.95
	Mo	RD technical specification Clause 305.3.9, 1200 Sand filling Unit = cum a) Labour Mate Mazdoor (Unskilled) b) Material Sand (local quarry) (assuming 20% voids) c) 0 d) Contractor's profit and overheads @ 15 % Rate per cum = a+b+c+d Earth filling (For marshy soil) Unit = cum Taking output = 6 cum	day day cum	0.30 1.20	300.00 300.00	90.00 360.00 0.00 67.95 520.95

							
	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		b)	0				0.00
		c)	Contractor's profit and overheads @ 15 % or	n (a+b)			144.00
		Co	st for 6 cum = a+b+c				1,104.00
		Ra	te per cum = (a+b+c)/6				184.00
						say	<u>184.00</u>
	Note:	bee wit tak wo	st of transportation of good quality earth has not en included. Only labour for carrying carted earth h a lead of 50 m to the foundation pits has been en in the rate. The cost of carted earth may be rked out separately if the same is not available m the adjoining area.				
		doi ope exc	ckfilling of foundation trenches shall normally be ne with excavated earth. The cost of this eration is included in item 11.1. Only in case the cavated earth is not of suitable quality, sand filling backfilling with carted earth may be resorted to.				
	300 & 1200		annular space around footing in rock as per echnical specification Clause 300, 1203.4.3.				
		Unit = c	um				
		P.C.C g	rade M 15				
		Nomina	I mix 1 : 2.5 : 5 (Hand mixing)				
		Uni	it = cum				
		a)	Material				
			Cement	t	0.275	6,100.00	1,677.50
			Sand	cum	0.48	370.00	177.60
			40 mm aggregate	cum	0.54	3,532.00	1,907.28
			20 mm aggregate	cum	0.25	3,969.00	992.25
			10 mm aggregate	cum	0.11	4,040.00	444.40
		b)	Labour				
			Mate	day	0.09	300.00	27.00
			Mason (1st Class)	day	0.10	425.00	42.50
			Mazdoor (Unskilled)	day	2.00	300.00	600.00
			Bhisti	day	0.27	300.00	81.00
		c)	Formwork @ 4% on (a+b)				237.98
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 % of	n (a+b+	c+d)		928.13
		Ra	te per cum = a+b+c+d+e				7,115.64
						say	<u>7115.60</u>

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)		
11.4	800 & 1200	open fo per dr Clauses centerir	roviding concrete for plain/reinforced concrete in pen foundations complete including formwork as er drawings & MoRD technical specifications lauses 802, 803, 900, 1202 and 1203. (including entering, shuttering, staging etc. but excluding einforcement).							
		I. P.C	C.C g	grade M 10						
		(i)		minal mix 1:3:6 it = cum						
			a)	Material						
				Cement	t	0.250	6,100.00	1,525.00		
				Sand	cum	0.48	370.00	177.60		
				40 mm aggregate	cum	0.540	3,532.00	1,907.28		
				20 mm aggregate	cum	0.240	3,969.00	952.56		
				10 mm aggregate	cum	0.120	4,040.00	484.80		
			b)	Labour						
				Mate	day	0.08	300.00	24.00		
				Mason (1st Class)	day	0.10	425.00	42.50		
				Mazdoor (Unskilled)	day	1.63	300.00	489.00		
				Bhisti	day	0.27	300.00	81.00		
			c)	Machinery						
			d)	Mechnical concrete mixer 0.4/0.28 cum capacity fitted with water measuring device and preferably also with load cell. Formwork @ 4% on cost of material, labour and machinery (a+b+c)	hour	0.40	193.00	77.20 230.44		
			e)	• • •				0.00		
			f)	Contractor's profit and overheads @ 15 %	on (a	+b+c+d+e))	898.71		
			Ra	te per cum = a+b+c+d+e+f				6,890.08		
							say	<u>6890.10</u>		
		(ii)	No	minal mix 1:3.6 (Hand mixing)						
			Un	it = cum						
			a)	Material						
				Cement	t	0.250	6,100.00	1,525.00		
				Sand	cum	0.48	370.00	177.60		
				40 mm aggregate	cum	0.540	3,532.00	1,907.28		
				20 mm aggregate	cum	0.240	3,969.00	952.56		
				10 mm aggregate	cum	0.120	4,040.00	484.80		
			b)	Labour			,			
				Mate	day	0.09	300.00	27.00		
				Mason (1st Class)	day	0.10	425.00	42.50		
				-	-					

[Ref. to					_	í	-	
Sr.	MORD				Description	Unit	Quantity	Rate (₹)	Amount (₹)
L	Spec.	 _			Mazdoor (Unskilled)		2.00	300.00	600.00
					Bhisti	day	0.27	300.00	81.00
				c)	Formwork @ 4% on cost of material (a)	uuj	0.2.		231.91
				-	and labour (b)				
				d)					0.00
				-	Contractor's profit and overheads @ 15 %	on (a	+b+c+d)		904.45
				Rat	e per cum = a+b+c+d+e				6,934.10
			п с	C a	vodo M 45			say	<u>6934.10</u>
				-	rade M 15				
			(i)		minal mix (1:2.5:5)				
					t = cum				
				a)	Material	1	0.075	6 100 00	1 677 50
					Cement	t	0.275	6,100.00	1,677.50
					Sand	cum	0.48	370.00	177.60
					40 mm aggregate	cum	0.54	3,532.00	1,907.28
					20 mm aggregate	cum	0.25	3,969.00	992.25
					10 mm aggregate	cum	0.11	4,040.00	444.40
				b)	Labour				
					Mate	day	0.08	300.00	24.00
					Mason (1st Class0	day	0.10	425.00	42.50
					Mazdoor (Unskilled)	day	1.63	300.00	489.00
					Bhisti	day	0.27	300.00	81.00
				c)	Machinery				
					Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
				d)	Formwork @ 4% on cost of material, labour and machinery (a+b+c)				236.51
				e)					0.00
				f)	Contractor's profit and overheads @ 15 %	on (a	+b+c+d+e)		922.39
				Rat	e per cum = a+b+c+d+e+f				7,071.63
								say	<u>7071.60</u>
			(ii)	No	minal mix 1:2.5:5 (Hand mixing)				
				Uni	t = cum				
				a)	Material				
					Cement	t	0.275	6,100.00	1,677.50
					Sand	cum	0.48	370.00	177.60
					40 mm aggregate	cum	0.54	3,532.00	1,907.28
					20 mm aggregate	cum	0.25	3,969.00	992.25
					10 mm aggregate	cum	0.11	4,040.00	444.40

Sr. Ref. to No. MORD No. Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
		b)	Labour				
			Mate	day	0.09	300.00	27.00
			Mason (1st Class)	day	0.10	425.00	42.50
			Mazdoor (Unskilled)	day	2.00	300.00	600.00
			Bhisti	day	0.27	300.00	81.00
		c)	Formwork @ 4% on (a+b)				237.98
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 %	on (a	+b+c+d)		928.13
		Ra	te per cum = a+b+c+d+e				7,115.64
						say	<u>7115.60</u>
III.	P.C	.C.	grade M 20				
	(i)	No	minal mix (1:2:4)				
		Un	it = cum				
		a)	Material				
			Cement	t	0.33	6,100.00	2,013.00
			Sand	cum	0.45	370.00	166.50
			40 mm aggregate	cum	0.36	3,532.00	1,271.52
			20 mm aggregate	cum	0.36	3,969.00	1,428.84
			10 mm aggregate	cum	0.18	4,040.00	727.20
		b)	Labour				
			Mate	day	0.08	300.00	24.00
			Mason (1st Class)	day	0.10	425.00	42.50
			Mazdoor (Unskilled)	day	1.63	300.00	489.00
			Bhisti	day	0.27	300.00	81.00
		c)	Machinery				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
		-	Formwork @ 4% on (a+b+c)				252.83
		e)					0.00
		f)	Contractor's profit and overheads @ 15 %	on (a	+b+c+d+e)	986.04
		ка	te per cum = a+b+c+d+e+f				7,559.63
	<i>(</i> ::)	No	minal mix 1.2.4 (Hand mixed)			say	<u>7559.60</u>
	(11)		minal mix 1:2:4 (Hand mixed) it = cum				
			Material				
		aj	Cement	t	0.33	6,100.00	2,013.00
			Sand	cum	0.33	370.00	2,013.00
			40 mm aggregate	cum	0.45	3,532.00	1,271.52
				Gum	0.00	0,002.00	1,271.02

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
				20 mm aggregate	cum	0.36	3,969.00	1,428.84
				10 mm aggregate	cum	0.18	4,040.00	727.20
			b) Labour				
				Mate	day	0.09	300.00	27.00
				Mason (1st Class)	day	0.10	425.00	42.50
				Mazdoor (Unskilled)	day	2.00	300.00	600.00
				Bhisti	day	0.27	300.00	81.00
) Formwork @ 4% out of material and labour (a+b)) 0				254.30 0.00
			e) Contractor's profit and overheads @ 15 %	on (a	+b+c+d)		991.78
			F	ate per cum = a+b+c+d+e				7,603.64
							say	<u>7603.60</u>
		IV.	R.C.0	Grade M 20				
			Unit =	- cum				
			a) N	laterial				
			C	Cement	t	0.35	6,100.00	2,135.00
			S	Sand	cum	0.45	370.00	166.50
			2	0 mm aggregate	cum	0.54	3,969.00	2,143.26
			1	0 mm aggregate	cum	0.36	4,040.00	1,454.40
			b) L	abour				
			Ν	late	day	0.08	300.00	24.00
			Ν	lason (1st Class)	day	0.12	425.00	51.00
			Ν	lazdoor (Unskilled)	day	1.73	300.00	519.00
			E	Shisti	day	0.27	300.00	81.00
			c) N	lachinery				
			C	Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
			d) F	ormwork @ 4% on (a+b+c)				266.05
			e) 0					0.00
			f) (Contractor's profit and overheads $@$ 15 % or	n (a+b+	c+d+e)		1,037.61
			Rate	per cum = (a+b+c+d+e+f)				7,955.03
							say	<u>7955.00</u>
		V.	R.C.0	C. grade M 25				
			Unit =	- cum				
			a) N	laterial				
			C	Cement	t	0.404	6,100.00	2,464.40
			S	and	cum	0.45	370.00	166.50

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			20 mm aggregate	cum	0.54	3,969.00	2,143.26
			10 mm aggregate	cum	0.36	4,040.00	1,454.40
		b)	Labour				
			Mate	day	0.08	300.00	24.00
			Mason (1st Class)	day	0.12	425.00	51.00
			Mazdoor (Unskilled)	day	1.73	300.00	519.00
			Bhisti	day	0.27	300.00	81.00
		c)	Machinery				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
		d)	Formwork @ 4.00% on (a+b+c)				279.23
		e)	0				0.00
		f)	Contractor's profit and overheads @ 15 % of	n (a+b+	c+d+e)		1,089.00
		Ra	te per cum = a+b+c+d+e+f				8,348.99
						say	<u>8349.00</u>
11.5	600 & 1200	comple drawin	nasorny work in cement mortar in foundation eted excluding pointing & plastering as per g & MoRD technical specifications Clauses 02 & 1203.				
		Unit = d	sum				
		I. Br	ick masonry in 1:3 cement mortar				
		a)	Material				
			Brick	Nos.	380.00	8.03	3,051.40
			Cement mortar 1:3	cum	0.24	3,805.50	913.32
			(Rate as per Sub-analysis)				
		b)	Labour				
			Mate	day	0.09	300.00	27.00
			Mason (1st Class)	day	0.80	425.00	340.00
			Mazdoor (Unskilled)	day	1.60	300.00	480.00
			Bhisti	day	0.20	300.00	60.00
		c)					0.00
		d)	•	n (a+b+	·c)		730.76
		Ra	ite per cum = a+b+c+d				5,602.48
						say	<u>5602.50</u>
		Sub-ar	-				
			t mortar 1:3 (1 cement : 3 sand)				
		Unit = c					
		-	aterial				
		Ce	ement	t	0.51	6,100.00	3,111.00

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Sand	cum	1.05	370.00	388.50
		b)	Labour				
			Mate	day	0.04	300.00	12.00
			Mazdoor (Unskilled)	day	0.90	300.00	270.00
			Bhisti	day	0.08	300.00	24.00
		Tot	l material and labour = (a+b)				<u>3805.50</u>
		II.	Brick masonry in 1:4 cement mortar				
			Unit = cum				
			a) Material				
			Brick	Nos.	380.00	8.03	3,051.40
			Cement mortar 1:4	cum	0.24	3,012.50	723.00
			Rates as per sub-analysis				
			b) Labour				
			Mate	day	0.09	300.00	27.00
			Mason (1st Class)	day	0.80	425.00	340.00
			Mazdoor (Unskilled)	day	1.60	300.00	480.00
			Bhisti	day	0.20	300.00	60.00
			c) 0				0.00
			d) Contractor's profit and overheads @ 15	% on (a+b+	c)		702.21
			Rate per cum = a+b+c				5,383.61
						say	<u>5383.60</u>
		Sul	analysis				
		Cer	ent mortar 1:4 (1 cement : 4 sand)				
		Uni	= cum				
		a)	Material				
			Cement	t	0.38	6,100.00	2,318.00
			Sand	cum	1.05	370.00	388.50
		b)	Labour				
			Mate	day	0.04	300.00	12.00
			Mazdoor (Unskilled)	day	0.90	300.00	270.00
			Bhisti	day	0.08	300.00	24.00
		Tot	l material and labour = (a+b)				<u>3,012.50</u>
11.6	1000 & 1200		olying, fitting & placing Thermo-Mechani ed bar/ Cold twisted deformed steel				

1200 treated bar/ Cold twisted deformed steel bar reinforcement in foundation complete as per drawings & MoRD technical specifications Clauses 1000 & 1202. Unit = t

Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		a)	Material				
			Twisted steel/ deformed bars including 5 per cent for overlaps and wastage	t	1.05	41,020.00	43,071.00
			Binding wire	kg	6.00	58.00	348.00
		b)	Labour for cutting, bending, shifting to site, tying and placing in position				
			Mate	day	0.40	300.00	120.00
			Blacksmith	day	2.00	403.00	806.00
			Mazdoor (Unskilled)	day	6.00	300.00	1,800.00
		c)	0				0.00
		d)	Contractor's profit and overheads $@$ 15 % on (a+	b+c)			6,921.75
		Rat	e per t = a+b+c+d				53,066.75
						say	<u>53066.80</u>
11.7	1000 & 1200	fou tec	oplying, fitting & placing MS bar reinforcement in ndation complete as per drawings & MoRD hnical specifications Clauses 1000 & 1202.				
		Uni	t = t				
		a)	Material				
			MS bars including 5 per cent for overlaps and wastag	t	1.05	40,320.00	42,336.00
			Binding wire	kg	6.00	58.00	348.00
		b)	Labour for cutting, bending, shifting to site, tying and placing in position				
			Mate	day	0.40	300.00	120.00
			Blacksmith	day	2.00	403.00	806.00
			Mazdoor (Unskilled)	day	6.00	300.00	1,800.00
		c)	0				0.00
		d)	Contractor's profit and overheads $@$ 15 % on (a+	b+c)			6,811.50
		Rat	e per t = a+b+c+d				52,221.50
						say	<u>52221.50</u>

ADDITIONAL ITEMS BY USING JHAMA BRICK AGGREGATE (i.e. LOCALLY AVAILABLE MATERIALS)

11.8300 & Filling annular space around footing in rock as per1200MoRD technical specification Clause 300, 1203.4.3.

Unit = cum

P.C.C grade M 15 (using jhama brick aggregate)

Nominal mix 1 : 2.5 : 5 (Hand mixing)

Unit = cum

a) Material

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Ce	ment	t	0.275	6,100.00	1,677.50
			Sa	nd	cum	0.48	370.00	177.60
			40	mm aggregate	cum	0.54	2,550.00	1,377.00
			20	mm aggregate	cum	0.25	2,975.00	743.75
			10	mm aggregate	cum	0.11	3,110.00	342.10
		b)	La	bour				
			Ма	te	day	0.09	300.00	27.00
			Ma	son (1st Class)	day	0.10	425.00	42.50
			Ma	zdoor (Unskilled)	day	2.00	300.00	600.00
			Bh	isti	day	0.27	300.00	81.00
		c)	Fo	rmwork @ 4% on (a+b)				202.74
		d)	0					0.00
		e)	Co	ntractor's profit and overheads @ 15 % or	n (a+b+	c+d)		790.68
		Ra	te p	er cum = a+b+c+d+e				6,061.87
							say	<u>6061.90</u>
		technic and 12 etc. bu	als 203. texc	formwork as per drawings & MoRD pecifications Clauses 802, 803, 900, 1202 (including centering, shuttering, staging cluding reinforcement) grade M 10 (using jhama brick aggregate)				
		(i)	-	minal mix 1:3:6				
		(1)		it = cum				
			a)	Material				
				Cement	t	0.250	6,100.00	1,525.00
				Sand	cum	0.48	370.00	177.60
				40 mm aggregate 20 mm aggregate	cum cum	0.540 0.240	2,550.00 2,975.00	1,377.00 714.00
				10 mm aggregate	cum	0.240	3,110.00	373.20
			b)	Labour		020	0,110100	0.0.20
				Mate	day	0.08	300.00	24.00
				Mason (1st Class)	day	0.10	425.00	42.50
				Mazdoor (Unskilled)	day	1.63	300.00	489.00
				Bhisti	day	0.27	300.00	81.00
			c)	Machinery				
			d)	Mechnical concrete mixer 0.4/0.28 cum capacity fitted with water measuring device and preferably also with load cell. Formwork @ 4% on cost of material, labour and machinery (a+b+c)	hour	0.40	193.00	77.20 195.22

Chapter 11 FOUNDATION

Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	e)	0				0.00
	f)	Contractor's profit and overheads @ 15 %	on (a	+b+c+d+e)	761.36
	Ra	te per cum = a+b+c+d+e+f				5,837.08
					say	<u>5837.10</u>
(i	ii) No	minal mix 1:3.6 (Hand mixing)				
	Uni	it = cum				
	a)	Material				
		Cement	t	0.250	6,100.00	1,525.00
		Sand	cum	0.48	370.00	177.60
		40 mm aggregate	cum	0.540	2,550.00	1,377.00
		20 mm aggregate	cum	0.240	2,975.00	714.00
		10 mm aggregate	cum	0.120	3,110.00	373.20
	b)	Labour				
		Mate	day	0.09	300.00	27.00
		Mason (1st Class)	day	0.10	425.00	42.50
		Mazdoor (Unskilled)	day	2.00	300.00	600.00
		Bhisti	day	0.27	300.00	81.00
	C)	Formwork @ 4% on cost of material (a) and labour (b)				196.69
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 %	on (a	+b+c+d)		767.10
	Ra	te per cum = a+b+c+d+e				5,881.09
					say	<u>5881.10</u>
II. P	P.C.C g	yrade M 15 (using jhama brick aggregate)				
(i	i) No	minal mix (1:2.5:5)				
	Uni	it = cum				
	a)	Material				
		Cement	t	0.275	6,100.00	1,677.50
		Sand	cum	0.48	370.00	177.60
		40 mm aggregate	cum	0.54	2,550.00	1,377.00
		20 mm aggregate	cum	0.25	2,975.00	743.75
		10 mm aggregate	cum	0.11	3,110.00	342.10
	b)	Labour				
		Mate	day	0.08	300.00	24.00
		Mason (1st Class0	day	0.10	425.00	42.50
		Mazdoor (Unskilled)	day	1.63	300.00	489.00
		Bhisti	day	0.27	300.00	81.00

Sr. MORD		Description	Unit	Quantity	 I Rate (₹)	Amount
No. Spec.						(₹)
	c)	Machinery				
		Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
	d)	Formwork @ 4% on cost of material, labour and machinery (a+b+c)				201.27
	e)	0				0.00
	f)	Contractor's profit and overheads @ 15 %	on (a	+b+c+d+e)	784.94
	Ra	te per cum = a+b+c+d+e+f				6,017.85
					say	<u>6017.90</u>
(ii)	No	minal mix 1:2.5:5 (Hand mixing)				
	Un	it = cum				
	a)	Material				
		Cement	t	0.275	6,100.00	1,677.50
		Sand	cum	0.48	370.00	177.60
		40 mm aggregate	cum	0.54	2,550.00	1,377.00
		20 mm aggregate	cum	0.25	2,975.00	743.75
		10 mm aggregate	cum	0.11	3,110.00	342.10
	b)	Labour				
		Mate	day	0.09	300.00	27.00
		Mason (1st Class)	day	0.10	425.00	42.50
		Mazdoor (Unskilled)	day	2.00	300.00	600.00
		Bhisti	day	0.27	300.00	81.00
	c)	Formwork @ 4% on (a+b)				202.74
	d)	0				0.00
	e)	Contractor's profit and overheads @ 15 %	on (a	+b+c+d)		790.68
	Ra	te per cum = a+b+c+d+e				6,061.87
					say	<u>6061.90</u>
III. P.C	:.C.	grade M 20 (using jhama brick aggregate)				
(i)		minal mix (1:2:4)				
	Un	it = cum				
	a)	Material				
		Cement	t	0.33	6,100.00	2,013.00
		Sand	cum	0.45	370.00	166.50
		40 mm aggregate	cum	0.36	2,550.00	918.00
		20 mm aggregate	cum	0.36	2,975.00	1,071.00
		10 mm aggregate	cum	0.18	3,110.00	559.80
	b)	Labour				
		Mate	day	0.08	300.00	24.00

