



Government of Goa

PUBLIC WORKS DEPARTMENT

ALTINHO, PANAJI-GOA

GOA

SCHEDULE

OF

RATES

For: ***Roads Works 2011***

INDEX

GSR - 2011 (Roads Works)

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BASIC RATES LABOUR

Item No			Description	Unit	Rate
1701	1	a)	(Semi-skilled) Bandhani, Mazdoor	Per day	Rs.158
		b)	(Unskilled) Chowkidar, Hedge cutter, Mali,	Per day	Rs.151
		c)	Mate Coolie (ord.) ,Bhisti, Sweeper, Helper,	Per day	Rs.150
		d)	Hard rock or stone cutting		
		1	Stone cutter 1 st class (skilled)	Per day	Rs.159
		2	Stone cutter 2 nd class (semi-skilled),Chiseller, Hole Driller, breaker, Excavator	Per day	Rs.158
1702	2		Driver		
		a)	For road rollers and heavy machinery	Per day	Rs.159
		b)	For truck	Per day	Rs.159
		c)	For light vehicles, jeep etc.	Per day	Rs.159
1703	3		Cleaner: For truck, road roller etc.	Per day	Rs.151
1704	4		Operator		
		a)	Pneumatic drill hammer	Per day	Rs.170
		b)	Concrete mixer, Asphalt boiler	Per day	Rs.159
		c)	Pump attendant, Bitumen sprayer	Per day	Rs.158
		d)	Laboratory attendant, specialized machine	Per day	Rs.158
1705	5)		Marines		
		a)	Driver	Per day	Rs.159
		b)	Oarsman, Tandel, Sarang	Per day	Rs.158
1706	6		Mason		
		a)	Stone Ornamental work (highly skilled)	Per day	Rs.164
		b)	1 st class (skilled)	Per day	Rs.159
		c)	2 nd class brick layer, stone layer for plaster of Paris work	Per day	Rs.158
		d)	Assistant	Per day	Rs.151

1707	7)		Carpenter		
		a)	Furniture (highly skilled)	Per day	Rs.164
		b)	1 st class (skilled)	Per day	Rs.159
		c)	2 nd class (semi-skilled)	Per day	Rs.158
		d)	Assistant	Per day	Rs.151
1708	8		Blacksmith:		
		a)	1 st class (skilled)	Per day	Rs.159
		b)	2 nd class (semi-skilled)	Per day	Rs.158
		c)	Assistant	Per day	Rs.151
1709	9		Fitter		
		a)	1 st class (skilled)	Per day	Rs.159
		b)	2 nd class (semi-skilled)	Per day	Rs.158
		c)	Assistant	Per day	Rs.151
1710	10		Welder (Highly skilled)	Per day	Rs.164
1711	11		Mechanic		
		a)	1 st class	Per day	Rs.159
		b)	2 nd class	Per day	Rs.158
		c)	Assistant	Per day	Rs.151
1712	12		Painter		
		a)	Artist painter (Highly skilled)	Per day	Rs.168
		b)	Painter (skilled)	Per day	Rs.159
		c)	2 nd class (semi-skilled)	Per day	Rs.158
		d)	White washer	Per day	Rs.158
1713	13		Plumber, Electrician		
		a)	Highly skilled	Per day	Rs.164
		b)	1 st class (skilled)	Per day	Rs.162
		c)	2 nd class	Per day	Rs.158
1714	14		Meter reader, gauge reader	Per day	Rs.159
1715	15	a)	Supervisor	Per day	Rs.170
		b)	Mistri	Per day	Rs.164
		c)	Typist	Per day	Rs.162
		d)	works assistant, draughtsman	Per day	Rs.159

		e)	Head Surveyor	Per day	Rs.158
1718	16		Dozer operator / dumper/poclaim operator/ motor grander / crane operator	Per day	Rs.159
1719	17		Compressor operator	Per day	Rs.159
1720	18		Tin smith		
		a)	1 st class	Per day	Rs.159
		b)	2 nd class	Per day	Rs.158
		c)	Assistant	Per day	Rs.151
1721	19		Auto Electrician		
		a)	1 st class (skilled)	Per day	Rs.159
		b)	2 nd class (semi-skilled)	Per day	Rs.158
		c)	Assistant	Per day	Rs.151
1722	20		Rig Operator		
		a)	1 st class (skilled)	Per day	Rs.159
		b)	2 nd class (semi-skilled)	Per day	Rs.158
		c)	Assistant	Per day	Rs.151
<p>Note: These rates are exclusive of contractor's profit and overheads and are inclusive of the wages for weekly day of rest.</p>					

CHAPTER 1

BASIC RATES FOR MATERIALS

Item no	Description	Unit	Rate
1801	Gelatin 80%	kg	75.00
1802	Electric Detonator	each	12.00
1803	Murrum	cum	110.00
	Crushed stone aggregate		
1804	90-45 mm	cum	761.00
1805	63-45mm	cum	761.00
1806	37.50-25mm	cum	850.00
1807	25-10mm	cum	963.00
1808	13.20-10mm	cum	963.00
1809	10-5mm	cum	839.00
1810	5mm and below	cum	575.00
1811	Stone crusher dust	cum	100.00
1812	Soiling Stone (Lat) 150-200m	cum	300.00
1813	Soiling Stone (Basaltic or Granitic)150-200mm	cum	700.00
1814	Bitumen 80/100 packed	t	47191.69
1815	Bitumen 60/70 packed	t	48242.07
1816	Bitumen 80/100 (Bulk)	t	43733.19
1817	Bitumen 60/70 (Bulk)	t	44783.57
1818	Bitumen 85/25 or 30/40 mastic asphalt	t	32089.00
1819	Emulsified Bitumen (Cationic)	t	32089.00
1820	Furnace Oil	lt	85.00
1821	Lubricant oil	lt	170.00
1822	L.D.O	lt	121.000
1823	Road Marking point	lt	175.00
1824	Reflective tape	sqm	1400.00

1825	Lime filler	m	3260.00
1826	Broom	each	70.00
1827	Soft Brushes	each	42.00
1828	Wire Brush	each	79.00
1829	Anti-stripping Agent Excl. 10% C.R.	kg	212.00
1830	Empty Bitumen drum	each	100.00
1831	Doob grass	kg	35.00
1832	Fine grass	kg	80.00
1833	Pesticide	kg	222.20
1834	Manure	cum	333.30
1835	Hedge plant	each	45.00
1836	Saplings (up to 200m high)	each	150.00
1837	Shrubs	each	80.00
1838	Flower plant	each	80.00
1839	Thorn plant	each	45.00
1840	Neem cake	qtl	520.00
1841	100 mm DIA PVC (RIGID) Pipe 4 kg	m	186.79
1842	75 mm DIA PVC (RIGID) Pipe 4 kg	m	92.15
1843	j. Epoxy readymade primer vertical	kg	330.00
1844	k. Epoxy readymade primer Horizon	kg	715.00
1845	l. Epoxy readymade mortar	kg	638.00
1846	m. sealant Bituminous sheet	kg	25.00
1847	Lime	t	3260.00
1848	Water	kl	30.00
1849	Cement	t	6060.00
1850	Sand	cum	413.00
	Precast cement concrete tiles		=
1851	300* 300* 25mm thick.	each	22.73
1852	R.C.C. pipe 200 mm dia 2.5m	m	610.00
1853	Blasting material	kg	85.00
1854	Selected earth for refilling	cum	30.00
1855	Slow curing bitumen emulsion	kg	32.00

1856	Brick II nd class	each	4.50
1857	MS sheet 50* 0.5 m	kg	40.00
1858	Rivets 6m dia and 10m in length	each	7.00
	Paint conforming to 803.3 clause		
1859	(Ready mixed)	it	165.00
1860	Lettering on Km post	per cm/per letter	17.00
	Pre-cast cement concrete kerb.		
1861	Stone (factory made) m20		
a	30 cm* 50 cm* 15 cm	m	667.00
b	30 cm* 40 cm* 15 cm	m	533.00
c	60 cm* 45 cm* 15 cm	m	433.00
d	60 cm* 30 cm* 10 cm	m	325.00
1862	R.C.C. kilometer stone (Factory made) m20		
	a. 200 m stone	each	244.00
	b. Kilometer stone on ODR and VR	each	575.00
	c.kms stone on SH,NH and MDR	each	675.00
	d. 5 km Stone	each	1650.00
	R.C.C. boundary stone circular 150 mm dia		
	top 200 mm dia at base 90 cm length.	each	470.00
	Precast mushroom type road divider (m 20)		
1863	30 cm height with 40 cm thick at base 20 cms.	each	800.00
1864	RCC drain with M20(Factory made)	m	1650.00
	30* 30 cm* 50 cm long 10 cm		
	a. thickness base 10 cm.		
1865	RCC slab M20 (Factory made)		
a	900* 400* 150 mm - 30T	each	843.75
b	900* 400* 100 mm - 12T	each	618.75
c	750* 400* 100 mm - 4.2 kg	each	478.13
d	700* 500* 75 mm - 2.8 kg	each	350.00

e	600* 500* 75 mm - 2.2 kg	each	350.00
f	1200* 400* 150 with reinforcement not less than 9 kg	each	1800.00
g	1500* 400* 150 with reinforcement not less than 12 kg	each	2250.00
1866	Bentonite	kg	2.00
1867	Fire wood.	qtl	500.00
1868	Diesel	lt	38.81
1869	G.I. Pipe 40 mm	m.	323.00
1870	Oil paint primer	sqm	36.00
1871	Aluminum paint	sqm	55.00
1872	White wash	kg	5.50
1873	MS sheet 16 gauge.	kg	39.50
1874	Solvent	lt	250.00
1875	Stone spall	cum	175.00
1876	Thermoplastic compound	lt	211.00
1877	Reflectorising glass beads	kg	4.00
1878	Polysafe EC primer	lt	599.00
1879	Polysafe EC 1st Coat	lt	625.00
1880	Polysafe EC 2 nd Coat	lt	740.00
1881	Polysafe Solvent	lt	181.80

