**PRICING PREAMBLES**

* The Bill of Quantities shall be read in conjunction with all parts of this entire Bidding Document; General and Particular Conditions of Contract; Employer’s Requirements giving the General Requirements, General Specifications, Particular Specifications and Drawings.
* The Bill of Quantities includes Lump Sum items, Unit Price items and Provisional Sum Items. The Lump Sum price quoted will be deemed to be full compensation for completion of work items and paid in full when the work is completed. The quantities given in the Bill of Quantities for the Unit Price items are estimated and provisional, and are given to provide a common basis for bidding. The unit prices will be considered full compensation for those work items. The basis of payment will be the actual quantities of work carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices bid in the priced Bill of Quantities, where applicable.
* The rates and prices bid in the priced Bill of Quantities shall, except as otherwise provided under the Contract, include all construction plant, equipment, labor, supervision, materials, transport, erection, maintenance, testing, insurance, overheads, profit, taxes and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.
* All rates and prices inserted in the Bills of Quantities shall be in United States Dollars. All items shall be priced individually. A Lump Sum covering more than one item shall not be given. The cost of items in the Bills of Quantities, against which no rate or price is entered, will be considered as covered by the other rates and prices entered in the Bills of Quantities.
* In submitting his Tender the Contractor shall be deemed to be in agreement with the method of measurement adopted in the preparation of these Bills of Quantities, and no claim will be recognized in respect to the method of measurement.
* All rates, prices and extensions are to be entered into the document in INK and no alterations to existing typed quantities will be considered. Should the tendered alter any quantities in this way the alterations will be disregarded and the original typed quantities will be only considered.
* The rates and prices entered in the Bill of Quantities shall be full compensation for completed work and shall have taken full account of all requirements and obligations, covered by all parts of the Contract, including but not limited to, the following, unless expressly stated otherwise:

1. All setting out and survey works including Pre and Post Construction Surveys
2. All additional site surveys and investigations, preparation of field amendment drawings, shop drawings and As-Built drawings
3. Mobilization and Demobilization of labor, all construction plant and equipment.
4. Establishment, Maintenance and Removal of all temporary facilities (Contractors and Engineers) including offices, workshops, houses, labor camps construction and storage yards, Laboratory facilities and Equipment, Transport for staff and labor etc,
5. Labor and all costs in connection with and but not limited to the execution and maintenance of the work
6. The supply of materials, goods, storage and all costs in connection therewith including wastage, bulking, shrinkage and delivery to site
7. Taking delivery of materials and goods supplied by others, unloading, storage, handling materials within the site, and costs in connection therewith
8. Plant, equipment and all costs in connection therewith
9. Fixing, erecting, installing or placing of materials and goods in position, including usual auxiliary materials, etc,
10. Disposing of surplus and unsuitable materials and goods and excavated materials, including stacking, storing, loading, transporting and unloading
11. All temporary works
12. The construction and maintenance of temporary access roads within the Site and of any roads required for access to any part of the Site for the purpose of carrying out the Works, taking into account that the access roads under the Contractor’s maintenance control will also be used by the Engineer and his staff’s vehicles
13. The construction, maintenance and removal, if required, of temporary Site drainage on the Site, and for ensuring that all drains are kept clear of debris and blockages at all times
14. Repair, replacement and shifting etc. of all water supply works coming in the way of laying of the pipe will be done by the Contractor
15. All general obligations, liabilities and risks involved in the executing and maintenance of the Works set forth or reasonably implied in the documents on which the Bid is based
16. Establishment charges, overheads and profit
17. All foreign and local taxes, import duties, levies, licenses, permits in connection with the execution and maintenance of the Works
18. Attendance and transport for surveys including provision of boats and survey instruments, sampling and testing carried out by the Engineer
19. Performing all sampling and testing which are required to be carried out by the Contractor and supplying results of such tests
20. Providing required material delivery certificates
21. Coordination with Regulatory Institute and all stake holders including Island and Atoll Officers
22. All matters and things necessary for the proper completion and maintenance of the Works
23. Complying with all the requirements set in the Contract Documents including following requirements in Specifications, Drawings and Conditions of Contract and any regulatory requirements to complete the works where separate items have not been provided.
24. Expenditure incurred in complying with the clauses in the Introduction, Invitation for Bids, Instruction to Bidders, Bidding Data, Appendix to Bid, Qualification Instruction, Form of Agreement & Form of Security
25. Expenditure incurred in complying with the clauses in the General & Particular Contract Conditions

