TAMIL NADU SLUM CLEARANCE BOARD

Inclusive, Resilient and Sustainable Housing for Urban Poor Sector Project in Tamil Nadu.

BIDDING DOCUMENT

For

Procurement of works for

Construction of 969 Nos of housing units adopting Type Design No. 02/2020 (G+5) with associated infrastructure works at Ayyanar Kovil (Phase II), Vallam in S.No 207/1, Vallam Vadukku Setthi Village, Thanjavur Taluk in Thanjavur district, Tamil Nadu

Under Open Competitive Bidding

(Following ADB's single stage two envelope bidding procedure)

Part 2 – Price Bid

Issued on: 28.12.2020

Invitation for Bids No.: IRSHUP/NCB/03

OCB No.: IRSHUP/VAL/03

Employer: Tamil Nadu Slum Clearance Board, Government of Tamil Nadu

Country: India

Issued by Office of
Superintending Engineer,
Project Monitoring Unit,
Inclusive, Resilient and Sustainable Housing for Urban Poor Sector Project
Tamil Nadu Slum Clearance Board,
No.5, Kamarajar Salai, Chennai – 600 005,
Tamil Nadu, India.
E-mail: tnscbprocurement@gmail.com

Letter of Price Bid

Date: .....
Invitation for Bids No.: IRSHUP/NCB/03

OCB No.: IRSHUP/VAL/03

To: The Superintending Engineer,
Project Monitoring Unit,
Inclusive, Resilient and Sustainable Housing for Urban Poor Sector Project in Tamil Nadu
Tamil Nadu Slum Clearance Board,
No.5, Kamarajar Salai, Chennai – 600 005, Tamil Nadu, India

We, the undersigned, declare that:

(a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB) 8;

(b) We offer to execute in conformity with the Bidding Documents and the Technical Bid submitted for the following Works:

"Construction of 969 Nos of housing units adopting Type Design No. 02/2020 (G+5) with associated infrastructure works at Ayyanar Kovil (Phase II), Vallam in S.No 207/1, Vallam Vadukku Setthi Village, Thanjavur Taluk in Thanjavur district, Tamil Nadu."

(c) The total price of our Bid, excluding any discounts offered in item (d) below is:

----------[*amount of local currency in words*], [*amount in figures*]

The total bid price from the Summary of Bill of Quantities should be entered by the bidder inside this box. Absence of the total bid price in the Letter of Price Bid may result in the rejection of the bid.

(d) The discounts offered and the methodology for their application are:

(e) Our Bid shall be valid for a period of 120 days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(f) If our Bid is accepted, we commit to obtain and submit a performance security in accordance with the Bidding Documents;

(g) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract: *

Name of Recipient	Address	Reason	Amount
.....	.....	.....	.....
.....	.....	.....	..... .

(h) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and

(i) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

(j) We agree to permit ADB or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by ADB.

Name .....

In the capacity of .....

Signed .....

Duly authorized to sign the Bid for and on behalf of .....

Date .....
.....

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* *If none has been paid or is to be paid, indicate "none".*

Preamble to Bill of Quantities

1. The Bill of Quantities (BOQ) shall be read in conjunction with the Instructions to Bidders, General and Particular Conditions of Contract, Specifications, and Drawings.

2. The quantities given in the BOQ are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer, and valued at the rates and prices bid in the priced BOQ, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.

3. The rates and prices bid in the priced Bill of Quantities shall, except as otherwise provided under the Contract, include all construction equipment, labor, supervision, materials, surveying, setting out, erection, maintenance, all lead and lift, insurance, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.

4. 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.

5. The method of execution and measurement of completed work for payment shall be in accordance to the respective procedures provided in the Technical Specifications under this Contract and in the absence of which shall be in accordance to the relevant BIS Standard and Standard Specification of the State of Tamil Nadu or Standard Specification published by the Central Public Works Department, Government of India as the case may be.

6. Rock is defined as all material that, in the opinion of the Employer's Representative, require blasting, or the use of metal wedges and sledgehammers, or the use of compressed air drilling for their removal, and that cannot be extracted by ripping with a tractor of at least 150 brake horsepower (BHP) with a single, rear-mounted, heavy-duty ripper.

7. All defective works are liable to be demolished, rebuilt and defective materials replaced by the contractor at his own cost and time

8. In view of the site location and their prevailing condition, it is mandatory to the Contractor to visit the site and make himself thoroughly familiar with the site conditions, access and account for all possible difficulties and other requirements mentioned elsewhere in his bid prior to submission. When a contractor submits his bid for this work, it will be considered that he has quoted for this work with full and complete knowledge of the site and prevailing conditions, and no claim for additional compensation shall be entertained on this account.

9. Description of items in this BOQ is by itself not complete, and for a full description the BOQ should be read together with the Technical Specifications and Drawings. Rates quoted in the BOQ are deemed to have included all aspects covered in the Preamble and Technical Specifications, and all features and details shown in the Drawings.

10. The Bidder shall, in the course of studying the bid document, point out all his/her remarks on the documents and make all his/her queries to the Employer who will study these remarks and clarify any discrepancy between the Bidding Documents.

11. Submissions shall be strictly in accordance with the documents and shall not be qualified in any way. The Bidder shall not alter the text of the BOQ.

12. Extra and excess items of work shall not vitiate the Contract. The Contractor shall be bound to execute extra items of work as directed by the Engineer. The rates for extra items will be as per rates decided under Contract Conditions.

13. For the evaluation process, if requested by the Evaluation Committee, the Contractor shall provide a sheet analysis for all priced items showing how the rate entered was derived.

14. The rates shall be deemed to include all the cost of Works described in the Bidding Documents to complete the works as per the scope of work.

15. The Bidder shall satisfy himself/herself as to the meaning of every item in the BOQ. The rates and prices inserted in the BOQ by the bidder shall be deemed to cover all costs, taxes, customs and import duties, levies, profits, risks, liabilities, insurance and obligations set forth or implied in the bid, as well as proper operation, maintenance and management of the Works including, but not limited to the following:
    (i) All labour and Materials including consumables;
    (ii) All temporary work of every description required including over ground pumping and other requirements to avoid disruption to the service whilst maintenance or repair work is carried out;
    (iii) The provision and use of all equipment, tools and Plant of every kind, whether mechanical or non-mechanical, required for the expeditious carrying out of the Works in their proper sequence;
    (iv) Provision for scaffolding, staging, guard rails, temporary stairs, temporary access during execution, approach roads up to the Site for the movement of vehicles, and heavy excavation machinery with supporting transport facility;
    (v) Provision for excavation, back-filling, bringing to the Site extra fill for back-fill, making good and reinstating surfaces, disposing of surplus material, dealing with all groundwater and wastewater flows, and for work in close proximity to other utility apparatus including protecting that apparatus;
    (vi) Provision for work on pipeline corridors such as traffic control measures, safety barriers, obtaining any approvals and permits from authorities, and reinstatement of surfaces;
    (vii) Cooperation and coordination of the work with related authorities, other contractors and utilities, including obtaining their permission before starting the related Works if required; and
    (viii) Providing security arrangements to guard the Site and premises at all times and to maintain strict control on the movement of Materials and labor until the completion of the work.

16. Works itemized in the BOQ will be subject to measurement. Such measurement will be in the unit of measurement shown the BOQ and payment shall be made on the measured quantities.

17. All rules and regulations of the labor department, contract labor Laws, provident fund and employee state insurance and connected Laws, and all other Laws of the land are to be complied with by the Bidder within the quoted rates.

18. The Provisional Sum included and so designated in the BOQ shall be expended in whole or in part at the direction and discretion of the Engineer in accordance with the Conditions of Contract. It will be used by the Engineer for nominated sub-contractors, line agencies, and installation of power connections, third party inspecting agencies, charges levied by statutory electrical, telephone, or other authorities, or for other miscellaneous works. The use of the Provisional Sum will also be for relocation of utilities above or underground that conflict with the existing or permanent line or level of the Works, independent sampling and laboratory testing, as directed by the Engineer, replacement or compensation for plants and trees removed due to the Works set case, IEC activities, etc or as directed by the Engineer.

19. All dismantling/ excavation items will include disposal of excavated surplus soil/material will all lead and lift. No extra payment for transportation for disposal of material or stacking in store etc will be paid.

BILL OF QUANTITY

Project Name: Inclusive, Resilient and Sustainable Housing for Urban Poor Sector Project in Tamil Nadu

Contract Nos. and Title: Construction of 969 Tenements (G+5) adopting T.D.No. 02/2020 at Vallam Phase II in survey No. 207/1, VallamVadakkushetti village, Thanjavur District under ADB.