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Mason (1st Class)	day	0.10	425.00	42.50
				Mazdoor (Unskilled)	day	1.63	300.00	489.00
				Bhisti	day	0.27	300.00	81.00
			c)	Machinery				
				Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
			d)	Formwork @ 4% on (a+b+c)				217.68
		(e)	0				0.00
		f	f)	Contractor's profit and overheads $@$ 15 %	6 on (a	+b+c+d+e)	848.95
		l	Ra	te per cum = a+b+c+d+e+f				6,508.63
							say	<u>6508.60</u>
		(ii)	No	minal mix 1:2:4 (Hand mixed)				
			Un	it = cum				
		i	a)	Material				
				Cement	t	0.33	6,100.00	2,013.00
				Sand	cum	0.45	370.00	166.50
				40 mm aggregate	cum	0.36	2,550.00	918.00
				20 mm aggregate	cum	0.36	2,975.00	1,071.00
				10 mm aggregate	cum	0.18	3,110.00	559.80
		I	b)	Labour				
				Mate	day	0.09	300.00	27.00
				Mason (1st Class)	day	0.10	425.00	42.50
				Mazdoor (Unskilled)	day	2.00	300.00	600.00
				Bhisti	day	0.27	300.00	81.00
			c) d)	Formwork @ 4% out of material and labour (a+b) o				219.15 0.00
			-	Contractor's profit and overheads @ 15 %	6 on (a	+p+c+q)		854.69
			-	te per cum = a+b+c+d+e	(u			6,552.64
		I					say	<u>6552.60</u>
							say	0002.00

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
12.1	600, 1200	plas	stru sterii	masonry work in cement mortar in cture complete excepting pointing & ng, as per drawing & MoRD technical ation Clauses 602, 603, 604, 1202 and 1204.				
		I.	In 1	:3 cement mortar				
			Uni	t = cum				
			a)	Material				
				Bricks	Nos.	380.00	8.03	3,051.40
				Cement mortar (Rate as in item 11.5.I)	cum	0.24	3,805.50	913.32
			b)	Labour				
				Mate	day	0.09	300.00	27.00
				Mason 1st Class	day	0.80	425.00	340.00
				Mazdoor (Unskilled)	day	1.60	300.00	480.00
				Bhisti	day	0.20	300.00	60.00
				Add for scaffolding @ 5 per cent of cost of materials and labour (a+b)				243.59
			c)	0				0.00
			d)	Contractor's profit and overheads $@$ 15 % o	n (a+b+	·c)		767.30
			Rat	e per cum = a+b+c+d				5,882.60
							say	<u>5882.60</u>
		П.	In 1	:4 Cement mortar				
			Uni	t = cum				
			a)	Material				
				Bricks	Nos.	380.00	8.03	3,051.40
				Cement mortar				
				(Rate as in item 11.5.II)	cum	0.24	3,012.50	723.00
			b)	Labour				
				Mate	day	0.09	300.00	27.00
				Mason 1st Class	day	0.80	425.00	340.00
				Mazdoor (Unskilled)	day	1.60	300.00	480.00
				Bhisti	day	0.20	300.00	60.00
				Add for scaffolding @ 5 per cent of cost of materials and labour (a+b)				234.07
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 % o	n (a+b+	·c)		737.32
			Rat	e per cum = a+b+c+d				5,652.79
							say	<u>5652.80</u>
				•5 comont mortor				

III. In 1:5 cement mortar

Unit = cum

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			a)	Material				
				Bricks 1st class	Nos.	380.00	8.03	3,051.40
				Cement mortar (Rate as per sub-analysis)	cum	0.24	2,585.50	620.52
			b)	Labour				
				Mate	day	0.09	300.00	27.00
				Mason 1st Class	day	0.80	425.00	340.00
				Mazdoor (Unskilled)	day	1.60	300.00	480.00
				Bhisti	day	0.20	300.00	60.00
				Add for scaffolding @ 5 per cent of cost of materials and labour (a+b)				228.95
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 % o	n (a+b+	·c)		721.18
			Rat	e per cum = a+b+c+d				5,529.05
							say	<u>5529.00</u>
		Sub	o-ana	alysis				
		Cen	nent	mortar 1:5 (1 cement, 5 sand)				
			a)	Material				
				Cement	t	0.31	6,100.00	1,891.00
				Sand	cum	1.05	370.00	388.50
			b)	Labour				
				Mate	day	0.04	300.00	12.00
				Mazdoor (Unskilled)	day	0.90	300.00	270.00
				Bhisti	day	0.08	300.00	24.00
			Tot	al material and labour = (a+b)				<u>2,585.50</u>
12.2	600, 1200	per 613.	drav .3 &	g with cement mortar (1:3) on brickwork as wing & MoRD technical specification Clauses 1204. D sqm				
		Taki	ing c	putput = 10 sqm				
		a)	Mat	terial				
			Cer	ment mortar 1.3 (Rate as in item 11.5.I)	cum	0.03	3,805.50	114.17
		b)	Lab	oour				
			Mat	te	day	0.04	300.00	12.00
			Ma	son 1st Class	day	0.50	425.00	212.50
			Ma	zdoor (Unskilled)	day	0.50	300.00	150.00
			Bhi	sti	day	0.20	300.00	60.00
		c)	0					0.00
		d)	Со	ntractor's profit and overheads @ 15 % on (a-	⊦b+c)			82.30

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Rat	e per 10 sqm = (a+b+c+d)				630.96
		Rat	e per sqm = (a+b+c+d)/10				63.10
						say	<u>63.10</u>
	Note:	Sca	ffolding is already included in item 12.1				
12.3	600, 1200	bric spe	stering with cement mortar (1:4) 15 mm thick on ckwork in substructure as per MoRD technical ecification Clauses 613.4 & 1204. t = 10 sqm				
		Tak	ing output = 10 sqm				
		a)	Material				
			Cement mortar 1:4 (Rate as in item 11.5.II)	cum	0.24	3,012.50	723.00
		b)	Labour				
			Mate	day	0.06	300.00	18.00
			Mason 1st Class	day	0.60	425.00	255.00
			Mazdoor (Unskilled)	day	0.60	300.00	180.00
			Bhisti	day	0.30	300.00	90.00
		c)	0				0.00
		d)	Contractor's profit and overheads @ 15 % on (a-	⊦b+c)			189.90
		Rat	e per 10 sqm = (a+b+c+d)				1,455.90
		Rat	e per sqm = (a+b+c+d)/10				145.59
						say	<u>145.60</u>
	Note:	1	Scaffolding is already included in item 12.1				
		2	Though cement mortar of leaner mix has been included in item 12.1, for cement plaster mix of 1:4 has been proposed for better finishing				
		3	If cement plaster 12 mm or 18 mm thick is required elsewhere only the quantity of cement mortar may be changed on prorata basis without any change in the labour.				
12.4	&	con Mol 806	in/reinforced cement concrete in substructure nplete including formwork as per drawings & RD technical specification Clauses 802, 804, 805, 6, 807, 900, 1202 & 1204. (including centering, attering, staging etc. but excluding reinforcement)				
		Unit	t = cum				
		I.	P.C.C grade M 15				
			Same as item 11.4.II(i) up to 5 m height except for formwork which shall be 10 percent instead of 4 percent of cost of material, labour & machinery.				
			(i) Nominal mix (1:2.5:5)				

Unit = cum

Sr. No.	Ref. to MORD Spec.		_	Description	Unit	Quantity	Rate (₹)	Amount (₹)
			a)	Material				
				Cement	t	0.275	6,100.00	1,677.50
				Sand	cum	0.48	370.00	177.60
				40 mm aggregate	cum	0.54	3,532.00	1,907.28
				20 mm aggregate	cum	0.25	3,969.00	992.25
				10 mm aggregate	cum	0.11	4,040.00	444.40
			b)	Labour				
				Mate	day	0.08	300.00	24.00
				Mason (1st Class)	day	0.10	425.00	42.50
				Mazdoor (Unskilled)	day	1.63	300.00	489.00
				Bhisti	day	0.27	300.00	81.00
			c)	Machinery				
				Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
			d)	Formwork @ 10% on cost of material, labour and machinery (a+b+c)				591.27
			e)					0.00
			f)	Contractor's profit and overheads @ 15 °	% on (a	a+b+c+d+e)	975.60
			Ra	te per cum = a+b+c+d+e+f				7,479.60
							say	<u>7479.60</u>
		II. P.C.	C g	rade M 15				
			for	me as item 11.4.II(i) up to 5 m height except formwork which shall be 10 percent instead a percent of cost of material & labour.				
		(ii)	No	minal mix 1:2.5:5 (Hand mixing)				
			Un	it = cum				
			a)	Material				
				Cement	t	0.275	6,100.00	1,677.50
				Sand	cum	0.48	370.00	177.60
				40 mm aggregate	cum	0.54	3,532.00	1,907.28
				20 mm aggregate	cum	0.25	3,969.00	992.25
				10 mm aggregate	cum	0.11	4,040.00	444.40
			b)	Labour				
				Mate	day	0.09	300.00	27.00
				Mason (1st Class)	day	0.10	425.00	42.50
				Mazdoor (Unskilled)	day	2.00	300.00	600.00
				Bhisti	day	0.27	300.00	81.00
			c)	Formwork @ 10% on (a+b)				594.95

Sr. No.	Ref. to MORD Spec.				Description	Unit	Quantity	Rate (₹)	Amount (₹)
				d)	0				0.00
				e)	Contractor's profit and overheads @ 15 %	6 on (a	i+b+c+d)		981.67
				Ra	te per cum = a+b+c+d+e				7,526.16
								say	<u>7526.20</u>
		III.	P.C.	.C.	grade M 20 (1:2:4) Nominal mix				
			-	for of	ne as item 11.4.III(i) up to 5 m height except formwork which shall be 10 percent instead 4 percent of cost of material, labour & chinery.				
					height above 5 m up to 10 m same as item 11.4.III with following changes:-				
					Add 2 percent of cost of material, labour & machinery excluding formwork to cater for extra lift.				
				b.	The provision of formwork shall be 12 percent instead of 4 percent of cost of material, labour and machinery.				
			(i)	Up	to 5 m height				
				Uni	t = cum				
				a)	Material				
					Cement	t	0.33	6,100.00	2,013.00
					Sand	cum	0.45	370.00	166.50
					40 mm aggregate	cum	0.36	3,532.00	1,271.52
					20 mm aggregate	cum	0.36	3,969.00	1,428.84
					10 mm aggregate	cum	0.18	4,040.00	727.20
				b)	Labour				
					Mate	day	0.08	300.00	24.00
					Mason (1st Class)	day	0.10	425.00	42.50
					Mazdoor (Unskilled)	day	1.63	300.00	489.00
					Bhisti	day	0.27	300.00	81.00
				c)	Machinery				
					Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
					Formwork @ 10% on cost of material, labour and machinery (a+b+c)				632.08
				e)					0.00
				-	Contractor's profit and overheads @ 15 %	6 on (a	i+b+c+d+e)		1,042.93
				Ra	te per cum = a+b+c+d+e+f				7,995.76
				_				say	<u>7995.80</u>
					r height above 5 m upto 10 m				
					t = cum				
				a)	Material				

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Cement	t	0.33	6,100.00	2,013.00
			Sand	cum	0.45	370.00	166.50
			40 mm aggregate	cum	0.36	3,532.00	1,271.52
			20 mm aggregate	cum	0.36	3,969.00	1,428.84
			10 mm aggregate	cum	0.18	4,040.00	727.20
		b	Labour				
			Mate	day	0.08	300.00	24.00
			Mason (1st Class)	day	0.10	425.00	42.50
			Mazdoor (Unskilled)	day	1.63	300.00	489.00
			Bhisti	day	0.27	300.00	81.00
		C	Machinery				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
		d	Add 2% of the cost of material, labour and machinery i.e. on (a+b+c) to cater extra lift				126.42
			Formwork @ 12% on cost of material, labour & machinery i.e. on (a+b+c)				773.66
		f)					0.00
			Contractor's profit and overheads @ 15 %	% on (a	a+b+c+d+e	+f)	1,083.13
		R	ate per cum = a+b+c+d+e+f+g				8,303.96
						say	<u>8304.00</u>
	IV.	P.C.C	. grade M 20 (1:2:4) Hand mix				
		e: in	ame as item 11.4.III(ii) up to 5 m height cept for formwork which shall be 10 percent stead of 4 percent of cost of material & bour.				
		ii) S	ame III(ii) above.				
		(i) U	p to 5 m height				
		U	nit = cum				
		aj	Material				
			Cement	t	0.33	6,100.00	2,013.00
			Sand	cum	0.45	370.00	166.50
			40 mm aggregate	cum	0.36	3,532.00	1,271.52
			20 mm aggregate	cum	0.36	3,969.00	1,428.84
			10 mm aggregate	cum	0.18	4,040.00	727.20
		b) Labour				
			Mate	day	0.09	300.00	27.00
			Mason (1st Class)	day	0.10	425.00	42.50
			Mazdoor (Unskilled)	day	2.00	300.00	600.00
			Bhisti	day	0.27	300.00	81.00

Sr. Ref. to No. Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
		c) d)	Formwork @ 10% out of material and labour (a+b)				635.76
				(an (a	، ام ، م ، ما)		
		-	Contractor's profit and overheads @ 15 %	o on (a	+0+0+0)		1,049.00
		Ra	te per cum = a+b+c+d+e				8,042.31
						say	<u>8042.30</u>
	(ii)	Foi	r height above 5 m upto 10 m				
		Uni	it = cum				
		a)	Material				
			Cement	t	0.33	6,100.00	2,013.00
			Sand	cum	0.45	370.00	166.50
			40 mm aggregate	cum	0.36	3,532.00	1,271.52
			20 mm aggregate	cum	0.36	3,969.00	1,428.84
			10 mm aggregate	cum	0.18	4,040.00	727.20
		b)	Labour				
			Mate	day	0.09	300.00	27.00
			Mason (1st Class)	day	0.10	425.00	42.50
			Mazdoor (Unskilled)	day	2.00	300.00	600.00
			Bhisti	day	0.27	300.00	81.00
		-	Add 2% of the cost of material, labour i.e. on (a+b) to cater extra lift Formwork @ 12% on cost of material & labour i.e. on (a+b)				127.15 778.17
		e)	labour i.e. on (a+b) Overhead charges @ on (a+b+c+d)				0.00
		-	Contractor's profit @ on (a+b+c+d+e)				1,089.43
		Rat	te per cum = a+b+c+d+e+f				8,352.31
						say	<u>8352.30</u>
V . I	R.C.	.C g	grade M 20				
	,	for of	me as item 11.4.IV up to 5 m height except formwork which shall be 10 percent instead 4 percent of cost of material, labour & chinery.				
		abo forr of f	height above 5 m up to 10 m same as ove except that 2 percent of cost excluding mwork is to be added for extra lift. For cost formwork add 12 percent of cost of material,				

iii) For height above 10 m same as above with the following changes.

labour and machinery instead of 4 percent.

a. Add 4 percent of cost of material, labour & machinery excluding formwork to cater for extra lift.

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			b. The provision of formwork shall be 15 percent instead of 4 percent of cost of material, labour and machinery.				
		(i)	Up to 5 m height				
		Uni	t = cum				
		a)	Material				
			Cement	t	0.35	6,100.00	2,135.00
			Sand	cum	0.45	370.00	166.50
			20 mm aggregate	cum	0.54	3,969.00	2,143.26
			10 mm aggregate	cum	0.36	4,040.00	1,454.40
		b)	Labour				
			Mate	day	0.08	300.00	24.00
			Mason (1st Class)	day	0.12	425.00	51.00
			Mazdoor (Unskilled)	day	1.73	300.00	519.00
			Bhisti	day	0.27	300.00	81.00
		c)	Machinery				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
		d)	Formwork @ 10% on cost of material, labour and machinery (a+b+c)				665.14
		e)	0				0.00
		f)	Contractor's profit and overheads @ 15 % o	n (a+b-	+c+d+e)		1,097.47
		Rat	æ per cum = (a+b+c+d+e+f)				8,413.97
						say	<u>8414.00</u>
		(ii)	For height above 5 m upto 10 m				
		Uni	t = cum				
		a)	Material				
			Cement	t	0.35	6,100.00	2,135.00
			Sand	cum	0.45	370.00	166.50
			20 mm aggregate	cum	0.54	3,969.00	2,143.26
			10 mm aggregate	cum	0.36	4,040.00	1,454.40
		b)	Labour				
			Mate	day	0.08	300.00	24.00
			Mason (1st Class)	day	0.12	425.00	51.00
			Mazdoor (Unskilled)	day	1.73	300.00	519.00
			Bhisti	day	0.27	300.00	81.00
		c)	Machinery				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20

Chapter 12 SUBSTRUCTURE

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		d)	Add 2% of the cost of material, labour and machinery i.e. on (a+b+c) to cater extra lift				133.03
		e)	Formwork @ 12% on cost of material, labour & machinery i.e. on (a+b+c)				814.13
		f)	0				0.00
		g)	Contractor's profit and overheads @ 15 % on (a+b+c+d+e+f)				1,139.78
		Rat	te per cum = a+b+c+d+e+f+g				8,738.29
						say	<u>8738.30</u>
		(iii)	For height above 10 m				
		Uni	t = cum				
		a)	Material				
			Cement	t	0.35	6,100.00	2,135.00
			Sand	cum	0.45	370.00	166.50
			20 mm aggregate	cum	0.54	3,969.00	2,143.26
			10 mm aggregate	cum	0.36	4,040.00	1,454.40
		b)	Labour				
			Mate	day	0.08	300.00	24.00
			Mason (1st Class)	day	0.12	425.00	51.00
			Mazdoor (Unskilled)	day	1.73	300.00	519.00
			Bhisti	day	0.27	300.00	81.00
		c)	Machinery				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
		d)	Add 4% of the cost of material, labour and machinery i.e. on (a+b+c) to cater extra lift				266.05
		e)	Formwork @ 15% on cost of material, labour & machinery i.e. on (a+b+c)				1,037.61
		f)	0				0.00
		g)	Contractor's profit and overheads @ 15 % on (a+b+c+d+e+f)				1,193.25
		Rat	e per cum = a+b+c+d+e+f+g				9,148.28
						say	<u>9148.30</u>
	VI.	R.C	C.C. grade M 25				
		i)	Same as item 11.4.V up to 5 m height excluding formwork. For cost of formwork add				

excluding formwork. For cost of formwork add 10 percent instead of 4.00 percent.

ii) For height above 5 m up to 10 m same as above except that 2 percent of cost excluding formwork is to be added for extra lift. For cost of formwork add 12 percent of cost of material, labour and machinery instead of 4 %.

