





# ग्रामीण कार्य विभाग

Rural Works Department, Govt of Bihar

## BIHAR RURAL ROADS PROJECT

Bihar Rural Road Development Agency (BRRDA)

<u>Govt. Of Bihar</u>

MMGSY

# **Bill Of Quantity**

### T01 TO BARUNA TOLA

District: : - PURNEA

Block: : - BARHARA KOTHI

Package No :

Link No.: : - S0

Total Length: : - 6.000 KM

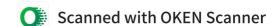
Construction Cost: (In Rs.) : - 4,53,22,008.36

Maintenance Cost : (In Rs.) : - 50,04,955.32

Total Project Cost : (In Rs.) : - 5,03,26,963.68

Submitted By:





#### Bill Of Quantity (BOQ)

Road: District: **PURNEA** TO1 TO BARUNA TOLA Length: 6.000 KM Block: BARHARA KOTHI 4,53,22,008.36 Total Construction Cost (With Gst 12% + L.C 1%): Link No: Package No Total Maintenance Cost (With Gst 12% + L.C 1%): 50,04,955.32 SI AMOUNT Unit Qty. Rate Description Of Work No. (In Rs) 33521.26 6.00 201128.00 1.00 Setting Out Pillars 2.00 Clearing and Grubbing Road Land ( By manual means) including uprooting wild vegetation, grass, bushes, shrubs, saplings and trees of girth upto 300mm, removals of stumps of such trees cut earlier & disposal of unserviceable materials & 49496.70 stacking of serviceable materials to be used or auctioned upto a 103943.00 lead of 1000 m including removal and disposal of top organic soil not exceeding  $150\,\mathrm{mm}$  in thickness as per technical specification clause 201.1 and direction of E/I 3.00 Box Cutting Excavation for roadway in soil using manual means for carrying of cut earth to embankment site with a lift upto 1.5 m and lead 60.00 Cum 122.15 7329.00 upto 50 m as per Technical Specification Clause 302.3 SUB HEAD: EARTHWORK 4.00 Construction of embankment with approved material deposited from road way cutting and excavation from drain and foundation of other structures and excavated with an 36.00 Cum 29.52 1063.00 average lead of 50 m graded and compacted to meet requirement of tables 300.1 and 300.2 as per technical specification clause 5.00 Excavation in Soil using Hydraulic Excavator and Tippers with disposal upto 1000 m Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross-60.00 Cum 74.10 4446.00 sections, and transporting to the embankment location with a lift upto 1.5  $\,\mathrm{m}$  and lead upto 1000 m as per Technical Specification Clause 302.3 (Including Royality & Labour Cess). Construction of Embankment with material obtained from borrow pits with a lift upto 1.5 m, transporting to the site spreading, grading to required slope and compacting to meet 3320.82 Cum 184.19 611662.00 requirement of Tables 300.1 and 300.2 with a lead upto 1000 m as per Technical Specification Clause 301.5. 7.00 Construction of Embankment with material obtained from borrow pits with a lift upto 1.5 m , transporting to the site spreading, grading to required slope and compacting to meet 1137.31 requirement of Tables 300.1 and 300.2 with a lead upto 100 m Cum 147.35 167583.00 as per Technical Specification Clause 301.5. Construction of subgrade and earthen shoulders with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope 11729.37 Cum 176.75 2073166.00 and compacted to meet requirement of Table 300.2 with lead upto 1000 m as per Technical Specification Clause 303.1.

