

**D. P. R. FOR DEVELOPMENT OF NANDED CITY ROADS UNDER JNNURM
RATE ANALYSIS**

PART - 1. PRELIMINARY WORKS

Sl. No.	Item No.	Item Description	Unit	Rate in (Rs.)
1	1.01	Clearing and grubbing road land including uprooting all vegetation, grass, bush shrubs, saplings and trees of girth upto 300 mm, removal of stumps of trees of girth of all sizes including removing stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable materials as directed by Engineer with all leads and lifts etc. complete as per specification.	Ha	16461
		Ref: Sr.No. 1.01 Of RA as per MORT&H		
2	1.02	Installation of a steel portable barricade with horizontal rail 300 mm wide, 2.5 m in length fitted on a 'A' frame made with 45 x 45 x 5 mm angle iron section, 1.5 m in height, horizontal rail painted (2 coats) with yellow and white stripes, 150 mm in width at an angle of 45, 'A' frame painted with 2 coats of yellow paint, complete as per IRC:SP:55-2001	Nos	1522.00
		Ref: Sr.No. 1.02 Of RA as per MORT&H		
3	1.03	Supplying and fixing the necessary sign boards as per site requirements and as directed by Engineer.		
		Retro-reflective		
	a)	Information sign boards	No.	10500.00
		As per DSR 2005-06(Page No.183 Sr.No. 772)		
		Ref: Sr.No. 1.03a) Of RA as per MORT&H		
	b)	Cautionary sign board	No.	3675.00
		As per DSR 2005-06(Page No.180 Sr.No. 766)		
		Ref: Sr.No. 1.03b) Of RA as per MORT&H		
	c)	Mandatory and directional sign boards	No.	3439.00
		As per DSR 2005-06(Page No.181 Sr.No. 769)		
		Ref: Sr.No. 1.03c) Of RA as per MORT&H		
	d)	Delineators	No.	701.00
		Ref: Sr.No. 1.03 d) Of RA as per MORT&H		
	e)	Traffic cones, etc.	No.	661.00
		Ref: Sr.No. 1.03 e) Of RA as per MORT&H		
	f)	Blinkers	No.	9600.00
		Lumpsum		
4	1.04	Dismantling of structures and sorting of the dismantled material, disposal of unserviceable material and stacking serviceable materials as directed by Engineer with all leads and lifts etc. complete as per specification and as per site requirements.		

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Sl. No.	Item No.	Item Description	Unit	Rate in (Rs.)
		a) Dismantling bricks / stone masonry, PCC Kerb median	Cum.	138.00
		Ref: Sr.No. 1.04 a) Of RA as per MORT&H		
		b) Dismantling of Concrete Structures	Cum.	144
		Ref: Sr.No. 1.04 b) Of RA as per MORT&H		
		Soil Investigation		
5	1.05	Taking one 100 mm bore hole at each foundation location of ROB proper and one each in approaches on each side by using double tube boring machine and carrying out tests to determine Engineering Properties of soil and to ascertain rock levels / qualities of strata at each location and submitting the soil investigation report with necessary interpretation of the test results as directed by Engineer and as per specification.		
		a) Boring in all strata excluding hard rock.	Rmt.	1474.00
		As per DSR 2005-06(Page No.213 Sr.No. 16)		
		As per Rate Analysis of MORT&H (Ref: Sr.No. 1.05 a) Of RA as per MORT&H)		
		b) Drilling in hard rock.	Rmt.	1950.00
		As per DSR 2005-06(Page No.213 Sr.No. 18)		
		As per Rate Analysis of MORT&H (Ref: Sr.No. 1.05 b) Of RA as per MORT&H)		

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PART - 2. FOUNDATIONS & SUBSTRUCTURES

Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
1	2.01	Excavation for foundation of structures and staircase including existing pavement surfaces including dewatering, shoring and strutting as necessary and backfilling the trenches with suitable excavated material in layers of 15 to 20 cms and disposing of remaining unsuitable material with all lifts and lead as directed and preparation of bed for concreting of foundations etc. complete as directed by Engineer and as per specification.		
	i)	a) Soils of all types upto 3m depth including ordinary earth, sand dry / wet soil, marine clay, boulders, kankars, soft murrum, hard murrum, etc. Ref: Sr.No.2.01 Of RA as per MORT&H	Cum.	85
		b) Soils of all types greater than 3m depth Ref: Sr.No. 2.01 Of RA as per MORT&H	Cum.	95
	ii)	Excavation foundation of structure in rock by wedging / chiselling / controlled blasting or line drilling and mechanical means including shoring and struting as necessary and disposing of excavated stuff as directed or stacked etc.complete by engineer with all leads and lifts . As per DSR 2005-06(Page No.195 Sr.No. 825) As per Rate Analysis of MORT&H (Ref: Sr.No. 2.01 Of RA as per MORT&H)	cum	426
2	2.02	Providing Trial Pits to find out the utilities in the proposed alignment The Location details shall be submitted by the Contractor as directed by the Engineer.		
		a) Soils of all types upto 3m depth including ordinary earth, sand dry / wet soil, marine clay, boulders, kankars, soft murrum, hard murrum, etc. Ref: Sr.No. 2.01 Of RA as per MORT&H	cum	85
		b) Soils of all types greater than 3m depth Ref: Sr.No. 2.01 Of RA as per MORT&H	cum	95
3	2.03	Providing and laying in situ M15 grade bedding concrete in foundation ,annular fillingbelow pile cap including dewatering, shuttering, mixing in mechanised batch mix plant, placing ,compacting, curing etc. complete true to level and position as directed by Engineer and as per specification. Ref: Sr.No. 2.03 Of RA as per MORT&H	Cum.	1871
4	2.04	Providing and casting in situ controlled cement concrete M 30 for RCC bored pile including necessary dewatering, formwork, mixing in mechanised batch mix plant, transporting, placing,compacting, vibrating,curing and finishing including all leads & lifts Including Chipping and dressing of the RCC piles upto cut-off level (Min. 1D) including cleaning of reinforcement and removal of dismantled materials (Excluding Reinforcement) complete as per detailed specifications. Note: 10% additional cement to be added over and above the quantities required as per designs.		
		1.0 m Dia Pile	Rmt	6212
		1.2 m Dia pile	Rmt	6985
		Ref: Sr.No. 2.04 Of RA as per MORT&H		