CHAPTER - II

BASIC RATES OF PLANTS & MACHINERY FOR ROAD AND BRIDGE WORKS

Item No.	Machine	Activity	Output of Machine		Usage and Rates	
			Unit	Output	Unit	Rates
2101	Motor Grader 3.35 metre blade BEML	Clearing Spreading GSB WMM	cum/hour cum/hour cum/hour cum/hour	200 200 50 50	Per hour	270.00
2102	Hydraulic Excavator of 1 cum bucket	Soil Ordinary Soil Marshy Soil Unsuitable	cum/hour cum/hour cum/hour	60 60 60	Per hour	1800.00
2103	Front end loader 1 cum bucket capacity	Soil loading Aggregate loading	cum/hour cum/hour	5.00 7.00	Per hour	800.00
2104	Tipper -5 cum/7 cum	Transportation of soil, GSB, WMM, hot mix etc.	Capacity in cum	50 70	Per hour/cum	375.00
2105	Tractor(FARM)	Pulling	Capacity in HP	50	Per hour	370.00
2106	Rotavator	Scarifying	Cum/hour	25	Per hour	60.00
2107	Ripper	Scarifying	Cum/hour	60	Per hour	80.00
2108	Air Compressor 170 cfm	General Purpose	Capacity in cfm	170/250	Per hour	500.00
2109	Wet Mix Plant 60 TPH	Wet Mix	cum/hour	25	Per hour	1400.00
2110	Mechanical Broom Hydraulic/Road sweeper	Surface Cleaning	sqm/hour	1250	Per hour	410.00
2111	Bitumen Pressure Distributor	Applying bitumen tack coat	sqm/hour	1750	Per hour	760.00
2112	Emulsion Pressure Distributor	Applying bitumen tack coat	sqm/hour	1750	Per hour	640.00
2113	Drum Mix type Hot mix Plant 30 to 50 TPH Drum Mix Type Hot mix Plant 40-60 TPH	DBM/BM/SDC/Pr emix DBM/BM/SDC/Pr emix	cum/hour cum/hour		Per hour	3000 3200

2114	Paver Finisher Hydrostatic with sensor control 100 TPH	Paving of DBM/BM/SDC/Pr emix	cum/hour cum/hour	40	Per hour Per hour	2000.00
2115	Paver Finisher Mechanical 100 TPH	Paving of WMM Paving of DLC	cum/hour	40 30	Per hour	1200.00
2116	Hydraulic Chip Spreader	Surface Dressing	sqm/hour	1500	Per hour	1950.00
2117	Tandem vibratory Road Roller (8-10)	Rolling of Asphalt Surface Earth work etc	cum/hour	30	Per hour	800.00
2118	Pneumatic Road Roller	Rolling of Asphalt Surface	cum/hour	25	Per hour	700.00
2119	Pot-Hole Repair Machine or Jet patcher	Repair of pot-holes	cum/hour	4	Per hour	1190.00
2120	Bitumen Boiler Oil Fired	Bitumen Spraying	Capacity in litre	1500	Per hour	170.00
2021	Mastic Cooker	Mastic Wearing Coat	Capacity in tonne	1	Per hour	70.00
2122	Batching and Mixing Plant a) 30 cum capacity b) 15-20 cum capacity c) 175 cum	Concrete Mixing Concrete Mixing Concrete mixing	cum/hour cum/hour cum/hour	20 13 0	Per hour Per hour Per hour	1650 1370 4260
2123	Transit Mixer	Transportation of Concrete Mix to site	cum/hour cum/hour	4.5 3.0	Per hour Per hour	690 620
2124	Concrete Pump of 45 & 30 cum capacity	Pumping of concrete	cum/hour cum/hour	33	Per hour	250.00

2125	Cranes a) 80 tonnes b) 35 tonnes c) 3 tonnes	Lifting Purpose Lifting Purpose Lifting Purpose	cum/hour	25	Per hour per hour per hour	1200 800 600
2126	Concrete Bucket	For Pouring Concrete	capacity in cum	1	Per hour	60.00
2127	Piling Rig with Bentonite Pump	0.75 m dia to 1.2 m dia Boring Attachment	Rm/hour	2 to 3	Per hour	4200.00
2129	Concrete Paver Finisher with 40 HP Motor	Paving of Concrete Surface	cum/hour	20	per hour	2500.00
2130	Integrated Stone Crusher	Crushing of spalls Crushing of spalls	TPH	100 200	Per hour per hour	6000 12000
2131	Prestressing Jack with Pump & Access	Stressing of Steel Wires/Stand			Per hour	140.00
2132	Generator a) 250 KVA b) 100 KVA c) 33 KVA	Generation of Electric Energy	KVA KVA	250 100 50	Per hour per hour	700 540 300
2133	Road roller (ord) 8-10 tonnes				hr	350.00
2134	Water tanker (9 M3)				hr	320.00
2135	Needle vibrator				hr	60.00
2136	Shovel				hr	900.00
2137	Dozer-80 D				hr	2700.00
2138	Water Bowser				hr	210.00
2139	Plate compactor				hr	300.00
2140	Concrete mixture					

a	0.40/0.28 Cu.m	concrete mixing		cum/hr s	hr	150.00
2141	Concrete Joint cutting machine				hr	40.00
2142	Texturing machine				hr	140.00
2143	Pneumatic sinking plant	Pneumatic sinking of wells		1.50 to 2.00	hr	3094.00
2144	Road marking machine	Road marking		sqm./hr	hr	89.00
2145	Mobile slurry seal Equipment	mixing and laying slurry seal		sqm./hr	hr	790.00

	(A) Lime, building rubbish, manure								
	sludge, murrum excavated rock								
3065 - 72	(I) Lime, murrum, building rubbish	Cum	110.01	123.90	137.53	150.59	163.14	11.24	8.9
3073 - 80	(ii) Earth	Cum	137.51	154.87	171.91	188.24	203.92	14.05	11.2
3081 - 88	(iii) Manure or sludge	Cum	119.58	134.67	149.49	163.69	177.00	12.22	9.7
3089 - 96	(I v) Excavated rock	Cum	220.02	247.80	275.06	301.19	326.27	22.49	17.9
	(B) Sand, stone metal and soling								
3097 - 04	(I) Sand stone metal below 40 mm	Cum	132.01	148.68	165.03	180.71	195.76	13.49	10.7
3105 - 12	(ii) Stone metal 40 mm & above	Cum	142.87	160.91	178.61	195.57	211.87	14.60	11.6
3113- 20	(iii) Soling stone	Cum	155.31	174.92	194.16	212.60	230.31	15.87	12.7
3121 - 28	2 Bricks	1000	330.03	560.47	594.11	626.62	658.06	33.73	26.9
		nos							
3129- 36	3.) Tiles	1000	206.27	232.31	257.87	282.36	305.88	21.08	16.8
		nos							
3137- 44	4.) Cement, stone blocks, C.I,A.C & C.C pipes below 100 mm dia and other heavy materials	Tonne	94.29	106.20	117.88	129.08	139.83	9.64	7.7
3145 - 52	5) Steel	Tonne	94.29	106.20	117.88	129.08	139.83	9.64	7.7
3153 - 60	6) Timber	cum	132.01	148.68	165.03	180.71	195.76	13.49	10.7
3161 - 68	7) Tar, bitumen	Tonne	146.68	165.20	183.37	200.79	217.52	14.99	11.9
3169 - 76	8) Steam coal	cum	120.01	135.16	150.03	164.28	177.00	12.27	9.8
							97		
3177 - 84	9) Stoneware pipes								
	a) 100 mm dia	100m	137.51	154.87	171.91	188.21	203.92	14.05	11.2
3185 - 92	b) 150 mm dia	100m	275.02	309.75	343.82	376.48	407.84	28.11	22.4
3193 - 00	c) 200 mm dia	100m	488.93	550.66	611.24	669.30	725.05	49.97	39.9
3221 - 28	d) 230 mm dia	100m	628.63	707.99	785.88	860.53	932.21	64.25	51.3
3229 - 36	e) 250 mm dia	100m	785.78	884.99	982.35	1075.66	1165.26	80.31	64.2
3237 - 44	f) 300 mm dia	100m	1000.09	1126.35	1250.26	1369.02	1483.06	102.21	81.7
	10) R.CC, P.C Hume steel C.I pipes								
3245 - 52	a) 100 mm dia	100m	225.43	253.89	281.82	308.59	334.30	23.04	18.4
3253 - 60	b) 150 mm dia	100m	360.69	406.22	450.91	493.75	534.87	36.86	29.4
3261 - 68	c) 200 mm dia	100m	601.15	677.04	751.52	822.91	891.46	61.44	49.7
3269 - 76	d) 250 mm dia	100m	819.74	923.24	1024.80	1122.15	1215.62	67.01	67.6
3277 - 84	e) 300 mm dia	100m	1060.85	1194.78	1326.22	1452.20	1573.16	108.42	86.7

3285 - 92	f) 350 mm dia	100m	1502.87	1692.60	1878.81	2057.28	2228.64	153.60	122.9
3293 - 00	g) 400 mm dia	100m	2003.82	2256.80	2505.08	2743.04	2971.52	204.80	163.8
3301 - 08	h)450 ,500 mm dia	100m	2576.34	2901.61	3220.81	3526.76	3820.53	263.31	210.0
3309 - 16	l)600,700,750,800 mm dia	100m	3606.88	4062.25	4509.14	4937.47	5348.74	368.64	294.0
3317 - 24	k) 900,1000,1100 &1 1200mm dia	100m	4508.60	5077.81	5636.42	6171.83	6685.93	460.80	368.5
3325 - 32	l)1400,1600,1800 mm dia	100m	9017.19	10155.62	11272.84	12343.67	13371.85	921.60	737.0
3333 - 40	11)Empty cement bags	1000	3.30	3.72	4.13	4.52	4.89	0.34	0.2
		nos						0.32	
3341 - 48	12)Hollow glass block	100	3.14	3.54	3.93	4.30	4.66	0.04	0.2
		nos							

**C) BY MANUAL LABOR INCLUDING LOADING, UNLOADING AND STACKING OF LEAD
LESS THEN 0.50 KM.**

Item No.			Materials	Unit	Cost of carriage including loading unloading and stacking for first 50 metres	Cost for additional 50m or part thereof beyond 1st 50m upto 0.5 km
			Light Material			
	a)		Lime, murrum, building rubbish, earth, manure or sludge and excavated rocks			
3349 50		i.	Lime murrum and building rubbish.	1.00 Cu.m.	37.80	8.23
3351 -52		ii	Earth	1.00 Cu.m.	47.25	10.29
3353 -54		iii.	Manure and sludge	1.00 Cu.m.	41.09	8.95
3355 -56		iv.	Excavated rocks	1.00 Cu.m.	75.60	16.46
	b)		Sand, stone aggregate and soiling.			
3357 -58		i.	Sand, stone aggregate below 40 mm nominal size	1.00 Cu.m.	47.25	10.29
3359 -60		ii.	Stone aggregate 40 mm nominal size and above	1.00 Cu.m.	51.08	11.12
3361 62		iii.	Soling stone	1.00 Cu.m.	55.59	12.10
3363 -64			Bricks	1000 Nos.	88.21	19.21
3365 -66			Tiles	1000 Nos.	55.13	12.00
3367 -68			Steam coal	1 Tonne	44.10	9.60

Remarks : This rate is applicable to net quantities after deduction of prescribed percentage for voids mentioned in the specification under sub-head "Carriage of Materials".