For Brigade Construction, 21721 411603 PROPRIETOR

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SI. No.	Description Of Work	Qty.	Unit	Rate	AMOUNT
9.00	SUB HEAD: BITUMINOUS ITEMS  Granular Sub-base (Grading-I)  Construction of Gravel/Soil-aggregate base by providing wel graded material, spreading in uniform layers with motor proprepared suface, mixing by mix in place method with rotavato at OMC, and compacting with three wheel80-100 kn static rolle to achieve the desired density, complete as per Technical Specification Clause 402. (With Coarse Sand)	n r 2495.21	Cum	2967.15	7403662.00
10.00	WBM Grading 3 (By Machnical Means) Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, crushable screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 3 as per Technical Specification Clause 405.(With Stone Screening Type "B" 11.2mm)	3 1 1 1704.38	Cum	3680.83	6273533.00
1.00	Prime Coat (Low porosity) Providing and applying primer coat with Bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.80 kg/sqm using mechanical means as per Technical Specification Clause 502.		Sqm	42.56	491648.00
2.00	Tack Coat  Providing and applying tack coat with bitumen emulsion (RS) using emulsion distributor @ 0.275 kg per sq m on the prepared bituminous surface cleaned with hydraulic broom as per technical specification clause 503.	11551.88	Sqm	14.41	166463.00
3.00	Mix Seal Surfacing Providing, laying and rolling of close-graded premix surfacing material of 20 mm thickness composed of 13.2 mm to 0.09 mm (Type-B) aggregates using penetration grade bitumen(S-90) to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 8-10 kN static roller and finishing to required level and grades as per Technical Specification Clause 509. (With Paver Finisher)	11551.88	Sqm	192.34	. 2221889.00
	SUB HEAD: CC PAVEMENT  Granular Sub-base (Grading-I)  Construction of Gravel/Soil-aggregate base by providing well graded material, spreading in uniform layers with motor pn prepared suface, mixing by mix in place method with rotavator at OMC, and compacting with three wheel80-100 kn static roller to achieve the desired density, complete as per Technical Specification Clause 402.(With Coarse Sand)	898.91	Cum	2967.15	2667201.00

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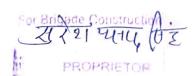


For Brigade Construction

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SI. No.	Description Of Work	Qty.	Unit	Rate	AMOUNT
15.00	Cement Concrete Pavement			1	(In Rs.)
	Construction of un-reinforcedplain cement thickness as perdesign, over a prepared sub base with 43 grade cement or any other type as per clause 1501.2.2 M 30 grade coarse and fine aggregate maximum size of aggregate not exceding 25mm, mixed in a concrete of not less than 0.2cum capacity and appropriate weigh batcher using approved mix design, laid in approved fixed side formwork ( steel channel, laying and fixing of 125 micron thick plythene film, wedges, steel plates including levelling the formwork as per drawing) spreading the concrete with shovels, rakes, compacted using needle, screed and plate vibrators and finished in continuous operation including provision of contraction and expansion, constrution joints, applying debonding strips, primer, sealant, dowel bars, near approaches to bridge/ culvert and construction joints, admixtures as approved, curing of concrete slab for 14 days curing compound (where specified) and water finishing to lines and grade as per drawing and Technical specification clause 1501.		Cum	6767.88	12098939.00
( ) ( )	Hard Shouldering - Laying brick soling layer on prepared sub- grade with brick on end edging according to lines, graded and cross-section shown on the drawing filling joints with sand and earth, spreading 25 mm thick layer of earth over brick soling, watering and rolling the same with three wheel road roller 80- 100 kN as per Technical Specification Clause 412	2950.00	Sqm	503.51	1485355.00
r a b a tl d m p:	Cable Duct Across the Road: Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at rooth ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m hick layer of granular material free of rock pieces, outer to outer istance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak roof, invert level of duct to be above higher than ground level to revent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings.	180.00	М	1592.23	286601.00
Re sta an cla	ilometre Stone einforced cement concrete M15 grade kilometre local stone of andard design asper IRC:8 fixing in position including painting printing, etc as per drawing and technical specification ause 1703.			-	
5t	h Km Stone	0.00			
	n Stone	7.00	Nos.	8453.18	0.00
	00 M Stone	24.00	Nos.	2253.46	15774.00
Proma into she 75 pro 45	affic Sign oviding and fixing of retro- reflectorised cautionary, and atoms and informatory sign as per IRC :67 made of high ensity grade sheeting vide clause 801.3, fixed over aluminium entity, 1.5 mm thick supported on a mild steel angle iron post mm x 75 mm x 6 mm firmly fixed to the ground by means of operly designed foundation with M15 grade cement concrete cm x 45 cm x 60 cm, 60 cm below ground level as per proved drawing.		Nos.	627.81	15067.00
600 800	0 mm equilateral & triangle, OR 0 mm circular , OR 1 mm x 600 mm rectangular, OR 1 mm x 450 mm rectangular, OR	24.00 15.00 24.00 5.00	Nos. Nos. Nos.	3415.18 4588.29 6407.99 4468.20	81964.00 68824.00 153792.00 67023.00
or Brig	pade Construction				

