

PREAMBLE TO BILLS OF QUANTITIES**1.0 GENERAL**

1. The contractor shall comply with all conditions as detailed in Conditions of Contract.
Item description in Schedule of Rates is exhaustive but may not cover all items, trades, materials, labour, specifications, conditions etc. However contractor shall be responsible to read item description in conjunction with Technical Specifications, drawings and trade practices and is required to follow all requirements. Further description of item in Schedule of Rates, unless otherwise stated, includes, wherever necessary, conveyance and delivery handling, unloading, storing, fabrication, hoisting, scaffolding all labour for finishing to required shape and size, setting, fitting and fixing in position, straight cutting and waste, return of packings, disposal, cleaning and other incidental charges and/all applicable taxes and duties.
Quantities given are tentative and any changes will not allow the contractor to claim extra on the rates quoted.
2. Quantities stated in the item are not to be used for ordering of any material. Contractor shall verify quantities himself and order with suppliers shall be placed with required wastages. Copies of orders shall be forwarded to RE to verify date of order, supplier and materials ordered.
3. All materials to be used at the site shall be tested as per specifications or as per the IS. Testing shall be done at site and / or at approved laboratories as specified or as directed by the RE at the cost of contractor. Any defective or unapproved materials will be removed from site immediately at contractors' cost.
4. The contractor shall be responsible for protection of his own work and the work of other trades during the progress and till handover to the Employer.
6. Contractor shall provide, required rigid double-legged steel scaffolding accessible at all locations with safety rails.
8. Contractor to organize himself for safe storage, handling, site offices, labour accommodation if any at his cost. No extra cost payable on this account.
9. Price of each item inserted shall be considered as self-supporting and do not have any bearing on other items of the project.
10. Contractor shall engage sufficient number of labour and Supervisors / Mukadam at site full-time while the work is carried out, to ensure proper execution of the work. Authorized representative should be available as and when required by the Employer.
11. Contractor shall not employ at work site any persons working with Employer or persons dismissed/suspended/retired from the services of the Employer, unless specific prior permission in writing is given by the Employer for such employment.
12. Contractor shall also not employ any person who is or may be working with other contractor, and also those against whom the Employer may take exception.
13. Contractor and all of his workers, servants, agents and officers employed by contractor shall observe the rules and regulations of the Employer particularly

in regard to entry and exit and search by the Employer's authorised personnel.

14. Contractor shall not employ any female employees between 6-00 P.M. and 6-00 A.M.
15. Contractor shall ensure that all workmen refrain from smoking or carrying matches, fire or naked light or other means of producing naked lights or sparks or flames or fire, and any damage, loss, injury, harm or action to or against the Employer due to breach these provisions on the part of Contractor / Sub - Contractor will be fully made good by Contractor. Smoking is prohibited all over the premises.
16. Contractor's workers drinking alcohol inside the premises and workers come in the premises after consuming intoxicants/liquor are strictly prohibited.
17. If any worker shall meet with accident, contractor must provide adequate financial help immediately for treatment at the hospital or outside facilities, including transport etc.
18. Contractor shall show all Challans of materials to be shifted including debris at security gate while bringing in vehicle and all materials/tools taking out side the premises shall be verified by the Security of the Employer.
19. Contractor shall ascertain where to stock materials like tools / plants, machinery, etc., wherever applicable, prior to bringing them on site and depute his representative to take delivery of such materials and to ensure that the materials are unloaded and are stocked in specified area only. In case of wrong unloading he shall be immediately shift to proper places as the case may be and as directed by the PMC/Employer of the Employer at Contractor's risk and cost. The Employer shall not be responsible for loading, unloading or checking of contractor's materials or detention of contractor's trucks due to the absence of his representative.
20. The movement of workers or vehicles within the premises shall be restricted only to the place of work assigned to contractor.
21. Contractors shall also be liable to the Employer for any act of commission or omission on the part of contractor's employee's thereby causing loss, damage inconvenience to the Employer.
22. Workers must prevent mixing of undesirable items with Employer's material.
23. The Employer may after issuing the order, require the Contractor to alter, to omit, add to or otherwise vary the works due to any change in their plan, after mutual discussions.
24. Contractor shall be responsible and liable to ensure that in course of carrying out / performing the Contract, no provisions of any laws, Bye – Laws, Rules or Regulations are violated or contravened. Contractor shall be responsible if any loss, damage or harm is caused to the Employer as a result of or arising out of or directly or indirectly due to any breach, violation or contravention of any Laws / Rules of regulation on the Contractor / Sub – Contractor part, or on the part of any contractors officers, servants, workers, or agents even if such breach, violation or contravention occurs not in course of carrying out / performing the Contract.