**C) BY MANUAL LABOR INCLUDING LOADING, UNLOADING AND STACKING OF LEAD
LESS THEN 0.50 KM.**

Item No.		Materials	Unit	Cost of carriage including loading unloading and stacking for first 50 metres	Cost for additional 50m or part thereof beyond 1st 50m upto 0.5km (Y)
		Heavy Materials			
3369 –70	a)	Stone blocks, G.I. C.I. and C.C. pipes below 100 mm dia and other heavy material.	1 Tonne	34.50	5.06
3371–72	b)	Cement	1 Tonne	27.37	4.02
3373–74	c)	Steel	1 Tonne	58.78	8.63
3375–76		Timber	1 Cu.m.	37.79	5.54
3377 –78		Tar Bitumen	1 Tonne	34.50	5.06
3379–80		Stone ware pipes			
3381 –82	a)	100 mm dia S.W. Pipes	100 M	69.06	10.13
3383–84	b)	150 mm dia S.W. Pipes	100 M	113.52	16.66
3385 –86	c)	200 mm dia S.W. Pipes	100 M	158.86	23.31
3387 –88	d)	230 mm dia S.W. Pipes	100 M	203.46	29.86
3389–90	e)	250 mm dia S.W. Pipes	100 M	264.50	38.81
3391–92	f)	300 mm dia S.W. Pipes	100 M	377.86	55.45
3393–94	g)	350 mm dia S.W. Pipes	100 M	529.00	77.63
3395–96	h)	400 mm dia S.W. Pipes	100 M	661.25	97.03
3397–98	i)	450 mm dia S.W. Pipes	100 M	801.52	117.61
3399–00	j)	500 mm dia S.W. Pipes	100 M	979.63	143.75
3401–02	k)	600 mm dia S.W. Pipes	100 M	1202.27	176.42
		Concrete, R.C. Hume steel, C.I. pipes			
3403–04	a)	100 mm dia	100 M	93.24	13.68
3405–06	b)	125 mm dia	100 M	114.09	16.74
3407–08	c)	150 mm dia	100 M	131.37	19.28
3409–10	d)	200 mm dia	100 M	197.14	28.93
3411–12	e)	250 mm dia	100 M	346.51	50.85
3413–14	f)	300 mm dia	100 M	433.61	63.63
3415–16	g)	350 mm dia	100 M	619.92	90.97
3417–18	h)	400 mm dia	100 M	721.36	105.85
3419–20	i)	450 mm dia	100 M	961.82	141.14
3421–22	j)	600 mm, 700 mm, 750 mm dia x 800 mm dia.	100 M	1058.00	155.25

**C) BY MANUAL LABOR INCLUDING LOADING, UNLOADING AND STACKING OF LEAD
LESS THEN 0.50 KM.**

Item No.		Materials	Unit	Cost of carriage including loading unloading and stacking for first 50 metres	Cost for additional 50m or part thereof beyond 1st 50m upto 0.5km (Y)
		Asbestos Cement pipes			
3423-24	a)	50 MM dia	100 M	15.77	2.31
3424-25	b)	80 MM dia	100 M	43.36	6.36
3426-27	c)	100 Mm dia	100 M	61.94	9.09
3428- 29	d)	150 MM dia	100 M	86.72	12.73

Remarks: The length of SW pipes will be measured excluding of the internal depth of sockets.

MISCELLANEOUS				
Item No		Description	Unit	Rate
3430		Loading in or unloading cement from the railway wagons at siding and caring the same from or into godown adjacent to the siding including stacking the same properly into the rows up to any height as per direction of Engineer - in - charge and sweeping the floors.	t	21.30
3431	a)	Steel	t	30.15
3432	b)	C.I., G.I. or C.C. pipes up to 500 mm dia and similar heavy materials (except cement and steel).	t	19.50
3433	c)	Heavy materials where each piece or bundle crate, or case weights more than one tonne and R.C.C. C.I., and concrete pipe above 500 mm dia.	t	41.55
3434		Extra for sorting the steel size wise inside the store yard and stacking the same for measurements within the lead of 100 metres as directed by the Engineer in charge.	t	50.55

Remarks: The rates will be applicable in all whether materials are unloaded on or loaded from railway siding or directly unloaded on or loaded from transport. No deduction shall be made from carriage rates for such direct unloading or loading.

CHAPTER IV

EARTHWORKS

Item No.		DESCRIPTION	UNIT	RATE
		Cutting of trees, including cutting of trunks, branches and removal of stumps, roots, stacking of serviceable material with all lifts and up to a lead of 1000 m and earth filling in the depression/pit as per MoRT & H specification 201		
4101		Girth from 300 mm to 600 mm	each	163.00
4102		Girth from 600 mm to 900 mm	each	314.00
4103		Girth from 900 mm to 1800 mm	each	576.00
4104		Girth above 1800 mm	each	1062.00
		Clearing grass and removal of rubbish up to a distance of 50 metres outside the periphery of the area as per MoRT & H Specification 201		
4105		By Manual means	hectare	9922.00
		Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, up to a lead of 1000 m including removal and disposal of top organic soil not exceeding 150 mm in thickness as per MoRT & H Specification 201		
		By Manual Means		
4106		In area of light jungle	hectare	30214.00
4107		In area of thorny jungle	hectare	40583.00
		By Mechanical Means		
4108		In area of light jungle	hectare	33911.00
4109		In area of thorny jungle	hectare	40402.00
4110		Excavation for roadway in soil using manual means including loading in truck for carrying of cut earth to embankment site with all lifts and lead up to 1000 metres as per MoRT & H Specification 301(for cut and fill sectors necessary deduction for carriage shall be made)	cum	112.00

			Excavation for roadway in soil by mechanical means including cutting and pushing the earth to site of embankment up to a distance of 100 metres (average lead 50 metres), including trimming bottom and side slopes in accordance with requirements of lines, grades and cross sections. as per MoRT & H Specification 301	cum	111.00
4112			Excavation for roadway in ordinary rock by deploying a dozer, 80 HP including cutting and pushing the cut earth to site of embankment up to a distance of 100 metres(average lead 50 metres), trimming bottom and side slopes in accordance with the requirements of lines grades and cross sections as per MoRT & H Specification 301	cum	187.00
4113			Excavation for roadway in hard rock (requiring blasting) by drilling, blasting and breaking trimming of bottom and side slopes in accordance with requirements of lines, grades and cross sections, loading and disposal of cut road with in all lifts and leads up to 1000 metres as per MoRT & H Specification 301	cum	248.00
4114			Excavation for roadway 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 on lines, grades and cross sections, and transporting to the embankment location within all lifts and lead up to 1000 m as per MoRT & H Specification 301	cum	58.00
4115			Excavation for roadway in ordinary rock with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, transporting to embankment site within all lifts and leads up to 1000 m trimming bottom and side slopes in accordance with requirements of lines, grades and cross sections as	cum	77.00

		per MoRT & H Specification 301		
		Excavation for roadway in hard rock (blasting prohibited) with rock breakers including breaking rock, loading in tippers and disposal within all lifts and lead up to 1000 metres trimming bottom and side slopes in accordance with requirements of lines, grades and cross-sections as per MoRT & H Specification 301		
4116		Mechanized	cum	500.00
4117		Manual Method	cum	591.00
		Excavation for roadway in hard rock with controlled blasting by drilling, blasting and breaking, trimming of bottom and side slopes in accordance with requirements of lines grades and cross sections, loading and disposal of cut road with in all lifts and leads up to 1000 metres as per MoRT & H Specification 301		
4118		Mechanized	cum	301.00
4119		Excavation for roadway in marshy soil with hydraulic excavator 0.9 cum bucket capacity including cutting and loading in tippers and disposal with in all lifts and lead up to 1000 metres, trimming of bottom and side slopes in accordance with requirements of lines, grades and cross-sections as per MoRT & H Specification 301	cum	66.00
4120		Removal of unserviceable soil including excavation, loading and disposal up to 1000 metres lead but excluding replacement by suitable soil which shall be paid separately as per Clause 305 of MoRT & H Specification	cum	58.00

		Earthwork in excavation of foundation of structures of culverts, abutments piers, retaining walls etc. as per drawing and technical specification, including setting out construction of shoring and bracing removal of stumps and other deleterious matter, dressing of sides and bottom, back filling the excavation earth to the extent required and utilizing the remaining earth locally for road work up to 3.00 m depth as per MoRT & H Specification 304		
		EXCLUDING DEWATERING		
		Ordinary soil		
4121		Manual Means	cum	159.00
4122		Mechanical Means	cum	49.00
		Ordinary Rock (not requiring blasting)		
4123		Manual Means	cum	198.00
4124		Mechanical Means	cum	66.00
4125		Hard Rock (requiring blasting)	cum	360.00
		Hard Rock (blasting prohibited)		
4126		Mechanical Means	cum	704.00
		Marshy soil		
4127		Manual Means	cum	336.00
4128		Mechanical Means	cum	121.00
		Earthwork in excavation of foundation of structures of culvert abutments, piers, retaining walls etc. as per drawing and technical specification, including setting out construction of shoring and bracing removal of stumps and other deleterious matter, dressing of sides and bottom, back filling the excavation earth to the extent required and utilizing the remaining earth locally for road work upto 3 m depth as per MORTH Specification 304		
		INCLUDING DEWATERING		
		Ordinary soil		
4129		Mechanical Means	cum	51.00
		Ordinary Rock (not requiring blasting)		

4130			Mechanical Means	cum	69.00
			Hard Rock (blasting prohibited)		
4131			Mechanical Means	cum	739.00
			Marshy soil (without shoring and strutting)		
4132			Manual Means	cum	385.00
4133			Mechanical Means	cum	137.00
			Marshy soil (with shoring and strutting)		
4134			Manual Means	cum	369.00
4135			Mechanical Means	cum	129.00
4136			Removal of earth from the choked hill side drain and disposing it on the valley side manually as per MORTH Specification 3000	cum	21.00
4137			Clearance of landslides in soil and ordinary rock by a bull-dozer D 80 A-12, 180 HP and disposal of the same on the valley side as per MORTH Specification 3000	cum	57.00
4138			Clearing of landslide in hard rock requiring blasting for 50 per cent of the boulders and disposal of the same on the valley side as per MORTH Specification 3000	cum	100.00

CHAPTER V

Laterite masonry work

Item No		Description	Unit	Rate
5101		Dry stone pitching 22.5 cms thick using laterite stone of approved quality including supplying of stone and preparing surface etc. complete.	sqm	268.00
5102		Dry stone pitching 22.5 cms thick using stone available from excavation incl. Preparing the surface etc. complete.	sqm	108.00
5103		Stone pitching of 22.5 cms thick using laterite stone of approved quality in cement mortar 1:5(1 cement : 5 coarse sand) including supplying of stone and preparing surface etc. complete.	sqm	318.00
5104		Stone pitching of 22.5 cms thick cement mortar 1:5 (1 cement: 5 coarse sand) using stones available from excavation including preparing surface etc. complete.	sqm	158.00
5105		Laterite boulder masonry in mud mortar in foundation	cum	1338.00
5106		Laterite boulder masonry in cement mortar 1:3 in foundation	cum	2116.00
5107		Laterite boulder masonry in cement concrete 1:3:6(1 cement, 3 coarse sand:6 graded stone aggregate of 40mm nominal size) in foundation	cum	1997.00
5108		Extra for laterite boulder masonry in superstructure	cum	152.00