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		iii)	For height above 10 m add 4 percent of cost as above excluding formwork to cater for extra lift. For cost of formwork add 15 percent of cost of material, labour and machinery instead of 4%.				
		(i)	Up to 5 m height				
		Uni	t = cum				
		a)	Material				
			Cement	t	0.404	6,100.00	2,464.40
			Sand	cum	0.45	370.00	166.50
			20 mm aggregate	cum	0.54	3,969.00	2,143.26
			10 mm aggregate	cum	0.36	4,040.00	1,454.40
		b)	Labour				
			Mate	day	0.08	300.00	24.00
			Mason (1st Class)	day	0.12	425.00	51.00
			Mazdoor (Unskilled)	day	1.73	300.00	519.00
			Bhisti	day	0.27	300.00	81.00
		c)	Machinery				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
		d)	Formwork @ 10% on cost of material, labour and machinery (a+b+c)				698.08
		e)	0				0.00
		f)	Contractor's profit and overheads @ 15 % o	n (a+b-	⊦c+d+e)		1,151.83
		Rat	e per cum = a+b+c+d+e+f				8,830.66
						say	<u>8830.70</u>
		(ii)	For height above 5 m upto 10 m				
			t = cum				
		a)	Material				
		-	Cement	t	0.404	6,100.00	2,464.40
			Sand	cum	0.45	370.00	166.50
			20 mm aggregate	cum	0.54	3,969.00	2,143.26
			10 mm aggregate	cum	0.36	4,040.00	1,454.40
		b)	Labour				
		,	Mate	day	0.08	300.00	24.00
			Mason (1st Class)	day	0.12	425.00	51.00
			Mazdoor (Unskilled)	day	1.73	300.00	519.00
			Bhisti	day	0.27	300.00	81.00
		c)	Machinery				
		-1	Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
					0.10		

Sr. Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	d)	Add 2% of the cost of material, labour and machinery i.e. on (a+b+c) to cater extra lift				139.62
	e)	Formwork @ 12% on cost of material, labour & machinery i.e. on (a+b+c)				854.45
	f)	0				0.00
	g)	Contractor's profit and overheads @ 15 % on (a+b+c+d+e+f)				1,196.22
	Rat	te per cum = a+b+c+d+e+f+g				9,171.04
					say	<u>9171.00</u>
	(iii)	For height above 10 m				
	Uni	it = cum				
	a)	Material				
		Cement	t	0.404	6,100.00	2,464.40
		Sand	cum	0.45	370.00	166.50
		20 mm aggregate	cum	0.54	3,969.00	2,143.26
		10 mm aggregate	cum	0.36	4,040.00	1,454.40
	b)	Labour				
		Mate	day	0.08	300.00	24.00
		Mason (1st Class)	day	0.12	425.00	51.00
		Mazdoor (Unskilled)	day	1.73	300.00	519.00
		Bhisti	day	0.27	300.00	81.00
	c)	Machinery				
		Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
	d)	Add 4% of the cost of material, labour and machinery i.e. on (a+b+c) to cater extra lift				279.23
	e)	Formwork @ 15% on cost of material, labour & machinery i.e. on (a+b+c)				1,089.00
	f)	0				0.00
	g)	Contractor's profit and overheads @ 15 % on (a+b+c+d+e+f)				1,252.35
	Rat	te per cum = a+b+c+d+e+f+g				9,601.34
					say	<u>9601.30</u>
1200	treated reinforc drawing	ng, fitting & placing Thermo-Mechanically bar/ Cold twisted deformed steel bar ement in substructure complete as per gs & MoRD technical specification Clauses 005, 1010 and 1202.				
	a) Ma	terial				
		isted steel/ deformed bars including 5 per cent arlaps and wastage	t	1.05	41,020.00	43,071.00

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)		
			Binding wire	kg	6.00	58.00	348.00		
		b)	Labour for cutting, bending, shifting to site, tying, and placing in position						
			Mate	day	0.34	300.00	102.00		
			Blacksmith	day	2.00	403.00	806.00		
			Mazdoor (Unskilled)	day	6.50	300.00	1,950.00		
		c)	0				0.00		
		d)	contractor's profit and overheads @ 15 % on (a+b+c)				6,941.55		
		Rat	e per t = a+b+c+d				53,218.55		
						say	<u>53218.60</u>		
12.6	1000 & 1200	rein drav	forcement in substructure complete as per wings & MoRD technical specification Clauses 2, 1005, 1010 and 1202.						
		a)	Material						
			MS bars including 5 per cent overlaps and wastage	t	1.05	40,320.00	42,336.00		
			Binding wire	kg	6.00	58.00	348.00		
		b)	Labour for cutting, bending, shifting to site, tying, and placing in position						
			Mate	day	0.34	300.00	102.00		
			Blacksmith	day	2.00	403.00	806.00		
			Mazdoor (Unskilled)	day	6.50	300.00	1,950.00		
		c)	Overheads @ 20% on (a+b)				0.00		
			Contractor's profit @ 10% on (a+b+c)				6,831.30		
		Rat	e per t = a+b+c+d				52,373.30		
12.7		mas wall pipe thro 1(V) drav	viding weepholes in brick masonry / stone sonry, plain/ reinforced concrete abutment, wing I, return wall with 100 mm dia AC pipe or uPVC e (110 mm OD of 6.0 Kg/cm ² pressure) extending bugh the full width of the structures with slope of):20(H) towards drawing face complete as per wing and MoRD technical specification clauses , 709, 1204.3.7.			say	<u>52373.30</u>		
		Unit = Mtr							
		Tak	ing output = 30 Mtr						
			Material						
			AC pipe / uPVC pipe (6.00 kg/cm2) 100 mm dia including wastage @ 5 per cent. Average length of each weep hole is taken as one metre for the analysis.	m	31.50	162.70	5,125.05		
			MS clamps (assume total 30 nos weep hole)	Nos.	30.00	38.00	1,140.00		

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)	
			Cen	nent mortar 1:4 (For rate refer to item 11.5 II)	cum	0.05	3,012.50	150.63	
		b)	Lab	our					
			Mat	e	day	0.03	300.00	9.00	
			Mas	on 1st Class	day	0.50	425.00	212.50	
			Maz	door (Unskilled)	day	0.25	300.00	75.00	
		c)	0					0.00	
		d)	Cor	tractor's profit and overheads @ 15 % on (a-	⊦b+c)			1,006.83	
		Cost for 30 Mtr = $(a+b+c+d)$						7,719.00	
		Rate	e per	Mtr = (a+b+c+d)/30				257.30	
							say	<u>257.30</u>	
12.8	1200	Backfilling behind abutment, wing wall & return wall complete as per drawings & MoRD technical specification Clause 1204.3.8. Unit = cum							
		Tak	Taking output = 10 cum						
		I)	San	dy material					
			Unit = cum						
			Taking output = 10 cum						
			a)	Material					
				Sand (local quarry)	cum	12.00	300.00	3,600.00	
			b)	Labour					
				Mate	day	0.40	300.00	120.00	
				Mazdoor (Unskilled)	day	10.00	300.00	3,000.00	
				Bhisti	day	0.40	300.00	120.00	
			c)	0				0.00	
			d) Contractor's profit and overheads @ 15 % on (a+b+c)					1,026.00	
			Cost for 10 cum of sand backfill = a+b+c+d					7,866.00	
			Rate	e per cum = (a+b+c+d)/10				786.60	
							say	<u>786.60</u>	
12.9	1200	agg less & b enti wal con	rega s tha igge ire s l to t nplet	g & laying filter media with granular crushed tes as per specification to a thickness of not n 600 mm with smaller size towards the soil r size towards the wall & providing over the urface behind abutment, wing wall, return the full height, compacted to firm condition e as per drawing and MoRD technical ation clause 1204.3.8.					

Unit = cum

Taking output = 10 cum

Sr. Ref. No. MO	RD	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	a	Material				
		Filter media as per specification	cum	12.00	2,763.00	33,156.00
	b	Labour				
		Mate	day	0.40	300.00	120.00
		Mazdoor (Unskilled)	day	9.00	300.00	2,700.00
		Mazdoor (Skilled)	day	1.00	380.00	380.00
		Bhisti	day	0.50	300.00	150.00
	C	0				0.00
	d	Contractor's profit and overheads $@$ 15 % on (a+b+c)			5,475.90
	С	ost for 10 cum of filter media = a+b+c+d				41,981.90
	R	ate per cum = (a+b+c+d)/10				4,198.19
					say	<u>4198.20</u>
	р 1	Section IX complete including all accessories a er drawings & MoRD technical specification Claus 207.1. hit = cubic centimetre				
	С	onsidering an elastomeric bearing of size 500 x 400 x $$				
		omm for this analysis, verall volume = 19200 cu.cm				
		blume of 6 Nos 488x388x4 mm size reinforcing steel				
	-	ates = 4545 cu.cm. ence volume of elastomer = 14655 cu. cm.				
	a	Labour				
		Mate	day	0.06	300.00	18.00
		Mazdoor (Unskilled)	day	1.00	300.00	300.00
		Mazdoor Skilled	day	0.50	380.00	190.00
	b	Material				
		Elastomeric bearing assembly consisting of internal layers of elastomer bonded to 6 nos internal reinforcing steel laminates by the process of vulcanisation, complete with all components as per drawing and technical specification Add for anchorage bolts if required and consumables @ 1 per cent on (a+b)	s. centim of etre	19,200	1.03	19,776.00 202.84
	C					0.00
	d		a+b+c)			3,073.03
	С	ost for 19200 cu.cm. of elastomeric bearing = a+b+c+c	-			23,559.87
	R	ate per cu.cm of elastomeric bearing = (a+b+c+d)/1		1.23		
					say	<u>1.20</u>

Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	Note:		such type of manufactured item, the overhead cost aken as 30 per cent instead of 20 per cent.				
12.11	600, 700, 1200	of forr	viding PCC M 20 architectural coping on the top wing wall, return wall etc. complete including nwork as per drawing & MoRD technical cification Clauses 615, 710 & 1204.3.11.				
		Unit	t = Running m				
		Tak	ing output = 1 m				
		Ass	ume wall thickness = 345 mm				
			jection of the coping will be 25 mm wide on both side ne wall = 345 + 50 = 395 mm				
		Qua	antity = 1 x 0.395 x 0.150 = 0.059				
		a) P	PCC M-20 Grade (1:2:4) Nominal Mix				
		As p	per item No. 12.5 (III)(i)	cum	0.059	7,995.80	471.75
		Add	10 per cent extra of cost of (a) being architectural cop	oing			47.18
		Cos	at of 1 m = a				518.93
		Rat	e per m = a				518.93
						say	<u>518.90</u>
12.12	1200	slat 500	viding pressure relief pipes 100 mm dia in bottom o of box cell on a filter media base of 500 mm x mm as per drawing & MoRD technical cification Clause 1205.5.7.				
		Unit	t = Nos				
		a)	Material				
			AC pipe 100 mm dia i/c wastage of 5 per cent 600 mm long upto the bottom of levelling course	m	0.63	162.70	102.50
			Filter media base with stone aggregate 0.5 m x 0.5 m area 1 m deep	cum	0.25	2,763.00	690.75
		b)	Labour				
			Mate	day	0.031	300.00	9.30
			Mason 1st Class	day	0.016	425.00	6.80
			Mazdoor (Unskilled)	day	0.80	300.00	240.00
		c)	0				0.00
		d)	Contractor's profit and overheads @ 15 % on (a-	+b+c)			157.40
		Rat	e per No = (a+b+c+d)				1,206.75
						say	<u>1206.80</u>

ADDITIONAL ITEMS BY USING JHAMA BRICK AGGREGATE (i.e. LOCALLY AVAILABLE MATERIALS)

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
12.13	1200	agg less & b enti wall con spe	regat s than igger ire su l to th nplete	g & laying filter media with jhama brick es as per specification to a thickness of not 600 mm with smaller size towards the soil size towards the wall & providing over the urface behind abutment, wing wall, return he full height, compacted to firm condition as per drawing and MoRD technical tion clause 1204.3.8. m				
		Tak	ing ou	tput = 10 cum				
		a)	Mate	rial				
			Filter	media as per specification	cum	12.00	1,993.00	23,916.00
		b)	Labo	bur				
			Mate		day	0.40	300.00	120.00
			Mazo	door (Unskilled)	day	9.00	300.00	2,700.00
			Mazo	door (Skilled)	day	1.00	380.00	380.00
			Bhist	ii	day	0.50	300.00	150.00
		c)	0					0.00
		d)	Con	tractor's profit and overheads @ 15 % on (a-	⊦b+c)			4,089.90
		Cos	st for 1	0 cum of filter media = a+b+c+d				31,355.90
		Rat	e per	cum = (a+b+c+d)/10				3,135.59
							say	<u>3135.60</u>
12.14		in s drav 802 cen rein	substr wings , 804, tering	nent concrete(using jhama brick aggregate) ucture complete including formwork as per & MoRD technical specification Clauses 805, 806, 807, 900, 1202 & 1204 (including g, shuttering, staging etc. but excluding ment)				
		I.		 C grade M 15 (1:2.5:5 Nominal mix)				
			: 1	Same as item 11.9.II(i) up to 5 m height except for formwork which shall be 10 percent instead of 4 percent of cost of material, labour & machinery.				
			(i)	Nominal mix (1:2.5:5)				
			I	Unit = cum				
			i	a) Material				
				Cement	t	0.275	6,100.00	1,677.50
				Sand	cum	0.48	370.00	177.60
				40 mm aggregate	cum	0.54	2,550.00	1,377.00
				20 mm aggregate	cum	0.25	2,975.00	743.75
				10 mm aggregate	cum	0.11	3,110.00	342.10

Sr. Ref. to No. Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
· 		b)	Labour				
			Mate	day	0.08	300.00	24.00
			Mason (1st Class)	day	0.10	425.00	42.50
			Mazdoor (Unskilled)	day	1.63	300.00	489.00
			Bhisti	day	0.27	300.00	81.00
		c)	Machinery				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
			Formwork @ 10% on cost of material, labour and machinery (a+b+c)				503.17
		e)					0.00
		f)	Contractor's profit and overheads @ 15 %	% on (a	i+b+c+d+e)	830.22
		Ra	te per cum = a+b+c+d+e+f				6,365.04
						say	<u>6365.00</u>
I	I. P.C	:.C ç	grade M 15				
		for	me as item 11.9.II(i) up to 5 m height except formwork which shall be 10 percent instead 4 percent of cost of material & labour.				
	(ii)	No	minal mix 1:2.5:5 (Hand mixing)				
		Un	it = cum				
		a)	Material				
			Cement	t	0.275	6,100.00	1,677.50
			Sand	cum	0.48	370.00	177.60
			40 mm aggregate	cum	0.54	2,550.00	1,377.00
			20 mm aggregate	cum	0.25	2,975.00	743.75
			10 mm aggregate	cum	0.11	3,110.00	342.10
		b)	Labour				
			Mate	day	0.09	300.00	27.00
			Mason (1st Class)	day	0.10	425.00	42.50
			Mazdoor (Unskilled)	day	2.00	300.00	600.00
			Bhisti	day	0.27	300.00	81.00
		c)	Formwork @ 10% on (a+b)				506.85
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 9	% on (a	ı+b+c+d)		836.29
		Ra	te per cum = a+b+c+d+e				6,411.59
I	II. P.C	.C.	grade M 20 (1:2:4) Nominal mix			say	<u>6411.60</u>

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
		i)	for of	me as item 11.9.III(i) up to 5 m height except formwork which shall be 10 percent instead 4 percent of cost of material, labour & ichinery.				
		ii)	no.	r height above 5 m up to 10 m same as item 11.9.III with following changes:- Add 2 percent of cost of material, labour & machinery excluding formwork to cater for extra lift.				
			b.	The provision of formwork shall be 12 percent instead of 4 percent of cost of material, labour and machinery.				
		(i)	Up	to 5 m height				
			Un	it = cum				
			a)	Material				
				Cement	t	0.33	6,100.00	2,013.00
				Sand	cum	0.45	370.00	166.50
				40 mm aggregate	cum	0.36	2,550.00	918.00
				20 mm aggregate	cum	0.36	2,975.00	1,071.00
				10 mm aggregate	cum	0.18	3,110.00	559.80
			b)	Labour				
				Mate	day	0.08	300.00	24.00
				Mason (1st Class)	day	0.10	425.00	42.50
				Mazdoor (Unskilled)	day	1.63	300.00	489.00
				Bhisti	day	0.27	300.00	81.00
			c)	Machinery				
				Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
			d)	Formwork @ 10% on cost of material, labour and machinery (a+b+c)				544.20
			e)					0.00
			f)	Contractor's profit and overheads @ 15 %	6 on (a	a+b+c+d+e)	897.93
			Ra	te per cum = a+b+c+d+e+f				6,884.13
							say	<u>6884.10</u>
		(ii)	Fo	r height above 5 m upto 10 m				
				it = cum				
			a)	Material				
				Cement	t	0.33	6,100.00	2,013.00
				Sand	cum	0.45	370.00	166.50
				40 mm aggregate	cum	0.36	2,550.00	918.00
				20 mm aggregate	cum	0.36	2,975.00	1,071.00
				10 mm aggregate	cum	0.18	3,110.00	559.80
						-		-

					<u>-</u>	
Sr. Ref. to No. MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
	b)	Labour				
		Mate	day	0.08	300.00	24.00
		Mason (1st Class)	day	0.10	425.00	42.50
		Mazdoor (Unskilled)	day	1.63	300.00	489.00
		Bhisti	day	0.27	300.00	81.00
	c)	Machinery				
		Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
	d)	Add 2% of the cost of material, labour and machinery i.e. on (a+b+c) to cater extra lift				108.84
	e)	Formwork @ 12% on cost of material, labour & machinery i.e. on (a+b+c)				666.10
	f)	0				0.00
	g)	Contractor's profit and overheads @ 15 %	% on (a	i+b+c+d+e	+f)	932.54
	Ra	te per cum = a+b+c+d+e+f+g				7,149.48
					say	<u>7149.50</u>
IV.	P.C.C.	grade M 20 (1:2:4) Hand mix				
	exe	me as item 11.9.III(ii) up to 5 m height cept for formwork which shall be 10 percent tead of 4 percent of cost of material & pour.				
	ii) Sa	me III(ii) above.				
	(i) Up	to 5 m height				
	Un	it = cum				
	a)	Material				
		Cement	t	0.33	6,100.00	2,013.00
		Sand	cum	0.45	370.00	166.50
		40 mm aggregate	cum	0.36	2,550.00	918.00
		20 mm aggregate	cum	0.36	2,975.00	1,071.00
		10 mm aggregate	cum	0.18	3,110.00	559.80
	b)	Labour				
		Mate	day	0.09	300.00	27.00
		Mason (1st Class)	day	0.10	425.00	42.50
		Mazdoor (Unskilled)	day	2.00	300.00	600.00
		Bhisti	day	0.27	300.00	81.00
	c)	Formwork @ 10% out of material and				547.88
	d)	labour (a+b) 0				0.00
	e)	Contractor's profit and overheads @ 15 %	% on (a	ı+b+c+d)		904.00
	Ra	te per cum = a+b+c+d+e				6,930.68

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
						say	<u>6930.70</u>
		(ii) For	height above 5 m upto 10 m				
		Unit	= cum				
		a)	Material				
			Cement	t	0.33	6,100.00	2,013.00
		:	Sand	cum	0.45	370.00	166.50
			40 mm aggregate	cum	0.36	2,550.00	918.00
		:	20 mm aggregate	cum	0.36	2,975.00	1,071.00
			10 mm aggregate	cum	0.18	3,110.00	559.80
		b)	Labour				
			Mate	day	0.09	300.00	27.00
			Mason (1st Class)	day	0.10	425.00	42.50
			Mazdoor (Unskilled)	day	2.00	300.00	600.00
			Bhisti	day	0.27	300.00	81.00
		-	Add 2% of the cost of material, labour				109.58
		d)	i.e. on (a+b) to cater extra lift Formwork @ 12% on cost of material & labour i.e. on (a+b)				670.61
			Overhead charges @ on (a+b+c+d)				0.00
		f)	Contractor's profit @ on (a+b+c+d+e)				938.85
		Rate	e per cum = a+b+c+d+e+f				7,197.83
						say	<u>7197.80</u>
12.15	600, 700, 1200	architectural wall etc. c	CC M 20 (with jhama brick aggregate) I coping on the top of wing wall, return complete including formwork as per MoRD technical specification Clauses 204.3.11.				
		Unit = Runnin	ng m				
		Taking output	t = 1 m				
		Assume wall	thickness = 345 mm				
			the coping will be 25 mm wide on both side 345 + 50 = 395 mm				
		Quantity = 1 >	x 0.395 x 0.150 = 0.059				
		a) PCC M-20	Grade (1:2:4) Nominal Mix				
		As per item N	lo. 12.14 (III)(i)	cum	0.059	6,884.10	406.16
		Add 10 per ce	ent extra of cost of (a) being architectural cop	oing			40.62
		Cost of 1 m =	a				446.78
		Rate per m =	a				446.78
						say	446.80

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
12.16	1600, 1200	brickwo neat ce sqm in specifio	ng with cement mortar (1:4) 12 mm thick on ork / C.C. work including a finishing coat of ement punning with 2.75 Kg of cement per n substructure as per MoRD technical cation Clauses 613.4 & 1204. it = sqm				
		Tal	king output = 10 sqm				
		a)	Material				
			Cement mortar				
			(Rate as in sub-analysis of item 11.5 II)	cum	0.192	3,012.50	578.40
			Cement for neat cement punning	t	0.028	6,100.00	170.80
		b)	Labour				
			Mate	day	0.06	300.00	18.00
			Mason 1st Class	day	0.60	425.00	255.00
			Mazdoor (Unskilled)	day	0.60	300.00	180.00
			Bhisti	day	0.30	300.00	90.00
		c)	0				0.00
		d)	Contractor's profit and overheads @ 15 % o	n (a+b-	+c)		193.83
		Ra	te for 10 sqm = a+b+c+d				1,486.03
		Ra	te per sqm = (a+b+c+d)/ 10				148.60
						say	<u>148.60</u>

