

**Improvement of Movement Network IN Nananded under JNNURM**  
**Summary of Bill of Quantities for River Bridge on Godavari**

Sl. No.	Item No.	Item Description	Unit	Qty	Unit Rate in (Rs.)	Amount in (Rs.)
<b>PART - 1. PRELIMINARY WORKS</b>						
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	Ha	4.20	16,461.00	69,136.20
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	Nos	160.00	1,522.00	243,520.00
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.				-
		a) Dismantling bricks / stone masonry, PCC Kerb median	Cum.	200.00	138.00	27,600.00
		b) Dismantling of Concrete Structures	Cum.	100.00	144.00	14,400.00
		<b>Soil Investigation</b>				-
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				-
		a) Boring in all strata excluding hard rock.	Rmt.	608.00	1,474.00	896,192.00
		b) Drilling in hard rock.	Rmt.	152.00	1,950.00	296,400.00
<b>PART - 2. FOUNDATIONS &amp; SUBSTRUCTURES</b>						
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 re				-
	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.	Cum.	5,009.00	81.00	405,729.00
		b) Soils of all types greater than 3m depth	Cum.	1,711.00	90.00	153,990.00
	ii)	Excavation foundation of structure in rock by wedging / chiselling / controlled blasting or line drilling and mechanical means including shoring and strutting as necessary and disposing of excavated stuff as directed or stacked etc. complete by engine	cum	1,249.00	426.00	532,074.00
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.	cum	432.00	81.00	34,992.00
		b) Soils of all types greater than 3m depth	cum	-	95.00	-
3	2.03	Providing and laying in situ M15 grade bedding concrete in foundation, annular filling below pile cap including dewatering, shuttering, mixing in mechanised batch mix plant, compacting, curing etc. complete true to level and position as directed by Engineer	Cum.	478.00	2,364.00	1,129,992.00
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, compacting, vibrating, curing and finishing including all leads & lifts Includ				-
		1.0 m Dia Pile	Rmt	-	6,521.00	-
		1.2 m Dia pile	Rmt	1,450.00	7,385.00	10,708,250.00

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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				-
		a) Initial Load Test on test pile for 2.5 times the pile for 2.5 times the design load specified in drgs. in non-working areas, in the vicinity ofof the bridge site, including cost of test pile.	MT	750.00	312.00	234,000.00
		b) Routine pile load test on working piles for 1.5 times the design load specified in the drg.	MT	900.00	300.00	270,000.00
		c) Horizontal pile load test on working piles for 1.5 times the design load specified in drgs.	MT	45.00	5,000.00	225,000.00
6	2.06	Providing and laying 600 mm thick filter media behind abutment as per detailed drawing & specifications complete.	cum	136.00	333.00	45,288.00
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 p	Cum.	967.00	2,847.00	2,753,049.00
8	2.08	Providing and laying M30 grade cement concrete for cast-in-situ piers, abutments,Retaining Wall ,dirt walland columnn of staircase etc. as per approved design and drawings, with necessary centering, shuttering with asthetic finishes mixing in mechanised ba	Cum.	3,116.00	4,418.00	13,766,488.00
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	Cum	1,294.00	4,528.00	5,859,232.00
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	935.00	35,491.05	33,184,131.75
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.	2,620.00	117.00	306,540.00
12	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				-
		non perenial river	cum	5,561.00	191.00	1,062,151.00
		perenial river	cum	-	445.00	-
13	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 excepts pneumatic sinking . Diameter =10m and depth = 20m	Rmt	38.00	127,831.00	4,857,578.00

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14	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	995.00	2,527.00	2,514,365.00
15	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	178.00	3,283.00	584,374.00
16	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	6.00	38,535.00	231,210.00
17	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	1,578.00	2,839.00	4,479,942.00
18	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	1,721.00	513.00	882,873.00
19	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	340.00	2,389.00	812,260.00
20	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	26.00	2,255.00	58,630.00
21	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	150.00	37,556.00	5,633,400.00
<b>PART - 3. SUPERSTRUCTURE</b>						-
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 incl	MT	196.00	93,334.00	18,293,464.00
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, compa	Cum	3,901.00	4,625.00	18,042,125.00
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 material				-
		a) POT fixed bearing				-
		125 T CAPACITY	Nos	144.00	15,125.00	2,178,000.00
		b) POT cum PTFE bearing				-
		125 T CAPACITY	Nos	144.00	15,125.00	2,178,000.00
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 mechani	Cum.	3,827.00	4,946.00	18,928,342.00
5	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	MT	853.00	35,491.05	30,273,865.65