CHAPTER - VI

PRECAST CEMENT CONCRETE WORKS

Item No	Description	Unit	Rate
6101	Pre-cast cement concrete kerb-stones(factory made) of M-20 with 20 mm nominal size granitic/basaltic aggregate properly consolidated by mechanical platform and vibrators with smooth finish including fixing at site complete as per specification.		
a	Size 30 cm L x 50 cm H x 15 cm T	rm	834.00
b	Size 30 cm L x 40 cm H x 15 cm T	rm	666.00
c	Size 60 cm L x 45 cm H x 15 cm T	rm	541.00
d	Size 60 cm L x 30 cm H x 10cm T	rm	406.00
6102	Supplying and fixing of pre-cast RCC kilometer stones (factory made) confirming to IRC 26-1967 in M-20 grade with 20mm nominal size of granitic/basaltic aggregate compacted by means of mechanical vibrator curing etc. Cost including Reinforcement etc. with a smooth finish (the cost of bed concrete and excavation to be paid separately.)		
	200 mt. stones as per drawing	each	317.00
	Kilometer stones or ODR and V.R.	each	719.00
	Kilometer stone on N.H, SH and MD Roads	each	844.00
	5th km stones on NH SH and MD Roads	each	2063.00
	Supplying and fixing in position factory made Pre-cast RCC boundary stones confirming to IRC-25-1967 in concrete grade of M-20 with 20 mm nominal size granitic/basaltic aggregate compacted by means of mechanical vibrator in a smooth form of finish and 6mm dia bars in five nos. stirrups and two number inverted 'U' size bars etc. complete (Excavation, bed concrete to be paid separately)		
6103	Circular 150 mm dia at top 200 mm dia at base and 900 m length.	each	588.00

6104		Supplying and fixing in position factory made pre- cast concrete mushroom type road dividers in a grade of M-20 mm nom. Size granitic/basaltic aggregate compacted by mechanical vibrator in a form of smooth finish etc. Overall height 36 cm, over all width 40 cm and thickness standing base 20 cm	rm	960.00
		Supplying and fixing in position factory made RCC drain - sections in a grade of concrete M-20 with 20 mm nominal size course aggregate of basaltic/ granitic and compacted by means of mechanical vibrator etc. complete including providing reinforcement with 6mm dia bars@ 15 cm c/c.		
6105	a	Size-Internal clear channel 30 x30 cm length 50 cm, wall thickness 10 cm and base 10 cms	rm	1980.00
6106		Supplying and fixing of Factory made Precast RCC slabs at site in concrete Grade of M-25 with 20 mm nominal size Granitic or basaltic aggregate, consolidated by means of mechanical platform, vibration etc. with lifting hooks of M.s. 10mm bars and PVC cups including cost of reinforcement, Certificate from manufacturer shall be produced indicating grade of concrete and minimum content of steel in the product along with 5 year free replacement warranty in case of breakage complete and as directed by Engineer -in -charge.		
	a	Size 900 x 400 x 150 mm with steel reinforcement not less than 7 kg per unit -30 T capacity.	each	1013.00
	b	Size 900 x 400 x 100 mm with steel reinforcement not less than 5.0 kgs per unit -12 T capacity	each	743.00
	c	size 750 x 400 x 100 mm cm with reinforcement not less than 4.2 kg per unit	each	574.00
	d	Size 700 x 500 x 75 mm with steel reinforcement not less than 3.0 kgs per unit	each	504.00

	e	Size 600 x 500 x 75 mm with steel reinforcement not less than 2.25 kg per unit	each	420.00
	f	Size 1200 x 400 x 150 mm with reinforcement not less than 9 kg	each	2070.00
	g	Size 1500 x 400 x 150 mm with reinforcement not less than 12 kg	each	2588.00
6107		Reinforced cement concrete M 15 grade kilometre stone factory made of standard design as per IRC:8-1980 fixing in position including painting and printing etc as per MoRT & H Specification 804		
	a	5th kilometre stone(precast)	each	8077.00
	b	Ordinary kilometre stone(precast)	each	3880.00
6108		Reinforced cement concrete M 15 grade boundary pillars of (factory made)standard design as per IRC:25-1967 fixed in position including finishing and lettering but excluding painting as per MoRT & H Specification 806	each	542.00
6109		Construction of rolled cement concrete base course with coarse and fine aggregate conforming to IS:383 the size of coarse aggregate not exceeding 25 mm with minimum aggregate cement ratio 15:1 and minimum cement of 200 kg/cum, aggregate. Gradation to be as per Table 600-4 after blending, mixing in batching plant at optimum moisture content, transporting to site laying with a paver with electronic sensor, compacting with 8-10 tonnes smooth wheeled vibratory roller to achieve the designed flexural strength finishing and curing as per MoRT & H Specification 602	cum	3496.00

CHAPTER XII

DISMANTLING DEMOLISHING & REPAIRS WORK

Item No.		Description	Unit	Rate
12101		Cutting water bound macadam road and making good the same including supply of extra quantities of aggregate murrum and 6 mm stone chips basaltic.	sqm	143.00
12102		Breaking of excavated laterite rock to the required size 9150 mm to 300 mm)	cum	26.00
12103		Breaking of excavated granitic or basaltic rock to the required size 150 mm to 300 mm)	cum	70.00
12104		Breaking of excavated laterite rock of 80 mm size	cum	52.00
12105		Breaking of excavated granitic or basaltic rock of 80 mm size	cum	139.00
12106		Breaking of excavated laterite rock of 60 mm size	cum	87.00
12107		Breaking of excavated granitic or basaltic rock of 60 mm size	cum	244.00
12108		Breaking of excavated laterite rock to 40 mm to 50mmsize	cum	131.00
12109		Breaking of excavated granitic or basaltic rock to 40 mm to 50 mm size	cum	348.00
12110		Breaking of excavated laterite rock to less than 40 mm size.	cum	148.00
12111		Breaking of excavated granitic or basaltic rock to less than 40 mm size	cum	401.00

12112		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 wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 metres as per MORTH 202		
	I	By Manual means		
	a	Lime concrete, cement concrete grade M-10 and below	cum	255.00
	b	Cement concrete grade M-15 & M-20	cum	295.00
	c	Pre-stressed/reinforced cement concrete grade M-20 and above	cum	692.00
	II	By Mechanical Means		
	a	Cement concrete grade M-15 & M-20	cum	500.00
	b	Pre-stressed/reinforced cement concrete grade M-20 & above	cum	765.00
	II I	Dismantling Brick/Tile Work		
	a	In lime mortar	cum	176.00
	b	In cement mortar	cum	216.00
	c	In mud mortar	cum	160.00
	d	Dry brick pitching or brick soling	cum	152.00
	I V	Dismantling Stone Masonry		
	a	Rubble stone masonry in lime mortar	cum	192.00
	b	Rubble stone masonry in cement mortar	cum	216.00
	c	Rubble stone masonry in mud mortar	cum	176.00
	V	Dry rubble masonry	cum	168.00
	V I	Dismantling stone pitching/dry stone spalls	cum	160.00
	V II	Dismantling boulders laid in wire crates including opening of crates and stacking dismantled materials	cum	176.00
	V II I	Wood Work Wrought Framed and Fixed in Frames of Trusses upto a Height of 5 m above Plinth Level	cum	335.00
	I X	Steel Work in all types of Sections upto a Height of 5 m above Plinth Level excluding Cutting of Rivet		
	a	Including dismembering	t	788.00

		b	Excluding dismembering	t	607.00
		c	Extra over item No (v) A and (v) B for cutting rivets	each	5.00
	X		Scraping of Bricks Dismantled from Brick Work including Stacking		
		a	In lime/cement mortar	1000 nos	695.00
		b	In mud mortar	1000 nos	249.00
	X I		Scraping of Stone from Dismantled Stone Masonry		
		a	In cement and lime mortar	cum	279.00
		b	In mud mortar	cum	59.00
	X II		Scraping Plaster in Lime or Cement mortar from Brick/Stone Masonry	sqm	9.00
	X II I		Removing all types of Hume Pipes and Stacking within a lead of 1000 metres including Earthwork and Dismantling of Masonry Works as per MoRT & H specification 202		
		a	Upto 600 mm dia	m	103.00
		b	Above 600 mm to 900 mm dia	m	139.00
		c	Above 900 mm	m	238.00
12113			Dismantling of flexible pavements and disposal of dismantled materials upto a lead of 1000 metres, stacking serviceable and unserviceable materials separately as per MoRT & H specification 202		
		I	By Manual means		
		a	Bituminous Courses	cum	468.00
		b	Granular courses	cum	346.00
		II	By Mechanical Means		
		a	Bituminous courses	cum	239.00
12114			Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials upto a lead of 1000 metres, stacking serviceable and unserviceable materials separately as per MoRT & H Specification 202	cum	1076.00

12115		Dismantling guard rails by manual means and disposal of dismantled material with all lifts and upto a lead of 1000 metres, stacking serviceable materials and unserviceable materials separately as per MoRT & H Specification 202	m	52.00
12116		Dismantling kerb stone by manual means and disposal of dismantled material with all lifts upto a lead of 1000 metre per MoRT & H Specification 202	m	12.00
12117		Dismantling kerb stone channel by manual means and disposal of dismantled material with all lifts and upto a lead of 1000 metre as per MoRT & H Specification 202	m	18.00
12118		Dismantling of kilometre stone including cutting of earth, foundation and disposal of dismantled material with all lifts and lead up to 1000 m and back filling of pit as per MoRT & H Specification 202		
		5th km stone	each	315.00
		Ordinary km stone	each	166.00
12119		Removal of telephone/electric poles including excavation and dismantling of foundation concrete and lines under the supervision of concerned department, disposal with all lifts and upto a lead of 1000 metres and stacking the serviceable and unserviceable material separately as per MoRT & H Specification 202	each	102.00

CHAPTER XIII

LANDSCAPING & HORTICULTURE WORK

Item No.	Description	Unit	Rate
13101	Spreading of sludge farm yard manure or/and good earth in required thickness (cost of sludge, farm-yard manure or/and good earth to be paid separately) as per MoRT & H Specification 307	cum	40.00
13102	Grassing with Doob's grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn free from weeds and fit for moving including supplying good earth if needed as per MoRT & H Specification 307		
	a	In rows 15 cm apart in either direction	sqm 48.00
	b	In rows 7.5 cm apart in either direction	sqm 92.00
13103	Making lawns including ploughing and breaking of clod, removal of rubbish, dressing and supplying doob's grass roots and planting at 15 cm apart, including supplying and spreading of farm yard manure at rate of 0.18 cum per 100 sqm. as per MoRT & H Specification 307	sqm	103.00
13104	Maintenance of lawns or Turfing of slopes(rough grassing) for a period of one year including watering etc. as per MoRT & H Specification 307	sqm	109.00
13105	Turfing lawns with fine grassing including ploughing, dressing including breaking of clods, removal of rubbish, dressing and supplying doob grass roots at 10 cm apart including supplying and spreading of farmyard manure at rate of 0.6 cum per 100 sqm as per MoRT & H Specification 307	sqm	106.00
13106	Maintenance of lawns with fine grassing for the first year including watering, etc. as per MoRT & H Specification 307	sqm	117.00

