

# VOLUME - II

Price Bid Format Ref. No.  
.: TOA1R14542/PBF/01 Rev. 0

# PRICE BID SPECIFICATION

PROJECT: Construction of Civil, Structural & Architectural works for  
Telibandha Lake purification for M/s Raipur Smart City Ltd.

BHARAT HEAVY ELECTRICALS LIMITED, PE&SD, R.C. PURAM, HYDERABAD - 502032

## PRICE BID FORMAT

Tender Enquiry No.: TO1AR14542

Annexure-II

Name of the Work: Construction of Civil, Structural & Architectural works for Telibandha Lake purification for M/s Raipur Smart City Ltd.

| Item.<br>NO. | ITEM DESCRIPTION   | Multiplying<br>factor for<br>deriving rate<br>(Total price<br>quoted by<br>the bidder<br>will be<br>multiplied<br>with this<br>factor to<br>determine<br>rate | UNIT | Rate(in Rs.) | TOTAL QTY | Amount(in Rs.) | % age allocation | Remarks |
|--------------|--|---|------|--------------|-----------|----------------|------------------|---------|
| A            | B  | C   | D    | E            | F         | G              | H                | I       |
| 1            | Excavation for all types and sizes of foundations, trenches and drains or for any other purpose including disposal of excavated stuff upto 1.5 m lift and lead upto 50m (at least 5m away from the excavated area), including dressing and leveling of pits.<br><b>In all types of soils.</b>  | 0.00002843  | Cum  |              | 741       |                | 2.106670         |         |
| 2            | Pumping out water caused by springs tidal or river seepage, broken water main or drains and like during Excavation or during Excavation and laying of base concrete (volume to be calculated taking height from water level to bottom of pit and to be measured and paid).   | 0.00002244  | Cum  |              | 100       |                | 0.224367         |         |
| 3            | Filling from available excavated stuff (Excluding rock) in trenches, plinth, sides of foundation etc. in layers not exceeding 20cm in depth consolidating each deposited layer by ramming and watering with a lead upto 50 M. and lift upto 1.5 M.   | 0.00000999  | Cum  |              | 445       |                | 0.444109         |         |
| 4            | Supplying and filling CNS upto any depth under floors, around foundations, plinths etc. in layers not exceeding 250 mm thickness and compacted using vibratory roller so as to achieve at least 95% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete. | 0.00014104  | Cum  |              | 270       |                | 3.807980         |         |
| 5            | Providing and Filling below foundations/floor with random rubble stone chipping in layers including breaking of stone boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.        | 0.00023712  | cum  |              | 105       |                | 2.489784         |         |
| 6            | Providing and laying nominal mix plain cement concrete with crushed stone aggregate using concrete mixer in all works upto plinth level excluding cost of form work.<br><b>1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 40mm nominal size).</b>  | 0.00054586  | Cum  |              | 46        |                | 2.510945         |         |

| Item. NO. | ITEM DESCRIPTION   | Multiplying factor for deriving rate (Total price quoted by the bidder will be multiplied with this factor to determine rate) | UNIT | Rate(in Rs.) | TOTAL QTY | Amount(in Rs.) | % age allocation | Remarks |
|-----------|--|---|------|--------------|-----------|----------------|------------------|---------|
| 7         | Providing and laying design mix reinforced cement concrete with crushed graded stone aggregate 20mm nominal size using batching plant, transit mixer and concrete pump, in all works <b>upto plinth level</b> excluding cost of form work.<br><b>M-25 Grade</b>  | 0.0006605   | cum  |              | 15        |                | 0.990750         |         |
| 8         | Providing and laying design mix reinforced cement concrete with crushed graded stone aggregate 20mm nominal size using batching plant, transit mixer and concrete pump, in all works <b>above plinth level</b> excluding cost of form work.<br><b>M-25 Grade</b>   | 0.00067548  | cum  |              | 10        |                | 0.675484         |         |
| 9         | Providing and laying <b>M30 Grade</b> design mix reinforced cement concrete with crushed graded stone aggregate 20mm nominal size using batching plant, transit mixer and concrete pump(excluding cost of form work.): <b>in all works upto plinth level</b>   | 0.00067034  | cum  |              | 227       |                | 15.216613        |         |
| 10        | Providing and laying M30 Grade design mix reinforced cement concrete with crushed graded stone aggregate 20mm nominal size using batching plant, transit mixer and concrete pump(excluding cost of form work.): <b>in all works above plinth level</b>   | 0.00068532  | cum  |              | 170       |                | 11.650419        |         |
| 11        | Providing and fixing form work including centring, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for:<br><b>Foundations, footings, bases of columns plinth beam, curtain wall in any shape and size and all type of wall below plinth level.</b> | 0.00002136  | sqm  |              | 40        |                | 0.085444         |         |
| 12        | Providing and fixing form work including centring, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for:<br><b>Wall of any thickness including attached pilasters, buttresses etc. in superstructure.</b>   | 0.00003504  | sqm  |              | 773       |                | 2.708450         |         |
| 13        | Providing and fixing form work including centring, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for:<br><b>Beams, lintels, cantilevers &amp; walls</b>  | 0.00003104  | sqm  |              | 372       |                | 1.154784         |         |