	1											
Sr. No.	Ref. to MORD Spec.	 			Description	Unit	Quantity	Rate (₹)	Amount (₹)			
13.1	800, 900, 1200	sup spe (inc	vidin ersti cific ludir ludir									
		I.	R.C	.C ç	grade M 20							
			(i)	Fo	r nominal mix 1:2:4							
				Un	it = cum							
				a)	Material							
					Cement	t	0.35	6,100.00	2,135.00			
					Fine sand	cum	0.45	370.00	166.50			
					20 mm aggregate	cum	0.54	3,969.00	2,143.26			
					10 mm aggregate	cum	0.36	4,040.00	1,454.40			
				b)	Labour							
					Mate	day	0.08	300.00	24.00			
					Mason (1st Class)	day	0.12	425.00	51.00			
					Mazdoor (Unskilled)	day	1.73	300.00	519.00			
					Bhisti	day	0.27	300.00	81.00			
				c)	Machinery							
					Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	40.00			
				d)	Add for formwork and staging							
					Height upto 5 m @ 20% of (a+b+c)				1,322.83			
				e)	0				0.00			
				f)	Contractor's profit and overheads @ 15 %	on (a	+b+c+d+e))	1,190.55			
				Ra	te per cum = a+b+c+d+e+f				9,127.54			
								say	<u>9127.50</u>			
			(ii)	Fo	r nominal mix 1:2:4 (Hand mixed)							
			. ,		For height up to 5 m							
				Un	it = cum							
				a)	Material							
				-	Cement	t	0.35	6,100.00	2,135.00			
					Fine sand	cum	0.45	370.00	166.50			
					20 cum aggregates	cum	0.54	3,969.00	2,143.26			
					10 mm aggregate	cum	0.36	4,040.00	1,454.40			
				b)	Labour							
					Mate	day	0.09	300.00	27.00			
					Mason (1st Class)	day	0.10	425.00	42.50			
					Mazdoor (Unskilled)	day	2.00	300.00	600.00			

Ref. to		·		<u></u>	í	
Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Bhisti	day	ل . 0.27	300.00	81.00
	c)	For formwork and staging add @ 20.00 %	,			1,329.93
	d)	of (a+b)				0.00
		Contractor's profit and overheads @ 15 %	on (a	+p+c+q)		1,196.94
		te per cum = a+b+c+d+e		rorera)		9,176.53
					say	<u>9176.50</u>
	2	For height from 5 m to 10 m				
		it = cum				
	a)	Material				
	u,	Cement	t	0.35	6,100.00	2,135.00
		Fine sand	cum	0.45	370.00	166.50
		20 cum aggregates	cum	0.54	3,969.00	2,143.26
		10 mm aggregate	cum	0.36	4,040.00	1,454.40
	b)	Labour			,	,
		Mate	day	0.09	300.00	27.00
		Mason (1st Class)	day	0.10	425.00	42.50
		Mazdoor (Unskilled)	day	2.00	300.00	600.00
		Bhisti	day	0.27	300.00	81.00
	c)	For formwork and staging add @ 25.00 %	-			1,662.42
	d)	of (a+b) 0				0.00
	e)	Contractor's profit and overheads @ 15 %	on (a	+b+c+d)		1,246.81
	Ra	te per cum = a+b+c+d+e				9,558.89
					say	<u>9558.90</u>
	3.	For height above 10 m				
	Un	it = cum				
	a)	Material				
		Cement	t	0.35	6,100.00	2,135.00
		Fine sand	cum	0.45	370.00	166.50
		20 cum aggregates	cum	0.54	3,969.00	2,143.26
		10 mm aggregate	cum	0.36	4,040.00	1,454.40
	b)	Labour				
		Mate	day	0.09	300.00	27.00
		Mason (1st Class)	day	0.10	425.00	42.50
		Mazdoor (Unskilled)	day	2.00	300.00	600.00
		Bhisti	day	0.27	300.00	81.00
	c)	For formwork and staging add $@$ 30.00 % of (a+b)				1,994.90

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			d)	Overhead charges @ on (a+b+c)				0.00
			e)	Contractor's profit @ on (a+b+c+d)				1,296.68
			Ra	te per cum = a+b+c+d+e				9,941.24
							say	<u>9941.20</u>
		Note:	pei He He	r formwork and staging add the following rcentage on labour and material ight up to 50 m @ 20 % ight from 5 m to 10 m @ 25 % ight above 10 m @ 30 %				
		(iii)	Fo	r design mix RCC M 20				
			1.	For height up to 5 m				
			Un	it = cum				
			a)	Material				
				Cement	t	0.33	6,100.00	2,013.00
				Fine sand	cum	0.45	370.00	166.50
				20 mm aggregate	cum	0.54	3,969.00	2,143.26
				10 mm aggregate	cum	0.36	4,040.00	1,454.40
			b)	Labour				
				Mate	day	0.08	300.00	24.00
				Mason (1st Class)	day	0.12	425.00	51.00
				Mazdoor (Unskilled)	day	1.73	300.00	519.00
				Bhisti	day	0.27	300.00	81.00
			c)	Machinery				
				Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
					Sub	o-Total =	6529.36	
			d)	For formwork and staging add @ 20.00 % of (a+b+c)				1,305.87
			e)					0.00
			f)	Contractor's profit and overheads @ 15 %	on (a	+b+c+d+e))	1,175.28
			Ra	te per cum = a+b+c+d+e+f				9,010.52
							say	<u>9010.50</u>
				Sub-Analysis (Excluding formwork)				
				Sub-Total				6529.36
				0				0
				Contractor's profit and overheads @ 15 %	on su	ıb-total		979.404
			Ra	nte per cum = a+b+c+d+e+f				7508.76
			2.	For height from 5 m to 10 m				
			Un	it = cum				

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		a)	Material				
			Cement	t	0.33	6,100.00	2,013.00
			Fine sand	cum	0.45	370.00	166.50
			20 mm aggregate	cum	0.54	3,969.00	2,143.26
			10 mm aggregate	cum	0.36	4,040.00	1,454.40
		b)	Labour				
			Mate	day	0.08	300.00	24.00
			Mason (1st Class)	day	0.12	425.00	51.00
			Mazdoor (Unskilled)	day	1.73	300.00	519.00
			Bhisti	day	0.27	300.00	81.00
		c)	Machinery				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
		d) e)	For formwork and staging add @ 25.00 % of (a+b+c) 0				1,632.34 0.00
		e) f)	Contractor's profit and overheads @ 15 %	on (a	+b+c+d+e)	1,224.26
		Ra	te per cum = a+b+c+d+e+f	•	·	-	9,385.96
						say	<u>9386.00</u>
		3.	For height above 10 m				
		Un	it = cum				
		a)	Material				
			Cement	t	0.33	6,100.00	2,013.00
			Fine sand	cum	0.45	370.00	166.50
			20 mm aggregate	cum	0.54	3,969.00	2,143.26
			10 mm aggregate	cum	0.36	4,040.00	1,454.40
		b)	Labour				
			Mate	day	0.08	300.00	24.00
			Mason (1st Class)	day	0.12	425.00	51.00
			Mazdoor (Unskilled)	day	1.73	300.00	519.00
			Bhisti	day	0.27	300.00	81.00
		c)	Machinery				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
			For formwork and staging add @ 30.00 % of (a+b+c)				1,958.81
		e) f)	0 Contractor's profit and overheads @ 15 %	on (2	+b+c+d+a)	0.00 1,273.23
		,	te per cum = a+b+c+d+e+f		, STOTUTC	,	9,761.39
		Na				say	<u>9761.40</u>
						Say	,,,,,,,

	1						:	
Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Note:	pel He He	r formwork and staging add the following rcentage on labour and material ight up to 50 m @ 20 % ight from 5 m to 10 m @ 25 % ight above 10 m @ 30 %				
		١١.	R.O	С.С М 25				
			1.	For height up to 5 m				
		Uni	t =c	um				
			a)	Material				
				Cement	t	0.40	6,100.00	2,440.00
				Fine sand	cum	0.45	370.00	166.50
				20 mm aggregate	cum	0.54	3,969.00	2,143.26
				10 mm aggregate	cum	0.36	4,040.00	1,454.40
			b)	Labour				
				Mate	day	0.08	300.00	24.00
				Mason (1st Class)	day	0.12	425.00	51.00
				Mazdoor (Unskilled)	day	1.73	300.00	519.00
				Bhisti	day	0.27	300.00	81.00
			c)	Machinery				
				Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
					Sub	o-Total =	6956.36	
			-	For formwork and staging add @ 20.00 % of (a+b+c)				1,391.27
			e)					0.00
			f)	Contractor's profit and overheads @ 15 %	on (a-	+b+c+d+e)		1,252.14
			Ra	te per cum = a+b+c+d+e+f				9,599.78
							say	<u>9599.80</u>
				Sub-Analysis (Excluding formwork)				
				Sub-Total				6956.36
				0	<u>on or</u>	ub total		0 1043.454
			Da	Contractor's profit and overheads @ 15 % te per cum = a+b+c+d+e+f	onsu	ID-101ai		7999.81
				For height from 5 m to 10 m				7999.01
				it =cum				
				Material				
			u)	Cement	t	0.40	6,100.00	2,440.00
				Fine sand	cum	0.45	370.00	166.50
				20 mm aggregate	cum	0.54	3,969.00	2,143.26
					Carri	0.04	0,000.00	2,170.20

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
L		L		10 mm aggregate	cum	لـــــ 0.36	4,040.00	1,454.40
			b)	Labour				·
				Mate	day	0.08	300.00	24.00
				Mason (1st Class)	day	0.12	425.00	51.00
				Mazdoor (Unskilled)	day	1.73	300.00	519.00
				Bhisti	day	0.27	300.00	81.00
			c)	Machinery				
				Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
				For formwork and staging add @ 25.00 % of (a+b+c)				1,739.09
			e) f)	0 Contractor's profit and overheads @ 15 %	on (a	TPTCTQTO	N	0.00 1,304.32
			1)	Rate per cum = a+b+c+d+e+f	o on (a	TUTCTUTE)	9,999.77
							say	<u>9999.80</u>
			2	For height shows 10 m			Juj	<u>////.00</u>
				For height above 10 m it =cum				
				Material				
			aj	Cement	t	0.40	6,100.00	2,440.00
				Fine sand	cum	0.45	370.00	166.50
				20 mm aggregate	cum	0.54	3,969.00	2,143.26
				10 mm aggregate	cum	0.36	4,040.00	1,454.40
			b)	Labour			·	·
			,	Mate	day	0.08	300.00	24.00
				Mason (1st Class)	day	0.12	425.00	51.00
				Mazdoor (Unskilled)	day	1.73	300.00	519.00
				Bhisti	day	0.27	300.00	81.00
			c)	Machinery				
				Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
				For formwork and staging add @ 30.00 % of (a+b+c)				2,086.91
			e)		(\	0.00
			f)	Contractor's profit and overheads @ 15 %	on (a	+D+C+a+e)	1,356.49
				Rate per cum = a+b+c+d+e+f			cav	10,399.76
		Note:	per He He	r formwork and staging add the following rcentage on labour and material ight up to 50 m @ 20 % ight from 5 m to 10 m @ 25 % ight above 10 m @ 30 %			say	<u>10399.80</u>

Γ	Ref. to				īī	í	
Sr. No.	MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
L				J	⊥		J
			For height up to 5 m				
		Unit =c					
		a)	Material				
		ω)	Cement	t	0.43	6,100.00	2,623.00
			Fine sand	cum	0.45	370.00	166.50
			20 mm aggregate	cum	0.54	3,969.00	2,143.26
			10 mm aggregate	cum	0.36	4,040.00	1,454.40
		b)	Labour				
		·	Mate	day	0.08	300.00	24.00
			Mason (1st Class)	day	0.12	425.00	51.00
			Mazdoor (Unskilled)	day	1.73	300.00	519.00
			Bhisti	day	0.27	300.00	81.00
		c)	Machinery				
			Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
				Sul	b-Total =	7139.36	
		d)	For formwork and staging add @ 20.00 %)			1,427.87
		e)	of (a+b+c) 0				0.00
		c) f)	Contractor's profit and overheads @ 15 °	% on (a	+b+c+d+e)	1,285.08
		•	te per cum = a+b+c+d+e+f	/• • • • (a			9,852.32
						say	<u>9852.30</u>
			Sub-Analysis (Excluding formwork)				
			Sub-Total				7139.36
			0				0
			Contractor's profit and overheads @ 15	% on si	ub-total		0 1070.904
		Ra	te per cum = a+b+c+d+e+f				8210.26
		2.	For height from 5 m to 10 m				
		Un	it =cum				
		a)	Material				
			Cement	t	0.43	6,100.00	2,623.00
			Fine sand	cum	0.45	370.00	166.50
			20 mm aggregate	cum	0.54	3,969.00	2,143.26
			10 mm aggregate	cum	0.36	4,040.00	1,454.40
		b)	Labour				
			Mate	day	0.08	300.00	24.00
			Mason (1st Class)	day	0.12	425.00	51.00

Sr. Ref. to Sr. MORD No. Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Mazdoor (Unskilled)	day	1.73	300.00	519.00
		Bhisti	day	0.27	300.00	81.00
	c)	Machinery				
		Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
	-	For formwork and staging add @ 25.00 % of (a+b+c)				1,784.84
	e)				,	0.00
	f)	Contractor's profit and overheads @ 15 %	on (a	+D+C+a+e)	1,338.63
		Rate per cum = a+b+c+d+e+f				10,262.83
					say	<u>10262.80</u>
		For height above 10 m				
		it =cum				
	a)	Material		0.40	0.400.00	0.000.00
		Cement	t	0.43	6,100.00	2,623.00
		Fine sand	cum	0.45	370.00	166.50
		20 mm aggregate	cum	0.54	3,969.00	2,143.26
		10 mm aggregate	cum	0.36	4,040.00	1,454.40
	b)	Labour				
		Mate	day	0.08	300.00	24.00
		Mason (1st Class)	day	0.12	425.00	51.00
		Mazdoor (Unskilled)	day	1.73	300.00	519.00
		Bhisti	day	0.27	300.00	81.00
	c)	Machinery				
		Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
	d) e)	For formwork and staging add @ 30.00 % of (a+b+c)				2,141.81 0.00
		Contractor's profit and overheads @ 15 %	on (a	+b+c+d+e)	1,392.18
	,	Rate per cum = a+b+c+d+e+f	,			10,673.34
		·			say	<u>10673.30</u>
Note:	pel He He	r formwork and staging add the following rcentage on labour and material ight up to 50 m @ 20 % ight from 5 m to 10 m @ 25 % ight above 10 m @ 30 %			-	

Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	Note:	1	Quantity of cement provided for various components of the superstructure is for estimating purpose only. Actual quantity of cement will be as per approved mix design. Similarly quantity for corase and fine aggregates is for estimating purpose and the exact quantity shall be as per the mix design. Use of design mix in place of nominal mix of concrete of M 20 and higher grader shall be prepared. Nominal mix of grades M 20 and M 25 is to be used with adequate supervision and quality control requirements as per technical specification Clause 803.				
		2	For higher grades like M 25 and M 30, if adopted, design mix is recommended.				
		3	Sand can be either coarse or fine as required/ available. Here, provision of fine sand is considered only due to non-availability of coarse sand in Tripura. However, design of concrete dictates for use of coarse sand, then separate analysis may be taken as per site condition.				
13.2	1000, 1200	trea reir dra	oplying, fitting, & placing Thermo-Mechanically ated bar/ Cold twisted deformed steel bar nforcement in superstructure complete as per wing & MoRD technical specifications Clauses (2, 1010 & 1202.				
		Uni	t = t				
		a)	Material				
			Twisted steel/ deformed bars including 5 per cent for laps and wastage	t	1.05	41,020.00	43,071.00
			Binding wire	kg	8.00	58.00	464.00
		b)	Labour for cutting, bending, tying and placing in position				
			Mate Blacksmith	day day	0.44 3.00	300.00 403.00	132.00 1,209.00
			Mazdoor (Unskilled)	day	8.00	300.00	2,400.00
		c)	0	uay	0.00	300.00	2,400.00 0.00
		c) d)	Contractor's profit and overheads @ 15 % on (a+	-p+c)			7,091.40
		,	e per t = a+b+c+d	-0+C)			54,367.40
		nut				say	<u>54367.40</u>
13.3	1000, 1200	sup	oplying, fitting, & placing MS bar reinforcement in perstructure complete as per drawing & MoRD hnical specifications Clauses 1002, 1010 & 1202.			509	<u></u>
		Uni a)	t = t Material				
			MS bars including 5 per cent for laps and wastage	t	1.05	40,320.00	42,336.00

			SUPERSTRUCTURE				
Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Binding wire	kg	8.00	58.00	464.00
		b)	Labour for cutting, bending, tying and placing in position	C			
			Mate	day	0.44	300.00	132.00
			Blacksmith	day	3.00	403.00	1,209.00
			Mazdoor (Unskilled)	day	8.00	300.00	2,400.00
		c)	0				0.00
		d)	Contractor's profit and overheads $@$ 15 % on (a+	·b+c)			6,981.15
		Rat	te per t = a+b+c+d				53,522.15
						say	<u>53522.20</u>
13.4	800, 1200	cou as Cla	oviding and laying cement concrete wearing urse M 30 grade including reinforcement complete per drawings & MoRD technical specifications uses 800 & 1206.3 (including centering, uttering, staging etc. and reinforcement)				
		Uni	it = cum				
		a)	Material				
			 i) Cement concrete M 30 grade (refer relevant item of concrete in item 13.1.III excluding forwork. 	Cum	1.00	8,210.26	8,210.26
			ii) Steel reinforcement (rate as per item 13.2)	t	0.075	54,367.40	4,077.56
		b)	Formwork @ 3.00 % of cost of (a)				368.63
		c)	Mazdoor (Unskilled) for clearing deck slab concrete s	day	0.15	300.00	45.00
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 % on (b+	-c+d)			62.05
		Rat	te per cum = a+b+c+d+e				12,763.50
						say	<u>12763.50</u>
13.5	800, 900, 1200	situ & exc ver reiu spe cer	nstruction of R.C.C railing of M 25 grade in cast-in- u with 20 mm nominal size aggregate, true to line grade, tolerance of vertical railing post not to ceed 1 in 500, centre-to-centre spacing between tical posts not to exceed 2000 mm including nforcement as per drawing and MoRD technical ecifications Clauses 800, 900 and 1208.3 (including intering, shuttering, staging etc. and nforcement).				
		Tał	t = Runing m king output = 4x12 m				
		Spa	an = 48 m				
			a) Material				

- a) Material
 - i) M 25 grade R.C.C.
 - No. of vertical posts = (6+1) 4 = 28 nos

Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Cross-sectional area of vertical post =				
			0.25x0.275 = 0.069 sqm Concrete in vertical posts = 0.069 x28x1.00 =				
			1.932 cum Hand rail in 3 tiers = 3x48 = 144 m				
			Cross-sectional area = 0.17x0.175 = 0.03 sqm				
			Concrete in hand rails = 0.03 x 144 = 4.32 cum				
			Total concrete = 1.932+4.32 = 6.252 cum	cum	6.252	7,999.81	50,014.84
			(rate as per item 13.1(II) except cost o formwork)	Ŧ			
			Ad 12.00 % of above for cost of formwork				6,001.78
			ii) Steel reinforcement (Rate as per item 13.2)	t	1.36	54,367.40	73,939.66
			Cost for 48 m = (a)				129,956.28
			Rate per m = (a)/48				2,707.42
						say	<u>2707.40</u>
	Note:		48 m length is the total linear length adding both sides of 2x12 m span Quantities of material have been adopted from standard plans of MORTH vide drawing No SD/202				
13.6	1200	as	viding, fitting & fixing mild steel railling complete per drawing & MoRD technical specifications ise 1208.2.				
		Uni	= Runing m				
		Tak	ing output = 100 m				
		a)	Material				
			1) IS MC 100=2.806x1.05=2.946 t	t		42,670.00	125,705.82
			2) MS Flats = 0.964x1.05 =1.012 t	t		42,670.00	43,182.04
			3) MS bars = 0.17x1.05=0.18 t	t		40,320.00	7,257.60
		г.)	4) MS bolts, nuts and washers	t	0.15	80,350.00	12,052.50
		b)	Labour Mate	day	2.80	300.00	840.00
			Blacksmith	day	30.00	403.00	12,090.00
			Mazdoor (Unskilled)	day	40.00	300.00	12,000.00
		c)	Add 5 per cent of (a) for painting one shop coat with red oxide primer and three coats of synthetic ename paint and consumables	1			9,409.90
		d)	Add for cost of concrete for fixing vertical post in the preformed recess @ 1 per cent of (a)	9			1,881.98
		e)	Add for electricity charges, welding and drilling equipment, electrodes and other consumables @ 1 per cent of (a)				1,881.98
		f)	0				0.00