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Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
5	2.05	Carrying out load test on any pile as per standard procedure laid down in the IS:2911 specification including construction of test cap, dismantling the cap after test and cleaning the site and maintaining complete records of load settlement as directed by Engineer and as per specification, and submission of records.		
		a) Initial Load Test on test pile for 2.5 times the design load specified in drgs. in non-working areas, in the vicinity of of the bridge site, including cost of test pile. Ref: Sr.No. 2.05 Of RA as per MORT&H	MT	312
		b) Routine pile load test on working piles for 1.5 times the design load specified in drgs. Ref: Sr.No. 2.05 Of RA as per MORT&H	MT	300.00
		c) Horizontal pile load test on working piles for 1.5 times the design load specified in drgs. Ref: Sr.No. 2.05 Of RA as per MORT&H	MT	5000.00
6	2.06	Providing and laying 600 mm thick filter media behind abutment as per detailed drawing & specifications complete. Ref: Sr.No. 2.06 Of RA as per MORT&H	cum	333.00
7	2.07	Providing and laying in-situ RCC M30 grade concrete in foundations of piers, abutments and staircase etc. including centering, shuttering , mixing in mechanised batch mix plant, compaction, curing and dewatering if necessary, excluding reinforcement as per specification and as directed by Engineer. Ref: Sr.No. 2.07 Of RA as per MORT&H	Cum.	2480.00
8	2.08	Providing and laying M30 grade cement concrete for cast-in-situ piers, abutments, Retaining Wall ,dirt wall and column of staircase etc. as per approved design and drawings, with necessary centering, shuttering with asthetic finishes mixing in mechanised batch mix plant, scaffolding, transporting, placing, compacting by mechanical vibrators, finishing, curing etc. complete excluding reinforcement as directed by Engineer and as per specification. Ref: Sr.No. 2.08 Of RA as per MORT&H	Cum.	3844.00

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Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
9	2.09	Providing and laying in situ controlled M30 grade cement concrete for RCC caps and pedestal over piers and abutments including necessary scaffolding formwork, centering, mixing in mechanised batch mix plant, transporting, placing, compacting by mechanical vibrators, finishing and curing etc. complete excluding reinforcement, as directed by Engineer and as per specification.	Cum	3939.00
		Ref: Sr.No. 2.09 Of RA as per MORT&H		
10	2.10	Providing & fixing in position HYSD Fe415 steel bars of various diameters for all RCC works in Piles, Piles Caps ,well steining,well curb,foundations ,Pier, Pier Cap, Abutment wall, Dirt wall, Pedestals as per detailed design & drawings and schedule including cutting, bending, hooking the bars, binding with 18 SWG wires or tack welding (only for piles) and supporting as required with all lifts and leads etc. complete including all laps, chairs, spaces etc. and cost of all labour, materials, tools, plants, equipments etc. all complete as directed by Engineer and as per specification.	MT	34042.00
		As per DSR 2005-06(Page No.205 Sr.No. 874)		
		Ref: Sr.No. 2.10 Of RA as per MORT&H		
11	2.11	Providing and applying one coat of zinc-rich epoxy primer and two coats of coal tar epoxy paint of reqd. thickness as per specifications to all concrete surfaces in contact with earth in foundation and substructure including all cost of material, labour, transportation and preparing the surfaces by cleaning, washing, brushing, sand / grit blasting etc. complete as directed by Engineer and as per specification. (Paint shall be got tested from approved laboratory).	Sqm.	117.00
		Ref: Sr.No. 2.11 Of RA as per MORT&H		
12	2.12	Providing and applying one coat Epoxy Phenolic primer of DFT 50 micron and two coats of Epoxy Phenolic coating of DFT 100 microns each or any other equivalent epoxy coating system to all concrete surfaces exposed to atmosphere in substructure including cost of material, labour, transportation, scaffolding and preparing the surfaces by cleaning, washing, brushing, sand / grit blasting etc. complete and as directed by Engineer and as per specification. (Paint shall be got approved from Engineer and tested from approved laboratory).	Sqm.	132.00
		Ref: Sr.No. 2.12 Of RA as per MORT&H		
13	2.13	Dewatering including diversion of stream providing cofferdam bunds etc. as may be necessary for foundation and other parts and bailing out and pumping out water below the actual initial natural water level for start of that particular component till completion of bridge etc. complete as directed by Enginner		
		As per DSR 2005-06(Page No.196 Sr.No. 831)		
		non perenial river	cum	191
		perenial river	cum	445