SI.	Description Of Work	Qty.	Unit	Rate	AMOUNT
No.	Description of Work			735.40	(In Rs.) 448594.00
20.00	Road Marking On BT	610.00	Sqm Sqm	834.62	492426.00
	Road Marking On CC	590.00 40.00	Nos.	464.66	18586.00
21.00	Boundary Pillar				
22.00	Direction And Place Indentification Signs Up To 0.9 Sqm Size Board	24.00	Nos.	11734.54	281629.00
23.00	(i) Providing and Fixing 'Logo' of PMGSY Project (ii) Providing & Fixing of LOGO of "Citizen Information Board" (iii)Maintenance Board	5.00	Nos.	9374.93	46875.00
	Hume Pipe :- 1 x 1000 MM (PCC)				
24.00	Earth work in excavation for foundation of structures upto 3.0 m depth as per drawing and technical specification clause 1104	119.19	Cum	285.17	33990.00
25.00	Providing M15 (PCC 1:2.5:5) as levelling course in foundation:— Providing PCC M 15 (1:2.5:5) concrete for plain concrete in open foundations complete as per drawings and technical specifications Clause 802 803 1202 & 1203	18.38	Cum	5473.56	100604.00
26.00	Plain/Reinforced cement concrete(M-20) in substructure complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 ans 1204	142.84	Cum	6472.62	924575.00
27.00	Providing and laying RCC pipe NP-3 for culverts on first class bedding of PCC M10 material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works,backfilling concrete and masonary works in head walls	30.00	М	3455.82	103675.00
28.00	Painting on Parapet Wall (Black & White Strips) Painting two coats including primer coat after filling the surface with synthetic enamel paint in all shades on new, plastered / concrete surfaces as per drawing and Technical Specification Clause 1701	82.56	Sqm	95.63	7895.00
	RCC BOX CULVERT - 1 x 2M x 2M				
29.00	Earthwork in excavation for structures as per drawing and technical specifications Clause 305.1 including setting out, construction of shoring and bracing, removal of stumps and other deleterious material and disposal upto a lead of 50 m, dressing of sides and bottom and backfilling in trenches with excavated suitable material.	84.60	Cum	285.17	24124.00
30.00	Providing Granular Sand Filling Below Concrete In Foundation./Providing Granular Filling Between Abutment And Return Wall.	73.14	Cum	1154.66	84452.00
31.00	Providing PCC Grade M15 for plain/reinforced concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203	7.47	Cum	5473.56	40877.00
32.00	Providing PCC Grade M20 concrete for plain/reinforced concrete in Sub-Structure(Retrun Wall) complete as per drawings and technical specifications Clause 802, 803, 1202 &	51.47	Cum	5473.56	281697.00
33.00	RCC GRADE M-25 Plain/reinforced cement concrete in substructure complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 ans 1204	9.75	Cum	7376.66	71922.00
34.00	RCC GRADE M-25 Providing and laying reinforced cement concrete in superstructure as per drawing and technical specifications Clauses 800, 1205.4 and 1205.5	13.56	. Cum	7537.00	102202.00



SI.	Description Of Work	Qty.	Unit	Rate	AMOUNT
<b>No.</b> 35.00	Filter media behind abutment, wing wall and return wall complete as per drawings & technical specification Clause	21.50	Cum	2442.68	(In Rs.) 52527.00
36.00	1704.3.8 Providing Weepholes.	36.00	Nos	243.06	8750.00
37.00	Providing Pressure Relief Pipe.	6.00	Nos	413.96	2484.00
38.00	Providing Boulder Aprons.				
		20.40	Cum	3250.87	66318.00
39.00	R.C.C Railing	5.00	M	6532.69	32663.00
40.00	Supplying, fitting and placing HYSD bar reinforcement (Fe 415) in substructrue complete as per drawings and technical specification Clauses 1002, 1005, 1010 & 1202	3.38	М	62992.26	213052.00
	Total Construction Cost:				4,01,07,972.00
	Add Gst 12%:				48,12,956.64
	Add L.C 1%:				4,01,079.72
	Total Construction Cost (With Gst 12% + L.C 1%):				4,53,22,008.36
41.00	First Year Maintenance Cost	1.000	Year	234026.00	234026.00
42.00	Second Year Maintenance Cost	1.000	Year	294030.00	294030.00
43.00	Third Year Maintenance Cost	1.000	Year	1474995.00	1474995.00
44.00	Forth Year Maintenance Cost	1.000	Year	679346.00	679346.00
45.00	Fifth Year Maintenance Cost	1.000	Year	1746767.00	1746767.00
	<u>Total Maintenance Cost</u> :				44,29,164.00
	Add Gst 12% :				5,31,499.68
	Add L.C 1%:				44,291.64
	Total Maintenance Cost (With Gst 12% + L.C 1%):				50,04,955.32
	Total Estimated Cost ((With Gst 12% + L.C 1%):		r		5,03,26,963.68

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For Brigade Construction

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