| Item. NO. | ITEM DESCRIPTION   | Multiplying factor for deriving rate (Total price quoted by the bidder will be multiplied with this factor to determine rate | UNIT | Rate(in Rs.) | TOTAL QTY | Amount(in Rs.) | % age allocation | Remarks |
|-----------|--|--|------|--------------|-----------|----------------|------------------|---------|
| 14        | Providing and fixing form work including centring, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for:<br><b>Columns, Pillars, Piers and likes- rectangular or square in shape</b>  | 0.00004564   | sqm  |              | 76        |                | 0.346878         |         |
| 15        | Providing and placing in position reinforcement for R.C.C. work including straightening, cutting, bending, binding etc. complete as per drawings including cost of binding wire in foundation and plinth all complete:<br><b>Thermo-Mechanically treated bars FE 500D</b>  | 0.00000838   | Kg   |              | 42000     |                | 35.176471        |         |
| 16        | Providing and laying integral cement based water proofing treatment on roofs, balconies, terraces etc with average thickness of 120mm and minimum thickness at khurra as 65 mm, consisting of following operations including surface preparation:<br>i) Applying a slurry coat of neat cement using 2.75 kg/sqm. of cement mixed with water proofing compound conforming to IS. 2645 over the RCC slab including adjoining walls upto 300mm height.<br>ii) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) mixed with water proofing compound conforming to IS : 2645 over 20 m thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand ) mixed with water proofing compound conforming to IS : 2645 to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs.<br>iii) After two days of proper curing applying a second coat of cement slurry using 2.75kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645.<br>iv) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) mixed with water proofing compound conforming to IS : 2645 including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3mm deep.<br>v) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test.<br>All above operations to be done in order: | 0.0000939  | sqm  |              | 24        |                | 0.225351         |         |

| Item. NO. | ITEM DESCRIPTION  | Multiplying factor for deriving rate (Total price quoted by the bidder will be multiplied with this factor to determine rate) | UNIT  | Rate(in Rs.) | TOTAL QTY | Amount(in Rs.) | % age allocation | Remarks |
|-----------|---|---|-------|--------------|-----------|----------------|------------------|---------|
| 17        | Providing and fixing in position impregnated fibre board confirming to IS:1838 in expansion joints, including cost of primer, sealing compound all complete. <b>25mm thick</b>  | 0.00011802  | SQM   |              | 10        |                | 0.118023         |         |
| 18        | Providing and filling in position, blown bitumen in expansion joints per cm. depth and per cm width.  | 0.00000078  | metre |              | 10        |                | 0.000784         |         |
| 19        | Providing and placing in position suitable PVC water stops conforming to IS:12200 for construction/ expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete : <b>Serrated with central bulb (225mm wide, 8-11mm thick).</b>           | 0.00006992  | metre |              | 100       |                | 0.699226         |         |
| 20        | Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.  | 0.00001099  | Kg    |              | 10        |                | 0.010988         |         |
| 21        | Supplying, fabricating, erecting and installing PVC pipes / conduits of all diameters items in concrete/brickwall for all kind of works, including setting material in concrete, layout, scaffolding, cutting, forming, grinding, drilling, <del>bolting, welding, jointing, testing etc. all complete.</del> | 0.00006762  | RM    |              | 10        |                | 0.067618         |         |
| 22        | Providing and fixing Dash fastener (for fixing door/ window frames) on C.C. / R.C.C./ Brick masonry surface backing including drilling necessary holes and <del>the cost of bolt etc complete.</del>  |   |       |              |           |                |                  |         |
| 23        | Dash fastener 6x75mm  | 0.00000315  | each  |              | 10        |                | 0.003150         |         |
| 24        | Dash fastener 10x75mm   | 0.00000423  | each  |              | 10        |                | 0.004226         |         |
| 25        | Dash fastener 12x100mm  | 0.00000599  | each  |              | 10        |                | 0.005993         |         |
| 26        | Providing and fixing expandable fasteners of specified size with necessary plastic sleeves and galvanized M.S screws including drilling holes in masonry work /CC/ R.C.C by drilling machine and making good etc complete.  |   |       |              |           |                |                  |         |
| 27        | 32 mm long  | 0.00000323  | each  |              | 10        |                | 0.003227         |         |
| 28        | 40 mm long  | 0.00000423  | each  |              | 10        |                | 0.004226         |         |
| 29        | 50 mm long  | 0.00000461  | each  |              | 10        |                | 0.004610         |         |