Bill 1: BOQ for Tenements

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
1			Earth work excavation for foundation with all initial leads and lifts in all soils and sub soils and to the required depth as may be directed except hard rock requiring blasting inclusive of shoring, strutting and bailing out water wherever necessary refilling the sides of foundation with excavated earth in layers of not exceeding 15cm thick well consolidated depositing the surplus earth in places shown and levelling the site with all leads and lifts etc., complete in all respects as directed by the Engineer or his representative.		
a	11379.00	M^3	Initial lead of 10m and initial lift upto 2m (depth from 0m to 2m)		
b	579.00	M^3	For additional lift of 1m (depth from 2m to 3m)		
2	417.00	M^3	Filling in foundation and basement with M-sand in layers of not exceeding 15cm thick well watered, rammed and consolidated complying with relevant standard specification including the cost of supplying M- sand etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
3	1447.00	M^3	Cement Concrete 1:4:8 (one of cement, four of M-sand and eight of hard broken stone) using 20mm size hard broken granite stone jelly inclusive of shoring, strutting, bailing out water, ramming, curing etc., complete in all respects as directed by the Engineer or his representative.		
4	3576.00	M^3	Refilling with selected excavated earth other than M-sand complying with relevant standard specifications for refilling in foundation and basement including spreading in layers not exceeding 15cm thick, well watered, rammed and consolidated by hand ramming, curing etc., complete in all respects as directed by the Engineer or his representative		
5	503.00	M^3	Filling in foundation and basement with quarry dust in layers of not exceeding 15cm thick well watered, rammed and consolidated complying with relevant standard specification including the cost of supplying quarry dust etc., complete in all respects as directed by the Engineer or his representative.		
6	17839.00	M^3	Providing and laying in position, RMC M-25 Grade in accordance using 20mm with IS: 456-2000, and downgraded hard broken granite stone jelly for all RCC items of works with minimum cement content of 350 kg/M^3 and maximum water cement ratio of 0.50, including admixture (Plasticizer / Super plasticizer) in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability with about (5.0cu.m.) 7730 kg. of 20mm machine crushed stone jelly and with about (3.3cu.m) 5156 kg. of 10-12mm machine crushed stone jelly and with about (4.79cu.m)		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			7670 kg. of M-sand, but excluding cost of reinforcement grill and fabricating charges, centering and shuttering and also including laying, vibrating with mechanical vibrators, finishing, curing, etc. and providing fixtures like fan clamps in the RCC floor/ roof slabs wherever necessary without claiming extra, etc., complete in all respects as directed by the Engineer or his representative. The coarse and fine aggregates to be used should comply with the requirements of IS Standards. (No separate payment will be made by the Department for the excess usage of materials).		
7	18264.00	M^2	Providing form work for centering, shuttering etc., for all RCC works as noted below including shuttering upto 3.0M high using M.S. sheet of size 90cm x 60cm and BG 10 stiffened with alround M.S. angle of size 25mm x 25mm x 3mm laid over Silver Oak Country wood joists of size 10cm x 6.5cm (spaced at 91 cm c/c) and supported by casurina props of size 10cm to 13cm dia (spaced at 75 cm c/c) and removing the same after a specified period without damaging the RCC works in all floors etc., complete as directed by the Engineer or his representative complying with relevant standard specification. **For column footing, grade beam, plinth beam etc**.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
8	83922.00	M^2	Providing form work for centering, shuttering etc., for all RCC works as noted below including shuttering upto 3.0M high using M.S. sheet of size 90cm x 60cm and BG 10 stiffened with alround M.S. angle of size 25mm x 25mm x 3mm laid over Silver Oak Country wood joists of size 10cm x 6.5cm (spaced at 91 cm c/c) and supported by casurina props of size 10cm to 13 cm dia (spaced at 75 cm c/c) and removing the same after a specified period without damaging the RCC works in all floors etc., complete in all respects as directed by the Engineer or his representative complying with relevant standard specification. **(lintel, beam, slab etc.,)**		
9	48353.00	M^2	Providing form work for centering, shuttering etc., for all RCC works as noted below including shuttering upto 3.0M high using M.S. sheet of size 90cm x 60cm and BG 10 stiffened with alround M.S. angle of size 25mm x 25mm x 3mm laid over Silver Oak country wood joists of size 10cm x 6.5cm (spaced at 91 cm c/c) and supported by casurina props of size 10cm to 13 cm dia (spaced at 75 cm c/c) and removing the same after a specified period without damaging the RCC works in all floors etc., complete in all respects as directed by the Engineer or his representative complying with relevant standard specification. **For columns, sunshades, window boxing etc.,**		
10	1215.00	M^3	Brick work in cement mortar 1:5 (one of cement and five of M-sand) using Fly Ash bricks of minimum size 230mm X 110mm X 70mm including dewatering wherever necessary, proper setting and curing etc., complete in all respects as directed by the Engineer or his representative. In Foundation and Basement		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
11			Brick work in cement mortar 1:6 (one of cement and six of M-sand) using Fly Ash bricks of minimum size 230mm X 110mm X70mm in super structure including fixing the frames of doors and windows, scaffolding, proper setting, curing etc., complete in all respects as directed by the Engineer or his representative.		
a	1939.00	M^3	In Ground Floor		
b	1937.00	M^3	In First Floor		
c	1937.00	M^3	In Second Floor		
d	1937.00	M^3	In Third Floor		
e	1937.00	M^3	In Fourth floor		
f	1937.00	M^3	In Fifth floor		
g	1052.00	M^3	In Terrace		
12			Masonry work using Fly Ash bricks in cement mortar 1:5 (one of cement six of M sand) of size not less than 23cm×11cm×7cm for super structure in the following floors including fixing the frames of doors and windows, scaffolding, proper setting curing etc, complete in all respects complying with standard specification as directed by the Engineer or his representative		
a	4140.00	M^3	In Ground Floor		
b	4192.00	M^3	In First Floor		
c	4192.00	M^3	In Second Floor		
d	4192.00	M^3	In Third Floor		
e	4192.00	M^3	In Fourth floor		
f	4192.00	M^3	In Fifth floor		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
13	2294.00	M^2	Brick partition wall 7cm thick in cement mortar 1:5 (one of cement and five of M-sand) using Fly Ash bricks of minimum size 230mm X110mm X70mm in super structure including fixing the frames of doors and windows, scaffolding, proper setting, curing etc., complete in all respects as directed by the Engineer or his representative. (Average rate of all floors for elevation)		
14	733.00	M^2	Providing 7cm thick staircase parapet wall in cement mortar 1:4 (one of cement and four of M-sand) using fly ash bricks of minimum size 230mm X 110mm X70mm and plastering the hand rail portion only with red oxide plastering in cement mortar 1:4 (one of cement and four of M-sand) 20 mm thick using 9.80 kg of red oxide powder per 10 m^2 and plastering the side with cement mortar 1:4 (one of cement and four of P-sand) 20 mm thick including providing skirting, proper setting, curing, finishing smooth in all floors etc., complete in all respects as directed by the Engineer or his representative. In all floors.		
15			Supplying, fabricating and placing the following kinds of steel grills Fe 500D for reinforcement for all RCC works such as plinth beam, grade beam, column footings, columns, loft, sunshade, floor or roof slab, staircase etc., including cost of steel, binding wire and labour charges for fabricating the reinforcement in position etc., complete in all respects as directed by the Engineer or his representative. (The rate includes the cost of binding wire also).		
a	2639.00	MT	Steel Rods of All sizes		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
16	6655.00	M^2	Supplying and fixing in position of cuddappah slab of 20mm/30mm thick both sides polished for cup-board planks of required size including cost of slab, labour charges for cutting and fixing into walls etc., complete in all respects as directed by the Engineer or his representative.		
17	5353.00	M^2	Providing Ellis pattern flooring, 20mm thick in cement concrete 1:3 (one of cement and three of hard broken stone jelly) (no sand) using hard broken granite stone chips of size 3mm to 10mm and the surface rendered smooth, thread lining, curing etc., complete in all respects as directed by the Engineer or his representative.		
18	25401.00	M^2	Flooring with vitrified tiles of minimum size 600mmx600mmx8mm of approved quality in cement mortar 1:3 (one of cement and three of M-sand), 20mm thick laid straight alignment and pointed neatly with colour cement @ 0.40kg/M2 laid without any gap in the tiles neatly and fixing in position as per the std. specification and etc., complete in all respects as directed by the Engineer or his representative.		
19	2405.00	M^2	Flooring with ceramic tiles of minimum size 305mmX305mmX6mm of approved quality in cement mortar 1:3 (one of cement and three of M-sand), 20mm thick laid straight alignment and pointed neatly with colour cement @ 0.40kg/M2 laid without any gap in the tiles neatly and fixing in position as per the standard specification complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
20	10812.00	M^2	Dadoing the walls with first quality colour glazed tiles of minimum size 150mmX150mmX6mm of approved quality and make and laid in cement mortar 1:2 (one of cement and two of M-sand), 10mm thick and pointing with white cement neatly as directed by the Engineer or his representative.		
21	1024.00	M^2	Plastering in cement mortar 1:4 (one of cement and four of P-sand) 20mm thick including providing band cornice, finishing smooth, setting, curing etc., complete in all respects as directed by the Engineer or his representative.		
22	3354.00	M^2	Plastering with cement mortar 1:3 (one of cement and three of P-sand) 12 mm thick with water proofing compound including providing band cornice, scaffolding, finishing smooth, setting, curing etc., complete in all respects as directed by the Engineer or his representative.		
23	969.00	Nos	Supplying and fixing of Door of overall Size 1000 mm x 2100 mm with required dimensions of size~ 100 mm x 75 mm, with groove of size ~ 30 mm x 20 mm for resting the door shutter & chamfer finish at front using CRCA pressed steel box section 18 gauge or 1.25mm thick for door frames including providing holes and fixing wooden blocks for fixing fixtures and fittings and 4 nos of hold fast using the iron angle of 15cm length with split ends one coat of red oxide primer , Fabrication and Supply of 35mm thick solid core flush door with teak ply on one side and commercial ply on other side with teak wood lapping alround with iron oxidized hinges, tower bolts 12" ,2 Nos with receiver, Aldrop 30 cm and handle 1 No complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
24	1018.00	Nos	Supplying and fixing of Door of overall Size 900 mm x 2100 mm with required dimensions of size~ 100 mm x 75 mm, with groove of size ~ 30 mm x 20 mm for resting the door shutter & chamfer finish at front using CRCA pressed steel box section 18 gauge or 1.25mm thick for door frames including providing holes and fixing wooden blocks for fixing fixtures and fittings and 4 nos of hold fast using the iron angle of 15cm length with split ends one coat of red oxide primer , Fabrication and Supply of 35mm thick solid core flush door with teak ply on one side and commercial ply on other side with teak wood lapping alround with iron oxidized hinges, tower bolts 12" 2 nos with receiver, Aldrop 30 cm and handle 1 no complete in all respects as directed by the Engineer or his representative.		
25	3779.00	M^2	Supplying and fixing UPVC (Un-Plasticized Polyvinyl Chloride) Windows of casement type (open) from the profile the size of outer frame 60mm x 58mm and shutter profile are reinforcement with GI/1mm 125GSM and 100% corrosion free, the profiles are multi chambered sections with wall thick of 2mm. The EPDM rubber (black colour) covered with over all the edges of frame and shutter the shutter will be provided with Espag multi power point locks and also it operates as handle. The corners and joints should be welded and cleaned. Radiations free pin headed plain or brown colour glass 4mm thick should be provided to the shutter and it should not allow leakage of water even at most ranging storms and should have key lockable action, security protective hinges, strong locking systems and as per size for arresting noise and energy loss. The connecting mechanism between sash and outer frame that enables opening of the window. The window should be fixed to the wall with 100% packing with screws and silicon packing all round the frames.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			The window should be got approved from the Engineer or his representative before use on work		
26	710.00	M^2	Supplying and fixing UPVC (Un-Plasticized Polyvinyl Chloride) Louvered Ventilators of from the profile the size of outer frame 60mm x 58mm and shutter profile size of 60 x 78mm both profiles are reinforced with GI/1mm 125GSM and 100% corrosion free, the profile are multi chambered sections with wall thick of 2mm. The EPDM rubber (black colour) covered with all over the edges of frame and shutter. The corners and joints should be welded and cleaned. Radiations pin headed glass 4mm thick should be provided in the louvers. The window should be fixed to the wall with 100% packing with screws and silicon packing all round the frames. The ventilator should be got approved from the Engineer or his representative before use on work.		
27	6009.00	M^2	Finishing the top of roof with reflected ceramic cooling tiles of size 305mmx305mmx7mm of approved brand over 1:4:8(one of cement, four of M-sand and eight of gravel) of 6-10mm tick ISS metal and quality in cement mortar 1:3(one of cement and three of M-sand) 12mm thick mixed with water proofing compound 2% by weight of cement used and pointing with same mortar etc., complete in all respects as directed by the Engineer or his representative.		
28	211821.00	M^2	Plastering with cement mortar 1:5 (one of cement and five of P-sand) 12 mm thick including providing band cornice, scaffolding, finishing smooth, setting, curing etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
29	35737.00	M^2	Special ceiling plastering in cement mortar 1:3 (one of cement and three of P-sand) 10 mm thick for all RCC exposed surfaces including providing band cornice, scaffolding, finishing smooth, setting, curing etc., complete in all respects as directed by the Engineer or his representative.		
30	181844.00	M^2	White washing two coats of clean shell lime including cost of lime, gum, brushes, scaffolding etc., complete in all respects as directed by the Engineer or his representative.		
31	147073.00	M^2	Wall putty Two coats over new plastered surface including preparation of surface ,cost of wall putty and putty plates, brushes, scaffolding and labour charges etc., complete in all respects as directed by the Engineer or his representative.		
32	67187.00	M^2	Painting two coats of newly plastered exterior/Interior walls with I class ready mixed plastic emulsion paint and of approved colour over a priming coat including thorough scrapping, clean removal of dirt and including necessary plaster of Paris putty, wherever required etc., complete in all respects as directed by the Engineer or his representative.		
33	4954.00	M^2	Painting the new iron work with one coat of approved I^{st} class synthetic enamel paint of approved quality and colour including cost of paint, brushes, scaffolding etc., complete in all respects as directed by the Engineer or his representative.		
34	9507.00	M^2	Painting the new wood works two coats with ready mixed synthetic enamel paint (I^{st} class) of approved quality and colour over coat of priming with approved primer including cost of paint brushes and scaffolding etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
35	2213.00	RM	Supplying and fixing of 110mm dia PVC Rain water downfall pipe of 4 kg/cm² conforming to IS 13592-1992 (Type-A) with necessary bends, shoes, cost of special clamps, coupler if necessary including cost of solvent cement, proper aligning, teakwood plugs of approved quality etc., complete in all respects as directed by the Engineer or his representative.		
36	95527.00	Kg	Supplying and fixing MS grills for doors and fixed grills using MS angles (IS 808-1989) and MS sheet of specified size and gauge including the cost of furniture fittings, welding, finishing and including painting one coat of primer with red oxide primer of approved quality etc., complete in all respects as directed by the Engineer or his representative.		
37	972.00	Nos	Supplying and fixing in position White / Colour Glazed Model Floor Mounted European Water Closet of best quality and approved make with 100mm “P” or “S” trap connecting with CI pipe of 100mm dia / PVC pipe of 110mm dia, double flapped rigid PVC black seat and seat cover with CP brass hinges including cost of white cement, cement for packing, spun yarn, teak wood plugs, brass screws, etc., including supplying and fixing 10 litres capacity PVC / 12.5 litres capacity porcelain low level flushing tank with a pair of CI brackets, etc., complete with all fittings, such as, 15mm brass ball valve with polythene float with brass handle, union coupling connected by means of 40mm white PVC flush hand using Indian adopter joint including all internal fittings, such as, 15mm bras connections, 15mm GM wheel valve, 15mm brass nipple (2 Nos.), 15mm nylon connection, TW plugs, screws and also giving necessary connection to the PVC pipe and painting the CI brackets with 2 coats of approved paint over one coat of red oxide primer, dismantling the masonry and re-doing the		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			dismantled masonry to original condition, etc., complete complying with standard specifications. (The EWC and flushing tank with all accessories should be got approved by the Engineer or his representative before use on works) Floor Fitting for all floor		
38	1944.00	Nos	Supplying and fixing of 100mm x 75 mm PVC Nahini Trap with grating 4way/2way (superior quality) having minimum seal of 50mm conforming to relevant IS specifications with its latest amendments including resting at the bed of brick jelly concrete 1:5:12½ (One of cement, five of sand and twelve and half broken brick jelly) using 40 mm size broken brick jelly etc., complete in all respects as directed by the Engineer or his representative.		