2. EARTHWORK

- 2.1 Work and rate shall include the following, in addition to the "Measurement / Rate" as mentioned in Technical specification:
- A. Setting out works, erecting profiles, etc.
 - B. Site clearance such as cleaning of shrubs, brushwood, small trees not exceeding 30 cm in girth measured at one meter above ground.
 - D. Forming (or leaving) DEAD MEN or TELL-TALES in borrow pits and their removal after measurements.
 - E. Forming or leaving steps in sides deep excavation and their removal after measurements.
 - F. Excavation for insertion of planking and strutting.
 - G. Removing slips or falls in excavation.
 - H. Dewatering (bailing or pumping out water in excavations from rains, sub-soil water, etc.)
 - I. Slings or supporting pipes, electric cables, etc. met during excavation or carrying out of any item of work.
 - J. Dressing, trimming of sides, leveling or grading and ramming of bottoms.
- 2.2 Refilling the excavated pits, trenches for foundations, rafts, pipe laying, etc. shall be part of excavation items and shall not be measured separately nor paid for separately.
- 2.3 Protection to excavated sides by Shoring & Planking / Strutting and temporarily supporting of existing services, of pipes, water mains, cables etc. met within the course of excavation if not specified separately.
- 2.4 Depth of excavation shall be measured below the existing ground level at the time of excavation at the respective location. Prior to filling for area development excavation for footings, pits, basement, etc. shall be completed.
- 2.5 Consolidation of filling shall be carried out with mechanical means. Proctor density of 95% must be achieved. The contractor at his cost in the quoted price shall carry out Proctor density test. Frequency of testing shall be as directed by the PMC/Employer. The filling volume will be measured as area of the filling multiplied by the depth calculated as difference between existing ground level to the finished filling level.
- 2.6 Dewatering
- All items of excavation, filling, etc. shall be carried out in dry site only. The contractor to note that dewatering wherever required or ordered by the PMC/Employer shall be part of the respective item and the contractor must make necessary allowance in his quoted rates. No additional cost on account of dewatering of any nature and for any reason shall be payable throughout the contract.
- 2.7 Rubble Soling
- The rate shall include hand packing, filling interstices with smaller stones, chips, murrum, sand, screening and watering and using mechanical means of compacting prior to the start and after completion of works. This shall be measured in square meter of the area covered for the specified thickness of the soling. If the depth is not specified, the measurement shall be in cum.
- 2.8 Anti-termite treatment shall be measured in sq m once for the actual plinth area in the plan. The rate will include,
- Method of working as per the approved manufacturer
 - Number of operations required

- Application at various levels and stages
- Guarantee for 10 years in approved form

2.9 Carting away all surplus excavated material outside the plot area including loading, transportation, unloading etc. complete. (Volume will be measured on compacted basis, on the basis of approved excavation quantities and filling quantities.

Allowance for voids shall be included in quoted rates only. Contractor should locate suitable area for dumping the material at his own cost.