* The cost of the items not billed under the contract for Technical Specifications and Conditions of Contract shall deem to be covered by the BOQ items of the Contract.
* The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities, and where no items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related items of work.
* General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bill of Quantities. References to the relevant sections of the Contract documentation shall be made before entering prices against each item in the priced Bill of Quantities.
* The price for transportation included in any of the item in the Bill of Quantities is to include for all labor and equipment required for unpacking, loading, conveying, unloading, storing and multiple handling of all and every item to be transported.
* Items in the Bills of Quantities noted “Provisional” may be either deleted or executed and shall only be executed if ordered in writing by the Engineer. The rates set out for such items shall be used for the valuation of works and paid according to the actual measurements.
* Provisional Sums included and so designated in the Bill of Quantities shall be expended in the whole or in part or not at all at the direction and discretion of the Engineer in accordance with the Conditions of Contract. In the event any Provisional Sum is utilized, the Contractor’s Service Charge indicated against that Provisional Sum shall deemed to include all Contractor’s mark-ups; inclusive of Site Overheads, principal and branch office overheads, profit and all other related burden costs.
* The method and unit of measurement of completed work for payment shall be in accordance with the method described in the Specifications for each item or in the Bill of Quantities. For Lump Sum Items, measurements for Interim Payment Certificates shall be based on percentage completion of such item of work or milestone as per the Contractor’s proposed schedule of monthly payments, as approved by the Engineer. Payment shall be made through the monthly Interim Payment Certificates.
* Legends of units quoted in this Bills of Quantities are as follows.

‘m’, ‘Lm’, ‘mtr’ - Linear Meter

‘m2’ - square meter

‘no’, ‘No.’ - Number/s

‘LS’ - Lump Sum

* The Contractor shall be deemed to have taken into account all of the following in his Tender prices and his construction program.
* All recognized holidays, festivals, religious and other customs
* Any stoppage of work due to annual or regular military activities and exercises
* Any stoppage of work or delay due to monsoon weather conditions
* All measurement shall be along a horizontal plane unless otherwise indicated.
* Pricing should be balanced, no front loading or overpricing shall be accepted, incase it is found anywhere, the Contractor shall be required to adjust his prices and if not the Owner shall have the right to reject the offer.
* Errors will be corrected by the Engineer for any arithmetic errors in computation or summation as follows:

1. Where there is a discrepancy between amounts in figures and in words the amount in words will govern; and
2. Where there is a discrepancy between the unit rate and the total amount derived from the multiplication of the unit rate and the quantity, the unit rate as quoted will govern, unless in the opinion of the Engineer there is an obviously gross misplacement of the decimal point in the unit rate, in which event the total amount as quoted will govern and the unit rate will be corrected.

**MEASUREMENT METHODS**

**General**

*Method of Measurement*

* All items of work specified and/or shown on the drawings shall be valued by the measurement of such items as included in the Bills of Quantities, which item shall cover all costs incurred by the Contractor in fulfillment of his obligations under the Contract. In case of the absence of a relevant method for any item in the Bill of Quantities the provision in the CESMM3 (Civil Engineering Standard Method of Measurement – 3) shall apply.
* The net measurement or weight of the finished work in place will always be taken, and, except where otherwise stated, or where separate items are provided, no allowance will be made for cutting, wastage, working space, overlaps, circular work, etc., and no deductions will be made for grout nicks, rounded arises, bulking or shrinkage and the like.
* Payment will be made for only those materials, which are installed in the permanent works to the approval of the Engineer. Construction materials supplied and delivered to the site by the Contractor which become surplus to the above requirements shall become the property of the Contractor who shall reimburse the Employer any money that was paid to the Contractor for the supply and delivery to the site of the surplus materials.

