

Construction of Various Structure of Bhavnagar District Pkg.No./RPC-2/BVN/STRC/MMGSY-NORMAL/2025-26/P.NO.5.1 Ta.Palitana Dist.Bhavnagar

BILL OF QUANTITIES

Item No.	Description of Item (With brief specification and reference to book of Specification)	Quantity	Unit	Rate In Figures	Amount
1	Clearing and grubbing of road land incl.uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth upto 300mm removal of stumps of trees cut earlier and disposal of unserviceable materials © By mechanical means in area of Light jungle.	0.24	One Hect.	28455.09	6829.22
2	WBM Grading 1 Providing, laying, spreading and compacting stone aggregates of 45 to 90mm sizes with average lead to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with smooth wheel roller 80-100 kN in stages to proper grade and camber, applying and brooming, stone screening/bindingmaterials to fill-up the interstices of coarse aggregate, wateringand compacting to the required density grading I as per TechnicalSpecification Clause 405. By Manual Means	517.30	One Cum	1521.33	786984.01
3	Rolling and Watering of earthwork in layers with vibratory roller including filling in depression which occur during the process as directed.	583.00	One Cum	23.18	13513.94
4	Earth work for embankment including breaking clods, dressing with all lead and lift. (Excluding watering and consolidation) Selected soil From borrow area within Land width from 1.00 Km lead Executed with machineries.(Selected soil to be used For earthwork shall be From BORROW AREA only having CBR not less than 6.00%)	583.00	One Cum	161.67	94253.61
5	Excavation for foundation upto 1.5 m depth including sorting out and stacking of useful materials and disposing of the excavated stuff upto 50 mtr lead. Dense or hard soil.	813.00	One Cum	259.93	211323.09
6	Excavation for foundation upto 1.5m depth including sorting out and stacking of useful materials and disposing of the excavated stuff upto 50 mtr lead. Hard Murrum	556.00	One Cum	442.90	246252.40
7	Excavation for foundation in sand, gravel, clay soft soils and murrum etc. including shoring, strutting dewatering as necessary and disposing of the excavated stuff as directed.(A) Depth upto 3.00mt and lead upto 100m	1798.00	One Cum	523.28	940857.44
8	Excavation of foundation in hard murrum and boulders and very stiff or sticky clays and other similar strata including shorting out and struting and dewatering as necessary and disposing of the excavated stuff as directed.	2113.00	One Cum	625.88	1322484.44
9	Excavation in large boulders and soft rock by wedging including shoring, strutting and dewatering as necessary and disposing of the excavated stuff as directed,	315.00	One Cum	733.62	231090.30
10	Excavation in hard rock by dry-wet blasting and chiseling including dewatering preparing foundation base by proper benching and stepping and disposing of the excavated stuff as directed (B) Prohibited Blasting prohibited.	34.40	One Cum	1715.19	59002.54
11	Providing and fixing Mild steel dowel bar of minimum 32mm dia. For anchoring by drilling holes in foundation strata including necessary bending, hooking of dowel bars and grouting the holes complete as per detailed drawing and as directed.	18.00	One Rmt.	450.07	8101.26
12	Providing and laying rubble for apron (Each stone weighting not less than 40kg) including and packing and filling in the interstices with quarry spalls.	1249.30	One Cum	1092.51	1364872.74

