

PROPOSED ESTIMATE FOR CONSTRUCTION OF RCC BOX CELL BRIDGE CLEAR OPENING 3M X 3M

The rates are taken from PWD(WB) schedule of rate for Road & Bridge works 1.12.15 & 11 th,12th ,13th,14th Addenda & Corrigenda and Building works of Midnapore west effect from 01.11.2017 Follow IRC SP-20.

| Sl. No. | Page No & It No. | Description | No. | L. (m.) | B. (m.) | H. (m.) | Quantity | Unit | Rate (Rs.) | Amount (Rs.) |
|---------|--------------------------------------|--|-----|---------|---------|---------|----------|----------------|------------|----------------|
| 1 | 278,1 2.01(a) (i) | Earthwork in excavation for foundation of structures as per drawing and technical specification including setting out, removing, spreading or stacking of spoils within a lead of 150 m. as directed and including trimming the sides of the trenches, leveling, dressing and ramming the bottom, complete as per direction of the Engineer-in-Charge.)In all sorts of soil excluding marshy soil & rocks (soft or hard) by manual means. | | | | | | | | |
| | | a)Depth up to 3 m. : | | | | | | | | |
| | | With pumping out water and including with shoring. | | | | | | | | |
| | | Bed | 1 | 7.100 | 3.750 | 0.550 | 14.644 | | | |
| | | cut-off wall | 1 | 24.700 | 0.300 | 1.500 | 11.115 | | | |
| | | Wing wall | 4 | 2.433 | 3.000 | 1.650 | 48.173 | | | |
| | | Approach D/S | 1 | 8.140 | 1.550 | 0.600 | 7.570 | | | |
| | | Approach U/S | 1 | 8.140 | 1.550 | 0.600 | 7.570 | | | |
| | | PCC Wall | 1 | 21.140 | 0.600 | 1.575 | 19.977 | | | |
| Total | | | | | | | 109.050 | m ³ | 124.00 | 13522.00 |
| 2 | Rate Analy sis Attach ed | Supplying, spreading of Moorum(70%) & sand(30%) by volume to the required thickness in layers as specified and directed by the EIC stabilizing the same by adding requisite quantity of water to get OMC remixing in wet rolling by power roller to the required thickness to proper grade camber with power roller including proper tampering and curing the same for 5 days to have max. dry density as specified and lighing,guarding,barracading and making adequate earthen bundh for protecting the edges etc. | | | | | | | | |
| | | Bed | 1 | 7.100 | 3.750 | 0.150 | 3.994 | | | |
| | | Total | | | | | | | 3.994 | m ³ |
| 3 | Rate Analy sis Attach ed | Sand filling in foundation trenches and at the back of abutments, wing-walls etc. with good local sand free from earth in layers not exceeding 15 cm. including inundating each layer by profuse water and poking and ramming layer by layer complete excluding supply of sand. Quality of sand is to be approved by the Engineer-in-charge. | | | | | | | | |
| | | Wing wall | 4 | 2.433 | 3.000 | 0.300 | 8.759 | | | |
| | | Total | | | | | | | 8.759 | m ³ |