	Ref. to						;	
Sr.	MORD			Description	Unit	Quantity	Rate (₹)	Amount
No.	Spec.	L_			 	ij	l	(₹)
		g)	Contra	actor's profit and overheads @ 15 % on (a+	-b+c+d	+e+f)		33,945.27
		Rat	te per m	n = (a+b+c+d+e+f+g)/100				2,602.47
							say	<u>2602.50</u>
	Note:	esti	•••	drawing for MS railing has been followed for Irpose. Rate may be worked out as per design red				
13.7	1200	of I (10) stee bric	IS Rolle 0 x 75) el pipe dge de	& fixing in position pipe railling consisting ed steel joist posts designation IS MB 100 at 2.5 m interval & three rows of 50 mm dia s (light) including fixing in position on ck complete as per drawing and MoRD specifications Clause 1208.2.				
		Uni	it = Runi	ning m				
		Tak	king outp	out = 2 x 10 m = 20 m				
		a)	Mater	ial				
			i) St	teel posts IS MB 100 (100 x 75)	t	0.13	42,670.00	5,547.10
			5	x 2 x 11.5 x 1.1 x 1.05 = 130 kg				
			ii) 50) mm dia steel pipes	t	0.257	51,250.00	13,173.30
			20	0 x 3x 4.08 x 1.05 = 257.04 kg				
			iii) M	.S Bolts, nuts and washers	t	0.05	80,350.00	4,017.50
			CC	dd @ 5 per cent of (a) for painting one shop pat with red oxide primer and three coats of inthetic enamel paint and consumables				1,136.90
			e	dd for electricity charges, welding and drilling quipment, electrodes and other consumables a 1 per cent of (a)				227.38
		b)	Labou	Ir				
			Mate		day	0.56	300.00	168.00
			Blacks		day	6.00	403.00	2,418.00
				oor (Unskilled)	day	8.00	300.00	2,400.00
		c)	0					0.00
		d)		actor's profit and overheads @ 15 % on (a-	-b+c)			4,363.23
				m steel railing = a+b+c+d				33,451.40
		Rat	te per m	etre = (a+b+c+d)/20				1,672.57
13.8	600, 900, 1200	exc pla	cluding stering	onry work in cement mortar 1:3 in parapet pointing & plastering as per drawing & as per drawing & MoRD technical ons Clauses 600, 900 & 1208.4.			say	<u>1672.60</u>
			R	ate same as in item 12.1 (I)	cum	1.00	5,882.60	5,882.60

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		_	_			say	<u>5882.60</u>
13.9	1200	con	oviding and fixing in position Drainage spouts nplete as per drawing & MoRD technical scifications Clause 1209.				
		-	t = 1 No				
		a)	Materiali) Corrosion resistant structural steel grating	kg	4.00	68.32	273.28
			including 5 per cent wastage ii) G I pipe 100 mm dia (medium)	m	1.00	930.00	930.00
		b)	Labour		1.00	000.00	330.00
			For fabrication				
			Mate	day	0.02	300.00	6.00
			Blacksmith, Welder etc. (Skilled)	day	0.02	403.00	8.06
			Mazdoor (Unskilled)	day	0.20	300.00	60.00
			For fixing in position				
			Mate	day	0.01	300.00	3.00
			Mason (1st Class)	day	0.01	425.00	4.25
			Mazdoor (Unskilled)	day	0.20	300.00	60.00
			Add @ 5 per cent of cost of material and labour (a+b) for electrodes, gas cutting, sealant, anti- corrrosive bituminous paint, mild steel grating etc.				67.23
		c)	0				0.00
		d)	Contractor's profit and overheads @ 15 % on (a+	b+c)			211.77
			Rate per no = a+b+c+d				1,623.59
						say	<u>1623.60</u>
13.10	800, 1200	belo Mol (inc	C.C. M 15 oridinary grade (1:2.5:5) levelling course ow approach slab complete as per drawing & RD technical specifications Clauses 800 and 1211 cluding centering, shuttering, staging etc. but cuding reinforcement)				
		I	P.C.C Grade M15				
		(i)) Nominal mix (1:2.5:5)				
			Unit = cum				
			a) Material				
			Cement	t	0.275	6,100.00	1,677.50
			Fine sand	cum	0.48	370.00	177.60
			40 mm aggregate	cum	0.54	3,532.00	1,907.28
			20 mm aggregate	cum	0.24	3,969.00	952.56
			10 mm aggregate	cum	0.12	4,040.00	484.80
			b) Labour				

b) Labour

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Mate	day	0.08	300.00	24.00
				Mason (1st Class0	day	0.10	425.00	42.50
				Mazdoor (Unskilled)	day	1.63	300.00	489.00
				Bhisti	day	0.27	300.00	81.00
			c)	Machinery				
				Concrete mixer 0.4/0.28 cum capacity	hour	0.40	193.00	77.20
			d)	0				0.00
			e)	Contractor's profit and overheads $@$ 15 % or	ו (a+b+	c+d)		887.02
			Ra	te per cum = a+b+c+d+e+f				6,800.46
							say	<u>6800.50</u>
		(ii)	No	minal mix 1:2.5:5 (Hand mixing)				
			Uni	t = cum				
			a)	Material				
				Cement	t	0.275	6,100.00	1,677.50
				Fine sand	cum	0.48	370.00	177.60
				40 mm aggregate	cum	0.54	3,532.00	1,907.28
				20 mm aggregate	cum	0.24	3,969.00	952.56
				10 mm aggregate	cum	0.12	4,040.00	484.80
			b)	Labour				
				Mate	day	0.09	300.00	27.00
				Mason (1st Class)	day	0.10	425.00	42.50
				Mazdoor (Unskilled)	day	2.00	300.00	600.00
				Bhisti	day	0.27	300.00	81.00
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 % or	n (a+b+	c)		892.54
			Ra	te per cum = a+b+c+d				6,842.78
							say	<u>6842.80</u>
13.11	800, 1200	slat as Cla	b in per uses	ced Cement Concrete M 25 grade approach cluding reinforcement & formwork complete drawing & MoRD technical specifications s 800 & 1211 (including centering, shuttering, etc. and reinforcement)				
		Unit	t = ci	Im				
		a)		terial				
		~/		nforced cement concrete M 25 grade				
				e as per Item 13.1 II	cum	1.00	9,599.80	9,599.80
				el reinforcement				

Sr. No.	Ref. to MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Rate as per item 13.2	t	0.05	54,367.40	2,718.37
		Rate per cum = (a)				12,318.17
					say	<u>12318.20</u>
13.12	1200, 500	Providing bituminous wearing coat comprising of 20 mm thick premix carpet with seal coat Type B for culverts as per drawing & MoRD technical specifications Clauses 1206.2 and 500.				
		 Rate for wearing coat as per item No. 5.8 of Chapter 5 	sqm	1.00	215.90	215.90
		 Rate for seal coat Type B as per item No. 5.11 of Chapter 5 	sqm	1.00	55.90	55.90
		Rate per sqm = (i+ ii)				271.80
					say	<u>271.80</u>
	Note:	This type of wearing coat may be adopted where a				

ote: This type of wearing coat may be adopted where a cushion is provided over the culvert and the adjoining road pavement is continued over it.

							;	
Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
14.1	1300	block made conc spec bed,	ks o le v crete cifica no	g and laying of apron with cement concrete of size as per Table 1300.1 cast-in-situ and with nominal mix of M-15 grade cement e as per drawing and MoRD technical ation Clause 1301(rate includes preparation of minal surface re-inforcement and filling of material in recesses between blocks).	,			
		Unit :	= cu	m				
		a)	Con	crete grade M 15				
			(Rat	te as per item No 11.4 II (i)	cum	1.00	7,071.60	7,071.60
			prep	2 per cent of cost to account for excavation for paration of bed, nominal surface reinforcement filling of granular material in recesses between				141.43
		Rate	e per	cum = (a)				7,213.03
							say	<u>7213.00</u>
14.2	1300	bami pack with with apar shee MoR	boo ked a hal can t lo et w t t D te	amboo palasiding/walling of whole 2 nd class (Jati or Bethua) 65 to 75 mm dia and closely & driven @ 150 mm c/c including fitting fixing If bamboo kamis horizontally in three rows e or tying with wire complete and struts 1.5 m ongitudinally and providing bitumen drum ralling fixed with nails as per drawing and echnical specification Clause 1302.5. en at least 900 mm below ground and 1200 mm we ground				
			Unit	= Running metre				
			Taki	ing Output = 3.00 metre				
			a)	Materials				
				2nd Class Bamboo 65 mm to 75 mm dia, (1.2 m to 3.0 m)	m	52.80	15.45	815.76
				Bitumen drum sheet with nails	sqm	3.60	300.00	1,080.00
				Binding Wire (G.I 2mm)	kg	0.15	64.00	9.60
			b)	Labour				
				Mate	day	0.04	300.00	12.00
				Mazdoor (Unskilled)	day	1.00	300.00	300.00
			-	Sundries (LS) @ 1.00 % of (a+b)	LS			22.17
					<i>,</i> .	n		0.00
			e)	Contractor's profit and overheads @ 15 % on	(a+b+c	:+a)		335.93
				t for 3 metre = $a+b+c+d+e$		2,575.46 858.49		
			ival	e per metre = (a+b+c+d+e) / 3.00			say	858.49 <u>858.50</u>
							Suy	000.00

B) Driven at least 900 mm below ground and 900 mm above ground on average

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			a)	Materials				
				2nd Class Bamboo 65 mm to 75 mm dia, (1.2 m to 3.0 m)	m	46.80	15.45	723.06
				Bitumen drum sheet with nails	sqm	3.60	300.00	1,080.00
				Binding Wire (G.I 2mm)	kg	0.15	64.00	9.60
			b)	Labour				
				Mate	day	0.04	300.00	12.00
				Mazdoor (Unskilled)	day	1.00	300.00	300.00
			c)	Sundries (LS) @ 1.00 % of (a+b)	LS			21.25
			d)	0				0.00
			e)	Contractor's profit and overheads $@$ 15 % on	(a+b+o	:+d)		321.89
			Cos	st for $3 \text{ m} = a+b+c+d+e$				2,467.79
			Rat	e per m = (a+b+c+d+e) / 3.00				822.60
							say	<u>822.60</u>
14.3	1300	con	cret	ng and laying flooring laid over cement e bedding complete as per drawing and MoRD al specification Clause 1303.				
		I.	(siz	ment concrete blocks cast in situ grade M15 e 400 mm x 400 mm x 150 mm) over cement acrete (with M10) bedding of 150 mm thick				
			Uni	t = Sqm				
			Tak	ing Output = 21.00 sqm				
		a)		nent concrete blocks grade M 15 e as per item 11.4 (II) (i)	cum	3.12	7,071.60	22,063.39
			usir	ng 400 mm x 400 mm x 150 mm blocks				
				I for cement concrete bedding M10 e as per item 11.4 (I) (i)	cum	3.15	6,890.10	21,703.82
				1 per cent of cost to account for excavation for paration of bed.				437.67
			Cos	st for 21 sqm =				44,204.88
			Rat	e per sqm = (a) / 21				2,104.99
							say	<u>2105.00</u>
		II.	Bri	ck on edge laid in cement mortar (1:3)				
			Uni	t=cum				
			a)	Material				
				Bricks	Nos	380.00	8.03	3,051.40
				Cement mortar (1:3) [(Rate as in item 11.5 (i)]	cum	0.15	3,805.50	570.83
				Cement mortar bedding (1:5) [(Rate as in item 12	cum	0.25	2,585.50	646.38
			b.	Labour				

				• — — — — ,		
Sr. No.	Ref. to MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Mate	day	0.10	300.00	30.00
		Mason 1st Class	day	0.80	425.00	340.00
		Mazdoor (Unskilled)	day	1.60	300.00	480.00
		Bhisti	day	0.20	300.00	60.00
		c) 0				0.00
		d) Contractor's profit and overheads @ 15 % o	n (a+b+c	:)		776.79
		Rate per cum = a+b+c+d				5,955.39
					say	<u>5955.40</u>
	Note:	Labour cost includes labour required for trimming of slope to proper profile and preparation of bed.	•			
14.4	1300	Providing and laying curtain walls complete as pedrawing and MoRD technical specification Clause 1304.				
		Unit = cum				
		I. Brick masonry in cement mortar (1:4)				
		(Rate same as per item 12.I (II)	cum	1.00	5,652.80	5,652.80
		II. Cement concrete grade M 10				
		(Rate same as per item 11.4 I (i)	cum	1.00	6,890.10	6,890.10
	Note:	1 Other items like excavation for foundation, filling behind wall, filter media, weep holes, etc. shall be added separately as per approved design.				
14.5	1300	Construction of toe walls for protection of slopes as per Drawing and MoRD technical specifications Clause 1302.5 (including centering, shuttering staging etc. but excluding reinforcement)	S			
		I. Brick masonry in cement mortar 1:4 in case o brick pitching Unit = cum	f			
		a) Material				
		Brick	Nos.	380.00	8.03	3,051.40
		Cement mortar 1:4 Rates as per sub-analysis below	cum	0.24	3,012.50	723.00
		b) Labour				
		Mate	day	0.09		27.00
		Mason (1st Class)	day	0.80		340.00
		Mazdoor (Unskilled)	day	1.60		480.00
		Bhisti c) 0	day	0.20	300.00	60.00 0.00
		d) Contractor's profit and overheads @ 15 % o	n (a+b+c	;)		702.21
		Rate per cum = a+b+c				5,383.61
		Sub analysis			say	<u>5383.60</u>
		Sub-analysis Cement mortar 1:4 (1 cement : 4 sand)				
		Soment mortar 1.7 (1 cement . 4 Sanu)				

					PROTECTION WORKS				
Sr. No.	Ref. to MORD Spec.				Description	Unit	Quantity	Rate (₹)	Amount (₹)
		a)	Ма	teria					
			Cei	men	t	t	0.38	6,100.00	2,318.00
		4.5	Sar			cum	1.05	370.00	388.50
		b)	La. Ma	bou i te	-	day	0.04	300.00	12.00
					or (Unskilled)	day	0.90	300.00	270.00
			Bhi			day	0.08	300.00	24.00
					ial and labour = (a+b)				3,012.50
		II.			t concrete grade M 10 in case of concrete bitching				
			Uni	t = c	sum				
		I.	P.C	.C g	grade M 20				
			(i)	No	minal mix 1:3:6				
				Un	it = cum				
				a)	Material				
					Cement	t	0.250	6,100.00	1,525.00
					Fine sand	cum	0.48	370.00	177.60
					40 mm aggregate	cum	0.576	3,532.00	2,034.43
					20 mm aggregate	cum	0.288	3,969.00	1,143.07
					10 mm aggregate	cum	0.096	4,040.00	387.84
				b)	Labour				
					Mate	day	0.08	300.00	24.00
					Mason (1st Class)	day	0.10	425.00	42.50
					Mazdoor (Unskilled)	day	1.63	300.00	489.00
					Bhisti	day	0.27	300.00	81.00
				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	193.00	77.20
				d)	Formwork @ 4% on cost of material, labour and machinery (a+b+c)				239.27
				e)					0.00
					Contractor's profit and overheads @ 15 % te per cum = a+b+c+d+e+f	on (a-	-b+c+d+e)		933.14 7,154.05
								say	<u>7154.00</u>
			(ii)	No	minal mix 1:3:6 (Hand mixing)				
					it = cum				

a) Material

Chapter	14
PROTECTION	WORKS

Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Cement	t	0.250	6,100.00	1,525.00
			Fine sand	cum	0.48	370.00	177.60
			40 mm aggregate	cum	0.576	3,532.00	2,034.43
			20 mm aggregate	cum	0.288	3,969.00	1,143.07
			10 mm aggregate	cum	0.096	4,040.00	387.84
		b)	Labour				
			Mate	day	0.09	300.00	27.00
			Mason (1st Class)	day	0.10	425.00	42.50
			Mazdoor (Unskilled)	day	2.00	300.00	600.00
			Bhisti	day	0.27	300.00	81.00
		c)	Formwork @ 4% on cost of material, labour and machinery (a+b)				240.74
		-		on (a+	·b+c+d)		0.00 938.88 7,198.06
						say	<u>7198.10</u>
14.6	1300	class bamb 150 mm c/ fitting fixin three rows struts 1500 brush wo	aboo spur and palasiding of whole 2nd boo (Jati or Bethua) 65 mm to 75 mm dia @ c and closely packed & driven including g with half bamboo kamis horizontally in with cane or tying wire complete and 0 mm apart longitudinally and providing bod as per drawing and technical on Clause 1302.5.				
		,	at least 900 mm below ground and 1800 mm ground on average				
		Unit = F	Running metre output = 3.00 metre				
		a) Ma	aterials				
		2n	d class bamboo (65 mm to 75 mm dia 3 m lonç	m	64.80	15.45	1,001.16
		Bir	nding wire	Kg.	0.15	64.00	9.60
		Bru	ush Wood (LS) @ 1.50 %				15.16
		b) La	abour				
		Ма	ite	day	0.04	300.00	12.00
		Ма	zdoor (Unskilled)	day	1.00	300.00	300.00
		c) Sı	undries (LS) @ 1.00 % of (a)				10.26
		d) 0					0.00
		e) Co	ntractor's profit and overheads $@$ 15 % on	(a+b+c	:+d)		202.23
		Cost fo	r 3 metre = a+b+c+d+e				1,550.41

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Rat	e per metre = (a+b+c+d+e)/3				516.80
							say	<u>516.80</u>
		B)	abo	ven at least 900 mm below ground and 900 mm ive ground on average t = Running metre				
			Tak	ing output = 3.00 metre				
			a)	Materials				
				2nd class bamboo (65 mm to 75 mm dia 3 m long) Binding wire	m Kg.	46.80 0.15	15.45 64.00	723.06 9.60
				Brush Wood (LS) @ 0.75 %	5			5.49
			b)	Labour				
			,	Mate	day	0.04	300.00	12.00
				Mazdoor (Unskilled)	day	1.00	300.00	300.00
			c)	Sundries (LS) @ 1.50 % of (a)				11.07
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % on	(a+b+c	:+d)		159.18
			Cos	st for 3.00 metre = a+b+c+d+e				1,220.41
			Rat	e per metre = (a+b+c+d+e)/3				406.80
							say	<u>406.80</u>
14.7	Suggestive	barr mm incl (Jat or t long	hboo dia udin i or tying gituo	bamboo spur and palasiding of whole 1st class (Bholuka or Barua or barak) 85 mm to 100 and closely packed & driven @ 150 mm c/c og fitting, fixing with half 2nd class bamboo Bethua) horizontally in three rows with cane g wire complete and struts 1500 mm apart linally and providing brush wood as per g and technical specifications.				
		A)	abo Uni	ven at least 900 mm below ground and 1800 mm we ground t = Running metre ing output = 3.00 metre				
			a)	Materials				
				1st class bamboo (85 mm - 100 mm dia)	m	60.30	20.80	1,254.24
				2nd class bamboo	m	4.50	15.45	69.53
				Binding Wire (G.I 2mm)	Kg.	0.15	64.00	9.60
				Brush Wood (LS) @ 1.00 %				13.33
			b)	Labour				
				Mate	day	0.05	300.00	15.00
				Mazdoor (Unskilled)	day	1.20	300.00	360.00

Sr. No.	Ref. to MORD Spec.		Description		Unit	Quantity	Rate (₹)	Amount (₹)
			c) Sundries (LS) @ 1.00 % of (a)					13.47
			d) 0					0.00
			e) Contractor's profit and overheads @	15 % on	(a+b+c	+d)		260.27
			Cost for 3 metre = a+b+c+d+e					1,995.44
			Rate per metre = (a+b+c+d+e)/3					665.15
							say	<u>665.10</u>
		B)	Driven at least 900 mm below ground and 90 above ground on average	00 mm				
			Unit = Running metre					
			Taking output = 3.00 metre					
			a) Materials	N		40.00	20.00	070.04
			1st class bamboo (85 mm - 100 mm dia)	m	42.30	20.80	879.84
			2nd class bamboo		m	4.50	15.45	69.53
			Binding Wire (G.I 2mm)		Kg.	0.15	64.00	9.60
			Brush Wood (LS) @ 1.50 %					14.38
			b) Labour					
			Mate		day	0.04	300.00	12.00
			Mazdoor (Unskilled)		day	1.00	300.00	300.00
			c) Sundries (LS) @ 1.50 % of (a)					14.60
			d) 0					0.00
			e) Contractor's profit and overheads @	15 % on	(a+b+c	+d)		194.99
			Cost for 3.00 metre = a+b+c+d+e					1,494.94
			Rate per metre = (a+b+c+d+e)/3.00					498.31
							say	<u>498.30</u>
		C)	Driven at least 600 mm below ground and 12 above ground on average.	200 mm				
			Unit = Running metre					
			Taking output = 3.00 metre					
			a) Materials					
			1st class bamboo (85 mm - 100 mm dia)	m	42.30	20.80	879.84
			2nd class bamboo		m	4.50	15.45	69.53
			Binding Wire (G.I 2mm)		Kg.	0.15	64.00	9.60
			Brush Wood (LS) @ 1.50 %					14.38
			b) Labour					
			Mate		day	0.04	300.00	12.00
			Mazdoor (Unskilled)		day	1.00	300.00	300.00
			c) Sundries (LS) @ 1.50 % of (a)		-			14.60