39			Supplying and fixing of 110mm dia SWR soil pipe of 6 kg/cm2 of approved quality confirming to IS 13592/1992 (type B) with ISI monogram packing the joints with hemp yarn and cement including fixing into walls in W/C room with necessary connection to the sanitary fittings, testing in all floors as directed by the Engineer or his representative		
a	3313.00	RM	Vertical line		
b	2294.00	RM	horizontal line		
40			Supplying and fixing of 75mm dia SWR pipe of 6 kg/cm2 of approved quality confirming to IS 13592/1992 Type-B with ISI monogram packing the joints with hemp yarn and cement including fixing into walls with necessary wooden plugs and holding down clamps, dismantling and making good of the dismantled portion with necessary connection to the sanitary fittings and testing etc. complete in all respects as directed by the Engineer or his representative.		
a	6614.00	RM	Vertical line		
b	3888.00	RM	Horizontal line		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
41	567.00	Nos	Construction of inspection chamber of size 0.60M X 0.60M for the following depth with brick jelly cement concrete 1:5:12½ (one of cement, five of M-sand and twelve and half of broken brick jelly) using 40mm size broken brick jelly, 15cm thick for foundation, 23 cm thick masonry walls in cement mortar 1:5 (one of cement and five of M-sand) using IInd class ground moulded chamber burnt bricks of size 9"×4⅜"×2¾" and inside plastering with cement mortar 1:3 (one of cement and three of P-sand) 12mm thick including channelling, benching etc., and top covered with SFRC cover slab (medium duty) and curing with necessary earthwork excavation for foundation, refilling the sides of foundation in all soils except hard rock requiring blasting 0.60M depth requiring blasting etc., complete in all respects as directed by the Engineer or his representative. 0.60M depth (average)		
42	162.00	Nos	Construction of Gully chamber 0.23 x 0.23 m (inner) for the following depth brick jelly cement concrete 1:5 :12.5 (one of cement, five of sand and twelve and half of broken brick jelly) using 20mm size brick jelly 15cm thick for foundation 12cm thick Ground moulded chamber bricks in CM 1:5 (One of cement and five of sand) using Ground moulded chamber bricks inside plastering with CM 1:3 (one of cement and three of sand) 12mm thick including supplying and fixing of SW Gully trap of size 150mm x 100mm with CI Gratings including fixing in position and necessary earthwork excavation, Sand filling with refilling the sides of foundation in all soils except hard rock requiring blasting etc., complete in all respects as directed by the Engineer or his representative. (0.30m depth (Average)).		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
43			Supplying, laying and jointing UPVC pipes of approved quality and best variety conforming to BIS of the following dia including cutting, threading and fixing UPVC specials using UPVC adhesives (but excluding cost of such specials) and fixing into wall with teak wood plugs, SS clamps and screws making holes on the wall (or) drilling holes in the roof and making good the dismantled portion to original condition with necessary brick work / cement concrete and plastering neatly wherever necessary with necessary scaffolding charges upto 4 metre height above ground level, etc., complete complying with standard specifications. The UPVC pipes shall be got approved by Executive Engineer before use on works as per IS 4985		
a	5832.00	RM	20mm dia UPVC Pipe		
b	48600.00	RM	25mm dia UPVC Pipe		
c	5508.00	RM	32mm dia UPVC pipe		
44			Supplying and fixing the following UPVC specials of approved quality etc., complete in all respects as directed by the Engineer or his representative.		
a	810.00	Nos	32mm dia Elbow		
b	1296.00	Nos	32mm dia Coupler		
c	648.00	Nos	32mm dia Tee		
d	648.00	Nos	32mm × 25mm size Reducer		
e	2916.00	Nos	25mm dia Elbow		
f	4860.00	Nos	25mm dia Nipple with check nut and washer		
g	2916.00	Nos	25mm dia Tee		
h	2916.00	Nos	20mm x 15mm size Female Reducer		
i	2916.00	Nos	15mm Dia Screw Down Tap (Heavy)		
j	4860.00	Nos	20mm dia Tee		
k	9720.00	Nos	20mm dia Elbow		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
45			Wiring with 2 off 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark with continuous earth connection by means of 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark in suitable PVC rigid pipe 2mm thick with ISI mark on surface run with suitable size concealed 16 gauge M.S. switch box covered by laminated hylem sheet 3mm thick for LIGHT POINTS including the cost of cable, PVC pipes and specials, brass screws, ceiling rose, flush type 5 Amps SP Mark switch, PVC junction box, 16 gauge M.S. switch box covered by laminated hylem sheet 3mm thick T.W. plugs, cement and labour, circuit mains etc., complete box, covered by laminated hylem sheet 3mm thick T.W. plugs, cement and labour, circuit mains etc., complete in all respects as directed by the Engineer or his representative.		
a	6816.00	Nos	With Ceiling Rose		
46	1944.00	Nos	Wiring with 2 of 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark with continuous earth connection by means of 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark in suitable PVC rigid pipe 2mm thick with ISI mark on surface run with suitable size concealed 16 gauge M.S. switch box covered by laminated hylem sheet 3 mm thick for FAN POINTS including the cost of cable, PVC pipes and specials,		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			brass screws, ceiling rose, flush type 5 Amps SP Mark switch, PVC junction box, 16 gauge M.S. switch box covered by laminated hylem sheet 3mm thick T.W. plugs, cement and labour, circuit mains etc., complete box covered by laminated hylem sheet 3mm thick T.W. plugs, cement and labour, circuit mains etc., complete in all respects as directed by the Engineer or his representative.		
47	1944.00	Nos	Wiring with 2 off 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark with continuous earth connection by means of 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark in suitable PVC rigid pipe 2mm thick with ISI mark on surface run with suitable size concealed 16 gauge M.S. switch box covered by laminated hylem sheet 3 mm thick for 5 Amps 3 pin **C.S. plug points** at switch board itself including the cost of cable, PVC pipes and specials, brass screws, ceiling rose, flush type 5 Amps SP Mark switch, PVC junction box, 16 gauge M.S. switch box covered by laminated hylem sheet 3mm thick T.W. plugs, cement and labour, circuit mains etc., complete in all respects as directed by the Engineer or his representative.		
48	2916.00	Nos	Supplying and fixing of 5 Amps 3 pin and 2 pin combined flush type wall socket with 5Amps flush type switch concealed in existing MS box in flush with wall and covered with 3mm thick hylem sheet including cost of wall socket, switch and labour charges etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
49	972.00	Nos	Supplying and fixing of 5 Amps /15Amps 3 pin flush type wall socket with15A flush type switch concealed in **suitable MS box** in flush with wall and covered with 3mm thick hylem sheet including cost of wall socket, switch and labour charges for wall cutting, grouting, flushing and making good, painting with primary and finishing coat for MS box etc., complete in all respects as directed by the Engineer or his representative.		
50	24300.00	RM	Supply and run off 2 off 2.5 sq.mm PVC unsheathed copper conductor cable conforming to IS 694-1990 with continuous earth connection by means of 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable conforming to IS 694-1990 in suitable PVC rigid pipe on walls and ceiling for mains including the cost of PVC pipes and specials, cement and labour etc., complete in all respects as directed by the Engineer or his representative.		
51	120.00	RM	Supplying and run off 8 SWG copper wire on walls or below ground level with necessary 'U' nails, earthwork excavation and refilling including the cost of all materials etc., complete in all respects as directed by the Engineer or his representative.		
52	972.00	Nos	Supplying and fixing single phase 4 way Distribution Board flush type vertical SPMCB sheet steel fitted with bus bars and neutral links with single phase MCB out goings and separate 2 way provision for accommodating one no 2 pole incoming MCB and another separate 2 way provision for accommodating one no 2 pole ELCB with label holder and provision for taking up cable etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
53	38.00	Nos	Supply and erection of 125 Amps capacity floor Mounting type metering Panel Board of required size 250mm (cubical type) with bus bar chamber made up of 16 gauge CRCA sheet fully powdered coated for 3 phase 4 wire system with 40mm x 10mm aluminium bar for phases and neutral cable chamber, switch chamber and with 2nos 25mm x3mm aluminium flat for the earth bus on the rear side of the panel board; suitable PVC colour sleeves for the inter connecting flays / rigid copper wire; earth connections to all switches /bus bar by aluminium flats of suitable sizes from the earth bus; suitable angle iron frame of size of 40mm x 40mm x 6mm with powder coated painting over one coat of red oxide and incorporating the following incoming 1 no 100 Amps TPN SDF with HRC fuse links for incoming 32 Amps DP MCB switches 40 nos, 32Amps fuse unit, 2 nos 25mmx 3mm aluminium flats for neutral and earth for outgoings upto earth GI pipe, space provision for TNEB, Energy meter, 1 no of dummy provision all complete internal connection by 3 runs of 4 sq.mm PVC insulator unsheathed copper conductor of 1100 V grade from TNEB the 32Amps DP circuit to the meter and from the meter to MC switch 1set LED pilot lamps with fuse units, switches and inter connection to the bus bar by 25mm x 3mm aluminium flats for phase and neutral from 100Amps TPN SDF to the bus; inter connection by 8 SWG copper for the phases and 32Amps DP circuit to the meter and from the meter to MC switch and 1 set LED pilot lamps bus; 6mm thick hylem sheet separation between bus bar chamber and switches chamber; insulators for the support for the bus ; super scribing on the panel board of the size capacity of cables, switches, location etc., 2nos of metallic danger boards etc., complete in all respects as directed by the Engineer or his representative. **for 24 in 1 block**		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
54	2.00	Nos	Supply and erection of 125 Amps capacity floor Mounting type metering Panel Board of required size 250mm (cubical type) with bus bar chamber made up of 16 gauge CRCA sheet fully powdered coated for 3 phase 4 wire system with 40mm x 10mm aluminium bar for phases and neutral cable chamber, switch chamber and with 2nos 25mm x3mm aluminium flat for the earth bus on the rear side of the panel board; suitable PVC colour sleeves for the inter connecting flays / rigid copper wire; earth connections to all switches /bus bar by aluminium flats of suitable sizes from the earth bus; suitable angle iron frame of size of 40mm x 40mm x 6mm with powder coated painting over one coat of red oxide and incorporating the following incoming 1 no 100 Amps TPN SDF with HRC fuse links for incoming 32 Amps DP MCB switches 40 nos, 32Amps fuse unit, 2 nos 25mmx 3mm aluminium flats for neutral and earth for outgoings upto earth GI pipe, space provision for TNEB, Energy meter, 1 no of dummy provision all complete internal connection by 3 runs of 4 sq.mm PVC insulator unsheathed copper conductor of 1100 V grade from TNEB the 32Amps DP circuit to the meter and from the meter to MC switch 1set LED pilot lamps with fuse units, switches and inter connection to the bus bar by 25mm x 3mm aluiminium flats for phase and neutral from 100Amps TPN SDF to the bus; inter connection by 8 SWG copper for the phases and 32Amps DP circuit to the meter and from the meter to MC switch and 1 set LED pilot lamps bus; 6mm thick hylem sheet separation between bus bar chamber and switches chamber; insulators for the support for the bus ; super scribing on the panel board of the size capacity of cables, switches, location etc., 2nos of metallic danger boards tec., complete in all respects as directed by the Engineer or his representative. for **30 in 1 block**		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
55	400.00	RM	Supplying and laying of 3-½ x 70 sq.mm PVC armoured aluminium LT UG cable of approved brand having ISI mark in a trench to be excavated to a depth of 0.75 meter, putting 0.15 m layer of sand and covering the cable completely with bricks and sand and refilling the earth to make good etc., complete in all respects as directed by the Engineer or his representative. (Below G.L)		
56	300.00	RM	Supplying and laying of 3- ½ x 70 sq.mm PVC armoured aluminium LT UG cable of approved brand having ISI mark on post or wall with MS clamps etc., complete in all respects as directed by the Engineer or his representative.		
57	300.00	RM	Supply and fixing of 50mm dia GI pipe of approved brand having ISI mark etc., complete in all respects as directed by the Engineer or his representative.		
58	20.00	Nos	Supplying and fixing of 3 nos of 100Amps porcelain fuse units 500 volt of approved brand having ISI mark in TW board of suitable size etc., complete in all respects as directed by the Engineer or his representative.		
59	40.00	Nos	Supplying and fixing brass cable gland for 3 ½ x 70 sq.mm PVC armoured LT UG cable with earth connection etc., complete in all respects as directed by the Engineer or his representative.		
60	40.00	Nos	Supplying and fixing cable end termination for 3 ½ x 70 sq.mm PVC armoured LT UG cable with earth connection etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
61	972.00	Nos	Supplying and fixing in position best quality approved make white glazed earthenware wash hand basin of size 550mm x 400mm with a pair of cast iron brackets, including cost of 15mm dia brass chromium plated pillar tap, 32mm dia C.P waste coupling, 32mm dia "B" G.I waste pipe, 15mm dia G.M wheel valve, 15mm dia pillar tap etc., nylon connection 15mm dia brass nipples, 15mm C.P etc., complete in all respects as directed by the Engineer or his representative.		
62	14.00	RM	Providing expansion joint in RCC floor slab for 12.5mm width using polysulphide as sealant on the top and bottom for a depth of 7.5mm each and packing the inner space using compressible non-absorbent filler materials including cost of labour for cutting and fixing filler materials and laying polysulphide sealant with necessary spatula etc., complete complying with standard specifications and as directed by the Engineer or his representative.		
63	14.00	RM	Providing expansion joint 12.5mm width in RCC roof slabs between RCC twin beams using PVC water bar of 150mm wide centre bulb of 4mm to 6mm thickness of approved quality and brand and including filling the inner space with suitable non-absorbent flexible and well compressible filler materials of approved quality and covering the top surface with GI sheet 30cm wide and 1.6mm thick using phil plugs, GI screws, limpet cup washers, bitumen washers, etc., complete complying with standard specifications and as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
64	21.00	RM	Providing expansion joint of 12.5mm wide in between RCC twin columns from top of pedestal to full height including filling the inner space with suitable non-absorbent, flexible and well compressible filler materials of approved quality and brand; finishing the sides of RCC columns with polysulphide sealants for a depth of 7.5mm on either side covering the inner space filled with filler materials as above etc., complete complying with standard specifications and as directed by the Engineer or his representative.		
65	3068.00	M^2	Supplying and fixing of factory made PVC rigid panel door with frame made from MS tubes of 19 gauge size of 19mm x 19mm and covered with heat moulded PVC channel of 5mm thick and width of 50mm to form styles and rails. The inner panel should be inserted between the frame with 5mm thick PVC rigid foam sheet welded/sealed to the styles and rails along with 5mmx25mm PVC beading on all and either sides. The vertical tube may be filled with suitable materials to further enhance the screw holding capacity etc., complete in all respects as directed by the Engineer or his representative. Door Size 0.76m x 2.1 m		
66			Supplying the GI pipes to IS 1239 screwed at both ends and socket at one end "B" class etc., complete in all respects as directed by the Engineer or his representative.		
a	1661.00	RM	32mm dia GI pipe @ inlet		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
67			Labour charges for cutting threading and jointing the following dia of GI pipes with necessary specials including fixing into walls with necessary clamps and screws making holes in the roof making materials packed the same with necessary brick works and plastering wherever necessary with scaffolding etc., complete in all respects as directed by the Engineer or his representative.		
a	1661.00	RM	32mm dia GI pipe @ inlet		
68	20.00	RM	Supply and installation maintenance free GI Earthing System comprising of 50mm dia and 2 mtr. long earth electrode of low carbon steel rod with 100 micron bonding and 25 kgs. of carbon based environment friendly backfill compound and suitable clamp etc., complete in all respects as directed by the Engineer or his representative.		
69	972.00	Nos	Supplying and fixing STAINLESS STEEL sink of size 600×450×200mm complete in all respects as directed by the Engineer or his representative.		
70			Supplying and fixing the following UPVC SWR specials of approved quality etc., complete in all respects as directed by the Engineer or his representative.		
a	162.00	Nos	110mm shoe		
b	162.00	Nos	110mm dia cowl		
c	324.00	Nos	75mm dia cowl		
d	972.00	Nos	110mm dia single Tee with door		
e	1944.00	Nos	75mm dia single Tee with door		
f	324.00	Nos	75mm shoe		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
71			Supplying of GI and GM specials confirming to ISI etc., complete in all respects as directed by the Engineer or his representative.		
a	648.00	Nos	32mm dia GI Elbow		
b	324.00	Nos	40mm x 32mm dia GI Reducer		
c	324.00	Nos	32mm GM wheel valve		
d	1944.00	Nos	20mm GM wheel valve		
72	6285.00	M^2	Supply and fixing the shera wooden planks of 8mm thick with necessary bolt & nuts and other arrangements including labour charges for fixing in position etc., complete in all respects as directed by the Engineer or his representative.		
73	15426.00	RM	Providing horizontal grooves in cement mortar 1:4 of size 25mmX6mm at regular intervals Plastered surface alround the building as directed by the Engineer including proper finishing curing etc., complete in all respects as directed by the Engineer or his representative.		
			Total Bill -1 Building work:		

