**Volume-II**

**CENTER OF INNOVATIVE & APPLIED**

**BIOPROCESSING DEPARTMENT OF BIOTECHNOLOGY**

**(Govt. of India)**

**Knowledge City, Sector‐81, Mohali**

## FINANCIAL BID DOCUMENT



**Miscellaneous Civil Work in Low Lying Area at Main Campus, CIAB, Knowledge City, Sector-81, Mohali.**

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**TECHNICAL SPECIFICATIONS**

### 1.0 STANDARD SPECIFICATIONS TO BE FOLLOWED

The work should be executed as per following CPWD specification and also the specification laid in tender document. In case, above specifications are not available for certain item, then the material should conform to ISI and BIS standards.

### Civil Engineering Works

CPWD Specification 2009 Vol. I & II along with latest correction slips. These Specifications have replaced CPWD Specifications 1996 along with Correction Slips issued on them. These Specifications cover all types of Works. The specifications are available as a printed document issued by CPWD and also in soft copy PDF Format in CPWD website.

### Electrical Engineering Works

* + 1. [CPWD General Specifications for Electrical Works Part I Internal - 2013.](http://www.cpwd.gov.in/Publication/Internal2013.pdf)
    2. [CPWD General Specifications for Electrical Works Part II External - 1994.](http://www.cpwd.gov.in/Publication/Internal2013.pdf)
    3. [CPWD General Specifications for Electrical Works Part IV Sub Stations – 2013.](http://www.cpwd.gov.in/Publication/SubStationsFinal2013.pdf) The above specifications shall be read with upto date correction slips (if any).

#### (A) CIVIL WORKS

**WORKMANSHIP FOR THE ENTIRE PLUMBING WORK.**

The workmanship shall be best of its kind and shall conform to the specifications, as below or Indian Standard Specifications in every respect or latest trade practices and shall be subject to approval of the Engineer-in- Charge. All materials and/or Workmanship which in the opinion of the Engineer-in- Charge is defective or unsuitable shall be removed immediately from the site and shall be substituted with proper materials and/or workmanship forthwith.

#### WARRANTY AND HANDOVER

The Contractor shall warrant that all plant, materials and equipment supplied and all workmanship performed by him to be free from defects of whatsoever nature before handover to the Engineer-in-Charge. All the Guarantee/Warranty certificates of all the items shall be in the name of Institute i.e., CENTER OF INNOVATIVE & APPLIED BIOPROCESSING (CIAB), Mohali.

#### HANDING OVER OF DOCUMENTS

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All testing and commissioning shall be done by the Contractor to the entire satisfaction of the Engineer-in- Charge and all testing and commissioning documents shall be handed over to the Engineer-in-Charge.

**NOTE: In case of any contradiction between the specifications, the contractor shall take the prior approval of the Engineer- In – Charge before executing the same at site.**

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### LIST OF MAKES TO BE ADOPTED

|  |  |  |
| --- | --- | --- |
| S. No | Item | Make |
| 1 | Cement | J K Lakshmi/ ACC/ Ultratech/ Ambuja |
| 2 | Steel Reinforcement (TMT bars) | Tata/JSW Jindal/ Sail/Vizag |
| 3 | GI pipes | Tata/ Jindal/ Swastic |
| 4 | Paint | Asian Paint/ Berger/ICI |
| 5 | Ball Valve | Zoloto/L&T/Kirloskar Brothers Ltd |
| 6 | Pre- painted corrugated sheet | Tata/Jindal/Sail |
| 7 | Mild steel tubular/section work | Jindal/Apollo/Tata/SAIL |

**Note: -** Any other material makes not mentioned above shall be ISI marked & got approved from Engg-in-charge

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**NAME OF WORK:** - **MISCELLANEOUS CIVIL WORK IN LOW LYING AREA AT MAIN CAMPUS OF CIAB**