Item No.	Description of Item (With brief specification and reference to book of Specification)	Quantity	Unit	Rate In Figures	Amount
13	Providing and casting in situ ordinary cement concrete M-150 mix and providing necessary pin headers including shuttering, scaffolding, laying vibrating, curing and finishing complete Without V-Grooves. (A) Height from 0.0 m to 5.0m	2622.70	One Cum	3938.30	10328979.41
14	Providing and filling in foundation with ordinary cement concrete M-10 mix and providing necessary vertical pin headers incl. Formwork, vibrating, ramming and curing complete.	402.10	One Cum	3362.25	1351960.73
15	Providing and cast in situ Ordinary Cement Concrete M-20 Mix and providing pin headers including shuttering scaffolding, laying, vibrating, curing and finishing complete without V-grooves (A) Height from 0.0 M to 5.0 M	449.40	One Cum	4308.34	1936168.00
16	Providing and casting in situ controlled cement concrete M-30 for varies thickness wearing coat laid as directed including tamping, vibrating, finishing, curing and filling in joints with bitumen complete.	202.60	One Cum	5683.95	1151568.27
17	Providing and casting in situ controlled cement concrete M-20 for R.C.C. work in Pier, Abutment, Return & Riding Return as per drawings including centering shuttering, scaffolding where necessary, laying vibrating, curing and finishing complete. (A) Height from 0.0 to 5.0 M. (1) Piers (2) Abutment (3) RCC return	155.70	One Cum	5247.04	816964.13
18	Providing and casting in situ Controlled Cement Concrete M-25 for R.C.C. Raft and cut-off walls including necessary shuttering <u>laying, vibrating ramming of curing complete.</u>	399.20	One Cum	4745.95	1894583.24
19	Providing and casting in situ Contolled Cement concrete M 20 mix for R.C.C. works in pier cap, abutment cap, and dirt wall including controlled cement concrete M 25 bed block or pedestals for required size below bearings as per detailed drawings, centering, shuttering, scaffolding wherever necessary laying, <u>vibrating, curing and finishing complete.</u>	10.60	One Cum	5327.23	56468.64
20	Providing and casting in situ Controlled cement concrete M 25 for R.C.C. Solid slab including centering, scaffolding, curing and <u>finishing complete.</u>	318.10	One Cum	5312.82	1690008.04
21	Providing and casting in situ Contolled cement concrete- M-20 for Approach slab including formwork, curing and finishing <u>complete.</u>	20.80	One Cum	5178.40	107710.72
22	Providing and casting in situ Controlled cement concrete M 25 mix for Approach slab including formwork, curing and finishing <u>complete.</u>	20.40	One Cum	5284.12	107796.05
23	Providing and casting in situ Controlled cement concrete- M-20 Kerb/Kerb blocks including formwork, curing and finishing <u>complete.</u>	1.68	One Cum	4886.92	8210.03
24	Providing and applying one coat Epoxy Phenolic primer of DFT 50 micron and two coats of Polyurethane (aliphatic) epoxy paint- 75 micron DFT each or any other equivalent epoxy coating system to all concrete surfaces exposed to atmosphere in Substructure & Super Structure as directed by Engineer and as per specification.	2689.00	One Sqm	233.31	627370.59
25	Providing and laying weep hole in Abutments, and returns by using A.C. pipe of 100MM including fixing in proper grade and <u>jointing the complete as per detailed specification</u>	366.00	One No	62.93	23032.38
26	Providing and laying weep hole in Abutments, and returns by using PVC pipe of 100MM including fixing in proper grade and <u>jointing the complete as per detailed specification</u>	460.00	One No	355.52	163539.20
27	Providing and laying filter media 600mm. thick directed at the back of abutments, returns and wing walls as per detailed specifications.	170.80	One Sqm	1268.86	216721.29