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|---------|------------------------|---|--------------|---------|---------|---------|----------|----------------|------------|--------------|
| 4 | Rate Analysis Attached | Providing and laying Design Mix concrete for plain / reinforced concrete work in any part of bridge (excluding bottom plugging) with coarse aggregates of appropriate nominal size and grading, fine aggregate (sand) conforming to proper grading zone, both of approved quality and cement, as necessary, including labour, cost and carriage of all materials and including preparation of design mix, approval of the same by the Engineer-in-Charge and cost for quality control, sampling, testing etc. all complete but excluding cost of labour and materials for formwork & reinforcement works.M-15 Grade.Using concrete. | | | | | | | | |
| | | M15 | | | | | | | | |
| | | Bed | 1 | 7.100 | 3.750 | 0.100 | 2.663 | | | |
| | | Wing wall | 4 | 2.433 | 2.500 | 0.150 | 3.650 | | | |
| | | | 4 | 2.133 | 2.500 | 0.200 | 4.266 | | | |
| | | | 4 | 2.033 | 2.500 | 0.200 | 4.066 | | | |
| | | | 4 | 1.933 | 2.500 | 0.200 | 3.866 | | | |
| | | | 4 | 1.833 | 2.500 | 0.200 | 3.666 | | | |
| | | | 4 | 1.733 | 2.500 | 0.200 | 3.466 | | | |
| | | | 4 | 1.633 | 2.500 | 0.200 | 3.266 | | | |
| | | | 4 | 0.941 | 2.500 | 2.500 | 23.525 | | | |
| | | PCC Wall | 1 | 21.140 | 1.575 | 0.250 | 8.324 | | | |
| | | Approach D/S | 1 | 8.140 | 1.550 | 0.075 | 0.946 | | | |
| | | Approach U/S | 1 | 8.140 | 1.550 | 0.075 | 0.946 | | | |
| Total | | | | | | | 62.649 | m ³ | 5112.32 | 320284.00 |
| 5 | Rate Analysis Attached | Providing and laying Design Mix concrete for plain / reinforced concrete work in any part of bridge (excluding bottom plugging) with coarse aggregates of appropriate nominal size and grading, fine aggregate (sand) conforming to proper grading zone, both of approved quality and cement, as necessary, including labour, cost and carriage of all materials and including preparation of design mix, approval of the same by the Engineer-in-Charge and cost for quality control, sampling, testing etc. all complete but excluding cost of labour and materials for formwork & reinforcement works.M-20 Grade.Using concrete mixer. | | | | | | | | |
| | | M20 | | | | | | | | |
| | | Raft | 1 | 7.100 | 3.750 | 0.300 | 7.988 | | | |
| | | shear wall | 2 | 3.750 | 0.400 | 3.000 | 9.000 | | | |
| | | | 1 | 3.750 | 0.300 | 3.000 | 3.375 | | | |
| | | slab | 1 | 7.100 | 3.750 | 0.300 | 7.988 | | | |
| | | Haunch | 8 | 0.150 | 0.150 | 3.750 | 0.338 | | | |
| | | Cut-off wall | 1 | 24.700 | 0.300 | 1.500 | 11.115 | | | |
| | | Railing | 14 | 0.300 | 0.150 | 0.150 | 0.095 | | | |
| | | | 4 | 7.100 | 0.150 | 0.150 | 0.639 | | | |
| | | Wearing course | 1 | 7.100 | 3.750 | 0.050 | 1.331 | | | |
| | | Approach slab | 2 | 2.000 | 3.750 | 0.300 | 4.500 | | | |
| Total | | | | | | | 46.367 | m ³ | 5462.17 | 253266.00 |
| 6 | Rate Analysis Attached | Supplying, fitting and placing HYSD bar reinforcement in Sub-structure including initial straightening, straightening of coils bars, removal of loose rust (if any), cutting to requisite length bending.binding with annealed wire not less than 1 mm in size and conforming to IS 280 at every intersection hooked and bent to correct shape and placed on forms etc.including cost of black annealed wire and cost of loading, unloading, carriage of all steel materials complete as per drawing and technical specifications and direction of Engineer-in-charge. | | | | | | | | |
| | | Rates as per analysis attached(1.5% of Concrete Volume) | | | | | | | | |
| | | Tor Steel /H.Y.S.D. Bars | BBS attached | | | | 5.460 | MT | 56637.36 | 309225.00 |