13107		Planting permanent hedges including digging of trenches, 60 cm wide and 45 cm deep, refilling the excavated earth mixed with farmyard manure, supplied at the rate of 4.65 cum per 100 metre and supplying and planting hedge plants at 30 cm apart as per MoRT & H Specification 307		
	a	Planting Permanent hedges including digging of Trenches	rm	422.00
	b	Maintenance of hedge for one year	rm	139.00
13108		Planting and Maintaining of Flowering Plants and shrubs as per MoRT & H Specification 307		
	a	Planting flowering plants and shrubs in central verge	km	128742.00
	b	Maintenance of flowering plants and shrubs in central verge for one year	km	131813.00
13109		Planting of trees by the roadside (Avenue trees) in 0.60 m dia holes, 1 m deep dug in the ground mixing the soil with decayed farmyard/sludge manure, planting the saplings, backfilling the trench, watering, fixing the tree guard and maintaining the plants for one year as per MoRT & H Specification 307	each	710.00
13110		Supply at site of work well decayed farmyard manure, from any available source approved by the Engineer-in charge including screening and stacking as per MoRT & H Specification 308.2	cum	403.00
13111		Supply at site of work/store deoiled Neem cake duly packed in used gunny bags as per MoRT & H Specification 308.2	qtl	629.00
13112		Supplying of sludge duly stacked at site/store as per MoRT & H Specification 308.2	cum	403.00

13113		Half brick circular tree guard, in 2nd class brick, internal diameter 1.25 metre, and height 1.2 metre, above ground and 0.20 metre below ground bottom two courses laid dry, and top three courses in cement mortar 1:6 (1 cement 6 sand) and the intermediate courses being in dry honey comb masonry as per design complete.	each	1430.00
13114		Edging with 2nd class bricks, laid dry lengthwise, including excavation, refilling consolidation, with a hand packing and spreading nearly surplus earth within a lead of 50 metre	rm	29.00
13115		Making tree guard 53 cm dia and 1.3 m high as per design from empty bitumen drum, slit suitably to permit sun and air, (supplied by the department at stock issue rate) including providing and fixing 2 nos. MS sheet rings 50 x 0.5 mm with rivets, complete in all respect	each	381.00
13116		Planting trees as compensatory a forestation at the rate of 290 trees per hectare at a spacing of 6 m by grubbing and leveling the ground upto a depth of 150 mm, digging holes 0.9 m dia, 1m deep, mixing farm yard/sludge manure with soil, planting of sapling 2 m high with 25 cm dia stem, backfilling the hole and watering including maintenance for one year	hectare	125175.0 0
13117		Preparation of seed bed on previously laid top soil, furnishing and placing of seeds, fertilizer, mulching material, applying bituminous emulsion at the rate of 0.23 litres per Sq.m. and laying and fixing jute netting, including watering for 3 months all as directed by Engineer -in-charge	sqm	159.00

CHAPTER XIV ROAD WORKS

Sub-base Sub-grade and Bituminous courses

Item No.	Description	Unit	Rate
	Construction of granular sub-base by providing coarse graded granitic or basaltic material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per MoRT & H Specification 401		
14001	For Grading I Material	cum	1784.00
14002	For Grading II Material	cum	1815.00
14003	For Grading III Material	cum	1636.00
14004	Construction of inverted choke by providing, laying, spreading and compacting screening B type/coarse sand of specified grade in uniform layer on a prepared surface with motor grader and compacting with power roller etc. as per MoRT & H Specification 404	cum	1104.00
14005	Construction of embankment with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacting with vibratory roller to meet requirement of Table 300-2 as per MoRT & H specification 305	cum	210.00
14006	Construction of embankment with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacting with Static roller to meet requirement of Table 300-2 as per MoRT & H specification 305	cum	206.00
14007	Construction of embankment with approved materials deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of Table 300-2 as per MoRT & H specification 305	cum	67.00

14008		Construction of embankment with approved materials deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted with static road roller to meet requirement of Table 300-2 as per MoRT & H specification 305	cum	63.00
14009		Construction of sub grade and earthen shoulders with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table 300-2 as per MoRT & H Specification 305	cum	222.00
14010		Loosening of the ground upto a level of 500 mm below the sub grade level, watered, graded and compacted in layers to meet requirement of Table 300-2 for sub grade construction as per MoRT & H Specification 305	cum	41.00
14011		Loosening leveling 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 Table 300-2 for embankment construction as per MoRT & H Specification 305	sqm	22.00
14012		Preparation of Sub-grade by excavating earthwork in formed embankment/side shoulders to the following average depth of 22.5 cms, dressing to camber and consolidating with power road roller including making good the undulations etc and disposal of surplus earth with lead upto 50 mts and lift upto 1.5 mts in ordinary or hard soil	sqm	27.00

		Construction of unlined surface drains of average cross sectional area 0.40 sqm in soil to specified lines, grades, levels and dimensions to the requirement of Clause 301 and 309. Excavated material to be used in embankment within a lead of 50 metres (average lead 25 metres) as per MoRT & H specification 309		
14013		Mechanical Means	rm	77.00
14014		Manual Means	rm	40.00
		Construction of unlined surface drain of average cross-sectional area 0.4 sqm in ordinary rock to specified lines, grades levels and dimensions as per approved design and to the requirement of Clauses 301 to 309 Excavated material to be used in embankment at site as per MoRT & H specification 309		
14015		Mechanical Means	rm	156.00
14016		Manual Means	rm	60.00
14017		Scarifying the existing granular road by manual means surface to a depth of 50 mm and disposal of scarified material within all lifts and leads upto 1000 metres as per MoRT & H Specification 305	sqm	17.00
14018		Scarifying the existing bituminous road by mechanical means surface to a depth of 50 mm and disposal of scarified material within all lifts and lead upto 1000 metres as per MoRT & H Specification 305	sqm	3.00
14019		Providing and laying well graded granular material (gravel or murrum) passing 4.75 mm sieve for first class granular bedding for R.C.C. pipes culverts as per drawings including watering, ramming and tamping as directed by Engineer-in-charge etc. all complete	cum	230.00
		Raising side shoulders with hard murrum including spreading watering and consolidation		

14020		Murrum from borrow pit	cum	254.00
14021		using murrum from cut spoils	cum	126.00
14022		Spreading the earth/hard soil in layers not exceeding 250 mm in depth breaking clods, watering rolling each layer with half ton roller or wooden or steel hammers and rolling every third and topmost layer with power roller of minimum 8 tonne and dressing up in embankment for roads, flood banks, marginal and guide banks and filling up of ground dressing etc. complete.	cum	74.00
14023		Supplying and stacking laterite stones of size 150-200 mm(contractor's stone) for soling at site	cum	727.00
14024		Stacking of material like soling of material like soling stone, aggregates, sand boulders, laterite stone etc. for measurements.	cum	31.00
14025		Supplying and stacking of (contractor's material) Murrum at site, having P.I. Value not more than 6	cum	291.00
14026		Laying stone soiling including packing with smaller stones and consolidation with road roller including spreading, watering and consolidating of binding material Murrum or earth etc.(payment to be made for quantity of only soling stone used excluding binding material).	cum	200.00
14027		Laying and spreading 6 mm thick layer of granular material (gravel or murrum) including watering and rolling with hand roller etc. complete.	sqm	3.00

14028		Supplying of laterite stone soling of size 150-200 mm size and murrum having P.I. Value not more than 6 and laying including packing with smaller stones and consolidation with power road roller including spreading, watering and consolidation of binding material etc.(Measurements shall be considered on finished item) .	cum	934.00
14029		Supplying and stacking of granitic or basaltic stones of size 150-200 mm size for soling work(contractor's material) at site.	cum	1257.00
14030		Supplying of granitic or basaltic stone soling of size 15-20 cm and Murrum having P.I. Value not more than 6 and laying including packing with smaller stones and consolidation with power roller including spreading waters and consolidation of binding material etc. complete.(Measurements shall be considered on finished item and layer of WBM of 50/75mm thick shall be taken separately over this sub-base to obtain smooth surface, as per the directives of Engineering-charge).	cum	1476.00
		Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with 3-wheeled steel/vibratory roller 8-10 tonnes in stages to proper grade and camber, applying and brooming requisite type of screening/binding materials to fill-up the interstices of coarse aggregate, watering and compacting to the required density as per MoRT & H Specification 404		
		By Manual Means		
14031		Grade - I	cum	2283.00
14032		Grade - II	cum	2349.00
14033		Grade - III	cum	2366.00
b		By Mechanical Means		
14034		Grade - I	cum	2184.00

14035		Grade - II	cum	2250.00
14036		Grade - III	cum	2268.00
14037		Providing. Laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the material with water at OMC in mechanical mix plant carriage of mixed material by tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density as per MoRT & H Specification 406	cum	1937.00
14038		Making up loss of material/irregularities on shoulder to the design level by adding fresh approved soil and compacting it with appropriate Equipment to an average thickness of 150 mm as per MoRT & H Specification 3003	sqm	73.00
14039		Filling potholes and patch repairs with open graded premix material and removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat with bitumen emulsion @ 0.24 kg/sq.m on the sides and base of excavation as per Clause 503, back filling the pot-holes with hot bituminous content @ 1.46 kg/m ² as per clause 511, compacting trimming and finishing the surface average thickness of 50mm to form a smooth continuous surface all as per MoRT & H Specification 3004.2	sqm	124.00
		Filling of potholes with bituminous concrete and removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat with 0.24 kg/sqm on the sides and base of excavation as per Clause 503, back filling the pot-holes with hot bituminous material @ 4.59 kg/sqm to an average thickness of 40 mm as per clause 504, compacting trimming and finishing the surface to form a smooth continuous		

		surface all as per MoRT & H Specification 3004.2		
14040		Grade - I (19 mm nominal size)	sqm	346.00
14041		Grade - II (13 mm nominal size)	sqm	345.00
14042		Filling of crack using slow curing bitumen emulsion and applying crusher dust in case cracks are wider than 3 mm as per MoRT & H Specification 3004.3.3	rm	3.00
14043		Repair of Joint Grooves With Epoxy Mortar Repair of spalled joint of contraction joints, longitudinal joints and expansion joints in concrete pavements using epoxy mortar or epoxy concrete.	rm	1011.00
14044		Cleaning existing WBM road surface including removing of binding material and other foreign matter with wire brushes and small picks, sweeping with brooms or soft brushes and finally dusting with old gunny bags and/or compressed air to receive bituminous treatment etc. complete	sqm	8.00
14045		Cleaning of the existing black topped surface with brooms, soft brushes and finally dusting with old gunny bags and/or compressed air to receive bituminous treatment. etc. complete	sqm	2.00
14046		Making 50 mm x 50mm furrows, 25 mm deep, @ 45 degrees to the centre line of the road and at one metre interval in the existing bituminous wearing coarse including sweeping and disposal of excavated material within 1000 metres lead as per MoRT & H Specification clause 404.3.1.	sqm	2.00
		Providing and applying primer coat with bitumen or bitumen emulsion on prepared surface of granular base including clearing of road surface and spraying primer using mechanical means as per MoRT & H specifications clause 502.		
14047		Bitumen 80/100 @ 0.60 kg/sq.m.	sqm	36.00