Sr. No.	Ref. to MORD Spec.	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % on	(a+b+c	:+d)		194.99
			Co	st for 3.00 metre = a+b+c+d+e				1,494.94
			Ra	te per metre = (a+b+c+d+e)/3.00				498.31
							say	<u>498.30</u>
14.8	Suggestive	mm 120 clas mm cor	n cer)0 m ss b n ap nple	o spur 'A' type with whole bamboo placed 230 htre to centre driven 900 mm below ground and m to 1500 mm above ground tied with 2nd amboo (Jati or Bethua) on either side at 450 hart horizontally with galvanished wire etc. te as per drawings and technical cations.				
		A)	2nc	d class bamboo (jati or Bethua) 65 mm to 75 mm d	ia			
			Uni	it= Running metre				
			Tal	king output = 3.00 metre				
			a)	Materials				
				2nd class bamboo (65 mm to 75 mm dia)	m	43.50	15.45	672.08
				Binding Wire (G.I 2mm)	Kg.	0.75	64.00	48.00
			b)	Labour				
				Mate	day	0.04	300.00	12.00
				Mazdoor (Unskilled)	day	1.00	300.00	300.00
			c)	Sundries (LS) @ 2.50 % of (a)				18.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % on	(a+b+c	:+d)		157.51
				st for $3 \text{ m} = a+b+c+d+e$				1,207.59
			Ra	te per metre = (a+b+c+d+e)/3				402.53
		B)		class bamboo (Bholuka or Barua) 85 mm to 100 r it = Running metre	nm dia		say	<u>402.50</u>
			Tal	king output = 3.00 metre				
			a)	Materials				
				1st class bamboo (85-100 mm dia)	m	31.50	20.80	655.20
				2nd class bamboo (65-75 mm dia)	m	12.00	15.45	185.40
				Binding Wire (G.I 2mm)	Kg.	1.00	64.00	64.00
				Brush Wood (LS) @ 2.00 %				18.09
			b)	Labour				
				Mate	day	0.06	300.00	18.00
				Mazdoor (Unskilled)	day	1.40	300.00	420.00
			c)	Sundries (LS) @ 2.00 % of (a)				18.45

					,		
Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 % on	(a+b+c	:+d)		206.87
			Cost for 3 m = a+b+c+d+e				1,586.02
			Rate per metre = (a+b+c+d+e)/3				528.67
						say	<u>528.70</u>
14.9	Suggestive	(Bholuk placed 1500 m and tie bamboo placed purlin a 1500 m wood i	ng 'A' type single spur with 1st class bamboo (a or Barua) 85 mm to 100 mm dia closely 230 mm centre to centre, driven 1200 mm to m below ground and 3 m to 4 m above ground ed with cane or coir string, half 2nd class to (Jati or Bethua) horizontally on both face not more than one metre apart and 2 nos. of at top and bottom fitted with vertical struts at m apart and filling with brushwood or jungle nside the spur complete as per drawing and al specifications.				
		Unit= R	unning metre				
			putput = 3.00 metre				
		a) Ma	terials				
		1st	class bamboo (85-100 mm dia)	m	87.00	20.80	1,809.60
		2nd	d class bamboo (65-75 mm dia)	m	18.00	15.45	278.10
		Bin	iding wire (GI 2 mm)	Kg.	2.00	64.00	128.00
		Co	ir Rope (LS) @ 1.00 % of (a)				22.16
		Bru	ush wood (LS) @ 1.00 % of (a)				22.16
		b) La	bour				
		Ma	te	day	0.06	300.00	18.00
		Ма	zdoor (Unskilled)	day	1.50	300.00	450.00
		c) Su	ndries (LS) @ 1.00 % of (a)				22.60
		d) 0					0.00
		e) Co	ntractor's profit and overheads @ 15 % on (a+l	b+c+d)			412.59
		Cost for	3 metre = a+b+c+d+e				3,163.21
		Rate pe	er metre = (a+b+c+d+e)/3				1,054.40
14.10	1300	mm to below g C/C and runner	ng close bamboo toe walling consisting of 65 75 mm diameter bamboos driven 900 mm ground and 900 mm above ground at 150 mm d provided with three horizontal split bamboo fixed with nails. All bamboos to be duly ed by coal tar painting.			say	<u>1054.40</u>
		Unit = R	Running Metre				

Taking output = 10.00 running metre

a) Materials

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)	
			2nd class bamboo (65mm-75mm dia)	m	120.60	15.45	1,863.27	
			2nd class bamboo (65mm-75mm dia)	m	15.00	15.45	231.75	
			Coal tar	kg	10.00	32.00	320.00	
		b)	Labour					
			Mate	day	0.06	300.00	18.00	
		c)	Mazdoor (Unskilled) Sundries (LS) @ 1.00 % of (a)	day	1.50	300.00	450.00 24.15	
		d)	0				0.00	
		e)	Contractor's profit and overheads $@$ 15 % on (a+I	o+c+d)			436.08	
		Cos	st for 10 Running Metre = a+b+c+d+e				3,343.25	
		Rat	te per Sqm = (a+b+c+d+e)/10				334.32	
14.11	Suggestive		uble timber spur with two rows at 800 mm c/c apart			say	<u>334.30</u>	
		mm gro pla size 800 nut cos the	of 1 st class local wood piles with timber of Sal/ Nahar/ Nageswar wood piles of 150 mm dia placed at 400 nm centre to centre, driven 2000 mm minimum below ground and 3600 mm above ground average and blacing and fixing bracings etc. of 100 mm x 75 mm size 1 st class local wood longitudinally & crosswise at 800 mm apart, at ends fitted with 10 mm dia bolts and huts etc. including coaltarring of timber members and cost of necessary bamboo staging etc. as directed by he Engineer as per drawing and technical specifications.					
		Uni	t =RM					
		Tak	xing output = 4.00 RM					
		a)	Material					
			1st class local wood piles 150-200 mm dia, 6m long	m	123.20	513.00	63,201.60	
			2nd class local wood (100 mm x 75 mm) for collar, bracing and belt	cum		19,400.00	39,576.00	
			Nuts and Bolts	Kg	10.00	80.35	803.50	
			1st Class Bamboo	m	30.00	20.80	624.00	
			2nd class bamboo	m	25.00	15.45	386.25	
			Coir Rope (LS) @ 0.20 % of (a)				219.64	
			Coal tar	Kg	40.00	32.00	1,280.00	
		b)	Labour					
			Carpenter 1st Class	Nos	1.20	425.00	510.00	
			Mate	Nos	1.20	300.00	360.00	
			Mazdoor (Unskilled)	Nos	30.00	300.00	9,000.00	
		c)	Sundries (LS) @ 0.40 % of (a)				424.36	

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		e)	Contractor's profit and overheads @ 15 % on (a+l	b+c+d)			17,457.80
		Cos	t for 4 RM = $(a+b+c+d+e)$				133,843.16
		Rat	e per metre = (a+b+c+d+e)/4				33,460.79
14.12	Suggestive	an jun	oplying and filling up hollows of the timber spur to average height of 3600 mm above ground with gle wood branches as per drawing and technical cifications as directed by the Engineer.			say	<u>33460.80</u>
		Unit	t = RM				
		Tak	ing output = 20.00 RM				
		a)	Labour				
			Mate	day	0.20	300.00	60.00
			Mazdoor (Unskilled)	day	5.00	300.00	1,500.00
		b)	Sundries (LS) @ 3.00 % of (a)				46.80
		C)	0				0.00
		d)	Contractor's profit and overheads @ 15 % on (a+	b+c)			241.02
		Cos	t for 20 RM = (a+b+c+d)				1,847.82
		Rat	e per metre = (a+b+c+d)/20				92.39
						say	<u>92.40</u>

		PROTECTION WORKS				
Sr. No.	Ref. to MORD Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	ADD	ITIONAL ITEMS BY USING JHAMA BRICK AGGREGATE (i.	e. LOC/	ALLY AVAI	LABLE MA	TERIALS)
14.13	1300	Providing and laying of apron with cement concrete blocks of size as per Table 1300.1 cast-in-situ and made with nominal mix of M-15 grade cement				
		concrete (using jhama brick aggregate)as per drawing and MoRD technical specification Clause 1301 (rate includes preparation of bed, nominal surface re- inforcement and filling of granular material in recesses between blocks).				
		Unit = cum				
		a) Concrete grade M 15				
		Rate as per item No 11.9. II (i)	cum	1.00	6,017.90	6,017.90
		Add 2 per cent of cost to account for excavation for preparation of bed, nominal surface reinforcement and filling of granular material in recesses between blocks.				120.36
		Rate per cum = (a)				6,138.26
					say	<u>6138.30</u>
14.14	1300	Providing and laying flooring laid over cement concrete bedding complete as per drawing and MoRD technical specification Clause 1303.				
		I. Cement concrete blocks cast in situ grade M15 (size 400 mm x 400 mm x 150 mm) over cement concrete (with M10, using jhama brick aggregate) bedding of 150 mm thick Unit = Sqm				
		Taking Output = 21.00 sqm				
		a) Cement concrete blocks grade M 15 Rate as per item 11.9 (II) (i)	cum	3.12	6,017.90	18,775.85
		using 400 mm x 400 mm x 150 mm blocks				
		Add for cement concrete bedding M10 Rate as per item 11.9 (I) (i)	cum	3.15	5,837.10	18,386.87
		Add 1 per cent of cost to account for excavation for preparation of bed.				371.63
		Cost for 21 sqm =				37,534.34
		Rate per sqm = (a) / 21				1,787.35
					say	<u>1787.30</u>
14.15	1300	Providing and laying curtain walls complete as per drawing and MoRD technical specification Clause 1304. Unit = cum				

Taking Output = 1.00 m

	Ref. to						
Sr. No.	MORD Spec.	i I I	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		I.	Brick masonry in cement mortar (1:4)				
			a) Excavation in soil for foundtation				
			Rate as per item No.11.1.A.I(i) of Chapter 11	cum	2.34	287.00	671.58
			b) PCC M10 grade (using jhama brick aggregate)				
			(Rate same per item No.11.9.I(ii) of Chapter 11)	cum	0.18	5,881.10	1,058.60
			c) Brick masonry in cement mortar (1:4)				
			(Rate same as per item 11.5 (II) of chapter 11)	cum	0.69	5,383.60	3,714.68
			Rate per m =				5,444.86
						say	<u>5444.90</u>
		II.	PCC grade M10 with jhama brick aggregate (including centering, shuttering staging etc. and reinforcement) a) Excavation in soil for foundtation				
			, Rate as per item No.11.1.A.I(i) of Chapter 11	cum	4.68	287.00	1,343.16
			b) PCC M10 grade (using jhama brick aggregate)				
			(Rate same per item No.11.9.I(ii) of Chapter 11)	cum	0.72	5,881.10	4,234.39
			c) Twisted steel/ deformed bar				
			(Rate same as per item 11.6 of chapter 11)	t	0.054	53,066.80	2,865.61
			Rate per m =				8,443.16
						say	<u>8443.20</u>
14.16	1300	per Cla	nstruction of toe walls for protection of slopes as Drawing and MoRD technical specifications use 1302.5 (including centering, shuttering staging but excluding reinforcement)				
		I.	Cement concrete grade M 10 (using jhama brick aggregate) in case of concrete block pitching				
			Unit = cum				
		I.	P.C.C grade M 20				
			(i) Nominal mix 1:3:6				
			Unit = cum				
			a) Material				
			Cement	t	0.250	6,100.00	1,525.00
			Sand (Fine)	cum	0.48	370.00	177.60
			40 mm aggregate	cum	0.576	2,550.00	1,468.80
			20 mm aggregate	cum	0.288	2,975.00	856.80
			10 mm aggregate	cum	0.096	3,110.00	298.56

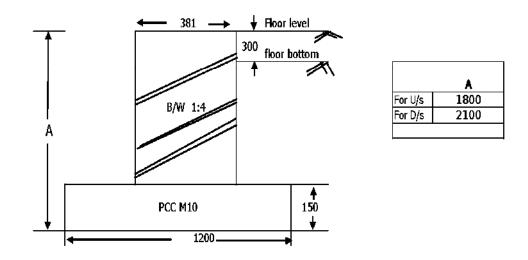
Chapter 14 PROTECTION WORKS

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
		b)	Labour				
			Mate	day	0.08	300.00	24.00
			Mason (1st Class)	day	0.10	425.00	42.50
			Mazdoor (Unskilled)	day	1.63	300.00	489.00
			Bhisti	day	0.27	300.00	81.00
		c)	Machinery				
			Mechnical concrete mixer 0.4/0.28 cum capacity fitted with water measuring device	hour	0.40	193.00	77.20
		d)	and preferably also with load cell. Formwork @ 4% on cost of material, labour and machinery (a+b+c)				201.62
		f)	Overhead charges @ on (a+b+c+d)				0.00 786.31 6,028.39
						say	<u>6028.40</u>
		(ii) N	ominal mix 1:3:6 (Hand mixing)				
		U	nit = cum				
		a)	Material				
			Cement	t	0.250	6,100.00	1,525.00
			Sand (Fine)	cum	0.48	370.00	177.60
			40 mm aggregate	cum	0.576	2,550.00	1,468.80
			20 mm aggregate	cum	0.288	2,975.00	856.80
			10 mm aggregate	cum	0.096	3,110.00	298.56
		b)	Labour				
			Mate	day	0.09	300.00	27.00
			Mason (1st Class)	day	0.10	425.00	42.50
			Mazdoor (Unskilled)	day	2.00	300.00	600.00
			Bhisti	day	0.27	300.00	81.00
		c)	Formwork @ 4% on cost of material, labour and machinery (a+b)				203.09
		e)	0 Contractor's profit and overheads @ 15 % ate per cum = a+b+c+d+e	on (a-	-b+c+d)		0.00 792.05 6,072.40
						say	<u>6072.40</u>

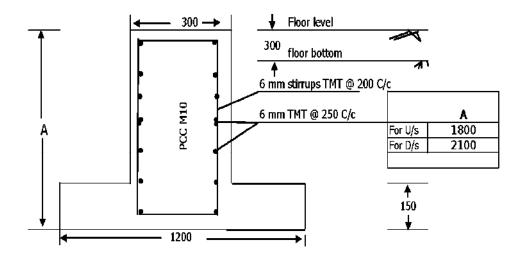
Chapter 14	
PROTECTION WORKS	

Sr. MORD Description Unit Quantity Rate (₹) Amount No. Spec Spec	
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For ODRs and Rural Roads Chapter - 14 : Protection Works



Drawing of Curtain Wall for Item No. 14.15.I of Chapter - 14



Drawing of Curtain Wall for Item No. 14.15.II of Chapter - 14

Note :

1 All Dimensions are in mm

2 Not to scale.

	Sr.	Ref. to MORD	 		Description	Unit	Quantity	Rate (₹)	Amount (₹)
Ĺ	No.	Spec.	L		j		ij		
	15.1	1900	Resto	ration	of Rain Cuts				
			a fc c a	mixtu or 300 xeedin ompac lignme	ation of rain cuts with soil, moorum gravel or re of these, clearing the loose soil, benching mm width laying fresh material in layers not ng 250 mm and compaction with plate ctor or power rammer to restore the original ent, level and slopes as per drawings and rechnical specification Clause 1902.				
			А	. Ma	nual Means				
				Un	it = cum				
				Tal	king output = 10 cum				
				a)	Labour				
					Mate	day	0.24	300.00	72.00
					Mazdoor (Unskilled)	day	6.00	300.00	1,800.00
				b)	Machinery				
					Plate compactor	hour	3.00	143.00	429.00
				c)	Materials				
					Compensation for earth Taken from private la	cum	7.50	18.00	135.00
				d)	0				0.00
				e)	Contractor's profit and overheads @ 15 %	on (a	+b+c+d)		365.40
				Co	st for 10 cum = a+b+c+d				2,801.40
				Ra	te per cum = a+b+c+d/10				280.14
								say	<u>280.10</u>
			В	. Me	chanical Means				
				Un	it = cum				
				Tal	king output = 50 cum				
				a)	Labour				
					Mate	day	0.40	300.00	120.00
					Mazdoor (Unskilled)	day	10.00	300.00	3,000.00
				b.	Machinery				
					Hydraulic Excavator 0.9 cum bucket capacty @ 60 cum/h	hour	0.83	1,296.00	1,075.68
					Tipper 5.5 cum, 10 t capacity Add 10% cost of carriage towards loading and unloading charges	hour	2.27	321.00	728.67 72.87
				_	Plate compactor	hour	15.00	143.00	2,145.00
				C.	Materials	0.177	27 50	10.00	675 00
				اء	Compensation for earth taken from private la	cum	37.50	18.00	675.00
				d.		or (-	الميميط)		0.00
				e.	Contractor's profit and overheads @ 15 %	on (a	+D+C+d)		1,172.58

Γ	Ref. to	ī-			— — — •	T	ī	
Sr. No.	MORD			Description	Unit	Quantity	Rate (₹)	Amount (₹)
L	Spec.	L_				⊥J	L	
				Cost for 50 cum = $a+b+c+d+e$				8,989.80
				Rate per cum a+b+c+d+e/50				179.80
							say	<u>179.80</u>
	Note:	can	n be i p in ti	% of fresh material has been provided as 25% retrieved from site from earth i.e. flown down the he form of slurry and deposited at the foot of rain				
15.2	1900	1.		ntenance of Earthen shoulder (filling with selected soil)				
			sho app app	king up loss of material / irregularities on ulders to the design level by adding fresh roved selected soil and compacting it with ropriate equipment at OMC upto a lead of 1000 is per MoRD technical specification Clause 1903.				
			Uni	t = sqm				
			Tak	ing output = 100 sqm				
			Ass	uming average thickness of filling to be 150 mm				
			Qua	ality of fresh material = 15 cum				
			a.	Labour				
				Mate	day	0.20	300.00	60.00
				Mazdoor (Unskilled)	day	5.00	300.00	1,500.00
			b.	Machinery				
				Hydraulic Excavator 0.9 cum bucket capacity @ 60 cum per hour	hour	0.25	1,296.00	324.00
				Tipper 5.5 cum Add 10% cost of transportation to cover cost of loading and unloading	hour	0.68	321.00	218.28 54.23
				Plate compactor @ 25 sqm per hour	hour	4.00	143.00	572.00
			c.	Material				
				Compensation of earth	cum	15.00	18.00	270.00
			d.	0				0.00
			е.	Contractor's profit and overheads @ 15 % or	n (a+b+	-c+d)		449.78
			Cos	st for 100 sqm = a+b+c+d+e				3,448.28
			Rat	e per sqm = (a+b+c+d+e)/100				34.48
							say	<u>34.50</u>
		2.		ntenance of Earhen shoulder (stripping of ess soil)				
			ach	pping excess soil from the shoulder surface to ieve the approved level and compacting with e compactor at OMC as per drawing and MoRD wind and more than the state of the stat				

technical specification Clause 1903.