| Item.<br>NO. | ITEM DESCRIPTION  | Multiplying<br>factor for<br>deriving rate<br>(Total price<br>quoted by<br>the bidder<br>will be<br>multiplied<br>with this<br>factor to<br>determine<br>rate | UNIT | Rate(in Rs.) | TOTAL QTY | Amount(in Rs.) | % age allocation | Remarks |
|--------------|---|---|------|--------------|-----------|----------------|------------------|---------|
| 30           | <p>Providing post water proofing treatment against dampness &amp; Seepage in walls of basement, plinth, super structure (horizontal or vertical) consisting of following operations:</p> <p>i) Removing loose material and cleaning the surface.</p> <p>ii) Drilling 20mm dia holes in walls/ floor in zigzag manner spacing not more than 150 mm center to center.</p> <p>iii) Injecting polymer based high strength water proofing compound of approved brand &amp; make, admixed with cement in the ratio as specified by manufacturer, in holes by pressure pump.</p> <p>iv) Plugging holes with polymer compound admixed with cement.</p> <p>v) Providing and laying of bonding slurry prepared by mixing of cement with approved make and brand acrylic polymer (as per IS 13435 Part-3) in two layers (totaling up-to 3mm thick) by brush. Second layer to be laid after 4 hours of first layer.</p> <p>vi) Providing and laying 15mm thick cement plaster in cement mortar 1:4 (1 cement : 4 coarse sand) and finishing the surface with neat cement admixed with integral water proofing compound (IS: 2645) as per manufacturers recommendations.</p> | 0.00011049  | SQM  |              | 50        |                | 0.552466         |         |
| 31           | <p>Providing and fixing in position doors, windows and ventilators frames made of cold rolled pressed steel sheet framed profiles made from commercial M.S. Sheets conforming to I.S. 513 of 1973 and as per general specifications of I.S 4351 including hinges jamb, lock jamb, steel butt hinges, base tie, joints mitred and welded with 10cm long legs of size 15x3mm M.S. flat, embedded in cement concrete blocks 15x10x10cm size of grade M-10 or rawl plugs and screws or with fixing clips or with bolts and nuts including neatly compacted filling M-10 cement concrete in profile section applying a priming coat of red oxide zinc chromate primer.</p> <p><b>Single rebate/ mullion 80mmx50mm size, 1.6mm thick sheet</b></p>  | 0.00006685  | m    |              | 7         |                | 0.046794         |         |