Bill 2: BOQ for Ancillary Units

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
1			Earth work excavation for foundation with all initial leads and lifts in all soils and sub soils and to the required depth as may be directed except hard rock requiring blasting inclusive of shoring, strutting and bailing out water wherever necessary refilling the sides of foundation with excavated earth in layers of not exceeding 15cm thick well consolidated depositing the surplus earth in places shown and levelling the site with all leads and lifts etc., complete in all respects as directed by the Engineer or his representative.		
a	1408.00	M3	Initial lead of 10m and initial lift upto 2m (depth from 0m to 2m)		
b	24.00	M3	For additional lift of 1m (depth from 2m to 3m)		
2	754.00	M3	Filling in foundation and basement with M-sand in layers of not exceeding 15cm thick well watered, rammed and consolidated complying with relevant standard specification including the cost of supplying M- sand etc., complete in all respects as directed by the Engineer or his representative.		
3	1968.00	M3	Earth work excavation for foundation with all initial leads and lifts in all soils and sub soils and to the required depth as may be directed except hard rock requiring blasting inclusive of shoring, strutting and bailing out water wherever necessary refilling (for SWD)		
4	114.00	M3	Cement Concrete 1:4:8 (one of cement, four of M-sand and eight of hard broken stone) using 40mm size hard broken granite stone jelly inclusive of shoring, strutting, bailing out water, ramming, curing etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
5	180.00	M3	Cement Concrete 1:4:8 (one of cement, four of M-sand and eight of hard broken stone) using 20mm size hard broken granite stone jelly inclusive of shoring, strutting, bailing out water, ramming, curing etc., complete in all respects as directed by the Engineer or his representative.		
6	186.00	M3	Cement Concrete 1:5:10 (one of cement, five of M-sand and ten of hard broken stone) using 40mm size hard broken granite stone jelly inclusive of shoring, strutting, bailing out water, ramming, curing etc., complete in all respects as directed by the Engineer or his representative.		
7	1403.00	M3	Filling in foundation and basement with quarry dust in layers of not exceeding 15cm thick well watered, rammed and consolidated complying with relevant standard specification including the cost of supplying quarry dust etc., complete in all respects as directed by the Engineer or his representative.		
8	2491.00	M^3	Providing and laying in position, RMC M-25 Grade in accordance using 20mm with IS: 456-2000, and downgraded hard broken granite stone jelly for all RCC items of works with minimum cement content of 350 kg/M3 and maximum water cement ratio of 0.50, including admixture (Plasticizer / Super plasticizer) in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability with about (5.0cu.m.) 7730 kg. of 20mm machine crushed stone jelly and with about (3.3cu.m) 5156 kg. of 10-12mm machine crushed stone jelly and with about (4.79cu.m) 7670 kg. of M-sand, but excluding cost of reinforcement grill and fabricating charges, centering and		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			shuttering and also including laying, vibrating with mechanical vibrators, finishing, curing, etc. and providing fixtures like fan clamps in the RCC floor/ roof slabs wherever necessary without claiming extra, etc., complete complying with standard specification and as directed by the authorized representatives. The coarse and fine aggregates to be used should comply with the requirements of IS Standards. (No separate payment will be made by the Department for the excess usage of materials).		
9	12720.00	M2	Providing form work for centering, shuttering etc., for all RCC works as noted below including shuttering upto 3.0M high using M.S. sheet of size 90cm x 60cm and BG 10 stiffened with alround M.S. angle of size 25mm x 25mm x 3mm laid over Silver Oak Country wood joists of size 10cm x 6.5cm (spaced at 91 cm c/c) and supported by casurina props of size 10cm to 13cm dia (spaced at 75 cm c/c) and removing the same after a specified period without damaging the RCC works in all floors etc., complete as directed by the Engineer or his representative complying with relevant standard specification. For column footing, grade beam, plinth beam etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
10	5895.00	M2	Providing form work for centering, shuttering etc., for all RCC works as noted below including shuttering upto 3.0M high using M.S. sheet of size 90cm x 60cm and BG 10 stiffened with alround M.S. angle of size 25mm x 25mm x 3mm laid over Silver Oak Country wood joists of size 10cm x 6.5cm (spaced at 91 cm c/c) and supported by casurina props of size 10cm to 13 cm dia (spaced at 75 cm c/c) and removing the same after a specified period without damaging the RCC works in all floors etc., complete in all respects as directed by the Engineer or his representative complying with relevant standard specification. (lintel, beam, slab etc.,)		
11	2673.00	M2	Providing form work for centering, shuttering etc., for all RCC works as noted below including shuttering upto 3.0M high using M.S. sheet of size 90cm x 60cm and BG 10 stiffened with alround M.S. angle of size 25mm x 25mm x 3mm laid over Silver Oak country wood joists of size 10cm x 6.5cm (spaced at 91 cm c/c) and supported by casurina props of size 10cm to 13 cm dia (spaced at 75 cm c/c) and removing the same after a specified period without damaging the RCC works in all floors etc., complete in all respects as directed by the Engineer or his representative complying with relevant standard specification. For columns, sunshades, window boxing etc.,		
12	508.00	M3	Brick work in cement mortar 1:5 (one of cement and five of M-sand) using Fly Ash bricks of minimum size 230mm X 110mm X 70mm including dewatering wherever necessary, proper setting and curing etc., complete in all respects as directed by the Engineer or his representative. In Foundation and Basement		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
13			Brick work in cement mortar 1:6 (one of cement and six of M-sand) using Fly Ash bricks of minimum size 230mm X 110mm X70mm in super structure including fixing the frames of doors and windows, scaffolding, proper setting, curing etc., complete in all respects as directed by the Engineer or his representative.		
a	269.00	M3	In Ground Floor		
b	176.00	M3	In First Floor		
c	100.00	M3	In Second Floor		
14			Brick partition wall 11cm thick in cement mortar 1:5 (one of cement and five of M-sand) using Fly Ash bricks of minimum size 230mm X110mm X70mm in super structure including fixing the frames of doors and windows, scaffolding, proper setting, curing etc., complete in all respects as directed by the Engineer or his representative. (All Floors)		
a	167.00	M3	In Ground Floor		
b	117.00	M3	In First Floor		
15	84.00	M2	Providing 7cm thick staircase parapet wall in cement mortar 1:4 (one of cement and four of M-sand) using fly ash bricks of minimum size 230mm X 110mm X70mm and plastering the hand rail portion only with red oxide plastering in cement mortar 1:4 (one of cement and four of M-sand) 20 mm thick using 9.80 kg of red oxide powder per 10 m^2 and plastering the side with cement mortar 1:4 (one of cement and four of P-sand) 20 mm thick including providing skirting, proper setting, curing, finishing smooth in all floors etc., complete in all respects as directed by the Engineer or his representative. In all floors.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
16			Supplying, fabricating and placing the following kinds of steel grills Fe 500D for reinforcement for all RCC works such as plinth beam, grade beam, column footings, columns, loft, sunshade, floor or roof slab, staircase etc., including cost of steel, binding wire and labour charges for fabricating the reinforcement in position etc., complete in all respects as directed by the Engineer or his representative. (The rate includes the cost of binding wire also).		
a	284.00	MT	Steel Rods of All sizes		
17	160.00	M2	Supplying and fixing in position of cuddappah slab of 20mm/30mm thick both sides polished for cup-board planks of required size including cost of slab, labour charges for cutting and fixing into walls etc., complete in all respects as directed by the Engineer or his representative.		
18	363.00	M2	Providing Ellis pattern flooring, 20mm thick in cement concrete 1:3 (one of cement and three of hard broken stone jelly) (no sand) using hard broken granite stone chips of size 3mm to 10mm and the surface rendered smooth, thread lining, curing etc., complete in all respects as directed by the Engineer or his representative.		
19	770.00	M2	Flooring with vitrified tiles of minimum size 600mmx600mmx8mm of approved quality in cement mortar 1:3 (one of cement and three of M-sand), 20mm thick laid straight alignment and pointed neatly with colour cement @ 0.40kg/M2 laid without any gap in the tiles neatly and fixing in position as per the std. specification and etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
20	37.00	M2	Flooring with ceramic tiles of minimum size 305mmX305mmX6mm of approved quality in cement mortar 1:3 (one of cement and three of M-sand), 20mm thick laid straight alignment and pointed neatly with colour cement @ 0.40kg/M2 laid without any gap in the tiles neatly and fixing in position as per the standard specification etc., complete in all respects as directed by the Engineer or his representative.		
21	156.00	M2	Dadoing the walls with first quality colour glazed tiles of minimum size 150mmX150mmX6mm of approved quality and make and laid in cement mortar 1:2 (one of cement and two of M-sand), 10mm thick and pointing with white cement neatly complete in all respects as directed by the Engineer or his representative.		
22	5013.00	M2	Plastering in cement mortar 1:4 (one of cement and four of P-sand) 20mm thick including providing band cornice, finishing smooth, setting, curing etc., complete in all respects as directed by the Engineer or his representative.		
23	2361.00	M2	Plastering with cement mortar 1:3 (one of cement and three of P-sand) 12 mm thick with water proofing compound including providing band cornice, scaffolding, finishing smooth, setting, curing etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
24	4.00	Nos	Supplying and fixing of Door of overall Size 1000 mm x 2100 mm with required dimensions of size~ 100 mm x 75 mm, with groove of size ~ 30 mm x 20 mm for resting the door shutter & chamfer finish at front using CRCA pressed steel box section 18 gauge or 1.25mm thick for door frames including providing holes and fixing wooden blocks for fixing fixtures and fittings and 4 nos of hold fast using the iron angle of 15cm length with split ends one coat of red oxide primer , Fabrication and Supply of 35mm thick solid core flush door with teak ply on one side and commercial ply on other side with teak wood lapping alround with iron oxidized hinges, tower bolts 12" ,2 Nos with receiver, Aldrop 30 cm and handle 1 No complete in all respects as directed by the Engineer or his representative.		
25	15.00	Nos	Supplying and fixing of Door of overall Size 900 mm x 2100 mm with required dimensions of size~ 100 mm x 75 mm, with groove of size ~ 30 mm x 20 mm for resting the door shutter & chamfer finish at front using CRCA pressed steel box section 18 gauge or 1.25mm thick for door frames including providing holes and fixing wooden blocks for fixing fixtures and fittings and 4 nos of hold fast using the iron angle of 15cm length with split ends one coat of red oxide primer , Fabrication and Supply of 35mm thick solid core flush door with teak ply on one side and commercial ply on other side with teak wood lapping alround with iron oxidized hinges, tower bolts 12" 2 nos with receiver, Aldrop 30 cm and handle 1 no complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
26			Supplying and fixing of Door of following overall Size with required dimensions of size~ 100 mm x 75 mm, with groove of size ~ 30 mm x 20 mm for resting the door shutter & chamfer finish at front using CRCA pressed steel box section 18 gauge or 1.25mm thick for door frames including providing holes and fixing wooden blocks for fixing fixtures and fittings and 4 nos of hold fast using the iron angle of 15cm length with split ends one coat of red oxide primer , Fabrication and Supply of 35mm thick solid core flush door with teak ply on one side and commercial ply on other side with teak wood lipingalround with iron oxidised hinges, tower bolts 12" 2 nos with receiver, Aldrop 30 cm and handle 1 no complete in all respects as directed by the Engineer or his representative.		
a	2.00	Nos	1500mmx2100mm		
b	4.00	Nos	2000mm x 2600mm		
c	1.00	Nos	2000mmx2100mm		
27	143.00	M2	Supplying and fixing UPVC (Un-Plasticized Polyvinyl Chloride) Windows of casement type (open) from the profile the size of outer frame 60mm x 58mm and shutter profile are reinforcement with GI/1mm 125GSM and 100% corrosion free, the profiles are multi chambered sections with wall thick of 2mm. The EPDM rubber (black colour) covered with over all the edges of frame and shutter the shutter will be provided with Espag multi power point locks and also it operates as handle. The corners and joints should be welded and cleaned. Radiations free pin headed plain or brown colour glass 4mm thick should be provided to the		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			shutter and it should not allow leakage of water even at most ranging storms and should have key lockable action, security protective hinges, strong locking systems and as per size for arresting noise and energy loss. The connecting mechanism between sash and outer frame that enables opening of the window. The window should be fixed to the wall with 100% packing with screws and silicon packing all round the frames. The window should be got approved from the Engineer or his representative before use on work		
28	23.00	M2	Supplying and fixing UPVC (Un-Plasticized Polyvinyl Chloride) Louvered Ventilators of from the profile the size of outer frame 60mm x 58mm and shutter profile size of 60 x 78mm both profiles are reinforced with GI/1mm 125GSM and 100% corrosion free, the profile are multi chambered sections with wall thick of 2mm. The EPDM rubber (black colour) covered with all over the edges of frame and shutter. The corners and joints should be welded and cleaned. Radiations pin headed glass 4mm thick should be provided in the louvers. The window should be fixed to the wall with 100% packing with screws and silicon packing all round the frames. The ventilator should be got approved from the Engineer or his representative before use on work.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
29	13.00	M2	Supply and Erection of Kirloskar/Ashok Leyland make GM model genset or its equivalent of approved make. The rate including cost of water cooled, 4 cylinders electric starting diesel engine developing 75 BHP at 1500 RPM coupled with CROMPTON make or its equivalent 62.5 KVA, 0.8 PF 415 volts, three phase alternator, Base frame, fuel tank, suitable battery with lead and standard control panel. The genset is also approved with 1 no residential silencer and fuel line. The Genset will be housed in a Central Pollution Control Board (CPCB) approved silent Acoustic enclosure etc., complete in all respects as directed by the Engineer or his representative.		
30	796.00	M2	Finishing the top of roof with reflected ceramic cooling tiles of size 305mmx305mmx7mm of approved brand over 1:4:8(one of cement, four of M-sand and eight of gravel) of 6-10mm tick ISS metal and quality in cement mortar 1:3(one of cement and three of M-sand) 12mm thick mixed with water proofing compound 2% by weight of cement used and pointing with same mortar etc., complete in all respects as directed by the Engineer or his representative.		
31	11985.00	M2	Plastering with cement mortar 1:5 (one of cement and five of P-sand) 12 mm thick including providing band cornice, scaffolding, finishing smooth, setting, curing etc., complete in all respects as directed by the Engineer or his representative.		
32	1500.00	M2	Special ceiling plastering in cement mortar 1:3 (one of cement and three of P-sand) 10 mm thick for all RCC exposed surfaces including providing band cornice, scaffolding, finishing smooth, setting, curing etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
33	2987.00	M2	White washing two coats of clean shell lime including cost of lime, gum, brushes, scaffolding etc., complete in all respects as directed by the Engineer or his representative.		
34	8369.00	M2	Painting two coats of newly plastered exterior/Interior walls with I class ready mixed plastic emulsion paint and of approved colour over a priming coat including thorough scrapping, clean removal of dirt and including necessary plaster of Paris putty, wherever required etc., complete in all respects as directed by the Engineer or his representative.		
35	871.00	M2	Painting the new iron work with one coat of approved Ist class synthetic enamel paint of approved quality and colour including cost of paint, brushes, scaffolding etc., complete in all respects as directed by the Engineer or his representative.		
36	183.00	M2	Painting the new wood works two coats with ready mixed synthetic enamel paint (Ist class) of approved quality and colour over coat of priming with approved primer including cost of paint brushes and scaffolding etc., complete in all respects as directed by the Engineer or his representative.		
37	150.00	RM	Supplying and fixing of 110mm dia PVC Rain water downfall pipe of 4 kg/cm² conforming to IS 13592-1992 (Type-A) with necessary bends, shoes, cost of special clamps, coupler if necessary including cost of solvent cement, proper aligning, teakwood plugs of approved quality etc., complete in all respects as directed by the Engineer or his representative.		
38	3126.00	M2	Painting the walls with two coats of cement paint of approved quality over one coat of white cement paint including the cost of cement paint, brushes, scaffolding etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
39	18064.00	kg	Supplying and fixing MS grills for doors and fixed grills using MS angles (IS 808-1989) and MS sheet of specified size and gauge including the cost of furniture fittings, welding, finishing and including painting one coat of primer with red oxide primer of approved quality etc., complete in all respects as directed by the Engineer or his representative.		
40	15.00	Nos	Supplying and fixing in position White / Colour Glazed Model Floor Mounted European Water Closet of best quality and approved make with 100mm “P” or “S” trap connecting with CI pipe of 100mm dia / PVC pipe of 110mm dia, double flapped rigid PVC black seat and seat cover with CP brass hinges including cost of white cement, cement for packing, spun yarn, teak wood plugs, brass screws, etc., including supplying and fixing 10 litres capacity PVC / 12.5 litres capacity porcelain low level flushing tank with a pair of CI brackets, etc., complete with all fittings, such as, 15mm brass ball valve with polythene float with brass handle, union coupling connected by means of 40mm white PVC flush hand using Indian adopter joint including all internal fittings, such as, 15mm bras connections, 15mm GM wheel valve, 15mm brass nipple (2 Nos.), 15mm nylon connection, TW plugs, screws and also giving necessary connection to the PVC pipe and painting the CI brackets with 2 coats of approved paint over one coat of red oxide primer, dismantling the masonry and re-doing the dismantled masonry to original condition, etc., complete complying with standard specifications. (The EWC and flushing tank with all accessories should be got approved by the Engineer or his representative before use on works) Floor Fitting for all floor		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
41	22.00	Nos	Supplying and fixing of 100mm x 75 mm PVC Nahini Trap with grating 4way/2way (superior quality) having minimum seal of 50mm conforming to relevant IS specifications with its latest amendments including resting at the bed of brick jelly concrete 1:5:12½ (One of cement, five of sand and twelve and half broken brick jelly) using 40 mm size broken brick jelly etc., complete in all respects as directed by the Engineer or his representative.		
42			Supplying and fixing of 110mm dia SWR soil pipe of 6 kg/cm2 of approved quality confirming to IS 13592/1992 (type B) with ISI monogram packing the joints with hemp yarn and cement including fixing into walls in W/C room with necessary connection to the sanitary fittings, testing in all floors as directed by the Engineer or his representative		
a	177.00	RM	Vertical line		
b	3484.00	RM	horizontal line		
43			Supplying and fixing of 75mm dia SWR pipe of 6 kg/cm2 of approved quality confirming to IS 13592/1992 Type-B with ISI monogram packing the joints with hemp yarn and cement including fixing into walls with necessary wooden plugs and holding down clamps, dismantling and making good of the dismantled portion with necessary connection to the sanitary fittings and testing etc. complete in all respects as directed by the Engineer or his representative.		
a	29.00	RM	Vertical line		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
44	142.00	Nos	Construction of inspection chamber of size 0.60M X 0.60M for the following depth with brick jelly cement concrete 1:5:12½ (one of cement, five of M-sand and twelve and half of broken brick jelly) using 40mm size broken brick jelly, 15cm thick for foundation, 23 cm thick masonry walls in cement mortar 1:5 (one of cement and five of M-sand) using IInd class ground moulded chamber burnt bricks of size 9"×4⅜"×2¾" and inside plastering with cement mortar 1:3 (one of cement and three of P-sand) 12mm thick including channelling, benching etc., and top covered with SFRC cover slab (medium duty) and curing with necessary earthwork excavation for foundation, refilling the sides of foundation in all soils except hard rock requiring blasting 0.60M depth requiring blasting etc., complete in all respects as directed by the Engineer or his representative. 0.60M depth (average)		
45			Supplying, laying and jointing UPVC pipes of approved quality and best variety conforming to BIS of the following dia including cutting, threading and fixing UPVC specials using UPVC adhesives (but excluding cost of such specials) and fixing into wall with teak wood plugs, SS clamps and screws making holes on the wall (or) drilling holes in the roof and making good the dismantled portion to original condition with necessary brick work / cement concrete and plastering neatly wherever necessary with necessary scaffolding charges upto 4 metre height above ground level, etc., complete complying with standard specifications. The UPVC pipes shall be got approved by Executive Engineer before use on works as per IS 4985		