Unit = sqm Taking output = 100 sqm

Sr. No.	Ref. to MORD Spec.		Description	Uni	t Quantity	Rate (₹)	Amount (₹)
`			ssuming height of stripping as 75 mm		-⊥	L	/
			uantity of earth cutting involved = 7.5 cum				
		a					
			Mate	day	0.10	300.00	30.00
			Mazdoor (Unskilled)	day	2.50	300.00	750.00
		b	Machinery				
			Plate compactor	hou	r 4.00	143.00	572.00
		C.	0				0.00
		d	. Contractor's profit and overheads @	2 15 % on (a+l	o+c)		202.80
		С	ost for 100 sqm = a+b+c+d				1,554.80
		R	ate per sqm = a+b+c+d/100				15.55
						say	<u>15.50</u>
15.3	500, 1900	Mainte	enace of bituminous surface road				
		tri bo ai ai ai	epair to pot holes by removal of failed imming the sides to vertical and leve ottom, cleaning the same with compress ny appropriate method, filled with 75 mm E oplying bitumen emulsion prime coat at the od bitumen emulsion tack coat on sides ottom as per MoRD technical specification 900, 502, 503 and 504.	Iling the ed air or 3.M, after e bottom 5 and on			
			nit = cum				
			aking output = 187.5x0.075 = 14.06 cum =	(30.94 Tonne)			
			% area of one km)	(001011101110)			
		a					
			Mate	day	0.80	300.00	240.00
			Mazdoor (Unskilled)	day	20.00	300.00	6,000.00
		b) Machinery				
			Jack hammer 25 kg with tractor	hou	r 4.00	337.00	1,348.00
			Compressor 210 cfm with tractor	hou	r 2.00	321.00	642.00
			Emulsion pressure distributor	hou	r 4.00	735.48	2,941.92
			Mixall 6/10 t capacity	hou	r 4.00	762.00	3,048.00
			Three wheeled 80-100 kN Static Roller	hou	r 4.00	379.00	1,516.00
		C)	Material				
			Primer with bitumen emulsion (SS-1) @ sqm 187.5x9 = 168.75 kg.	9 kg/10 Tonr	e 0.1688	39,435.00	6,656.63
			Tack coat with bitumen emulsion (RS-1) @ 3.0 kg/ 10	sqm)		
			Bottom = 187.5				
			Sides = 28.27	Tonr	e 0.0647	36,443.00	2,357.86

Sr. No.	Ref. to MORD Spec.		Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Total = 215.77				
			Bitumen (VG-30) for BM @ 3.5% by weight of	Tonne	1.082	37,787.00	40,885.53
			mix = 30.94 x 3.5 / 100 = 1.082				
			Weight of mix (BM) 14.06 cum = (30.94 tonne) Weight of Bitumen = 1.082				
			Weight of aggregate 30.94 -1.082 = 29.86				
			Taking density of aggregate 1.5 t per cum				
			Volume of aggregate 29.86 / 1.5 = 19.90 cum				
			Grading (1) (40 mm nominal size)				
			37.5 - 25 mm 15%	cum	2.985	3,324.00	9,922.14
			25 - 10 mm 45%	cum	8.96	3,645.00	32,640.98
			10 - 5 mm 25%	cum	4.975	4,045.00	20,123.88
			5 mm and below 15%	cum	2.99	4,125.00	12,313.13
		d)	0				0.00
		e)	Contractor's profit and overheads @ 15 % or	n (a+b+o	c+d)		21,095.41
		Cos	t of 14.06 cum = a+b+c+d+e				161,731.47
		Rat	e per cum = a+b+c+d+e/14.06				11,502.95
						say	<u>11502.90</u>
		BM as	ch repair on already filled pot holes with 75 mm with 20 mm premix carpet and seal coat type A per drawing and MoRD technical specification uses 1904.2, 508 and 510.				
		Unit	t = sqm				
		Tak	ign output = 200 sqm				
		a)	Labour				
			Mate	day	0.64	300.00	487.68
			Mazdoor (Unskilled)	day	16.00	300.00	4,800.00
		b)	Machinery				
			Mixall 6/10 tonne	hour	2.00	762.00	1,524.00
			Bitumen pressure distributior	hour	2.00	735.48	1,470.96
			Three wheeled 80-100 kN Static Roller	hour	4.00	379.00	1,516.00
		c)	Material				
			Bitumen (VG-30) for pre-mix carpet @ 14.60 kg/10 sqm 200x14.60/10 =292 kg	tonne	0.292	37,787.00	11,033.80
			Bitumen (RS-1) for tack coat @ 2 kg per 10 sqm 200 x 2 / 10 = 40 kg	tonne	0.04	36,443.00	1,457.72
			Bitumen (VG-30) for seal coat @ 6.8 kg per 10 sqm	tonne	0.136	37,787.00	5,139.03

	Ref. to										
Sr. No.	MORD Spec.	i I L		Description	Unit	Quantity	Rate (₹)	Amount (₹)			
				Crushed stone aggregate 13.2 mm to 0.09 mm @ 0.27 cum per 10 sqm = 200 x 0.27 / 10 = 5.4 cum	cum	5.40	4,045.00	21,843.00			
				Crushed stone passing 2.36 mm sieve and retained on 180 mircon sieve @ 0.06 cum per 10 sqm	cum	1.20	2,643.00	3,171.60			
				200 x 0.06 / 10 = 1.20 cum							
			d)	0				0.00			
			e)	Contractor's profit and overheads @ 15 % of	n (a+b+	·c+d)		7,866.57			
			Cost of 200 sqm = a+b+c+d+e								
				301.55							
							say	<u>301.60</u>			
		III.	trim coa B a	pair to pot holes and removal of loose material, ming of sides, cleaning of surface, providing tack tt, 20 mm thick premix carpet and seal coat type is per drawing and MoRD technical specification uses 1904.2, 503 and 508.1.							
			Uni	t = sqm							
			Tak	king output = 200 sqm							
			a)	Labour							
				Mate	day	0.80	300.00	240.00			
				Mazdoor (Unskilled)	day	20.00	300.00	6,000.00			
			b)	Machinery							
				Air compressor 210 cfm with tractor	hour	2.00	321.00	642.00			
				Bitumen pressure distributor	hour	2.00	735.48	1,470.96			
				Mixall 6/10t capacity	hour	2.00	762.00	1,524.00			
				Three wheeled 80-100 kN Static Roller	hour	4.00	379.00	1,516.00			
			c)	Material							
				Bitumen (RS-1) for tack coat @ 3kg per 10 sqm $200 \times 3 / 10 = 60 \text{ kg}$	tonne	0.064	36,443.00	2,332.35			
				Bitumen (VG-30) for pre-mix carpet @ 14.60 kg per 10 sqm = 200 x 14.6 / 10 = 292 kg	tonne	0.292	37,787.00	11,033.80			
				Bitumen (VG-30) for seal coat @ 6.8 kg per 10 sqm	tonne	0.136	37,787.00	5,139.03			
				= 200 x 6.8 / 10 = 136 kg Crushed stone aggregate 13.2 mm to 0.09 mm @ 0.27 cum per 10 sqm = 200 x 0.27 / 10 = 5.4 cum	cum	5.40	4,045.00	21,843.00			
				Sand @ 0.06 cum per 10 sqm $200 \times 0.06 / 10 = 1.20$ cum	cum	1.20	370.00	444.00			
			d)	0				0.00			
			e)	Contractor's profit and overheads @ 15 % or	n (a+b+	c+d)		7,827.77			

Sr. No.	Ref. to MORD Spec.		<u> </u>	Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Cos	st for 200 sqm = a+b+c+d+e				60,012.92
			Rat	e per sqm = a+b+c+d+e/200				300.06
							say	<u>300.10</u>
		IV.	trim coa car coa	pair to pot holes and removal of loose material, ming of sides, cleaning of surface, providing tack it with bitumen emulsion, 20 mm thick premix pet using cationic bitumen emulsion and seal it type B with bitumen emulsion as per MoRD nnical specification clauses 1904.2, 503 and 8.2.				
				t = sqm sing output = 200 sqm				
			a)	Labour				
				Mate	day	0.64	300.00	192.00
				Mazdoor (Unskilled)	day	16.00	300.00	4,800.00
			b)	Machinery				
				Concrete mixer 0.4 / 0.28 cum capacity	hour	2.50	193.00	482.50
				Air compressor 210 CFM with tractor	hour	2.00	321.00	642.00
				Emulsion pressur distributor	hour	2.00	735.48	1,470.96
				Three wheeled 80-100 kN Static Roller	hour	4.00	379.00	1,516.00
			c)	Materials				
				Bitumen Emulsion (RS-1) for tack coat @ 3 kg per 10 sqm 200 x 3 / 10 = 60 kg	tonne	0.06	36,443.00	2,186.58
				Bitumen Emulsion (SS-1) for premix carpet @ 21.50 kg per 10 sqm 200 x 21.50 / 10 = 430 kg	tonn	0.43	39,435.00	16,957.05
				Bitumen Emulsion (SS-1) for seal coat @ 10 kg per 10 sqm = $200 \times 10 / 10 = 200$ kg	tonn	0.20	39,435.00	7,887.00
				Crushed stone aggregate 13.2 mm to 0.09 mm @ 0.27 cum per 10 sqm = $200 \times 0.27 / 10 = 5.4$ cum	cum	5.40	4,045.00	21,843.00
				Sand @ 0.06 cum per 10 sqm 200 x 0.06 / 10 = 1.20 cum	cum	1.20	370.00	444.00
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % or	n (a+b+	c+d)		8,763.16
			Cos	st for 200 sqm = a+b+c+d+e				67,184.25
			Rat	e per sqm = a+b+c+d+e/200				335.92
							say	<u>335.90</u>

15.4 1900 Maintenance of Drains

The maintenance of drains include erosion, repair, clearing, cleaning, reshaping, regrading, deepening of side drains as well as catch water drains as per MoRD technical specification Clause 1907.

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)			
		Uni	it - Pe	r Metre		* <i>"</i>	*				
		Tak	king o	utput one km = 1000 metre							
		a)	Lab	our							
			Mat	e	day	0.32	300.00	96.00			
			Maz	zdoor (Unskilled)	day	8.00	300.00	2,400.00			
		b)	0					0.00			
		c)	Cor	ntractor's profit and overheads $@$ 15 % on (a+	b)			374.40			
		Cos	st for	1000 metre = a+b+c				2,870.40			
		Rat	te pe	r Metre = a+b+c/1000				2.87			
							say	<u>2.90</u>			
15.5	1900	(I)	Mai	ntenance of Culverts Hume Pipe type							
			clea para	ntenance of Hume pipe Culvert by way of aring, cleaning, erosion repair, repairs to cracks, apet wall and protection work as per drawing and RD technical specification Clause 1908.							
			Unit	t = One No. Hume pipe (1000 mm dia)							
			Tak	ing output = One No.H.P. Culvert							
			a)	Labour							
				Mate	day	0.10	300.00	30.00			
				Mazdoor (Unskilled)	day	1.00	300.00	300.00			
				Mason 2nd Class	day	1.40	380.00	532.00			
			b)	Material							
				Cement, Sand, Brick, Boulder etc. @ 100.00 % c	L.S			862.00			
			c)	0				0.00			
			d)	Contractor's profit and overheads @ 15 % or	n (a+b+	c)		258.60			
			Cos	t for one No. Hume pipe culvert = a+b+c+d				1,982.60			
			Rat	e per hume pipe Culvert = a+b+c+d				1,982.60			
							say	<u>1982.60</u>			
		(II)	Mai	ntenance of Culverts Slab type							
			Mai clea para	ntenance of Slab Type Culverts by way of aring, cleaning, erosion repair, repairs to cracks, apet wall and protection work as per drawing MoRD technical specification 1908.							
			Uni	t = One No. Culvert (2 m span)							
			Tak	ing output = one No. Slab Culvert							
			a)	Labour							
				Mate	day	0.20	300.00	60.00			
				Mazdoor (Unskilled)	day	4.00	300.00	1,200.00			

Sr. No.	Ref. to MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	Amount (₹)
			Mason 2nd Class	day	1.00	380.00	380.00
			b) Material				
			Cement, Sand, Brick, Boulder etc. @ 80.00 % c	of L.S			1,312.00
			c) 0				0.00
			d) Contractor's profit and overheads @ 15 % of	on (a+b-	⊦c)		442.80
			Cost for One Slab Culverts =a+b+c+d				3,394.80
			Rate per Culvert = a+b+c+d				3,394.80
						say	<u>3394.80</u>
15.6	1900	Mai	ntenance of Road Signs				
		repa info	ntenance of road signs by way of cleaning and ainting of mandatory/ regulatory / cautionary rmatory and place identification sign board as pe vings and MoRD technical specification Clause 1910.	/ r			
			= 1 km ing output = one km				
		All t	ypes of signs in one Km				
		a)	Labour				
			Mate	day	0.09	300.00	27.00
			Mazdoor (Unskilled)	day	2.00	300.00	600.00
			Painter 1st Class	day	0.125	340.00	42.50
		b)	Material				
		2)	Synthetic Enamel Paint, Engineering grade tape, welding machine etc. @ 150.00 % on (a)	LS			1,004.25 0.00
		c) d)	0 Contractor's profit and overheads @ 15 % on (a	thtc)			251.06
			t for one Km = $a+b+c+d$				1,924.81
			e per km = a+b+c+d				1,924.81
						say	<u>1924.80</u>
15.7	1900	Mai	ntenance of steel and RCC Railing				
		(i)	Repair of steel railing to bring it to original shape cleaning and repainting as per drawing and MoRI technical specification Clause 1911.				
			Steel Railing				
			Unit = Running metre				
			Taking output = 10 metre				
			It is assumed that damage is to the extent of 10%				
			a) Labour				
			Mate	day	0.024	300.00	7.20
			Mazdoor (Unskilled)	day	0.30	300.00	90.00

Sr. No.	Ref. to MORD Spec.			Description	Unit	Quantity	Rate (₹)	Amount (₹)
				Painter 1st Class	day	0.10	340.00	34.00
				Blacksmith	day	0.20	403.00	80.60
			b)	Materials				
				Mild steel (structural steel)				
				ISMC = 0.039T	t	0.039	42,670.00	1,664.13
				MS Flat = 0.01	t	0.010	42,670.00	426.70
				Nuts and bolts	t	0.001	80,350.00	80.35
			c)	Machinery				
				Welding set @ 10.00 % on (a+b)	LS			238.30
			d)	0				0.00
			e)	Contractor's profit and overheads @ 15 % or	n (a+b+	c+d)		393.19
			Cos	st for 10 metre = a+b+c+d+e				3,014.47
			Rat	e per metre = a+b+c+d+e/10				301.45
							say	<u>301.40</u>
		(ii)	sha	pair of RCC railing to bring it to the original upe, cleaning and repainting as per drawings and RD technical Specification Clause 1911.				
				C Railing t = running metre				
			Tał	xing output = 1 metre				
			It is	assumed that damage is to the extent of 10%				
			a)	Labour				
				Mate	day	0.012	300.00	3.60
				Mazdoor (Unskilled)	day	0.20	300.00	60.00
				Mason 1st Class	day	0.10	425.00	42.50
			b)	Materials				
				M 30 grade cement concrete				
				Rate as per item no. 13.1 (III) of Chapter 13	cum	0.10	9,852.30	985.23
				Steel bars reinforcement				
				Rate as per item no.13.2 of Chapter 13	t	0.013	54,367.40	706.78
			c)	0				0.00
			d)	Contractor's profit and overheads @ 15 % or	n (a+c)			15.92
			Rat	e per metre = a+b+c+d+e				1,814.02
							say	<u>1814.00</u>

15.8 1900 Maintenance of 200 metre and km stones

Sr		Ref. to			 !	<u>`</u>	 !	Amount
No		MORD Spec.		Description	Unit	Quantity	Rate (₹)	(₹)
<u> </u>	0		refixing cleanin and 5 ^t	enance of 200 metre and Km stone by way of g of tilted stones repairing with cement mortar, ng, repairing and lettering on 200 metre, km stone ^h km stone as per drawing and MoRD technical cation Clause 1912.		·J	4	
			Unit =	1 km				
			Assum	ning 1 km stone, 4 nos 200 metre stone and 1/5th 5	km stone	e		
			(i) P	ainting two coats with synthetic enamel paint				
			2	00 m stone 4 nos = 0.760 sqm.				
			O	ne km stone = 0.815 sqm.				
			5	th km stone 1x1/5 = 0.320 sqm.				
			Т	otal = 1.895 sqm.				
			A	s per item No. 10.5 of chapter 10	sqm	1.895	85.40	161.83
			e	rinting letters and figures of any shade with synthtic namel paint of any approved colour to give an even nade				
			2	00 m stone 4 Nos. = 40 per cm height per letter				
			C	ne no km stone = 120 per cm height per letter				
				th km stones 1/5 th = 60 per cm height per letter otal = 220 per cm height per letter				
			R	ate as per item no 10.1 of chapter 10	per cm height	220.00	0.50	110.00
			a) Labour	per			
				Mate	day	0.024	300.00	7.20
				Mazdoor	day	0.50	300.00	150.00
				Mason 1st Class	day	0.10	425.00	42.50
			b) Materials				
				Cement, sand, aggregates etc. @ 200.00 % of (a	E LS			399.40
				(LS = Rs.100.00)				
			C) 0				0.00
			d) Contractor's profit and overheads @ 15 % o	n (a+b+	c)		89.87
			С	ost for one km = (i+ii+a+b+c+d)				960.80
			R	ate per/km = (i+ii+a+b+c+d)				960.80
							say	<u>960.80</u>
15.	9	1900		g of branches of trees shrubs and trimming of and weeds				
			rc	utting of branches of trees and shrubs from the badway or within R.O.W including disposal of wood and leaves to suitable location as per MoRD echnical specification Clause 1914.				
			U	nit = one tree				
			Т	aking output = 10 trees of 900 mm average girth				

Ref. to I Sr. MORD I No. Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
	a) Labour				
	Mate	day	0.12	300.00	36.00
	Mazdoor (Skilled)	day	1.00	380.00	380.00
	Mazdoor (Unskilled)	day	2.00	300.00	600.00
	b) 0				0.00
	c) Contractor's profit and overheads @ 15 % c	n (a+b)			152.40
	Cost for 10 trees = (a+b+c)				1,168.40
	Rate per tree = (a+b+c)/10				116.84
				say	<u>116.80</u>
(ii)	Cutting of shrubs from the roadway or within R.O.W and disposal of shrubs to suitable locations as pe MoRD technical specification Clause 1914.				
	Unit=Each				
	Taking output = 100 nos shrubs				
	a) Labour				
	Mate	day	0.08	300.00	24.00
	Mazdoor (Unskilled)	day	2.00	300.00	600.00
	b) 0				0.00
	c) Contractor's profit and overheads @ 15 % c	n (a+b)			93.60
	Cost for 100 shurbs = a+b+c				717.60
	Rate per shurb = a+b+c/100				7.18
				say	<u>7.20</u>
(iii)	Trimming of grass and weeds from the shoulders/berms and disposing off the same to suitable location as per MoRD technical specification Clause 1914. Unit = sqm)			
	Taking output = 1500 sqm				
	a) Labour				
	Mate	day	0.40	300.00	120.00
	Mazdoor (Unskilled)	day	10.00	300.00	3,000.00
	b) 0				0.00
	c) Contractor's profit and overheads $@$ 15 % c	on (a+b)			468.00
	Cost for 1500 sqm = a+b+c				3,588.00
	Rate per sqm = a+b+c/1500				2.39
				say	<u>2.40</u>

15.10 1900 White washing of parapet walls of CD work and tree truncks

Sr.	Ref. to	<u>-</u> -	!		<u></u> i	 !	Amount
No.	MORD Spec.	 	Description	Unit	Quantity	Rate (₹)	(₹)
		trun	ite washing two coats on parapet walls and tree iks including preparation of surface by cleaning aping etc. as per MoRD technical specification Clause 5.		±/		
			t = sqm				
		Tak	ing output = 9 sqm				
		a)	Labour				
			Mate	day	0.01	300.00	3.00
			Mazdoor (Unskilled)	day	0.143	300.00	42.86
			White washer	day	0.143	340.00	48.57
		b)	Materials				
			Lime	kg	0.450	8.00	3.60
			Fevicol adhesive	kg	0.10	135.00	13.50
			Indigo	kg	0.013	65.00	0.85
		c)	0				0.00
		d)	Contractor's profit and overheads @ 15 % on (a+	b+c)			16.86
		Cos	st for 9 sqm = a+b+c+d				129.23
		Rat	e per sqm = a+b+c+d/9				14.36
						say	<u>14.40</u>
15.11	1900, 500	Per	iodical Renewal to existing bituminous surface				
		1	Open graded Premix carpet 20 mm thick				
			Unit = sqm				
			(i) Tack coat				
			With bituminous Emulsion (RS-1)		40.00		
			 Rates as per item 5.2 (ii) (ii) Pre-mix carpet using bituminous (viscocity grade/ modified bitumen) binder 	sqm	13.00		
			Rates as per item No. 5.8	sqm	215.90		
			as relevant Or (iii) Premix carpet using bitumen Emulsion				
					222.00		
			Rates as per item No. 5.9 (iv) Seal coat Type A, B or C	sqm	223.60		
			Rates as per item No. 5.11	sqm	As applica	able	
		2	Surface dressing single coat/first coat or 2nd coat		••		
			Rates as per item No. 5.5	sqm	95.40		

i	Ref. to		<u></u>	i		i
j Sr. No.	MoRTH	Description	Unit	Quantity	Rate (₹)	Amount j (₹) I
I	Spec.		<u>i</u>	ii	ii	i
16.1	1100, 1200, 1500, 1700	Bored Cast-in-Situ piles 1200 mm dia , M-25 grade RCC pile excluding reinforcement complete as per drawing and technical specification and removal of excavated earth with all lifts and lead upto 1000 m as per MoRT&H specification clause 1100, 1200, 1500, 1700.				
		Unit = meter				
		Sub-Analysis for R.C.C grade M 25				
		Unit = cum				
		Taking output = 15 cum				
		a) Material				
		Cement	tonne	5.99	6100.00	36539.00
		Fine sand	cum	6.75	370.00	2497.50
		40 mm Aggregate	cum	5.40	3532.00	19072.80
		20 mm Aggregate	cum	5.40	3969.00	21432.60
		10 mm Aggregate	cum	2.70	4040.00	10908.00
		Admixture	kg	21.60	41.00	885.60
		b) Labour				
		Mate	day	1.20	300.00	360.00
		Mason(1st class)	day	1.80	425.00	765.00
		Mazdoor (unskilled)	day	25.95	300.00	7785.00
		Bhisti	day	4.05	300.00	1215.00
		c) Machinery				
		Concrete mixer 0.40/0.28 cum capacity	hour	6.00	193.00	1158.00
		Generator 33 KVA	hour	6.00	258.00	1548.00
		Light crane 3 t capacity for lohandling tremie pipe	hour	6.00	355.00	2130.00
		Cost for 15.00 cum =		106296.50		
		Per Cum Basic Cost of Labour, Material &		7086.50		
		Machinery = (a+b+c)/ 15 <u>Analysis for PILING</u> Unit = Metre Taking output = 9 Metre of Pile				
		a) Materials Concrete Grade M25	cum	10.17	7086.50	72069.71
		Rate for concrete adopted same as for sub-analysis of item no. 16.1 above				
		Bentonite	kg	385.00	3.22	1239.70
		b) Labour Mate	dav	0.18	300.00	54.00
		Mate Mazdoor(unskilled)	day day	4.50	300.00	1350.00
		c) Machinery(for boring and construction)	aay	4.00	000.00	1000.00
		Hydraulic piling Rig with bentonite pump.	hour	6.00	5457.00	32742.00
		Light crane 3 t capacity for lowering	hour	0.50	355.00	177.50
		reinforcement cage Front loader 1 cum bucket capacity.	hour	0.50	963.00	481.50
		Tipper 5.5 cum capacity for disposal of muck	hour	0.50	321.00	160.50
		d) 0				0.00