14048		Bitumen 80/100 @ 1.00 kg/sq.m.	sqm	57.00
14049		Bitumen emulsion @ 0.60 kg/sq.m.	sqm	24.00
14050		Bitumen emulsion @ 1.00 kg/sq.m.	sqm	39.00
		Providing and applying tack coat with bitumen grade of 80/100 or bitumen emulsion using pressure distributor on the prepared bituminous/granular surface cleaned with mechanical broom as per MoRT & H specifications clause 503.		
14051		Bitumen 80/100 @ 0.20 kg/sq.m	sqm	13.00
14052		Bitumen 80/100@ 0.375 kg/sq.m	sqm	22.00
14053		Bitumen emulsion @ 0.20 kg/sq.m.	sqm	8.00
14054		Bitumen emulsion @ 0.375 kg/sq.m.	sqm	15.00
		Providing and laying bituminous macadam with 40-60 TPH hot mix plant producing an average output of 50 tonnes per hour using crushed aggregates of specified grading premixed with bituminous binder to the specified percentage of total mix , transported to site, with all leads laid over a previously prepared surface with sensor paver finisher to the required grade, level and alignment and rolled with smooth wheeled roller and vibratory roller to achieve the desired compaction, including providing anti-stripping agent @0.5% of bitumen content, as per MoRT & H Specifications Clause 504		
14055		Grade-I (40mm nominal size)@ 4% of Bitumen-Mix	cum	7091.00
14056		Grade-II (19mm nominal size)@ 4% of Bitumen-mix	cum	6815.00
14057		Grade-I (40mm nominal size)@ 3.3% of Bitumen-Mix	cum	6348.00
14058		Grade-II (19mm nominal size)@3.3% of Bitumen-mix	cum	6220.00

		Providing and laying bituminous macadam with 40-60 TPH hot mix plant producing an average output of 50 tonnes per hour using crushed aggregates of specified grading premixed with bituminous binder to the specified percentage of total mix , transported to site, with all leads laid over a previously prepared surface with Mechanical paved finisher to the required grade, level and alignment and rolled with smooth wheeled roller and vibratory roller to achieve the desired compaction, including providing anti-stripping agent @0.5% of bitumen content, as per MoRT & H Specifications Clause 504		
14059		Grade-I (40mm nominal size)@ 4% of Bitumen-Mix	cum	7063.00
14060		Grade-II (19mm nominal size)@ 4% of Bitumen-mix	cum	6726.00
14061		Providing, laying and rolling of built-up spray grout layer over prepared base consisting of a two layer composite construction of compacted crushed coarse aggregates using motor grader for aggregates. Key stone chips spreader be used with application of bituminous binder after each layer, and with key aggregates placed on top of the second layer to serve as a base conforming to the line, grades and cross-section specified, the compacted layer thickness being 75mm as per MoRT & H specifications clause 506..		
		Bitumen 3 kg per / sq.m @ 1.5 kg/sqm for each layer	sqm	330.00

		Providing and laying dense graded bituminous macadam with 40-60 TPH Drum Mix type HMP producing an average output of 50 tonne per hour using crushed aggregates of specified grading, premixed with bituminous binder by specified percentage of weight of total mix and filler, transporting the hot mix to work site, with all leads laying with a hydrostatic /hydraulic paver finisher with sensor to control the required grade, level and alignment, rolling with smooth wheeled, vibratory or tandem rollers to achieve the desired compaction including providing anti-stripping agent at 0.5% of bitumen content as per MoRT & H Specifications Clause 507		
14062		Grade-I (40mm nominal size) Bitumen @ 5% of weight of mix	cum	8500.00
14063		Grade-II (19mm nominal size) Bitumen @ 5% of weight of mix	cum	8552.00
		Providing and laying semi-dense bituminous concrete with 40-60 TPH Drum Mix Type HMP producing an average output of 50 tonne per hour using crushed aggregates of specified grading, premixed with bituminous binder by specified percentage of weight of total mix and filler, transporting the hot mix to work site, with all leads laying with hydrostatic/ hydraulic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction including providing anti-stripping agent at 0.5% as per MoRT & H Specifications Clause 508.		
14064		Grade-I (13mm nominal size) Bitumen @ 4.5% of mix	cum	7957.00
14065		Grade-II (10mm nominal size) Bitumen @ 5% of mix	cum	9020.00

		Providing and laying surface dressing as wearing course in single coat using crushed stone aggregates of specified size on a layer of bituminous binder laid on prepared surface and rolling with 8-10 tonne smooth wheeled steel roller as per MoRT & H specifications clause 510 .		
14066		Grade-I (19mm nominal size) & Bitumen of grade 80/100 @ 1.20 kg/m ²	sqm	90.00
14067		Grade-II (13mm nominal size) & Bitumen of grade 80/100 @ 1.00 kg/m ²	sqm	76.00
		Providing, laying and rolling of open graded premix with 40-60 TPH Drum Mix type HMP with an average output of 50 tonnes per hour , surfacing of 20 mm thickness composed of 13.2mm to 5.6 mm aggregates either using penetration grade bitumen emulsion to required line, grade and level to serve as wearing course on a previously prepared base, including transportation of material to the site with all leads and providing anti-stripping agent at 0.5% laying with hydrostatic/hydraulic sensor paver finisher and rolling with a smooth wheeled roller 8-10 tonne and vibratory roller finished to required level and grades as per MoRT & H the specifications clause 511.		
14068		Case-I Mechanical method using penetration grade bitumen and HMP of appropriate capacity not less than 50 tonne/hour Bitumen of grade 80/100 @ 14.6 kg/10 sq.m	sqm	128.00
14069		Case-II Open graded premix surfacing using cationic bitumen emulsion(M.S. or R.S.) @ 21.50 kg/10 sq.m	sqm	133.00

		Providing, laying and rolling close-graded premix/ Mixed Seal Surfacing material of 20 mm thickness composed of 11.2mm to 0.09 mm(Type-A) or 13.2mm to 0.09 mm(Type -B) aggregates using 40-60 TPH hot mix plant producing on an average output of 50 tonnes per/hour with specified grade of bitumen to the required line, grade and level to serve as wearing course on a previously prepared base, including transportation of the material to the site with all leads including providing anti -stripping agent at 0.5% and laying with hydrostatic/hydraulic sensor paver finisher and rolling with a smooth wheeled roller 8-10 tonne and vibratory roller finished to required level and grades as per MoRT & H the specifications clause 512.		
14070		Type -A Bitumen of grade 60/70 @ 22 kg/10 sq.m	sqm	167.00
14071		Type -B Bitumen of grade 60/70 @ 19 kg/10 sq.m.	sqm	144.00
		Providing and laying bituminous concrete with 40-60 TPH Drum Mix type Hot mix plant producing an average output of 50 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder to mix with filler, transporting the hot mix to work site, with all leads laying with a hydrostatic/hydraulic paver finisher with sensor control to the required grade, level and alignment, including providing anti-stripping agent @ 0.5 of bitumen content rolling with smooth wheeled, vibratory or tandem rollers to achieve the desired compaction as per MoRT & H Specifications Clause 509		
14072		Grade-I (19mm nominal size)@ 6.5% Bitumen of grade 60/70	cum	10917.00
14073		Grade-II (13mm nominal size) @ 6.5% Bitumen of grade 60/70	cum	10516.00

		Providing and laying bituminous concrete with 40-60 TPH Drum Mix type hot mix plant producing an average output of 50 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder to mix with filler, transporting the hot mix to work site, with all leads laying with a hydrostatic/hydraulic paver finisher with sensor control to the required grade, level and alignment, including providing anti-stripping agent @ 0.5 of bitumen content rolling with smooth wheeled, vibratory or tandem rollers to achieve the desired compaction as per MoRT & H Specifications Clause 509		
14074		Grade-I (19mm nominal size)@ 6.0% Bitumen of grade 60/70	cum	9970.00
14075		Grade-II (13mm nominal size) @ 6.0% Bitumen of grade 60/70	cum	9945.00
		Providing and laying bituminous concrete with 40-60 TPH Drum Mix type hot mix plant producing an average output of 50 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder to mix with filler, transporting the hot mix to work site, with all leads laying with a Mechanical paver finisher to the required grade, level and alignment, including providing anti-stripping agent @ 0.5 of bitumen content rolling with smooth wheeled, vibratory or tandem rollers to achieve the desired compaction as per MoRT & H Specifications Clause 509		
14076		Grade-I (19mm nominal size)@ 6.5% Bitumen of grade 60/70	cum	10510.00
14077		Grade-II (13mm nominal size) @ 6.5% Bitumen of grade 60/70	cum	10371.00
		Providing and laying seal coat sealing the voids in a bituminous surface laid with F.E loader with 1 Cu.m. bucket capacity to the specified levels, grade and cross fall using Type A or B seal coats as per MoRT & H specifications clause 513.		