*Provisional Quantities*

* Items in the Bills of Quantities noted “Provisional” may be either deleted or executed and shall only be executed if ordered in writing by the Engineer. The rates set out for such items shall be used for the valuation of works and paid according to the actual measurements.

*Provisional Sum Items*

* Provisional Sums are represented by the words “Provisional Sum” entered under the description and shall be dealt with as provided for in the Conditions of Contract.
* Provisional Sum Items are followed by an item where the Contractor shall indicates, as a percentage, all his financial and administrative costs including costs of liaison with external agencies, profits, overheads and any other costs for the “Provisional Sum” item. This percentage will be the basis of assessing the actual amount payable to the Contractor.
* Provisional Sum items shall only be executed if ordered in writing by the Engineer. The Contractor shall not have any right at any time to claim for delays, or extra expenditure, if such works are executed wholly, in part or not at all.

*Payments of Items on Monthly Basis*

* Payments for items which are measured on a monthly basis will not be made until the full facilities described in the items and the specifications have been provided to the satisfaction of the Engineer. Payment will continue until such time as the Engineer shall signify that facilities are no longer required.

*Payments of Lump Sums*

* Lump Sum items and where the Tender includes additional items for complying with the General Conditions, etc., will be paid on the basis of a proportion of the respective Lump Sum in the same ratio as the value of the work complete bears to the total value of the Contract.
* Lump Sum items which are related to specific work will be paid on the basis of the proportion of actual work done to the total work of that specific item as assessed by the Engineer.
* Items with quantities and units will be paid against number of units used and/or incorporated in the works.

**Site Work**

*Demolition and Site Clearance*

* Cost for site clearance included in the rates for relevant items in the BOQ, shall include for, but not limited to, the removal and grubbing out of all trees, shrubs, boulders or other debris from the area of the site and legal disposal of same to tip provided by the Contractor. The measurement shall be the plan area of the area as expressly required to be cleared by the Engineer.
* Cost for demolition included in the rates for relevant items in the BOQ shall include for, but not limited to the demolition, breaking out and making good the area of existing structures, foundations, pipelines and cabling and other obstructions met with during construction of the Works, the removal of all debris from the area and legal disposal of same to tip provided by the Contractor.

*Excavation - General*

* The cost for excavation included in the rates for relevant items in the BOQ shall be for, but not limited to all types of ground encountered including coral, above or below water level or in the sea bed. The Contractor must make allowance for the possibility of permission not being granted for the use of explosives.
* In no case shall apply of the following be included in the measurement for payment:
* Quantity of any excavations performed prior to the taking of measurements of the undisturbed original natural ground;
* Quantity of excavation required due to the swelling of the foundation;
* Removal of slides, cave-ins, slitting or filling due to the action of the elements or weather and/or carelessness of the Contractor;
* No allowance shall be made for any bulking or for any extra transport required due to bulking.
* Costs shall include, but not by way of limitation, for;
* For clearing any scrub or other vegetable growth including all trees and for legal disposing of the whole of the cleared material to tip provided by the Contractor;
* Excavation to the correct depth to the net dimensions as indicated on the drawings and preserving the bottoms of excavations in a state suitable for the reception of concrete, pipes or pipe bedding, and no payment will be made for any concrete or pipe bedding required for filling over-excavated volumes or disturbed areas;
* Any additional excavation required for working space, dewatering, temporary or permanent shoring and subsequent refilling, compacting and disposal of surplus excavated material;
* Taking all precautions by supporting faces of excavation to ensure the safety of the workmen and to prevent damage to adjacent walls, buildings and all other structures and services and to prevent damage to road and other surfaces by slip or breaking away or trench sides or other cause, including permanent and/or temporary shoring of trenches;
* Keeping the site and trenches and all other excavations in a dry condition and free from water from whatever cause arising;
* All obligations with respect to trial holes;
* All temporary and permanent measures required to protect and support all existing pipes, cables and services including all chambers, gullies and foundations thereto, or repair or replace them should they become damaged due to the Contractor’s activities;
* Trimming the bottom of excavations including bottoming to falls, and trimming to slopping surfaces where required or specified, including foundation preparation as specified;
* Provision of storage areas for the temporary storage of any material required for backfilling which cannot be stored along alongside the excavation for any reason, together with the cost of loading, transporting, including disposal of surplus and unloading such material, disposal of rock to a site approved by the Engineer and all other charges incurred in this respect;
* Suitable fill material selected from the excavated material and or borrow material as specified;
* Selection, handling, placing and compaction of suitable fill material as backfill;
* Anti-termite treatment;
* All barriers, watching, lighting, warning signs, traffic control and any other measures necessary to ensure complete safety around the area of the works