Sr.	Ref. to MoRTH		Unit	Quantity	Rate (₹)	Amount
No.	Spec.		Unit	Quantity		(₹)
		e) Contractor's profit and overheads @ 15 % ,on (a+b+c+d),				16241.24
		Cost for $9 \text{ m} = a+b+c+d+d+e$				124516.14
		Rate per metre (a+b+c+d+e)/9			say	13835.13 <u>13835.10</u>
16.2	1100, 1200, 1500, 1700	Bored Cast-in-Situ piles 1000 mm dia , M-25 grade RCC pile excluding reinforcement complete as per drawing and technical specification and removal of excavated earth with all lifts and lead upto 1000 m as per MoRT&H specification clause 1100, 1200, 1500, 1700.				
		Unit = meter				
		<i>Taking output = 10 m of pile</i> a) Materials				
		Concrete Grade M25	cum	7.85	7086.50	55629.03
		Rate for concrete adopted same as for sub-analysis				
		of item no. 16.1 above Bentonite	kg	350.00	3.22	1127.00
		b) Labour Mate	day	0.16	300.00	48.00
		Mazdoor(unskilled)	day	4.00	300.00	1200.00
		c) Machinery(for boring and construction) Hydraulic piling Rig with bentonite pump.	hour	6.00	5457.00	32742.00
		Light crane 3 t capacity for lowering	hour	0.50	355.00	177.50
		reinforcement cage Front loader 1 cum bucket capacity.	hour	0.40	963.00	385.20
		Tipper 5.5 cum capacity for disposal of muck from pile bore hole	hour	0.40	321.00	128.40
		 d) 0 e) Contractor's profit and overheads @ 15 % can (a b i a d) 				0.00 13715.57
		, on (a+b+c+d) Cost for 10 m = a+b+c+d+d+e				105152.69
		Rate per metre (a+b+c+d+e)/10			say	10515.27 <u>10515.30</u>
16.3	1100, 1200, 1500, 1700	Bored Cast-in-Situ piles 750 mm dia , M-25 grade RCC pile excluding reinforcement complete as per drawing and technical specification and removal of excavated earth with all lifts and lead upto 1000 m as per MoRT&H specification clause 1100, 1200, 1500, 1700.				
		Unit = meter				
		Taking output = 15 m of pile				
		a) Materials				
		Concrete Grade M25	cum	6.62	7086.50	46912.63
		Rate for concrete adopted same as for sub-analysis of item no. 16.1 above Bentonite	kg	300.00	3.22	966.00
		b) Labour				
		Mate	day	0.14	300.00	42.00
		Mazdoor(unskilled)	day	3.50	300.00	1050.00

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Sr. No.	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)				
		· · · · · · · · · · · · · · · · · · ·				:				
		c) Machinery(for boring and construction) Hydraulic piling Rig with bentonite pump.	hour	6.00	5457.00	32742.00				
		Light crane 3 t capacity for lowering	hour	0.50	355.00	177.50				
		reinforcement cage	noui							
		Front loader 1 cum bucket capacity.	hour	0.30	963.00	288.90				
		Tipper 5.5 cum capacity for disposal of muck from pile bore hole	hour	0.30	321.00	96.30				
		d) 0				0.00				
		e) Contractor's profit and overheads @ 15 % ,on (a+b+c+d)				12341.30				
		Cost for 15 m = $a+b+c+d+d+e$				94616.63				
		Rate per metre (a+b+c+d+e)/15				6307.78				
					say	<u>6307.80</u>				
16.4	1100, 1200, 1500, 1700	Bored Cast-in-Situ piles 600 mm dia , M-25 grade RCC pile excluding reinforcement complete as per drawing and technical specification and removal of excavated earth with all lifts and lead upto 1000 m as per MoRT&H specification clause 1100, 1200, 1500, 1700.								
		Unit = meter								
		Taking output = 17 m of pile								
		a) Materials Concrete Grade M25	cum	4.80	7086.50	34015.20				
		Rate for concrete adopted same as for sub-analysis of item no. 16.1 above	cum	4.00	1000.00	04010.20				
		Bentonite	kg	275.00	3.22	885.50				
		b) Labour	ĸġ	275.00	5.22	000.00				
		Mate	day	0.12	300.00	36.00				
		Mazdoor(unskilled)	day	3.50	300.00	1050.00				
		c) Machinery(for boring and construction)	h	0.00	E 4 E Z 00	00740.00				
		Hydraulic piling Rig with bentonite pump.	hour	6.00	5457.00	32742.00				
		Light crane 3 t capacity for lowering reinforcement cage	hour	0.50	355.00	177.50				
		Front loader 1 cum bucket capacity.	hour	0.30	963.00	288.90				
		Tipper 5.5 cum capacity for disposal of muck from pile bore hole	hour	0.30	321.00	96.30				
		d) 0				0.00				
		e) Contractor's profit and overheads @ 15 % ,on (a+b+c+d)				10393.71				
		Cost for 17 m = a+b+c+d+d+e				79685.11				
		Rate per metre (a+b+c+d+e)/17				4687.36				
					say	<u>4687.40</u>				
16.5	1100, 1200, 1500, 1700	Bored Cast-in-Situ piles 500 mm dia , M-25 grade RCC pile excluding reinforcement complete as per drawing and technical specification and removal of excavated earth with all lifts and lead								

700 removal of excavated earth with all lifts and lead upto 1000 m as per MoRT&H specification clause 1100, 1200, 1500, 1700.

		Pile Foundation & Well Foundation for Bridge							
Sr. No.	Ref. to MoRTH Spec.		Unit	Quantity	Rate (₹)	Amount (₹)			
		Taking output = 22 m of sile							
		<i>Taking output = 22 m of pile</i> a) Materials							
		Concrete Grade M25	cum	4.32	7086.50	30613.68			
		Rate for concrete adopted same as for sub-analysis of item no. 16.1 above							
		Bentonite b) Labour	kġ	250.00	3.22	805.00			
		Mate	day	0.10	300.00	30.00			
		Mazdoor(unskilled)	day	3.25	300.00	975.00			
		c) Machinery(for boring and construction)							
		Hydraulic piling Rig with bentonite pump.	hour	6.00	5457.00	32742.00			
		Light crane 3 t capacity for lowering reinforcement cage	hour	0.50	355.00	177.50			
		Front loader 1 cum bucket capacity.	hour	0.30	963.00	288.90			
		Tipper 5.5 cum capacity for disposal of muck from pile bore hole	hour	0.30	321.00	96.30			
		d) 0				0.00			
		e) Contractor's profit and overheads @ 15 % ,on (a+b+c+d)				9859.26			
		Cost for 22 m = $a+b+c+d+d+e$				75587.64			
		Rate per metre (a+b+c+d+e)/22				3435.80			
					say	<u>3435.80</u>			
	1500, 1700	concrete in Well Curb including cost of centering & shuttering, but excluding cost of reinforcement complete as per drawing and technical specification with all lifts and lead upto 1000 m as per MoRT&H specification clause 1200, 1500, 1700.							
		Unit = cum Taking output = 15 cum							
		a) Material							
		Cement	tonne	6.05	6100.00	36905.00			
		Fine sand	cum	6.75	370.00	2497.50			
		20 mm Aggregate	cum	8.10	3969.00	32148.90			
		10 mm Aggregate	cum	5.40	4040.00	21816.00			
		b) Labour							
		Mate	day	1.20	300.00	360.00			
		Mason (1st calss)	day	1.80	425.00	765.00			
		Mazdoor(unskilled)	day	25.95	300.00	7785.00			
		Bhisti	day	4.05	300.00	1215.00			
		c) Machinery	•						
		Concrete mixer (0.40/0.28 cum)	hour	6.00	193.00	1158.00			
		Electric generator 33 KVA	hour	6.00	258.00	1548.00			
		d) Formwork for Well Curb @ 20.00 % on cost of concrete i.e. cost of material, labour and				21239.68			
		machinery i.e. on (a+b+c)				0.00			
		 e) 0 f) Contractor's profit and overheads @ 15 % on (a+b+c+d+e) 				0.00 19115.71			

;						:
Sr.	Ref. to	Description	Unit	Quantity	Rate (₹)	Amount
No.	Spec.			quantity		(₹)
• — ——	<u> </u>					
		Cost for 15 cum = $a+b+c+d+e+f$				146553.79 9770.25
		Rate per cum = (a+b+c+d+e+f)/15				
					say	<u>9770.30</u>
16.7	1200, 1500, 1700	Providing and laying RCC with M-20 gra concrete in Well Steining including cost centering & shuttering, but excluding cost reinforcement complete as per drawing a technical specification with all lifts and lead up 1000 m as per MoRT&H specification clau 1200, 1500, 1700.	of of nd oto			
		Unit : cum Taking Output = 15 cum				
		a) Material				
		Cement	tonne	5.16	6100.00	31476.00
		Fine sand	cum	6.75	370.00	2497.50
		40 mm Aggregate	cum	5.40	3532.00	19072.80
		20 mm Aggregate	cum	5.40	3969.00	21432.60
		10 mm Aggregate	cum	2.70	4040.00	10908.00
		b) Labour				
		Mate	day	1.20	300.00	360.00
		Mason (1st calss)	day	1.80	425.00	765.00
		Mazdoor(unskilled)	day	29.95	300.00	8985.00
		Bhisti	day	4.05	300.00	1215.00
		c) Machinery				
		Concrete mixer (0.40/0.28 cum)	hour	6.00	193.00	1158.00
		Electric generator 33 KVA	hour	6.00	258.00	1548.00
		d) Formwork for Well Steining @ 10.00 per cent on cost of concrete i.e. cost of material, labour and machinery i.e. on (a+b+c)	ır			9941.79
		e) 0				0.00
		f) Contractor's profit and overheads @ 15 % on (a+b+c+d+e)	Ď			16403.95
		cost of 15 cum = a+b+c+d+e+f				125763.64
		Rate per cum (a+b+c+d+e+f)/15				8384.24
					say	<u>8384.20</u>
16.8	1200, 1500, 1700	Providing and laying cast-in-situ PCC with M- grade concrete with 10% extra cement in botto plug of well with minimum cement content 3 Kg/m3 as per drawing and technic specification with all lifts and lead upto 1000 as per MoRT&H specification clause 1200, 150 1700.	om 63 cal m			
		Unit = cum Taking output = 15 cum				
		a) Material				
		Cement including 10 % extra	tonne	5.45	6100.00	33245.00
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i	Ref. to								
Sr. No.	MoRTH	Description	Unit	Quantity	Rate (₹)	Amount j (₹) I			
	Spec.	i	L		ii				
		Fine sand	cum	6.75	370.00	2497.50			
		40 mm Aggregate	cum	5.40	3532.00	19072.80			
		20 mm Aggregate	cum	5.40	3969.00	21432.60			
		10 mm Aggregate	cum	2.70	4040.00	10908.00			
		Admixture	Kg	18.60	41.00	762.60			
		b) Labour							
		Mate	day	1.20	300.00	360.00			
		Mason(1st class)	day	1.80	425.00	765.00			
		Mazdoor (unskilled)	day	25.95	300.00	7785.00			
		Bhisti	day	4.05	300.00	1215.00			
		c) Machinery	bour	6.00	102.00	1159.00			
		Concrete mixer (capacity 0.40/0.28 cum) Generator 33 KVA	hour hour	6.00 6.00	193.00 258.00	1158.00 1548.00			
		Light Crane 3 tonnes capacity for handling tremie	hour	6.00	258.00 355.00	2130.00			
		pipe	noui	0.00	000.00				
		Add extra for false steining required at the time of bottom plugging @ 5.00 $\%$.				5143.98			
		d) 0				0.00			
		e) Contractor's profit and overheads @ 15 % on (a+b+c+d)				16203.52			
		cost of 15 cum = a+b+c+d+e				124227.00			
		Rate per cum = (a+b+c+d+e)/15				8281.80			
					say	<u>8281.80</u>			
16.9	1200, 1500, 1700	Providing and laying cast-in-situ PCC with M-20 grade concrete in top plug of well as per drawing and technical specification with all lifts and lead upto 1000 m as per MoRT&H specification clause 1200, 1500, 1700.							
		Unit = cum							
		Taking output = 15 cum							
		a) Material							
		Cement including 10 % extra	tonne	5.16	6100.00	31476.00			
		Fine sand	cum	6.75	370.00	2497.50			
		40 mm Aggregate	cum	5.40	3532.00	19072.80			
		20 mm Aggregate	cum	5.40	3969.00	21432.60			
		10 mm Aggregate	cum	2.70	4040.00	10908.00			
		b) Labour							
		Mate	day	1.20	300.00	360.00			
		Mason(1st class)	day	1.80	425.00	765.00			
		Mazdoor (unskilled)	day	25.95	300.00	7785.00			
		Bhisti	day	4.05	300.00	1215.00			
		c) Machinerv	,						

Sr. No.	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
		Concrete mixer (capacity 0.40/0.28 cum)	hour	6.00	193.00	1158.00
		Generator 33 KVA	hour	6.00	258.00	1548.00
		d) 0				0.00
		e) Contractor's profit and overheads @ 15 % on (a+b+c+d)				14732.69
		cost of 15 cum = a+b+c+d+e				112950.59
		Rate per cum = (a+b+c+d+e)/15				7530.04
					say	<u>7530.00</u>
16.10	1200, 1500, 1700	Providing and laying RCC with M-25 grade concrete in well cap including the cost of centering & shuttering but excluding the cost of reinforcement as per drawing and technical specification with all lifts and lead upto 1000 m as per MoRT&H specification clause 1200, 1500, 1700.				
		Unit : cum				
		Taking Output = 15 cum				
		a) Material				
		Cement	tonne	6.05	6100.00	36905.00
		Fine sand	cum	6.75	370.00	2497.50
		20 mm Aggregate	cum	8.10	3969.00	32148.90
		10 mm Aggregate	cum	5.40	4040.00	21816.00
		b) Labour				
		Mate	day	1.20	300.00	360.00
		Mason (1st calss)	day	1.80	425.00	765.00
		Mazdoor(unskilled)	day	25.95	300.00	7785.00
		Bhisti	day	4.05	300.00	1215.00
		c) Machinery				
		Concrete mixer (0.40/0.28 cum)	hour	6.00	193.00	1158.00
		Electric generator 33 KVA	hour	6.00	258.00	1548.00
		d) Formwork for Well Cap @ 3.75 per cent on cost of concrete i.e. cost of material, labour and machinery i.e. on (a+b+c)				3982.44
		e) 0				0.00
		 f) Contractor's profit and overheads @ 15 % on (a+b+c+d+e) 				16527.13
		cost of 15 cum = $a+b+c+d+e+f$				126707.97
		Rate per cum (a+b+c+d+e+f)/15				8447.20
					say	<u>8447.20</u>

Sr. No.	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate (₹)	Amount (₹)
16.11	1200	Sinking of wells of circular shape in all kinds of soil with or without water by all methods, other than pneumatic sinking including construction of cofferdams, wherever necessary including dressing for laying the well curbs, removal of underground snags, if any, such as logs, isolated boulders etc. encountered during sinking including use of Kentledge including supports, loading and unloading of weight etc.as per drawing and technical specification and removal of earths etc. with all lifts and lead upto 1000 m as per MoRT&H specification clause 1200.				
		Rates may be taken from the relevant items of chapter - 12 for Highways and MDRs. Rates given in item no. 16.11 is for analysis purpose only.				
16.12	1200, 1600, 1700 & 1900	Supplying, fabricating and placing in position MS cutting edge of well curbs consisting of MS flats, plates, angles etc. complete including the cost of nuts and bolts as per drawing and technical specification with all lifts and lead upto 1000 m as per MoRT&H specification clause 1200, 1600, 1700, 1900. Unit = 1 MT Taking output = 1 Tonne a) Material				
		Structural steel in plates, angles, etc including 5 per cent wastage	tonne	1.05	42670.00	44803.50
		Nuts & bolts	Kg	20.00	80.35	1607.00
		Electrodes, cutting gas and other consumables for fabrication @ 10 per cent of cost of (a)				4641.05
		b) Labour	dov	1 2 2	300.00	396.00
		Mate Fitter	day day	1.32 5.50	340.00	1870.00
		Blacksmith	day	5.50	403.00	2216.50
		Welder	day	5.50	425.00	2337.50
		Mazdoor(unskilled)	day	16.50	300.00	4950.00
		c) 0	,			0.00
		 d) Contractor's profit and overheads @ 15 % on (a+b+c) 				9423.23
		Cost per Tonne (a+b+c+d+e)				72244.78
					say	<u>72244.80</u>
16.13	2600	Supplying and installing strip seal type Elastomeric expansion joint of approved design				

16.13 2600 Supplying and installing strip seal type Elastomeric expansion joint of approved design and make as per drawing and technical specification clause 2600 of MoRT&H with all lifts and lead upto 1000 m.

Unit = Metre

Taking ourtput = 1 Metre

a) Material

		Pile Foundation & Well Foun				
Sr. No.	Ref. to MoRTH Spec.		Unit	Quantity	Rate (₹)	Amount (₹)
		Strip seal joint	 m	1.00	8,760.00	8,760.00
		Add 5 per cent for supervision by manufacturer			-,	438.0
		b) Labour				
		Mate	day	0.10	300.00	30.00
		Mazdoor (Skilled)	day	1.00	380.00	380.00
		Mazdoor (Unskilled)	day	0.50	300.00	150.00
		Mason (1st calss)	day	0.50	425.00	212.50
		c) 0	-			0.00
		 d) Contractor's profit and overheads @ 15 % on (a+b+c) 				1495.58
		Cost for 1.00 m = $a+b+c+d$				11,466.08
		Rate per m = (a+b+c+d)/1				11,466.08
16.14	2000	Supplying, fitting & fixing in position true to line & level elastomeric bearing conforming to IRC : 83 (Part-II) Section IX complete including all accessories with additional steel fixtures as per drawings & MoRT&H technical specification clause 2000 with all lifts and lead upto 1000 m.			say	<u>11466.10</u>
		Unit: one cubic centimetre				
		Taking out put = 11400 cu.cm				
		Considering an elastomeric bearing of size 47.50 x 30.00×8.00 Cm for this analysis.				
		a) Material Sub-Analysis of rate				
		Steel	kg	1.00	42.67	42.67
		Add for machine charges including drilling holes @ 20.00 %				8.53
		Steel fixtures	kg	Total cost 68.00	51.20 51.20	3481.87
		Add for 8 nos studs (4 short & 4 long) @ 10.00				348.19
		% c) 0				0.00
		c) Contractor's profit and overheads @ 15 % on (a+b)				574.51
		cost for 11400 cu.cm of elastomeric bearing = $a+b+c$				4404.57
		Rate per cu.cum of elastomeric bearing = (a+b+c+d)/11400				0.39
		i. Cost of elestomeric bearing including fitting fixing			say	<u>0.40</u>
		(Rate as per item no. 12.10 of Chapter 12	cu.cm	1.00	1.20	1.20
		ii. Cost for providing additional steel fixtures	cu.cm	1.000	0.40	0.40
		Cost per cu.cum including fixtures = (i+ii)				1.60
					say	<u>1.60</u>

I Ref. to I I Sr. I MoRTH I No. I I Spec. I	Unit	Quantity	Rate (₹)	Amount (₹)
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Note

- 1. Initial and Routine load test and Lateral load tests for piles may be done with the items available in the Chapter 12 of the Highways & MDRs.
- 2. Sand can be either coarse or fine as required/ available. Here, provision of fine sand is considered only due to non-availability of coarse sand in Tripura. However, design of concrete dictates for use of coarse sand, then separate analysis may be taken as per site condition.