a	74.00	RM	20mm dia UPVC Pipe		
b	65.00	RM	25mm dia UPVC Pipe		
c	49.00	RM	32mm dia UPVC pipe		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
46			Supplying and fixing the following UPVC specials of approved quality etc., complete in all respects as directed by the Engineer or his representative.		
a	20.00	Nos	32mm dia Elbow		
b	24.00	Nos	32mm dia Coupler		
c	18.00	Nos	32mm dia Tee		
d	10.00	Nos	32mm × 25mm size Reducer		
e	33.00	Nos	25mm dia Elbow		
f	10.00	Nos	25mm dia Nipple with check nut and washer		
g	30.00	Nos	25mm dia Tee		
h	4.00	Nos	25mm × 20mm size Reducer elbow		
i	4.00	Nos	20mm Dia Screw Down Tap (Heavy)		
j	28.00	Nos	20mm x 15mm size Female Reducer		
k	12.00	Nos	15mm Dia Screw Down Tap (Heavy)		
l	24.00	Nos	20mm dia Tee		
m	39.00	Nos	20mm dia Elbow		
n	662.00	Nos	50mm dia Bend		
o	653.00	Nos	50mm dia TEE		
p	500.00	Nos	50mm dia Coupler		
47			Supplying and fixing the following dia GM valve (full way) of approved quality confirming to IS 778/1967 etc., complete in all respects as directed by the Engineer or his representative.		
a	1.00	Nos	40mm dia wheel valve		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
48			Wiring with 2 off 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark with continuous earth connection by means of 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark in suitable PVC rigid pipe 2mm thick with ISI mark on surface run with suitable size concealed 16 gauge M.S. switch box covered by laminated hylem sheet 3mm thick for LIGHT POINTS including the cost of cable, PVC pipes and specials, brass screws, ceiling rose, flush type 5 Amps SP Mark switch, PVC junction box, 16 gauge M.S. switch box covered by laminated hylem sheet 3mm thick T.W. plugs, cement and labour, circuit mains etc., complete box, covered by laminated hylem sheet 3mm thick T.W. plugs, cement and labour, circuit mains etc., complete in all respects as directed by the Engineer or his representative.		
a	127.00	Nos	With Ceiling Rose		
49	79.00	Nos	Wiring with 2 of 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark with continuous earth connection by means of 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark in suitable PVC rigid pipe 2mm thick with ISI mark on surface run with suitable size concealed 16 gauge M.S. switch box covered by laminated hylem sheet 3 mm thick for FAN POINTS including the cost of cable, PVC pipes and specials, brass screws, ceiling rose, flush type 5 Amps SP Mark switch, PVC junction box, 16 gauge M.S. switch box covered by laminated hylem sheet 3mm thick T.W. plugs,		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			cement and labour, circuit mains etc., complete box covered by laminated hylem sheet 3mm thick T.W. plugs, cement and labour, circuit mains etc., complete in all respects as directed by the Engineer or his representative.		
50	70.00	Nos	Wiring with 2 off 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark with continuous earth connection by means of 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark in suitable PVC rigid pipe 2mm thick with ISI mark on surface run with suitable size concealed 16 gauge M.S. switch box covered by laminated hylem sheet 3 mm thick for 5 Amps 3 pin C.S. plug points at switch board itself including the cost of cable, PVC pipes and specials, brass screws, ceiling rose, flush type 5 Amps SP Mark switch, PVC junction box, 16 gauge M.S. switch box covered by laminated hylem sheet 3mm thick T.W. plugs, cement and labour, circuit mains etc., complete in all respects as directed by the Engineer or his representative.		
51	72.00	Nos	Supplying and fixing of 5 Amps 3 pin and 2 pin combined flush type wall socket with 5Amps flush type switch concealed in existing MS box in flush with wall and covered with 3mm thick hylem sheet including cost of wall socket, switch and labour charges etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
52	48.00	Nos	Supplying and fixing of 5 A /15A 3 pin flush type wall socket with15A flush type switch concealed in suitable MS box in flush with wall and covered with 3mm thick hylem sheet including cost of wall socket, switch and labour charges for wall cutting, grouting, flushing and making good, painting with primary and finishing coat for MS box etc., complete in all respects as directed by the Engineer or his representative.		
53	540.00	RM	Supply and run off 2 off 2.5 sq.mm PVC unsheathed copper conductor cable conforming to IS 694-1990 with continuous earth connection by means of 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable conforming to IS 694-1990 in suitable PVC rigid pipe on walls and ceiling for mains including the cost of PVC pipes and specials, cement and labour etc., complete in all respects as directed by the Engineer or his representative.		
54	22.00	RM	Supplying and run off 8 SWG copper wire on walls or below ground level with necessary 'U' nails, earthwork excavation and refilling including the cost of all materials etc., complete in all respects as directed by the Engineer or his representative.		
55	22.00	Nos	Supplying and fixing single phase 4 way Distribution Board flush type vertical SPMCB sheet steel fitted with bus bars and neutral links with single phase MCB out goings and separate 2 way provision for accommodating one no 2 pole incoming MCB and another separate 2 way provision for accommodating one no 2 pole ELCB with label holder and provision for taking up cable etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
56	3575.00	RM	Supplying and laying of 3-½ x 70 sq.mm PVC armoured aluminium LT UG cable of approved brand having ISI mark in a trench to be excavated to a depth of 0.75 meter, putting 0.15 m layer of sand and covering the cable completely with bricks and sand and refilling the earth to make good etc., complete in all respects as directed by the Engineer or his representative. (Below G.L)		
57	98.00	RM	Supplying and laying of 3- ½ x 70 sq.mm PVC armoured aluminium LT UG cable of approved brand having ISI mark on post or wall with MS clamps etc., complete in all respects as directed by the Engineer or his representative.		
58	9.00	Nos	Supplying and fixing of 3 nos of 100Amps porcelain fuse units 500 volt of approved brand having ISI mark in TW board of suitable size etc., complete in all respects as directed by the Engineer or his representative.		
59	18.00	Nos	Supplying and fixing brass cable gland for 3 ½ x 70 sq.mm PVC armoured LT UG cable with earth connection etc., complete in all respects as directed by the Engineer or his representative.		
60	10.00	Nos	Supplying and fixing cable end termination for 3 ½ x 70 sq.mm PVC armoured LT UG cable with earth connection etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
61	24.00	Nos	Supplying and fixing in position best quality approved make white glazed earthenware wash hand basin of size 550mm x 400mm with a pair of cast iron brackets, including cost of 15mm dia brass chromium plated pillar tap, 32mm dia C.P waste coupling, 32mm dia "B" G.I waste pipe, 15mm dia G.M wheel valve, 15mm dia pillar tap etc., nylon connection 15mm dia brass nipples, 15mm C.P etc., complete in all respects as directed by the Engineer or his representative.		
62	7911.00	M2	Sectioning the site including cutting the undulations and filling upto 15cm thick and levelling etc., complete in all respects as directed by the Engineer or his representative.		
63	687.00	M3	Providing and laying sand gravel mix 1:1 (one of sand and one of gravel) to the 150 mm thickness to be laid two layers to give a minimum soaked CBR value as per IRC 37-1984 including cost and conveyance of sand and gravel to the work site and stacking them to the standard departmental metric gauge ,labour charges for mixing the required quantities of sand and gravel spreading, watering and compacting the mix in layers of thickness not exceeding 10mm compacted thickness by 80-100KN power roller rolling to achieve the required proctor density including the labour charges for mixing spreading and all other tools and plants and other incidental charges., etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
64	4577.00	M2	Providing and laying Water Bound Macadam for 75mm consolidated thickness with Grade II metal confirming MOST specification using 0.41m3 of 63mm, 39 m3 of 53mm and 0.2m3 of 45mm IRC metal with 0.24m3 of gravel for blind age for 10 sqm including the cost and conveyance of material from approved quarry to road site and stacking them to the departmental gauge for pre-measurement, labour charges for spreading in layers, hand packing to camber, dry rolling, watering, blind age including cost and conveyance for good water, forming edge bunds, slurrying and consolidation by power roller hire, running slurrying and fuel charges for power roller, water sprinkler and other tools and plants employed for the work including all other incidental charges such as barricading and providing danger lights etc., complete in all respects as directed by the Engineer or his representative.		
65	4577.00	M2	Providing and laying Water Bound Macadam for 75mm consolidated thickness with grade III metal confirming MOST specification using 0.36 of 53 mm , 0.35 cum of 45mm and 0.29 cum of 26.5mm IRC size HBG metal with 0.24 cum of gravel as screening whose P.I. Value is less than 6 for blind age for 10 sqm including cost and conveyance of material the departmental gauge for pre-measurement labour to camber, dry rolling, watering, blind age including cost and conveyance for good water, forming edge bunds, slurrying and consolidation by power roller to achieve the specified compaction including all labour water sprinkler and other tools and plants employed for the work including all other incidental charges such as barricading and providing danger lights etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
66	4577.00	M2	Applying tack coat over un primed WBM surface using 4kg of bitumen Emulsion for 10m2 including cost of bitumen conveyance to site handing charges including labour charges for brushing, cleaning and preparing the surface for laying the coat and labour charges for applying the required quantity of bitumen including hire and fuel charges for tools and plants etc., complete in all respects as directed by the Engineer or his representative.		
67	4577.00	M2	Providing and laying of open graded premix carpet with seal coat TYPE - "B' for 20mm consolidated thickness using 0.18 m3 of 13.2mm IRC size HBG crusher metal and 0.09m3 of 11.2mm IRC size HBG crusher metal with 14.60 kg of bitumen of 80\100 grade for pre mixing for 10 m2 of premix carpet and 0.06m3 of clean good sand with 6.8 kg of bitumen for 10 m2 for seal coat Type - B including cost and conveyance of metal and chips to the work site and stacking them to departmental metric gauge for pre measurement including cost of bitumen and all taxes payable which will be procured and supplied by the contractor himself including cost of conveyance of 80/100 grade bitumen to work site and all incidental charges such as storage, handling charges etc. including mixing the materials in the mini hot mix plant for premix carpet only including spreading and consolidation by power roller, rolling including labour, hire and fuel charges for mini hot mix plant and other tools and plants employed etc. cost of all materials labour charges etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
68			Open Earth work excavation for foundation with all leads and lifts in all soils and sub soil to the required depth as may be directed except hard rock requiring blasting inclusive of shoring strutting and bailing out water wherever necessary refilling the sides of foundation with excavated earth in layers of 15 cm thickness well consolidated depositing the surplus earth in places shown and levelling the site with all initial leads and lifts etc., complete in all respects as directed by the Engineer or his representative.		
a	914.00	M3	With initial lead of 10 m and initial lift of 2 m		
b	280.00	M3	With initial lead of 10 m and additional lift of 1 m		
69			Open Earth work excavation for foundation with all leads and lifts and to the required depth in SDR as may be directed except hard rock requiring blasting inclusive of shoring strutting and bailing out water wherever necessary refilling the sides of foundation with excavated earth in layers of 15 cm thickness well consolidated depositing the surplus earth in places shown and levelling the site with all initial leads and lifts etc., complete in all respects as directed by the Engineer or his representative.		
a	204.00	M3	With initial lead of 10 m and initial lift of 2 m		
b	204.00	M3	With initial lead of 10 m and additional lift of 1 m		
70	16.00	Nos	Supplying and fixing of SFRC manhole cover with frame of size 0.60 x 0.60 m (Heavy type) etc., complete in all respects as directed by the Engineer or his representative.		
71	112.00	Nos	Supplying and fixing of CI Steps of size 14" etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
72	8.00	Nos	Supplying and fixing of water tight bulk head fitting heavy type with guards suitable for 100/60 watts bulb including the cost of bulb etc., complete in all respects as directed by the Engineer or his representative.		
73	16.00	Nos	Supply and delivery of Open well Submersible pump set confirming to IS 14220 /2002 and as amended thereafter and BEE 3 Star Rated capable of discharging the following duties due to all causes. The pump shall be with stainless steel shaft and dynamically balanced bronze mixed type impeller, CI FG 200 grade casing and brass screws and rotor shall be of copper rod as per IS 613/1984 with ISI mark. The pump suitable for installation in sump with 1.1KV grade 3 core suitable copper flat submersible cable to a length of 15m with necessary cable joints. The non-return valve located at the top of the pump in the discharge outlet connection is to be designed with minimum friction. The pump should be directly coupled to 2880 RPM, three phase, 50Hz (±5), 415V+6% & 415V-15% squirrel cage induction motor suitable for DOL upto 5 HP, Fully Automatic Air break Star Delta up to 20 HP and Auto Transformer starter for above 20 HP starting and for continuous operation etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
74	16.00	Nos	Labour charges for the erection of submersible pump sets in bore well / open well including fixing and jointing submersible cable with proper clamps upto the starter to required depth and also fixing the riser pipes to the required depth valves erection clamps, pressure gauges upto the exterior wall of pump room and erection of panel board consisting of TPICN switches, starter, voltmeter, ammeter, three pilot indicating lamps, capacitor, single phasing preventer, water level guard and laying and jointing cables etc., complete in all respects as directed by the Engineer or his representative.		
75	16.00	Nos	Supply and delivery of direct online starter confirming to IS13947,IEC 60947-1 suitable KW rating for operation AC/three Phase/50HZ(± 5%) and 415 V (±10%) including Ammeter, Voltmeter, Thermal Overload relay, 16Amps 2 pole Magnetic Conductor with under Voltage protection, Indication lamp, starting capacitor, running capacitor and On / Off Push button switches,5 way connector, wiring with 1 sq. mm/1.5 sq. mm copper PVC insulated cable, powder coated vermin proof box including the capacitor (the cost of capacitor is to be taken separately).testing the pump set and trail run for 10 days etc., complete in all respects as directed by the Engineer or his representative.		
76	12.00	Nos	Supply and fixing of 6 Way Vertical TPN Distributions boards; IP43 with double door (Metal); with 12module incomers and 18 Single Phase/Three Phase/ MCB's outgoing; as per IS 8623 III etc.,complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
77	12.00	Nos	Supply and fixing MINIATURE CIRCUIT BREAKERS (MCB) 240 V/415 V 50HZ AC Supply Suitable For Both Lighting And Motor Circuits Single pole 6A to 32A,10 KA (For Lightings) etc., complete in all respects as directed by the Engineer or his representative.		
78	200.00	Rm	Supplying, laying and jointing Of L.T Cable-3.0, 3.5, 4 cores 1.1 kV Grade armoured marking, aluminium conductor cable confirming to IS 1554 and as amended thereafter Part I With ISI etc., complete in all respects as directed by the Engineer or his representative.		
79	320.00	Rm	Supply and laying PVC Insulated Single Core Multi Strand Fire retardant Flexible Copper cable with IS Mark Conforming to IS 694/1990 etc., complete in all respects as directed by the Engineer or his representative		
80	12.00	Nos	Supply and fixing suitable T.W. board to get TNEB 63 Amps three phase service connection with 3 nos of 63amps fuse unit (500 volts) 63 amps neutral line and earth line (1"x 1/8") copper flat on teak wood plank of size 600 mm x 450 mm x 19 mm with supporting Teak wood reapers of 1 " thick on either side with pointing with suitable bolts and nuts for fixing the TW planks on wall with earth connection and inter connection with 7/20 PVC insulated copper wire from EB meter to fuse unit etc complete in all respects as directed by the Engineer or his representative. 1) 100 A fuse units, 2) 1 No. neutral link copper flat of size 25x3x150mm, 3)1 No. of earth link of copper flat of size 25x3x150mm, and 4) Space provision for 3 phase energy meter		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
81	14.00	Nos	Supply and fixing of TNEB meter Board suitable for 32A Single phase service connection with 32A fuse unit (500V) 32A neutral link and earth link (1" x 1/8"Copper flat) on TW plank of size 375mm x 300mm x19mm with supporting T.W.reepers of 1" thick on either sides with painting with suitable bolt and nuts for fixing the TW plank on wall with earth connection and inter connection with 7/20 PVC insulated copper wire from EB meter to fuse unit.		
82	2.00	Nos	Supply and fixing of TNEB meter Board suitable for 63 A three phase service connection with 63A fuse unit (500V) 63A neutral link and earth link (1" x 1/8"Copper flat) on teak wood plank of size 600mm x450mm x 19mm with supporting T.W.reepers of 1" thick on either sides with painting with suitable bolt and nuts for fixing the TW plank on wall with earth connection and interconnection with 7/20 PVC insulated copper wire from EB meter to fuse unit.		
83	8.00	Nos	Supplying and fixing of 100 Amps 500volts grade porcelain fuse unit on suitable teak wood plank varnished to be fixed on the top of EB pole with clamps including cost of all materials etc., complete in all respects as directed by the Engineer or his representative.		
84			Brick partition wall 7cm thick in cement mortar 1:5 (one of cement and five of M-sand) using Fly Ash bricks of minimum size 230mm X 110mm X70mm in super structure including fixing the frames of doors and windows, scaffolding, proper setting, curing etc., complete in all respects as directed by the Engineer or his representative.		
a	28.00	M2	Ground floor		
b	17.00	M2	First Floor		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
85	4855.00	M2	Supplying and laying the Rubber Moulded Hydraulic Pressed machine made 63mm thick inter locking concrete paver block made out of M20 grade concrete of approved design in colour over the bed of M-Sand filling including labour for laying, hand packing and comp etc., complete in all respects as directed by the Engineer or his representative.		
86	162.00	M3	Manufacturing the PCC kerb wall of size 45cm x 23cm x 45cm tk. Made with RCC petty works in CC 1:2:4 (one of cement, two of sand and four of hard broken stone jelly) including proper casting, moulding and curing etc., complete in all respects as directed by the Engineer or his representative.		
87	6.00	M3	Supply of using 40mm size ISS hard broken granite stone jelly for foundation inclusive of shoring and strutting, bailing out water, ramming, curing etc., complete in all respects as directed by the Engineer or his representative.		
88	6.00	M3	Supply of using 20mm size ISS hard broken granite stone jelly for foundation inclusive of shoring and strutting, bailing out water, ramming, curing etc., complete in all respects as directed by the Engineer or his representative.		
89	75937.00	M3	Filling areas to the required formation level using approved quality of earth (The filling earth should not contain more than 20 % of clay and silt). The liquid limit of earth shall be less than 40 % from any source outside the scheme area with a lead of 12 Km including cost of earth cutting the earth to required depth, loading, conveying by lorry, unloading at site of work including spreading in layers of 150mm thick watering and compaction by		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			power roller filling to achieve the required proctor density of not less than 98% including hire charges for all tools and plants, machinery fuel charges etc..complete in all respects as directed by the Engineer or his representative.(The payment shall be made for the consolidated quantity of one cubic meter based on levels.) including cost of earth and seignorage charges		
90			Supply erection testing and commissioning of Electric Motor Driven Fire Pump set suitable for automatic operation and consisting of following a. 1 No. horizontal split casing centrifugal type fire pump capable of delivering 4550 LPM against a total head of 110 metres, so as to ensure a minimum pressure of 3.5 kg. per sq.cm, at the farthest top most hydrant/outlet with pump casing of cast iron to grade FG 200, IS 210-1978 and parts like impeller ,shaft sleeve, bearing ring etc., of non corrosive metal either like bronze, brass or gun metal and shaft of stainless steel. b. 1 No. squirrel cage induction motor of 175 HP,415 Volt,3 phase 50 hz rating, confirming to IS:325-1978 with class "F" insulation ,totally enclosed ,IP 55 for enclosure fan cooled type confirming to relevant protection clause of IS:4691,synchronous speed of 2900 RPM. c. Common bed plate fabricated with MS channel /cast iron type for assembling the pump and motor flexible coupling between the pump and the motor with coupling guard for protection -1 No. d. Making cement concrete foundation suitable for the above pump set including the vibration		
a	7.00	Nos	Type A		
b	4.00	Nos	Type B		
c	1.00	Nos	Type C		
d	1.00	Nos	Type D		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
91			Supplying and Laying of UPVC pipes as per IS 15328/2003[SN8-SDR(S 16.5)] and laying and jointing of pipes to the proper grade and alignment as indicated in drawing / design and hydraulically testing of the pipe line. The rate shall include cost of all necessary jointing materials testing charges with water conveyed within a lead of 1km, labour etc complete in all respects as directed by the Engineer or his representative.		
a	1668.00	RM	160mm dia pipe		
b	26.00	Nos	160mm dia bend pipe (UPVC specials)		
c	117.00	RM	200mm dia pipe		
92	5.00	M2	Cement Concrete 1:2:4 (one of cement, two of M-sand and four of hard broken stone) using 20 mm size hard broken granite stone jelly inclusive of shoring, strutting, bailing out water, ramming, curing etc., complete in all respects as directed by the Engineer or his representative.		