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Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
14	2.14	Sinking of well foundation in all types of soil and murum etc. which can be removed by grabbing and chiselling with large scale dewatering or in proper setting of wells including all method except pneumatic sinking . Diameter = 10 m and Depth = 20 m	Rmt	124715
		As per DSR 2005-06(Page No.197 Sr.No. 838) Ref: Sr.No. 2.14 Of RA as per MORT&H		
15	2.15	Providing and laying in situ M20 cement concrete in well steining including compacting by vibrating , rodding ,finishing and curing etc complete(excluding reinforcement)as directed by engineer	cum	2185
		Ref: Sr.No. 2.15 Of RA as per MORT&H		
16	2.16	Providing and laying in situ M25 reinforced cement concrete well curbs including necessary shuttering compacting by vibrating finishing and curing etc. complete (excluding reinforcement) as directed by Engineer	cum	2858
		Ref: Sr.No. 2.16 Of RA as per MORT&H		
17	2.17	Providing fabricating and setting out mild steel cutting edges for reinforced cement concrete well curbs as shown on the detailed drawing etc. complete as directed by Engineer	MT	35103
		As per DSR 2005-06(Page No.197 Sr.No. 838) Ref: Sr.No. 2.17 Of RA as per MORT&H		
18	2.18	Providing and laying in situ M30 reinforced cement concrete well caps / pile caps including necessary shuttering compacting by vibrating finishing and curing etc. complete (excluding reinforcement) as directed by Engineer	cum	2476
		Ref: Sr.No. 2.18 Of RA as per MORT&H		
19	2.19	Providing and filling in well with sand /rubble and sand /shingle and sand including compaction between the top plug and bottom plug and in footpath etc.complete as directed by engineer	cum	266
		Ref: Sr.No. 2.19 Of RA as per MORT&H		
20	2.20	Providing and laying in situ M15 reinforced cement concrete for the bottom plugs of well in dry under water including compacting by vibrating finishing and curing etc. complete (excluding reinforcement) as directed by Engineer	cum	2025
		Ref: Sr.No. 2.20 Of RA as per MORT&H		
21	2.21	Providing and laying in situ M15 reinforced cement concrete for the Top plugs of well including compacting by vibrating finishing and curing etc. complete (excluding reinforcement) as directed by Engineer	cum	1923
		Ref: Sr.No. 2.21 Of RA as per MORT&H		

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PART - 2. FOUNDATIONS & SUBSTRUCTURES

Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
22	2.22	Providing and installing 6 / 8 mm MS liner for bored-cast-in-situ concrete piles including applying protective coating as per drawing and specification and as directed by Engineer (excluding reinforcement).	MT	37556
		Ref: Sr.No. 2.22 Of RA as per MORT&H		

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PART - 3. SUPERSTRUCTURE

Sl. No.	Item No,	Item Description	Unit	Rate (Rs.)
1	3.01	Providing 12.7 / 15.2 mm nominal dia. high tensile prestressing steel conforming to low Relaxation prestressing steel strands as per IS:14268 strands - Cl. II of specified ultimate strength, including cutting, cleaning, forming cables etc and further including providing and laying corrugated HDPE sheathing of specified dia., anchorages, stagewise stressing, grouting testing of materials Class II for I- Girder / Box Girder and specified dia., anchorages, stagewise stressing, grouting, testing of materials and all enabling work for post tensioning of steel etc. including provision of coupler wherever required complete including all lifts and leads as per specification and approved design and drawings and as directed by Engineer.	MT	93334.00
		Ref: Sr.No. 3.01 Of RA as per MORT&H		
2	3.02	Providing and laying controlled cement concrete of M40 grade in post-tensioned precast 'I' Girders including necessary casting yard, casting trough, centering, formwork, mixing by using admixture in mechanised batch mix plant, transporting, placing, compacting by mechanical vibrators, finishing, curing etc. complete including inserts, if any, epoxy mortar filling, lifting, shifting, transporting 'I' girder to the actual pier location and erecting in correct alignment on temporary bearings over the pier caps etc. complete as directed by Engineer and as per specification, excluding reinforcement and HTS strands.	Cum	4069.00
		Ref: Sr.No. 3.02 Of RA as per MORT&H		
3	3.03	Providing and fixing POT cum PTFE bearing to the true line and level and in position as per drawings and BS:5400, Sec. 9.1 & 9.2 so as to impart full and even bearing on the seats and free movements / restraints as specified including cost of all materials, fixtures, preparing surface for receiving bearings, grouting of sleeves in pier caps / superstructures with non-shrink high early strength grout of flowable consistency, load testing of all bearings as per design and drawings and specification, removing clamps provided for transportation and handling etc. complete including all leads and lifts as directed by Engineer.		
		Ref: Sr.No. 3.03 Of RA as per MORT&H		
		a) POT fixed bearing		
		1) 90 Ton capacity each	Nos	10890.00
		2) 125 Ton capacity each	Nos	15125.00
		3) 200 Ton Capacity each	Nos	24200.00
		4) 260 Ton capacity each	Nos	31460.00