3.0 CONCRETE

3.1 All concrete work shall be design mixed of the grade specified on drawing

3.2 The rates for PCC/RCC work shall allow for

- A. All test on materials and cube testing or any other testing as instructed by the PMC/Employer as per IS.
- B. All architectural effects like chases, ledges, moulds, grooves, chamfers, brackets etc. shall be created by using approved form work including making special size mould, staging arrangement, etc.
- C. Work at all depths, heights and leads.
- D. If different grades of concrete are used at junctions, spillover of richer concrete required from practical considerations shall be included in the rate.
- E. The concrete shall include ingredient material, mixing, transporting, hoisting to any height and lowering to any depth, pumping (as detailed), pouring or laying, consolidating, leaving pockets, holes and protecting them till the next operation or completion of work, hacking the surface to provide key for further work including cleaning, wetting, surface curing, etc. and preparing construction joints. The price built-up shall include the loading, unloading, weighing and storing of cement in good conditions.
- F. Admixtures as required and should conform to IS 9103.
- G. Water proofing compound, as required.
- H. Cement grouting with non shrink grouting compound
- I. Dewatering to keep area dry.
- J. The contractor shall provide and maintain laboratory at site equipped as under and staffed with qualified technicians.
 - A set of standard sieves
 - Sieve shaker
 - Measuring cylinders
 - Slump cone
 - Adequate number of standard cube moulds
 - Weighing machines measuring to 10 grams and up to 50 Kg.
 - Oven or other apparatus to dry aggregates.
 - Curing tanks
 - Concrete cube testing m/c, 150T capacity, electrically operated.
- K. For reconciliation purpose, for cement, maximum wastage permitted shall be 3% of the actual consumption. Balance shall be charged at 1.5 times the actual market rate as penalty if it is issued by clients .

3.3 Unless otherwise stated all concrete work shall be measured in cubic metres.

4.0 FORM WORK

- 4.1 Form work shall be carried out as detailed in technical specification.
- a) All formwork shall be fair face finished with using plywood/ Steel panels as directed by PMC/Employer.
 - b) Exposed form work where specified shall be for Architectural finish and shall create required architectural features with the use of specially designed forms.
- 4.2 Contractor should obtained approval of design for Structural stability and method statement from PMC/Employer and Structural Consultant prior to commencement of the work.
- 4.3 The staging or formwork design shall be submitted to the Structural Consultant & PMC/Employer for approval before proceeding to erect the same.
- 4.4 **Form work shall be included in the concrete rates as stated specifically in Schedule of Rates.** The quoted rate shall be applicable for all working conditions and at all heights, depths or lifts specified in the BOQ. The rate shall include the cost of materials and labour for various operations involved. The rate shall include the following, in addition to the "Measurement / Rate" as mentioned in Technical specification:
- Rate of PCC is including of form work. For RCC works rate shall include
- A. All materials with wastage & all labour
 - B. Handling, cutting, shifting, jointing, welding etc.
 - C. Rigid base of plywood / steel plaster with leak proof joints
 - D. Steel prop or system designed staging system. (Timber / Bamboo props staging not allowed)
 - E. Moulds of correct size, shape with flexibility to dismantle without kicks
 - F. Erection with required camber
 - G. Erection to collect line, level, plumb and within tolerances as specified.
 - H. Shuttering oil
 - I. Maintaining in position till concrete attain desired strength.
 - J. Works at all heights, leads, lifts and depths.
- 4.5 Mode of Measurements
- 4.5.1 Form work to be included in the quoted rates for concrete shall not be measured separately.
- 4.5.2 Form work where exceeding 4.0 metre height in one floor shall be measured and paid for separately.
- 4.5.3 The quoted rate shall be applicable for all working conditions and at all heights, depths or lifts specified in the BOQ. The rate shall include the cost of materials and labour for various operations involved, such as,
- a) Splayed edges, notching, allowance for overlaps and plastering at angles, battens, centering, shuttering, strutting, propping, bolting, nailing, welding, casing, striking and removal.
 - b) Filling to form stop chamfered edges or splayed external angles not exceeding 75 mm to footing and 25 mm to beams, columns and like.
 - c) Temporary openings in the forms for pouring concrete and removing rubbish.
 - d) Dressing with oil/approved emulsion/soap solution to prevent adhesion of concrete with shuttering.

- e) Racking or cutting
- f) Fixing inserts and openings at the correct line and level and any required stage to support the same at the directed height and place.
- g) Platforms, if any, required to keep check on form while the concreting is in progress.
- h) Filling and making joints water-tight to the satisfaction of the PMC/Employer.
- i) Cleaning the shuttering.