| Item. NO. | ITEM DESCRIPTION   | Multiplying factor for deriving rate (Total price quoted by the bidder will be multiplied with this factor to determine rate) | UNIT | Rate(in Rs.) | TOTAL QTY | Amount(in Rs.) | % age allocation | Remarks |
|-----------|--|---|------|--------------|-----------|----------------|------------------|---------|
| 32        | Providing and fixing factory made ISI marks steel doors, windows and ventilators side/ top/ centre hung made up of standard rolled steel section conforming to IS 1038:1968 (viz. F7D, F4B, K11 and K12B etc.), joints mitred and flash butt and sash bars tenoned and riveted/ welded with 10cm long lugs of size 15x3mm embedded in cement concrete block 15x10x10 cms of 1:3:6 (1 cement :3 Coarse sand: 6 graded stone aggregate 20 mm nominal size) or rawl plugs and screws or with bolts and nuts as required including providing and fixing of hinges, pivots, handles, pegs, stays, rolling devices, locking arrangements, spring catch etc., as required complete including applying a priming coat of red oxide zinc chromate primer. | 0.00001352  | kg   |              | 200       |                | 0.270470         |         |
| 33        | Brick work with modular well burnt clay bricks of crushing strength not less than 35 kg/sqcm and water absorption not more than 20% in foundation and plinth in: <b>Cement Mortar 1:4 (1 Cement : 4 Coarse Sand)</b>   | 0.00061624  | cum  |              | 1         |                | 0.061624         |         |
| 34        | Extra for brick work in superstructure above plinth level for every floor or part thereof in addition to rate for foundation and plinth:   | 0.00001859  | cum  |              | 14        |                | 0.026033         |         |
| 35        | Providing and laying damp proof course (upto 50mm thick) with plain cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded crushed stone aggregate 20mm nominal size) including form work  | 0.00065113  | cum  |              | 1         |                | 0.065113         |         |
| 36        | Providing and mixing water proofing material in PCC/ RCC work in the proportion recommended by the manufacturer.   | 0.00000668  | kg   |              | 2693      |                | 1.800247         |         |
| 37        | Applying a coat of hot bitumen VG-10 using @ 1.7kg/ sqm on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.   | 0.00001437  | sqm  |              | 789       |                | 1.133692         |         |
| 38        | Providing and making 18mm thick cement plaster in two coats with under layer of 12mm thick plaster 1:5 (1 cement : 5 fine sand) and top layer of 6mm thick with cement plaster 1:3 (1 cement : 3 fine sand) finished rough with sponge.  | 0.00002566  | sqm  |              | 54        |                | 0.138585         |         |
| 39        | Providing and making 12mm thick cement plaster of mix in Cement Mortar 1:4 (1 cement : 4 fine sand)  | 0.00001583  | sqm  |              | 54        |                | 0.085475         |         |
| 40        | Providing and making 6mm thick cement plaster of mix: <b>In Cement mortar 1:4 (1 cement : 4 fine sand)</b>   | 0.00001337  | sqm  |              | 24        |                | 0.032088         |         |
| 41        | White washing with lime to give an even shade. <b>On new work (Three or more coats)</b>  | 0.00000144  | sqm  |              | 24        |                | 0.003467         |         |

| Item. NO. | ITEM DESCRIPTION   | Multiplying factor for deriving rate (Total price quoted by the bidder will be multiplied with this factor to determine rate | UNIT | Rate(in Rs.) | TOTAL QTY | Amount(in Rs.) | % age allocation | Remarks |
|-----------|--|--|------|--------------|-----------|----------------|------------------|---------|
| 42        | Distempering with acrylic washable distemper to give an even shade. <b>On new work (Two or more coats)</b>   | 0.00000584   | sqm  |              | 54        |                | 0.031534         |         |
| 43        | Painting on new work (two or more coats) to give an even shade with: <b>Black anti-corrosive bitumastic paint</b>  | 0.00000592   | sqm  |              | 827       |                | 0.489297         |         |
| 44        | Finishing walls with water proofing cement paint of required shade to give an even shade. <b>On new work (Two or more coats applied @ 3.84 kg/10 sqm)</b>  | 0.0000063  | sqm  |              | 827       |                | 0.521070         |         |
| 45        | Painting exterior surface with ACRYLIC SMOOTH exterior paint of required shade as per manufacturer's specifications to give protective and decorative finish including cleaning washing of surface etc. complete with:<br><b>On new work (Two or more coats applied @ 1.43 ltr/ 10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm)</b>   | 0.00000861   | sqm  |              | 54        |                | 0.046472         |         |
| 46        | 52 mm thick cement concrete flooring with under layer of 40mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) and top layer of 12 mm thick cement metallic hardener concrete mix 1:2 (1 cement hardener mix : 2 stone aggregate of 6 mm size by volume) with metallic hardening compound of approved quality mixed with cement in ratio of 4:1 (4 cement : 1 metallic floor hardening compound by weight) including finishing etc. complete. | 0.00006777   | sqm  |              | 24        |                | 0.162651         |         |
| 47        | Black Gravel packing in tubewell construction in accordance with IS 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineerin- charge.( IN PHYTORID BED ) providing & placing in phytorid bed  |  |      |              | 0         |                | 0.000000         |         |
| 48        | 25 mm- 40 mm   | 0.00016105   | cum  |              | 101       |                | 1.626631         |         |
| 49        | 80mm-90 mm   | 0.00016105   | cum  |              | 101       |                | 1.626631         |         |
| 50        | 210-200 mm   | 0.00016105   | cum  |              | 114       |                | 1.836000         |         |