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Sl. No.	Item No,	Item Description	Unit	Rate (Rs.)
		b) POT cum PTFE bearing		
		1) 90 Ton capacity each	Nos	10890.00
		2) 125 Ton capacity each	Nos	15125.00
		3) 200 Ton Capacity each	Nos	24200.00
		4) 260 Ton capacity each	Nos	31460.00
4	3.04	Providing and laying controlled in-situ cement concrete of M40 grade in RCC deck slab and diaphragm including necessary scaffolding, centering, formwork, mixing by using admixture in mechanised batch mix plant, transporting, placing, compacting by mechanical vibrators finishing and curing etc. complete as per specification and as directed by Engineer, excluding reinforcement	Cum.	4352.00
		Ref: Sr.No. 3.04 Of RA as per MORT&H		
5	3.05	Providing and laying controlled in-situ cement concrete of M40 grade in Box Girders including necessary centering, formwork, mixing by Using Admixture in mechanised batch mix plant, transporting, placing, compacting by mechanical vibrators, post threading of cables, finishing, curing etc. complete including inserts if any, epoxy mortar filling in anchorages, etc. complete as directed by Engineer and as per specification, excluding reinforcement and HTS strands.	Cum.	5159.00
		Ref: Sr.No. 3.05 Of RA as per MORT&H		
6	3.06	Providing and fixing in position HYSD Fe415 reinforcing bars of various diameters for all RCC works of Superstructure as per detailed design and drawings and schedule including cutting, bending, hooking the bars, binding with 18 SWG wires, including all laps, chairs, spacers etc. and cost of all labour, materials, tools, plants, equipment, supporting as required with all lifts and leads etc. all complete as per specification and as directed by Engineer.	MT	34042.00
		As per DSR 2005-06(Page No.205 Sr.No. 874)		
		Ref: Sr.No. 2.10 Of RA as per MORT&H		

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PART - 3. SUPERSTRUCTURE

Sl. No.	Item No,	Item Description	Unit	Rate (Rs.)
7	3.07	Providing and applying one coat Epoxy Phenolic primer of DFT 50 micron and two coats of Epoxy Phenolic coating of DFT 100 microns each or any other equivalent epoxy coating system to all concrete surfaces exposed to atmosphere in superstructure including cost of material, labour, transportation, scaffolding and preparing the surfaces by cleaning, washing, brushing, sand / grit blasting etc. complete and as directed by Engineer and as per specification. (Paint shall be got approved from Engineer and tested from approved laboratory).	Sqm.	132.00
		Ref: Sr.No. 2.12 Of RA as per MORT&H		
8	3.08	Providing and applying 3 coats of water based cement paint of approved quality to the inner concrete surfaces of Box Girder in superstructure including cost of all materials, labour, transportation, scaffolding and preparing the surfaces by cleaning, washing, brushing, sand / grit blasting etc. complete, as directed by Engineer and as per specification. (Paint shall be got tested from approved laboratory).	Sqm.	114.00
		Ref: Sr.No. 3.08 Of RA as per MORT&H		
9	3.09	Providing and carrying out load test on bridge deck with simulated loading including provision, placing and removal of loading, supplying, fixing and removing deflection measuring instruments etc. complete with platforms for fixing the instruments etc. complete as per the details supplied and specification and as directed by Engineer and including submission of required results in triplicate after satisfactory completion of the load test.	Nos	100000.00
		Lumpsum		
10	3.10	Providing and laying in-situ RCC M30 grade concrete in waist slab , beams ,landing slab,steps including centering, shuttering, mixing in mechanised batch mix plant, compaction, curing and dewatering if necessary, excluding reinforcement as per specification and as directed by Engineer.		
		Ref: Sr.No. 3.10 Of RA as per MORT&H	cum	2586
11	3.11	Providing and fixing 150 x 100 mm non skidding precast chequered tiles 25 mm thick of approved quality in traffic island and where ever necessary in city suburban limit over 18 mm thick C.M 1:3 including curing etc.complete as per drawing and as directed by Engineer.	sqm	244
		Ref: Sr.No. 3.11 Of RA as per MORT&H		

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PART - 4. MISCELLANEOUS ITEMS

Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
1	4.01	Providing and casting RCC Crash Barrier in M40 controlled concrete with cast-in-situ or precast members as per detailed drawings including necessary scaffolding, centering, formwork, mixing by using admixture in mechanised batch mix plant, transporting, placing, compacting, finishing, curing, etc. complete including providing and fixing of inserts if any with all leads and lifts as per drawing & specification and as directed by Engineer, excluding reinforcement.	Rmt.	3178.00
		Ref: Sr.No. 4.01 Of RA as per MORT&H		
2	4.02	Providing and laying 100 mm HDPE pipe in true line and level inside the crash barrier and drain for the conduits for electrification and services including fixtures, specials etc. complete as per specification and as directed by Engineer.	Rmt.	144.00
		Ref: Sr.No. 4.02 Of RA as per MORT&H		
3	4.03	Providing and laying in-situ M25 grade cement concrete in RCC Median Verge Kerb, Railing Beam and footpath cover slab including formwork, transporting, placing, compacting, finishing, curing, etc. complete with all leads and lifts as per drawing & specification and as directed by Engineer.(Excluding Reinforcement)	Cum.	2468.00
		Ref: Sr.No. 4.03 Of RA as per MORT&H		
4	4.04	Providing and fixing in position HYSD Fe415 reinforcing bars of various diameters for the above all RCC works in Crash Barrier as per detailed designs and drawings and schedule including cutting, bending, hooking the bars, binding with 18 SWG wires with all laps, chairs, spacers etc. and cost of all labour, materials, tools, plants, equipments, supporting as required with all lifts and leads etc. all complete as per specification and as directed by Engineer.	MT	34042.00
		As per DSR 2005-06(Page No.205 Sr.No. 874)		
		Ref: Sr.No. 2.10 Of RA Attached		
5	4.05	Providing and applying one coat Epoxy Phenolic primer of DFT 50 micron and two coats of Epoxy Phenolic coating of DFT 100 microns each or any other equivalent epoxy coating system to all concrete surfaces exposed to atmosphere in superstructure and substructure including cost of material, labour, transportation, scaffolding and preparing the surfaces by cleaning, washing, brushing, sand / grit blasting etc. complete and as directed by Engineer and as per specification. (Paint shall be got approved from Engineer and tested from approved laboratory).	Sqm.	132
		Ref: Sr.No. 2.12 Of RA as per MORT&H		
6	4.06	Providing and fixing 100 mm dia. G.I. Drainage spouts, including grating with suitable clean out fixtures including all leads and lifts etc. complete as per specification, design & drawings and as directed by Engineer.	No.	354.00
		Ref: Sr.No. 4.06 Of RA as per MORT&H		
7	4.07	Providing and fixing 150 mm diameter PVC longitudinal runner pipes / under drain along soffit of deck slab including cost of all materials, labour, fixing in true line and level, including bends, fixtures, specials etc. complete with all lifts and leads etc. as per specifications and as directed by Engineer.	Rmt.	320.00