*Excavation – Pipes in trenches*

* The volume of material excavated shall be the product of the horizontal plan area of the trench excavated and the mean depth from the existing ground level to the underside of the pipe bedding.

Where the finished ground level is shown on the drawings less than the existing ground level, the depth of pipe trench shall be measured from the reduced ground level, and the excavation above this level shall be measured under the relevant items for bulk excavation.

The payment of the pipe trench shall be made strictly in accordance with designed trench section shown in Drawing No: UT-23-SW-06. No additional payment for extra width for shoring, shuttering shall be made and its cost shall deemed to be included in the other relevant BOQ item.

**Pipe Work**

* The Pipe work shall be measured per linear meter and shall be paid as per unit rate stated in the Price Schedule. The cost of unit rate shall include, but not limited to, following as required where individual quantities are not provided in the Bill of Quantities:
  1. Provision of pipes, fittings, valves, etc., and all jointing materials including gaskets, bolt sets, extension spindles, hand-wheels, headstocks, etc.
  2. All required pipe specials, couplings and fittings, special pipe and fitting protection (including flexible couplings, flange adapters, flanged joints, ferrules, saddle straps, nuts, bolts and washers)
  3. Uplifting and transporting pipes, fittings, valves, etc. from the place of manufacture to the place of installation including any local taxes
  4. Installation of temporary meter postal covering of pipeline route
  5. Excavation for pipe trenches, is including trench enlargements for making joints, fittings, etc, in all materials, including dewatering trenches and the provision of all trench supports, shoring where necessary and shall include for all excavation for fittings and valves on the pipeline or pipe work and for all double handling as deemed necessary and the disposal off-site of all surplus and unsuitable excavated materials
  6. Gravel and Concrete Beddings
  7. Concrete works
  8. Temporary storage of materials
  9. External coating and wrapping of pipes and fittings as per specifications
  10. Internal cement lining as per specifications
  11. Marking of Pipeline route
  12. Laying of pipes, fittings, valves, etc and the making of all joints including connection to pipe work installed by others and to existing pipe work as necessary
  13. The cutting of pipes and preparation of the cut end to form spigot pipes, articulation pieces or as otherwise dictated by the Works
  14. Making good protective lining and coatings
  15. Testing of Welders
  16. Weld inspection and testing of all welds
  17. Cleaning and sterilization of pipe work and pipe lines
  18. Backfilling of trenches with selected filling materials and reinstatement to original ground conditions
  19. All the other incidents for a complete and operational installation.
* For sanitary sewers and force mains, include all of the following as required where individual quantities are not provided in the Bill of Quantities: environment protection, common excavation, shoring, dewatering, bedding, backfilling, compaction, disposal of surplus common and unsuitable material, concrete works, joint restraints and thrust blocks, ballast blocks, anchors, testing, flushing, marker stakes, tracer wire reinstatement and all incidents for a complete and operational installation.
* Pipes in trench shall be measured by net length under one item only according to the type of pipe and nominal diameter. The net length of the pipe line shall be measured along the axis of the completed pipe line including valves, fittings and manholes. Where more than one pipe is laid in a common trench this shall be measured under single items by net length measured along the axis of the specified common trench width but separately according to type and diameter of pipes.
* Pipes installed above ground shall be measured by net length under one item only according to the type of pipe and nominal diameter. Where more than one pipe is above ground on the same alignment, this shall be measured under single items by net length measured along the axis of the specified pipe alignment but separately according to type and diameter of pipes.
* Unless otherwise enumerated separately in the BOQ, rates for spigot and socket pieces shall be include within and measured with the pipeline lengths.
* No separate valuation shall be made in respect of concrete barriers, interconnecting pipe works, polyethylene sleeving, protection of ferrules, saddles straps, nuts, bolts and washers, survey of all underground utilities, trial holes and receptivity survey. The Contractor’s costs for meeting his obligations under the contract with respect to these items shall be deemed to be included in the rates for pipe laying.
* Any modifications and changes to the specials and fittings due to the Contractor’s failure to order correct quantities shall be subjected to the Engineer’s approval and no additional payment will be made due to such changes