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|---------|-----------------------|---|-----|---|---------|---------|----------|----------------|------------|----------------|--------|----------|
| 7 | 322,1 8.05(b)) | Hire and labour charges for Shuttering with or without staging upto 4.0 m height using approved stout props with wooden planks/ply wood/steel sheet plate with required bracing for any kind of plain or reinforced concrete works in all sorts of minor structure including culvert, box culvert, cross-drain etc. The rate is inclusive of fitting, fixing and striking out after completion of work as per specification and direction. (b) Where staging is not required. | | | | | | | | | | |
| | | Form work with ply wood in well steining, abutment, box type bridge, vertical, inclined sides, rail post etc. | | | | | | | | | | |
| | | for portin of hieght 1m | | | | | | | | | | |
| | | Box shear wall | 2 | 7.100 | | 0.300 | 4.260 | | | | | |
| | | | 2 | 3.750 | | 0.300 | 2.250 | | | | | |
| | | | 6 | 3.750 | | 0.700 | 15.750 | | | | | |
| | | | 4 | 0.400 | | 0.700 | 1.120 | | | | | |
| | | | 2 | 0.300 | | 0.700 | 0.420 | | | | | |
| | | wing wall | 8 | 2.500 | | 1.000 | 20.000 | | | | | |
| | | | 4 | 2.350 | | 1.000 | 9.400 | | | | | |
| | | | 4 | 1.917 | | 1.000 | 7.668 | | | | | |
| | | Cut off wall | 2 | 24.700 | | 1.500 | 74.100 | | | | | |
| | | PCC Wall | 2 | 21.140 | | 1.500 | 63.420 | | | | | |
| | | Total | | | | | 198.388 | m ² | 214.00 | 42455.00 | | |
| | | | | for portin of hieght above 1m to 3m | | | | | | | | |
| | | | | Box shear wall | 6 | 3.750 | | 2.300 | 51.750 | | | |
| | | | | | 4 | 0.400 | | 2.300 | 3.680 | | | |
| | | | | | 2 | 0.300 | | 2.300 | 1.380 | | | |
| | | | | | 2 | 7.100 | | 0.300 | 4.260 | | | |
| | | | | | 2 | 3.750 | | 0.300 | 2.250 | | | |
| | | | | wing wall | 8 | 2.500 | | 0.200 | 4.000 | | | |
| | | | | | 4 | 1.850 | | 0.200 | 1.480 | | | |
| | | | | | 4 | 1.417 | | 0.200 | 1.134 | | | |
| | | | | | 4 | 2.500 | | 2.635 | 26.350 | | | |
| | | | | | 4 | 2.500 | | 2.512 | 25.120 | | | |
| | | | | Rail & Post | 14 | 4.000 | | 0.300 | 16.800 | | | |
| | | | | | 2 | 6.050 | | 0.150 | 1.815 | | | |
| | | | | Total | | | | | 140.019 | m ² | 214.00 | 29964.00 |
| | | | | Hire and labour charges for Shuttering with or without staging upto 4.0 m height using approved stout props with wooden planks/ply wood/steel sheet plate with required bracing for any kind of plain or reinforced concrete works in all sorts of minor structure including culvert, box culvert, cross-drain etc. The rate is inclusive of fitting, fixing and striking out after completion of work as per specification and direction. (b) Where staging is not required. | | | | | | | | |
| | | | | | 2 | 3.000 | 3.750 | | 22.500 | | | |
| | | | | Total | | | | | 22.500 | m ² | 214.00 | 4815.00 |

| Sl. No. | Page No & It No. | Description | No. | L. (m.) | B. (m.) | H. (m.) | Quantity | Unit | Rate (Rs.) | Amount (Rs.) |
|---|------------------------|--------------|-----|---------|---------|---------|----------|------|------------|-------------------|
| 8 | Rate Analysis Attached | Boulder Work | | | | | | | | |
| | | Approach D/S | 1 | 8.140 | 1.550 | 0.525 | 6.624 | | | |
| | | Approach U/S | 1 | 8.140 | 1.550 | 0.525 | 6.624 | | | |
| | | Total | | | | | 13.248 | m3 | 753.00 | 9976.00 |
| TOTAL COST (A) Rs. | | | | | | | | | | 990568.00 |
| Add GST(6% CGST+6% SGST)On SI No A)B@12.0% Rs. | | | | | | | | | | 118868.00 |
| Cost of Civi works excluding labour welfare cess Total (C=A+B)Rs. | | | | | | | | | | 1109436.00 |
| Labour welfare cess (on Sl.no C)@1.0%D Rs. | | | | | | | | | | 11094.00 |
| Cost of Civi works including labour welfare cess amount (E=C+D) Rs. | | | | | | | | | | 1120530.00 |
| Add Contingency (on Sl.no C) @3.0% Rs. | | | | | | | | | | 33283.00 |
| TOTAL ESTIMATED COST Rs. | | | | | | | | | | 1153813.00 |
| TOTAL ESTIMATED COST(IN WORD)-ELEVEN LAKH FIFTY THREE THOUSAND EIGHT HUNDRED THIRTEEN ONLY | | | | | | | | | | |