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PART - 4. MISCELLANEOUS ITEMS

Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
		Ref: Sr.No. 4.07 Of RA as per MORT&H		

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PART - 4. MISCELLANEOUS ITEMS

Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
8	4.08	Providing and fixing 150 mm dia. PVC down take pipes including cost of all materials, labour, fixing in true line and level, including bends, fixtures, specials etc. complete with all lifts and leads etc. as per specifications and as directed by Engineer.	Rmt.	320.00
		Ref: Sr.No. 4.08 Of RA as per MORT&H		
9	4.09	Providing and constructing catch pit 0.90 m x 0.45 m x 1.2 m deep in BB masonry including excavation, backfilling in soil, 100 mm thick M-15 grade PCC below and covered with 100 mm thick RCC M-25 slab, reinforcement, M.S. covering, smooth finish from inside etc. complete as per drawing and as directed by Engineer.	No.	2030.00
		Ref: Sr.No. 4.09 Of RA as per MORT&H		
10	4.10	Providing and fixing precast concrete 300 mm dia. pipes, type NP3, granular and concrete bedding below pipe, encasing pipe with M-30 concrete, including cost of all materials, labour, etc. complete with all lifts and leads etc. as per specifications and as directed by Engineer.	Rmt.	538.00
		Ref: Sr.No. 4.10 Of RA as per MORT&H		
11	4.11	Providing and fixing in position elastomeric Stripseal expansion joint for movement of + and - 40 mm as per specification and detailed drawing including cost of all materials, fixtures, welding, preparing surface for receiving joints, testing of all materials in approved laboratory including all leads and lifts etc. complete in deck slab and crash barrier at the joints as per specification, drawings and as directed by Engineer.	Rmt.	7523.00
		Ref: Sr.No. 4.11 Of RA as per MORT&H		
12	4.12	Providing and applying primer coat using bituminous emulsion or cut back primer over prepared surface of deck slab with emulsion preheated to a temperature between 20 - 60°C and applying a uniform coat with the aid of self propelled bitumen pressure sprayer with self heating arrangement and spraying bar with nozzles of constant volume for pressure system at 10 kg/10 sqm including all materials, labour, machinery etc. complete with all leads and lifts as directed by Engineer and as per specification.	Sqm.	31.00
		Ref: Sr.No. 4.12 of RA Attached		
13	4.13	Providing and applying tack coat using bituminous emulsion or cut back primer over primed / black top surface with emulsion preheated to a temperature between 20 - 60°C and applying a uniform coat with the aid of self propelled bitumen pressure sprayer with self heating arrangement and spraying bar with nozzles of constant volume for pressure system at 5 kg/10 sqm including all materials, labour, machinery etc. complete with all leads and lifts as directed by Engineer and as per specification.	Sqm.	16.00
		Ref: Sr.No. 4.13 Of RA as per MORT&H		
14	4.14	Providing and laying mastic asphalt water proof coat with composition of bitumen 30/40 penetration grade conforming to MOST specification with the bitumen of 14% to 17% weight of total mix including cleaning the surface, testing of materials in approved laboratory etc. complete on the deck slab of the flyover as required and as directed by Engineer.		
		a) 6 mm thick	Sqm.	93.00

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Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
		b) 12 mm thick	Sqm.	187.00
		Ref: Sr.No. 4.14 Of RA as per MORT&H		

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PART - 4. MISCELLANEOUS ITEMS

Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
15	4.15	Providing and laying 40-100 mm thick hot mix hot laid dense bituminous macadam on prepared surface using 30 - 40 grade bitumen with bitumen content of 4.5% of weight of total mix including cleaning the surface, providing necessary aggregate with specified gradation, mixing with mechanical means in hot mix plant of suitable capacity of preferably batch mix type and electronically controlled mixing to the specified temperature, transporting and laying the mix with self propelled paver finisher with electronic sensor device and initial compaction with min. 80 - 100 kN static weight vibratory roller / pneumatic tyred roller having min. 150 - 250 kN weight having a tyre pressure of at least 0.7 Mpa and finished with min. 60 - 80 kN weight smooth wheeled tandem roller to achieve desired density including all materials, labour, machinery etc. complete with all leads and lifts as per specification and as directed by Engineer, excluding tack coat.	Cum.	3922.00
		Ref: Sr.No. 4.15 Of RA as per MORT&H		
16	4.16	Providing and laying Bituminous Concrete in a single layer of 25mm to 50 mm compacted thickness on prepared surface using bitumen of grade approved by the engineer 30-40 grade @ 5.5% of bitumen by weight of mix including providing necessary aggregates with specified gradation mixing with mechanical means in hot mix plant of suitable capacity of batch mix type and electronically controlled mixing to the specified temperature, transporting and laying the mix with self propelled paver finisher with electronic sensor device in full width and initial compaction with minimum 80 - 100 KN static weight smooth wheeled roller followed by intermediate rolling with minimum 80 - 100 KN static weight vibratory roller / pneumatic tyred roller having minimum 150 - 250 KN weight having a tyre pressure of atleast 0.7 MPa and finished with minimum 60 - 80 KN weight smooth wheeled tandem roller to achieve desired density including all material, labour, machinery with all leads and lifts etc. complete (excluding tack coat) and including cement filler @2% by weight of mix.	Cum	4711.00
	a)	Ref: Sr.No. 4.16 a) Of RA as per MORT&H		
	b)	Providing and laying Bituminous Concrete in a single layer of 25mm to 50 mm compacted thickness on prepared surface using modified bitumen (PMB 40)of grade approved by the engineer 30-40 grade @ 5.5% of bitumen by weight of mix including providing necessary aggregates with specified gradation mixing with mechanical means in hot mix plant of suitable capacity of batch mix type and electronically controlled mixing to the specified temperature, transporting and laying the mix with self propelled paver finisher with electronic sensor device in full width and initial compaction with minimum 80 - 100 KN static weight smooth wheeled roller followed by intermediate rolling with minimum 80 - 100 KN static weight vibratory roller / pneumatic tyred roller having minimum 150 - 250 KN weight having a tyre pressure of atleast 0.7 MPa and finished with minimum 60 - 80 KN weight smooth wheeled tandem roller to achieve desired density including all material, labour, machinery with all leads and lifts etc. complete (excluding tack coat) and including cement filler @2% by weight of mix.	cum	5214.00
		Ref: Sr.No. 4.16 b) Of RA as per MORT&H		

**D. P. R. FOR DEVELOPMENT OF NANDED CITY ROADS UNDER JNNURM
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PART - 4. MISCELLANEOUS ITEMS

Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
17	4.17	Providing & fixing discontinuous M25 PCC precast kerb stones of size 600 x 300 x 1200 mm at a spacing of 1200 mm c/c on road side parallel to the retaining wall of reinforced structure at a distance of 1000 mm from the face of retaining wall including transportation, excavation etc. complete with all leads as per specification and as directed by Engineer.	No.	533.00
		Ref: Sr.No. 4.17 Of RA as per MORT&H		
18	4.18	Providing and fixing four pillars, one at each corner of each of the bridge of approved architectural design with pedestals to house the granite tablets as per details approved by the Corporation, including transportation, placing etc. complete with all leads and lifts as per specification and as directed by Engineer.	Sqm.	3611.00
		As per DSR 2005-06 (Page no.209 Sr.no.894)		
19	4.19	Road Markings		
		Providing traffic lane line strips 10 cm wide with approved road marking paint in two coats as per specification and as directed by Engineer.		
		a) With hot applied thermoplastic paint for yellow edge line	sqm	630
		As per DSR 2005-06(Page No.185 Sr.No. 778)		
		Ref: Sr.No. 4.19 Of RA Attached		
		b) With hot applied thermoplastic paint for white strips.	sqm	630
		As per DSR 2005-06(Page No.185 Sr.No. 778)		
		Ref: Sr.No. 4.19 Of RA Attached		
20	4.20	Providing & fixing in position 100 mm Dia. A.C. pipes as weep holes in Abutments and Return Walls completed in all respect as per specification and as directed by Engineer	Nos	58
		Ref: Sr.No. 4.20 Of RA as per MORT&H		
21	4.21	Providing & fixing in position MS Railing over RCC Crash Barrier including Support Angle/Fixtures as per Detailed Drawing and Specifications and as directed by the Engineer	Rmt.	1371
		Ref: Sr.No. 4.21 Of RA as per MORT&H		
22	4.22	Providing & Fixing Bituminous Filler Pad material 20 mm thk. between two carriageways	Rmt.	262
		Ref: Sr.No. 4.22 Of RA as per MORT&H		

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PART - 4. MISCELLANEOUS ITEMS

Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
23	4.23	Providing and casting RCC Facia pannel in M30 controlled concrete with cast-in-situ or precast members as per detailed drawings including necessary scaffolding, centering, formwork, mixing in mechanised batch mix plant, transporting, placing, compacting, finishing, curing, etc. complete including providing and fixing of inserts if any with all leads and lifts as per drawing & specification and as directed by Engineer, excluding reinforcement.	cum	2467
		Ref: Sr.No. 4.23 Of RA as per MORT&H		
24	4.24	Construction of RCC railing of M20 Grade in-situ with 20 mm nominal size aggregate, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 1000 mm, leaving adequate space between vertical post for expansion, complete as per approved drawings and technical specifications.		
		Ref: Sr.No. 4.24 Of RA as per MORT&H	RM	1182
25	4.25	Back filling behind abutment ,wing wall and return wall complete as per drawing and technical specificator	cum	176
		Ref: Sr.No. 4.25 of RA as per MORT&H		
		Selected earth (granular Material)		
26	4.26	Providing and fixing Neoprene bearing as per standard specification etc.complete(as per IRC-83 Part-11)	cu.centimeter	1.26
		As per DSR 2005-06 (Sr.No. 878 Page.No. 206)		
		Ref: Sr.No. 4.26 of RA as per MORT&H		