*Fill*

* Filling shall be measured per cubic meters and shall be paid as per unit rate stated in the Price Schedule. The cost of unit rate shall include for, but not be limited to, selection, handling, placing and compaction of excavated or imported materials.

**Manholes**

* Manholes shall be measured by numbers according to the total depth from top cover level to the invert level of the manhole and shall be paid as per unit rate stated in the Price Schedule. The cost of unit rate shall include for, but not be limited for all excavations, backfilling, compaction, removal and disposal of surplus materials, frame and cover, drop pipes, connecting stubs and plugs, stoppers, appurtenances, stone pitching protection, restoration of surroundings surfaces, shoring, sheeting, dewatering, dealing with ground water and disposal as approved confirming to environmental requirements, and all other items necessary for a complete installation and to give a finished result in accordance with the drawings and specifications.

The payment shall not be made to the Contractor until the satisfactory completion and all testing.

*Chambers*

* Chambers shall be measured by numbers and shall be paid as per unit rate stated in the Price Schedule. The cost of unit rate shall include for, but not be limited for all excavations, backfilling, compaction, removal and disposal of surplus materials, frame and cover, drop pipes, connecting stubs and plugs, stoppers, appurtenances, stone pitching protection, restoration of surroundings surfaces, shoring, sheeting, dewatering, dealing with ground water and disposal as approved confirming to environmental requirements (Where necessary), and all other items necessary for a complete installation and to give a finished result in accordance with the drawings and specifications.

The payment shall not be made to the Contractor until the satisfactory completion and all testing.

**Concrete Work**

*Concrete*

* Structural Concrete works shall be measured per cubic meters and shall be paid as per unit rate stated in the Price Schedule. The cost of unit rate shall include, but not limited to;
* All costs incurred in determining the mixes and testing of materials to satisfy the specifications (including any admixtures);
* Supplying all materials, storing, mixing, transporting, placing and compaction;
* All materials for movement and construction joints;
* All waterproofing materials;
* All blinding concrete and vapour barrier / separation layer;
* Preparing the surface of previously executed work to provide the necessary bond with new concrete;
* Achieving specified tolerance;
* Forming slopes, falls and the likes.
* Forming holes or boxing out for pipes, bolts, frames for covers and other steel works, etc;
* Forming chamfers on all external arises to exposed concrete, forming fillets, grooves and channels;
* Forming all movement and construction joints, stop ends, temporary stops and shuttering;
* Providing and removing all shuttering / formwork and all scaffolding, centering, fabricating, assembly, cutting, fittings and fixing in position and taking all measures necessary to produce the required shapes of concrete;
* Curing the concrete and all measures to protect freshly poured concrete;
* Rubbing down etc, and making good the concrete surfaces to provided the specified finishes including protection to surfaces in contact with soil;
* Making and testing of all test cubes and all testing and remedial work ordered by the Engineer consequent to the results of tests falling below the minimum specified;
* Filling all formwork tie holes with non-shrink epoxy grout;
* Any additional concrete provided in lieu of formwork to fill over break or working spaces;
* All overtime working to maintain continuity of casting;
* All daily returns to the Engineer;
* Leakage testing of water retaining structures including provision and legal disposal of water;
* Cleaning and disinfection of structures including provision of water and chemicals required for the operation and legal disposal;
* Except where included in specific items, the measurement of concrete shall be by cubic meter. No deductions will be made for channels, recesses or rebates less than 600mm girth, for 25mm chamfers nor for holes or ducts formed in the concrete less than 1000mm girth.
* No separate measurement will be made for shuttering / formwork and fair face finish. The cost thereof shall be deemed to be included in the rates for concrete work.