Item No.	Description of Item (With brief specification and reference to book of Specification)	Quantity	Unit	Rate In Figures	Amount
28	Providing and fixing in position Mild steel dowel bars in pier cap or abutment caps for anchorage in fixed end as per detailed drawings including cutting bending and welding complete.	6.00	One No	341.29	2047.74
29	Providing and fixing in position Mild steel dowel bars in pier cap or abutment caps for anchorage in free end as per detailed drawings including cutting bending and welding complete.	6.00	One No	399.70	2398.20
30	Providing and laying in Position FE 500/ 500D TMT bar reinforcement including cutting, bending, hooking and tying complete as per detailed drawings for the following (A) Piers (B) Abutments (C) R.C.C. Returns / Walls / Caps/ Copings etc.	16.550	One MT	73858.69	1222361.32
31	Providing and Fixing in position FE 500/ 500D TMT bar reinforcement including cutting, bending and tying complete as per detailed drawaing (A)Solid Slab/ App. Slab/ Wearing coat.	110.540	One MT	73243.02	8096283.43
32	Providing & Fixing of Precast R.C.C. Railing of M-30 Grade Concrete having 2 - tire (Row) of Hand Rail dimension as shown in detail drawing & Vertical Post such as c/c pacing between vertical posts not to exceed 2.0 m including necessary TMT steel, Form Work, Painting with Weatherproof Paint, Supplying of all material, Labour etc. complete as per instruction of Engineer-in-Charge.	14.00	One Rmt.	1664.18	23298.52
33	Providing 12/20 Thick Pre-moulded asphalt filler joints as per drawings	234.80	One Sqm	758.42	178077.02
34	Providing PVC 100mm. Diameter water spouts including necessary iron gratings as per drawings.	144.00	One No	159.37	22949.28
35	Filling available excavated earth (excluding rock) in trenches plinth sides of foundation etc. in layers not exceeding 20cm in depth consolidating each deposited layer by ramming and watering.	3232.00	One Cum	137.47	444303.04
36	Supplying and fixing reinforced concrete heavy duty nonpressure pipes with collars for culverts carrying heavy traffic as per IS 458-1991 specifications including setting the pipes in C.M. 1:2 watering and laying (to level or slopes) of class NP3 of following internal daimeters.I)1200mm. Dia	135.00	One Rmt.	5560.00	750600.00
37	Dismantling the existing structure including removing and stacking the dismantled materials as and where directed. RCC Work.	111.40	One Cum	952.51	106109.61
38	Removing all types of Hume pipes and stacking within a lead of 1000m including earthwork and Dismantaling of Masonary works as per technical Specification Clause 202.(B) Above 600 mm to 900 mm	37.50	One Rmt.	415.04	15564.00
39	Demolition and disposal of un serviceable materials with all lead and lift (ii) Un reinforced cement concrete	487.00	One Cum	637.85	310632.95
40	Diversion: Providing temporary diversion suitable for traffic during the construction period of the C.D. Structure work by levelling existing ground and constructiong suitable compacted embankment, road surface with providing, laying & consolidation of 200 mm WBM in layers on carriage width with safety measures like sign board, guard stone & maintain for motorable road throughout construction period etc. and also dismantle diversion after completion of work etc. complete as per instrucion of Engineer-in-Charge.	200.00	One Rmt.	2280.58	456116.00
41	Providing and filling in foundation with ordinary cement concrete M-15 mix and providing necessary pin headers including formwork vibrating, rammering and curing complete	308.30	One Cum	3732.29	1150665.01