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Sl. No.	Item No.	Item Description	Unit	Qty	Unit Rate in (Rs.)	Amount in (Rs.)
6	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. co	Nos	1.00	100,000.00	100,000.00
7	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 specificat	cum	41.00	2,966.00	121,606.00
8	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	sqm	149.00	260.89	38,873.02
<b>PART - 4. MISCELLANEOUS ITEMS</b>						-
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,	Rmt.	431.00	3,825.00	1,648,575.00
2	4.02	Providing and laying 100 mm HDPE, DWC pipe as per IS:14930 part-II mark in true inside the crash barrier and below footpath for the conduits for electrification and services including fixtures, specials etc. complete as per specification and as directe	Rmt.	5,706.00	144.00	821,664.00
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 & specifi	Cum.	550.00	2,817.00	1,549,350.00
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	MT	31.00	35,491.05	1,100,222.55
5	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.	216.00	354.00	76,464.00
6	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.	432.00	320.00	138,240.00
7	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 insi	No.	2.00	2,033.00	4,066.00
8	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 a	Rmt.	30.00	624.00	18,720.00
9	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 ma	Rmt.	377.00	7,523.00	2,836,171.00

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Sl. No.	Item No.	Item Description	Unit	Qty	Unit Rate in (Rs.)	Amount in (Rs.)
10	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 spray	Sqm.	8,559.00	31.00	265,329.00
11	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 wi	Sqm.	8,559.00	16.00	136,944.00
12	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 I				-
		a) 6 mm thick	Sqm.	-	95.00	-
		b) 12 mm thick	Sqm.	8,559.00	190.00	1,626,210.00
13	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	Cum.	4,280.00	4,307.00	18,433,960.00
14	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 wi	Cum	2,140.00	5,090.00	10,892,600.00
15	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 tran	No.	400.00	608.42	243,366.15
16	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 I	Sqm.	8.00	3,611.00	28,888.00
17	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	100.00	60.00	6,000.00
18	4.21	Providing & fixing in position MS Railing over RCC Crash Barrier, staircase including Support Angle/Fixtures as per Detailed Drawing and Specifications and as directed by the Engineer.	Rmt.	483.00	1,371.00	662,193.00
19	4.22	Providing & Fixing Bituminous Filler Pad material 20 mm thk. between two carriageways	Rmt.	571.00	262.00	149,602.00
20	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	RM	951.00	1,220.00	1,160,220.00
21	4.25	Back filling behind abutment ,wing wall and return wall complete as per drawing and technical specification	cum	226.00	176.00	39,776.00
22	4.26	Providing and fixing Neoprene bearing as per standard specification etc.complete( as per IRC-83 Part-11)	cu.centimeter	-	1.29	-
<b>PART - 5. SOLID APPROACHES / REINFORCED EARTH RETAINING WALL</b>						-
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 dir				-

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		a) Soils of all types including ordinary earth, sand, dry / wet soil marine clay, boulder, kankar, soft murrum, hard murrum etc	Cum.	58,140.00	81.00	4,709,340.00
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	Cum.	44.00	2,828.00	124,432.00
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, j	Sqm.	951.00	1,091.00	1,037,541.00
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	Cum.	207.00	3,074.00	636,318.00
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	MT	20.00	35,491.05	709,821.00
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	Cum	6,541.00	191.00	1,249,331.00
7	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 mechan				-
		Gabian boxes - 1.0m height	cum	41,360.00	1,863.00	77,053,680.00
		Gabian boxes - 0.5m height	cum	-	2,281.00	-
8	5.19	Backfilling Inside the Gabbion Wall for approach 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. including Excavation ,dewatering etc complete	Cum	119,001.00	191.00	22,729,191.00
9	5.20	Ground Improvement by removing unsuitable soil and backfilling with murrum 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. including Excavation ,dewatering etc complete	cum	57,600.00	254.00	14,630,400.00
<b>Total</b>						<b>347,145,677.32</b>

366,258,627.32

19,112,950.00