*Steel Reinforcement*

* The cost for bars and fabric reinforcement include in the rates for relevant items in the BOQ shall include, but not be limited to, for providing drawings and bar bending schedules, samples, testing, supplying, transporting, storing, cleaning, cutting, bending, distributing throughout the works, fixing and supporting in position for all binding wire (and for welding, where indicated), and all labor necessary.
* The unit of measurement for steel reinforcement where measured separately, is the kilograms (kg) and the weight of steel shall be calculated net, with no allowance made for wastage or laps and the cost of these will be deemed to be covered in the rates.
* The weight of steel supports, spacer bars and ties used to locate and hold the reinforcement in place is not included in the quantity, and the cost of these will be deemed to be covered in the rates.

**Masonry Works**

* Masonry works shall be measured per square meters and shall be paid as per unit rate stated in the Price Schedule. The cost of unit rate shall include, but not limited to;
* Shop drawings
* Samples for the Engineer’s approvals
* Supply, Installation and fixing of all materials including damp proof course, joint fillers and sealant, metal ties, anchors, joint reinforcement, plaster lathes, plaster beads;
* All cutting and finishing at openings
* Wastage;
* Temporary works;
* Protection of other works
* All testing;
* Leaving the whole of the work in perfect condition on completion
* If no specific item is provided for masonry works, then the work is deemed to be included in the Contractor’s other rates.
* Lump sum for masonry shall include for all things necessary to construct brickwork, concrete block work and glass block work complete.

**Metal Works**

* Windows, Doors, gates and Steel Ladders shall be measured by numbers and hand rails and fencing shall be measured in linear meters. All these items shall be paid as per unit rate stated in the Price Schedule and the cost of unit rate shall include, but not limited to;
* Shop drawings
* Cutting
* Assembling
* Welding and grinding
* Drilling, countersinking, screwing, bolting and riveting
* Bedding and pointing
* Lugs, plugs, holdfasts and the like
* Ironmongery including temporarily fixing, re-fixing, oiling and adjusting
* Hardware including cramps, dowels and the like
* Glass and glazing including cutting to size and putty
* Preparing surface for and painting one coat of primer before fixing
* Painting to any area or width in any location including work in multicolor and cutting in edges
* Protection of other works
* All testing;
* Leaving the whole of the work in perfect condition on completion

**Carpentry and Joinery Works**

* Doors shall be measured by numbers and shall be paid as per unit rate stated in the Price Schedule and the cost of unit rate shall include, but not limited to;
* Shop drawings
* Cutting
* Assembling
* Drilling, countersinking, screwing, bolting and riveting
* Bedding and pointing
* Plugging concrete, block work and stone work and making well
* Ironmongery including temporarily fixing, re-fixing, oiling and adjusting
* Hardware including nails, screws, bearers and other supports including painting
* Glass and glazing including cutting to size and putty
* Preparing surface to receive finishes
* Painting, varnishing, polishing, oiling and the like, to any area or width in any location including work in multicolor and cutting in edges
* Protection of other works
* All testing;
* Leaving the whole of the work in perfect condition on completion

**Plaster works and Other Wall, Floor and Ceiling Finishes**

* All finishes shall be measured per square meters and shall be paid as per unit rate stated in the Price Schedule and the cost of unit rate shall include, but not limited to;
* Supply and storage of materials
* Mixing
* Hacking concrete, applying cement slurry or raking out joints of block work to form key
* Application to any surface
* Any width or area
* Any location and any height
* Beds, Bedding and Backing
* Finish to surface
* Finish to edges and arises
* Grouting and pointing
* Making good around steel sections, pipes, tubes, bars, brackets. Outlets and the like
* Finish to falls, cross falls and currents
* Forming bays including joints
* Treating surfaces with dust proofer, hardener and the like
* Ends, intersections, angles, ramps and the like on skirting
* Forming rounded top edges and coves at bottom on skirting

Rates for tiling shall include, but not limited to;

* Cutting
* Purpose made tiles including rounded edge tiles and bull-nosed tiles