4.5.7 Inserts shall be measured by weigh or enumerated as specified in the BOQ.

4.5.8 Any work damaged through premature or careless removal of form shall be removed and reconstructed at the contractor's cost.

4.5.9 Holes for electrical conduits, hooks for fans and for plumbing are included in the price of items.

5.0 REINFORCEMENT WORK

5.1 Reinforcement work shall be carried out as detailed in technical Specifications. Reinforcement shall be conforming to IS 1786, grade Fe 500 D and shall be of TMT (Thermo Mechanically Treated) as manufactured by SAIL/TISCO/RIL or equivalent approved manufacturers as per IS.

5.2 The rate shall include

- A. Testing of each batch of steel brought to site.
- B. Providing, loading, unloading, weighing of each lot of steel to conform weight/Rmt, storing in proper forms and good conditions on suitable platforms, handling, straightening, cutting, bending, cranking, jointing, doing, welding, providing chairs, spacer pin, approved overlaps as required and as directed by the Structural Consultant / PMC/Employer including binding, securing and protecting in position.
- C. Cleaning of bars.
- D. All wastages and rolling margins.
- D. Binding wire
- E. Work at all height, depths, lifts and leads
- F. PVC cover blocks or concrete cover blocks of grade concrete used
- G. Dewatering to keep site dry
- H. Protecting the reinforcing bars in their virgin form or in the fabricated form, or when placed and tied up position or as dowels left for future continuation of work or at construction joint against corrosion due to exposure to weather if left exposed and un-encased for more than three weeks from the date of delivery to the site.

5.3 Bitumen impregnated board expansion joint as per specifications.

5.4 Polysulphide sealant for expansion joint as per specifications.

5.5 The Contractor will have to prepare and submit bar bending schedule prior to start of reinforcement work for approval of PMC/Employer / Consultant as directed. The approved Bar Bending Schedule, duly verified at site, shall form the basis of payment to the Contractor.

5.6 The actual quantity of consumed in reinforcement bars, pins, chairs, spacers and authentic laps provided shall be measured & paid.

5.7 No additional quantity shall be considered for payment with regards to rolling margin or wastage

- 5.8 Mode of Measurements
- 5.8.1 Reinforcement including authorised spacer bars and lappages shall be measured in length of different diameters, as actually used in the work and their weight calculated on the basis of standard weight given in the Technical Specifications of Structural Work. Chairs and spacer bars shall not be measured and paid. For reconciliation purpose it will be taken into account.
- 5.8.2 Wastage and unauthorised overlaps shall not be paid for.
- 5.8.3 Annealed steel wire required for binding or tack welding shall not be measured, its cost being included in the rate of reinforcement.

11 FLOORING WORK

- 11.1 Flooring work shall be carried out as detailed in technical specifications.
- 11.2 The Basic Rate specified shall be FOR site and shall be inclusive of excise duty, VAT (sales tax), octroi and all other duties levied by Government or any public body, transportation, insurance, loading, unloading etc.
- The rate shall include
- A. Preparing the surface
 - B. Dry laying to get approved pattern
 - C. Bedding in cement or lime mortar
 - D. Adhesive
 - E. Laying and fixing to approved pattern
 - F. Testing
 - G. Curing
 - H. Polishing
 - I. Cleaning
 - J. Protecting finished floor till handing over
 - K. Work at all height, depths, lifts and leads
 - L.
- 11.2 Mode of Measurements
- 11.2.1 All work shall be measured in square metres unless otherwise stated.
- 11.2.2 Deductions for ends if dissimilar materials or other articles embedded shall not be made for areas not exceeding 0.1 Sqm
- 11.2.3 No deduction shall be made nor extra paid for voids not exceeding 0.20 Sqm.
- 11.2.4 Nothing extra shall be paid for laying the floor at different levels in the same room.
- 11.2.5 Nosing, making grooves etc. in treads shall be included in rate of treads and shall not be measured separately.

* * * *