93	2.00	RM	Supplying and fixing of 16 Amps DPIC switch of 500V with Face & Neutral (side handle) on suitable T.W. Board of size 30cm x 20cm x 7.5cm including necessary internal connection, earth connection etc., complete in all respects as directed by the Engineer or his representative.		
94	2.00	M2	Supplying & fixing the Soap case corner slab of size 10" radius for bathroom portion etc. complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
95	24.00	M2	Supplying and fixing of factory made PVC rigid panel door with frame made from MS tubes of 19 gauge size of 19mm x 19mm and covered with heat moulded PVC channel of 5mm thick and width of 50mm to form styles and rails. The inner panel should be inserted between the frame with 5mm thick PVC rigid foam sheet welded/sealed to the styles and rails along with 5mmx25mm PVC beading on all and either sides. The vertical tube may be filled with suitable materials to further enhance the screw holding capacity etc., complete in all respects as directed by the Engineer or his representative. Door Size 0.76m x 2.1 m		
96			Supplying the GI pipes to IS 1239 screwed at both ends and socket at one end "B" class etc., complete in all respects as directed by the Engineer or his representative.		
a	6.00	RM	32mm dia GI pipe @ inlet		
b	1072.00	RM	40mm dia GI pipe @ inlet		
c	1150.00	RM	50mm dia GI pipe @ inlet		
97			Labour charges for cutting threading and jointing the following dia of GI pipes with necessary specials including fixing into walls with necessary clamps and screws making holes in the roof making materials packed the same with necessary brick works and plastering wherever necessary with scaffolding etc., complete in all respects as directed by the Engineer or his representative.		
a	6.00	RM	32mm dia GI pipe @ inlet		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
98	1.00	Nos	Supply and erection of Rotational Moulded Polyethylene water storage tanks (HDPE Cylindrical vertical type) for outdoor use having capacity of sintex 500 litres (excluding free board) with ISI mark (marked with tank itself) with top lid with provision of locking including necessary specials and fittings for storing potable water and manufactured with materials which do not import any taste / odour / any toxic effect and not to contaminate etc., With carbon block content and dispersion in accordance with relevant IS specifications and as complete in all respects as directed by the Engineer or his representative.		
99	11.00	Nos	Supplying and fixing in position Indian make white glazed earthen ware lipped mouth Porcelain flat back urinal of best approved quality with GI pipe connection of suitable length 32mm bell mouthed PVC connection, 15mm dia GM wheel valve, 15mm dia B Class GI waste water pipe, 15mm Nylon connection, 15mm dia brass nipple etc., fixing the urinal to the wall in position with necessary TW plugs, clamps, shellac etc., including dismantling masonry if necessary and redoing the same to original condition fixing the 15mm dia GI pipe and wheel valve. Checked without any leakage complete complying with standard specification etc., complete in all respects as directed by the Engineer or his representative.		
100	14.00	RM	Supply and installation maintenance free GI Earthing System comprising of 50mm dia and 2 mtr. long earth electrode of low carbon steel rod with 100 micron bonding and 25 kgs. of carbon based environment friendly backfill compound and suitable clamp etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
101	3.00	Nos	Supplying and fixing STAINLESS STEEL sink of size 600×450×200mm complete in all respects as directed by the Engineer or his representative.		
102			Supplying and fixing the following UPVC SWR specials of approved quality etc., complete in all respects as directed by the Engineer or his representative.		
a	7.00	Nos	110mm shoe		
b	7.00	Nos	110mm dia cowl		
c	2.00	Nos	75mm dia cowl		
d	7.00	Nos	110mm dia single Tee with door		
e	2.00	Nos	75mm dia single Tee with door		
f	2.00	Nos	75mm shoe		
103			Supplying of GI and GM specials confirming to ISI etc., complete in all respects as directed by the Engineer or his representative.		
a	4.00	Nos	32mm dia GI Elbow		
b	4.00	Nos	40mm x 32mm dia GI Reducer		
c	4.00	Nos	32mm GM wheel valve		
d	6.00	Nos	20mm GM wheel valve		
104	80.00	M2	Supplying and erecting pull and push type rolling shutter with ISI make of approved size and section using 18 gauge GI sheet. The shutter shall be painted with one coat of red oxide primer, cost of hood covers, transportation charges etc., complete in all respects as directed by the Engineer or his representative. Manually operated Rolling shutter with ISI monogram of following size		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
105	3.00	M3	Cement concrete 1:5:12.5 (One of cement, five of M-sand and twelve and half of broken brick jelly) using 20mm size broken brick jelly including laying, ramming, curing finishing, etc. complete in all respects as directed by the Engineer or his representative.		
106	889.00	M3	Filling in foundation and basement with filling gravel in layers of not exceeding 15cm thick well watered, rammed and consolidated complying with relevant standard specification including the cost of filling gravel etc., complete in all respects as directed by the Engineer or his representative.		
107	30.00	Nos	Steel Solid waste Containers for waste collection shall be provided with 4 Castor Wheels made of one virgin piece of minimum 200 mm dia and 50 mm width shall have 360 degree with Blocking System. The Solid waste Collection Bins shall be of 1100 Ltrs Capacity as per DIN Standards. These should be closed type hygienic bins meeting DIN Standards. These Bins should be provided with Bin Cover which opens automatically when the Bin Lifter lifts the Bin onto the machine hopper. For this purpose, the Bins should be provided with special link arrangements, which are operated by the Compactor Bin Lifter. The Bin construction should be of Pressed Steel Sections for ensuring adequate structural strength required for handling with the Compactor Bin Lifter. Bin shall be designed to be easily handled by two Bin Handlers.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			a) Capacity : 660 Litre (0.666 m3) b) Body : Mild Steel of minimum 2 mm thickness c) Lid: Mild Steel d) Dead Weight : Minimum 70 kg (Approx) e) Load Capacity : 400 kg (Approx) Other Requirements: a) Four heavy duty swivel castors (360º turning) b) Adjustable spring supported lid for easy opening and closing c) Rubber Profile on the lid, which should protect fingers before closing the lid of sections min, 3 cm between body and lid d) Handles on body e) Handles on the lid f) Painted Green/ Blue / Black as specified g) Bins shall be painted with primer and anti-corrosive paints from inside and outside. All the bin locations should be provided with rigid concrete surface		
108	473.00	M2	Painting the new wood works two coats with ready mixed synthetic enamel / oil paint (Ist class) of approved quality and colour over coat of priming with approved primer including cost of paint brushes and scaffolding etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
109	13.00	Nos	LIGHTNING PROTECTION SYSTEM Supply of Early Streamer Emission Air Terminal (ESEAT). Model: S The ESEAT has corrosion resistant stainless chrome body made up of AISI 316 grade of height 0.50 metres capable of working in hazardous atmosphere. The Air terminal is non-radioactive and requires no special licensing. The unit is fully autonomous (no battery, no external power supply is required), collects energy from the ambient electric field. The ESEAT model has been tested in a high voltage laboratory in accordance with NFC 17 102 in order to measure the average gain in triggering. The average gain in triggering time (ΔTs) obtained during the lab test for the offered model is 60 µs. The ESEAT works on negative as well as positively polarized discharges. ESEAT has been tested for such discharges in Central Power Research Institute (CPRI). A dedicated tester is available to test the healthiness of the ESEAT on request (Page No. 37, Point No. 3 of Clause 8.6 of the Revised NFC 17-102 version 2011). ESEAT Model : S - Radius of protection : 46 Metres Level of protection considered for the Project-II level MOUNTING STRUCTURE : Supply of Standard / Special Mounting Structure of height 4.5 mts. pipe, and 300 x 300 x 8mm MS plate, 3 mts. 48mm OD class C GI outer pipe,1.8 mtr, 38mm OD inner pipe, for roof mounting on concrete base and with FRP adapter DOWN CONDUCTOR : Supply and run of 25mm x 6mm GI Flat Down Conductor with necessary clamps / supports on wall / floor / ground for earth connection		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			TEST LINK Supply of Test Link Box for each Down conductor in order to disconnect the earth termination system to enable measurement of resistance EARTH ELECTRODE Supply and installation maintenance free GI Earthing System comprising of 50mm dia and 2 mtr. long earth electrode of low carbon steel rod with 100 micron bonding and 25 kgs. of carbon based environment friendly backfill compound and suitable clamp SURGE PROTECTION Supply and installation Cabinet Type Class 1 and 2 Combined Model SPD to arrest surges and over voltages in the power line due to lightning switching action etc. they must be installed in the incoming MCC panel / DB of the respective bulling in parallel to the power circuit. Model: PSV4-12.5/400TT (3 phase power network)		
110	2040.00	M3	Trenching the soil digging of existing level of ground to a depth of 30cm below the ground and turning down the lower strata of soil to top portion in order to expose the soil borne pathogen if any and to improve the porosity of the soil for better aeration and root penetration etc., complete in all respects as directed by the Engineer or his representative.		
111	674.00	M3	Supply & stacking of red earth at site to the departmental gauge for pre measurements which is of' light textured, crystalline, porous and friable and no of generally acidic or neutral but not of alkaline and should be fertile, including seignorage charges, cost of transportation, loading, unloading, stacking and inclusive of all taxes etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
112	674.00	M3	Supply of well decomposed Farm yard Manure in a powdery form, devoid of soil sand, stones, plastics and other materials, highly nutrient and which supports plant growth etc., complete in all respects as directed by the Engineer or his representative.		
113	1348.00	M3	Mixing charges of Red soil, sand and manure uniformly (1:1:1) for Preparation of soil mixture (excluding material cost) etc., complete in all respects as directed by the Engineer or his representative.		
114	1348.00	M3	Spreading of red soil, gravel or sand including watering and rolling which hand roller for every 75 mm thickness - including hire charges of roller etc., complete in all respects as directed by the Engineer or his representative.		
115			Supplying , stacking and planting of following plants of height 30-45 cm in polythene bag of dia 20 cm including loading and unloading charges, transportation, stacking of saplings at site, earthwork, of required size, planting of saplings, refilling etc., complete in all respects as directed by the Engineer or his representative.		
a	370.00	Nos	ORNAMENTAL SHRUBS IXORA ORDINARY		
b	370.00	Nos	ORNAMENTAL SHRUBS IXORA DWARF		
c	370.00	Nos	ORNAMENTAL SHRUBS IXORA HYBRID		
d	370.00	Nos	ORNAMENTAL SHRUBS TABERNUM GREEN		
e	370.00	Nos	ORNAMENTAL SHRUBS JETROPHA		
f	370.00	Nos	ORNAMENTAL SHRUBS MEINIA ERECTA		
g	370.00	Nos	ORNAMENTAL SHRUBS PLUMBAGO		
h	370.00	Nos	ORNAMENTAL SHRUBS GALPHYMIA		
i	370.00	Nos	ORNAMENTAL SHRUBS CANNA INDICA		
j	365.00	Nos	ORNAMENTAL SHRUBS HEMELIA PATTENS		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
116	730.00	Nos	Supply and planting of Avenue trees including earth work excavation for pits of size 30 cm x 30 cm x 60 cm depth filled up with red earth of 30 cm depth manuring with cow dung and synthetic fertilizer for 30 cm depth planting avenue trees of approved variety to a height of 2m and above from ground level with bamboo square guard of size 2'x 2' to a height of 6'0" and maintaining trees of six months including watering periodical maintaining and safe guarding the Avenue trees all complete in all respects as directed by the Engineer or his representative.		
117	6407.00	M2	Supplying, stacking and planting the G2 Grass for in the adjacent side of connecting pathway etc., complete in all respects as directed by the Engineer or his representative.		
118			Supplying the following dia GI Pipes specials of approved quality etc., complete in all respects as directed by the Engineer or his representative.		
a	700.00	Nos	50mm dia GI coupler		
b	700.00	Nos	50mm dia GI bend		
c	175.00	Nos	50mm dia GI union		
d	700.00	Nos	50mm dia Tee		
e	582.00	Nos	50mm dia GM gate valve		
f	350.00	Nos	50mm dia Hex nipple		
g	219.00	Nos	50mm x40 mm Reducer		
h	324.00	Nos	40mm dia GI coupler		
i	486.00	Nos	40mm dia GI bend		
j	486.00	Nos	40mm dia GI union		
k	324.00	Nos	40mm dia elbow		
l	324.00	Nos	40mm x 32mm dia elbow		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
119			Labour charges for cutting threading and jointing the following dia of GI pipes with necessary specials including fixing into walls with necessary clamps and screws making holes in the roof making materials packed the same with necessary brick works and plastering wherever necessary with scaffolding etc., complete in all respects as directed by the Engineer or his representative.		
a	1130.00	RM	50mm G.I. Pipe		
120			Labour charges for cutting threading and jointing the following dia of GI pipes with necessary specials including fixing into walls with necessary clamps and screws making holes in the roof making materials packed the same with necessary brick works and plastering wherever necessary with scaffolding etc., complete in all respects as directed by the Engineer or his representative.		
a	1072.00	RM	40mm dia GI pipe		
121			Supplying the following dia of UPVC pipes of approved quality at site of work as per table II specification of ISS 4985 / 1981 in standard length of 6 meter each with one coupler at free of cost for every standard length of pipe. 50mm dia PVC pipe 10Kg / cm^2		
a	7552.00	RM	a) 50mm UPVC Pipe (10Kg / cm^2)		
122	75.00	RM	Providing projected elevation band in cement mortar 1:3(one of cement and three of M sand)to a size of 230mmX12mm over the existing plastered surface including cost of materials proper finishing ,curing etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
123	445.00	M3	Filling in foundation and basement with River Sand in layers not exceeding 15 cm thick well watered rammed and consolidated complying with relevant standard specification including the cost of supplying river M-Sand etc., complete in all respects as directed by the Engineer or his representative.		
124	20.00	Nos	Design, Manufacture, Supply and delivery, installation, Testing and commissioning of enduronic 10 passenger capacity elevator with following specification confirming to IS including 3 years free maintenance and as directed. Number of Lifts/Type of Lift : ENDURONIC SS304 grade , Johnson/Kone/OTIS/Equivalent Gearless Lift Without Machine Room Load / Speed : 10 Persons (680 kgs.) / 1.00 Mtr. Per Second Drive : MICRO PROCESSOR BASED VVVF Travel 18 m Number of floors : 6 (Ground + 5 UPPER FLOORS) Number of Landing Entrance : 6 (GROUND + 5 UPPER FLOORS) Number of Position : 1 (ONE), IN FRONT ONLY of Car Entrance Position of Machinery: Directly above the Lift Well and the machine Shall be a mono block integrated shaft machine to avoid De-Coupling problems and it should not require gear oil change. The gear oil should be imported gear oil with a life span of 20 yrs and the machine shall have the in built break release lever for easy manual rescue.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			Size of Lift Well : 1700 x 2100 (MM WIDE * MM DEPTH) Lift Car Inside Size : 1300 x 1350 (MM WIDE * MM DEPTH) Type or Design of Lift car : Stainless Steel - Hairline Finish – Additional Car Spec : Car Ceiling - Car Floor : Sleek (Circular Lights) - M.S. Finish – PVC Car Fittings : Indirect Fluorescent Light & Regular (Circular) - 1 Fan Type of Car Entrance : Power Operated Centre Opening Protection : Sliding Door - M.S. Powder Coated - Client Choice - Refer Samples. Type of Landing Entrance : Centre Opening Sliding Door - M.S. Powder Protection : Coated - Client Choice - Refer Samples. Type of landing Frame : M.S. Powder Coated - Client Choice Additional Door Spec Clear opening of Gates / Doors : 1100 x 2000 (MM Wide * MM Height) Type of Control System : Microprocessor Based Simplex Selective Collective Control with / without Attendant Electric Supply : AC 400 / 440 VOLTS, 3 PHASE, 50CYCLES Special Inclusions * Digital Position Indicator In Car and Landings and auto / attender key, door * open / close button * Battery Operated Emergency Light and Alarm Bell * Call Register Signal and Vf Door lighters * False Ceiling in car with Down Lighters * Infra Red Door screen		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			* Vandal Proof S.S. Button with S.S. Cover * Automatic Rescue Device * Overload Warning indicator * Fire mans Switch * Intercom Provision with Instrument * Car Arrival Chime * Floor Annunciator with Music * Full car Operating Panel - Press N Speak Phone * Minor Builders Work * Overload Speed Governor * Scaffolding * Lift License		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
125	20.00	Nos	LIFT SHAFT WIRING Wiring for lift well light point and socket outlet with 2 x 1.5 sqmm FRLS PVC insulated stranded copper conductor of 1100V grade along with 1 x 1.5 sqmm FRLS PVC insulated stranded copper conductor cable as earth wire in surface MS conduit including providing and fixing MS switch box, 2 Nos. 5A single way flush type switch for (controlling light point and socket Outlet), 1 No. 5A 5 Pin shuttered socket outlet with flush type switch and making necessary connections etc. as per specification		
126	60.00	Nos	Supply and Fixing of WT bulk head fitting with guard for suitable incandescent lam with 60 W bulb.		
127	60.00	Nos	Supply and run of 2 of No.8 tin coated copper for earth connections from the earth [it to the individual lift machine room		
128	20.00	Nos	LIFT PANEL Supply and erection of 125 Amps capacity floor mounting / wall mounting panel board (Cubical type) with bus bar chamber made up of 16 SWG MS sheet for 3 phase 4 wire system with 25mm x 3mm tin coated copper flats for phases and neutral; cable chamber, switch chamber and with 2 Nos. 25mmx3mm tinned copper flat for the earth bus on the rear side of the panel board; necessary interconnections by copper flat of suitable sizes; suitable PVC colour sleeves for the interconnecting copper flats / rigid copper wire; earth connections to all switches / bus bar by copper flats of suitable sizes from the earth bus; hylem sheet separation between bus bar and switches; 1set LED pilot lamps with switches, fuse units, suitable angle iron frame size of 40mmx 40mm x 6mm with powder coated painting over one coat of red primer and with numbering; superscription		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			of cables sizes, capacity of switches etc and incorporating the following: Incoming: 1 no. 125A TPN 15KA MCCB with all protective devices Outgoings: 6 nos. 63A TPN 15KA MCCB with all protective devices. Dummy provision - 1 No. 1set LED pilot lamps with fuse units, switches and interconnections. Inter connections to the bus bar by 25mm x 3mm TC copper flat for phases and neutral from 125A TPN MCCB the bus interconnection by SWG No.6 TC copper for the phases and neutral from the 63A TPN MCCB: 6mm thick hylem sheet separation between bus bar chamber and switches chamber; insulators for the support for the bus; super scribing on the panel board the size, capacity of cable, switches, location etc. 2 nos. metallic danger boards		
129	13.00	Nos	AVIATION LAMPS Supply and fixing of 2 Nos. 6W LED type aviations lamp fitting with lamps on suitable 20 mm GI pipe on the parapet wall of the terrace of the building		
130	20.00	Nos	Emergency Lighting Supply, Installation, Testing and Commissioning of 5 KVA invertor with 30 Min back-up, Single Phase incoming & single Phase outgoing along with SMF batteries for emergency lighting with battery rack.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
131	20.00	Nos	Supply and fixing of 12 way single pole and neutral MCB sheet steel enclosure and with 1no. 40ADP MCB type isolator as incoming and 10 Nos. 6A, 10KA SP MCB as outgoing and double door arrangements in flush with wall/ on surface and making good of the concealed portion with earth connection.		
132			CABLE TRAY Supply and fixing of perforated cable trays of sizes as given below made out of 14 SWG CRCA sheet steel and hot dip galvanized with supports and at every 1.2 mtr. interval using supports of MS angle of suitable size. The supports shall be painted with Red-oxide primer and two quotes of aluminium paints.		
a	500.00	RM	a) 150 x 25 mm		
b	500.00	RM	b) 300 x 50 mm		
133	20.00	Nos	Supply and fixing of triple pole and neutral four way 7 segment 3 tier compartmental type MCB distribution board complete with the following and necessary neutral link, earth connector link etc. with bus bar and double door arrangements on surface / in flush with wall and making good of the concealed portion with earth connection. Incoming: 1 No. 63A 4 pole MCB type isolator 3 Nos. 63A 10KA DP MCB with 63A 100mA ELCB Outgoing: 12 Nos. 6A/20A 10KA SP MCB To be located in electrical room at stilt floor		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
134	2.00	Nos	Swing 2 seater Fibre glass reinforced plastic of height of 7 ft above the ground level and width of 10 ft. Legs made of 40mm stainless steel pipes and cross bars made of 50mm SS pipes seats fibre reinforced plastic seats suspended with 6mm thick in coated chain and including epoxy painting etc., complete in all respects as directed by the Engineer or his representative.		
135	2.00	Nos	See saw 4 seaterFibre reinforced plastic of width of 7 ft and supporting frame made of 40mm stainless steel pipes and swinging arm made of 50mm Stainless steel pipes of length 8ft. Handle made of 19mm stainless steel pipes seats are fibre reinforced plastic and including epoxy painting etc. complete in all respects as directed by the Engineer or his representative.		
136	1.00	Nos	FRP wave Slide 5ft height wave slide made of FRP moulded materials and ladder 1 inch stainless steel pipe and 1/2 inch cross steps supporting of 1 1/4 inch stainless steel pipes etc., complete in all respects as directed by the Engineer or his representative.		
			Total Bill -2 Ancillary Unit works:		