Item No.	Description of Item (With brief specification and reference to book of Specification)	Quantity	Unit	Rate In Figures	Amount
42	Providing and cast in situ Controlled Cement Concrete M-200 for average 75/100/150/200MM thick wearing coat laid as directed including. tamping, vibrating, finishing, curring and filling in joints with bitumen complete.	404.70	One Cum	5320.25	2153105.18
43	Providing and casting in situ controlled cement concrete M-25 for R.C.C. Wall / Return as per drawings including centering shuttering, scaffolding where necessary, laying vibrating, curing and finishing complete. (A) Height from 0.0 to 5.0 M. (1) Piers/R.C.C Walls (2) Abutment (3) RCC return	399.50	One Cum	5352.76	2138427.62
44	Provision of an Reinforced cement concrete crash barrier at the edges of the road, approaches to bridge structures and medians, constructed with RCC M-30 Grade conforming to MORTH Specification and as per details given IRC-5 Including dowel bars 25 mm dia, 450 mm long at expansion Joints filled with pre-moulded asphalt filler board, keyed to the structure on which it is built and installed as per design given in the enclosure to MOST circular No. RW/NH-33022/1/94-DO III dated 24 June 1994 as per dimensions in the approved drawing and at locations directed by the Engineer, all as specified.	61.20	One Cum	5420.67	331745.00
45	Providing and placing in position FE 500/500D TMT bar reinforcement including cutting, bending and tying complete as per detailed drawing.(A) R.C.C. Kerb (B) R.C.C. Footpath (C) R.C.C. Approach slab (D) Wearing Coat	3.49	One MT	73243.01	255618.10
46	Providing and fixing "W" type metal beam crash safety barrier comprising of single row 3 mm thick galvanized sheet to be fixed on ISMC 150 (150 mm x 75 mm x 5.4mm) series channel vertical post to be spaced 2.0 mtr c/c to be kept 1.65 mtr height including necessary foundation, fittings with bolts , painting and Readuam patta and required all process as per specification and as per drawing.	100.70	One Rmt.	3201.70	322411.19
47	Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ ground level, fixed on ISMC series channel vertical post, 150x75x5mm spread 2m center to center, 1.8m high 1.1m below ground/road level, all steel parts and fitmwnts to be galvanised by hot dip process, all fittings to confirm to IS 1367 and IS 1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150x75x5mm, 330 mm long complet as per clause 811	160.00	One Rmt.	3468.34	554934.40
48	Marking out the centre line of the bridge and various other component structures and complete lining out and levelling with DGPS, Total Station, Auto Level including constructing necessary masonry pillars for line and levels and establishing necessary bench mrk etc, complete as directed	1.00	LS	20200.00	20200.00
49	Providing and Fixing Flood guage post confirming to IRC 67-2001 using engineering grade retro reflective sheeting including lettering and border as directed. For New structure.	6.00	One No	3046.16	18276.96

Item No.	Description of Item (With brief specification and reference to book of Specification)	Quantity	Unit	Rate In Figures	Amount
50	Road marking with hot applied thermoplastic paints (Yellow Colour No. 356 on C.C. Road & White Colour on Asphalt Surfaces) with reflectorising glass beads on bitumin surface providing and laying a hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250gms per sqm area, thickness of 2.5mm is excluding of surface applied glass beds as per IRC:35-2015. The finished surface to be level, uniform and free from streaks and holes. zebra patta /bump patta lane/center line/ edge line/cut patta. The white color marking should provide luminance coefficient on cement road shall be min 130 mcd/m ² /lux and Asphalt road shall be min 100 mcd/m ² /lux during the service life during the day time. The marking should meet the performance criteria for night time reflectivity, wet reflectivity and skid resistance as mentioned in the section-15 of IRC 35-2015. Warranty for the Retro reflectivity should be two years.	74.00	One Sqm	367.72	27211.28
51	Cat Eye / Road Stud / RPM: Supplying of Molded Twin Shanks Raised Pavement Markers made of polycarbonate and ABS moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face and shall support a load of 13635 kgs. tested in accordance to ASTM D 4280 Type H and complying to Specifications of Category A of MORTH Circular No RW/NH/33023/10-97 DO III Dt 11.06. 1997. The height, width and length shall not exceed 20 mm, 130 mm and 130 mm and with minimum reflective area of 13 Sqcm on each side and the slope to the base shall be 35 +/- 5 degree. The strength of detachment of the integrated cylindrical shanks, (of diameter not less than 19 +/- 2 mm and height not less than 30 +/- 2 mm) from the body is to be a minimum value of 500 Kgf. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturers recommendation and The color of the marker should be as per the IRC 35-2015 and as directed by Engineer-in-charge.	74.00	One No	326.23	24141.02
52	Supplying & laying of bi-axial extruded high modulus polypropylene geogrid conforming to MORT&H specification for base/sub-base reinforcement having minimum tensile strength 30kN/m in the longitudinal and transverse direction, with 10.5kN/m and 21kN/m tensile strength at 2% and 5% strain respectively in the longitudinal and transverse direction, junction efficiency not less than 95% and with 38mm X 38mm mesh opening	670.50	One Sqm	253.51	169978.46
53	Cautionary warning sign:-Providing & Fixing sign boards made out of 2mm. aluminium sheet size 90x90x90cms. equilateral triangle as per design of IRC-67-1977 Pretreated with phosphating process & acid etching : coated with one coat of epoxy primer and two coats of best quality epoxy paint, reflectorised with retro reflective sheeting as per latest MOST specifications. 3.1mt. long stand post & frame fabricated from suitable size iron angle of 35x35x3 mm., 75x75x6mm. required painted with best quality epoxy coatings in black and white bands, the detail of symbols for each board shall be as per the instruction of the engineer in charge. The fixing at site shall be in C.C. 1:2:4 block of size 45x45x60 cms for each leg, incl. excavation, curing etc. comp. under the supervision of Engineer - in charge. (A) Engineer Grade	6.00	One No	3808.65	22851.90