14078		Type-A (bitumen of grade 80/100at 9.8 kg/10sqm)	sqm	63.00
14079		Type-B(bitumen of grade 80/100at 6.8 kgs/10 sqm)	sqm	42.00
		Construction of penetration macadam over prepared base by providing a layer of compacted crushed coarse aggregate using chips spreader with alternate applications of bituminous binder and key aggregates and rolling with a smooth wheeled steel roller 8-10 tonne capacity to achieve the desired degree of compaction including providing and laying seal coat sealing the voids in a bituminous surface laid with F.E loader with 1 Cu m bucket capacity to the specified levels, grade and cross fall using Type A seal coat as per MoRT & H specifications clause 513 & 505.		
		With Type -A Seal coat		
14080		50mm thick and Bitumen of grade 80/100at 5.98 kg/m2 including seal coat	sqm	426.00
14081		75mm thick and Bitumen of grade 80/100 at 7.78 kg/m2 including Seal coat	sqm	561.00
		With Type -B Seal coat		
14082		50mm thick and Bitumen of grade 80/100at 5.68 kg/m2 including Seal Coat	sqm	405.00
14083		75mm thick and Bitumen of grade 80/100 at 7.48 kg/m2 including Seal coat	sqm	541.00
14084		Supplying and mixing of anti-stripping Agent at appropriate rate to Hot-Mix items at the plant as per the directives of Engineer In charge	kg	244.00
		Extra for labour for spreading pre coated crushed stone chippings with bitumen including heating and mixing the material and handling the mixed material with all leads to the required grade and level on already prepared surface.		
14085		By Manual Means	cum	525.00

14086		Providing and laying 50mm (consolidated thickness)full grout using granitic or basaltic stone of specified grading at 6.00 cu.m. per 100 sq.m. grouting with hot bitumen straight run bitumen(or with such bituminous material of grade and type as specified by the Engineer-in-Charge)at 5.0kg. per sq. m. binding with key aggregate of granitic or basaltic stone of specified grading at 1.5 cu.m. per 100 sq.m. including Providing and laying seal coat sealing the voids in a bituminous surface laid with F.E loader with 1 Cu.m bucket capacity to the specified levels, grade and cross fall using Type A seal coat with 0.98 kg/sqm of bitumen of grade as per MoRT & H specifications clause 513.	sqm	419.00
		Filling of potholes and depressions using 20mm nominal size granitic or basaltic stone metal precoated with 53.4 kg. of bitumen 80/100 or bitumen emulsion per cu.m. of aggregate including a tack coat of bitumen emulsion at 2.5 kg/10 sq.m. on existing B.T. road surface complete.		
14087		Including supply of bitumen	cum	7190.00
		Filling of potholes and depressions using 20mm nominal size granitic or basaltic stone metal pre-coated with 53.4 kg of hot bitumen straight run(or with such bituminous material grade and type as specified by the Engineer-in-Charge) per cu.m. of aggregate including a tack coat of hot bitumen emulsion at 2.50 kg/10 sq.m. on existing B.T. road surface complete.		
14088		Including supply of bitumen emulsion	cum	5968.00
14089		Removal of pot holes and depressions by laying granitic or basaltic stone of 20mm/10mm/6mm nominal size in layers as per requirements including grouting each layer with bitumen 80/100 or bitumen emulsion at 68 kg/cu.m. average on existing B.T. road surface including rolling etc complete as	cum	4332.00

		specified by the Engineer-in-Charge.		
14090		Removal of pot holes and depression by laying granitic or basaltic stone of 40mm/20mm/10mm/6mm nominal size in layer as per requirement including 80/100(or such bitumen material of grade and type as specified by the Engineer-in-Charge) at 68 kg/cum.(Average) on existing road surface including rolling etc. complete as per specification including cost of bitumen.	cum	5410.00
14091		Removal of pot holes by Bituminous Macadam/Bituminous concrete with 40-60 TPH hot mix plant producing an average output of 50 tonnes per hour using crushed aggregates of specified grading premixed with bituminous binder to the specified percentage of total mix , transported to site, with all leads laid over a previously prepared surface to the required grade, level and alignment and rolled with smooth wheeled roller to achieve the desired compaction, including providing anti-stripping agent @0.5% of bitumen content, as per MoRT & H Specifications Clause 504	cum	7032.00
14092		Cutting bituminous road and making good the same including supply of extra quantities of aggregate, murrum grit and bitumen required (bitumen shall be straight run bitumen 80/100 or with such bituminous material of grade and type as specified by the Engineer-in-charge)including supplying of bitumen.	sqm	411.00

14093	<p>Providing and laying 25 mm thick Bituminous/Asphaltic concrete with 40-60 batch type HMP producing an average output of 50 tonnes per hour using crushed aggregates of specified grading Premixed with bituminous binder at 6.5 % by weight of total mix and filler incl. Providing anti-stripping agent. @ 0.50% of bitumen content of, transporting the hot mix to work site with all leads and applying a tack coat @f 3.75 kg/10sq.m. with hot bitumen of 80/100 and laying with hydrostatic/hydraulic power finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory or tandem rollers to achieve the desired compaction as per MoRT & H specifications clause 509 and 503</p>	sqm	298.00
14094	<p>Providing and laying 25 mm thick Bituminous/Asphaltic concrete with 40-60 batch type HMP producing an average output of 50 tonnes per hour using crushed aggregates of specified grading Premixed with bituminous binder at 6.5 % by weight of total mix and filler incl. Providing anti-stripping agent. @ 0.50% of bitumen content of, transporting the hot mix to work site with all leads and applying a tack coat @f 3.75 kg/10sq.m. with hot bitumen of 80/100 and laying with Mechanical Paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory or tandem rollers to achieve the desired compaction as per MoRT & H specifications clause 509 and 503</p>	sqm	288.00

14095		Providing and laying 25 mm thick Bituminous/Asphaltic concrete with 40-60 batch type HMP producing an average output of 50 tonnes per hour using crushed aggregates of specified grading Premixed with bituminous binder at 6.0 % by weight of total mix and filler incl. Providing anti-stripping agent.@ 0.50% of bitumen content of, transporting the hot mix to work site with all leads and applying a tack coat @f 3.75 kg/10sq.m. with hot bitumen of 80/100 and laying with hydrostatic/hydraulic power finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory or tandem rollers to achieve the desired compaction as per MoRT & H specifications clause 509 and 503	sqm	275.00
14096		Single coat surface dressing with paving bitumen (straight run or with such bituminous materials grade and type as specified by the Engineer-in-charge) using 11 kg./10 sq.m of bitumen with 1.00 cu.m. of stone aggregate 10 mm nominal size(100 percent passing though 12.30 mm sieve) per 100 sq.m. road surface complete including cost of bitumen on existing.	sqm	95.00
		Providing and laying 20mm thick premix bituminous carpet surface by using mini hot mix plant at site with 2.7 cu.m. of stone aggregate comprising 65% of 12 mm size (passing 20 mm sieve and retained on 10 mm sieve) 35% of 10 mm size(passing 12.5 mm sieve and retained 6.8 mm) per 100 sq.mt. 53.4 kg (average) of cationic type emulsion (or such bituminous material of grade and type as specified by the Engineer-in-charge) per cu.m. of stone aggregate including all carriages.		
14097		On new road surface including tack coat of bitumen emulsion of approved quality at 2.50kg/10 sq.m. complete.	sqm	162.00

14098		Including tack coat of bitumen emulsion of approved quality @ 3.75 kg/10 sq.m. on new road surface complete.	sqm	169.00
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.		Providing 20mm thick premix bituminous carpet surface using mini hotmix plant at site with 2.7 cu.m. of stone aggregate comprising(stone chipping 13.2 mm size, passing 22.4 mm sieve and retained on 11.2 mm sieve@0.18 cu.m./ 10 sq.m. are and stone chipping-11.2 mm size, passing 13.2mm sieve and retained On 5.6 mm sieve@ 0.09 cu.m./10 sq.m.)of hot bitumen straight run 80/100 at 14.6kg/10 sq.m. area(or such bituminous material of grade and type as specified by the Engineer-in-charge) per cu.m. of stone aggregate including all carriages.		
14099		On existing black top surface including tack coat of hot bitumen of approved quality at 2.5 kg/10 sq.m. complete.	sqm	153.00
14100		Including tack coat of hot bitumen of approved quality @ 3.75 kg/10 sq.m. on new road surface complete.	sqm	160.00
		Cutting of road surface for trenches and disposing the excavated stuff including barricading and lighting guarding and stacking serviceable and unserviceable material in		
14101		WBM road	sqm	41.00
14102		Asphalt road	sqm	86.00
		Provision of Hump type speed breakers for general traffic at preferred crossing speed of 25 km/h and above as per standard having and specification in IRC 99-1998. The speed breakers shall be formed by placing premixed bituminous macadam and a layer of asphaltic concrete carpet (hot mix) after the surface is indented and tack coat applied to the location where required.		
14103		For General traffic of 25 Kmph	rm	1564.00
14104		For Heavy traffic of above 25 Kmph.	rm	1930.00

14105		Plain cement concrete 1:3:6 mix with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days as per MoRT & H Specification 408	cum	3846.00
		Laying reinforced cement concrete pipe NP3/ pre-stressed concrete pipe 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 MoRT & H Specification 2900. (Pipes will be supplied by the department free of cost)		
14106		1000 mm dia	rm	472.00
14107		1200 mm dia	rm	566.00
14108		1400 mm dia	rm	660.00
14109		1600 mm dia	rm	754.00
14110		1800 mm dia	rm	787.00
		Laying reinforced cement concrete pipe NP4/ pre-stressed concrete pipe 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 (Pipe will be supplied by the department free of cost)		
14111		1000 mm dia	rm	1229.00
14112		1200 mm dia	rm	1461.00
14113		1400 mm dia	rm	1621.00
14114		1600 mm dia	rm	1805.00
14115		1800 mm dia	rm	1989.00
		Laying and fixing with collars light duty non-pressure NP 2 class R.C.C. pipes with cement mortar in proportion 1:2 (1 cement : 2 fine sand) in joints including cost of jointing material etc. complete.		
14116		300 mm dia pipe	m	53.00
14117		400 mm dia pipe	m	72.00
14118		600 mm dia pipe	m	96.00
14119		900 mm dia pipe	m	149.00
			m	

		Laying and fixing with flush heavy duty non pressure NP3 class R.C.C. pipe with cement mortar in proportion 1:2 (1 cement : 2 fine sand) in joints including cost of jointing materials etc. complete.		
14120		600 mm dia pipe	m	140.00
14121		900 mm dia pipe	m	248.00
14122		1200 mm dia pipe	m	337.00
14123		1400 mm dia pipe	m	437.00
14124		1600 mm dia pipe	m	538.00
14125		Supplying and fixing of cautionary/warning sign boards with reflective tape fixed on M.S. angles, tees as per drawing confirming to IRC-67-1977 etc. complete.	each	2848.00
14126		Supplying and fixing mandatory/regulatory sign board with reflective taps and fixing on M.S. angles, tees as per drawing confirming to IRC 67-1977 etc. complete.	each	2623.00
14127		Providing and fixing of retro-reflectorised cautionary, mandatory and Informatory sign as per IRC:67 made of high Intensity grade sheeting vide clause 801.3, fixed over aluminum sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing. 60 cm Equilateral Triangle Board	each	3929.00
14128		Providing and fixing of retro-reflectorised cautionary, mandatory and Informatory sign as per IRC:67 made of high Intensity grade sheeting vide clause 801.3, fixed over aluminum sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing.60 cm Circular Board	each	4058.00