**ABSTRACT SHEET**

|  |  |  |
| --- | --- | --- |
| **S.NO** | **PARTICULARS** | **AMOUNT (In INR)** |
| 1 | **ESTIMATED VALUE OF WORK (INCLUSIVE OF TAXES, LABOUR**  **CESS ETC)** | **Rs 8,07,035/-** |
| 2 | **PERCENTAGE (% AGE) QUOTE**  **PLUS/MINUS (+/ -) BY BIDDER ON ESTIMATED AMOUNT (IN FIGURES)** |  |
| 3 | **PERCENTAGE (% AGE) QUOTE**  **PLUS/MINUS (+/ -) BY BIDDER ON ESTIMATED AMOUNT (IN WORDS)** |  |
| 4 | **NET AMOUNT AFTER UN-**  **CONDITIONAL PERCENTAGE REBATE OR QUOTE ABOVE ESTIMATED VALUE ((IN FIGURES)** |  |
| 5 | **NET AMOUNT AFTER UN-**  **CONDITIONAL PERCENTAGE REBATE OR QUOTE ABOVE ESTIMATED VALUE ((IN WORDS)** |  |

Stamp & Signatures of bidder

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| --- | --- | --- | --- | --- | --- |
| **BOQ FOR MISCELLANEOUS CIVIL WORK IN LOW LYING AREA AT MAIN CAMPUS CIAB** | | | | | |
| **S. no** | **Description of Item** | **Unit** | **Qty** | **Rate** | **Amount** |
| 1 | Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. |  |  |  |  |
|  | 25 mm dia nominal bore | meter | 180 | 205.85 | 37053 |
| 2 | Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete: |  |  |  |  |
|  | 25 to 40 mm nominal bore | nos | 1 | 394.15 | 394.15 |
| 3 | Painting G.I. pipes and fittings with synthetic enamel white paint with two coats over a ready mixed priming coat, both of approved  quality for new work |  |  |  |  |
|  | 25 mm diameter pipe | metre | 180 | 15.5 | 2790 |
|  |  |  |  |  |  |
| 4 | Providing and fixing G.I. Union in G.I. pipe including cutting and threading the pipe and making long screws etc. complete (New work): |  |  |  |  |
|  | 25 mm nominal bore | nos | 5 | 205.8 | 1029 |
| 5 | Excavating trenches of required width for pipes, cables, etc. including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m |  |  |  |  |
|  | All kinds of soil  Pipes, cables etc., not exceeding 80 mm dia. | metre | 180 | 138.05 | 24849 |
| 6 | Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead up to 50 m and lift up to 1.5 m, as directed by Engineer-in-charge. |  |  |  |  |
|  |  | Cumec | 162.061 | 125.95 | 20411.52 |
| 7 | Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m. |  | |  |  |
|  |  | Cumec | 162.061 | 125.75 | 20379.11 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 8 | Dismantling of road and interlocking tile and relaying tile again for laying pipe line and re concerting on dismantled area including in all aspects as per direction of Engineer-In charge | LS | 1 | 3000 | 3000 |
| 9 | Providing and laying in position cement concrete of specified grade excluding  the cost of centering and shuttering - All work up to plinth level |  |  |  |  |
|  | 1:3:6 (1 Cement: 3 coarse sand (zone-III): 6 graded stone aggregate 40 mm nominal size). |  | |  |  |
|  |  | Cumec | 7.97 | 4814.6 | 38354.40 |
| 10 | Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and  applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete. |  |  |  |  |
|  | Hot finished seamless type tubes |  | |  |  |
|  |  | Kg | 1058.58 | 93.9 | 99400.559 |
| 11 | Providing pre-painted corrugated G.S. sheetroofing of minimum thickness 0.6 mmincluding vertical / curved surface fixed withpolymer coated J or L hooks, bolts and nuts 8mm diameter with bitumen and G.I. limpetwashers or with  G.I. limpet washers filledwith white lead, (up to any pitch inhorizontal/ vertical or curved surfaces),excluding the cost of purlins, rafters andtrusses and including cutting to size andshape wherever required |  |  |  |  |
|  |  | Sqm | 51.02 | 700.55 | 35748.991 |