Item No.	Description of Item (With brief specification and reference to book of Specification)	Quantity	Unit	Rate In Figures	Amount
54	Informatory Signs:-Providing and fixing sign boards made out of 2mm aluminium sheet; size 80 x 60cms. rectangle as per the design of IRC-67-1977 pre treated with phosphating process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint; reflectorised with retro reflective sheeting as per latest M.O.S.T. Specifications; 3.1m long stand post and frame fabricated from suitable size iron angle of 35 x 35 x 3mm 75x75x6mm as required; painted with best quality epoxy coatings in black and white bends. the details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC block of size 45 x 45 x 60cms. for each leg. including excavation curing etc. complete under the supervision of engineer in charge. (A) Engineer Grade	5.00	One No	3856.90	19284.50
55	Hazard Marker sign : Providing and Fixing sign boards made out of 2mm aluminum sheet : size 90*30 cms. rectangle as per design / Drawing attached (IRC). Pretreated with phosphating process and acid etching : coated with one coat of epoxy primer and two coats of best quality epoxy paint: reflectorised with retro reflective sheeting as per latest M.O.S.T specification: 3.1 M. long (2 nos) stand post and frame fabricated from suitable size iron angle of 35*35*3mm and 50*50*5mm : painted with best quality epoxy coatings in black and white bends the details of symbols or inscription / numerals for each board shall be as per the instruction of engineer in charge the fixing at site shall be in 1:2:4 CC block of size 45*45*60 cms for each leg; including excavation curing etc. comp.under the supervision of engineer-in-charge. (A) Engineer grade	6.00	One No	2423.74	14542.44
56	Route marker sign :- Providing & fixing sign boards made out of 2mm aluminium sheet, size 60x45cms. rectangle plus 30x25cms additional plate as per the attached drawing (IRC) pre treated with phosphating process & acid etching. coated with one coat of epoxy primer and two coats of best quality epoxy paint reflectorised with retro sheeting as per latest M.O.S.T. Specifications; 3.1m long stand post and frame fabricated from iron angle of 35 x 35 x 3mm, 75x75x6mm as required, painted with best quality epoxy coating in black and white bends The details of numerals for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC block of size 45 x 45x 60cms. for each leg, including excavation curing etc. complete under the supervision of engineer in charge.(A) Engineer Grade	20.00	One No	3744.68	74893.60