		Providing and fixing Informatory/Direction Sign Boards with any shape and size made out of 14 gauge (2.0 mm) thick aluminum sheet 3mm thick Aluminum Composite panel bonded with white/green/blue (as required) fully covered Retro Reflective sheeting of (CRG) / Ultralite Grade(high intensity) Engineering Grade(EG), having pressure sensitive adhesive and a Retro Reflective cut out border and messages in white pressure sensitive adhesive fixed on M.S. ANGLE 65x65x6mm 3.65(iron post) painted with one coat of primer and two coats of finish paint having black and white bands firmly fixed to ground by means of properly designed foundation with M15 grade cement concrete 45cmx45cmx60cm,60 cm below ground level as per approved drawing.		
14129		Retro reflective sheeting of crystal grade(CRG)	sqm	17101.00
14130		Ultralite grade (Higher intensity)	sqm	13471.33
14131		Engineering Grade (EG)	sqm	9115.33
14132		Providing and fixing information boards of size (1.5x1.00)m consisting of angle iron post of (75x75x6mm) fixed in cement concrete M15 grade(45x45x60)cm ,60 cm below ground two supporting 1.5 m length of ISA (30x30x5mm) and mild steel plate of (1.5x1.0)m,3mm thick fixed to the angles by welding/bolting etc. including painting with synthetic enamel paint two coats of approved brand and shade over single coat of primer, including lettering transportation etc. complete.	each	5533.00
14133		Construction of Median and Island above road level with approved material deposited at site from roadway cutting and excavation for drain and foundation of other structures, spread, graded and compacted as per MoRT & H Specification 407	cum	189.00
14134		Construction of median and Island above	cum	460.00

		road level with approved material brought from borrow pits, spread, sloped and compacted as per MoRT & H specification 407		
14135		Construction of footpath/separator by providing a 150 mm compacted granular sub-base as per clause 401 and 25 mm thick cement concrete grade M15, overlaid with precast concrete tiles in cement mortar 1:3 including provision of all drainage arrangements but excluding kerb channel as per MoRT & H Specification 409	sqm	779.00
14136		Painting two coats after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces as per MoRT & H Specification 803	sqm	45.00
14137		Providing and applying two coats of ready mix paint of approved brand on steel surface after thorough cleaning of surface to give an even shade as per MoRT & H Specification 803	sqm	39.00
		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 surface, including cleaning the surface of all dirt, dust and other foreign matter demarcation at site and traffic control as per MoRT & H Specification 803		
14138		Over 10 cm in width	sqm	73.00
14139		Upto 10 cm in width	sqm	65.00
		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 surface, including cleaning the surface of all dirt, dust and other foreign matter demarcation at site and traffic control as per MoRT & H Specification 803		
14140		Over 10 cm in width	sqm	53.00
14141		Upto 10 cm in width	sqm	50.00

14142		Providing and laying of hot applied thermoplastic compound 2.5 mm thick including Reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. The finished surface to be level uniform and free from streaks and holes as per MoRT & H Specification 803	sqm	455.00
14143		Providing and fixing 40 mm dia G.I. Pipe railing in 3 rows completes with G.I. Fittings incl. Painting of pipes and fittings with white paint of approved quality incl. A priming coat with a ready mixed primer for new works incl. Providing R.C.C. 1:2:4 rail posts of size 0.15 x 0.15 x 1.00 M with base of 0.25 x 0.25 x 0.3 m at every 2 mts intervals and double rail post with a bar drawings inclusive of cost of reinforcement etc. all complete including white wash washing of rail posts etc. all complete.	rm	1350.00
		Providing and fixing weep holes with rigid PVC make laid in position with a required slope and level while laying pipes of approved the concrete of retaining wall, wing wall and earth retaining structure complete as directed by the Engineer in charge		
14144		A) 110 mm dia	rm	233.00
14145		B) 75 mm dia	rm	116.00
14146		Providing and erecting the Structural steel three beam crash barriers consisting of M.S post of 150 x75 mm size with 2.35m in length with M.S. channel section spacers block of same 54.6 cm long centre to centre including M.S Corrugated plate of 3mm thick spacers block channel and to channel post ,all steel section including bolts and nuts treated with galvanizing by hot dip process filling the post in cement concrete block of 1:2:4 mix/M15 of size 50x50 x120 cm etc. complete as per clause 810 of MoRT & H specification.	rm	4652.00

14147		Providing and laying 12 mm thick mastic asphalt wearing course with paving grade bitumen meeting the requirements given in table 500-29, prepared by using mastic cooker and laid to required level and slope after cleaning the surface, including providing antiskid surface with bitumen pre-coated fine grained hard stone chipping of 9.5 mm nominal size at the rate of 0.005cum per 10 sqm and at an approximate spacing of 10 cm center to center in both directions, pressed into surface when the temperature of surfaces is not less than 100C, protruding 1 mm to 4 mm over mastic surface, all complete as per clause 515.	sqm	306.00
14148		Supplying and installation of flexible rubber delineators ,with size at the top is 80mm dia and having height of 870mm and base dia 190mm with a provision for fixing with 3 nails ,and with 3 bands of 60mm reflective sheeting 50mm from the top with a gap of round 50mm.	each	770.00
		Providing and laying non-pressure NP2 class (light duty) RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints, etc. complete.		
14149		A) 100 mm dia RCC pipe	rm	614.00

14150		B) 250 mm dia RCC pipe	rm	1063.00
14151		Providing and laying 60 mm thick factory made cement concrete interlocking paver block of M30 grade made by heavy duty block making machine with strong vibratory compaction using 3 ton roller and of approved size and design / shape laid in 50 mm thick compacted bed of course sand, filling the joints with coarse sand, etc. all complete as per the direction of Engineer in charge.	sqm	693.00
		Additional cost for coloured paver blocks		
	a	Red / Black	sqm	30.00
	b	Brown	sqm	50.00
	c	Yellow	sqm	75.00
	d	Orange	sqm	150.00
14152		Providing and laying 80 mm thick factory made cement concrete interlocking paver block of M40 grade made by heavy duty block making machine with strong vibratory compaction using 3 tonne roller and of approved size and design / shape laid in 50 mm thick compacted bed of course sand, filling the joints with coarse sand, etc. all complete as per the direction of Engineer in charge. .	sqm	803.00
		Additional cost for coloured paver blocks		
	a	Red / Black	sqm	30.00
	b	Brown	sqm	50.00
	c	Yellow	sqm	75.00
	d	Orange	sqm	150.00
14153		Providing and laying 100 mm thick factory made cement concrete interlocking paver block of M 50 grade made by heavy duty block making machine with strong vibratory compaction and of approved size and design / shape laid in 50 mm thick compacted be of course sand. filling the joints with course sand, etc. all complete as per the direction of Engineer in charge. .	sqm	1041.00

14154		Bored cast-in-situ M35 grade R.C.C. pile excluding reinforcement complete as per drawing and technical specifications and removal of excavated earth with all lifts and lead upto 1000 m.	rm	10451.00
14155		Conducting low strain pile integrity test on R.C.C. bored piles foundations using pile integrity tester equipment manufactured by Pile Dynamics Inc. of USA or TOM of Netherlands conforming to ASTHD 5882.	each	15274.00
14156		Providing and applying Synthetic elastomeric coating cum paint Poly-safe or equivalent ready to use for bridge structures in saline atmosphere as to avoid salt concentration from marine environment, ultra-violet effects of the sun rays, fungus development and to protect the reinforcement from marine atmospheric effects in 3 coats including sand blasting, cleaning the concrete surfaces brushing and applying the polymer based Poly-safe or equivalent chemical coating with PRIMER, 1ST COAT and SECOND COAT at an interval of 24 hrs in approved shade and colour including scaffolding etc, (as directed by the Engineer-in-charge) complete with 5 yrs guarantee.	sqm	531.00
14157		Providing and laying filter media with Granular materials crushed stone aggregates satisfying the requirement As Per Clause 2504.2.2 of MoRT & H Specification to a thickness of 500 mm laid horizontally in layers of 250mm thick and compacted to firm condition etc. complete as direction by Engineer-in-charge.	cum	850.00

14158		Steel work welded in built up section and framed work including cutting, hoisting, fixing in position for steel grating of size 2.00 m x 0.90 m with R.S. joists, Tees, angles, flats and channels of TATA/SAIL/VIZAG make only including applying priming coat of red lead paint and two or more coats with superior quality ready mixed paint for steel work of approved brand and Manufacture in all shades on new work to give an even shade.	each	13452.00
14159		Steel work welded in built up section and framed work including cutting, hoisting, fixing in position for steel grating of size 2.00 m x 1.10 m with R.S. joists, Tees, angles, flats and channels of TATA/SAIL/VIZAG make only including applying priming coat of red lead paint and two or more coats with superior quality ready mixed paint for steel work of approved brand and manufacture in all shades on new work to give an even shade.	each	15795.00
14160		Providing and Fixing Road Pavement Marker 290 series Technology micro prismatic lense wet weather visibility high reflective surface area 13 sq. cm. Retro Reflective surface area in each lense Abrasion resistance high due to creamer coating on lense including fixing to road using special bituminous adhesive no dust accumulation on lense confirming to ASTM. D4280 type II.	each	209.00
14161		Providing & fixing ,mechanically woven, double twisted, hexagonal wire mesh Zinc+PVC coated Gabion boxes ,mesh opening 10 x 12 : wire dia2.7/3.7mmselvedge wire 3.4/4.4 mm Maccaferri or equivalent with provision of partition at every one metre interval and properly packed with approx. 150mm size boulder, including all leads and lift as per direction of Engineer in charge	cum	2634.00

14162		Providing & fixing ,mechanically woven, double twisted, hexagonal wire mesh Zinc+PVC coated .3mm Gabion Mattress, mesh opening 10x12:wire dia 2.7/3.7mm selvedge wire 3.4/4.4 mm Maccaferri or equivalent with partition at every one metre interval and properly packed with approx. 150mm size boulder, including all leads and lift as per direction of Engineer in charge	sqm	1261.00
14163		Providing & laying non woven thermally bonded geo-textile manufactured using polypropylene continuous filaments coated with polypropylene without using any glues or chemical binders TERRAM 1000 or equivalent (Material should conform to detailed specifications and drawing)	sqm	78.00
14164		Providing & laying high strength geo-grids, of Maccaferri or equivalent make having planar structure consisting of a mono axial array of composite geo-synthetic strips each single longitudinal strip shall have a core of high tenacity polyester yarns tendons encased in a polyethylene sheath , the single strips are connected by non resisting cross laid polyethylene strip to give grid like shape to the composite		
		paralink 50	sqm	164.00
		paralink 100	sqm	188.00
		paralink 150	sqm	245.00
		paralink 200	sqm	265.00
		paralink 250	sqm	330.00
		paralink 300	sqm	389.00
14165		Providing Reinforced soil wall with Gabion facia and tail of Maccaferri or equivalent make as secondary reinforcement made of mechanically woven, double twisted, hexagonal shaped wire mesh ,mesh type 10x12, wire dia id/od 2.7/3.7mm zinc+pvc coated or paralink geogrids and stone filling of gabion facia of size in the range 150mm 250mm strong hard durable having good crushing strength and preferably having flat face .3 (Material should conform to detailed specifications	cum	3552.00

		and drawings)		
14166		Milling the road surface in Bituminous pavement upto a depth of 55mm including disposing off the excavated stuff within 2km lead and spreading the same or stacking as directed including line & level, compacting with power roller etc, as directed by Engineer in -charge.	sqm	37.00