| 12 | Painting (two or more coats) on rain water, soil, waste and vent pipes and fittings with synthetic enamel paint of approved brand and manufacture and required color over a priming coat of approved steel primer on new work. |  |  |  |  |
|  | 100 mm diameter Pipe | metre | 83.34 | 40.55 | 3379.50 |
| 13 | 15 mm cement plaster on the rough side of single or half brick wall of mix |  |  |  |  |
|  | 1:4 (1 cement: 4 fine sand) | Sqm | 40 | 200.25 | 8010.00 |
| 14 | 18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement: 5 coarse sand) finished with a top layer 6 mm thick cement plaster 1:6 (1 cement: 6 fine sand) |  |  |  |  |
|  |  | Sqm | 36 | 255.55 | 9199.80 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 15 | Providing and laying factory made chamfered edge Cement Concrete paver blocks In foot path, park & lawns driveway or light & traffic parking etc. of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of course sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand, all  complete as per manufacturer's specifications excavation, backfilling & disposal of residual soil & direction of Engineer  in Charge |  |  |  |  |
|  | 80mm thick Cement concrete paver block of M-30 grade with approved colour, design & pattern. |  | |  |  |
|  |  | Sqm | 204.75 | 638.95 | 130825.01 |
| 16 | Supplying, stacking and Spreading 6 mm thick red bajri, watering and rolling complete including preparation of the surface and rolling | Sqm | 204.75 | 15.55 | 3183.86 |
| 17 | Providing and laying in position cement concrete of specified grade including the cost of centering and shuttering - All  work up to plinth level 1:4:8 (1 Cement: 4 coarse sand (zone-  III) : 8 graded stone aggregate 40 mm nominal size) |  | 20.475 | 4650 | 95208.75 |
| 18 | Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete: |  |  |  |  |
|  | 25 mm nominal bore | Each | 3 | 449.45 | 1348.35 |
| 19 | Brick work with common burnt clay modular bricks of class designation 7.5 in foundation and plinth in: |  |  |  |  |
|  | Cement mortar 1:4 (1 cement: 4 coarse sand) | Cum | 16.82 | 4592.9 | 77295.15 |
| 20 | Brick work with common burnt clay machine moulded perforated bricks of class designation 12.5 conforming to IS: 2222 in superstructure above  plinth level up to floor five level in cement mortar 1:6 (1 cement: 4 coarse sand) |  |  |  |  |
|  |  | Cum | 19.24 | 5640.3 | 108522.81 |
| 21 | 12 mm cement plaster of mix: |  |  |  |  |
|  | 1:4 (1 cement: 4 fine sand) | Sqm | 167.31 | 172.95 | 28936.46 |
| 22 | White washing with lime to give an even shade: New work (three or more coats) | Sqm | 167.31 | 17.25 | 2886.12 |
| 22 | Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level & Floor Level Beam |  |  |  |  |

#### NOTE: - Payment shall be released item wise based on actual measurement examined at site by Engineer- In- Charge. Rates quoted by bidder shall be deemed to be inclusive of all taxes, GST, profits, labour etc.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III): 3 graded stone aggregate 20 mm nominal size). | Cum | 3.29 | 6215.4 | 20465.18 |
| 23 | Centering and shuttering including strutting, propping etc. and removal of form for all heights |  |  |  |  |
|  | Lintels, beams, plinth beams, girders, bressumers and cantilevers | Sqm | 43.90 | 342.9 | 15054.15 |
| 24 | Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete up to plinth level. |  |  |  |  |
|  | Thermo-Mechanically Treated bars of grade Fe-500D or more. | Kg | 200 | 56.6 | 11320.00 |
|  |  |  |  |  | 799044.85 |
|  | Add 1 % labour cess |  |  |  | 7990.45 |
|  | **TOTAL AMOUNT** |  |  |  | **807035.30** |

Signature/Stamp of Bidder

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