Item No.	Description of Item (With brief specification and reference to book of Specification)	Quantity	Unit	Rate In Figures	Amount
57	Facility Informatory Sign :-Providing and fixing sign boards made out of 2mm aluminium sheet/4mm ACP (Aluminum composite Panel); size 80 x 60 cms. rectangular as per design of IRC-67-2012. Pre treated with phospheting process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint; reflectorised with High Intensity Prismatic Grade retro reflectivesheeting of Type-4 as per ASTM D-4956 and latest M.O.S.T.Specifications; 3.6mtr long stand post of Iron Angle 75 x 75 x 6mm/65NB Circular MS Pipe as required and frame fabricated from suitable size iron angle of 35 x 35 x 3mm; painted with bestquality epoxy coatings in black and white bends. The details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC blockof size 45 x 45 x 60 Cms. for each leg including excavation, curing etc.complete under the supervision of engineer in charge. A warranty for 7 years for the Retro reflective sheeting from original manufacturer & a certified copy of 3 year outdoor exposure test report from third party test lab for the product offered shall be submitted by contractor. (B) Class-B Type-4 Retro Reflective sheeting.	1.00	One No	3990.64	3990.64
58	Hazard Marker Sign :-Providing and fixing sign boards made out of 2.0 mm aluminium sheet / 4 mm ACP (Aluminum composite Panel); size 90x30 cms. rectangular as per design of IRC-67-2012. Pre treated with phospheting process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint; reflectorised with High Intensity Prismatic Grade retro reflectivesheeting of Type-4 as per ASTM D-4956 and latest M.O.S.T.Specifications; 1.8mtr long stand post of Iron Angle 75 x 75 x 6mm / 65NB Circular MS Pipe as required and frame fabricated from suitable size iron angle of 35 x 35 x 3mm; painted with bestquality epoxy coatings in black and white bends. The details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC blockof size 45 x 45 x 60 Cms. for each leg including excavation, curing etc.complete under the supervision of engineer in charge. A warranty for 7 years for the Retro reflective sheeting from original manufacturer & a certified copy of 3 year outdoor exposure test report from third party test lab for the product offered shall be submitted by contractor. (B) Class-B Type-4 Retro Reflective sheeting	2.00	One No	3518.69	7037.38
59	Providing temporary all weather and fair weather diversion suitable for traffic during the construction period of the bridge including providing necessary drains and all safety measures including Earth Work, Quarry Spall, WBM, red lamps/ signal at night for traffic etc. complete	60.00	One Rmt.	1151.30	69078.00
60	Providing and laying PP Extruded Geogrid techgrid PP 3030 having sperture of 38mmx38mm. The Biaxial Geogrid shall have tensil strength of 11kn/m @21.6kn/m 2% & 5% strain respectively & confirm to attached specification as per direction of Engineer-in-charge	359.30	One Sqm	116.15	41732.70
61	Providing temporary diversion suitable for traffic during the construction period of the bridge/ cd work by levelling existing ground and supplying and spreading quarry spall in layers etc. complete.	240.00	One Rmt.	721.24	173097.60
Four Crore Forty Nine Lakh Ninety Thousand Six Hundred Nine Rupees And Seventy Seven Paise					44990609.77

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I \ We am \ are willing to carry out the work at % above \ below percent (Should be written in figures and words) of the estimated rate mentioned above. Amount of My \ Our tender works put as under.

* Estimated Amount

Put to tender **Rs**.....

Deduct.....%

Net **Rs**.....

In words.....

* Estimated Amount

Put to tender **Rs**.....

Add.....%

Total **Rs**.....

In words.....

1.The Contractor shall exhibit a board with detailed specification and details of work as directed by the Engineer-In-Charge for which no extra payment shall be made.

2.The labour cess will be deducted as per prevailing rules i.e. 1 % of the work done.

3.GST and Income tax TDS will be deducted at a source while making payments of bills

4.In all R.C.C. Items in Rate Analysis Standard Cement Consumption has been taken as per Govt. G.R.: PRC-10/2017 Cement Consumption/16/C Date:11/05/2017 as stated in

S.O.R. therefore in R.C.C. items where there is a change as per actual mix design the cost

of difference of cement consumption have been deducted from the rate of original item at the rate of input rate mentioned in all the tender.

NOTE: Amount Rs 342986.25 of Dismantalled materials shall be recovered from 1st R.A. bill of Contractor at once.

Signature of Contractor.

Deputy Executive Engineer
Panchayat R&B Sub Division
Palitana

Executive Engineer
Panchayat R&B Division
Bhavnagar