| Rate Analysis of Steel | | | |
|-------------------------------|---|------------------------|--------------------|
| Format-E(P-218) | | | |
| 1 | Rate of Item as per relevent section (P-297/It-13.02)11th corrigendum(P-13) | | Rs 3308.00 |
| 2 | Add: Cost of Steel = Quantity of Steel(1.05) x Basic Price of Steel (vide Item no. 2, Column –5, Table I – 1 of the Schedule of Rates). P-215,It no-2(ii) New,14th Corrigendum(P-1). N:B-(ii)b,Tor Steel rods/HYSD Bars/TMT bars(JSW/JSPL/Shyam/SRMB/SSL/BMASL/Electrosteel(Fe 415/Fe 500/Fe 500D Conform to IS:1786).Rate-Rs.43750.00 | | Rs 45937.50 |
| 3 | Add: Cost of Carriage including necessary loading - unloading from nearest Company Outlets /Stack yard/Godown to the site of execution (excluding Overhead Charges & Contractor's Profit) = (Cost of Carriage including loading – unloading charges) / 1.15 | | Rs 235.11 |
| | Loading & Unloading 96 x @ 0.75 =72.00x1.05 | P-225,It-1.03(h) 75.60 | L+U=75% |
| | Add cost of carriage 20 KM from Medinipur Stack | P-227,It-5 | |
| | 0-5 KM=82x1.05 | Rs 86.10 | |
| | 5-10KM (7.30x5)=36.50x1.05 | Rs 38.33 | |
| | 10-20KM (6.70x10)=67.00x1.05 | 70.35 | |
| | 20-50KM (6.30x30) | 0.00 | |
| | 50-100KM (5.60x50) | 0.00 | |
| | 100-150KM (5.30x50) | 0.00 | |
| | The rate provided is exclusive of cost of steel materials. Construction wing should add cost & carriage of 1.05 MT (considering 5% wastage) of steel materials to arrive at the final consolidated item rate. (P-297,Note) | | |
| | TOTAL = Rs | | 270.38 |
| 4 | Add: Overhead Charges @ 5% /15% /20% of (2+3) as the case may be (vide Sl. 3 of | | Rs 2308.63 |
| 5 | Add: Contractor's Profit @ 10% of (2+3+4) | | Rs 4848.12 |
| | TOTAL (RS) | | Rs 56637.36 |

| Rate Analysis | | | | | | |
|---|---|-----------|--------|-----------------------|-------|---------|
| Sandy Moorum | | | | | | |
| Description of Item | | | Moorum | | | |
| a) | Cost of Moorum at Quarry per cum (11th Corrigenda & Addenda to PWD (WB), SOR: 2015-16 Road & BridgeWorks P-3, It-7) | | 117.00 | | | |
| b) | Carring charge from quarry to work site = 10 km | | | | | |
| | 0 -5 KM | Rs 124.00 | | | | |
| | 5 - 10 KM | Rs 54.50 | 178.50 | | | |
| | TOTAL = Rs | | 178.50 | | | |
| c) | Loading & Unloading 62.00 x @ 0.75 | | 46.50 | | | |
| Total cost of moorum per cum | | | 342.00 | Compacting factor .67 | | |
| Compaction by Moorum (70%) & Sand (30%) | | | | | | |
| a) | Moorum (P-3, Sl No. - 7) | 0.7 | 1 | 510.45 | Rs | 357.31 |
| b) | Sand (P-3, Sl no-3) | 0.3 | 1 | 342.22 | Rs | 102.66 |
| c) | Labour and other cost (P-242, sl no - 4.04 & 4.05) | | | | Rs | 178.00 |
| | Total | | | | Rs | 637.98 |
| Fine Sand | | | | | | |
| | | | | | | |
| | Cost at Site | 305 | rs/cum | L+U+S | 77.00 | L = 40% |
| | (11th Corrigenda & Addenda to PWD (WB), SOR: 2015-16 Road & Bridge Works P-3, It-3) | | | L+U | 57.75 | U = 35% |
| | | -19.25 | rs/cum | S | 19.25 | S = 25% |
| | | 285.75 | rs/cum | | | |
| | | | | L=Loading | | |
| | Compacting Factor(280,12.04,Note 2) | 0.835 | | U=Unloading | | |
| | | | | S=Stacking | | |
| | | 342.22 | rs/cum | | | |
| | Labour Charges | 173.00 | rs/cum | | | |
| | 280,12.04 11th corrigendum | | | | | |
| | Total | 515.22 | rs/cum | | | |
| Boulder | | | | | | |
| | | | | | | |
| | Cost at Quarry | 255 | | | | |
| | (45mm-150) | | | | | |
| | P-219,It no-6,11th Corrigendum | | | | | |
| | L+U(P-224,It 1.03A(a)) | 46.50 | | L+U+S | 62 | L=40% |
| | P-227,It-3 | | | L+U | 46.5 | U=35% |
| | Upto 5km | 124.00 | | | | S=25% |
| 5- | 10.90X5 | 54.50 | | L=Loading | | |
| 10- | 10.10X10 | 101.00 | | U=Unloading | | |
| 20- | 9.50X00 | 0.00 | | S=Stacking | | |
| 50- | 8.40X00 | | | | | |
| 100- | 7.90X00 | | | | | |
| | Labour and other cost | 172.00 | | | | |
| | (P-242,sl no-4.04) | | | | | |
| | Upto 30km | 753.00 | | | | |