Bill 3: BOQ for Sewage Treatment Plant

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
1			Open Earth work excavation for foundation with all leads and lifts in all soils and sub soil to the required depth as may be directed except hard rock requiring blasting inclusive of shoring strutting and bailing out water wherever necessary refilling the sides of foundation with excavated earth in layers of 15 cm thickness well consolidated depositing the surplus earth in places shown and levelling the site with all initial leads and lifts etc., complete in all respects as directed by the Engineer or his representative.		
a	602.00	M3	With initial lead of 10 m and initial lift of 2 m		
2	106.00	M3	Filling in foundation and basement with filling earth in layers, thick well watered rammed and consolidated complying with relevant standard specification including the cost of supplying earth etc., complete in all respects as directed by the authorized representatives.		
3	180.00	M3	Earth work excavation for foundation with all leads and lifts in all soils and sub-soils and to the required depth as may be directed except hard rock requiring blasting inclusive of shoring, strutting and bailing out water wherever necessary refilling the sides of foundation with excavated earth in layers of 150mm thick well consolidated, depositing the surplus earth in places shown and levelling the site with all leads and lifts etc. complete in all respects.		
4	83.00	M3	Cement Concrete 1:4:8 (one of cement, four of M-sand and eight of hard broken stone) using 40mm size hard broken granite stone jelly inclusive of shoring, strutting, bailing out water, ramming, curing etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
5	17.00	M3	Cement Concrete 1:2:4 (one of cement, two of M-sand and four of hard broken stone) using 20 mm size hard broken granite stone jelly inclusive of shoring, strutting, bailing out water, ramming, curing etc., complete in all respects as directed by the Engineer or his representative.		
6	552.00	M3	Providing and laying in position, RMC M-30 Grade in accordance using 20mm with IS: 456-2000, and downgraded hard broken granite stone jelly for all RCC items of works with minimum cement content of 350 kg/M3 and maximum water cement ratio of 0.45, including admixture (Plasticizer / Super Plasticizer) in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability with about (5.0 cu. m.) 7730 kg. of 20mm machine crushed stone jelly and with about (3.3 cu. m) 5156 kg. of 10mm to12mm machine crushed stone jelly and with about (4.79 cu. m) 7670 kg. of M-sand, but excluding cost of reinforcement grill and fabricating charges, centering and shuttering and also including laying, vibrating with mechanical vibrators, finishing, curing, etc. and providing fixtures like fan clamps in the RCC floor/ roof slabs wherever necessary without claiming extra, etc., complete complying with standard specification and as directed by the authorized representatives. The coarse and fine aggregates to be used should comply with the requirements of IS Standards.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
7	54.00	M2	Providing form work for centering, shuttering etc., for all RCC works as noted below including shuttering upto 3.0M high using M.S. sheet of size 90cm x 60cm and BG 10 stiffened with alround M.S angle of size 25mm X 25mm X 3mm laid over silver oak country wood joists of size 10cm x 6.5cm (spaced at 91 cm c/c) and supported by casurina props of size 10cm to 13 cm dia (spaced at 75 cm c/c) and removing the same after a specified period without damaging the RCC works in all floors etc., complete in all respects as directed by the Engineer or his representative complying with relevant standard specification. For column footing, grade beam, plinth beam etc.,		
8	2042.00	M2	Providing form work for centering, shuttering etc., for all RCC works as noted below including shuttering upto 3.0 m high using M.S. sheet of size 90cm x 60cm and BG 10 stiffened with alround M.S angle of size 25mm x 25mm x 3mm laid over silver oak country wood joists of size 10cm x 6.5cm (spaced at 91 cm c/c) and supported by casurina props of size 10cm to 13 cm dia (spaced at 75 cm c/c) and removing the same after a specified period without damaging the RCC works in all floors etc., complete as directed by the Engineer or his representative complying with relevant standard specification. For lintel, beam, slab etc.,		
9			Supplying, fabricating and placing the following kinds of steel grills Fe 500D for reinforcement for all RCC works such as plinth beam, grade beam, column footings, columns, loft, sunshade, floor or roof slab, staircase etc., including cost of steel, binding wire and labour charges for fabricating the reinforcement in position etc., complete in all respects as directed by the Engineer or his representative. (The rate includes the cost of binding wire also).		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
a	111.00	MT	Steel Rods of All sizes		
10	14.00	M3	Brick work in cement mortar 1:5 (one of cement and five of M-sand) using Fly Ash bricks of minimum size 230mm X 110mm X 70mm including dewatering wherever necessary, proper setting and curing etc., complete in all respects as directed by the Engineer or his representative. In Foundation and Basement		
11			Brick work in cement mortar 1:6 (one of cement and six of M-sand) using Fly Ash bricks of minimum size 230mmX 110mm X70mm in super structure including fixing the frames of doors and windows, scaffolding, proper setting, curing etc., complete in all respects as directed by the Engineer or his representative.		
a	38.00	M3	Ground Floor		
12	175.00	M2	Providing Ellis pattern flooring, 20mm thick in cement concrete 1:3 (one of cement and three of hard broken stone jelly) (no sand) using hard broken granite stone chips of size 3mm to 10mm and the surface rendered smooth, thread lining, curing etc., complete in all respects as directed by the Engineer or his representative.		
13	1304.00	M2	Plastering with cement mortar 1:3 (one of cement and three of P-sand) 12 mm thick with water proofing compound including providing band cornice, scaffolding, finishing smooth, setting, curing etc., complete in all respects as directed by the Engineer or his representative.		
14	213.00	M2	Special ceiling plastering in cement mortar 1:3 (one of cement and three of P-sand) 10mm thick for all RCC exposed surfaces including providing band cornice, scaffolding, finishing smooth, setting, curing etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
15	705.00	M2	Plastering with cement mortar 1:5 (one of cement and five of P-sand) 12 mm thick including providing band cornice, scaffolding, finishing smooth, setting, curing etc., complete in all respects as directed by the Engineer or his representative.		
16	213.00	M2	White washing two coats of clean shell lime including cost of lime, gum, brushes, scaffolding etc., complete in all respects as directed by the Engineer or his representative.		
17	705.00	M2	Painting two coats of newly plastered Exterior/Interior walls with Ist class ready mixed plastic emulsion paint and of approved colour over a priming coat including thorough scrapping, clean removal of dirt and including necessary plaster of paris putty, wherever required etc., complete in all respects as directed by the Engineer or his representative.		
18	37.00	M2	Painting the new iron work with one coat of approved Ist class synthetic enamel paint of approved quality and colour including cost of paint, brushes, scaffolding etc., complete in all respects as directed by the Engineer or his representative.		
19	1456.00	Kg	Supplying and fixing MS grills for doors and fixed grills using MS angles (IS 808-1989) and MS sheet of specified size and gauge including the cost of furniture fittings, welding, finishing and including painting one coat of primer with red oxide primer of approved quality etc., complete as directed by the Engineer or his representative.		
20	12.00	RM	Supplying and fixing of 110mm dia PVC Rain water downfall pipe of 4 kg/cm² conforming to IS 13592-1992 (Type-A) with necessary bends, shoes, cost of special clamps, coupler if necessary including cost of solvent cement, proper aligning, teakwood plugs of approved quality etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
21			Wiring with 2 off 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark with continuous earth connection by means of 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark in suitable PVC rigid pipe 2mm thick with ISI mark on surface run with suitable size concealed 16 gauge M.S. switch box covered by laminated hylem sheet 3mm thick for LIGHT POINTS including the cost of cable, PVC pipes and specials, brass screws, ceiling rose, flush type 5 Amps SP Mark switch, PVC junction box, 16 gauge M.S. switch box covered by laminated hylem sheet 3mm thick T.W. plugs, cement and labour, circuit mains etc., complete. Box covered by laminated hylem sheet 3mm thick T.W. plugs, cement and labour, circuit mains etc., complete in all respects as directed by the Engineer or his representative.		
a	15.00	Nos	With Ceiling Rose		
b	15.00	Nos	With Bakelite Battern holder		
22	2.00	Nos	Wiring with 2 of 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark with continuous earth connection by means of 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable of 1100 V grade with ISI mark in suitable PVC rigid pipe 2mm thick with ISI mark on surface run with suitable size concealed 16 gauge M.S. switch box covered by laminated hylem sheet 3 mm thick for		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			FAN POINTS including the cost of cable, PVC pipes and specials, brass screws, ceiling rose, flush type 5 Amps SP Mark switch, PVC junction box, 16 gauge M.S. switch box covered by laminated hylem sheet 3mm thick T.W. plugs, cement and labour, circuit mains etc., complete. Box covered by laminated hylem sheet 3mm thick T.W. plugs, cement and labour, circuit mains etc., complete in all respects as directed by the Engineer or his representative.		
23	6.00	Nos	Supplying and fixing of 5 Amps 3 pin and 2 pin combined flush type wall socket with 5Amps flush type switch concealed in existing MS box in flush with wall and covered with 3mm thick hylem sheet including cost of wall socket, switch and labour charges etc., complete in all respects as directed by the Engineer or his representative.		
24	30.00	RM	Supply and run off 2 off 2.5 sq.mm PVC unsheathed copper conductor cable conforming to IS 694-1990 with continuous earth connection by means of 1.5 sq.mm PVC insulated single core unsheathed copper conductor cable conforming to IS 694-1990 in suitable PVC rigid pipe on walls and ceiling for mains including the cost of PVC pipes and specials, cement and labour etc., complete in all respects as directed by the Engineer or his representative.		
25	6.00	RM	Supplying and run off 8 SWG copper wire on walls or below ground level with necessary 'U' nails, earthwork excavation and refilling including the cost of all materials etc., complete in all respects as directed by the Engineer or his representative.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
26	1.00	Nos	Providing earthing as per ISI specification including necessary earthwork excavation, masonry chamber, GI pipe, coal, salts etc., complete in all respects as directed by the Engineer or his representative.		
27	5.00	Nos	Supplying and fixing of 16 Amps DPIC switch of 500V with Face & Neutral (side handle) on suitable T.W. Board of size 30cm x 20cm x 7.5cm including necessary internal connection, earth connection etc., complete in all respects as directed by the Engineer or his representative.		
28	15.00	Nos	Supplying and fixing of water tight bulk head fitting heavy type with guards suitable for 100/60 watts bulb including the cost of bulb etc., complete in all respects as directed by the Engineer or his representative.		
29	15.00	Nos	Supplying and fixing Bakelite battern holder straight orangle type and 40 W bulb on suitable T.W.round block including necessary internal connections.		
30	2.00	Nos	Supplying and fixing of 1200 mm (48") AC ceiling fan complete with stepped electronic 300 W regulator with1 m down rod with fan clamp, side plates and cross arm of size (18") etc., complete in all respects as directed by the Engineer or his representative.		
31	1.00	Nos	Supply and fixing of TNEB meter Board suitable for 63 A three phase service connection with 63A fuse unit (500V) 63A neutral link and earth link (1" x 1/8"Copper flat) on teak wood plank of size 600mm x450mm x 19mm with supporting T.W.reepers of 1" thick on either sides with painting with suitable bolt and nuts for fixing the TW plank on wall with earth connection and interconnection with 7/20 PVC insulated copper wire from EB meter to fuse unit.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
32	2.00	Nos	Supplying ,delivery and fixing of one number manual bar screen in SS-304 Size 1.9 m x 0.8 m ,MOC SS304 – Square rod Spacing between bars 15 mm		
33	2.00	Nos	Supply and delivery with fixing all required accessories of sewage water Transfer pumps including electrical items and auto level controller to safe guard the dry run (or) over heating for pumping the sewage water from sewage collection tank to SBR tank with the following specifications inclusive of all incidental charges, taxes, loading, conveyance to site, unloading etc., complete in all respects as directed by the Engineer or his representative. Qty : Two (1w+1s) Capacity : 30 m3/hr Type : Multistage High Pressure pump Head : 3 bar Motor : 5 HP MOC : SS304 Make : Grundfos /Equivalent with all complete complying with standard specification and with proper and suitable accessories for erection.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
34	3.00	Nos	Supply and delivery with fixing accessories of Air blowers including electrical and other accessories for aeration tank for treatment of sewage water with the following specifications inclusive of all incidental charges, taxes, transportation, loading, unloading to site, etc., complete in all respects as directed by the Engineer or his representative. Air Blowers: Twin lobe positive displacement type, rotary air blowers of suitable type with V-belt drive, belt guard, base plate, inlet filter-silencer, flexible connectors, check valve, relief valve, pressure gauge and piping. Qty : Three (2w+1s) Capacity: 600.0 m3/hr Head : 0.6 bar Type :Centrifugal multistage MOC : SS304 Drive : 20 HP Make : KAY / Everest or eqv with all complete complying with standard specification and with proper and suitable accessories for erection		
35	1.00	Lot	Supplying, installing, testing and commissioning, consisting fine bubble diffuser along with membrane from set of EPDM membranes, SS 304 clips PVC support pipe(10 ksc pressure rating),PVC fitting and MS pipe for the headers and distribution with all accessories to make it retrievable & to provide clog-free oxygen for SBR 1 & 2 Tanks. Qty : 1 Lot MOC : EPDM with teflon Type : Fixed type- Circular disc Make : SSI /South cogan Equivalent		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
36	2.00	Nos	Filter Feed pumps: Centrifugal type, with bronze/SS in impeller of an approved make and complete with suction and delivery valves and non return valves, and delivery headers capable of handling clear water complete with fan cooled induction motor with class B insulation, mounted on a common structural base plate with 100mm dia pressure gauge with gunmetal isolation cock and suitable vibration elimination pads of approved design for pump foundation. Motor to be suitable for 400/440 volts, 3 phase, 50 cycle AC supply with rpm, to suit the corresponding pumps. Cost of all suction and delivery valves, pipes and header ,pressure gauge shall be included in the rate Qty :Two (1w+1s) Flow rate :40.0 m3/hr Discharge Head: 10 bar Type : Centrifugal submersible MOC : CI Drive : 22 HP Make : Grundfos / Equivalent		