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PART - 5. SOLID APPROACHES / REINFORCED EARTH RETAINING WALL

Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
1	5.01	Excavation for foundation of structures including dewatering, shoring and strutting as necessary and backfilling the trenches with excavated material in layers of 15 to 20 cms and disposing of remaining unsuitable material with all leads and lifts as directed and preparation of bed for concreting of foundations etc. complete as directed by Engineer and as per specification.		
		a) Soils of all types including ordinary earth, sand dry / wet soil, marine clay, boulders, kankars, soft murrum, hard murrum, etc.	Cum.	85
		Ref: Sr.No. 2.01 Of RA as per MORT&H		
2	5.02	Providing and laying in situ PCC M30 grade bedding concrete below fascia element / foundation including dewatering, shuttering, mixing in mechanised batch mix plant, compacting, curing etc. complete true to level and position as directed by Engineer and as per specification.	Cum.	2466
		Ref: Sr.No. 5.02 Of RA as per MORT&H		
3	5.03	Providing & fixing of precast fascia elements in RCC M30 grade for reinforced soil embankment for approach returns and abutment as per specifications given in the Tender with suitable as specified in tender document including all materials, connections, joints, fittings and erection of fascia and reinforcing etc. complete in all respect, as directed by Engineer and as per specification, including casting and erection of PC units along with necessary insitu concrete works for foundations as well as coping and providing weepholes, perforated drain pipes behind the wall for necessary drainage arrangement etc. complete as specified/manufacturer's requirement.	Sqm.	1024
		As per Rate Analysis of MORT&H (Ref: Sr.No. 5.03 Of RA as per MORT&H)		
4	5.04	Providing and laying in-situ RCC M-30 grade friction slab / coping beam on top of fascia wall concrete, necessary shuttering, centering, compaction by vibrating, curing, joints etc. complete in all respect with cast in-situ expansion gap at 50 m interval as directed by Engineer and as per specification and drawing, excluding reinforcement.	Cum.	2678
		Ref: Sr.No. 5.04 Of RA as per MORT&H		
5	5.05	Providing and fixing in position HYSD Fe415 reinforcing bars of various diameters for the above all RCC works of Friction Slab as per detailed designs and drawings and schedule including cutting, bending, hooking the bars, binding with 18 SWG wires with all laps, chairs, spacers etc. and cost of all labour, materials, tools, plants, equipments, supporting as required with all lifts and leads etc. all complete as per specification and as directed by Engineer.	MT	34042
		As per DSR 2005-06(Page No.205 Sr.No. 874)		
		Ref: Sr.No. 2.10 Of RA Attached		

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PART - 5. SOLID APPROACHES / REINFORCED EARTH RETAINING WALL

Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
6	5.06	Providing earth work in embankment by using mechanical means with approved material obtained from borrow areas having 4 days soaked CBR equal to or more than 6%, laying in layers not exceeding 200 mm, breaking clods, dressing to the required lines, curves grades, and watering to OMC and compacting to 95% modified proctor density with vibratory roller having minimum 80 - 100 kN static weight including all lifts and leads etc. complete as directed by Engineer and as per specification.	Cum	86.00
		Ref: Sr.No. 5.06 Of RA as per MORT&H		
7	5.07	Providing 300mm thick layer of earth work in embankment by using mechanical means with approved material obtained from borrow areas having 4 days soaked CBR equal to or more than 8%, laying in layers not exceeding 200 mm, breaking clods, dressing to the required lines, curves grades, and watering to OMC and compacting to 98% modified proctor density with vibratory roller having minimum 80 - 100 kN static weight including all lifts and leads etc. complete as directed by Engineer and as per specification.	Cum	86.00
		Ref: Sr.No. 5.06 Of RA as per MORT&H		
8	5.08	Providing and laying Granular Sub Base (Structural layer) Close Graded conforming to Grading II of Table 400.2 of compacted thickness of 150 mm with specified graded stone metal and sand mixed in place and laid with mechanical means spreading with motor grader and compacting with vibratory roller having minimum 80-100 Kn static weight to achieve desired density of 98% of MDD including all material , labour , machinery with all leads and lifts etc. complete.	Cum	445
		Ref: Sr.No. 5.08 Of RA as per MORT&H		
9	5.09	Providing, laying, spreading and compacting specified graded crush stone in Granular Sub Base course (drainage layer) including premixing the material in mechanical mixer laying in uniform layers of 150 mm (compacting thickness each) with paver finisher on prepared murrum surface and compacting with 10 T vibrating tandem roller to achieve the density of 98% of MDD including all material , labour , machinery with all leads and lifts etc. complete as directed by Engineer..	Cum	389
		Ref: Sr.No. 5.09 Of RA as per MORT&H		
10	5.10	Providing and laying Dry Lean Concrete base including providing coarse and fine aggregate to the specified gradation using minimum cement content 150 kg/cum of concrete with OPC 43 grade cement mixing of concrete as per approved design mix using mechanised batch mix plant of appropriate capacity, transporting and laying with self propelled paver with electronic sensor device and compacting with vibratory roller of minimum 80 - 100 KN static weight to give desired compacted density and average compressive strength of 10 MPa at 7 days and curing with liquid curing compound and sprinkling water and covering with moist hessian or ponding of water for 7 days including providing construction joints, including all material, labour, machinery with all leads and lifts etc. complete as directed by Engineer.. laying by manually	Cum	1043.00
		Ref: Sr.No. 5.10 Of RA as per MORT&H		