| Item. NO. | ITEM DESCRIPTION  | Multiplying factor for deriving rate (Total price quoted by the bidder will be multiplied with this factor to determine rate) | UNIT | Rate(in Rs.) | TOTAL QTY | Amount(in Rs.) | % age allocation | Remarks |
|-----------|---|---|------|--------------|-----------|----------------|------------------|---------|
| 51        | Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (heavy duty) 560 mm internal diameter, total weight of cover and frame to be not less than 208 kg (weight of cover 108 kg and weight of frame 100kg)   | 0.00291631  | each |              | 6         |                | 1.749787         |         |
| 52        | Providing & laying precast interlocking concrete blocks of minimum compressive strength of 300 kg/sq.cm and approved size , shape/ pattern over coarse sand bed of thickness upto 40 mm and joints thick filled with fine sand including leveling with surface vibrator, temping and sweeping etc. complete as per IRC-SP-63-2004. 80mm thick Polymer coated coloured precast interlock concrete blocks   | 0.00011249  | sqm  |              | 25        |                | 0.281227         |         |
| 53        | Supplying and erecting chain link mesh fencing for electric sub-station switch yard / transformer yard/boundary fence of 2.5 m approx. height from ground level using angle iron size 50 X 50 X 6 mm erected in C.C. foundation 15 X 15 X 40 cm deep at every 2 metre fitted with flat iron support of size 25 X 6 mm on top, bottom and mid way and chain link mesh 50 x 50 mm aparture and 4 mm dia G.I. hard wire securing and screwing with 2mm dia G.I. wire, G.I. staples, G.I.U-nails or steel pins to the angle iron at every distance of 30 cms, by iron studs complete duly painted with one coats of red oxide and two coats of approved colour paint.<br>(Area of fencing i.e. height x length is to be measured) | 0.00007791  | Sqm  |              | 375       |                | 2.921768         |         |
| 54        | Steel work welded in built up sections/ framed work including cutting, hoisting, fixing in position and applying a priming coat of red oxide zinc chromate primer.<br><b>In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works.</b>   | 0.00001045  | Kg   |              | 100       |                | 0.104500         |         |
| 55        | Providing and placing on terrace (at all floor levels) polyethylene water storage tank ISI : 12701 marked with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank  | 0.00000112  | Ltr  |              | 100       |                | 0.011218         |         |
| 56        | Providing and laying Reinforced Cement Concrete pipe NP 3 / prestressed concrete pipe. (Laying Reinforced cement concrete pipe NP3 /prestressed concrete pipe for culverts including fixing collar with cement mortar 1:2 but excluding bedding below pipes, excavation, protection works, backfilling, concrete and masonry works in head walls and parapets.)   |   |      |              |           |                |                  |         |

| Item. NO. | ITEM DESCRIPTION  | Multiplying factor for deriving rate (Total price quoted by the bidder will be multiplied with this factor to determine rate | UNIT  | Rate(in Rs.) | TOTAL QTY | Amount(in Rs.) | % age allocation | Remarks |
|-----------|---|--|-------|--------------|-----------|----------------|------------------|---------|
| 57        | 450 mm dia  | 0.00027185   | meter |              | 10        |                | 0.271853         |         |
| 58        | 600 mm dia  | 0.00037789   | meter |              | 10        |                | 0.377890         |         |
| 59        | Providing and fixing sand cast iron S&S pipe as per IS: 1729 for soil, waste and vent pipes: <b>100 mm dia.</b>   | 0.00012033   | meter |              | 50        |                | 0.601642         |         |
| 60        | Providing and fixing on wall face or under floor UV stabilized Unplasticised Rigid PVC pipes (single socketed) having 3.2mm wall thickness conforming to IS : 13592 (4kg/sqcm) including required couplers, jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion etc complete. <b>110 mm dia pipe.</b> | 0.00004103   | RM    |              | 20        |                | 0.082063         |         |
| 61        | Carryingout Geotechnical Investigation and submission of report with necessary recommendations: Trail Pit-2Nos., SPT-2Nos. (incl. sample collections), Water sampling for Chemical Analysis, ERT-2 Nos.   | 0.02305142   | LS    |              | 1         |                | 2.305142         |         |
|           | <b>Total (in figures)=</b>  |  |       |              |           |                |                  |         |
|           | <b>Total (in Words)=</b>  |  |       |              |           |                |                  |         |

| Note: |  |
|-------|--|
| 1     | Bidder Should Fill Total Amount only at specified place after adding prices for all items.   |
| 2     | Evaluation Shall be based on total amount quoted by bidder.  |
| 3     | The rate and amount are inclusive of all applicable taxes, except for the GST. For details of taxes, clause no. 8.0 of the TCC will be applicable.   |
| 4     | Bidders should quote only the "Total Amount" both in figures & words in the specified place. They should not fill/quote/write anything in col. ( E ) & ( G ). These rates & amount will be derived from the Total amount quoted multiplied by the Multiplying factor of respective item indicated in col. C. |