37	2.00	Nos	Supply and delivery with fixing all required accessories of RAS Pump with QDC with the following specifications inclusive of all incidental charges, taxes, loading, conveyance to site, unloading etc., complete in all respects as directed by the Engineer or his representative. Qty : Two (1w+1s) Capacity : 30 m3/hr Type : Submersible multistage pump Head : 8 bar Motor : 13.5 HP MOC : SS304 Make : Grundfos /Equivalent		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			with all complete complying with standard specification and with proper and suitable accessories for erection.		
38	2.00	Nos	SAS PUMP with QDC Supply and delivery with fixing all required accessories of SAS Pump with QDC with the following specifications inclusive of all incidental charges, taxes, loading, conveyance to site, unloading etc., complete in all respects as directed by the Engineer or his representative. Qty : Two (1w+1s) Capacity : 15 m3/hr Type : Submersible multistage pump Head : 3 bar Motor : 2.5 HP MOC : SS304 Make : Grundfos /Equivalent with all complete complying with standard specification and with proper and suitable accessories for erection.		
39	2.00	Nos	Circulation Pump Supply and delivery with fixing all required accessories of Circulation Pump with the following specifications inclusive of all incidental charges, taxes, loading, conveyance to site, unloading etc., complete in all respects as directed by the Engineer or his representative. Qty : Two (1w+1s) Capacity : 5 m3/hr Type : Centrifugal multistage pump Head : 2.5 bar Motor : 1 HP MOC : SS304 Make : Grundfos /Equivalent		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
			with all complete complying with standard specification and with proper and suitable accessories for erection.		
40	1.00	Nos	Pressure Sand Filter Supply and delivery with fixing accessories of Pressure Sand Filter of capacity 18 m3 per hour to filter the suspended matter escaped from the clarifier and present in the sand filter of shell size Ø 1 .4 m x 1.5m fabricated out of 6 & 8 mm thick plate with dished end and Ø 0.5M manhole with proper back wash arrangements, cover, strainers, distribution to be provided inlet and outlet. All flanges in inlet and outlet connections shall confirm IS: 15328 necessary valves, pressure gauges, fittings to be provided the filter shall be hydro tested to 5 KG / CM2 for duration of 2 hours. Entire sand filter shall be painted with one coat of epoxy zinc phosphate primer and two coats of epoxy finish paint inclusive of all incidental charges, taxes, loading conveyance to site unloading etc., complete in all respects as directed by the Engineer or his representative. Qty : One Velocity : m3/hr. Diameter : 2.0m Height :2.6m Type of vessel : Cylindrical MOC : MSRL Type of valve : Butterfly valve Filtering media : Sand & Gravels		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
41	1.00	Nos	Activated Carbon Filters Supply and delivery with fixing accessories of Pressure Sand Filter of capacity 18.75 m3 per hour to filter the suspended matter escaped from the clarifier and present in the sand filter of shell size Ø 1.2 m x 2 m fabricated out of 6 & 8 mm thick plate with dished end and Ø 0.5M manhole with proper back wash arrangements, cover, strainers, distribution to be provided inlet and outlet. All flanges in inlet and outlet connections shall confirm IS: 15328 necessary valves, pressure gauges, fittings to be provided the filter shall be hydro tested to 5 KG / CM2 for duration of 2 hours. Entire sand filter shall be painted with one coat of epoxy zinc phosphate primer and two coats of epoxy finish paint inclusive of all incidental charges, taxes, loading conveyance to site unloading etc., complete in all respects as directed by the Engineer or his representative. Qty : one Velocity : m3/hr. Diameter :2.0m Height : 2.6m Type of vessel : Cylindrical MOC : MSRL Type of valve : Butterfly valve Media : Granular Activated carbon & Gravels		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
42	1.00	Nos	Sludge Transfer pump Supply and delivery with fixing accessories of Sludge Transfer Pumps for pumping the sludge from clarifier tank to aeration tank with the following specifications inclusive of all incidental charges, taxes, loading, conveyance to site, unloading etc., complete in all respects as directed by the Engineer or his representative complying with standard specification and with proper and suitable accessories for erection. Qty : Two no. (1w + 1s) Flow rate 1.0 m3/hr Head 12 bar Type rotary lobe or screw pump MOC Body : CI, rotor : SS304 Drive 1.0 HP Make Grundfos/Equivalent		
43	1.00	Nos	Mixer Supply and delivery with fixing accessories of Mixer with the following specifications inclusive of all incidental charges, taxes, loading, conveyance to site, unloading etc.,complete in all respects as directed by the Engineer or his representative. Qty : 1 Type : Centrifugal Flow rate 100 m3/hr Head 3 bar MOC :SS304 Make : Grundfos /Equivalent		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
44	1.00	Nos	Sludge Digestor Supply and delivery with fixing accessories of Sludge Digestor Tank with all piping standards with the following specifications inclusive of all incidental charges, taxes, loading, conveyance to site, unloading etc.,complete in all respects as directed by the Engineer or his representative. Inner Lining : MS FRP Size : 1.2 dia X 2.2 HOS x 3mm thk FRP : 2mm thk		
45	1.00	Nos	Ozonisation system-post treatment Supply and delivery with fixing accessories of Ozonisation system-post treatment with oxygen concentrator, with the following specifications inclusive of all incidental charges, taxes, loading, conveyance to site, unloading etc., complete in all respects as directed by the Engineer or his representative. Flow Rate : 20gm/hr		
46	2.00	Nos	Hypo dosing system Supplying, installing, testing and commissioning of hypo system ,all complete and with proper and suitable accessories for erection, complete in all respects as directed by the Engineer or his representative.. (The quality and brand shall be got approved from the Executive Engineer before use) Qty : One Capacity : 0 – 6 LPH MOC of pump : Dosing Tank Capacity : 100 Litres – make Make : / Equivalent		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
47	2.00	Nos	Electro Magnetic/Ultrasonic Flow Meter- Fully Auto Supply and delivery with fixing Electromagnetic flow meter with all required accessories of, Flow Tube sensor, Digital flow transmitter LCD display, power rate 240 watts with all incidental charges, taxes, loading conveyance to site unloading etc. Make :E&H/Mitshubishi or equivalent Flow range 0-50 cum /hr		
48	2.00	Nos	UF Feed pumps Qty : Two (1w+1s) Flow rate : 20.0 m3 /hr Discharge Head : 5 bar Type : multistage centrifugal type MOC : SS316 Drive :5.5 HP Make : Grundfos / Equivalent		
49	2.00	Nos	UF Backwash Transfer Pumps Qty : Two (1w+1s) Flow rate : 38.0 m3 /hr Discharge Head : 3 bar Type : multistage centrifugal type MOC : SS316 Drive : 6.5 HP Make : Grundfos / Equivalent		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
50	1.00	Lot	Membrane filtration system Supply, delivery and installation of UF modules and Skid mounted frames of MS with powder coating, with all standard UPVC pipes and Electrical actuator valves , pumps complete... Qty : One Lot Model : Outside in, dead end flow, with air scouring provision Feed flow rate:3.1 to 9.3 m3/hr each, pH range : 2-11 Turbidity handling : upto 300 NTU Skid :MS with powder coating Type of valves: Electrical Actuated Valve, Dia -2.5" Recovery:96% UF module surface area : 77sqm each , Dia : 8" UF module make : DOW / Equivalent		
51	1.00	Lot	Pipe lines and valves: Galvanized Iron pipes (Heavy class) conforming to IS: 1239 complete with carbon steel fittings IS:1879 e.g. tees, crosses, plugs, sockets, elbows, reducers, supports and clamps, puddle flanges, etc., cutting chases including painting pipes and fittings with epoxy paint over a coat of prime all complete and with proper and suitable accessories for erection, complete in all respects as directed by the Engineer or his representative. (The quality and brand shall be got approved from the Executive Engineer before use) Interconnecting pipes in UPVC with UPVC / CI Valves. Airline piping in MS with CI Valves		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
52	1.00	Lot	Cables & Cables Tray Supplying and laying all required cables in the BWTP plant inducing cable try and glands ,all complete and with proper and suitable accessories for erection, complete in all respects as directed by the Engineer or his representative.		
53	1.00	Nos	Control Panel and Electrical items Design, supply and delivery with fixing accessories of Electrical Control Panel Board for the SWTP with total load, inter connection wiring to all starters, suitable capacitors, as per relevant specifications. The starters of DOL/Star delta type consisting contactor, over load relay etc. Panel made of 1.8mm thick CR sheet with power coated shall be provided with the following. Incoming Isolator, bus bars, ammeter, voltmeter with selector switches, one set of indication lamps. Remote control provision for all starters etc., all complete and with proper and suitable accessories for erection. The entire Sewage Treatment Plant including Primary Treatment Units, Biological Treatment Units based on SBR technology and Tertiary treatment through membrane filtration system shall be designed for fully automatic operation through a Programmable Logic Centre (PLC) and Supervisory Control and Data Acquisition (SCADA) with Man-Machine Interface (MMI). Provision shall also be made to operate each Unit of the Plant manually, if required. The PLC/ SCADA will be connected to the STP by the SBR technology Provider. The UPS of suitable rating for PLC and SCADA Station both for plant and SBR Section should be supplied withat least 1 hour back up. The SCADA system should be ability to records & generate of events reports. The communication between SCADA & PLC should be standardise TCP/IP Based.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
54	2.00	Nos	Supply and delivery with fixing accessories of Decanter – SCADA assisted with suitable accessories for erection, complete in all respects as directed by the Engineer or his representative. Type : Floating Arm type, Electrically actuated, automatic with level sensing, boom length 2.0 m max Rotor and Vanes : SS 304		
55	4.00	Nos	Supply and delivery with fixing accessories of Level Sensor (wireless for remote) with suitable accessories for erection, complete in all respects as directed by the Engineer or his representative. Type : Ultrasonic continuous with local display and scada transmission Range : 0 – 6m Make :E&H/Mitshubishi or eqv		
56	4.00	Nos	Supply and delivery with fixing accessories of DO Sensor (wireless for remote) with suitable accessories for erection, complete in all respects as directed by the Engineer or his representative. Type : Contact and continuous with pipe shield and auto wiping mechanism Range : 0-4ppm Make :E&H/Mitshubishi or eqv		
57	8.00	Nos	Supply and delivery with fixing accessories of Pressure Transmitter with suitable accessories for erection, complete in all respects as directed by the Engineer or his representative. Type : online continuous with local display Range : 0-6m Make :E&H/Mitshubishi or eqv		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
58	1.00	Nos	Lab Equipments Supply and delivery with fixing accessories of Lab Equipments with suitable accessories for using in the laboratory, as given below. BOD Incubator 1 no COD Incubator 1 no Jar Test Apparatus 1 no Table top pH meter 1 no Table top TDS meter 1 no Other glass wares and ovens as req 1 LS Heating mantle 1 no Microscope 1 no		
59	1.00	Nos	Erection and Commissioning Erection and commissioning of STP 0.6 MLD capacity including erection of all mechanical equipments, Electrical control devices with necessary tools and tackles etc.		
60	4.00	Nos	Earthing Station Providing Earthing station using pipe electrode as per IS 3043 using 2.5m of 40mm and 1.0m of 20mm B-class GI Pipe including earthwork excavation, brickwork in cement mortar and plastering and cost of funnel. GI nuts, bolts, washers, check nuts .GI Bend reducer and coupling C.I cover of 30x30 cm and including charcoal of 40kgs and 10 kg etc., all complete.		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
61	1.00	Nos	Diesel Genset 160 KVA, 415V, 3 Phase, 50 Hz @ 1500 RPM Diesel Generator used for producing Electricity, Electric Start, Water Cooled with KIRLOSKAR Engine Model 4k1080tag2 developing 200 BHP coupled with KIRLOSKAR GREEN Alternator mounted on a common base frame along with Fuel Tank, Starting Batteries with Leads, general accessories etc., as a complete set positioned in a self-standing weather proof KG-CPCB Norms-2 typed Acoustic Canopy KG1600WS with necessary fresh air inlet and hot air outlet louvre arrangements as per the specification.		
62			Construction of inspection chamber of size 0.60M X 0.60M for the following depth with brick jelly cement concrete 1:5:12½ (one of cement, five of M-sand and twelve and half of broken brick jelly) using 40mm size broken brick jelly, 15cm thick for foundation, 23 cm thick masonry walls in cement mortar 1:5 (one of cement and five of M-sand) using IInd class ground moulded chamber burnt bricks of size 9"×4⅜"×2¾" and inside plastering with cement mortar 1:3 (one of cement and three of P-sand) 12mm thick including channelling, benching etc., and top covered with SFRC cover slab (medium duty) and curing with necessary earthwork excavation for foundation, refilling the sides of foundation in all soils except hard rock requiring blasting 0.60M depth requiring blasting etc., as directed by the Engineer or his representative. 0.60M depth (average)		
a	90.00	Nos	0.9m depth		

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
63			Supplying and Laying of UPVC pipes as per IS 15328/2003[SN8-SDR(S 16.5)] and laying and jointing of pipes to the proper grade and alignment as indicated in drawing / design and hydraulically testing of the pipe line. The rate shall include cost of all necessary jointing materials testing charges with water conveyed within a lead of 1km, labour etc. complete		
a	2113.00	RM	160mm dia pipe		
b	1337.00	Rm	200mm dia pipe		
64			Construction of circular RCC manhole of 1.2m internal dia with Reinforced cement concrete wall of 15cm thick and base slab of 15cm thick of 1:4:8 proportion (One of cement, four of sand and eight of hard broken granite stones) using 40mm gauge hard broken granite stones including the cost of steel and fabrication of reinforcement grills in position shuttering centering etc., including channelling benching etc., and top covered with extra heavy duty cover slab SFRC slab with frame 600mm(clear opening) including casting and fixing in position and necessary earth work excavation, refilling the sides of foundation in all soils except hard rock requiring blasting etc., complete in all respects as directed by the Engineer or his representative.		
a	40.00	Nos	1.2m depth		
b	25.00	Nos	1.5m depth		
c	20.00	Nos	2.00m depth		
			Total Bill -3 Sewage Treatment Plant:		

Bill-4: BOQ for Environmental Management Plan

Sl. No.	Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
1	45.00	Per Sample	Ambient Air Quality -Monitoring - For parameters - PM-2.5 & PM-10, So2, NO2, CO		
2	45.00	Per location	Ambient Noise Quality Monitoring - To identify sources of noise ,Noise due to traffic/transportation of vehicles ,Noise due to heavy equipment operations, Duration and variations in noise over time etc the equivalent noise levels shall be monitored.		
3	45.00	Per Sample	Surface/Ground Water Quality - pH, Turbidity, Total Hardness		
			Total Bill-4 Environmental Management Plan		

Bill-5: BOQ for Provisional Sum

Quantity	Unit	Description of work	Unit Price (INR)	Total Price (INR)
LS		Provisional Sum		56811000
		Total of Bill-1, Bill-2, Bill-3 Bill-4& Bill-5:		