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PART - 5. SOLID APPROACHES / REINFORCED EARTH RETAINING WALL

Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
11	5.11	Providing and applying primer coat using bituminous emulsion or cut back primer over prepared surface of granular base with emulsion preheated to a temperature between 20°C - 60°C and applying a uniform coat with the aid of self propelled bitumen pressure sprayer with self heating arrangement and spraying bar with nozzles of constant volume for pressure system at 10 kg/10 sqm including all materials, labour, machinery etc. complete with all leads and lifts as directed by Engineer and as per specification.	Sqm.	31.00
		Ref: Sr.No. 4.12 Of RA as per MORT&H		
12	5.12	Providing and applying tack coat using bituminous emulsion or cut back primer over primed / black top surface with emulsion preheated to a temperature between 20 - 60°C and applying a uniform coat with the aid of self propelled bitumen pressure sprayer with self heating arrangement and spraying bar with nozzles of constant volume for pressure system at 5 kg/10 sqm including all materials, labour, machinery etc. complete with all leads and lifts as directed by Engineer and as per specification.	Sqm.	16.00
		Ref: Sr.No. 4.13 Of RA as per MORT&H		
13	5.13	Providing and laying Pavement Quality Concrete of M 35 grade obtained from approved including providing 125 micron thick impermeable plastic sheet membrane over the surface to be covered, coarse and fine aggregates of specified gradation using minimum cement content 350 kg/cum of concrete with OPC 43 grade cement, approved admixture, mixing with mechanised batch mix plant of appropriate capacity as per the design mix to the specified workability, transporting the mix with dumpers or transit mixers and laying , curing with approved resin based aluminised reflective curing compound and covering with moist hessian or ponding and sprinkling of water for a minimum period of 14 days and including providing and fixing dowels, tie bars, cutting of groves and filling the same with approved precompressed seals for joint filling and sealing all types of joints and finishing to the desired surface texture including all material, labour, machinery with all leads and lifts etc. complete as directed by Engineer.	cum	3046.00
		a) Laying by Machine.		
		Ref: Sr.No. 5.13 Of RA as per MORT&H		
14	5.14	Providing and laying 40-100 mm thick compacted Dense Bituminous Macadam layer using B.T. chips as per regard gradation and asphalt for mixing at 4.5 % by weight of total mix as binder by hot mix hot laid process laying by paver finisher inclu. consolidation providing and operating plant & machinery with the cost of fuel, oil & lubricant , labour charges etc. complete.	Cum	3922.00
		Ref: Sr.No. 4.15 Of RA as per MORT&H		

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PART - 5. SOLID APPROACHES / REINFORCED EARTH RETAINING WALL

Sl. No.	Item No.	Item Description	Unit	Rate (Rs.)
15	5.15	Providing and laying Bituminous Concrete in a single layer of 25mm to 50 mm compacted thickness on prepared surface using modified bitumen of grade approved by the engineer 30-40 grade @ 5.5% of bitumen by weight of mix including providing necessary aggregates with specified gradation mixing with mechanical means in hot mix plant of suitable capacity of batch mix type and electronically controlled mixing to the specified temperature, transporting and laying the mix with self propelled paver finisher with electronic sensor device in full width and initial compaction with minimum 80 - 100 KN static weight smooth wheeled roller followed by intermediate rolling with minimum 80 - 100 KN static weight vibratory roller / pneumatic tyred roller having minimum 150 - 250 KN weight having a tyre pressure of atleast 0.7 MPa and finished with minimum 60 - 80 KN weight smooth wheeled tandem roller to achieve desired density including all material, labour, machinery with all leads and lifts etc. complete (excluding tack coat) and including cement filler @2% by weight of mix.	Cum	4711.00
		Ref: Sr.No. 4.16a) of RA as per MORT&H		
16	5.16	Providing, laying, spreading and compacting specified graded stone aggregate to Wet mix macadam in layer of not exceeding 200 mm thk compacted including premixing the material with water to O.M.C. in mechanical mixer(Pug mill) carrying of mix material by tipper to site and laying with paver finisher on prepared granular subbase and compacting with vibrating tandem roller to achieve the density of 98% of MDD including all material, labour, machinery with all leads and lifts etc. complete as directed by Engineer.	Cum	484.00
		Ref: Sr.No 5.16 of RA as per MORT&H		
17	5.17	Providing and laying in position precast RCC pipes NP4 prestressed concrete pipes for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 including excavation, protection works, backfilling, concrete and masonry works in head walls and parapets.	Rm	10493.00
		Ref: Sr.No 5.17 of RA as per MORT&H		
18	5.18	Providing and fixing of mechanically woven Double Twisted Hexagonal shaped wire mesh Gabian boxes of required section, Garware steel Gabian or equivalent, Mesh type 10x12, wires Zn+pvc coated, mesh wire dia. 2.7mm/3.7mm(I.D/O.D), edges of meshes mechanically edged/selvedged, wire with a heavy coating of galvanization and adequate quantity of lacing wire, as per EN 10223-3 and tender technical specifications, including cost of materials, Installation of Gabian of various sizes at site, tying of edges with lacing wires, interconnection with adjacent boxes, filling of boxes with stone of required sizes and quality as per technical specifications by careful hand packing in layers of one feet approximatly to ensure good facing, providing bracing wires, temporary formwork, closing of lids, providing polypropylene Multifilament woven Geotextile (GWF 30/165) at the rear of gabians as filter material, all complete to correct lines & levels as per the site drawing & enclosed Technical specifications.	cum	1863.00